

Proposed Chumash Heritage National Marine Sanctuary

Draft Environmental Impact Statement



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**NATIONAL
MARINE
SANCTUARIES**

Cover photos: Top: *Urticina* sp., anemone, offshore Montaña de Oro State Park; Photo: Robert Schwemmer/NOAA. Bottom: Point Buchon Trail; Photo: Laura Ingulsrud/NOAA.

About This Document

Abstract:

The National Oceanic and Atmospheric Administration (NOAA) is proposing to designate a national marine sanctuary to manage nationally significant resources off the coast of San Luis Obispo and Santa Barbara counties, California. In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code (U.S.C.) 4321 *et seq.*) and the 2020 Council on Environmental Quality NEPA regulations (85 Federal Register (Fed. Reg.) 43304, July 16, 2020), and the National Marine Sanctuaries Act (NMSA), 16 U.S.C. § 1431 *et seq.*, NOAA has prepared a draft environmental impact statement (EIS) that considers alternatives for the proposed national marine sanctuary. NOAA is soliciting public comment on the alternatives in this draft EIS to inform its selection of a final preferred alternative.

This document also serves as a resource assessment that details the present and future uses of the areas identified for potential national marine sanctuary designation. It is accompanied by a notice of proposed rulemaking that describes the proposed regulations, as well as a draft management plan that describes the proposed goals, objectives, strategies, and actions for managing the proposed sanctuary. No significant adverse impacts are expected under any alternative. Long-term beneficial impacts are anticipated if the proposed action is implemented.

Lead agency: National Oceanic and Atmospheric Administration

Cooperating agencies: Santa Ynez Band of Chumash Indians, Bureau of Safety and Environmental Enforcement, Bureau of Ocean Energy Management, Department of Defense

For further information on the project, see the project website at:
<https://sanctuaries.noaa.gov/chumash-heritage/>

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Comments due: Comments on this draft EIS will be accepted until October 25, 2023.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of National Marine Sanctuaries
1305 East-West Highway
Silver Spring, Maryland 20910

Dear Reviewer:

In accordance with the National Environmental Policy Act (NEPA), we enclose for your review the National Oceanic and Atmospheric Administration (NOAA) Office of National Marine Sanctuaries (ONMS) draft environmental impact statement (EIS) for the proposed designation of a portion of the central California coast and offshore waters as a new national marine sanctuary.

The area nominated by the community in 2015 and evaluated by NOAA for designation as a new national marine sanctuary spans portions of the historical areas of multiple Chumash and Salinan peoples and specific locations important to multiple tribes and Indigenous communities. ONMS wishes to acknowledge all Chumash- and Salinan-affiliated tribes and associated organizations in the region.

NOAA prepared this document to assess the environmental impacts of designating a national marine sanctuary under the National Marine Sanctuaries Act (NMSA). The NMSA requires that an EIS be prepared for designation of a national marine sanctuary regardless of the significance of the impacts of the proposed action.

This document announces the availability of the draft EIS for public comment. NOAA is also publishing a notice of proposed rulemaking and draft management plan for public comment along with the draft EIS. Comments will be accepted until October 25, 2023 and should be submitted electronically via the Federal eRulemaking Portal. To submit a comment electronically, go to www.regulations.gov and search for docket NOAA-NOS-2021-0080. For those wishing to comment orally at a public comment meeting, please find details at <https://sanctuaries.noaa.gov/chumash-heritage/>. Written comments may also be directed to the sanctuary official identified below.

Sanctuary official: Paul Michel, West Coast Regional Policy Coordinator
Office of National Marine Sanctuaries
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Monterey, CA 93940

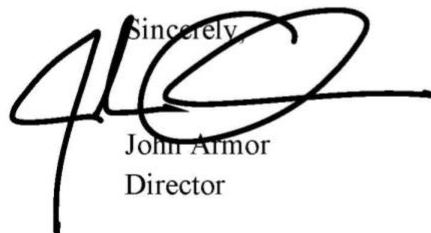
Sincerely,

John Armor
Director

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Acknowledgements

The proposed national marine sanctuary's coastal boundary spans portions of the historical areas of multiple Chumash and Salinan peoples and specific locations important to multiple tribes and tribal groups. NOAA's Office of National Marine Sanctuaries (ONMS) wishes to thank all Chumash-affiliated tribes, Chumash-associated organizations in the region, the Xolon Salinan Tribe, and the Salinan Tribe of Monterey and San Luis Obispo Counties. We especially thank those expressing active interest in the proposed national marine sanctuary. These include the Barbareño/Ventureño Band of Mission Indians, the Coastal Band of the Chumash Nation, the Wishtoyo Chumash Foundation, the Barbareño Chumash Tribal Council, the Chumash Maritime Association, the Northern Chumash Tribal Council, the Northern Chumash Bear Clan, the Santa Ynez Band of Chumash Indians, and the yak tityu yak tilhini Northern Chumash Tribe.


ONMS also wishes to thank those individuals who spent considerable time reviewing the nomination, public comments, and experience in other national marine sanctuaries in California, as well as those who studied the condition of and threats to sanctuary resources, and those who learned from tribes and Indigenous community members.

Contributions of the Bureau of Safety and Environmental Enforcement, Bureau of Ocean Energy Management, California State Lands Commission, California Department of Fish and Wildlife, and Department of Defense are deeply appreciated.

Lastly, ONMS wishes to thank those who wrote and contributed to the draft EIS. They are named in Appendix J: List of Document Preparers.

Glossary of Acronyms

ATBA	Area To Be Avoided
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
CCA	California Coastal Act
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
C.F.R.	Code of Federal Regulations
CHNMS	Chumash Heritage National Marine Sanctuary
CINMS	Channel Islands National Marine Sanctuary
COLREGS	International Regulations for Preventing Collisions at Sea
CSLC	California State Lands Commission
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DCPP	Diablo Canyon Power Plant
DoD	Department of Defense
DPS	Distinct Population Segment
ECOS	Environmental Conservation Online System
EEZ	U.S. Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
E.O.	Executive Order
ESA	Endangered Species Act
GFNMS	Greater Farallones National Marine Sanctuary
GRT	Gross register tonnage
HAPCs	Habitat Areas of Particular Concern
IMO	International Maritime Organization
IPaC	Information for Planning and Conservation
MBNMS	Monterey Bay National Marine Sanctuary
MBTA	Migratory Bird Treaty Act
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSD	Marine Sanitation Device
NCTC	Northern Chumash Tribal Council
NHPA	National Historic Preservation Act
nmi	Nautical Miles
NMSA	National Marine Sanctuaries Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOS	National Ocean Service



NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
ONMS	Office of National Marine Sanctuaries
PAC-PARS	Pacific Coast Port Access Route Study
PFMC	Pacific Fisheries Management Council
PG&E	Pacific Gas and Electric Company
PMSR	Point Mugu Sea Range
SMCA	State Marine Conservation Area
SMR	State Marine Reserve
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VSFB	Vandenberg Space Force Base
WEA	Wind Energy Area
YTT	yak tityu yak tilhini Northern Chumash Tribe

Executive Summary

Introduction

The National Oceanic and Atmospheric Administration (NOAA) Office of National Marine Sanctuaries (ONMS) proposes to designate a portion of the central California coast and offshore waters as Chumash Heritage National Marine Sanctuary (CHNMS). This draft environmental impact statement (EIS) analyzes the impacts on the human environment of the proposed action and a range of alternatives for sanctuary designation, including proposed regulations for managing the new sanctuary. A draft management plan, which includes information about the proposed sanctuary's priority management goals and actions proposed to address them over the next five years, is being published concurrently with this EIS. A proposed rule identifying proposed regulations for the new sanctuary will also be published concurrently with this EIS.

Project Location

The proposed sanctuary area comprises the coastline and waters offshore San Luis Obispo and northern Santa Barbara counties and includes the Santa Lucia Bank, its escarpment, Rodriguez Seamount, Arguello Canyon, and other offshore features and resources to approximately 78 miles offshore.

Sanctuary Nomination and Background

In July 2015, a broad community consortium led by the Northern Chumash Tribal Council submitted a nomination to NOAA through the Sanctuary Nomination Process (established by rule 79 Federal Register (Fed. Reg.) 33851) asking NOAA to consider designating an area on the central California coast as a national marine sanctuary. The nomination asked NOAA to protect this nationally significant area for its biologically and culturally important resources. The nomination also identified opportunities for NOAA to expand upon existing local and state efforts to study, interpret, and manage the area's unique cultural and biological resources.

The nomination also highlighted the maritime history and cultural heritage of the Chumash people. Some of the earliest documented human habitation of North America is in this region, and various bands of Chumash and other tribes and Indigenous communities have deep cultural connections to this area of central California. Historical records and studies show that much of the current coast of San Luis Obispo and Santa Barbara counties contained thriving settlements and villages occupied by tribes and Indigenous communities. These coastal sites contain cultural artifacts and remains and are extremely valuable to tribes and Indigenous communities. Dating back thousands of years, offshore submerged continental shelf areas and unsurveyed paleoshorelines also likely contain archaeological resources of great significance to local tribes and tribal groups, and are worthy of acknowledgement, protection, and culturally appropriate study.

A diverse coalition of organizations and individuals at tribal, local, state, regional, and national levels endorsed the nomination. The [submitted nomination package](#) is available. NOAA added the area to the inventory of nominations that are eligible for designation in October 2015 and

extended its eligibility on the inventory on October 1, 2020, for an additional five years after a review of the nomination (85 Fed. Reg. 61935).

Purpose and Need for a Sanctuary

The purpose of this proposed action is to increase protection of the ecological, historical, and cultural qualities of the central California coastal marine environment. The proposed designation would provide conservation and comprehensive ecosystem-based management to address threats to the nationally significant biological, cultural, and historical resources of the proposed sanctuary. By implementing a management plan approach that includes a variety of actions, the sanctuary would (1) develop coordinated and collaborative marine science, education and outreach, and cultural heritage programs to assist in managing the area's nationally significant resources; (2) respond to interest for a community-based, ecosystem-based management regime to address threats to the natural environment, wildlife, and cultural resources of the area; and (3) highlight the many diverse human activities, cultural connections, and maritime heritage of the area, from the various tribes and Indigenous communities to existing activities in the area.

The area proposed for national marine sanctuary designation is an important and vibrant ecological transition zone with high biological productivity that supports dense aggregations of marine life, including a nationally significant biodiversity of seabirds, marine mammals, invertebrates, and fishes. It serves as “headwaters” for upwelling that nourishes important ecosystems down current of the proposed sanctuary; however, due to the myriad ongoing and emerging threats to the area from consumptive and non-consumptive human uses and climate change, additional protections are needed. Threats facing these increasingly vulnerable coastal and offshore ecosystems specifically include direct and indirect impacts from offshore energy development, pollution from offshore and onshore sources, increased vessel traffic and transportation, increased coastal development, and other stressors to the ecosystem that compromise its resiliency—especially acute and cumulative impacts from climate change. Moreover, there is a need to recognize and promote Indigenous cultural heritage of this area, including the bands of Salinan people and the Chumash people, one of the few ocean-going bands among the First Peoples of the Pacific Coast. The marine environments of California's central coast provide a special sense of place to coastal communities and visitors.

Public Involvement and Interagency Coordination

NOAA issued a Notice of Intent (NOI) on November 10, 2021, to conduct scoping and prepare an EIS (86 Fed. Reg. 62512). Scoping included an 83-day period during which NOAA solicited public comments related to the scale and scope of the proposed sanctuary, including ideas presented in the sanctuary nomination. In addition, NOAA hosted three virtual public meetings in December 2021 and January 2022 and accepted comments until January 31, 2022.¹ All comments received are available to the public through [Regulations.gov](https://www.regulations.gov).

¹ The initial NOI established a comment deadline of January 10, 2022; a notice published on December 16, 2022 (86 Fed. Reg. 71422) extended this deadline to January 31, 2022.

During the scoping period, more than 1,000 individuals provided written comments. At the three scoping meetings, 100 people provided oral comments in total. NOAA has studied the scoping comments closely, relying on them to inform decisions about alternatives to consider and potential impacts of the alternatives, potential regulations, and the scope and substance of the action plans in the draft management plan. The majority of comments supported the goals of sanctuary designation, including protecting the cultural heritage of Chumash tribal communities and protecting the coastal California ecosystem’s health and resilience. Many commenters also noted the importance of managing the area to promote recreation and tourism to support the local economy, foster education and research programs, and establish a shared management approach with tribes and Indigenous communities. Commenters also voiced concerns about overlapping existing and potential uses of the area such as fishing and offshore energy development.

Proposed Action and Alternatives

NOAA developed a reasonable range of alternatives as required by the 2020 Council on Environmental Quality NEPA regulations. The proposed action includes the establishment of a new sanctuary, with terms of designation, regulations, and a management plan. The alternatives present various boundary options for the proposed sanctuary and include the Initial Boundary Alternative, four smaller boundary alternatives, two larger boundary sub-alternatives,² and the No Action Alternative.

Proposed Boundaries

The alternatives include the following (see Table ES-1 for a comparison of sizes of the various alternatives):

- **Initial Boundary Alternative**, generally consistent with the action that was identified in the NOI (86 Fed. Reg. 62512; November 10, 2021), but with some minor boundary modifications. This alternative would also include the potential regulations NOAA would adopt if that alternative were approved. The proposed boundary would be located along the mean high tide line from approximately Cambria at the terminal boundary of Monterey Bay National Marine Sanctuary (MBNMS), south along the San Luis Obispo County coast, excluding Morro Bay Harbor and Port San Luis (boundary is at the International Regulations for Preventing Collisions at Sea (COLREGS) demarcation line (33 C.F.R. 80.1132 and 80.1130 respectively) and the private marina at Diablo Canyon, and then further south and east to include the coast of western Santa Barbara County to Gaviota Creek (approximately 0.1 mile east of Gaviota Pier), then offshore in a southwest direction along the western end of Channel Islands National Marine Sanctuary (CINMS), southward to include Rodriguez Seamount and shifting to the northwest to include the waters and seabed west of Santa Lucia Bank, to reconnect with the boundary for MBNMS offshore Cambria.
- **Alternative 1, Bank to Coast**, focuses on the Santa Lucia Bank to the coast, but excludes most deep-water portions west of Santa Lucia Bank. The boundary would be the

² The EIS uses the term “sub-alternative” to distinguish alternatives that do not stand alone, rather are additive to other boundary alternatives.

same as the Initial Boundary Alternative in both the north and south. The western boundary would shift to the east, reducing the size of the proposed sanctuary by about 1,500 square miles. The southern portions of this alternative would still include Santa Lucia Bank, much of Arguello Canyon, and Rodriguez Seamount.

- **Alternative 2, Cropped Bank to Coast**, focuses on the Santa Lucia Bank to the coast, but excludes most deep-water portions west of Santa Lucia Bank similar to Alternative 1, and also excludes the northern portion of the Initial Boundary Alternative from Cambria to the northern portion of Montaña de Oro State Park at Hazard Canyon Reef. The sanctuary boundary would begin along the coast at Hazard Canyon Reef in the northern portion of Montaña de Oro State Park and would follow the mean high tide line as in the Initial Boundary Alternative and Alternative 1 south to Gaviota Creek. The offshore boundary from Gaviota Creek, to the southwest around CINMS and Rodriguez Seamount and then to the north would mirror that of Alternative 1 except that as the offshore boundary approaches the Morro Bay wind energy area (WEA), the boundary for Alternative 2 would transit due east-west approximately 2.5 miles to the south of the boundary for the Initial Boundary Alternative. This would form a corridor of non-sanctuary waters between this alternative and the Morro Bay WEA leases. At approximately 38 miles to the west of Morro Rock, the boundary would shift to the southeast returning to the point of origin at Hazard Canyon.
- **Alternative 3, Diablo to Gaviota Creek**, excludes the coastal waters from Cambria to Morro Bay, the area identified for new subsea electrical transmission cables from leases within the Morro Bay WEA to shore. The boundary also excludes a large area on the Santa Lucia Bank known as the Diablo Canyon Call Area, as well as a broad coastal area to route electrical cables from that call area to transmission lines at the Diablo Canyon Power Plant (DCPP). The shoreline configuration of the boundary would be the same as the Initial Boundary Alternative from approximately one mile (1.6 kilometers) south of Diablo Canyon to Gaviota Creek, and then offshore as in the Initial Boundary Alternative to the juncture with the Morro Bay WEA. The boundary then connects to and descends the west end of the Diablo Canyon Call Area, along its southern and eastern edge, and then in a straight line to the northeast to connect with the point of origin just south of the Diablo Canyon marina.
- **Alternative 4, Combined Smallest**, is a composite of Alternatives 1 and 3 to represent the smallest sanctuary area. It includes a northern boundary that begins one mile east of the marina at Diablo Canyon and mirrors the boundary of the Initial Boundary Alternative along the shoreline to Gaviota Creek, and offshore to the southwest, around Rodriguez Seamount and Arguello Canyon. From there the boundary transits north consistent with Alternative 1 along the edge of Santa Lucia Bank to the southern boundary for the Diablo Canyon Call Area, along its eastern edge and then to the northeast to the point of origin east of the Diablo Canyon marina.
- **Sub-Alternative 5a, Morro Bay Estuary**, includes the tidally-influenced areas of the estuary, and could be added to the Initial Boundary Alternative and Alternative 1.
- **Sub-Alternative 5b, Gaviota Coast Extension**, includes state waters offshore of much of the Gaviota Coast, and could be added to the Initial Boundary Alternative and any action alternative. It would move the proposed sanctuary boundary along the

Gaviota Coast in state waters to the east end of Naples State Marine Conservation Area (SMCA), east of Dos Pueblos Creek. This extension would include all of Gaviota State Park, Refugio State Beach, El Capitán State Beach, all of Kashtayit and Naples SMCAs, and coastal and offshore resources adjacent to historical Chumash village sites at Tajiguas and Dos Pueblos, in particular.

- **No Action Alternative** represents the scenario in which the sanctuary would not be designated and management of the area would continue as it currently exists. No added resource protection under the NMSA would be provided and the various educational and monitoring programs outlined in the proposed sanctuary management plan would not be implemented.

Table ES-1. Comparison statistics for Initial Boundary Alternative and alternatives.

	Initial Boundary Alternative	Alt. 1, Bank to Coast	Alt. 2, Cropped Bank to Coast	Alt. 3, Diablo to Gaviota Creek	Alt. 4, Combined Smallest	Sub-alt. 5a, Morro Bay Estuary*	Sub-alt. 5b, Gaviota Coast Extension**
Total Size	7,573 mi ² [5,718 nmi ²]	6,098 mi ² [4,605 nmi ²]	5,553 mi ² [4,194 nmi ²]	5,952 mi ² [4,494 nmi ²]	4,476 mi ² [3,380 nmi ²]	2.5 mi ² [1.9 nmi ²]	64 mi ² [48 nmi ²]
Total Mi of Shoreline with Offshore Rocks	202 mi	202 mi	144 mi	117 mi	117 mi	12 mi	18 mi
Total Mi of Mainland Shoreline	152 mi	152 mi	115 mi	99 mi	99 mi	11 mi	18 mi
Max Water Depth	13,374 ft	11,580 ft	11,580 ft	13,374 ft	11,580 ft	24 ft	480 ft
Max Distance from Shore	78 mi ^a [68 nmi]	66 mi ^b [51 nmi]	66 mi ^b [51 nmi]	78 mi ^a [68 nmi]	66 mi ^b [51 nmi]	--	3.5 mi [3.0 nmi]

nmi = nautical mile

* Sub-Alternative 5a could be added to the Initial Boundary Alternative or to Alternative 1.

** Sub-Alternative 5b could be added to the Initial Boundary Alternative or any of the action alternatives.

Notes: (a) Estero Bay WSW to western boundary; (b) between Shell and Pismo Beaches WSW to western boundary.

NOAA also identifies an Agency-Preferred Alternative in the draft EIS, which combines Alternative 2 (Cropped Bank to Coast) and Sub-Alternative 5b (Gaviota Coast Extension). Chapter 5 contains a comparison of all the alternatives as well as details explaining the basis for identifying the Agency-Preferred Alternative.

Proposed Regulations

The proposed sanctuary regulations would closely track regulations for other national marine sanctuaries offshore California, thus addressing the full range of conservation issues, with standard exemptions and permit processes. In general, regulations for national marine sanctuaries are written as “prohibitions” that restrict or limit an activity. If an activity is not covered by a prohibition, it may occur within a sanctuary. Activities that are described as prohibited by a sanctuary regulation may still occur if the activity is covered by an exception to a prohibition, if one or more broad exemptions apply to the activity, if the activity is covered by a permit or authorization issued by the sanctuary superintendent, or if a person receives a certification from NOAA for the activity. Depending on the boundary alternative selected, slight adjustments to the proposed regulations may be necessary.

Prohibitions

The following activities would be prohibited within the sanctuary, subject to specified exceptions and exemptions:

- Oil, gas, and minerals exploration, development, and production, except for continued oil and gas production of existing reservoirs at Platform Irene and at Platform Heritage, including well abandonment.
- Discharges within or into the sanctuary, with some exceptions.
- Cruise ship discharges, with limited exceptions.
- Discharging or depositing from beyond the boundary of the sanctuary any material or other matter that enters the sanctuary and injures a sanctuary resource or quality, with some exceptions.
- Disturbing the seabed, with some exceptions.
- Disturbing a historical resource, with limited exceptions.
- Taking or possessing a marine mammal, sea turtle, or bird, unless permitted by other agencies under statute.
- Deserting a vessel.
- Attracting a white shark.
- Disturbing resources deeper than 1,500 feet within the Rodriguez Seamount Management Zone, other than from fishing activities, with limited exceptions.
- Introducing or otherwise releasing an introduced species, with limited exceptions.
- Interfering with an enforcement investigation or action.

Exceptions and Exemptions

Most of the proposed regulations in proposed section 922.232(a) (Prohibited or otherwise regulated activities) include limited exceptions that apply to otherwise prohibited activities. The proposed regulations include an exemption clarifying that most of the regulatory provisions would not apply to activities necessary to respond to an emergency threatening life, property, or the environment. Existing Department of Defense (DoD) activities specifically identified in Section 4.9 or Appendix I to the draft EIS would also be broadly exempted from the proposed regulations and the proposed regulations describe a process for considering exemption of new DoD activities.

Sanctuary General Permits

The proposed sanctuary regulations would establish a permit process to allow some prohibited activities under certain conditions via a national marine sanctuary general permit pursuant to 15 C.F.R. 922 subpart D and the site-specific regulations proposed for this sanctuary. In addition, to address a need identified during scoping, NOAA is proposing an additional category for issuance of a sanctuary general permit for CHNMS for an activity that will promote or enhance local Native American cultural or ceremonial activities or will promote or enhance education and training related to local Native American cultural or ceremonial activities.

ONMS Authorizations

Under the proposed regulations, activities that are otherwise prohibited may be authorized if the activities are allowed pursuant to a separate federal, state, or local agency permit, lease, license, or other approval, and if the applicant complies with applicable regulatory provisions. “ONMS authorizations” would be guided by program-wide regulations at 15 C.F.R. 922.36 for certain prohibited activities, as allowed for in regulations specific to the sanctuary, and would often involve close coordination with the federal, state, or local agency whose permit would be authorized.

Special Use Permits

Pursuant to Section 310 of the NMSA (16 United States Code (U.S.C.) § 1441), special use permits may be issued to authorize the conduct of specific activities in a national marine sanctuary under certain circumstances. Special use permits may be issued only for five years but may be renewed. Past practice by ONMS has allowed continued renewals of some special use permits.

Certifications

Similar to authorizations, NOAA proposes to establish a process applicable at the time of sanctuary designation whereby existing activities specifically authorized by a valid lease, permit, or other approval could be “certified” and allowed to continue, subject to any terms and conditions consistent with the purposes for which the sanctuary was designated, as allowed for in 15 C.F.R. 922.10.

Terms of Designation

Section 304(a)(4) of the NMSA requires that the terms of designation for national marine sanctuaries include (1) the geographic area included within the sanctuary; (2) the characteristics of the area that give it conservation, recreational, ecological, historical, research, educational, or aesthetic value; and (3) the types of activities subject to regulation by NOAA to protect those characteristics. See Appendix B for the full text of the proposed terms of designation. The proposed sanctuary terms of designation establish the authorities to regulate and prohibit activities—to the extent necessary and reasonable—to ensure the protection and management of the area’s conservation, ecological, recreational, research, educational, historical, and aesthetic resources and qualities.

Draft Management Plan

The draft management plan consists of the following action plans:

- Indigenous Cultural Heritage
- Climate Change
- Maritime Heritage
- Offshore Energy
- Water Quality
- Blue Economy
- Wildlife Disturbance
- Education and Outreach
- Resource Protection
- Research and Monitoring
- Operations and Administration

Most action plans include activities that would either have no environmental impacts or would have only beneficial effects on the environment. Any anticipated environmental impacts of the draft management plan action plans are addressed in this draft EIS. Most of the activities involve research, education, collaboration, and public outreach. Some activities may require research or monitoring surveys conducted by vessels. The full draft management plan is available as a separate document for review and comment with this draft EIS.

Depending on which boundary alternative is selected for sanctuary designation, the proposed management plan may be modified, as needed, to address only those issues within the sanctuary boundaries.

Summary of Impacts

There are environmental tradeoffs among the alternatives even within resource issue areas or topics, making it difficult to summarize the net effect of the Initial Boundary Alternative and alternatives together. Since all of the impact analysis in this draft EIS is necessarily qualitative, specifying precise differences between the Initial Boundary Alternative and the other alternatives is even more difficult.

For the Initial Boundary Alternative and all action alternatives, there would be significant beneficial impacts associated with implementation of proposed sanctuary regulations (e.g., prohibitions against seabed disturbance, certain vessel discharges, and new offshore oil and gas development) that provide added resource protection in the issue areas of physical resources, biological resources, commercial fishing and aquaculture, cultural heritage and maritime heritage resources, and DoD and homeland security activities. Some of the action alternatives would result in reduced beneficial impacts when compared to the Initial Boundary Alternative due to their reduced sanctuary size.

There would be no significant adverse impacts on any of the issue areas from designating the Initial Boundary Alternative or any of the action alternatives; however, there would be adverse impacts that are less than significant (i.e., negligible, minor, or moderate). The Initial Boundary

Alternative and Alternative 1, Bank to Coast, would adversely affect offshore energy development the most, but impacts would be less than significant. Alternative 2, Cropped Bank to Coast, would lessen adverse (but less than significant) impacts on the installation and operation of subsea electrical transmission cables from offshore wind energy projects developed outside of the sanctuary. Alternative 3, Diablo to Gaviota Creek, and Alternative 4, Combined Smallest, would eliminate any adverse (but less than significant) impacts on offshore wind development. Compared to the Initial Boundary Alternative, Alternatives 1, 2, 3, and 4 would each lessen the adverse (yet still less than significant) impacts on marine transportation. These minor adverse effects would be offset by the substantial aggregate beneficial effects of the proposed sanctuary's regulatory and draft management plan resource protections. Some of the adverse impacts on topics such as marine transportation, commercial fishing operations, and future offshore energy activities would be reduced under the action alternatives when compared to the Initial Boundary Alternative.

After weighing the NEPA analysis, in addition to input from cooperating agencies, government-to-government consultation, and outreach with tribes and Indigenous communities on the potential effects from all alternatives, NOAA is identifying an Agency-Preferred Alternative, which consists of Alternative 2, Cropped Bank to Coast, combined with Sub-Alternative 5b, Gaviota Coast Extension. The Agency-Preferred Alternative provides numerous beneficial impacts in various issue areas, such as physical resources, biological resources, commercial fishing and aquaculture, cultural heritage and maritime heritage resources, socioeconomics, human uses, and environmental justice, and DoD and homeland security activities. These benefits would largely result through sanctuary regulations that would limit the scale and scope of offshore development activities and other human uses that could harm natural, historical, and cultural resources. NOAA has considered the adverse impacts of the Agency-Preferred Alternative and finds them to be not significant while also allowing an acceptable balance between resource use and conservation of sanctuary resources. This alternative would also limit adverse impacts on offshore wind development and would lessen adverse impacts on marine transportation (compared to the Initial Boundary Alternative).

In identifying the Agency-Preferred Alternative, NOAA has considered which boundary alternative would be most manageable while simultaneously maximizing the principal purposes for the sanctuary. The preferred boundary allows NOAA to focus its management on key areas historically important to the Chumash tribes and natural resources important to their heritage.

The second consideration for NOAA's choice of Alternative 2 as part of the preferred alternative relates to the lack of agreement regarding the name for the portion of the proposed sanctuary from roughly Cambria to south of Morro Bay. During the scoping process and informational meetings, the Salinan bands objected to naming the sanctuary "Chumash" in that area which they identify as being part of their ancestral homeland. Chumash bands have also considered this section of coast part of their ancestral homeland. The Xolon Salinan have expressed support for sanctuary designation of this area, provided it had a different name. Chumash bands were unwavering in their view that the entirety of the sanctuary should be named "Chumash Heritage." Alternative 2 is responsive to Indigenous community input by delineating a geographic option that would ameliorate these concerns.

Including the Gaviota Coast extension within the Agency-Preferred Alternative would provide additional protection of important coastal resources. It would include beaches, kelp forests, and rocky and soft substrate reefs, as well as waters off three popular state beaches and parks—Gaviota, Refugio, and El Capitán. It would ensure that all of Kashtayit and Naples SMCAs were within the sanctuary. Also, the extension would include the portion of the Gaviota Coast that was home to numerous, large Chumash villages at the time of European first contact. Ensuring conservation of these resources is an important benefit to including this sub-alternative in the Agency-Preferred Alternative.

Issues to be resolved include reaching a decision on the choice among the alternatives described here, as well as identifying any slight adjustments to the proposed regulations and management plan as necessary for the selected alternative. This decision will be informed by the record for this matter, by public comment, including all of the alternatives, information, and analyses submitted by state, tribal, and local governments and public commenters, as well as by government-to-government consultation and coordination with cooperating agencies.

Chapter 1: Introduction

The National Oceanic and Atmospheric Administration (NOAA) Office of National Marine Sanctuaries (ONMS) proposes to designate a portion of the central California coast and offshore waters as Chumash Heritage National Marine Sanctuary (CHNMS). This draft environmental impact statement (EIS) analyzes the impacts on the human environment³ of the proposed action and a range of alternatives for sanctuary designation, including regulations for managing the new sanctuary. A draft management plan has been published concurrently with this EIS, which includes information about the proposed sanctuary’s priority management goals and actions proposed to address them over the next five years.

This document describes the proposed sanctuary’s environment, resources, regulations, and boundaries. This chapter provides background information on ONMS and the authorities for establishing and managing marine sanctuaries. Chapter 3 of this EIS describes the proposed action and several alternative actions. NOAA is the lead agency for this proposed sanctuary designation, and cooperating agencies include the Bureau of Ocean Energy Management (BOEM), Bureau of Safety and Environmental Enforcement (BSEE), Department of Defense (DoD), and the Santa Ynez Band of Chumash Indians (SYBCI). This EIS was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code (U.S.C.) § 4321 *et seq.*) and its implementing regulations (40 Code of Federal Regulations (C.F.R.) Parts 1500–1508). More specifically, NOAA prepared this EIS under the 2020 Council on Environmental Quality (CEQ) NEPA regulations. The effective date of the 2020 CEQ NEPA Regulations was September 14, 2020, and reviews begun thereafter are required to apply the 2020 regulations unless there is a clear and fundamental conflict with an applicable statute (85 Federal Register (Fed. Reg.) at 43372-73 (§§ 1506.13, 1507.3(a))). NOAA began this EIS process on November 10, 2021, and accordingly proceeds under the 2020 regulations.

This EIS presents, to the decision makers and the public, information required to understand the potential environmental consequences of the proposed action and alternatives. This EIS also serves as a resource assessment under the [National Marine Sanctuaries Act](#) (NMSA; 16 U.S.C. § 1434(a)(2)(B)), documenting (i) present and potential uses of the areas considered in the alternatives, and (ii) commercial, governmental, or recreational resource uses in the area. As required by NMSA 304(a)(2)(B), the resource assessment also documents “information prepared in consultation with the Secretary of Defense, the Secretary of Energy, and the Administrator of the Environmental Protection Agency, on any past, present, or proposed future disposal or discharge of materials in the vicinity of the proposed sanctuary.” See Section 4.2.1 for details on disposal and discharge sources in the study area.

³ The CEQ definition of “human environment” is “comprehensively the natural and physical environment and the relationship of present and future generations of Americans with that environment.”

1.1 Management of the National Marine Sanctuary System

ONMS serves as the trustee for the National Marine Sanctuary System (NMSS), a network of underwater parks encompassing more than 620,000 square miles (1,605,793 square kilometers) of marine and Great Lakes waters from Washington state to the Florida Keys and from New England to American Samoa. The NMSS includes a system of 15 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments. (see Figure 1-1).

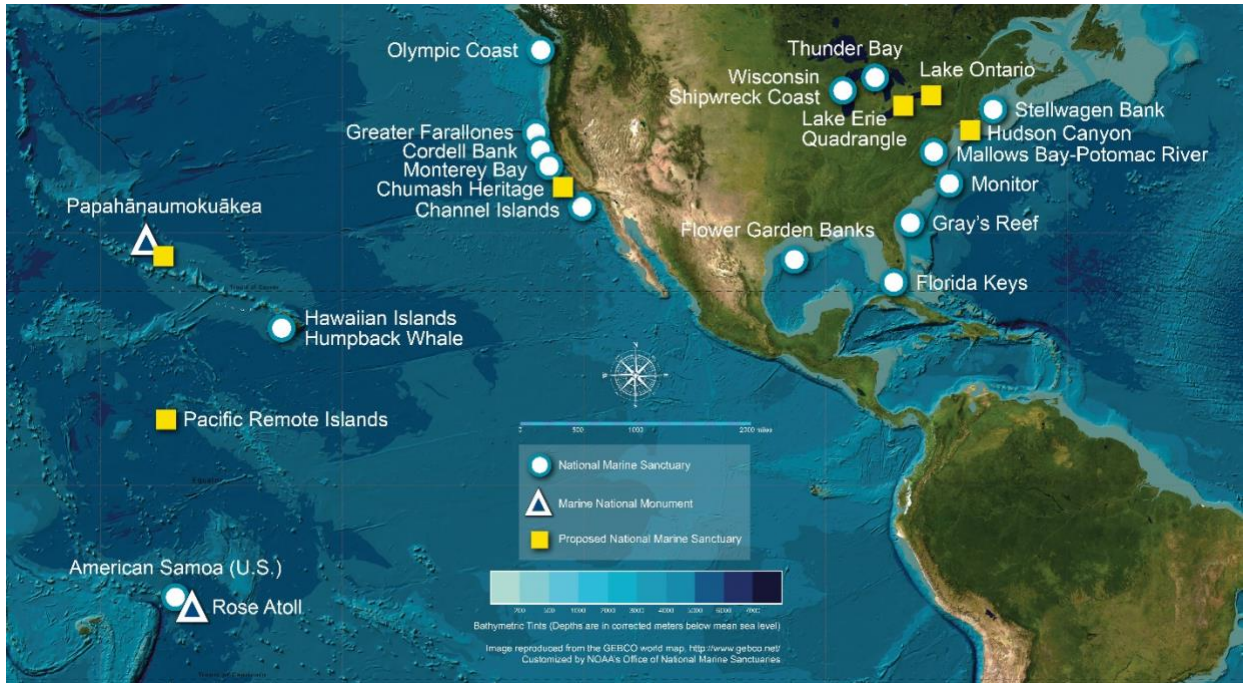


Figure 1-1. The National Marine Sanctuary System. Image: NOAA

1.1.1 National Marine Sanctuaries Act of 1972

The NMSA (16 U.S.C. § 1431 *et seq.*) is the legislation that governs management of the NMSS. The NMSA authorizes the Secretary of Commerce to identify and designate as a national marine sanctuary any discrete area of the Great Lakes or marine environment that is of special national—or in some cases international—significance and to manage these areas as the NMSS. An area may be of special national significance due to its conservational, recreational, ecological, historical, scientific, educational, cultural, archaeological, or aesthetic qualities, the communities of living marine resources it harbors, or its resource or human-use values. Day-to-day management of national marine sanctuaries is delegated by the Secretary of Commerce to ONMS. Among the purposes and policies of the NMSA are mandates to:

- Identify and designate as national marine sanctuaries areas of the marine environment that are of special national significance and to manage these areas as the NMSS.
- Provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner that complements existing regulatory authorities.

- Maintain national marine sanctuaries' natural biological communities, and to protect, and where appropriate, restore and enhance natural habitats, populations, and ecological processes.
- Enhance public awareness, understanding, appreciation, and wise and sustainable use of the marine environment, and the natural, historical, cultural, and archeological resources of the NMSS.
- Support, promote, and coordinate scientific research on, and long-term monitoring of, the resources of these marine areas.
- Facilitate, to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities.
- Develop and implement coordinated plans for protecting and managing these areas with appropriate federal agencies, state, and local governments, Native American tribes, and organizations,⁴ international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas.

Establishing the proposed sanctuary is consistent with and would further these purposes and policies and would more comprehensively provide for coordinated conservation and management of this area of special national significance and the resources within it.

1.1.2 Sanctuary Nomination Process

On June 13, 2014, NOAA published a rule (79 Fed. Reg. 33851) to re-establish the process by which communities may submit nominations to NOAA to consider designating areas of the marine and Great Lakes environments as new national marine sanctuaries. This rule contained the criteria and considerations NOAA uses to evaluate nominations, described the process for submitting nominations, and promulgated regulations necessary to implement this action. Nominations must describe the area that the community is interested in seeing designated as a national marine sanctuary, including the resources that make the area special and how the community would like to see the area managed. When NOAA receives nominations, it reviews them against established evaluation criteria and either accepts the nomination or returns it to the community for further development. Once NOAA accepts a nomination, it is placed on an inventory of successful nominations that NOAA may consider for designation as a national marine sanctuary. Addition to the inventory does not guarantee that a nominated area will become a national marine sanctuary. National marine sanctuary designation is a separate process, which is highly public and participatory.

Nominations on the inventory expire after five years if NOAA does not decide to begin a designation process for that area. On November 13, 2019, NOAA established a process to evaluate whether nominations that are approaching this expiration date should remain on the inventory for another five years (84 Fed. Reg. 61546). All [nominations are available online](#).

⁴ Terminology from the NMSA

1.2 Project Location and Background on the Nomination for the Proposed Chumash Heritage National Marine Sanctuary

1.2.1 Project Location

The Initial Boundary Alternative generally represents the boundary option that was originally proposed to NOAA in the nomination process for national marine sanctuary designation and included in NOAA's Notice of Intent (NOI) to conduct scoping and prepare an EIS (86 Fed. Reg. 62512; November 10, 2021) (see Figure 1-2). See Section 3.2 for details on how the Initial Boundary Alternative for this EIS differs from the original proposed boundary in the nomination and NOI. The proposed sanctuary area includes the coastline of California from approximately Cambria at the terminal boundary of Monterey Bay National Marine Sanctuary (MBNMS), south along the San Luis Obispo County coast and a portion of the Santa Barbara County coast to Gaviota Creek, then offshore along the western end of Channel Islands National Marine Sanctuary (CINMS) and north back to the southern end of MBNMS, to include the Santa Lucia Bank, its escarpment, Rodriguez Seamount, Arguello Canyon, and other offshore features and resources to approximately 78 miles offshore.

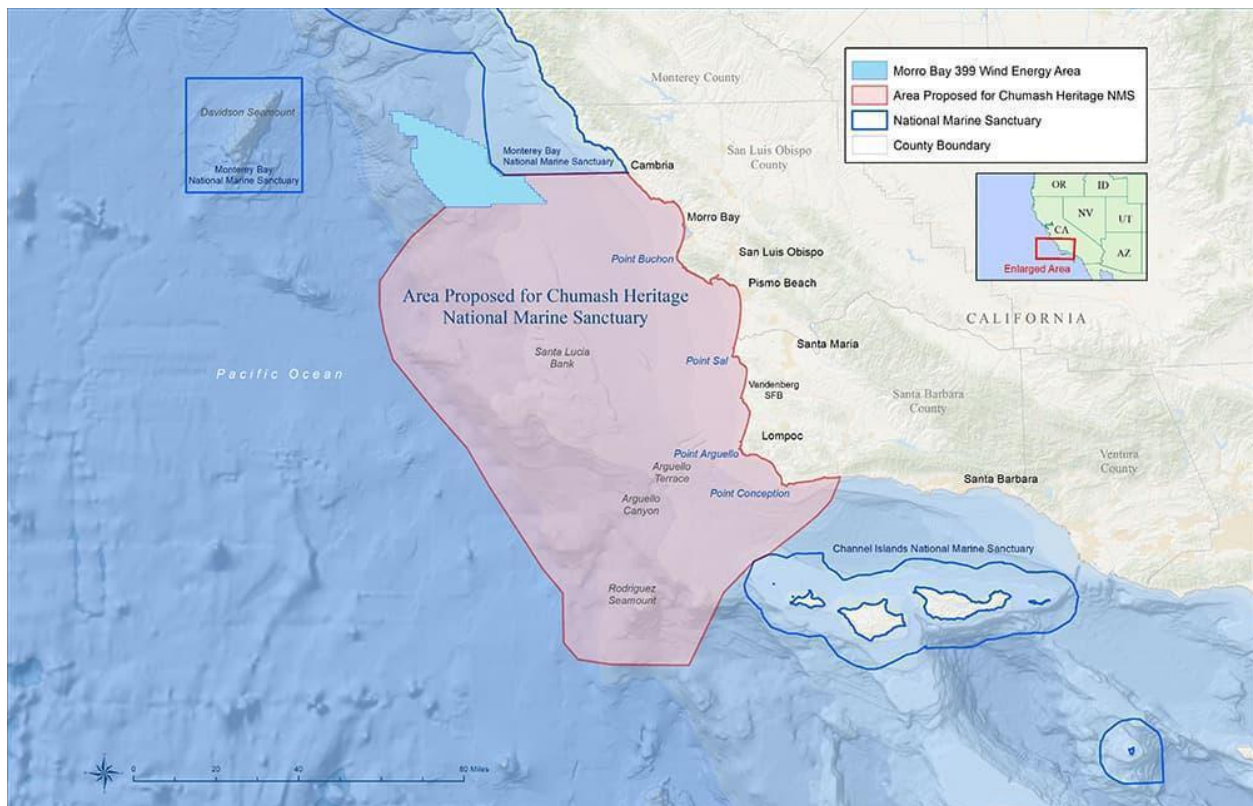


Figure 1-2. Area proposed for Chumash Heritage National Marine Sanctuary in NOAA's NOI to conduct scoping and prepare an EIS (see Chapter 3 for maps and descriptions of boundary alternatives that NOAA has identified in this EIS). Image: NOAA

The area contains unique and diverse ecosystems essential to the heritage of several tribal groups. The marine environment provides a special sense of place to coastal communities and visitors because of its significant historic, archaeological, cultural, aesthetic, and biological resources. The area has special ecological qualities as well, shaped by significant offshore geologic features (e.g., Rodriguez Seamount, Santa Lucia Bank, and Arguello Canyon). Seasonal upwelling serves as the engine of the area’s high biological productivity, supporting dense aggregations of marine life. Furthermore, strong winds in the proposed sanctuary offshore of Point Arguello/Point Conception also initiate a powerful upwelling process that nourishes other productive nearby ecosystems such as CINMS. The presence of a biogeographic transition zone, where temperate waters from the north meet the subtropics, creates an area of nationally significant biodiversity in sea birds, marine mammals, invertebrates, and fishes.

1.2.2 Project Background

In July 2015, a broad community consortium led by the Northern Chumash Tribal Council submitted a nomination to NOAA through the Sanctuary Nomination Process, asking NOAA to consider designating an area on the central California coast as a national marine sanctuary. The nomination asked NOAA to protect this nationally significant area for its biologically and culturally important resources. The nomination also identified opportunities for NOAA to expand upon existing local and state efforts to study, interpret, and manage the area’s unique cultural and biological resources.

The nomination also highlighted the maritime history and cultural heritage of the Chumash people. Some of the earliest documented human habitation of North America is in this region and various bands of Chumash and other tribes and Indigenous communities have deep cultural connections to this area of central California. Historical records and studies show that much of the current coast of San Luis Obispo and Santa Barbara counties contained thriving settlements and villages occupied by tribes and Indigenous communities. These coastal sites contain cultural artifacts and remains and are extremely valuable to Indigenous people. Dating back thousands of years, offshore submerged continental shelf areas and unsurveyed paleoshorelines also likely contain archaeological resources of great significance to local tribes and tribal groups and are worthy of acknowledgement, protection, and culturally appropriate study.⁵ For the purposes of this draft EIS, “Native American,” “Native American tribes,” and “Native American tribal groups” all mean “tribal and Indigenous communities.”

A diverse coalition of organizations and individuals at tribal, local, state, regional, and national levels endorsed the nomination. The [submitted nomination package](#) is available. NOAA added the area to the inventory of nominations that are eligible for designation in October 2015 and extended it on the inventory on October 1, 2020, for an additional five years after a review of the nomination (85 Fed. Reg. 61935).

⁵ See section 4.5.1 for more information about paleoshoreline areas within the proposed sanctuary area and refer to the Indigenous Cultural Heritage Action Plan in the draft management plan (published separately) for details related to strategies and specific activities directing future cultural resource surveys in the sanctuary.

1.3 Sanctuary Designation and Environmental Review Process

Section 304(a) of the NMSA, 16 U.S.C. § 1434(a), describes the sanctuary designation process, including several analyses and activities that provide a basis for the sanctuary designation and opportunities for public participation. The main activities and analyses include the following:

- A notice of proposed rulemaking in the Fed. Reg. including proposed regulations.
- A resource assessment that describes present and potential uses of the area (see Chapter 4).
- A draft management plan for the proposed national marine sanctuary, which outlines the proposed goals, objectives, and strategies for managing sanctuary resources for the next five years, as described in section 304(a)(2)(C) of the NMSA (see draft management plan published separately).
- Maps depicting the proposed sanctuary boundaries (see Chapter 3).
- An assessment and basis for why the proposed sanctuary meets the designation standards and factors to consider, as described in sections 303(a) and 303(b) of the NMSA (discussed throughout the EIS; in particular, see chapters 2 and 3 and Appendix E.1).

In addition, section 304(a)(2) of the NMSA requires NOAA to prepare an EIS pursuant to NEPA as part of the sanctuary designation process. NEPA requires that federal agencies include in their decision-making processes appropriate and careful consideration of all potential environmental effects of proposed actions and analyze them and their alternatives. The NEPA process is intended to encourage and facilitate public involvement in decisions that affect the quality of the human environment.

1.3.1 Public Involvement and Scoping

An important component of the sanctuary designation and environmental review process is public involvement. This section describes public involvement in the sanctuary designation and environmental review process conducted so far.

The first step of NOAA’s environmental review process for the proposed CHNMS designation was issuing an NOI on November 10, 2021, to conduct scoping and prepare an EIS (86 Fed. Reg. 62512). Scoping included an 83-day period during in which NOAA solicited public comments related to the scale and scope of the proposed sanctuary, including ideas presented in the sanctuary nomination. In addition, NOAA hosted three virtual public meetings in December 2021 and January 2022 and accepted comments through a web-based portal and by traditional mail until January 31, 2022.⁶ All comments received—through any of these formats—are available to the public through [Regulations.gov](https://www.regulations.gov).

During the scoping period, 1,190 individuals provided written input—some commenters attached thousands of nearly identical comment letters and signatures from other members of the public. At the three scoping meetings, in total 100 people provided oral comments. NOAA has studied the scoping comments closely, relying on them to inform decisions about

⁶ The initial NOI established a comment deadline of January 10, 2022; a notice published on December 16, 2022 (86 Fed. Reg. 71422) extended this deadline to January 31, 2022.

alternatives to consider and potential impacts of the alternatives, potential regulations, and the scope and substance of the action plans in the draft management plan. The majority of comments supported the goals of sanctuary designation, including protecting the cultural heritage of Chumash tribal communities and protecting the coastal California ecosystem's health and resilience. Many commenters also noted the importance of managing the area to promote recreation and tourism to support the local economy, to foster education and research programs, and to establish a shared management approach with tribes and Indigenous communities. Commenters also voiced concerns about overlapping existing and potential uses of the area, such as fishing and offshore energy development. Section 3.11 and Appendix A provide more detail about scoping comments.

1.3.2 Review of Draft EIS

The next step of public involvement is to circulate the draft EIS and to solicit public comments on this document. A public review and comment period of at least 45 days follows publication of the draft EIS. Availability of this draft EIS was announced in the Fed. Reg., on various e-mail lists, on the project website, and in local newspapers. In addition, copies of the draft EIS are available for review in numerous locations, such as libraries, throughout the study area (locations will be published with notice of availability in local newspapers). Public hearings to receive comments on the draft EIS will be held no sooner than 30 days after the notice is published in the Fed. Reg.

During the public comment period, NOAA anticipates oral and written comments from federal, state, and local agencies and officials, from tribal and Indigenous groups, from organizations, and from interested individuals. After the public comment period, the comments will be reviewed. A summary of these comments and the corresponding responses from the agency will be included in the final EIS. In preparing the final EIS, final management plan, and final rule, NOAA will consider all substantive comments timely submitted, will prepare a response to comments including responses to all significant issues raised by the comments, and will make changes to the EIS, if necessary, as a result of the public comments.

If NOAA moves forward with a final action, it will issue a final EIS, after which a 30-day mandatory waiting period will occur, and then NOAA may issue its record of decision. See 40 C.F.R. § 1506.11. In addition, a final rule would be published in the Fed. Reg.

1.3.3 Relationship to Other Applicable Laws, Regulations, and Executive Orders

In addition to NEPA, NOAA must comply with several related statutes, regulations, and executive orders (E.O.s) as part of this federal action, including the Endangered Species Act (ESA); Migratory Bird Treaty Act (MBTA); Marine Mammal Protection Act (MMPA); Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act (MSA); National Historic Preservation Act (NHPA); Coastal Zone Management Act (CZMA); E.O. 13175 on consulting and coordinating with federally-recognized Indian Tribal

Governments;⁷ and E.O. 12898 on addressing environmental justice in minority populations and low-income populations. Appendices E and F describe the requirements of the statutes, E.O.s, and other regulations applicable to the proposed sanctuary designation and NOAA's compliance with these applicable laws and policies.

1.4 Scope of the Environmental Review

This EIS evaluates the environmental impacts associated with the range of alternatives under consideration for designating the proposed CHNMS. Chapter 3 describes in detail the alternatives, including the Initial Boundary Alternative, other boundary alternatives, and a No Action Alternative, and Chapter 4 analyzes the affected environment and potential impacts associated with each alternative. This EIS specifically evaluates how implementing the proposed sanctuary boundaries, regulations, and management plan could affect the environment. The range of spatial alternatives bounds the environmental analysis. The geographic scope (study area) of the affected environment and analysis of environmental consequences in Chapter 4 is composed of the waters and submerged lands offshore from Cambria, south along the San Luis Obispo County and Santa Barbara County coastline to Naples, including the western portion of the Santa Barbara Channel, out to approximately 75 miles offshore. The timeframe for this environmental analysis evaluates current conditions and would be relevant for approximately the next five years.

Some sanctuary management activities that may occur within the proposed sanctuary, including issuing permits for specific future activities, are outside the scope of the proposed action described in this EIS. In the event that CHNMS is designated, NOAA would review these future management activities to ensure that those actions are addressed under NEPA and other applicable environmental laws. CEQ's NEPA regulations and NOAA NEPA [guidance](#) describe strategies that allow NOAA to build upon and incorporate this EIS's analysis when preparing future environmental compliance documentation.

1.5 Organization of EIS

This draft EIS is organized as follows:

Chapter 1: Provides background on the NMSS, the sanctuary nomination for CHNMS, and the sanctuary designation and environmental review processes under NMSA and NEPA.

Chapter 2: Outlines the purpose and need for the proposed designation of a national marine sanctuary offshore of California's central coast.

Chapter 3: Describes the Initial Boundary Alternative, other boundary action alternatives, the process to develop alternatives, proposed regulations, and a summary of action plans from the draft management plan. Further, it includes the no action alternative, and the alternatives considered but eliminated from detailed evaluation.

⁷ In support of implementation of E.O. 13175, on January 26, 2022, President Biden issued a Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships. Online here: <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and-strengthening-nation-to-nation-relationships/>

Chapter 4: Describes the existing conditions in the study area to provide a baseline for assessing environmental impacts. The chapter includes an evaluation of potential impacts on the physical and biological environment, cultural maritime seascape, and human uses, including socioeconomic impacts that may occur as a result of implementing the proposed action. Direct, indirect, short-term, long-term, and cumulative impacts are evaluated.

Chapter 5: Describes the unavoidable adverse impacts, the relationship of short-term and long-term productivity, and irreversible or irretrievable commitment of resources associated with the alternatives, per NEPA's requirements. This chapter also compares the impacts of the proposed action and all alternatives.

Chapter 2: Purpose and Need for Action

2.1 Purpose of the Proposed Action

NOAA's action under consideration is to designate a national marine sanctuary in the coastal and offshore waters of central California. The purpose of this action is to increase protection of the ecological, historical, and cultural qualities of the central California coastal marine environment. The proposed designation would provide conservation and comprehensive ecosystem-based management to address threats to the nationally significant biological, cultural, and historical resources of the proposed sanctuary. By implementing a management plan approach that includes a variety of actions, the sanctuary would (1) develop coordinated and collaborative marine science, education and outreach, and cultural heritage programs to assist in managing the area's nationally significant resources; (2) respond to interest for a community-based, ecosystem-based management regime to address threats to the natural environment, wildlife, and cultural resources of the area; and (3) highlight the many diverse human activities, cultural connections, and maritime heritage of the area, from the various Indigenous tribes to existing activities in the area.

The proposed designation of a national marine sanctuary located along the coast and offshore of central California would fulfill the purposes and policies of the NMSA by (1) increasing protection of the marine environment; (2) enhancing public awareness and appreciation of the environment; and (3) facilitating compatible public and private use of the resources of these marine areas that are not prohibited pursuant to other authorities.

Protecting this area as a national marine sanctuary would conserve and manage its special ecological qualities, shaped by significant offshore geologic features (e.g., Santa Lucia Bank, Rodriguez Seamount, and Arguello Canyon). Seasonal upwelling supports the area's high biological productivity, promoting dense aggregations of marine life. The existing biogeographic transition zone, where temperate waters from the north meet the subtropics, creates an area of nationally significant biodiversity in sea birds, marine mammals, invertebrates, and fishes. The area is also composed of extensive kelp forests, seagrass beds, and wetlands that serve as nurseries for numerous commercial fish species and as important habitat for many threatened and endangered species, such as humpback whales, blue whales, the southern sea otter, black abalone, snowy plovers, and leatherback sea turtles.

The unique and diverse ecosystem components are essential to the proposed sanctuary and also to the heritage of several tribal groups, in particular the Chumash, known for their ocean-going bands among the First Peoples of the Pacific Coast. These peoples made use of the abundant natural resources. Abalone shells were used to make everything from decorative inlay to jewelry and fishing hooks. Pelican bones were made into flutes, and seal pelts were made into skirts and capes. Musical shakers were made out of kelp bulbs, and asphaltum (a gooey tar that washed up on the shore) was used to waterproof and seal baskets, canoes and bowls made from abalone shells. Chumash canoes, or "tomols," were critical for thriving villages in particular along the Gaviota Coast, expanding access to natural resources and distant areas like the Channel Islands. The opportunity to help raise public awareness of nationally significant Indigenous cultures,

incorporate traditional knowledge into sanctuary management, protect and collaborate in the protection of resources essential to these cultures, and develop and carry out an innovative collaborative management structure to involve Indigenous communities, including federally recognized tribes and other tribal and Indigenous communities, in important management programs and initiatives of the sanctuary were core motivations in the nomination and ultimate designation of the sanctuary.

The proposed action of designating a sanctuary in this area would also provide increased protection and foster understanding of historic resources. More than 200 ship and aircraft wrecks have been reported in the region; several vessels were later salvaged or were reported as not being a total loss. Twenty shipwreck locations are known, three are listed on the National Register of Historic Places (NRHP), see Table 4.5-1, Known Shipwreck Sites, page 162. The area off Point Conception is a significant feature in California's long maritime history, with vessels regularly traversing the coast and, on occasion, sinking in this region. This collection of shipwrecks and overall maritime landscape are nationally significant because of the representativeness of the shipwrecks. Further research in the proposed sanctuary may facilitate discovery of other shipwrecks and submerged pre-contact cultural sites. See Section 4.5 for more detail with regard to shipwrecks and other historic resources in the proposed sanctuary area.

2.2 Need for the Proposed Action

The area proposed for national marine sanctuary designation is an important and vibrant ecological transition zone with high biological productivity that supports dense aggregations of marine life including nationally significant biodiversity of sea birds, marine mammals, invertebrates, and fishes. It serves as “headwaters” for upwelling that nourishes important ecosystems down current of the proposed sanctuary; however, due to the myriad ongoing and emerging threats to the area from consumptive and non-consumptive human uses and climate change, additional protections are needed. Threats facing these increasingly vulnerable coastal and offshore ecosystems specifically include direct and indirect impacts from offshore energy development, pollution from offshore and onshore sources, increased vessel traffic and transportation, increased coastal development, and other stressors to the ecosystem that compromise its resiliency, especially acute and cumulative impacts from climate change. Moreover, there is a need to recognize and promote Indigenous cultural heritage of this area, including the bands of Salinan people and the Chumash people, one of the few ocean-going bands among the First Peoples of the Pacific Coast. The marine environments of California’s central coast provide a special sense of place to coastal communities and visitors.

NOAA aims to address these threats by:

- Conserving and managing the diverse ecological resources in the area by protecting these environments from harm caused by human uses.
- Researching and monitoring these environments and cultural seascapes to gain a deeper understanding of them and their responses to a changing ocean.
- Partnering with local communities to provide interpretation of the biological, cultural, and maritime heritage values of the area while promoting responsible recreation.

- Developing a management framework that fosters ongoing collaboration with Indigenous communities to preserve and promote Indigenous cultural heritage, and that upholds NOAA’s trust responsibilities to federally recognized tribes.

2.2.1 Complementing and Supplementing Existing Regulatory Authorities

Legal protection pursuant to NMSA along with other complementary and supplementary regulatory authorities provide needed protections for otherwise vulnerable ocean resources. Congress has clarified that one purpose of NMSA is to provide coordinated and comprehensive management of special areas of the marine environment that would complement other existing regulatory authorities (16 U.S.C. § 1431(b)(2)).

By designating this area as a national marine sanctuary, NOAA would implement site-specific regulations to complement and supplement existing federal and state statutes designed to protect marine resources and fill current legal gaps to ensure this area of special national significance is recognized, managed, researched, interpreted, and accessible to the public. See Section 3.2.2 for an overview of proposed sanctuary regulations and appendices E and F for a comprehensive list of existing federal and state authorities that NMSA would complement and supplement. A summary is provided below.

Existing federal statutes that provide some level of protection for biological resources include the ESA (16 U.S.C. § 1531 *et seq.*), EFH provisions of the MSA (16 U.S.C. § 1801 *et seq.*), MMPA (16 U.S.C. § 1361 *et seq.*), MBTA (16 U.S.C. § 703 *et seq.*), and CZMA (16 U.S.C. § 1451 *et seq.*). See Section 4.3 for further discussion of protected species and habitats in the proposed sanctuary. With additional, comprehensive protection provided by the proposed action under the NMSA, including proposed prohibitions on new oil and gas development and production and restrictions on seabed disturbance, vulnerable biological resources in the proposed sanctuary would be protected from potential industrial impacts such as petroleum exploration and development and other activities that could disturb the seabed. Additionally, proposed discharge regulations to protect water quality under NMSA would bolster existing authorities under the Clean Water Act (CWA; 33 U.S.C. § 1251 *et seq.*) and Vessel Incidental Discharge Act (Title IX of the Frank LoBiondo Coast Guard Authorization Act of 2018, Pub. L. 115-282), which would further protect these nationally significant habitats.

The state of California has also enacted several laws protecting biological resources within its coastal waters including the state of California Endangered Species Act (California ESA; California Fish and Game Code § 2050 *et seq.*), Fish and Wildlife Protection and Conservation (California Fish and Game Code § 1600 *et seq.*), and California Coastal Act (CCA; California Public Resources Code § 30000 *et seq.*). While these state laws provide some protection for vulnerable species and protect important habitats from industrial development, they generally extend only three miles from the coastline, leaving areas further offshore only protected by federal authorities. In addition, state and federal fishery managers have implemented spatial management measures that limit fish harvest and protect marine habitats. Within state waters of the proposed sanctuary area, there are seven state marine protected areas (MPAs) that restrict some to all commercial and recreational activities. There are currently four designated

EFH areas that protect rocky benthic habitat and associated fragile benthic fauna such as deep-sea corals and sponges from bottom trawl gear. While the state and federal authorities described in this section provide some protection to physical, biological, commercial fishing, and cultural and maritime heritage resources in the proposed sanctuary area, sanctuary designation would provide additional protections. The proposed complementary protections of these ecologically significant sites under NMSA, including prohibitions on injuring sanctuary resources, proposed discharge prohibitions, and restrictions on seabed disturbance, would increase the resilience of marine ecosystems, and enhance the sustainability of Central California's thriving recreational, tourism, and commercial economies.

Archaeological sites and other cultural resources, such as shipwrecks and Native American artifacts, are protected under state and federal law, including the NHPA (54 U.S.C. § 300101 *et seq.*). In addition to these and other relevant federal and state provisions, under NMSA, historical and cultural resources would have additional protection. NMSA would supplement existing protections by applying to activities conducted by federal, state, and private citizens and would protect all shipwrecks and other cultural underwater resources within sanctuary boundaries from injury or salvage, regardless of whether they are eligible or listed on the State Register of Historic Places and NRHP. The Sunken Military Craft Act (10 U.S.C. § 113 note) protects sunken military craft from injury, removal, or disturbance. Under the Sunken Military Craft Act and its implementing regulations, a number of federal agencies have jurisdiction and management over sunken military craft, including statutory authority to conduct and permit specific activities directed at sunken military craft. Sunken military craft fall under the jurisdiction of a number of federal agencies such as the U.S. Navy and the U.S. Coast Guard (USCG). NOAA would coordinate with the U.S. Navy and any other applicable federal agency, or state agency if found within state waters, regarding activities directed at sunken military craft discovered within the sanctuary. By proposing to prohibit disturbance to historical resources, NOAA would directly protect underwater cultural and maritime heritage resources in the proposed sanctuary from injury and disturbances by developing and enforcing regulations and by implementing a long-term, comprehensive management plan. See Section 4.5 for more details with regard to characterization and analysis of cultural heritage and maritime heritage resources.

In summary, ongoing and emerging human-caused impacts can more effectively be addressed within the proposed sanctuary through the comprehensive habitat conservation and management authorities under NMSA. Moreover, research, exploration, and education opportunities related to these significant ocean resources are critical for understanding changes occurring in the environment, as well as fostering a stewardship ethic and an understanding of the cultural heritage and ecosystem services the proposed sanctuary areas provide for communities along and offshore the Central California coast. For these and other reasons, a comprehensive management approach offered by national marine sanctuary designation is needed.

2.2.2 Approach to Management of the Proposed Sanctuary

NOAA would manage the sanctuary in close collaboration with federal, state, tribal, and local governments. Through the management plan, NOAA would also partner with community organizations to carry out ongoing research, monitoring, education and outreach, resource protection, cultural and maritime heritage, and recreation and tourism activities. Sanctuary priorities would also be aligned with and informed by the ONMS Strategic Plan,⁸ a Sanctuary Advisory Council to be formed following the proposed sanctuary's designation, and by collaborations with the Indigenous community. More details on the framework for sanctuary management are discussed in the management plan.

2.3 Decisions to be Made and Agency Coordination

Decisions related to the proposed action of designating a new sanctuary include the following:

- Whether or not to designate the new national marine sanctuary.
- The new sanctuary's boundaries.
- Terms of designation for the new sanctuary.
- Regulations applicable to the new sanctuary.
- The management plan for the sanctuary.

The CEQ defines the roles and responsibilities of cooperating agencies in section 1501.8 of its NEPA regulations. Upon the request of the lead agency, any federal agency with jurisdiction by law shall be a cooperating agency. In addition, any other federal agency with special expertise with respect to any environmental issue may serve as a cooperating agency. State, tribal, or local agencies with similar qualifications may also be cooperating agencies by agreement of the lead agency. BOEM, BSEE, DoD, and the Santa Ynez Band of Chumash Indians have requested cooperating agency status, which NOAA has approved. NOAA has also worked closely with various other pertinent resource agencies on the development of this EIS, the management plan, and the proposed regulations. In preparing this EIS, NOAA sought the input of numerous federal, state, and local officials and agencies, and NOAA is conducting government-to-government consultation with the Santa Ynez Band of Chumash Indians under E.O. 13175 regarding the proposed designation (see Appendix E).

⁸ <https://sanctuaries.noaa.gov/about/five-year-strategy-2017-2022.html>

Chapter 3: Alternatives

In addition to mandating consideration of the No Action Alternative, NEPA Regulations (40 C.F.R. § 1502.14) require the evaluation of a reasonable range of alternatives that meet the proposed action’s purpose and need, and the comparative assessment of the alternatives’ impacts which allow for public disclosure and informed decision-making. This chapter includes a description of the components of the Initial Boundary Alternative and identifies alternatives (including the No Action Alternative) and the process used to develop them. NOAA developed its reasonable range of alternatives as required by the CEQ’s NEPA regulations and the NOAA NEPA Companion Manual.

The proposed action is the proposed establishment of a new sanctuary, with terms of designation, regulations, and a management plan. The Initial Boundary Alternative represents the boundary option that was originally proposed to NOAA in the nomination, with small modifications, as well as the potential regulations NOAA would adopt if that option were approved (see Section 3.2). This chapter also contains a description of the other alternatives, including four smaller boundary alternatives, two larger boundary sub-alternatives,⁹ the No Action Alternative, and a description of the alternatives that were initially considered but eliminated from detailed study. NOAA has carefully considered state and federal authorities in proposing new regulatory oversight to ensure protection and management of sanctuary resources.

The boundary alternatives include the following:

- Initial Boundary Alternative, generally consistent with the action described in the NOI (86 Fed. Reg. 62512; November 10, 2021) but with some minor modifications.
- Alternative 1, “Bank to Coast,” focuses on the Santa Lucia Bank to the coast, but excludes most deep-water portions west of Santa Lucia Bank.
- Alternative 2, “Cropped Bank to Coast,” focuses on the Santa Lucia Bank to the coast, but excludes most deep-water portions west of Santa Lucia Bank similar to Alternative 1, and also excludes the northern portion of the Initial Boundary Alternative from Cambria to the northern portion of Montana de Oro State Park at Hazard Canyon Reef.
- Alternative 3, “Diablo to Gaviota Creek,” excludes the Diablo Canyon Call Area and coastal waters from Cambria to near the marina at Diablo Canyon, leaving areas for power cables to connect to shore at the Diablo Canyon Power Plant (DCPP) and potential additional future development of an offshore wind energy area (WEA) out of sanctuary boundaries.
- Alternative 4, “Combined Smallest,” is a combination of the excluded areas in Alternatives 1 and 3 to represent the smallest sanctuary area.
- Sub-Alternative 5a, “Morro Bay Estuary,” includes the tidally-influenced areas of the estuary (applicable to the Initial Boundary Alternative and Alternative 1).

⁹ The EIS uses the term “sub-alternative” to distinguish alternatives that do not stand alone, rather are additive to other boundary alternatives.

- Sub-Alternative 5b, “Gaviota Coast Extension,” includes state waters offshore much of the Gaviota Coast (applicable to the Initial Boundary Alternative and any action alternative).

Under each of the action alternatives, NOAA would designate a national marine sanctuary and implement regulations and a sanctuary management plan to manage the sanctuary. The terms of designation are part of the proposed action, but they are generally consistent across all alternatives.¹⁰ The action alternatives considered are alternative means of meeting the purpose and need for the action, as described in Chapter 2.

Each of the action alternatives has three components, including sanctuary boundaries; regulations; and non-regulatory management plans (including action plans) and field activities.

NOAA has included an Agency-Preferred Alternative in Section 5.4.9, which combines Alternative 2 (Cropped Bank to Coast) and Sub-Alternative 5b (Gaviota Coast Extension). See Chapter 5 for a comparison of all alternatives, as well as details explaining the basis for identifying the Agency-Preferred Alternative.

This EIS focuses on those components of the proposed action and alternatives that could potentially result in impacts on the human environment. The EIS does not include a detailed assessment of the entire set of individual issue-based action plans that are contained in the proposed sanctuary management plan. The action plans within the management plan involve goals, strategies, activities, and planning tools for resource protection, education, research, and monitoring programs and sanctuary administration. The EIS analysis of the management plan focuses on those management plan elements with the potential to affect the environment (see Chapter 4). The full draft management plan is available as a separate document for review and comment with this draft EIS. The EIS also considers the potential effects of implementing the proposed regulations as applied to each boundary alternative (see Chapter 4).

3.1 Development of Proposed Action and Alternatives

As described in Chapters 1 and 2, in 2015, NOAA received the community-based nomination to consider designation of the proposed Chumash Heritage National Marine Sanctuary, and some portions of this area have been recommended by the community for national marine sanctuary designation for more than 40 years. The community-based nomination (Northern Chumash Tribal Council, 2015), the five-year review (NOAA, 2020), and the NOI published on November 10, 2021 (86 Fed. Reg. 62512) provide extensive background information on resource importance within the proposed sanctuary area. Developing alternatives requires assessing a range of technically and economically feasible options that meet the purpose and need of the proposed action of designating a new sanctuary, which in this case means ensuring that the cultural, biological, and physical resources of the proposed sanctuary area are best protected from existing and future threats. At the same time, the alternatives acknowledge existing and future activities that may occur within sanctuary boundaries in consideration of the NMSA

¹⁰ The terms of designation would differ for each alternative only to the extent necessary to reflect the different boundaries. The proposed terms of designation are available in the proposed rule and correspond to the boundary and regulatory framework proposed by NOAA in the proposed rule (and to be finalized in the final rule).

policy to facilitate, to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of the area not prohibited under other authorities (16 U.S.C. § 1431(b)(6)). In developing alternatives, NOAA considered the following questions:

- Does NOAA have the institutional responsibility and/or authority to address identified issues pursuant to the NMSA?
- Does addressing these issues have positive benefits for natural resources/ecosystems, cultural resources, habitat protection, protection of biodiversity, or resolving user conflicts of the sanctuary?
- What is the urgency of these issues?
- What is the feasibility of implementing an alternative boundary or regulation?
- Would the alternative meet the purpose and need for establishing a new sanctuary?
- Would the alternative be consistent with statutory requirements?

3.1.1 Development of Proposed Boundaries

A wide range of boundaries was suggested in scoping comments from a variety of interested parties. Many comments suggested extending the eastern boundary to include waters offshore different portions of Santa Barbara County all the way to Malibu in Los Angeles County. Other comments suggested excluding potential WEAs and some harbor areas to facilitate wind energy development or general harbor activities. To determine the appropriate boundary alternatives, ONMS focused on the purpose and intent of establishing sanctuaries, as set forth in the NMSA. The NMSA, [16 U.S.C. 1431](#) *et seq.*, authorizes the Secretary of Commerce to designate and manage as national marine sanctuaries areas of the marine environment that are of special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational, or aesthetic qualities. Section 303(b)(1)(F) of the NMSA requires that when designating a sanctuary, the Secretary of Commerce consider “the manageability of the area, including such factors as its size, its ability to be identified as a discrete ecological unit with definable boundaries...” among many other factors.

Initially, the nominators for the sanctuary identified a broad boundary in their 2015 nomination for sanctuary designation. This boundary, which was presented in the NOI, was slightly modified for the Initial Boundary Alternative (see Section 3.2.1) to exclude any geographical overlap of the boundary proposed for the Morro Bay WEA. NOAA also made a small adjustment to create a more complete alignment with the western boundary of CINMS. For the boundary alternatives, ONMS researched the need for both larger boundaries to include special resources and smaller boundaries that would still protect the resources identified as being potentially threatened.

Sections 3.2–3.7 describe the boundary alternatives NOAA is considering for the proposed designation of the sanctuary. Table 3-2 at the end of Section 3.7 provides comparative statistics for all boundary action alternatives. The alternatives chosen for full evaluation in this EIS cover a broad range of potential sanctuary configurations, with the intent to allow flexibility in the final selection of the boundaries and to ensure that the various interests are represented. Following public comment on the draft designation documents, pursuant to NEPA, NOAA may choose to select a new alternative in the final EIS that is within the geographic and regulatory scope of these alternatives currently considered in the draft EIS.

3.1.2 Development of Proposed Regulations

The NMSA authorizes NOAA to establish site-specific regulations at each national marine sanctuary. The purpose and need of the proposed sanctuary designation (see Chapter 2) provides the overarching basis for developing the proposed regulations. Scoping comments from tribal representatives, governmental agencies, fishing industry, offshore wind energy industry, other interested organizations, and the public addressed the need for regulations and exemptions for certain activities. Some of these comments conflicted with each other (see Section 3.11 and Appendix A for more information related to public scoping comments). ONMS consulted with offshore wind energy representatives, government entities, tribal groups, fishing industry representatives, and interest groups to clarify issues and concerns associated with establishing sanctuary regulations. ONMS consulted with the Pacific Fishery Management Council as required under NMSA section 304(a)(5). ONMS also surveyed existing regulations of nearby west coast sanctuaries, including Monterey Bay, Greater Farallones, Channel Islands, and Olympic Coast national marine sanctuaries, and developed a set of proposed regulations that are generally consistent with other sanctuary provisions in resource areas that are similar. In developing the proposed regulations, ONMS evaluated resource sensitivity, industry practices, and feasibility of implementing certain regulations, to balance resource protection regulations with existing and future compatible activities that may occur in the sanctuary.

3.1.3 Development of Management Plan

Management plans are sanctuary-specific planning and management documents used by all national marine sanctuaries. Management plans fulfill many functions, including describing non-regulatory programs; outlining collaborations with partners; setting priorities for resource protection, research, and education programs; and guiding development of future budgets, staffing needs, and management activities. The draft management plan would chart the course for the proposed sanctuary over the next five to 10 years.

Numerous issues were identified during the scoping process that are appropriately addressed in the management plan rather than in sanctuary regulations. NOAA studied these issues to determine which ones were best addressed through a sanctuary management regime. In consultation with cooperating agencies and tribal representatives, NOAA developed and refined a suite of action plans with strategies and activities to address the most pressing issues, given likely sanctuary management staffing limitations. These action plans are included in the draft management plan (see Section 3.2.3). The NMSA requires NOAA to review sanctuary-specific management plans every five years; additional issues identified during the EIS scoping process and during the initial five years of sanctuary operation would likely be addressed during the management plan review process in the future.

3.2 Initial Boundary Alternative

This section describes the Initial Boundary Alternative, which includes a proposed boundary, proposed regulations, and implementation of a management plan for the proposed CHNMS.

3.2.1 Boundary (Initial Boundary Alternative)

Under the Initial Boundary Alternative, the sanctuary boundary would include the waters along and offshore of the central coast of California, largely consistent with the boundary suggested by sanctuary proponents and included in NOAA's NOI (86 Fed. Reg. 62512; November 10, 2021; see Figure 1-2), with several adjustments (see Figure 3-1). The proposed boundary would be located along the mean high tide line from approximately Cambria at the terminal boundary of MBNMS, south along the San Luis Obispo County coast, excluding Morro Bay Harbor and Port San Luis (boundaries are at the International Regulations for Preventing Collisions at Sea (COLREGS) demarcation lines (33 C.F.R. 80.1132 and 80.1130 respectively; see Figures 3-2 and 3-3)) and the private marina at Diablo Canyon, and then further south and east to include the coast of western Santa Barbara County to Gaviota Creek (approximately 0.1 mile east of Gaviota Pier), then offshore in a southwest direction along the western end of CINMS, southward to include Rodriguez Seamount and shifting to the northwest to include the waters and seabed west of Santa Lucia Bank, to reconnect with the boundary for MBNMS offshore Cambria.

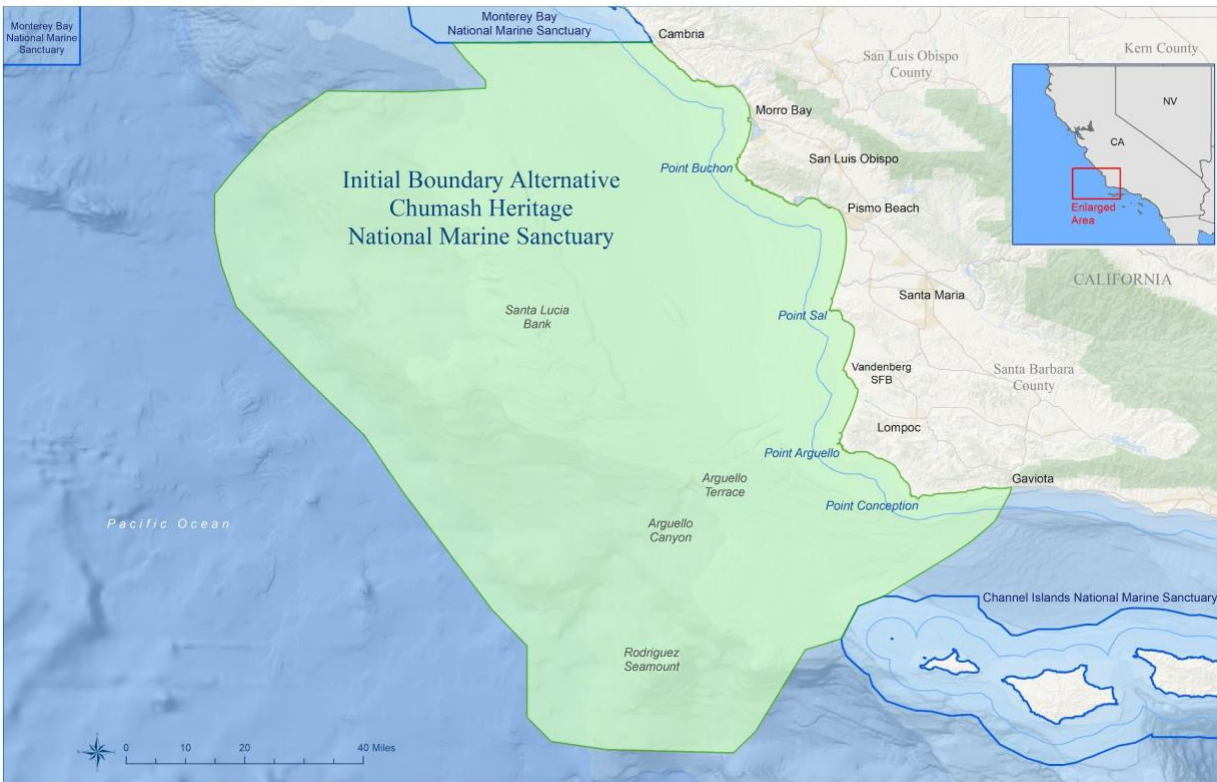


Figure 3-1. Initial Boundary Alternative. Image: NOAA

Among various jurisdictional overlays, the Initial Boundary Alternative includes seven state-designated MPAs from Cambria to Gaviota Creek. ONMS and the California Natural Resources Agency have recognized the synergistic benefit of state MPAs within the broader conservation benefits of national marine sanctuaries.¹¹

Compared to the boundary described in the EIS NOI (86 Fed. Reg. 62512 (November 10, 2021)), the proposed sanctuary boundary is adjusted as follows:

- Excludes the proposed Morro Bay 376 WEA rather than the 399 WEA, which results in moving the boundary three miles to the west from that described in the NOI.
- Aligns the boundary more fully with the western edge of CINMS boundary.

NOAA estimates the area encompassed in the proposed designation is approximately 7,573 square miles and would protect approximately 152 miles of mainland coastline (202 miles when the shoreline of offshore rocks and islands are included).

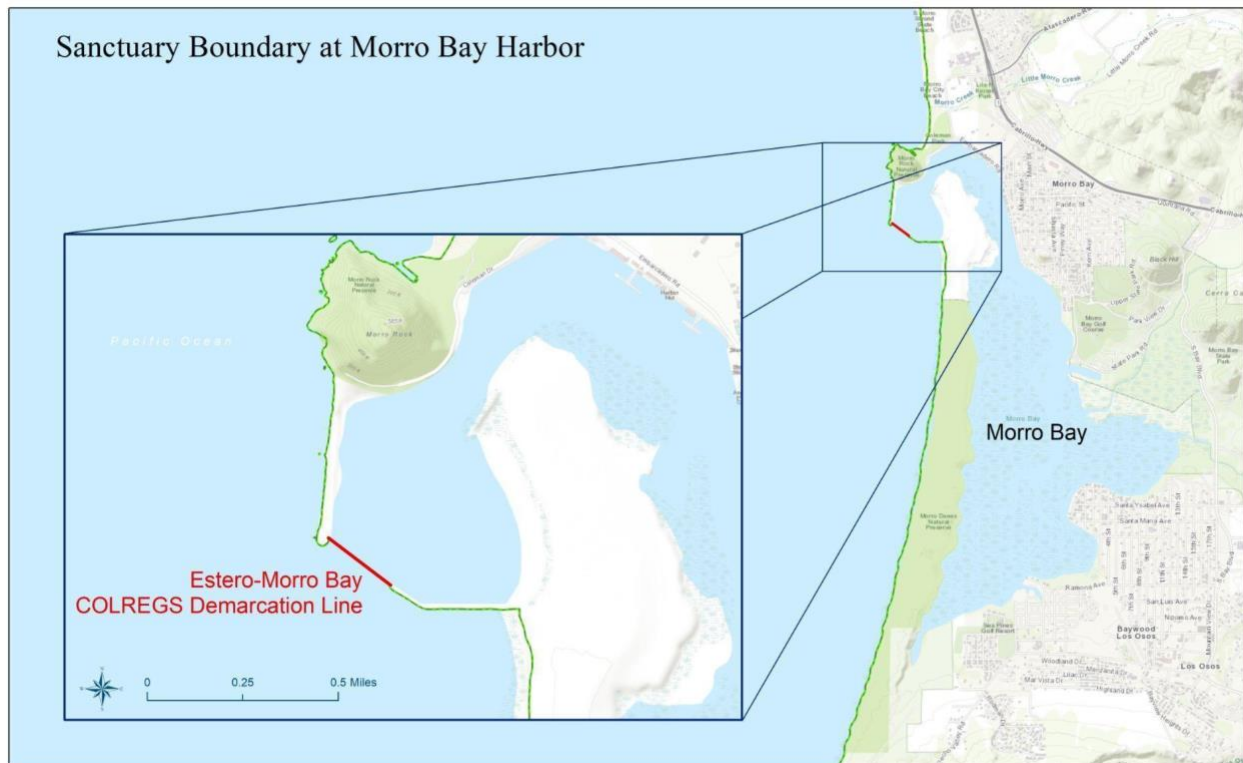


Figure 3-2. Initial Boundary Alternative at Morro Bay Harbor. Image: NOAA

¹¹ Additionally, the federally recognized Santa Ynez Band of Chumash Indians play a sovereign role in independently managing the tribe's fishing and resource collection activities through their state-approved exemption for subsistence and cultural fishing in one of the state MPAs encompassed within the Initial Boundary Alternative boundary, the Kashtayit State Marine Conservation Area (SMCA).



Figure 3-3. Initial Boundary Alternative at Port San Luis. Image: NOAA

3.2.2 Regulations (Initial Boundary Alternative)

The text of the proposed regulations is shown in Table 3-1. Under the Initial Boundary Alternative, the sanctuary regulations would closely track regulations for other national marine sanctuaries offshore of California, thus addressing the full range of conservation issues, with standard exemptions and permit processes. In general, regulations for national marine sanctuaries are written as “prohibitions” that restrict or limit an activity. If an activity is not covered by a prohibition, it may occur within a sanctuary. Activities that are described as prohibited by a sanctuary regulation may still occur provided:

- The regulatory prohibition includes an **exception** in the language itself; for instance, the proposed CHNMS regulation prohibiting seabed disturbance contains an exception for anchoring of a vessel.
- One or more broad **exemptions** apply. For instance, most of the proposed CHNMS regulations would not apply to activities necessary to respond to an emergency threatening life, property, or the environment.
- The sanctuary superintendent can take one of three actions for an activity that is otherwise prohibited. The superintendent can issue a **sanctuary general permit** to allow someone to conduct an activity otherwise prohibited. The proposed regulations for CHNMS include the ability to issue an **ONMS authorization** for an activity conducted pursuant to another agency’s permit, lease, license, or other approval. The NMSA allows issuance of a **special use permit** for certain activities. A sanctuary superintendent can

impose conditions on a sanctuary general permit, an ONMS authorization, or a special use permit that are necessary to ensure protection of sanctuary resources.

- Immediately after a sanctuary is designated, someone receives a **certification** from NOAA that an activity otherwise prohibited under the sanctuary regulations has a valid federal, state, or local permit, lease, or license at the time of designation; for CHNMS, NOAA is proposing that anyone with such a permit, lease, or license come forward within 90 days of sanctuary designation for a certification.

NOAA has recently revised its national program regulations to include procedures for applying for a sanctuary general permit, the review process, and appeal procedures into 15 C.F.R. 922, subpart D. The revised subpart D also provides the application procedures and review criteria for ONMS authorizations, as well as the special use permit process and fee structure. Permit processes for CHNMS, as noted in Table 3-1, reference and rely upon subpart D for most permitting issues related to CHNMS. The process for a certification in CHNMS is included in site specific regulations in Table 3-1. Unless it is critical for a specific issue to delineate the type of permit, hereafter use of “permit” in this EIS is meant to convey granting approval for an activity from a sanctuary superintendent or NOAA via a sanctuary general permit, ONMS authorization, certification, or special use permit.

Definitions

National marine sanctuary system-wide regulations include the definition of terms used in site-specific regulations, such as the prohibitions and permit processes. See 15 C.F.R. 922.11. For CHNMS, a number of terms are defined in the national program regulations that are pertinent to proposed regulations for the sanctuary; for instance, definitions for: “sanctuary resource,” “take of a marine mammal, sea turtle, or bird,” “attract or attracting,” “introduced species,” “harmful matter,” and “cruise ship,” among others. NOAA is proposing to adopt two site-specific definitions to guide regulations for CHNMS (see the Notice of Proposed Rulemaking for full text of these definitions). One definition would cover beneficial use of dredged material to allow consideration of permitting the discharge of material dredged from public harbor(s), specifically Port San Luis (because it and not Morro Bay Harbor are adjacent to the sanctuary as proposed in the Agency-Preferred Alternative), that is determined by the director to be suitable for habitat protection and restoration purposes. The second proposed definition provides a description of Rodriguez Seamount Management Zone.

Prohibitions

Similar to other sanctuaries, the proposed regulations for CHNMS identify prohibited uses rather than allowed uses. The following activities would be prohibited within the sanctuary, subject to specified exceptions and exemptions:

- Oil, gas, and minerals exploration, development, and production, except for continued oil and gas production of existing reservoirs at Platform Irene and at Platform Heritage, including well abandonment.
- Discharges within or into the sanctuary, with some exceptions.
- Cruise ship discharges, with limited exceptions.

- Discharging or depositing from beyond the boundary of the sanctuary any material or other matter that enters the sanctuary and injures a sanctuary resource or quality, with some exceptions.
- Disturbing the seabed, with some exceptions.
- Disturbing a historical resource, with limited exception.
- Taking or possessing a marine mammal, sea turtle, or bird, with limited exception.
- Deserting a vessel.
- Attracting a white shark.
- Disturbing resources deeper than 1,500 feet within the Rodriguez Seamount Management Zone, other than from fishing activities, with limited exception.
- Introducing or otherwise releasing an introduced species, with limited exception.
- Interfering with an enforcement investigation or action.

Exceptions

Most of the proposed regulations listed in Table 3-1 contain exceptions that apply to the activities that would otherwise be prohibited. Reviewers should study those regulations to understand exceptions to otherwise prohibited activities.

Exemptions

The proposed regulations include an exemption clarifying that most of the regulatory provisions would not apply to activities necessary to respond to an emergency threatening life, property, or the environment. Existing DoD activities specifically identified in Section 4.9 or Appendix I to the draft EIS would also be broadly exempted from the proposed regulations and the proposed regulations describe a process for considering exemption of new DoD activities.

Sanctuary General Permits

The proposed CHNMS regulations would establish a permit process to allow most prohibited activities under certain conditions via a national marine sanctuary general permit pursuant to 15 C.F.R. 922 subpart D and the site-specific regulations proposed for this sanctuary (Table 3-1). Under the proposed regulations, sanctuary general permits may be issued if the ONMS director (typically delegated to the sanctuary superintendent) determines that the proposed activities fall within one of three categories in the national regulations (15 C.F.R. 922.30(b)) relevant to this proposed sanctuary: (1) Research – activities that constitute scientific research or scientific monitoring of a national marine sanctuary resource or quality; (2) Education – activities that enhance public awareness, understanding, or appreciation of a national marine sanctuary or national marine sanctuary resource or quality; or (3) Management – activities that assist in managing a national marine sanctuary.

NOAA is proposing an additional category for issuance of a sanctuary general permit for CHNMS for an activity that “will promote or enhance local Native American cultural or ceremonial activities; or will promote or enhance education and training related to local Native American cultural or ceremonial activities.” NOAA is proposing this general permit category to address a need identified during scoping.

The proposed CHNMS regulations include procedures regarding a sanctuary general permit in § 922.233; however, subpart D to 15 C.F.R. 922 includes more information about the application requirements and procedures. Per § 922.33 of the national program regulations, the director must make findings prior to issuing a sanctuary general permit, including such factors as the proposed activity will be conducted in a manner compatible with the primary objective of protection of national marine sanctuary resources and qualities, and it is necessary to conduct the proposed activity within the national marine sanctuary to achieve its stated purpose. Appeal procedures are described in 15 C.F.R. 922.37.

Under the proposed CHNMS regulations, the ONMS director may not issue a sanctuary general permit (or ONMS authorization or special use permit) for new exploration, development, or production of oil, gas, or minerals within the sanctuary; or a new discharge of primary-treated sewage within the sanctuary; or a new site for disposal of harbor dredge material other than at sites already approved at the time of sanctuary designation. The ONMS director may permit the beneficial use of dredged material relating to dredging activity at Port San Luis, which is not a type of disposal.

ONMS Authorizations

Under the proposed regulations, activities that are otherwise prohibited may be authorized by the sanctuary superintendent if the activities are allowed pursuant to a separate federal, state, or local agency permit, lease, license, or other approval, and if the applicant complies with applicable regulatory provisions. “ONMS authorizations” would be guided by program-wide regulations at 15 C.F.R. 922.36 for certain prohibited activities as allowed for in regulations specific to CHNMS, and would often involve close coordination with the federal, state, or local agency whose permit would be authorized. Under 15 C.F.R. 922.36, the ONMS authorization process allows ONMS to impose terms and conditions on the activity that it deems reasonably necessary to protect sanctuary resources and qualities. ONMS may recommend that the partner agency impose any necessary mitigation measures in that agency’s permit, however ONMS may also impose mitigation measures and other conditions itself, through the authorization that it issues. As an example, NOAA has relied on U.S. Army Corps of Engineers (USACE) permits to approve, via authorization, the construction of subsea, trans-oceanic fiber-optic cables within other sanctuaries. As discussed in more detail in Section 4.7, a similar permit process could conceivably be used to permit construction of subsea electrical transmission cables from offshore wind energy development that pass through the proposed CHNMS to onshore substation(s), provided that the developer receives all other necessary permits or authorizations from other applicable authorities.

Under the proposed regulations, ONMS could authorize the introduction of an introduced species of shellfish that is cultivated in state waters as part of commercial shellfish aquaculture activities only if NOAA and the state of California determine that the species is non-invasive and will not cause significant adverse effects to sanctuary resources and qualities. NOAA has previously adopted a memorandum of agreement (MOA) with the state of California for considering introduced species aquaculture projects in state waters of MBNMS and intends to update that MOA to address consideration of ONMS authorizations for future introduced species aquaculture projects that may be proposed within CHNMS.

Special Use Permits

Section 310 of the NMSA (16 U.S.C. § 1441) states that special use permits may be issued to authorize the conduct of specific activities in a national marine sanctuary under certain circumstances. This provision for special use permits applies to any national marine sanctuary. A special use permit is the only permit issued through the sanctuary program that allows the agency to recover some or all of the cost of reviewing and issuing the permit, including recovery of a fair market value for use of sanctuary resources. By statute, special use permits may be issued only for five years but may be renewed. Past practice by ONMS has allowed continued renewals of some special use permits. ONMS has issued notices in the Fed. Reg. that describe the categories of activities that are currently eligible for special use permits (78 Fed. Reg. 25957 (May 3, 2013); 82 Fed. Reg. 42298 (Sept. 7, 2017)). Special use permit categories that are potentially relevant to the proposed CHNMS include the continued presence of commercial subsea cables, discharge of cremated human remains, and discharges from fireworks displays. For some trans-oceanic fiber-optic cables, ONMS has issued authorizations for construction of a cable and also issued a special use permit for continued presence of that same cable on or in the sanctuary seabed for the cable's operational life. As discussed in more detail in Section 4.7, a similar permit process could conceivably be used to permit continued operation of subsea electrical transmission cables from offshore wind energy development that pass through the proposed CHNMS to onshore substation(s). Procedures for special use permits are governed by several sections of 15 C.F.R. 922 subpart D.

Certifications

Similar to authorizations, NOAA proposes to establish a process applicable at the time of CHNMS designation whereby existing activities specifically authorized by a valid lease, permit, or other approval could be “certified” and allowed to continue, subject to any terms and conditions consistent with the purposes for which the sanctuary was designated, as allowed for in 15 C.F.R. 922.10. For example, existing legal wastewater discharges into or within the sanctuary may be allowed to continue through the certification process. Certification procedures are included in the proposed regulations for CHNMS.

Terms of Designation

Section 304(a)(4) of the NMSA requires that the terms of designation for national marine sanctuaries include: (1) the geographic area included within the sanctuary; (2) the characteristics of the area that give it conservation, recreational, ecological, historical, research, educational, or aesthetic value; and (3) the types of activities subject to regulation by NOAA to protect those characteristics. See Appendix B for the full text of the proposed terms of designation.

The proposed sanctuary terms of designation establish the authorities to regulate and prohibit activities listed in more detail in Table 3-1, to the extent necessary and reasonable to ensure the protection and management of the area's conservation, ecological, recreational, research, educational, historical, and aesthetic resources and qualities.

Table 3-1. Proposed regulations for the Initial Boundary Alternative.

Regulation	Prohibited or Otherwise Regulated Activities
15 C.F.R. 922.232	(a) Except as specified in paragraphs (b) through (e) and paragraph (g) of this section, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted:
Oil, Gas, Minerals	(1) Exploring for, developing, or producing oil, gas, or minerals within the Sanctuary, except for continued oil and gas production, which includes well abandonment, of existing reservoirs under production prior to the effective date of Sanctuary designation at Platform Irene and at Platform Heritage.
Discharges into the Sanctuary	(2)(i) Discharging or depositing from within or into the Sanctuary, other than from a cruise ship, any material or other matter, except:
	<p>(A) Fish, fish parts, chumming materials, or bait used in or resulting from lawful fishing activities within the Sanctuary, provided that such discharge or deposit is during the conduct of lawful fishing activities within the Sanctuary;</p> <p>(B) For a vessel less than 300 gross registered tons (GRT), or a vessel 300 GRT or greater without sufficient holding tank capacity to hold sewage while within the Sanctuary, clean effluent generated incidental to vessel use by an operable Type I or II marine sanitation device (U.S. Coast Guard classification) approved in accordance with section 312 of the Federal Water Pollution Control Act, as amended (FWPCA), 33 U.S.C. 1322. Vessel operators must lock all marine sanitation devices in a manner that prevents discharge or deposit of untreated sewage;</p> <p>(C) Clean vessel deck wash down, clean vessel engine cooling water, clean vessel generator cooling water, clean bilge water, or anchor wash;</p> <p>(D) For a vessel less than 300 GRT, or a vessel 300 GRT or greater without sufficient holding capacity to hold graywater while within the Sanctuary, clean graywater as defined by section 312 of the FWPCA;</p> <p>(E) Vessel engine or generator exhaust;</p> <p>(F) Beyond 3 nautical miles from shore, sewage and non-clean graywater as defined by section 312 of the FWPCA generated incidental to vessel use by a U.S. Coast Guard vessel without sufficient holding tank capacity and without a Type I or II marine sanitation device; and beyond 12 nautical miles from shore, ammunition, pyrotechnics or other materials directly related to training for search and rescue and live ammunition activities conducted by U.S. Coast Guard vessels and aircraft;</p> <p>(G) Dredged material deposited at disposal sites within the Sanctuary authorized by the U.S. Environmental Protection Agency (in consultation with the U.S. Army Corps of Engineers) prior to the effective date of Sanctuary designation; or</p> <p>(H) Discharges incidental and necessary to oil and gas production within or into existing reservoirs under production prior to the effective date of Sanctuary designation from Platform Irene or Platform Heritage, including well abandonment.</p>
Cruise Ships	(ii) Discharging or depositing from within or into the Sanctuary any material or other matter from a cruise ship except clean vessel engine cooling water, clean vessel generator cooling water, vessel engine or generator exhaust, clean bilge water, or anchor wash.
Enter and Injure	(iii) Discharging or depositing from beyond the boundary of the Sanctuary any material or other matter that subsequently enters the Sanctuary and injures a Sanctuary resource or quality, except material or other matter listed in paragraphs (a)(2)(i)(A) through (F) and (a)(2)(ii) of this section.

Regulation	Prohibited or Otherwise Regulated Activities
Seabed Disturbance	(3) Drilling into, dredging, or otherwise altering the submerged lands of the Sanctuary; or constructing, placing, or abandoning any structure, material, or other matter on or in the submerged lands of the Sanctuary,** except as incidental and necessary to:
	(i) Conduct lawful fishing activities or lawful kelp harvesting; (ii) Anchor a vessel; (iii) Install or maintain an authorized navigational aid; (iv) Repair, replace or rehabilitate an existing dock, pier, breakwater, or jetty; (v) Conduct maintenance dredging of entrance channels for harbors in existence prior to the effective date of Sanctuary designation; or (vi) Drill, maintain, or abandon a well necessary for purposes related to oil and gas production within or into existing reservoirs under production prior to the effective date of Sanctuary designation from Platform Irene or Platform Heritage. The exceptions listed in paragraphs (a)(3)(ii) through (a)(3)(vi) of this section do not apply in the Rodriguez Seamount Management Zone, the boundary of which is defined in appendix B to this subpart.
Disturbing a Historical Resource	(4) Moving, removing, or injuring, or attempting to move, remove, or injure, a Sanctuary historical resource; or possessing or attempting to possess a Sanctuary historical resource, except as necessary for valid law enforcement purposes. This prohibition does not apply to, moving, removing, or injury resulting incidentally from lawful kelp harvesting or lawful fishing activities.
Take of Marine Mammal, Sea Turtle, or Bird	(5) Taking any marine mammal, sea turtle, or bird within or above the Sanctuary, except as authorized by the Marine Mammal Protection Act, as amended, (MMPA), 16 U.S.C. 1361 <i>et seq.</i> , Endangered Species Act, as amended, (ESA), 16 U.S.C. 1531 <i>et seq.</i> , Migratory Bird Treaty Act, as amended, (MBTA), 16 U.S.C. 703 <i>et seq.</i> , or any regulation, as amended, promulgated under the MMPA, ESA, or MBTA.
Possession of Marine Mammal, Sea Turtle, or Bird	(6) Possessing within the Sanctuary (regardless of where taken, moved, or removed from), any marine mammal, sea turtle, or bird, except as authorized by the MMPA, ESA, MBTA, by any regulation, as amended, promulgated under the MMPA, ESA, or MBTA, or as necessary for valid law enforcement purposes.
Deserting a Vessel	(7) Deserting a vessel aground, at anchor, or adrift in the Sanctuary or leaving harmful matter aboard a grounded or deserted vessel in the Sanctuary.
White Shark Attraction	(8) Attracting any white shark within the Sanctuary.
Rodriguez Seamount	(9)(i) Moving, removing, taking, collecting, catching, harvesting, disturbing, breaking, cutting, or otherwise injuring, or attempting to move, remove, take, collect, catch, harvest, disturb, break, cut, or otherwise injure, any Sanctuary resource located more than 1,500 ft. below the sea surface within the Rodriguez Seamount Management Zone, as defined in appendix B to this subpart. This prohibition does not apply to lawful fishing, which is regulated pursuant to 50 C.F.R. part 660 (Fisheries off West Coast States).

Regulation	Prohibited or Otherwise Regulated Activities
	(ii) Possessing any Sanctuary resource, the source of which is more than 1,500 ft. below the sea surface within the Rodriguez Seamount Management Zone, except as necessary for valid law enforcement purposes. This prohibition does not apply to possession of fish resulting from lawful fishing, which is regulated pursuant to 50 C.F.R. part 660 (Fisheries off West Coast States).
Introduced Species	(10) Introducing or otherwise releasing from within or into the Sanctuary an introduced species, except striped bass (<i>Morone saxatilis</i>) released during catch and release fishing activity.
Interfering with an Investigation	(11) Interfering with, obstructing, delaying, or preventing an investigation, search, seizure, or disposition of seized property in connection with enforcement of the Act or any regulation or permit issued under the Act.

	Permits and Other Exemptions
Emergency Exemption	(b) The prohibitions in paragraphs (a)(2) through (7) and (a)(9) of this section do not apply to an activity necessary to respond to an emergency threatening life, property, or the environment.
Department of Defense	(c)(1) The prohibitions in paragraphs (a)(2) through (7) and (a)(9) and (10) of this section do not apply to existing activities carried out or approved by the Department of Defense, that were conducted prior to the effective date of this designation, as specifically identified in Section 4.9 or Appendix I to the final environmental impact statement for Chumash Heritage National Marine Sanctuary (for availability, see https://sanctuaries.noaa.gov/chumash-heritage/). New activities may be exempted from the prohibitions in paragraphs (a)(2) through (7) and (a)(9) and (10) of this section by the Director after consultation between the Director and the Department of Defense. All Department of Defense activities must be carried out in a manner that avoids to the maximum extent practicable any adverse impacts on Sanctuary resources and qualities.
... in the event of harm	(2) In the event of threatened or actual destruction of, loss of, or injury to a Sanctuary resource or quality resulting from an untoward incident, including but not limited to spills and groundings caused by the Department of Defense, the Department of Defense shall promptly coordinate with the Director for the purpose of taking appropriate actions to respond to and mitigate the harm and, if practicable, restore or replace the Sanctuary resource or quality.
Sanctuary Permit	(d) The prohibitions in paragraphs (a)(2) through (9) of this section do not apply to any activity conducted under and in accordance with the scope, purpose, terms, and conditions of a National Marine Sanctuary general permit issued pursuant to subpart D of this part and 922.233, or a special use permit issued pursuant to subpart D of this part.

Permits and Other Exemptions	
Authorizations	(e) The prohibitions in paragraphs (a)(2) through (a)(9) of this section, and (a)(10) of this section regarding any introduced species of shellfish that NOAA and the state of California have determined is non-invasive and will not cause significant adverse effects to Sanctuary resources or qualities, and that is cultivated in State waters as part of commercial shellfish aquaculture activities, do not apply to any activity authorized by any lease, permit, license, approval, or other authorization issued after the effective date of Sanctuary designation and issued by any Federal, State, or local authority of competent jurisdiction, provided that the applicant complies with 15 C.F.R. 922.36, the Director notifies the applicant and authorizing agency that the Director does not object to issuance of the authorization, and the applicant complies with any terms and conditions the Director deems necessary to protect Sanctuary resources and qualities. Amendments, renewals, and extensions of authorizations in existence on the effective date of designation constitute authorizations issued after the effective date of Sanctuary designation.
Limitations on Issuing Permits	(f) Notwithstanding paragraphs (d) and (e) of this section, in no event may the Director issue a National Marine Sanctuary general permit under subpart D of this part and 922.233, or an ONMS authorization or special use permit under subpart D of this part, authorizing, or otherwise approve: (1) the exploration for, development, or production of oil, gas, or minerals within the Sanctuary; (2) the discharge of untreated or primary-treated sewage within the Sanctuary (except by certification, pursuant to 15 C.F.R. 922.10 and 922.234, of valid authorizations in existence prior to the effective date of designation and issued by other authorities of competent jurisdiction); or (3) the disposal of dredged material within the Sanctuary other than at sites authorized by the U.S. Environmental Protection Agency prior to the effective date of designation. For the purposes of this subpart, the disposal of dredged material does not include the beneficial use of dredged material, as defined at 15 C.F.R. 922.231, related to dredging activity at Port San Luis. Any purported authorizations issued by other authorities within the Sanctuary shall be invalid.
Certifications	(g) A person may conduct an activity prohibited by § 922.232 (a)(2) through (10) within the Sanctuary if such activity is specifically authorized by a valid Federal, State, or local lease, permit, license, or right of subsistence use or of access that is in existence on the effective date of Sanctuary designation and within the sanctuary designated area, and complies with § 922.10, provided that the holder of the lease, permit, license, or right of subsistence use or of access complies with the certification procedures for CHNMS as outlined in § 922.234.

Regulation	Permit and Certification Procedures
15 C.F.R. 922.233	(a) A person may conduct an activity prohibited by § 922.232(a)(2) through (9), if such activity is specifically authorized by, and conducted in accordance with the scope, purpose, terms, and conditions of, a sanctuary general permit issued under this section and subpart D of this part.
	(b) Applications for permits should be addressed to the West Coast Regional Office, Office of National Marine Sanctuaries; ATTN: Superintendent, Chumash Heritage National Marine Sanctuary, 99 Pacific Street, Suite 100F, Monterey, CA 93940.
15 C.F.R. 922.234	<p>(a) To obtain a certification of an activity that is specifically authorized by a valid Federal, State, or local lease, permit, license, or right of subsistence use or access in existence on the effective date of Sanctuary designation and within the sanctuary designated area, pursuant to § 922.10 and § 922.232(g), the holder of such authorization, permit, or right shall:</p> <p>(1) Notify the Director, in writing, within 90 days of the effective date of Sanctuary designation of the existence and location of such authorization or right and requests certification of such authorization or right; and</p> <p>(2) Comply with any terms and conditions on the exercise of such authorization or right imposed as a condition of certification, by the Director, to achieve the purposes for which the Sanctuary was designated.</p> <p>(b) The holder shall address any requests for certifications to West Coast Regional Office, Office of National Marine Sanctuaries; ATTN: Superintendent, Chumash Heritage National Marine Sanctuary, 99 Pacific Street, Suite 100F, Monterey, CA 93940, or send by electronic means as defined in the instructions for the ONMS permit application. A copy of the lease, permit, license, or right of subsistence use or of access must accompany the request.</p> <p>(c) A holder requesting certification of an authorization or right described in paragraph 922.232(g) may continue to conduct the activity without being in violation of Sanctuary prohibitions pending the Director's review of and decision regarding the holder's certification request, provided the holder is otherwise in compliance with this section.</p> <p>(d) The Director may request additional information from the certification requester as the Director deems reasonably necessary to condition appropriately the exercise of the certified authorization or right to achieve the purposes for which the sanctuary was designated. The Director must receive the information requested within 45 days of the date of the Director's request for information. Failure to provide the requested information within this time frame may be grounds for denial by the Director of the certification request.</p> <p>(e) In considering whether to issue a certification, the Director may seek and consider the views of any other person or entity, within or outside the Federal government, and may hold a public hearing as deemed appropriate by the Director.</p> <p>(f) Upon completion of review of the authorization or right and information received with respect thereto, the Director shall communicate, in writing, any decision on a certification request or any action taken with respect to any certification made under this section, in writing, to both the holder of the certified lease, permit, license, approval, other authorization, or right, and the issuing agency, and shall set forth the reason(s) for the decision or action taken.</p> <p>(g) The Director may amend, suspend, or revoke any certification issued under this section whenever continued operation would otherwise be inconsistent with any</p>

Regulation	Permit and Certification Procedures
	<p>terms or conditions of the certification. Any such action shall be forwarded in writing to both the certification holder and the agency that issued the underlying lease, permit, license, or right of subsistence use or of access, and shall set forth reason(s) for the action taken.</p> <p>(h) The Director may amend any certification issued under this section whenever additional information becomes available that he or she determines justifies such an amendment.</p> <p>(i) The holder may appeal any action conditioning, amending, suspending, or revoking any certification in accordance with the procedures set forth in § 922.37.</p> <p>(j) Any time limit prescribed in or established under this section may be extended by the Director for good cause.</p> <p>(k) It is unlawful for any person to violate any terms and conditions in a certification issued under this section.</p>

Rodriguez Seamount Management Zone

NOAA is proposing the designation of a management zone to overlay the Rodriguez Seamount and adjacent seafloor structures to enhance management of nationally significant resources. As noted in Table 3-1, several proposed regulations apply and some proposed regulatory exceptions would not apply within the Rodriguez Seamount Management Zone. Figure 3-4 shows the location of this zone, which would be applicable to and wholly within the Initial Boundary Alternative and all action alternatives.

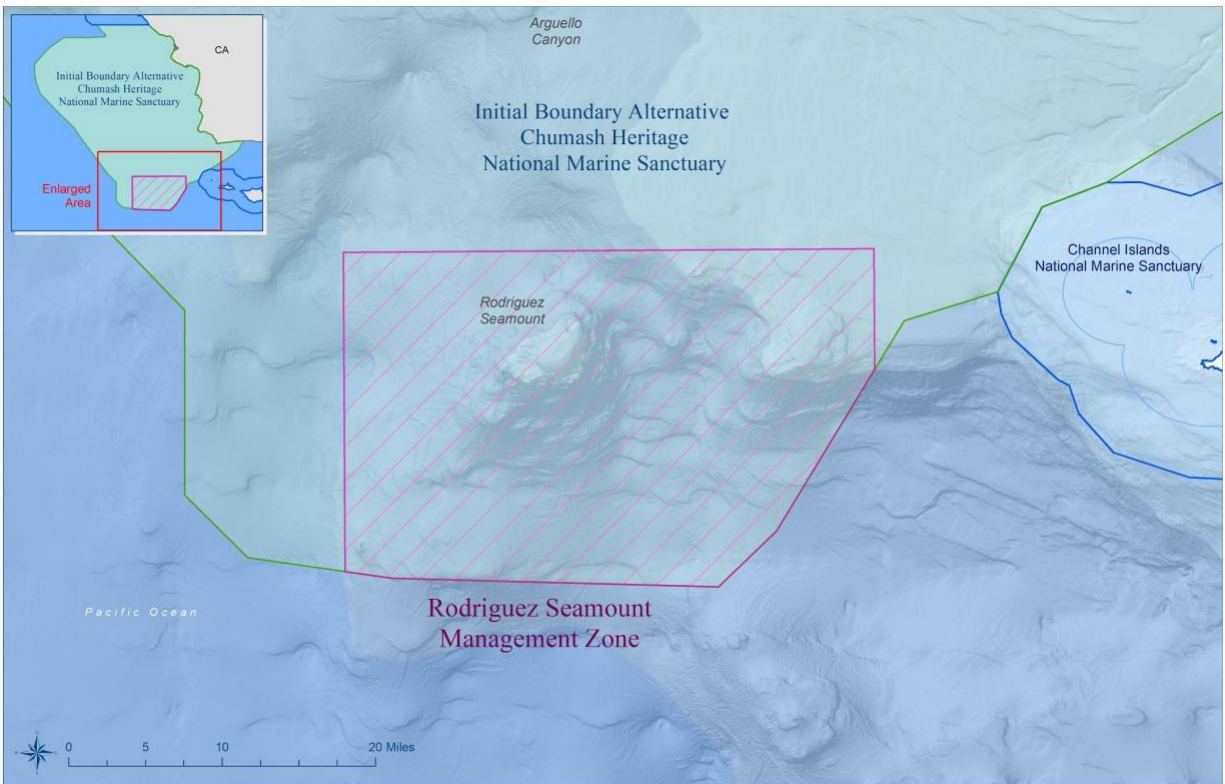


Figure 3-4. Rodriguez Seamount Management Zone. Image: NOAA

3.2.3 Management Plan and Field Activities (Initial Boundary Alternative)

Under the Initial Boundary Alternative, NOAA would implement a sanctuary management plan that describes the goals, strategies, and activities intended to help conserve and protect the resources in the proposed sanctuary. The full draft management plan is published as a separate document. NOAA has developed and published a draft management plan that would apply to the Initial Boundary Alternative. If an alternative other than the Initial Boundary Alternative is ultimately selected for the final designation, it could require scaling back or eliminating a strategy or activity in one of the action plans; or expanding a strategy or activity if a sub-alternative is included in the final designation. General changes to the scale and scope of the management plan are identified for each action alternative below (see sections 3.3.3, 3.4.3, 3.5.3, 3.6.3, 3.7.1, and 3.7.2). Specific changes to the proposed management plan under the Agency-Preferred Alternative are discussed in more detail in Section 5.4.9.

Action Plans

The draft management plan consists of the following action plans:

- Indigenous Cultural Heritage
- Climate Change
- Maritime Heritage
- Offshore Energy
- Water Quality
- Blue Economy
- Wildlife Disturbance
- Education and Outreach
- Resource Protection
- Research and Monitoring
- Operations and Administration

As summarized below, most action plans include activities that would either have no environmental impacts or would have only beneficial effects on the environment. Any anticipated environmental impacts of the draft management plan's action plans are discussed below in Chapter 4. Most of the activities involve research, education, collaboration, and public outreach. Some activities may require research or monitoring surveys conducted by vessels.

An introductory section provides background information on the sanctuary and a description of a collaborative framework for Indigenous engagement and participation in sanctuary management.

Indigenous Cultural Heritage Action Plan

The purpose of this action plan is to work in partnership with native communities along the California central coast to honor, celebrate, and protect the unique Indigenous cultural heritage and resources connected to the proposed sanctuary. Priorities focus on understanding and protecting cultural resources within the proposed sanctuary, appropriately applying traditional

ecological knowledge, giving prominence to local Indigenous culture through sanctuary programs, and carrying out cultural outreach and education opportunities to serve Indigenous communities and the general public.

Climate Change Action Plan

The purpose of the Climate Change Action Plan is to protect and enhance ecosystem function and resilience from climate change through five strategies that include: climate research and monitoring, assessment and adaptation, mitigation actions, education and outreach, and community partnerships. Through climate mitigation measures, ONMS would investigate the application of blue carbon habitat protection and enhancement and marine carbon dioxide removal approaches.

Maritime Heritage Action Plan

The Maritime Heritage Action Plan's goal is to identify, protect, and raise awareness of the proposed sanctuary's maritime, historical, and archaeological resources and to collaborate with community partners engaged in maritime traditions, traditional ecological knowledge, and protection of sanctuary waters. Prior to the sanctuary designation proposal, ONMS had already carried out many successful missions to understand and conserve the maritime heritage in the study area, but the long history of maritime activity in the area indicates more could be done with a sanctuary designation.

Offshore Energy Action Plan

This action plan's goal is to aid long-term management of proposed sanctuary resources, ecosystem services, and cultural heritage by informing the management of offshore energy activities occurring in or adjacent to the proposed sanctuary, conducting necessary research and monitoring, and coordinating with other agencies and affected stakeholders. Moreover, this action plan would support coordinated planning and monitoring of offshore energy activities occurring, and anticipated to occur, within the broader region. Effectively implementing this action plan would require active participation in federal, state, and local agencies' regulatory actions. The action plan itself would not govern offshore energy activities but may inform future regulatory actions.

Water Quality Action Plan

This action plan's goal is to promote stewardship of water quality while accommodating many diverse uses. Examples of key strategies and activities include improving understanding of water quality conditions in adjoining watersheds that drain to the proposed sanctuary; coordinating with other federal, state, and local agencies, tribes, businesses, and interest groups; and collaborating on solution-focused watershed activities across the diverse landscapes of the proposed sanctuary.

Blue Economy Action Plan

The Blue Economy Action Plan for the proposed sanctuary primarily focuses on tourism and recreation. The sustainable tourism and recreation strategies and visitor use addressed in this plan are aimed to support a viable economy, while protecting sanctuary resources and supporting the broader community. The action plan envisions promoting the proposed

sanctuary as an iconic travel destination and cultivating a generation of visitors with a strong ocean stewardship ethic. This action plan also includes support for advancing the marine technology sector in the region. Sanctuaries as place-based organizations, are uniquely positioned to use a destination stewardship approach to work collaboratively with communities to promote sustainable tourism and contribute to local economies, while also protecting sensitive marine wildlife and habitats. Sanctuaries are managed to protect and conserve their resources and to allow uses that are compatible with resource protection.

Wildlife Disturbance Action Plan

This action plan’s purpose is to assess and mitigate wildlife disturbance within proposed sanctuary boundaries. Example strategies in the action plan include evaluating wildlife disturbance by visitors and recreational users; evaluating aircraft disturbance; and establishing partner relationships with law enforcement agencies to ensure effective means to protect wildlife.

Education and Outreach Action Plan

The Education and Outreach Action Plan’s purpose is to promote and encourage appreciation of cultural and natural resources of the proposed sanctuary by building greater public understanding, engagement, and stewardship. The action plan seeks to inspire ocean and climate literacy and conservation ethics through collaboration with community partners and programs. Similar to other national marine sanctuaries, this action plan shows how establishing durable and flourishing partnerships would be a key to the success of proposed CHNMS education and outreach initiatives.

Resource Protection Action Plan

This action plan’s goal is to maintain and improve the proposed sanctuary’s natural biological and ecological processes and maritime and cultural resources by evaluating and addressing adverse impacts from human activities and applying traditional ecological knowledge and perspectives. Like with other national marine sanctuaries, a considerable amount of interagency coordination and cooperation, as well as partnerships, would be necessary to help ensure conservation of proposed sanctuary resources.

Research and Monitoring Action Plan

This action plan’s goal is to ensure the best available science is accessible to address current and projected sanctuary and resource management needs. Strategies would include the national marine sanctuary science team carrying out research, as well as developing partnerships to help mobilize the research capacity already in the region. The action plan also provides some examples of needed research and long-term monitoring known at this time, and the kinds of infrastructure that would help achieve long-term management goals.

Operations and Administration Action Plan

This action plan’s purpose is to create sanctuary infrastructure, staffing, and program support to ensure the management plan is effectively implemented. Strategies include developing a “NOAA presence” within sanctuary communities that support the proposed sanctuary’s mission; establishing a Sanctuary Advisory Council; developing infrastructure to aid management such as

vessels, offices, and related facilities, or partnerships to help bring that infrastructure to life; and developing sanctuary volunteer program(s) for key priorities.

Field Activities Common to Initial Boundary Alternative and All Action Alternatives

As part of NOAA’s management responsibilities for the proposed CHNMS, NOAA would conduct routine field activities in proposed sanctuary waters and in vessel transit routes to the proposed sanctuary. Field activities aim to further resource protection goals, promote stewardship among local stakeholders, and educate the public and research community on the proposed sanctuary. The typical activities to be conducted include operating sanctuary vessels, scuba operations, deploying equipment on the seafloor, and deploying remotely operated vehicles (ROVs) and other uncrewed systems. Deployment of equipment on the seafloor includes the deployment and maintenance of mooring buoy systems. NOAA expects the type and intensity of activities that would be conducted would be the same under the Initial Boundary Alternative and all action alternatives; however, a different, perhaps larger, or smaller, area may be subject to these activities under each action alternative.

Mitigation Measures for Field Activities

NOAA would conduct all field activities in accordance with ONMS best management practices (see Appendix C) and standing orders to minimize impacts on proposed sanctuary resources, including living marine resources, seafloor habitat, and cultural and historical resources. NOAA would comply with all NOAA Small Boat Program guidelines (NOAA Administrative Order 209-125) and any applicable laws regarding interactions with protected species and habitats. All research on marine mammals would be conducted in accordance with permits issued by NOAA’s National Marine Fisheries Service (NOAA Fisheries).

3.3 Alternative 1 – Bank to Coast

This section describes the components of Alternative 1, “Bank to Coast,” which includes a smaller boundary than the Initial Boundary Alternative. The boundary includes adjustments in response to scoping comments. The regulations and management plan would be the same as described in the Initial Boundary Alternative.

The primary difference between Alternative 1 and the Initial Boundary Alternative is that the western boundary line would be moved eastward in response to scoping comments that the proposed sanctuary size is unnecessarily large for purposes of sanctuary resource protection or the ecosystem elements that are nationally significant, and strays from the original intent and purpose of the sanctuary to concentrate on ecosystem features that have been historically important to tribes and Indigenous communities. NMSA section 303(b)(1)(F) states that one of the factors that shall be considered in determining whether a sanctuary meets the standards for designation is “the manageability of the area, including such factors as its size, its ability to be identified as a discrete ecological unit with definable boundaries, its accessibility, and its suitability for monitoring and enforcement activities.”

Under Alternative 1, the western-most and deepest portions of the escarpment and abyssal plain west of Santa Lucia Bank would be excluded from the proposed sanctuary, but Rodriguez

Seamount and Arguello Canyon would be included. This smaller boundary could allow ONMS to focus protection on the most productive and nationally significant areas from Santa Lucia Bank east to the coast. The boundary area would still cover the physical features and important resources identified in the purpose and need statement (see Chapter 2).

3.3.1 Proposed Boundary (Alternative 1)

Under Alternative 1, Bank to Coast, the proposed sanctuary boundary would be the same as the Initial Boundary Alternative in both the north and south. The western boundary would shift to the east to roughly the escarpment at the edge of Santa Lucia Bank (see Figure 3-5), reducing the size of the proposed sanctuary by about 1,500 square miles (see Table 3-2). The southern portions of this alternative would still include Santa Lucia Bank, much of Arguello Canyon, and Rodriguez Seamount. The approximate size would be 6,098 square miles and 152 miles of coastline.

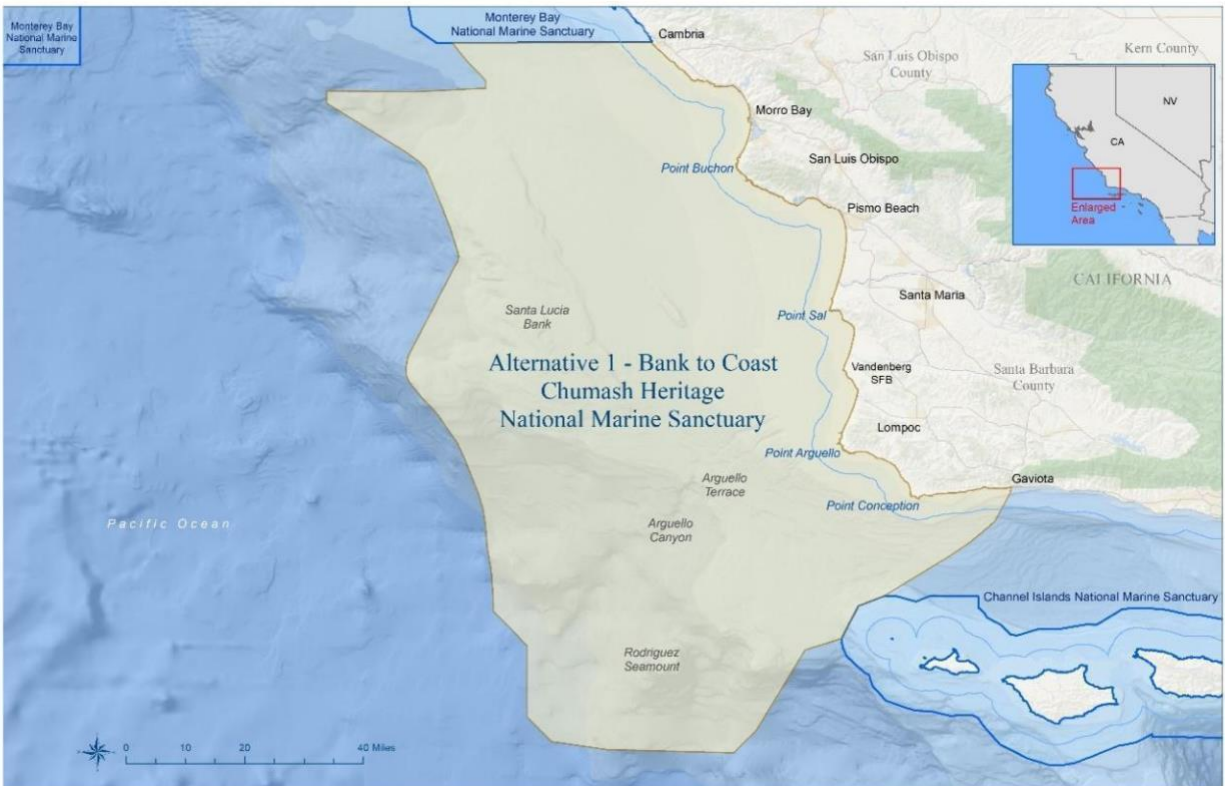


Figure 3-5. Boundary for Alternative 1, Bank to Coast. Image: NOAA

3.3.2 Proposed Regulations (Alternative 1)

The proposed regulations under Alternative 1 would be the same as those described for the Initial Boundary Alternative (see Section 3.2.2).

3.3.3 Proposed Management Plan and Field Activities (Alternative 1)

In general, the management plan and field activities under Alternative 1 would be the same as those described for the Initial Boundary Alternative (see Section 3.2.3), except research and

monitoring activities would not take place in the area west of the Santa Lucia Bank that would not be part of CHNMS under this alternative. Likewise, the focus of education and outreach activities may be reduced to only include those areas within CHNMS boundaries under Alternative 1.

3.4 Alternative 2 – Cropped Bank to Coast

This section describes the components of Alternative 2, “Cropped Bank to Coast,” which includes a smaller boundary than the Initial Boundary Alternative. It is similar to Alternative 1 except that it excludes the northern part of Alternative 1; its northern boundary along the coast originates at Hazard Canyon Reef. The boundary includes adjustments in response to scoping comments, cooperating agency comments, and comments from the Santa Ynez Band of Chumash Indians through government-to-government consultation, as well as input received from other tribal groups. The regulations and management plan would have modifications to remove certain regulations and strategies in the Initial Boundary Alternative, as noted below.

Alternative 2 incorporates elements of Alternative 1 by moving the western boundary line eastward in response to scoping comments as explained for Alternative 1. Alternative 2 also incorporates portions of the objectives described for Alternative 3 below, in that it would exclude from sanctuary designation an area from Cambria to the northern portion of Montaña de Oro State Park. Subsea electrical transmission cables from leases in the Morro Bay WEA could be designed and built in this area from offshore leases to the most likely landfall at or near Morro Bay Harbor and the grid connections north of the harbor without going through the sanctuary and requiring an ONMS authorization. BOEM would be the lead federal agency for any lease and permitting decisions regarding the number of subsea electrical transmission cables, their routing, how they would be laid (buried vs. surface laid), as well as decisions on any floating substations. State agencies would be the lead agencies for such lease and permitting decisions in state waters. Initial discussions with BOEM have indicated there could be up to 30 cables in this corridor, as well as possibly floating substations, which raise questions about what level of disturbance would be appropriate inside a national marine sanctuary. The boundary configuration for Alternative 2 would create a buffer area immediately south of the offshore leases to allow greater planning for cable routes by wind developers without infringing on adjacent leases.

Different bands of the Salinan Indians have raised objections to designating a sanctuary with the name “Chumash” for the area of coast from roughly Morro Bay northwards. Alternative 2 would not designate that area as part of the proposed CHNMS and would, therefore, help mitigate these concerns.

This alternative removes all or portions of two state MPAs from the boundary of the proposed sanctuary: Cambria SMCA, and White Rock SMCA. In addition, this alternative excludes Morro Bay Harbor dredge disposal sites, which was requested during scoping by the city of Morro Bay.

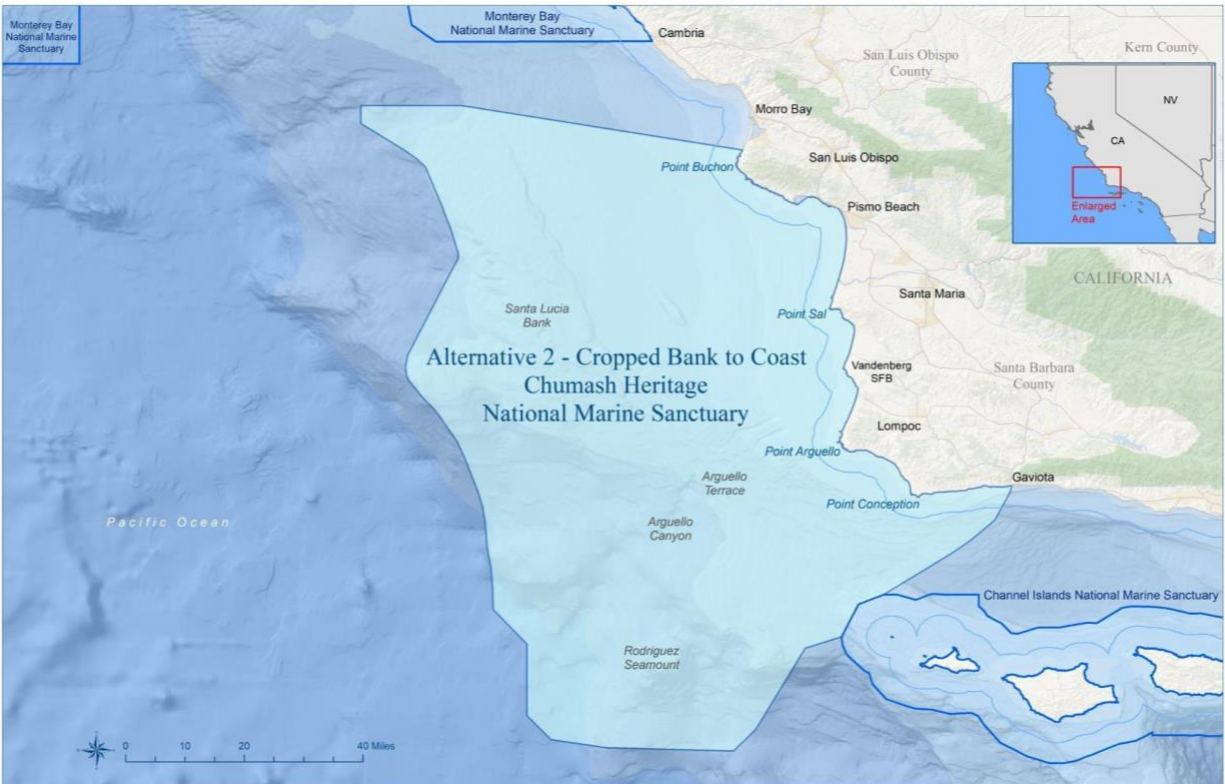


Figure 3-6. Boundary for Alternative 2, Cropped Bank to Coast. Image: NOAA

3.4.1 Proposed Boundary (Alternative 2)

Under Alternative 2, Cropped Bank to Coast, the sanctuary boundary would begin along the coast at Hazard Canyon Reef in the northern portion of Montaña de Oro State Park and would follow the mean high tide line as in the Initial Boundary Alternative and Alternative 1 south to Gaviota Creek. The offshore boundary from Gaviota Creek, to the southwest around CINMS and Rodriguez Seamount and then to the north would mirror that of Alternative 1 except that as the offshore boundary approaches the Morro Bay WEA, the boundary for Alternative 2 would transit due east-west approximately 2.5 miles to the south of the boundary for the Initial Boundary Alternative. This would form a corridor of non-sanctuary waters between this alternative and the Morro Bay WEA leases. At approximately 38 miles to the west of Morro Rock, the boundary would shift to the southeast returning to the point of origin at Hazard Canyon Reef (see Figure 3-6). The exclusion of this northern area from the proposed sanctuary would mean offshore wind developers could pursue easements from offshore wind leases to shore in the Morro Bay area from BOEM as part of their construction and operations plan for subsea electrical transmission cables, rather than seek ONMS authorizations from NOAA (as would be required in the Initial Boundary Alternative and Alternative 1). The potential easements would be subject to review under the Outer Continental Shelf Lands Act (OCSLA), NEPA, and other applicable federal and state environmental statutes and consultations prior to their potential approval. Excluding the coastal waters and offshore portions west of the Santa Lucia Bank would reduce the size of the proposed sanctuary by about 2,000 square miles (see Table 3-2) compared to the Initial Boundary Alternative. The southern portion of this

alternative would still include Santa Lucia Bank, Arguello Canyon, and Rodriguez Seamount. The approximate size of Alternative 2 would be 5,553 square miles and 115 miles of coastline (144 miles of shoreline if the offshore rocks and islands are included).

3.4.2 Proposed Regulations (Alternative 2)

The regulations under Alternative 2, Cropped Bank to Coast, would be the same as those described for the Initial Boundary Alternative (see Section 3.2.2) except that there would be no need to exempt or certify existing dredge disposal sites near Morro Bay Harbor, because those sites would not be located in CHNMS under this alternative.

3.4.3 Proposed Management Plan and Field Activities (Alternative 2)

In general, the management plan and field activities under Alternative 2 would be the same as those described for the Initial Boundary Alternative (see Section 3.2.3), except some research and monitoring would likely be reduced that would have otherwise been conducted in waters west of the Santa Lucia Bank and north of Morro Bay, there would not be a need for a strategy that evaluated adding the Morro Bay Estuary to the sanctuary in the future, and the focus of education and outreach activities may be reduced to exclude waters west of the Santa Lucia Bank and north of Morro Bay.

3.5 Alternative 3 – Diablo to Gaviota Creek

This section describes the components of Alternative 3, “Diablo to Gaviota Creek,” which includes a proposed boundary encompassing a smaller area than the Initial Boundary Alternative. BOEM, as a cooperating agency, requested this alternative for the EIS, and it also responds to some offshore wind industry scoping comments and offshore energy development goals adopted by the state of California. The California Energy Commission has adopted targets for offshore wind power by 2030, escalating to higher levels by 2045. Additionally, the state has released a report identifying technically feasible production of 21.8–25 gigawatts (GW) of wind power from federal waters offshore California that could be developed by 2045, a portion of which could come from ocean waters outside of the sanctuary proposed by this alternative. Outcomes relative to offshore wind development under Alternative 3 would be different from the Initial Boundary Alternative in several ways:

- As in Alternative 2, the exclusion of the northern area from the proposed sanctuary would mean that offshore wind developers could pursue easements from offshore wind leases to shore from BOEM as part of their construction and operations plan for subsea electrical transmission cables, rather than seek ONMS authorization and a special use permit from NOAA (as required in the Initial Boundary Alternative and Alternative 1). The potential easements would be subject to review under OCSLA, NEPA, and other applicable federal and state environmental statutes and consultations prior to their potential approval.
- This alternative would exclude from sanctuary designation an area which was formerly proposed for additional wind farm development as the Diablo Canyon Call Area, including a geographic area that could accommodate necessary subsea electrical

transmission cables from that development area to onshore transmission lines at the DCPD.

- The DCPD cove and marina area would be excluded from the proposed sanctuary. Thus, NOAA would not have permit authority over any future deep-water port in this area, as envisioned by offshore wind developers and the County of San Luis Obispo.

This alternative removes all or portions of four state MPAs from the boundary of the proposed sanctuary: Cambria SMCA, White Rock SMCA, Point Buchon State Marine Reserve (SMR), and Point Buchon SMCA. In addition, this alternative excludes Morro Bay Harbor dredge disposal sites requested during scoping by the City of Morro Bay and also excludes from the proposed sanctuary about a dozen trans-Pacific fiber-optic cables that land at Montaña de Oro/Los Osos.

3.5.1 Proposed Boundary (Alternative 3)

Under Alternative 3, Diablo to Gaviota Creek, the proposed sanctuary boundary would exclude areas identified for offshore wind development (see Figure 3-7), compared to the Initial Boundary Alternative.

The boundary for Alternative 3 excludes the coastal waters from Cambria to Morro Bay, the area identified for new subsea electrical transmission cables from leases within the Morro Bay WEA to shore. The boundary also excludes a large area on the Santa Lucia Bank known as the Diablo Canyon Call Area, as well as a broad coastal area to route electrical cables from that call area to transmission lines at the DCPD. The shoreline configuration of the boundary would be the same as the Initial Boundary Alternative from approximately one mile (1.6 kilometers) south of Diablo Canyon to Gaviota Creek, and then offshore as in the Initial Boundary Alternative to the juncture with the Morro Bay WEA. The boundary then connects to and descends the west end of the Diablo Canyon Call Area, along its southern and eastern edge, and then in a straight line to the northeast to connect with the point of origin just south of the Diablo Canyon marina.

Alternative 3 would cover approximately 5,952 square miles. Compared to the Initial Boundary Alternative, this alternative excludes from the proposed sanctuary approximately 53 miles of coast from Cambria to near the marina at Diablo Canyon (see Table 3-2).

3.5.2 Proposed Regulations (Alternative 3)

The regulations under Alternative 3 would be the same as those described for the Initial Boundary Alternative (see Section 3.2.2) except that there would be no need to exempt or certify existing dredge disposal sites near Morro Bay Harbor, because those sites would not be located in CHNMS under this alternative.

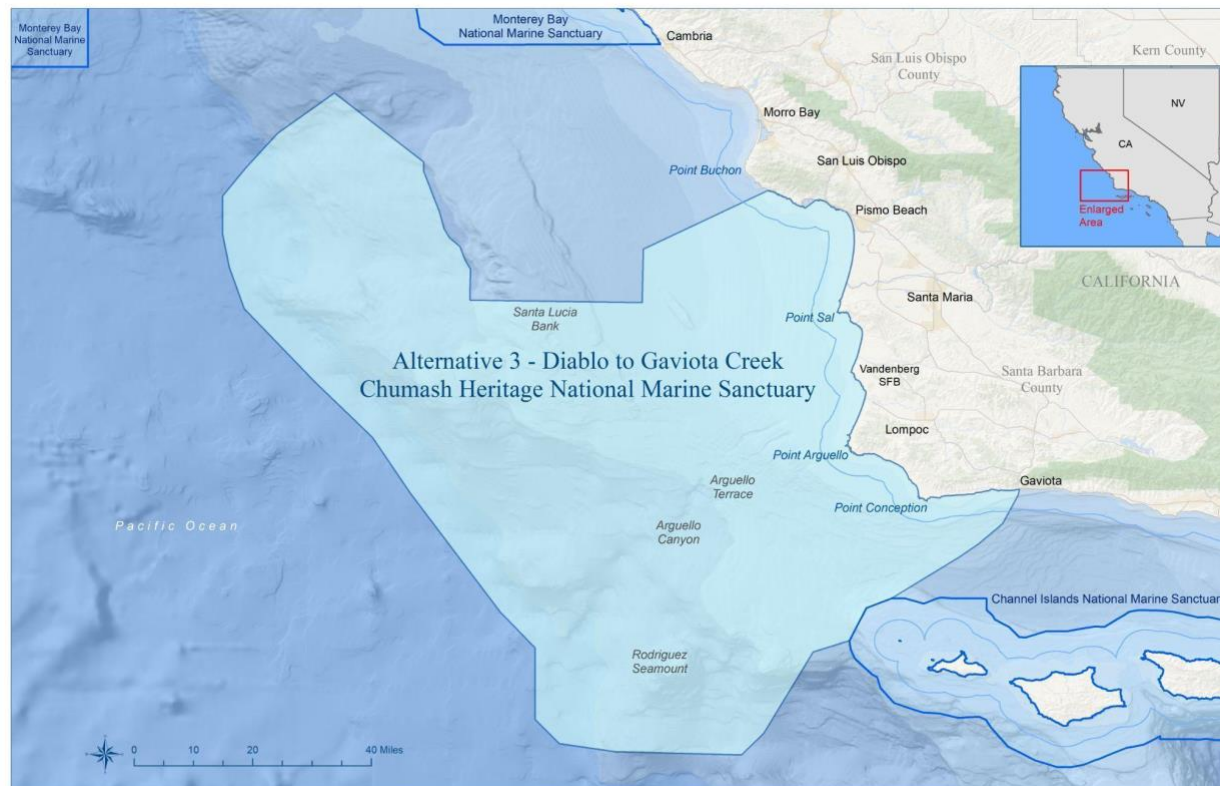


Figure 3-7. Boundary for Alternative 3, Diablo to Gaviota Creek. Image: NOAA

3.5.3 Proposed Management Plan and Field Activities (Alternative 3)

In general, the management plan and field activities under Alternative 3 would be the same as those described for the Initial Boundary Alternative (see Section 3.2.3) except that there would likely be a considerably reduced role for the future sanctuary staff within the Offshore Energy Action Plan, as ancillary development related to leases within the Morro Bay WEA, such as subsea electrical transmission cables to shore or the potential for development of additional WEAs, would be excluded from the proposed sanctuary.

3.6 Alternative 4 – Combined Smallest

The boundary for Alternative 4, “Combined Smallest,” represents the smallest proposed sanctuary area being considered. The purpose of including it in the EIS is to analyze the aggregate effects of excluding both the western swath of marine waters shown in Alternative 1 and the northern and central waters sought for potential wind energy development shown in Alternative 3 and comparing these impacts/benefits to the Initial Boundary Alternative.

3.6.1 Proposed Boundary (Alternative 4)

Alternative 4, Combined Smallest, is a composite of Alternatives 1 and 3, as shown in Figure 3-8. Therefore, it includes a northern boundary that begins one mile east of the marina at Diablo Canyon and mirrors the boundary of the Initial Boundary Alternative along the shoreline to Gaviota Creek, and offshore to the southwest, around Rodriguez Seamount and Arguello

Canyon. From there the boundary transits north consistent with Alternative 1 along the edge of Santa Lucia Bank to the southern boundary for the Diablo Canyon Call Area, along its eastern edge and then to the northeast to the point of origin east of the Diablo Canyon marina. This alternative would protect approximately 4,476 square miles and 99 miles of coastline (see Table 3-2).

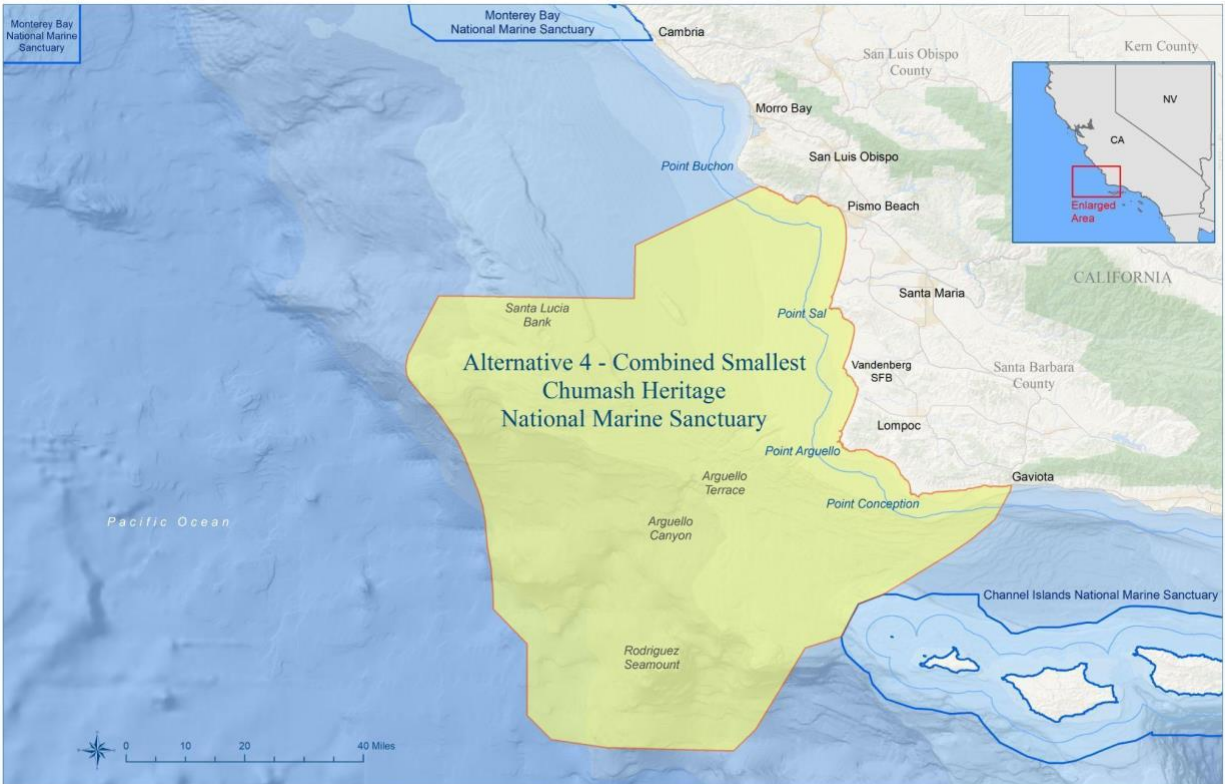


Figure 3-8. Boundary for Alternative 4, Combined Smallest. Image: NOAA

3.6.2 Proposed Regulations (Alternative 4)

The regulations under Alternative 4 would be the same as those described for the Initial Boundary Alternative (see Section 3.2.2), except there would be no need to exempt or certify the dredge disposal sites for Morro Bay Harbor, because those sites would not be located in CHNMS under this alternative.

3.6.3 Proposed Management Plan and Field Activities (Alternative 4)

In general, the management plan and field activities under Alternative 4 would be the same as those described for Alternative 3 (see Section 3.5.3), except reductions in effort for research, monitoring, education, and outreach would also be reduced as indicated in alternatives 1–3.

3.7 Sub-Alternatives 5a and 5b – Expanded Protection Areas

There are two boundary options that could be added to the Initial Boundary Alternative or one or more action alternatives to encompass a slightly larger proposed sanctuary area (Figure 3-9). These sub-alternatives are not mutually exclusive, as they address different geographical areas.

Either of these sub-alternatives could be added to the Initial Boundary Alternative and Alternative 1. However, due to its location, Sub-Alternative 5a would not apply to Alternatives 2, 3 or 4, as explained below.

3.7.1 Sub-Alternative 5a: Morro Bay Estuary

Sub-Alternative 5a, “Morro Bay Estuary,” represents an area that could be added to the proposed sanctuary boundaries under alternatives that include the coastal areas offshore Morro Bay; therefore, Sub-Alternative 5a could be added to the Initial Boundary Alternative and Alternative 1. NOAA has protected tidally influenced wetlands as national marine sanctuaries under the NMSA where those areas are linked ecosystem components of the coastal and marine waters protected in the body of the national marine sanctuary (see example of Elkhorn Slough within MBNMS). Alternatives 2–4 do not include coastal and marine waters immediately adjacent to Morro Bay Estuary.

This sub-alternative includes the tidally influenced portions of Morro Bay Estuary east and south of the harbor and tidelands grant line, as shown in Figure 3-10. Morro Bay Estuary is part of the National Estuary Program overseen by the U.S. Environmental Protection Agency (USEPA).¹² Including the Morro Bay Estuary would be consistent with how important estuaries are treated at other sanctuaries, and added protection of critical estuarine resources would be in line with the purpose and intent for establishing the proposed sanctuary. If Morro Bay Estuary is included in the proposed sanctuary boundaries, the regulations and management plan would generally remain the same as described for the Initial Boundary Alternative; however, one specific additional regulation is proposed for this sub-alternative to allow for existing aquaculture that farms an introduced species. California agencies and NOAA have collaborated to ensure oysters grown in estuarine aquaculture operations are genetically altered so as not to invade or reproduce if accidentally released. The regulatory language proposed under this sub-alternative would need to include an additional exception to the introduced species prohibition:

“Species cultivated by commercial shellfish aquaculture activities in Morro Bay Estuary pursuant to a valid lease, permit, license, or other authorization issued by the state of California prior to the effective date of Sanctuary designation. The coordinates for the Morro Bay Estuary within the sanctuary are listed in appendix XXX to this subpart.”

The management plan may have adjustments to address the area included within this sub-alternative boundary. See Table 3-2 for area statistics for Sub-Alternative 5a.

3.7.2 Sub-Alternative 5b: Gaviota Coast Extension

The Initial Boundary Alternative ends at Gaviota Creek, which is consistent with the original sanctuary nomination. This configuration splits Kashtayit SMCA and Gaviota State Park and its watershed. ONMS sees benefits to including rather than splitting state MPAs in or adjacent to national marine sanctuaries. Scoping comments requested extension of the eastern boundary to include more of the area offshore the Gaviota Coast in Santa Barbara County to ensure coastal conservation of important ecological and recreational features, as well as expanding protection

¹² See Section 4.3 for more details on the Morro Bay Estuary and NEP.

of areas important to the Chumash historically. Therefore, Sub-Alternative 5b, “Gaviota Coast Extension,” would move the proposed sanctuary boundary along the Gaviota Coast in state waters to the east end of Naples SMCA, east of Dos Pueblos Creek (see Figure 3-11). This would add to the proposed sanctuary:

- All of Gaviota State Park, as well as other high visitation state parks at Refugio and El Capitán.
- All of Kashtayit and Naples SMCAs.
- Coastal and offshore resources adjacent to historical Chumash village sites at Tajiguas and Dos Pueblos, in particular.

This area could be included in the Initial Boundary Alternative or any of the action alternatives (Alternatives 1, 2, 3, or 4). Because Sub-Alternative 5b would include oil, gas, and produced water pipelines related to the Santa Ynez Unit, NOAA would ensure that regulatory language allowed continued operation of these facilities. The management plan may have adjustments to address the area included within this sub-alternative boundary. See Table 3-2 for area statistics for Sub-Alternative 5b.

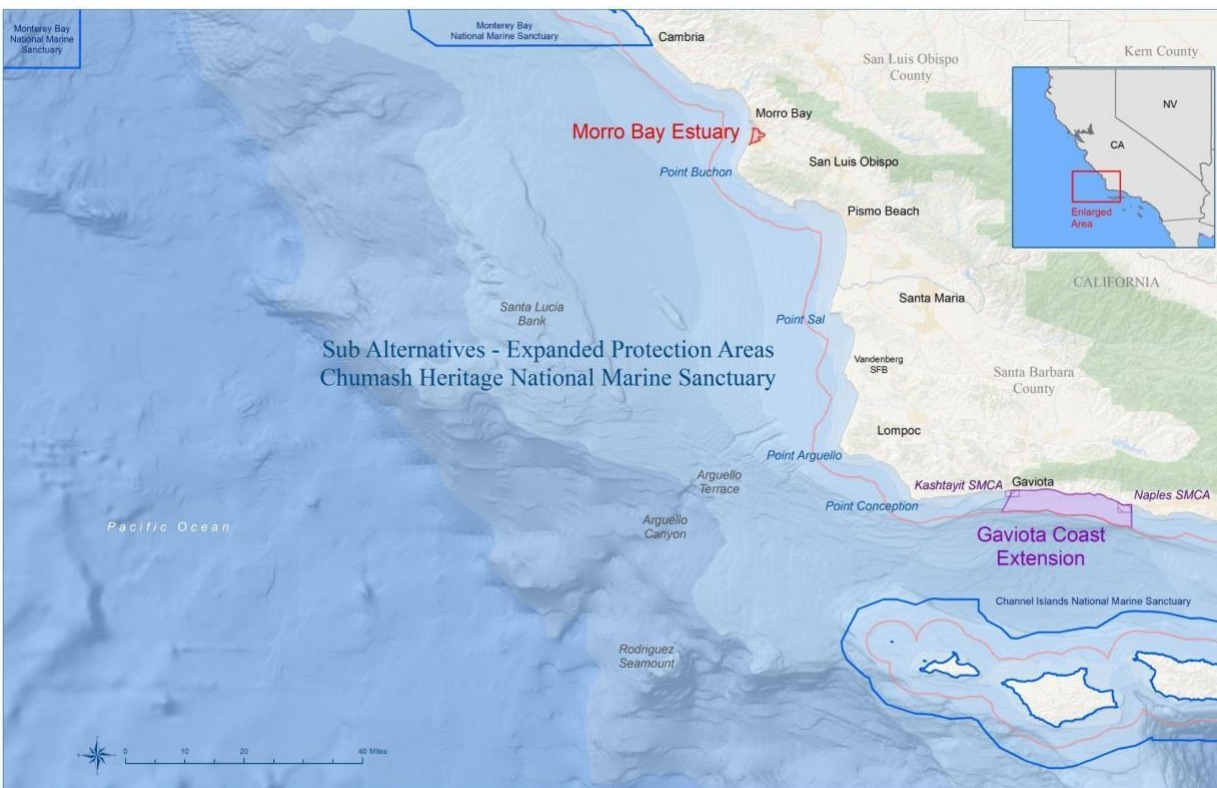


Figure 3-9. Boundaries for sub-alternatives. Image: NOAA

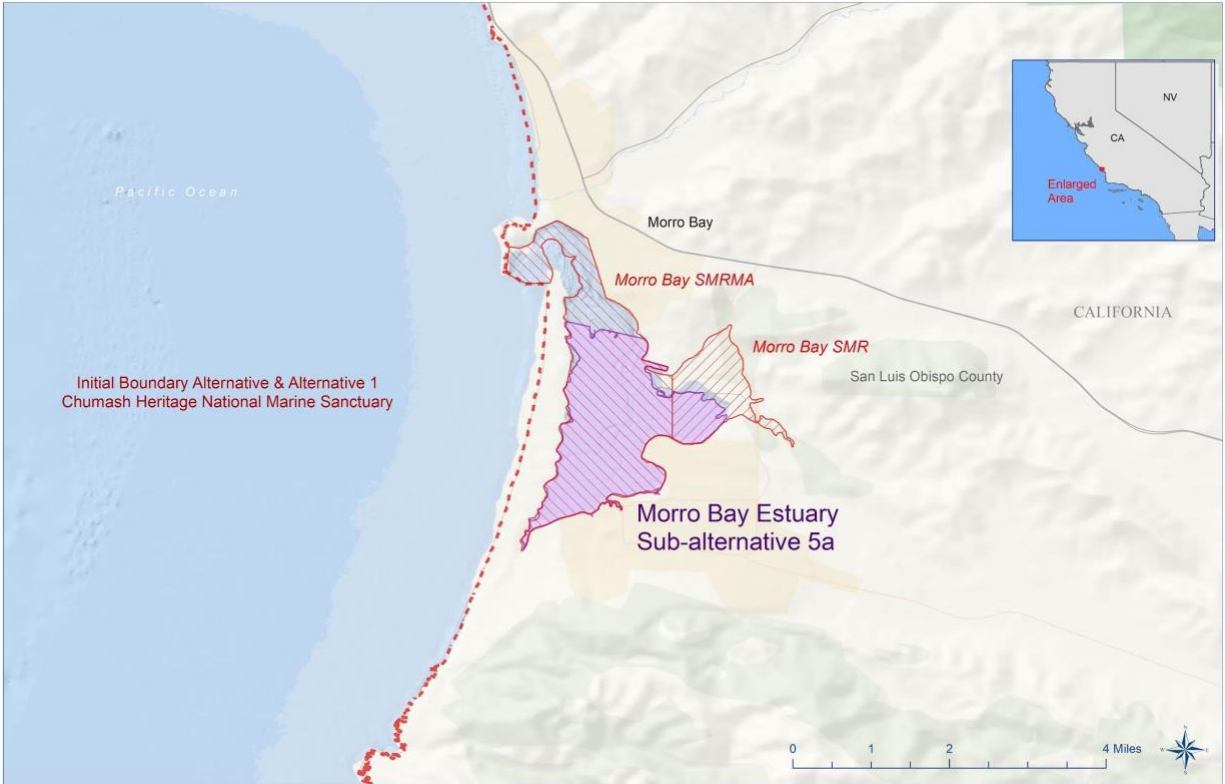


Figure 3-10. Boundary for Sub-Alternative 5a, Morro Bay Estuary. Image: NOAA

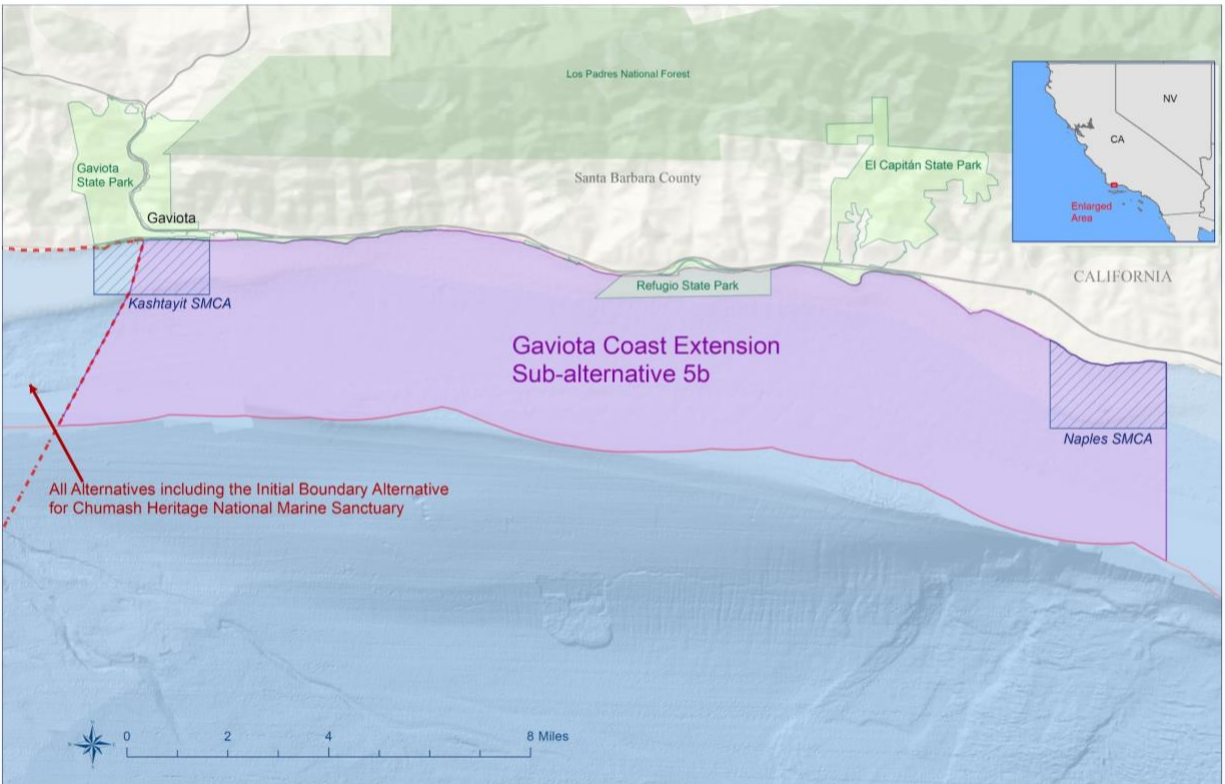


Figure 3-11. Boundary for Sub-Alternative 5b, Gaviota Coast Extension. Image: NOAA

Table 3-2. Comparison statistics for Initial Boundary Alternative and other action alternatives.

	Initial Boundary Alternative	Alt. 1, Bank to Coast	Alt. 2, Cropped Bank to Coast	Alt. 3, Diablo to Gaviota Creek	Alt. 4, Combined Smallest	Sub-alt. 5a, Morro Bay Estuary*	Sub-alt. 5b, Gaviota Coast Extension**
Total Size	7,573 mi ² [5,718 nmi ²]	6,098 mi ² [4,605 nmi ²]	5,553 mi ² [4,194 nmi ²]	5,952 mi ² [4,494 nmi ²]	4,476 mi ² [3,380 nmi ²]	2.5 mi ² [1.9 nmi ²]	64 mi ² [48 nmi ²]
Total Mi of Shoreline with Offshore Rocks	202 mi	202 mi	144 mi	117 mi	117 mi	12 mi	18 mi
Total Mi of Mainland Shoreline	152 mi	152 mi	115 mi	99 mi	99 mi	11 mi	18 mi
Max Water Depth	13,374 ft	11,580 ft	11,580 ft	13,374 ft	11,580 ft	24 ft	480 ft
Max Distance from Shore	78 mi (1) [68 nmi]	66 mi (2) [51 nmi]	66 mi (2) [51 nmi]	78 mi (1) [68 nmi]	66 mi (2) [51 nmi]	--	3.5 mi [3.0 nmi]

* Sub-Alternative 5a could be added to the Initial Boundary Alternative or to Alternative 1.

** Sub-Alternative 5b could be added to the Initial Boundary Alternative or any of the other action alternatives.

Notes: (1) Estero Bay WSW to western boundary; (2) Between Shell and Pismo Beaches WSW to western boundary.

3.8 No Action Alternative

NEPA requires evaluation of a No Action Alternative. The No Action Alternative is equivalent to the status quo. Under the No Action Alternative, NOAA would not designate the proposed sanctuary in central California waters. Future development and activities in the proposed sanctuary area would continue to be subject to existing federal and state authorities. The long-term protection and management of biological and cultural resources, water quality, and the seabed would remain under existing state and federal authorities and programs. No added protection of these resources under the NMSA would be provided and the various educational and monitoring programs outlined in the proposed sanctuary management plan would not be implemented in the proposed sanctuary area.

Under this alternative, existing legal protection now provided by state and federal laws would not be strengthened by complementary sanctuary regulations. Without designation of the proposed CHNMS, NOAA resources would not be available to strengthen partnerships that assist in the comprehensive management of the offshore environment, or to provide additional resources for education, research, monitoring, and enforcement.

3.9 Alternatives Eliminated from Detailed Study

This section addresses alternatives that were considered and may have informed the formulation of the alternatives analyzed in this EIS but were not carried forward for detailed evaluation in this EIS. As described in Section 3.1, a broad range of potentially reasonable alternatives was considered. Numerous boundary alternatives were suggested during the scoping process by the public, tribal representatives, and government entities. In addition, suggestions were made regarding alternative regulations that could be applied to the proposed sanctuary. The boundary and regulatory options discussed in this section were carefully considered but eventually not carried forward for full EIS analysis for various reasons, including lack of feasibility, lack of relevance to the purpose and need, or redundancy with other alternatives.

There are many sanctuary boundary adjustments that could be considered. NOAA believes that the boundary alternatives evaluated in this EIS cover a wide spectrum of alternatives for the proposed designation of CHNMS and adequately address the impacts associated with potential other boundary configurations that are within the geographic scope of the alternatives studied in Chapter 4 of this EIS. NEPA requires the agency to consider reasonable alternatives in an EIS, 40 C.F.R. 1502.14(a), but to limit the consideration to a reasonable number of alternatives, 40 C.F.R. 1502.14(f).

3.9.1 Larger Boundary Area

Numerous scoping comments suggested consideration of a larger sanctuary boundary to the south and east. Suggestions were made to extend the boundary to Goleta Slough, to the City of Santa Barbara, to the Santa Barbara/Ventura county line, to Point Hueneme, and to Malibu. Other comments suggested including all of the area north and east of CINMS, creating a continuous sanctuary area from MBNMS throughout all of the Santa Barbara Channel to the eastern end of CINMS. Sub-Alternative 5a would include the tidally influenced areas of Morro Bay Estuary and Sub-Alternative 5b would include an extension further to the east offshore the Gaviota Coast in Santa Barbara County; however, expanding the boundaries beyond the area of the Initial Boundary Alternative and these sub-alternatives would be inconsistent with the purpose and need for the proposed sanctuary which is to protect coastal and marine resources in central California. The larger boundary alternatives all would expand the sanctuary well into southern California. Larger boundary alternatives well into the Santa Barbara Channel and east of that is a separate ecological unit (from the proposed action) and would pose different management challenges from a far more developed coastal environment. In consideration of these factors and the direction in NMSA section 304(b)(1)(f) to consider “the manageability of the area, including such factors as its size, its ability to be identified as a discrete ecological unit with definable boundaries, its accessibility, and its suitability for monitoring and enforcement activities,” NOAA believes that the larger boundary area would not meet the purpose and need of the proposed designation.

3.9.2 Corridor for Wind Energy Development Infrastructure

Multiple comments requested exclusion of a northern segment from the proposed sanctuary in order to accommodate potential subsea electrical transmission cables and floating substations needed to connect the leases in the Morro Bay WEA with onshore infrastructure. Alternative 2 excludes a corridor to Morro Bay onshore substations. Alternative 3 excludes a larger area, including a wider corridor to the DCP. Based on comments regarding this northern area, NOAA evaluated other ideas to adjust the boundary and provide additional sanctuary protection.

One option involved adjusting the boundaries of Alternative 1 to create a specific corridor, approximately 10 miles wide, within which offshore wind developers could build and operate cables under BOEM's jurisdiction in federal waters. This option is a slight variation of either Alternative 1 or 2. This corridor would be excluded from the proposed CHNMS but would be bounded on both the north and south sides by the proposed sanctuary. In effect, a small section of CHNMS would be established between the corridor and existing MBNMS.

Figure 3.12, Point Estero Corridor, shows what this option could look like, with a shoreline boundary from Cambria to Elephant Rock south of the town of Cayucos.

Another option involved shifting the northern boundary of the proposed sanctuary far enough south so that there would be a corridor between the existing MBNMS and proposed CHNMS, wide enough to provide offshore wind developers with onshore interconnections at both Morro Bay and DCP without having to route cables through national marine sanctuaries.

NOAA believes that the environmental implications of these potential configurations are covered in the impact analysis of several other alternatives in Chapter 4 of this EIS. The Initial Boundary Alternative and Alternative 1 evaluate impacts of including this northern area in the proposed sanctuary boundaries and alternatives 2, 3, and 4 address impacts of smaller boundaries that would exclude this area. Therefore, the impacts of adjusting the boundary to exclude the different corridor configurations for wind energy development infrastructure described here are adequately evaluated in other alternatives and it is not necessary to conduct a separate analysis of these alternatives. In order to limit the range of alternatives discussed in this draft EIS to a reasonable number that covers the full spectrum of possible boundary alternatives for the proposed sanctuary, NOAA has decided to eliminate these options from detailed study. For the reasons described here, if NOAA chooses to select either of these potential configurations as the selected alternative in the final EIS, NOAA does not anticipate that issuance of a supplemental EIS would be required.¹³

¹³ 40 C.F.R. 1502.9(d) directs preparation of a supplemental EIS if a major federal action remains to occur, and the agency makes substantial changes to the proposed action that are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

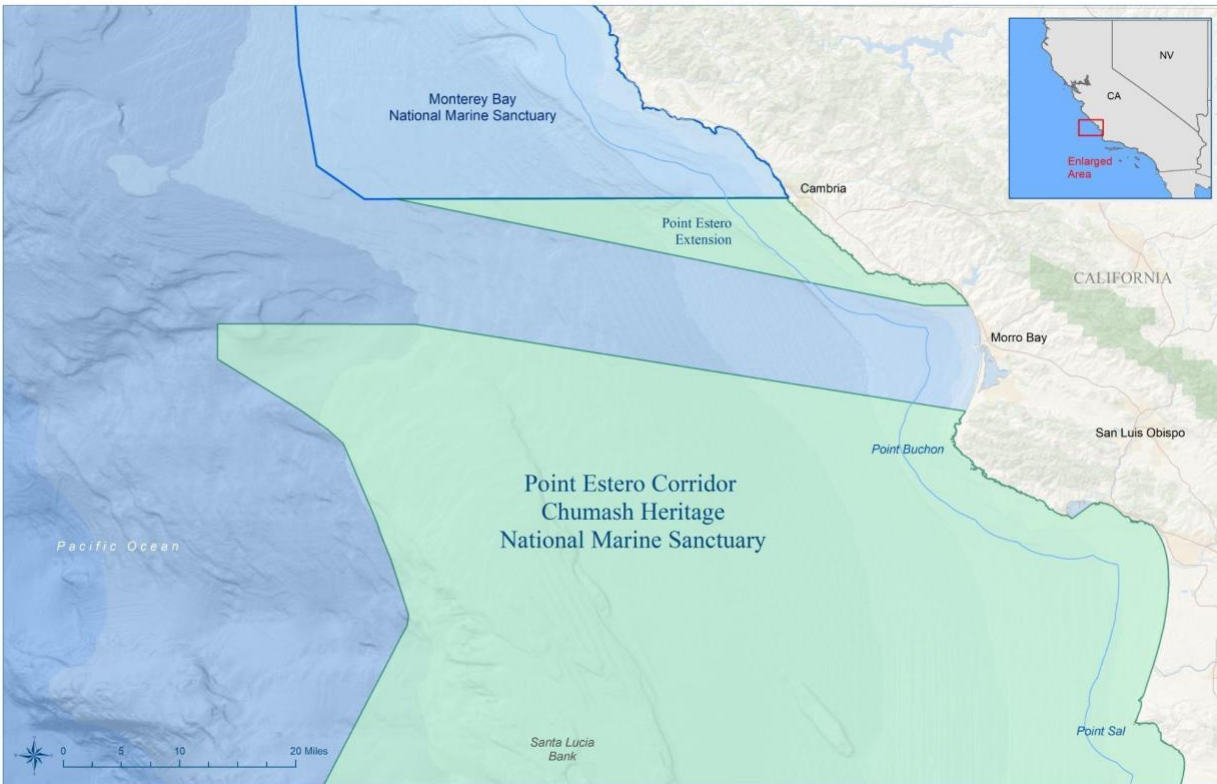


Figure 3-12. Point Estero Corridor Option, considered by NOAA to create a corridor within which subsea electrical transmission cables to shore could be installed and operated without having to cross national marine sanctuaries. Image: NOAA

3.9.3 Extension of MBNMS

Comments received from cooperating agencies and the wind industry have included suggestions that NOAA consider creating a corridor similar to the option described in Section 3.9.2, by extending the MBNMS boundary south (to Elephant Rock) rather than including that section in the proposed CHNMS or excluding this entire northern segment, as depicted in Alternative 2 (see Figure 3-6, Section 3.4.1). Expansion of MBNMS would need to be governed by a separate process under section 304 of the NMSA; however, it could rely heavily on this NEPA analysis. Therefore, this alternative is not further considered in this EIS. NOAA may, however, consider expanding MBNMS in the future if this area is not ultimately included within the final boundaries of CHNMS.

3.9.4 Exclusion/Exemption of Fiber-Optic Cables

NOAA received comments asking that all fiber-optic cables be excluded, either by modifying the proposed sanctuary boundaries or by exempting them from regulation. There are nearly 20 fiber-optic cables that transit the area proposed for sanctuary designation and come ashore at two main landing sites, excluding all of the cables would shrink the proposed sanctuary to a size that would make it inconsistent with the purpose and need for the sanctuary. Most of the cables landing at Los Osos would be excluded incidentally from the proposed sanctuary in alternatives 3 and 4. NOAA intends to allow cables to remain on the seafloor after designation through the

certification process outlined in the proposed regulations; however, given that there can be considerable seafloor disturbance, impacts on fishing, and other threats from repair and replacement of seafloor fiber-optic cables, the proposed regulations for CHNMS do not exempt repairing and maintaining fiber-optic cables but could allow it via a sanctuary general permit, ONMS authorization, or certification, as appropriate. This approach ensures the sanctuary superintendent can review and take action to adopt mitigations for any repair and replacement activity to be approved. If fiber-optic cables were exempted in the regulations, there would be no means for the sanctuary superintendent to ensure seafloor disturbances and other impacts on sanctuary resources were minimized. Because this alternative would not meet the purpose and need of the proposed designation, it was eliminated from detailed study.

3.9.5 Exclusion/Exemption of All Oil and Gas Facility Areas

Some scoping comments requested that the proposed sanctuary exclude existing oil and gas facilities or establish an exemption for existing facilities. Exclusion of the areas containing oil and gas facilities would remove areas of biological significance from the sanctuary boundaries and disrupt the cohesiveness of the sanctuary. It would complicate management programs and enforcement. To address the issue of existing oil and gas facilities, the Initial Boundary Alternative and all action alternatives provide a regulatory exception for ongoing oil and gas production (including pipeline transport to shore of oil and gas produced offshore) of existing reservoirs under production prior to the effective date of sanctuary designation from Point Pedernales Platform Irene and from Platform Heritage within the Santa Ynez Unit (however, incidents and accidents such as pipeline spills are not exempt). Abandonment, decommissioning, and removal of platforms Hidalgo, Harvest, and Hermosa (whose operations have permanently ceased), as well as pipelines and cables to shore, would be subject to BSEE permits, and NOAA would have the ability to authorize BSEE permits for abandonment, decommissioning, and removal of these platforms. Because excluding or exempting all oil and gas facility areas would not meet the purpose and need of the proposed designation, and because the proposed regulatory exception for continued oil and gas production from specified platforms furthers the NMSA policy of facilitating, to the extent compatible with resource protection, public and private uses of sanctuary resources, adjusting the sanctuary boundary to exclude oil and gas facilities was not further considered.

3.9.6 Harbor and Shoreline Buffer Zones

Several scoping comments requested five-mile buffers or exclusion zones around existing harbors. NOAA staff met with Morro Bay and Port San Luis harbor masters to discern what activities were planned in these exclusion areas that would warrant a buffer from potential sanctuary management. Both harbor masters suggested dredge disposal activities outside of harbors may warrant these exclusion areas; no other potential, specific uses were identified. Wind developers sought exclusion zone(s) to allow development of a new deep-water port for construction of offshore wind facilities; Diablo Canyon has been identified as the most likely location for such a development. Also, the City of Pismo Beach requested a two-mile exclusion zone along the Pismo Beach shoreline. Consistent with its practice in other sanctuaries, ONMS intends to work closely with harbors to coordinate activities that could adversely affect proposed sanctuary resources while allowing for harbor operations. The proposed sanctuary regulations

include an exception for the discharge of dredged material within the proposed sanctuary at disposal sites approved by USEPA prior to designation (consistent with historical practices). The proposed regulations also include an exception for maintenance dredging of entrance channels for existing harbors. Maintenance of breakwaters, or piers in the case of Pismo Pier, would also be excepted. Setting sanctuary boundaries at the COLREGS demarcation lines as in the Initial Boundary Alternative effectively removes all of Morro Bay and Port San Luis from the new sanctuary (see figures 3-2 and 3-3). Moreover, Alternative 2, 3, or 4, if selected, could exclude the shoreline area in and around Morro Bay Harbor, effectively achieving the goal sought by that City/Harbor. Because the goals sought by the harbors would be adequately addressed in the alternatives under consideration, a separate alternative solely to provide a buffer for harbors would be redundant and was not separately evaluated.

3.9.7 Alternative Regulations

Public scoping comments requested regulations regarding vessel speeds for large ships, fishing, subsea cables, motorized personal watercraft (MPWC), oil tankers, low flight zones, and other recreational activities. The proposed regulations do not address these issues for the following reasons:

- Vessel Speed Restrictions** – NOAA has established voluntary vessel speed reduction zones in places along the west coast, after studies were conducted to assess wildlife risks. In addition, an incentive-based voluntary vessel speed reduction program, “Blue Whales and Blue Skies,”¹⁴ has been implemented by some west coast sanctuaries in partnership with local air pollution control districts. However, none of the west coast national marine sanctuaries currently regulate vessel speed within sanctuary boundaries. At this time, NOAA believes the best approach is to find regional solutions to vessel traffic impacts, rather than focus on implementing speed restrictions in one sanctuary (CHNMS). The draft management plan contains strategies focused on working with entities already involved in slowing vessels to reduce vessel strike risk, air pollution, and ocean noise. Refer to Activity WD-1.3 in the draft management plan’s Wildlife Disturbance Action Plan for further discussion of how the proposed sanctuary would examine vessel strike risk and the potential need for vessel speed restrictions in the future. Refer to Activity RP-6.3 in the draft management plan’s Resource Protection Action Plan for further discussion of how the proposed sanctuary would coordinate at a regional level on reducing the number of vessel strikes in California national marine sanctuaries. See Section 4.8 for additional details on vessel traffic in the region, including how vessels would be affected by the recently expanded “Area To Be Avoided” (ATBA) surrounding CINMS, as well as potential changes to vessel routing following recommendations from the USCG Pacific Coast Port Access Route Study (PAC-PARS).
- Fishing Regulations** – Consistent with section 304(a)(5) of the NMSA, NOAA provided the Pacific Fishery Management Council (PFMC) with the opportunity to recommend any fishing regulations that PFMC deemed necessary to implement the proposed designation, and it declined to recommend or request any fishing regulations. The PFMC did say it was open to reconsidering the need for fishing regulations should

¹⁴ <https://www.bluewhalesblueskies.org/>

new information suggest their need in the future. NOAA accepts the PFMC determination at this time, and separate from the PFMC, does not believe fishing regulations under the NMSA are warranted at this time based on the analysis in issue areas within this EIS regarding physical resources (Section 4.2), biological resources (Section 4.3), commercial fishing (Section 4.4), and socioeconomics (Section 4.6). Furthermore, NOAA has worked with federal and state fishing managers when issues have arisen at other sanctuaries on the west coast and will mirror that approach for CHNMS.

- **Restrictions for Subsea Electrical Transmission Cables** – The Initial Boundary Alternative includes the northern area between shore and the Morro Bay WEA, which represents presently the most reasonable location for multiple subsea electrical cables to connect offshore wind platforms to onshore grid connection. BOEM estimates as many as 30 cables could be needed from the three leases in the Morro Bay WEA. Due to the potential impacts of constructing this many cables on the seabed, NOAA considered creating standards as a regulatory alternative, to limit the number and location of cables that could be allowed within the new sanctuary. However, creating limitations at this time for cable construction within the Initial Boundary Alternative or Alternative 1 would be premature, uncertain, and speculative, because potential cable locations are not known and seafloor survey data, engineering specifications, and other technical information are still being developed. Creating limitations without this information could inhibit the Administration’s and the state of California’s objectives to develop offshore wind at this location. NOAA has included a strategy in the Offshore Energy Action Plan to gather information, collaborate with partner agencies such as BOEM and the California Coastal Commission (CCC), and work through the new sanctuary advisory council to evaluate this issue further after designation.
- **MPWC Restriction** – Some scoping comments suggested limitations on MPWCs were needed, while other comments took the alternate position. Such an alternative would be uncertain, speculative, and unfeasible at this time because NOAA lacks sufficient information on existing MPWC use and/or localized threats to marine resources to identify whether MPWC regulation is warranted or to structure any such proposed regulation. Therefore, this alternative would be infeasible to consider implementing at this time. NOAA has included an activity under strategy WD-1 in the draft management plan’s Wildlife Disturbance Action Plan to gather information and work through the new Sanctuary Advisory Council to evaluate the need for MPWC regulation (see draft management plan, Wildlife Disturbance Action Plan, Activity WD-1.2).
- **Oil Tankers Restrictions** – A suggestion called for restricting oil tankers in the sanctuary. The International Maritime Organization (IMO) is responsible for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. The IMO-adopted recommended vessel tracks applicable to this area were established in 2000 to reduce threats of spills by vessel traffic, including routing oil tankers far offshore, beyond any proposed boundary for the sanctuary. NOAA does not have data that suggests that there is an issue of oil tankers straying shoreward of these recommended tracks into the sanctuary, thus a sanctuary regulation would likely be fruitless. Nonetheless, compliance with these tracks is important to protecting sanctuary resources. Strategy RP-6, and specifically Activity RP-6.1, in the draft management

plan's Resource Protection Action Plan contains discussion of how the proposed sanctuary would track and monitor oil tankers for compliance with IMO-recommended tracks. The potential future action of restricting oil tankers within the sanctuary could be addressed by a Conservation Working Group of the new sanctuary advisory council to evaluate the need for oil tanker restriction (see draft management plan, Resource Protection Action Plan, Activity RP-4.1).

- **Low Flight Zones** – Some scoping comments suggested regulations implementing low flight zones (meaning, zones where aircraft are prohibited from flying below a certain elevation). NOAA lacks information at this time that clearly identifies the distribution and abundance of marine wildlife, as well as the presence of low-flying aircraft in the study area, which demonstrate the likely need to protect marine resources from low-flying aircraft. Therefore, this alternative would be impracticable to consider implementing at this time. NOAA has included a strategy in the draft management plan's Wildlife Disturbance Action Plan to evaluate and address wildlife disturbance via aircraft in the proposed sanctuary area (see draft management plan, Wildlife Disturbance Action Plan, Strategy WD-2). Activity WD-2.3 in particular would conduct a specific assessment to determine the need for regulatory and/or non-regulatory actions regarding potential wildlife disturbance caused by low flying aircraft.
- **Recreational Activity Restrictions** – Some scoping comments suggested restrictions on recreational activity in the proposed sanctuary. NOAA lacks information at this time that clearly identifies the distribution and abundance of marine wildlife, as well as the presence of recreational activities including motorized personal watercraft in the study area, which demonstrate the likely need to protect marine resources from recreational activities. Therefore, this alternative would be impracticable to consider implementing at this time. NOAA has included a strategy in the draft management plan's Wildlife Disturbance Action Plan to evaluate and address wildlife disturbance by visitors and recreational users in the proposed sanctuary area (see draft management plan, Wildlife Disturbance Action Plan, Strategy WD-1).

Although the proposed regulations do not include prohibitions related to these topics, as noted, several action plans in the draft management plan identify further, in-depth analysis of many of these issues including coordinating with the Sanctuary Advisory Council and consulting and collaborating with tribal entities. Should the studies conducted to implement the action plans determine that regulations are needed, NOAA would pursue a rulemaking with environmental review and public comment and tribal and agency consultation and coordination.

3.10 Disputed Issues – Proposed Sanctuary Name

Scoping comments regarding environmental impacts are addressed in the relative topics in Chapter 4 of this EIS. However, the input received during the scoping process and through NOAA's outreach to Indigenous communities identified the name of the proposed sanctuary as an additional disputed issue.

In 2015, proponents for this proposed sanctuary nominated it with the name "Chumash Heritage" National Marine Sanctuary, as one element of the proposal for the sanctuary to help elevate and bring recognition to the Chumash tribes and tribal groups that have called this area

home for thousands of years. However, other Indigenous tribes and tribal groups, specifically two Salinan tribes, also consider part of the area proposed for the new sanctuary to be part of their ancestral lands and tribal identity. The Salinan tribes have told NOAA that it would cause them deep pain to have “Chumash Heritage” in the name of a sanctuary that included this area with which they also identify.

There have been disputes between bands of the Salinan and the Chumash, including legal action, over matters such as access to Morro Rock. Designating a national marine sanctuary and choosing its name is not intended to resolve disputes, and ideally should not create them. However, the Xolon Salinan Tribe leadership has indicated to NOAA that designating the waters from about Los Osos north to Cambria as part of a “Chumash Heritage” national marine sanctuary would substantially harm their cultural identity. Tribal council members from the Salinan Tribe of Monterey and San Luis Obispo Counties expressed similar concerns. NOAA does not consider the name of the proposed sanctuary to have an effect or impact as defined in the CEQ NEPA regulations; the beneficial and adverse effects on tribal cultural resources of the proposed action are fully analyzed in Section 4.5 of this EIS. NOAA believes neither the name nor the sanctuary designation would have a legal effect on inter-tribal disputes that have existed for decades. While NOAA commits to working with all Indigenous Community members after the sanctuary is designated, it is clear from NOAA’s discussions with Salinan tribal leaders that the sanctuary name could unintentionally affect participation of Salinan peoples who choose to not work with the sanctuary.

ONMS works closely with numerous tribal entities and Indigenous Community leaders in existing or proposed sanctuaries that do not bear the name of the tribe itself. CINMS adjacent to this proposed sanctuary, is an example of that collaborative relationship with several Chumash tribes. However, it is also clear to NOAA that should this new sanctuary be designated as “Chumash Heritage” National Marine Sanctuary, that sanctuary name could aid in the goal of elevating and helping to raise awareness of Chumash people, who have called this area home for thousands of years. Some Chumash community leaders have indicated that the nomination and designation processes are already benefiting their tribe by elevating awareness of their tribal identity. NOAA’s discussions with leadership from Chumash tribes and organizations also indicate that a sanctuary name other than “Chumash Heritage” would not be acceptable to Chumash tribes. There are potential options to resolve this issue:

1. NOAA could designate the sanctuary with a name of geographic or other significance that does not favor either tribal name. This option could eliminate naming conflicts with Salinan tribes, but for Chumash tribes it could also eliminate name recognition benefits.
2. NOAA could designate a sanctuary boundary that does not include the area from Los Osos north to Cambria.¹⁵ Alternative 2, Cropped Bank to Coast; Alternative 3, Diablo to Gaviota Creek; or Alternative 4, Combined Smallest, do not include this area. The

¹⁵ If NOAA ultimately selects a boundary alternative for the proposed sanctuary that does not include the area north of Los Osos, NOAA could choose to extend the boundary of MBNMS south to include that area at a later date. This process could provide sanctuary protection to some or all of the area from Los Osos north to Cambria, without having to choose a name that favored one tribe over another for the disputed area. However, the potential expansion of MBNMS is not within the scope of this action or this EIS, and any expansion of that sanctuary would require a separate regulatory action.

environmental impacts of these alternatives are discussed in issue areas throughout Chapter 4.

3.11 Submitted Alternatives, Information, and Analysis

This section summarizes the alternatives, information, and analyses submitted by tribal, federal, state, and local governments and other public commenters during the scoping process for consideration by the lead and cooperating agencies in developing the EIS (40 C.F.R. 1502.17).

Comments and any supplemental materials received during scoping are included in Appendix A and are available on [Regulations.gov](https://www.regulations.gov). NOAA invites public comments on this summary of submitted alternatives, information, and analyses during the public review period of the draft EIS.

3.11.1 Scoping Comments on Alternatives

Many comments were submitted outlining potential boundary alternatives, as well as suggesting specific regulations to include for the proposed sanctuary. A summary of the topics addressed in these comments is provided below and described in more detail in Appendix A. Scoping comments received also address other topics, including management measures in addition to boundary and regulatory alternatives; these other topics are also detailed in Appendix A. NOAA invites public comment on the summary provided here.

Sanctuary Boundaries Comments

- Extend boundaries to the Ventura County border and include waters around Carpinteria Valley (major Chumash site and harbor seal rookery).
- Historical boundaries of the Chumash people are from San Simeon in San Luis Obispo County to Malibu in Los Angeles County.
- Include additional waters that would connect its southern boundary with the northern and eastern boundaries of CINMS, given that about one-third of the current southern sea otter population is south of MBNMS.
- Expand boundary to include Morro Bay East Estuary SMR and the Morro Bay State Marine Recreational Areas.
- Include area from Hollister Ranch through Gaviota to Dos Pueblos Ranch.
- Expand to include Hueneme Beach as the southern corner.
- Include Goleta Slough and the waters around it.
- Approve the original proposal without the WEA excluded.
- Extend boundary past Gaviota Creek, so that land drained by Gaviota Creek can be considered relating to the sanctuary footprint as well, while the entire mouth of Gaviota Creek (even during stormy times) must be included within the sanctuary's boundaries.
- Set boundaries at a minimum of a two- to five-mile radius around all ports and harbors.
- Reduce boundaries to a minimum size that is carefully justified as to the need for coverage, per the NMSA's language that "the manageability of the area, including such factors as its size, its ability to be identified as a discrete ecological unit with definable boundaries, its accessibility, and its suitability for monitoring and enforcement activities."

- Limit boundaries to federal waters.
- Establish the boundary two miles offshore so as not to impede existing uses.
- Narrow boundaries in size and scope to protect only those areas identified as essential to the cultural heritage of the Chumash Tribe.
- Exclude all tributaries, fishing, property, coastal beaches, and dunes between Point Buchon to the north and Point Sal to the south.
- The seaward boundary of the sanctuary should follow the 40-fathom curve from its northern to southern boundary.
- Exclude the eight known U.S. Navy sunken military crafts from the sanctuary boundary.
- Consider excluding submarine telecommunications cable landing sites and routes.
- Provide exclusion zones and buffers around offshore wind farms.
- Exclude area of offshore wind projects in state waters near Vandenberg Space Force Base (VSFB).
- Shift the CHNMS northern boundary far enough south, and set it far enough back from the coast, to allow multiple power cables running from the Morro Bay WEA to shore.
- Consider spatial needs of port access and a new deep-water port.
- Exclude these existing oil and gas leases: Santa Ynez Unit (platforms Heritage, Harmony, and Hondo), Point Pedernales Unit (Platform Irene); alternatively, grant exemptions or waivers for these platforms and associated activities.
- Reassess the purpose and need for a sanctuary of this size considering the panoply of existing federal, state, and local protections in the area.

Sanctuary Regulations Comments

- Allow MPWC use.
- The sanctuary should not have any role in authorizing, permitting, or commenting on harbor dredging or dredged material disposal projects; all existing dredged material disposal sites must be exempted from sanctuary regulations.
- Exempt sediment management for habitat protection and restoration.
- Grant exclusions or exemptions to the DoD to account for current and future military operations inside of the sanctuary.
- Do not restrict or prohibit submarine telecommunication cable installation, maintenance, and repair, or existing or future submarine fiber-optic cables transiting the proposed sanctuary boundaries, as with the Hawaiian Islands Humpback Whale National Marine Sanctuary and Olympic Coast National Marine Sanctuary.
- Grandfather activities authorized by a valid lease, permit, license, approval, or other authorization in existence on the effective date of sanctuary designation.
- Allow access to everyone, including recreational boating, commercial, recreational, and municipal uses.
- Exempt shipping activities so as not to cause further delays to highly perishable produce or to create further disincentives to continue farming in Santa Barbara or San Luis Obispo counties.
- Protect wildlife, water quality, and cultural values.
- Reduce pollution from land and ocean-based sources.
- Prohibit discharging materials into the sanctuary to protect sanctuary resources.

- If the sanctuary moves forward with an agricultural water quality regulatory component, agricultural discharges from agricultural lands should be identified as compatible.
- Impose no prohibitions that would disincentivize desalination projects in the future; alternatively, exempt desalination or deem it as a compatible use within the sanctuary.
- Ensure strongest possible protection for Chumash sacred sites, cultural places, and cultural values.
- Regulate/restrict non-consumptive recreation activities when appropriate (e.g., to protect nesting birds, migrating/feeding whales, etc.).
- Prohibit disturbing the seabed.
- Prohibit disturbing cultural resources.
- Prohibit activities to procure oil, gas, and minerals from the proposed area.
- Regulate transit corridors and vessel speeds to reduce vessel strike risk for whales in the proposed area.
- Impose no future regulations on commercial or recreational fishing.
- Prohibit fishing in some areas to protect unique oceanographic features such as underwater seamounts, plateaus, and canyons.
- Include an alternative in the EIS that provides full protection (i.e., no fishing) around the Rodriguez Seamount from the bottom of the ocean to the top of the water column.
- Prohibit or at least strictly regulate any commercial harvesting of biological resources.
- Phase in (over a specified number of years) regulations that would at first encourage (with incentives) and ultimately require the use of “ropeless” gear for all fixed-gear fisheries (e.g., pot, trap, and set-gillnet fisheries) operating within the sanctuary when large whales at greatest risk of entanglement are present.
- Require use of weak-line measures to mitigate risk of entanglement of humpback whales.
- Permanently ban use of all forms of gill nets within the sanctuary.
- Designate some areas of the sanctuary as marine reserves, where fishing/taking is restricted.
- Allow the establishment of no-take marine zones and the development of marine zoning strategies in the designation document to offset impacts on marine life from climate disturbance.
- If any MPA is implemented, recommend keeping it within Point Conception and Espada Bluff.
- Only allow small scale and family-based fishing industry (like in the central coast) to operate in the sanctuary; it should be off limits to large scale commercial fishing.
 - Do not interfere, directly or indirectly, with existing fishing access and practices: Exempt seafood industry from regulation of indirect activities that may fall outside of those managed through the MSA, such as vessel discharges, the use of certain fishing gears (or components thereof), vessel engine emissions, etc.;
 - Exempt scientific surveys (Exempted Fishing Permits) used to inform stock assessments, Fishery Management Plans.
- Prohibit offshore wind development and associated infrastructure from being allowed inside sanctuary boundary.
- Consider a ban on the construction of a deep-water port at the Diablo Canyon site.

- Ensure regulations and management plan allow for necessary activities and infrastructure for the Morro Bay WEA, including surveys, vessel transit, activities related to subsea transmission power landings or upgrading port and harbor areas, to be leased, installed, maintained, repaired, and decommissioned within the proposed sanctuary, should the sanctuary be designated with the currently proposed boundary.

3.11.2 Information and Analyses Comments

Many references to information sources and analyses were submitted to NOAA during the scoping process for consideration in developing the EIS. These data sources are included in Appendix A.2 in the scoping summary (Appendix A). The topics addressed are listed below.

- Multiple studies on whales, including vessel strikes and entanglement
- Studies of kelp forest animals, otters, cetaceans, threatened species, other marine biological resources, and biodiversity
- Native American cultural practices and historical information
- Climate change
- MPAs
- Oil and gas decommissioning impact evaluations
- Wind energy development
- Census data
- Port access study
- Commercial fishing landings and other fishing/fish resource data
- Geological and fault data
- Sanctuary co-management and other management guidance
- Undersea cables threats
- World ocean assessment
- Carbon removal
- Seamounts, including Rodriguez Seamount
- Marine regulatory seascape information and maps
- Effects of protected federal lands on economics; coastal economics and marine resource protection benefits
- Environmental justice
- State tidelands
- Biogeography of Santa Barbara Channel area
- Ocean acidification
- Central coast water quality
- Homeland Security
- Space enterprises
- Shipwrecks

Chapter 4: Affected Environment and Environmental Consequences

This chapter describes the areas that could be affected by the proposed alternatives, and the potential environmental impacts of the proposed action and alternatives on the human environment.

This chapter also serves as:

- the resource assessment of present and potential uses of the area to meet the requirements of section 304(a) of the NMSA; and
- the assessment and effect determinations for impacts on protected species, habitats, and historic properties.

See Appendix E for additional details related to NOAA's compliance with applicable laws and regulations that intersect with designation of the proposed sanctuary, such as CZMA section 307, NHPA section 106, and ESA section 7, among others.

4.1 Introduction and Methodology

This section summarizes NOAA's analytical approach to evaluating the anticipated environmental effects of the Initial Boundary Alternative and other alternatives described in Chapter 3.

4.1.1 Chapter Overview and Structure

The remainder of this chapter is organized by resource area or type of use that may be impacted by the proposed action, as follows:

- Physical resources (including air quality and climate change, geology, oceanography, and water quality).
- Biological resources.
- Commercial fishing and aquaculture.
- Cultural heritage and maritime heritage resources.
- Socioeconomics, human uses, and environmental justice.
- Offshore energy.
- Marine transportation.

These subsections are also referred to as issue areas or topics. The subsection for each resource area contains:

- a description of the affected environment for the resource area to serve as the environmental baseline.
- a summary of any specific analytical assumptions, methodology, or significance criteria for the resource area.
- an analysis of the environmental consequences of implementing the Initial Boundary Alternative and each other alternative on the resource area.

The focus of the affected environment description is on those resources or uses that may be impacted by specific regulatory and/or management changes associated with sanctuary

designation (the proposed action). As a result, some sections, such as air quality, provide only a general discussion of the resource conditions, while the biological resources section provides a more specific discussion of the resources.

The second part of each resource section describes the methodology used for impact analysis and factors used to determine the significance of the effects of the proposed action (sanctuary designation). The overall methodology for each issue area or topic is consistent with CEQ guidance and NOAA NEPA guidelines (NOAA Administrative Order 216-6A).¹⁶

The impact analysis for each issue area includes a description of how the Initial Boundary Alternative or other alternative results in a change in the environment relative to existing conditions and the current regulatory framework. The analysis within each topic considers direct and indirect impacts and focuses on components of the proposed or alternative actions that could result in potentially significant effects. Both adverse and beneficial impacts are identified, where relevant. Impacts in each issue area are addressed by alternative, starting with the Initial Boundary Alternative. Finally, the chapter concludes with a discussion of the possible cumulative impacts the proposed action may have when combined with reasonably foreseeable past, present, and future projects undertaken outside the scope of the proposed action. Based on the analysis in Chapter 4, a comparison of alternatives is provided in Chapter 5.

4.1.2 Scope of Study Area and Impact Analysis

For the purposes of this EIS, the study area for the affected environment is generally defined as the human uses of the environment, as well as the natural environment, within the boundaries of the proposed action and alternatives. In some issue areas, the study area is necessarily larger than the proposed sanctuary area because there is potential for impacts to occur beyond the proposed boundary.

During the public scoping process, numerous issues were raised. NOAA carefully reviewed these issues. To the extent that these issues are relevant to the EIS, they are included in the analysis. In some cases, the proposed sanctuary and implementation of sanctuary regulations do not affect these identified issues.

The analysis of the proposed sanctuary terms of designation is incorporated in the analysis of related proposed regulations since it is the regulations, not the terms of designation, which could result in changes in the environment. Management plan actions that have no potential for impacts, such as administrative actions taking place in existing facilities, are not considered in this EIS. Many of the activities presented in the proposed management plan would not have an impact on the environment because they are administrative in nature.

Within each issue area, the impact analysis addresses only those elements of the proposed regulations that have the potential to impact the specific resource or use. Where there is no potential for a specific proposed regulation or activity to impact that resource or use, the regulation or activity is not discussed.

¹⁶ <https://www.noaa.gov/organization/administration/nao-216-6a>

The nature of existing conditions is interpreted from available literature and summarized in the resource sections. Where sufficient location-specific information is available, these data are primarily utilized. Where location-specific data are lacking, general conditions for the study area are utilized with appropriate qualifications.

4.1.3 Determining Significance and Quality of Impacts

NOAA's analysis of the environmental consequences of the alternatives is based on review of existing literature and studies, information provided by experts, and the best professional judgment of NOAA staff.

The 2020 NEPA regulations issued by the CEQ define "effects" or "impacts" to mean:

Changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects that may occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives (40 C.F.R. 1508.1(g)).

To facilitate the most meaningful analysis and to provide clarity to the public about the nature of the potential effects considered in this EIS, NOAA has decided to divide the potential effects of the proposed action and alternatives into three categories: direct, indirect, and cumulative. NOAA applies the following meaning to these terms, based on historical practice and case law:

Direct Impact: A known or potential impact caused by the proposed action or project that occurs at the time and place of the action.

Indirect Impact: A known or potential impact caused or induced by the proposed action or project that occurs later than the action or is removed in distance from it but is still reasonably expected to occur.

Cumulative Impact: A known or potential impact resulting from the incremental effect of the proposed action added to other past, present, or reasonably foreseeable future actions.

NOAA uses these categories to describe the nature, timing, and proximity of reasonably foreseeable impacts on the affected resource area.

Consistent with the 2020 CEQ regulations, when evaluating significance, NOAA evaluated

- the geographic scale and setting of the project.
- the occurrence and condition of environmental resources in the affected area, including resources protected by law (e.g., marine mammals, threatened and endangered species, EFH, managed fisheries, national marine sanctuaries and marine national monuments, historic and archeological resources).
- the degree of effects on those environmental resources (e.g., minor, moderate, major) including consideration of:
 - the duration of the impact (long-term; short-term; permanent).
 - whether effects are beneficial and/or adverse.

- the level of impacts on public health and safety.
- whether there is the potential to violate federal, state, local, or tribal law protecting the environment.
- whether the proposed action is related to one or more “connected actions” with the potential for synergistic effects.

NOAA also considered any other factor that would meaningfully inform the “degree of effect,” including

- effects that contribute to the introduction, continued existence, or spread of noxious weeds or nonnative introduced species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of the species.
- disproportionate adverse effects to low income or minority populations.
- effects to any other physical or biological resources where the impact is considered substantial in magnitude (e.g., substantial irreversible loss of coastal resource such as marshland or seagrass).
- effects that involve a high degree of scientific uncertainty or scientific disagreement.

NOAA describes the duration of potential impacts as either short term, long term, or permanent. This indicates the period of time during which the resource would be impacted. Duration considers the permanence of an impact and is defined as:

- **Short-Term Impact:** A known or potential impact of limited duration, relative to the proposed action and the environmental resource. For the purpose of this analysis, short-term impacts may be instantaneous or may last minutes, hours, days, or up to five years.
- **Long-Term Impact:** A known or potential impact of extended duration, relative to the proposed action and the environmental resource. For the purpose of this analysis, long-term impacts would last longer than five years.
- **Permanent Impact:** A known or potential impact that is likely to remain unchanged indefinitely.

The various levels of impact descriptor used in this analysis are

- **No Impact:** No effect would occur on the resource.
- **Negligible:** Impacts on a resource can barely be detected and are therefore discountable.
- **Minor:** Impacts on a resource that might be perceptible but are typically not measurable. Impacts would generally be localized and temporary and would not alter the overall condition of the resource from the status quo. For organisms, individuals may be affected but population-level impacts would not occur.
- **Moderate:** Impacts on a resource that are more perceptible and, typically, more amenable to quantification or measurement. They can be localized or widespread and could alter the overall, fundamental condition of the resource from the status quo. Impacts would not rise to the level of significance as defined below.
- **Significant:** Impacts resulting in a substantial structural or functional alteration in the state of a resource. Long-term or permanent impacts or impacts with a high intensity or frequency of alteration to a resource, whether beneficial or adverse, would be considered

significant. For organisms, a significant impact may mean that population-level impacts would occur. The significance threshold is evaluated on a case-by-case basis, taking into consideration the potentially affected environment and degree of the impact(s).

Potential impacts are described as either beneficial or adverse as follows

- **Beneficial Impact:** Impacts that promote favorable conditions for the resource.
- **Adverse Impact:** Impacts that are likely to be damaging, harmful, or unfavorable to one or more of the resources.

4.1.4 Guiding Questions and Assumptions for Impact Analysis

NOAA evaluated the impacts on each resource area in the context of each of the components of the alternatives: sanctuary boundary, sanctuary regulations, and the sanctuary management plan and field activities. In evaluating impacts, NOAA considered the following, inter-connected questions

- **Boundary:** How does the spatial extent of the proposed sanctuary affect the resources, natural environment, cultural heritage, and human uses in and around the proposed sanctuary?
- **Regulations:** How do the type and amount of proposed regulations to protect sanctuary resources affect the natural environment, cultural heritage, and human uses in and around the proposed sanctuary?
- **Management plan and field activities:** How do the activities to manage the proposed sanctuary affect the level of protection of the sanctuary's resources and public stewardship of those resources?

In evaluating the impacts of the proposed action and action alternatives, NOAA used the following assumptions: designating a national marine sanctuary has the potential to result in a

- **Minor increase** in on-water research activities as a result of sanctuary activities and collaboration with researchers and other resource management agencies.
- **Minor increase** in tourism or recreational use of sanctuary waters due to increased sanctuary visibility.
- **Change in the frequency or intensity** of other marine uses in the area as a result of the sanctuary designation.

4.1.5 Resources or Issues Areas Not Analyzed in Detail

Only the human environment conditions relevant to the proposed action of designating a new national marine sanctuary are analyzed in detail here. The following resource areas have been determined to have no potential for impacts by the proposed action and are not discussed in this EIS

- **Noise** – None of the alternatives would have the potential to allow new noise-generating activities that are not currently allowed in the proposed sanctuary area under existing regulations.

- Mineral Resources – There are no existing or planned mineral extraction uses in the proposed sanctuary area.
- Utilities – With limited exceptions, none of the alternatives would directly affect utilities or infrastructure. Alternative energy utilities are addressed in Section 4.7 (offshore energy). Subsea cables are addressed in Section 4.6 (socioeconomics, human uses, and environmental justice), under land use and development. Therefore, the discussion below does not contain a separate section to analyze impacts on utilities.
- Visual Resources – None of the alternatives would cause adverse impacts on visual resources. If a visitor center or sanctuary office is proposed onshore adjacent to the proposed sanctuary area in the future, it would be subject to a separate review process. Since no location has been identified for such a facility, it would be speculative to attempt to address it in this EIS.

In addition to the resources listed above, numerous resources discussed in Sections 4.2 through 4.9 would not be impacted by the proposed action or any of the action alternatives. These resources are included in the analysis to provide the public with a complete picture of the proposed sanctuary area.

4.2 Physical Resources

The physical resources within the study area that may be affected by the Initial Boundary Alternative or action alternatives include air quality and climate change, geology (seabed/submerged land), oceanography, and water quality, which addresses issues such as marine water quality, land-based pollution runoff, vessel discharges (including cruise ships), and other existing sources of discharges. The existing conditions of these resources in the study area are generally described, and a summary of federal, state, and local authorities pertaining to these resources is provided in Appendix F. The impact analysis presents the standards used to evaluate impacts on physical resources and addresses potential effects of the Initial Boundary Alternative and other alternatives on each resource. The study area for physical resources is generally the waters along and offshore the central coast of California, as defined by the Initial Boundary Alternative combined with the areas in Sub-Alternative 5a and Sub-Alternative 5b, as described in Chapter 3.

The primary data sources used in this section are data managed by local, state, and federal agencies, documents reporting on air quality and climate change, geologic resources, oceanographic resources, and water quality conditions and impacts in the study area, and research conducted in the study area.

Scoping comments brought up concerns about protecting water quality and reducing pollution from land and ocean-based sources, and protecting the seabed and geological/oceanographic features through sanctuary regulations managing/preventing discharges of harmful materials; prohibiting disturbing the seabed; prohibiting activities to procure oil, gas, and minerals from the proposed sanctuary area; prohibiting fishing in some areas and offshore oil and gas drilling to protect unique oceanographic features such as underwater seamounts, plateaus, and canyons; prohibiting offshore wind development and associated infrastructure; including a vessel speed reduction plan; and addressing threats of climate change, offshore renewable energy, commercial shipping, and harmful algal blooms to physical resources through regulations

and/or management activities. These concerns are addressed below, as well as in the proposed regulations and management plan.

4.2.1 Regional Overview of Affected Environment (Physical Resources)

The following regional overview is divided by physical resource topic.

Air Quality and Climate Change

The study area for the air quality analysis varies according to the type of air pollutant being discussed; some pollutants, such as carbon monoxide, have a localized area of effect, while other pollutants, such as ozone, have a regional area of effect.

The study area is located off the coast of San Luis Obispo and Santa Barbara counties and is within the South Central Coast Air Basin (California Air Resources Board, 2014). The South Central Coast Basinwide Air Pollution Control Council promotes coordination of air pollution control efforts throughout the South Central Coast Air Basin and is comprised of three air districts: the San Luis Obispo County Air Pollution Control District, Santa Barbara County Air Pollution Control District, and Ventura County Air Pollution Control District (San Luis Obispo County Air Pollution Control District, 2022b).

The climate off the California coast is influenced primarily by two natural phenomena: the El Niño-Southern Oscillation and the Pacific Decadal Oscillation, which affect weather along the entire west coast (NOAA, 2019). These phenomena are discussed in more detail in the oceanography subsection below. The summer climate of the west coast is dominated by a semi-permanent high pressure cell centered over the northeastern Pacific Ocean. Because this high pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus, the conditions along the California coast during summer are a northwest air flow and negligible precipitation. The steady northwesterly flow around the eastern edge of the Pacific high pressure cell exerts a stress on the ocean surface along the west coast. This induces upwelling of cold water from below. See additional details regarding upwelling in the oceanography and water quality subsections below, as well as in Section 4.3. Coastal fog and low clouds are a prominent feature of the central coast in the late spring and early summer, due to cool and moisture-laden air approaching the California coast from across the Pacific Ocean being further cooled as it flows across this cold bank of upwelled water near the coast, accentuating the temperature contrast across the coastline and producing condensation. From early winter through spring, the Pacific high pressure cell weakens and shifts southward, upwelling minimizes, and storms occur. The speed and direction of winds in the study area are controlled by the location and strength of the Pacific high pressure system and other global patterns (San Luis Obispo County Air Pollution Control District, 2001).

The extent and severity of the air pollution issues in the South Central Coast Air Basin is a function of the area's natural physical characteristics (weather and topography), as well as human-created influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the South Central Coast Air Basin area. In general, the air pollution potential of the coastal areas is relatively low due to persistent winds.

The federal Clean Air Act (42 U.S.C. § 7401 *et seq.*) requires the USEPA to set National Ambient Air Quality Standards for commonly found air pollutants, or “criteria pollutants”—pollutants that are regulated by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels. National Ambient Air Quality Standards have been established for ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, 10-micron particulate matter, 2.5-micron particulate matter, and airborne lead.

In addition, the California Air Resources Board has established California Ambient Air Quality Standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, 10-micron particulate matter, airborne lead, hydrogen sulfide, and vinyl chloride at levels designed to protect the most sensitive members of the population, particularly children, the elderly, and people who suffer from lung or heart diseases.

Areas with air pollution levels above these national or state standards are considered “nonattainment areas” and are subject to planning and pollution control requirements that are more stringent than normal requirements. Both state and national ambient air quality standards consist of two parts: an allowable concentration of a pollutant, and an averaging time over which the concentration is to be measured. For some pollutants, there is more than one air quality standard, reflecting both its short-term and long-term effects. The California Ambient Air Quality Standards are generally set at concentrations that are lower than the national standards and, in some cases, have shorter averaging periods.

The entire South Central Coast Air Basin is currently designated as nonattainment for state ozone and 10-micron particulate matter standards (California Air Resources Board, 2020a, 2020b, 2022), and designated as attainment/unclassified for all other state criteria pollutants (California Air Resources Board, 2022). The entire South Central Coast Air Basin is currently designated as attainment/unclassified for all federal criteria pollutants, with the exception of the eastern part of San Luis Obispo County, which is designated as nonattainment for federal ozone standards (USEPA, 2022b, 2022d).

Recent wildfires have led to increased particulate matter and ozone concentrations across the state, including San Luis Obispo and Santa Barbara counties. Wind-blown dust from the Oceano Dunes State Vehicular Recreation Area has continued to cause elevated 10-micron and 2.5-micron particulate matter in South San Luis Obispo County and remains the predominant air quality challenge affecting this area, even with mitigation measures in place (San Luis Obispo County Air Pollution Control District, 2022a). Santa Barbara County Air Pollution Control District continues to focus efforts on achieving particulate reductions in the marine shipping sector, which produces a large percentage of ozone precursor emissions in Santa Barbara County (Santa Barbara County Air Pollution Control District, 2019).

The largest sources of air pollution in the study area originate from diesel exhaust from ship engines, oil and gas industry operations, and surrounding large agricultural or industrialized areas, such as the cities of San Luis Obispo, Santa Maria, and Santa Barbara.

The greatest risks of air pollution at open sea are from cruise ships and other large commercial vessels that might cross the study area. Vessel traffic is a significant source of air pollutants, such as sulfur dioxide, nitrogen dioxide, greenhouse gases, diesel particulate matter, and

common products of combustion such as carbon monoxide, carbon dioxide, and hydrocarbons. Large ships traveling along the coast of Santa Barbara County produce significant air emissions and are responsible for 51.87 tons per day of nitrogen oxide emissions, or 77% of the county's nitrogen oxide emissions in 2017, making marine shipping the single largest source of nitrogen oxide emissions in the county (Santa Barbara County Air Pollution Control District, 2019). Regulations under the Clean Air Act, and regulations issued by the IMO and the USEPA now require lower nitrogen oxide standards for newly built vessel engines. However, it will take 10–20 years to phase out the older, higher-emitting engines being used on most ships today. For this reason, Santa Barbara County Air Pollution Control District, in partnership with CINMS and other partners, continues to pursue voluntary Vessel Speed Reduction incentive programs that achieve near-term nitrogen oxide reductions in marine shipping emissions (Santa Barbara County Air Pollution Control District, 2019).

The oil and gas platforms offshore California contribute approximately 1% of the total nitrogen oxide emissions in Ventura, Santa Barbara, and San Luis Obispo counties. Controls to minimize emissions from platform operations have been instituted by the local air pollution control districts (BSEE, 2022). There have been recent emission decreases from oil and gas facilities off the coast of Santa Barbara County. Some of these reductions can be attributed to the shutdown of the Plains All American Pipeline in 2015, which has consequently prevented oil production from multiple offshore facilities. Planned decommissioning and removal of three offshore platforms in the study area will reduce emissions further when complete (Santa Barbara County Air Pollution Control District, 2019).

According to the USEPA, global climate change refers to the long-term and irrevocable shift in weather related patterns, including the rise in the Earth's temperature due to an increase in greenhouse gases in the atmosphere. Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of greenhouse gases that contribute to climate change have a broader, global impact. The principal greenhouse gases contributing to global warming are carbon dioxide, methane, nitrous oxide, and fluorinated gases (USEPA, 2022e). Since the industrial revolution, people have added a substantial amount of greenhouse gases into the atmosphere by burning fossil fuels, land use changes, and other activities. As a result of human activities, these greenhouse gases are entering the atmosphere more quickly than they are being removed by chemical reactions or emission sinks, such as the ocean absorbing greenhouse gases from the atmosphere. Thus, concentrations of these gases are increasing (USEPA, 2021b).

As a result of global climate change, the Earth is experiencing sea level rise, and adverse impacts on water supply, water quality, agriculture, and both marine and terrestrial habitats. Ozone and air pollutants can have harmful impacts on marine life, often through sedimentation and nutrients carried into surface waters. Coastal environments are an important ecological resource that provide habitat for many marine and terrestrial species. Increase in atmospheric temperature is correlated with increased sea surface temperature, indicating that there could be changes to the community structure of marine organisms (Hanak & Moreno, 2011). The biological consequences of climate change of the atmosphere and oceans are unknown because there are many variables involved (McGowan et al., 1998), including anomalous events such as El Niño Southern Oscillation and naturally occurring oceanographic patterns. However, by understanding the effects of increased sea surface temperature on marine organisms, we can

predict the outcomes and prevent further damage to marine species populations and the environment.

Climate change is also leading to ocean acidification, as the ocean absorbs increasing concentrations of carbon dioxide released through human activities. This leads to lower pH and greater acidity, causing a fundamental change in the chemistry of the ocean (NOAA, 2022a). Ocean acidification has many harmful effects; it can create conditions that eat away at minerals used by marine life to build their shells and skeletons, lead to harmful algal blooms that can contaminate shellfish eaten by humans and sicken fish and marine mammals and affect normal behavior of non-calcifying organisms like some fish species (NOAA, 2020a, 2020b). Warming of the ocean due to climate change will also lead to decreases in dissolved oxygen concentrations, with implications for productivity, nutrient and carbon cycling, and habitat in the study area (Keeling et al., 2010).

Climate drivers are currently the most concerning threat to water quality. Global climate change has affected water quality (e.g., sea surface temperatures, pH, etc.) and the animals associated with the proposed sanctuary (e.g., urchins, deep-water corals, and other habitat-forming species). For example, a warm water event unprecedented in size and duration occurred from 2013–2016, which led to anomalously warmer waters, a coastwide toxic algal bloom, reduced mixing of surface waters, reduced nutrient delivery via upwelling, and ultimately resulted in low productivity in the study area (Cavole et al., 2016; Jacox et al., 2020; McCabe et al., 2016). Research suggests that such marine heat waves and other changing oceanographic conditions are likely related to climate change (Li & Donner, 2022; Sen Gupta et al., 2020; Smale et al., 2019).

Geology

The geophysical features in the study area include seamounts, canyons, reefs, and many types of sediment. Shoreline environments include rocky or eroding bluffs with intermittent beaches in the northern third of the study area, vast expanses of sandy beaches and coastal dunes with occasional rocky shores in the central part of the study area, and eroding bluffs and intermittent beaches in the southern third of the study area. Offshore features include rocky reefs, soft sediment areas, a large bank, marine canyons, several seamounts, an escarpment west of the bank, and the abyssal plain beyond that.

Many dozens of rocks and small islands of varying sizes dot the coastline throughout the study area due to different geological processes, the most active process being erosion along the coast. The physical formation of the California shoreline north of Point Conception is dynamic and constantly changing because of coastal erosion. In general, the strong waves and wind north of Point Conception have caused numerous rocks and cliffs to form, while rocks and islands tend to be less abundant and the coastline sandier south of Point Conception. The rate of shoreline change is determined by natural processes, such as rough seas, sea level rise, high tides, nearshore currents, rainfall, runoff, landslides, and earthquakes. Extensive human developments have also significantly altered the natural flow of sediment to and along the coast in the study area (Bureau of Land Management, 2005).

The study area sits on the Pacific Plate near where it meets the North American Plate. Geologists now believe the Farallon Plate was subducted beneath the two plates hundreds of millions of

years ago, and now lies beneath the study area. All land and seafloor west of the San Andreas Fault that was once part of the North American Plate became part of the Pacific Plate (García & Mahan, 2012; Nicholson et al., 1992). This subduction and faulting have led to moderate amounts of volcanic activity in the area, and helped form Morro Rock, the most prominent geological feature along the coast. Fossils and oil and gas reserves in the area also reflect a region with considerable marine deposits millions of years ago. The extensive rupturing in this geologically active area allows oil and gas from these subterranean reservoirs to seep up to the seafloor and out through fractures and sediments into the ocean and atmosphere. The study area contains numerous natural oil seeps (Marine Cadastre, 2016; NOAA, 2015).

Special offshore features include the Santa Lucia Bank, a 56-mile by 12-mile uplift block which reaches within 1,100 feet of the ocean's surface and extends from 20–50 miles offshore. The Arguello Canyon (which may play an important role in upwelling) has walls that reach 1,500 feet from rim to floor and originates in 400-foot water depth six miles off Point Arguello. Arguello Canyon extends to the southwest in the proposed sanctuary to a depth of 11,000 feet (Tréhu, 1991). The southern portion of the proposed sanctuary includes Rodriguez Seamount, a nearly mile-tall extinct volcano that rises to a depth of 2,100 feet below sea level (see Figure 4.2-1).

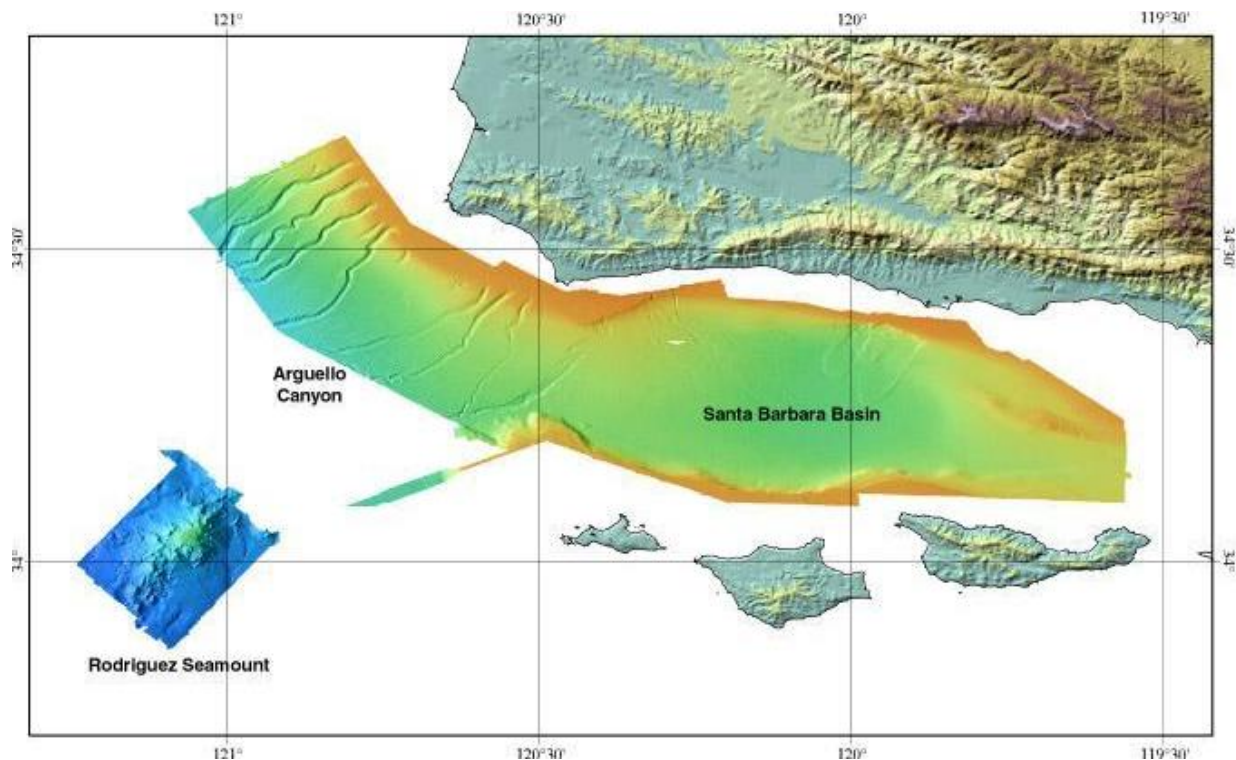


Figure 4.2-1. Arguello Canyon and Rodriguez Seamount. Image: Monterey Bay Aquarium Research Institute, 2016

The combination of Arguello Canyon, Rodriguez Seamount, and another adjacent, unnamed seafloor feature creates ideal conditions for significantly high biodiversity and are all associated with upwelling. Exploration of Rodriguez Seamount by the Monterey Bay Aquarium Research Institute in 2003 provided intriguing evidence that the seamount may once have been an exposed volcano before the seafloor subsided, making this a rare feature within the California

Current Large Marine Ecosystem (Marine Conservation Institute, 2022). Sampled rocks from Rodriguez Seamount were found to be encrusted with manganese oxide, a potential target for deep-sea mining operations (Davis et al., 2022).

Seismic activity in the area creates regular earthquakes, submarine landslides, turbidity currents, flood discharges, and coastal erosion.

Oceanography

The study area is part of the California Current Large Marine Ecosystem, which spans 1,864 miles from British Columbia, Canada to Baja California, Mexico and includes the U.S. Exclusive Economic Zone (EEZ). As one of four eastern oceanic boundary currents in the world, the California Current System within the California Current Large Marine Ecosystem is highly productive and hosts various marine ecosystems and a large diversity of marine organisms (Checkley & Barth, 2009). The California Current System is an offshore, near-surface equatorward flow characterized by low salinity and low temperature (Lynn & Simpson, 1987), which includes the California Current, the Davidson Current, the California Undercurrent, and the Southern California Undercurrent (Hickey, 1998) (see Figure 4.2-2).



Figure 4.2-2. The California Current System. Image: (Cormorant24, 2020), distributed under a [CC BY-SA 4.0 license](https://creativecommons.org/licenses/by-sa/4.0/). Source: Checkley et al., 2009; Checkley & Barth, 2009; Hickey et al., 2019; Talley et al., 2011

The central coast of California is widely known for its high volume of upwelling that occurs seasonally in the spring, with upwelling zones stretching from Oregon to Point Conception (Cudaback et al., 2005). Upwelling is related to wind stress and bottom slope (Chen et al., 2013), bringing cold, nutrient-rich waters from the ocean bottom to the surface (see Figure 4.2-3).

Upwelling provides increased nutrient availability which contributes to the natural growth of phytoplankton and primary production in the coastal marine environment. In the San Luis Obispo Bay, phytoplankton growth is affected by both upwelling and a lee that prevents direct disturbance to a body of water, leading to phytoplankton blooms (Tognazzini, 2009). The Point Arguello–Point Conception area is also an upwelling zone with its nutrient-enriched waters flowing south, offshore, and across CINMS. The eastern end of the study area, especially along the Gaviota Coast, is also affected by the Southern California Eddy and Countercurrent as part of the Southern California Bight, wherein surface water flows north along the coast, creating a recirculation within the Santa Barbara Channel. Upwelled waters are an energy source for phytoplankton, which make up the base of many ecosystem food webs, supporting zooplankton populations and fisheries production (Kudela et al., 2008; NOAA, 2022b).

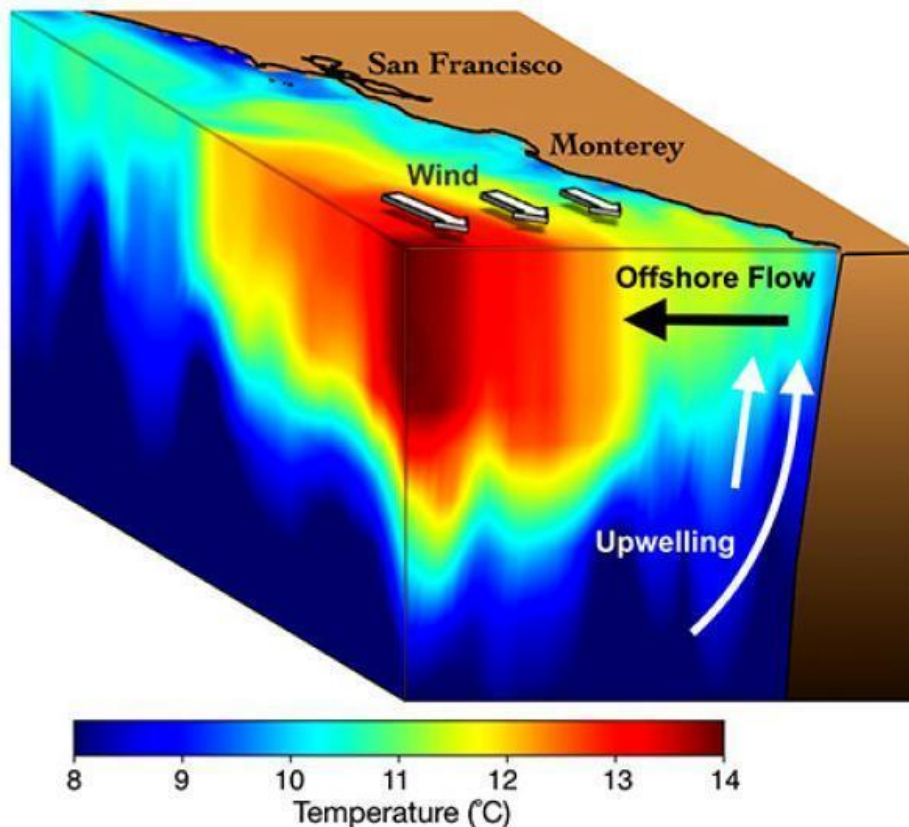


Figure 4.2-3. Upwelling process along the California coast. Winds blowing to the south, especially in spring and summer, drive water offshore near the ocean surface. As water moves offshore, it is replaced by cold, nutrient-rich water from below. Image: NOAA, 2019

The California Current System is subject to changing oceanic conditions that affect biological productivity and entire trophic levels (Checkley & Barth, 2009). El Niño Southern Oscillation events occur every 2–7 years, bringing increased sea surface temperatures and increased precipitation. Pacific Decadal Oscillation events occur every 20–30 years. These phases affect ocean conditions that are drivers for wind and current patterns, nutrient availability and abundance, and fluctuations in sea surface temperature. During El Niño Southern Oscillation events, flow in the California Current is anomalously weak, the California Undercurrent is anomalously strong, and the sea surface temperature is anomalously warm (Hickey, 1998). With increased sea surface temperature, there is a decrease in phytoplankton biomass, which in turn affects the biomass of zooplankton and other marine organisms, altering the community structure.

Along with these anomalies, the California central coast experiences seasonal variation in oceanic patterns and oceanographic chemistry. These patterns are categorized into three seasons: oceanic period (July/August to mid-November), the Davidson Current period (mid-November to mid-February), and the upwelling period (mid-February to July/August). Each season is associated with a different wind speed, which also affects the chemical oceanography such as the temperature, salinity, nutrient availability, level of oxygen, and turbidity (Checkley & Barth, 2009).

Water Quality

The affected water quality environment area extends beyond the study area due to potential impacts outside the proposed sanctuary boundaries. For example, pollutants may be carried by ocean currents, and there are freshwater inputs from rivers and creeks. Therefore, the study area for freshwater input comprises more than 20 coastal streams and two rivers (Santa Maria and Santa Ynez rivers) that directly contribute to the nearshore chemical characteristics of the study area.

These rivers and streams are affected by multiple activities in the watersheds including but not limited to agriculture, rock and gravel mining, grazing, logging, land development, and septic system leakage. The freshwater inputs from the many coastal creeks are minor sources of chemical constituents and nutrients to the study area. In total, the water quality study area includes oceanic waters in the proposed sanctuary boundaries, the marine areas adjacent to the boundaries, and the watersheds contributing to the marine water quality in the proposed boundary area.

Bacteriological contamination of coastal surface waters has been a problem in Morro Bay and South Santa Barbara County, and eutrophication occurs in the lower reaches of San Luis Obispo Creek (Central Coast Regional Water Quality Control Board, 2019). Water pollution containing nutrient and organic carbon can also exacerbate ocean acidification conditions at local scales, where runoff and ocean discharges cause excessive algal growth and breakdown of carbon-containing materials by bacteria (California Ocean Protection Council, 2018). Additional sources of marine water pollution include vessel sewage and gray water discharges, engine emissions, illegal dumping, spill incidents, and oil from natural seeps (NOAA, 2015).

Stormwater can increase sedimentation runoff into the ocean, as well as increase concentration of harmful pollutants. Section 402 of the CWA (33 U.S.C. § 1251 *et seq.*) establishes the National

Pollutant Discharge Elimination System (NPDES) to regulate point sources that discharge pollutants to waters of the United States, including municipal stormwater discharges and construction/industrial activities. There are eight NPDES-permitted onshore sources of discharge into the study area:

1. The Abalone Farm, Inc. (Aquaculture General Permit) – discharges into Pacific Ocean at Estero Bay.
2. Chevron Estero Marine Terminal – discharges into Pacific Ocean at Morro Bay.
3. Cayucos Sanitary District Wastewater Treatment Facility – discharges into Pacific Ocean near mouth of Toro Creek into Morro Bay.
4. Avila Beach Community Service District Wastewater Treatment Plant – discharges into Pacific Ocean at San Luis Obispo Bay.
5. South San Luis Obispo County Sanitation District Wastewater Treatment Facility – discharges into Pacific Ocean at Oceano Dunes near mouth of Arroyo Grande Creek.
6. City of Pismo Beach Wastewater Treatment Plant – discharges into Pacific Ocean at Oceano Dunes near mouth of Arroyo Grande Creek.
7. Phillips 66 Company, Santa Maria Refinery – discharges into Pacific Ocean north of Oso Flaco Beach.
8. Cultured Abalone Farm, LLC (Aquaculture General Permit) – discharges into Pacific Ocean at Rancho Los Dos Pueblos.

The following NPDES permits are for onshore facilities outside of the study area, but close enough to potentially impact water quality:

1. San Simeon Wastewater Treatment Plant – discharges to Pacific Ocean south of Pico Creek Beach.
2. California Men’s Colony Wastewater Treatment Plant – discharges to Chorro Creek, which drains into Morro Bay Estuary.
3. Mission Hills Community Services District Wastewater Treatment Plant – discharges to ponds 9.5 miles inland from the Pacific Ocean; some ponds are located adjacent to the Santa Ynez River, which drains into the Pacific Ocean near Surf Beach.
4. Goleta Sanitary District Water Resource Recovery Facility – discharges into Pacific Ocean at Goleta Slough.

There is an NPDES General Permit for Offshore Oil and Gas Exploration, Development, and Production Operations off Southern California, which authorizes discharges to federal waters from all exploratory facilities operating within the permit area and development and production facilities which are not new sources. The General Permit also covers any potential well/pipeline repairs and abandonment operations (USEPA, 2021a).

PG&E discharges 2.5 billion gallons of seawater daily through a shore-side outfall at approximately 20 degrees above ambient temperatures (see Section 4.7.1 for more details on PG&E operations in the study area). PG&E also discharges treated sewage, storm runoff, and desalination brine from this same outfall.

Vessel discharges in the study area are regulated under the Vessel Incidental Discharge Act, detailed in Appendix F (USEPA, 2021c).

Both of the rivers (Santa Maria and Santa Ynez) and the majority of creeks and other waterbodies feeding into the study area (including Morro Bay) do not meet established water quality standards under the CWA (State Water Resources Control Board, 2022). When this occurs, a water body is placed on an impaired waters list mandated by section 303(d) of the CWA. Under section 305(b) of the CWA, states are required to update this list every two years and work to resolve the water quality problems. A total maximum daily load (“TMDL”) or other regulatory action must be developed to address the impaired waterbodies on the 303(d) list (State Water Resources Control Board, 2022). Also, CCC’s Critical Coastal Areas program aims to protect high resource-value coastal waters from polluted runoff. The following Critical Coastal Areas are within the water quality study area (1) Cambria, (2) Chorro Creek, (3) Morro Bay, (4) Los Osos Creek, (5) San Luis Obispo Creek, (6) Santa Maria River Estuary, (7) Santa Ynez River, (8) Kashtayit, (9) Naples, (10) Goleta Slough, and (11) San Miguel, Santa Rosa, and Santa Cruz Islands (California Coastal Commission, 2019).

Key sources of water pollution in the study area originate from land-based pollution (point or nonpoint sources), cruise ship and other vessel discharges, spill incidents, and dredge disposal. These sources are detailed below.

Land-based pollution comes from either point or nonpoint sources. Point source pollution originates from known sources such as industrial facilities or wastewater treatment plants. Nonpoint source pollution comes from many different diffuse sources. It includes pollutants such as oil, grease, toxic chemicals, fertilizers, bacteria, nutrients, and sediments that are carried by runoff into streams and coastal waters (USEPA, 2022a). Typical sources of land-based pollutants entering the study area include livestock grazing, agriculture, and land development.

Cruise ships and other vessels (e.g., shipping, fishing, recreational, etc.) also discharge directly into the marine environment. During normal operations, vessels can potentially discharge sewage, graywater, bilge water, ballast water, hazardous wastes, and solid wastes into the study area. Sewage from vessels is generally more concentrated than sewage from land-based sources, as it is diluted with less water when flushed. Large cruise ships can carry thousands of passengers and can generate several million gallons of waste per day (USEPA, 2022c). Sewage discharge may contain bacteria or viruses that can cause disease in humans and wildlife. High concentration of nutrients from sewage can lead to eutrophication, causing excessive growth and decomposition of oxygen-depleting plant life, resulting in harm or death to organisms. Discharges of ballast water have led to the introduction of invasive species, which are considered a threat to water quality and marine ecosystems. The volume of discharges from large cruise ships and the nutrients and compounds in these discharges that remain in the waste streams even after treatment (USEPA, 2008) are of particular concern, as cruise ships regularly transit the study area. See Section 4.8 for more details on vessel operations, and Appendix F for relevant state and federal regulations regarding vessel discharges in the study area.

Discharges from offshore energy facilities also have potential to impair water quality in the study area, especially in the case of an accidental oil or chemical spill. See Section 4.7 for more details on discharges related to offshore energy facilities, and Appendix F for relevant state and federal regulations.

The Morro Bay Maintenance Dredging Program regularly dredges the federal channel at Morro Bay to allow safe passage for vessels transiting in and out of Morro Bay. This maintenance dredging has been performed routinely since the 1960s, historically dredging approximately 150,000–200,000 cubic yards (4,050,000–5,400,000 cubic feet) per year, with potential to dredge up to 1,111,800 cubic yards (30,018,600 cubic feet) per year. Dredged materials are placed either in the near shore area off Morro Bay State Park sand spit or in the surf zone at Morro Strand State Beach (U.S. Army Corps of Engineers, 2013). Disposing of dredged material in the ocean adversely impacts the marine environment by increasing water column turbidity. As detailed in Appendix F, USACE is responsible for permitting ocean disposal of dredged material.

4.2.2 Impact Assessment Methodology (Physical Resources)

The impact assessment methodology for physical resources generally follows NOAA’s analytical approach to evaluating environmental effects as described in Section 4.1. The following significance criteria specific to air quality and climate change, geology and oceanography, and water quality are also used in the analysis. Most impacts from the Initial Boundary Alternative and action alternatives are beneficial, and the other alternatives would reduce the level of beneficial impact as compared to the Initial Boundary Alternative. Subsection headers guide whether impacts are adverse or beneficial.

Air Quality and Climate Change

Criteria to determine the significance of air quality and climate change impacts are based on federal, state, and local air pollution standards and regulations. Impacts are considered to be significant if project emissions would result in the following:

- Increase ambient pollutant levels from an attainment or nonattainment-transition status to nonattainment under the National Ambient Air Quality Standards or California Ambient Air Quality Standards.
- Exceed the thresholds the regional air agencies use for determination of significance for California Environmental Quality Act purposes (thresholds are based on the amount of emissions projected to be generated by a project and are expressed in terms of either pounds per day or tons per quarter).

For the purposes of this analysis, major factors considered in determining whether the Initial Boundary Alternative or another alternative would have a significant impact on air quality and climate change include any of the following:

- The amount of net increase in emissions per year of criteria pollutants within a given air basin or offshore sanctuary.
- Whether relatively high emissions would occur on a continuing basis for periods longer than the timeframe of relevant ambient air quality standards (e.g., 8-hour periods for ozone precursors; 3-hour and 24-hour periods for sulfur oxides; 24-hour periods for 10-micron particulate matter).
- Whether emissions of precursors to ozone or other secondary pollutants would occur in such quantities and at such locations as to have a reasonable potential to cause or contribute to a violation of federal or state ambient air quality standards.

- Whether emissions of hazardous air pollutants could exceed state standards or other hazardous air pollutant exposure guidelines at locations accessible to the general public.

Pursuant to the above criteria, substantial adverse air quality and climate change impacts were not identified for the Initial Boundary Alternative or action alternatives. Therefore, regional and state thresholds regarding air emission quantities are not discussed in the impacts section since the proposed and alternative actions would not result in substantial increases in daily, monthly, or annual emission volumes.

Geology and Oceanography

Impacts on the geologic and oceanographic resources are considered to be significant if the Initial Boundary Alternative or other alternatives result in any of the following:

- Allows for exploitation of geologic resources inconsistent with the purposes and policies of the NMSA and its implementing regulations.
- Degrades the physical structure of any geologic resource (seabed/submerged lands) that is measurably different from pre-existing conditions.
- Alters any oceanographic process, such as sediment transport, that is measurably different from pre-existing conditions.

Water Quality

Criteria to determine the significance of water quality impacts are based on federal, state, and local water quality standards and regulations. Impacts are considered to be significant if the Initial Boundary Alternative or another alternative would:

- Alter the bacterial, physical, or chemical characteristics of near-shore ocean waters (not including enclosed bays or estuaries) so that they exceed effluent limitations established under the California Ocean Plan.
- Alter the bacterial, physical, or chemical characteristics of near-shore ocean waters so that they violate requirements or exceed effluent limitations established by the Central Coast Regional Water Quality Control Board.
- Result in ocean discharges not allowed by an NPDES permit, or which do not meet discharge criteria established under the CWA.
- Increase the discharge or deposition of unauthorized waste into the study area or in an area outside the study area that could migrate into the study area and affect its resources (including onshore urban or agricultural runoff).
- Increase the likelihood of exposing the environment to any hazardous conditions through release or disposal of oil, fuel, or hazardous substances.
- Conflict with guidelines provided for by the Nonpoint Source Pollution Control Program's Management Measures.

The methodology used to determine whether the Initial Boundary Alternative or any of the alternatives would have a significant impact on water quality is as follows:

- Review and evaluate existing and past baseline activities to identify the Initial Boundary Alternative or another alternative's potential to impact water quality.

- Review and evaluate the Initial Boundary Alternative and each alternative to identify potential to increase marine pollution or otherwise impact water quality within the study area.
- Assess the compliance of the Initial Boundary Alternative and alternatives with applicable federal, state, or local water quality regulations, guidelines, and pollution prevention measures.

4.2.3 Environmental Consequences of the Initial Boundary Alternative (Physical Resources)

This section evaluates the impacts on physical resources from implementing the Initial Boundary Alternative, as described in Section 3.2.

Air Quality and Climate Change

Beneficial Impacts on Air Quality and Climate Change

The application of proposed regulations addressing seabed disturbance, development of oil, gas, and minerals, and discharges would likely result in reduced potential commercial development within the sanctuary boundaries over the long term, and thus reductions in vessel traffic or future oil and gas leasing and development in the area. This reduction in vessel activity and emissions related to construction and operation of potential new oil and gas development projects, which contribute to ozone production, would result in **indirect, long-term, moderate beneficial impacts** on air quality and climate change from avoided emissions due to non-attainment status of the region for ozone; for all other pollutants, the beneficial impacts would be **minor**.

In addition, the Climate Change Action Plan in the proposed sanctuary management plan would strive to minimize the sanctuary's own contribution to climate change from any new infrastructure or operations in support of the new sanctuary by minimizing greenhouse gas emissions and contributing to atmospheric carbon dioxide sequestration and storage. The Climate Change Action Plan would also investigate the feasibility of implementing marine carbon dioxide removal approaches and applications in the sanctuary, including macroalgal aquaculture, direct ocean capture, marine spatial planning, and other potential strategies and technologies. Similar beneficial impacts on air quality and climate change would result from any increase in the uptake of atmospheric contaminants such as carbon dioxide and mercury due to increased biological productivity resulting from protections under the Initial Boundary Alternative. These **beneficial impacts** would be **indirect, long-term, and minor**.

Adverse Impacts on Air Quality and Climate Change

The Diablo Canyon Call Area, which has the potential for future offshore wind energy development (see Section 4.7), is within the Initial Boundary Alternative area. However, as further detailed in Section 4.7.3, developing an offshore wind project in this area is not reasonably foreseeable for purposes of this NEPA review. Nonetheless, NOAA is presenting an assessment of the impacts from the sanctuary designation on climate change because, as outlined in Section 4.7.3, designating the Initial Boundary Alternative could impede development, one day, of a future offshore wind project which could delay achieving renewable

energy goals to combat climate change. Therefore, this impediment could have **indirect, long-term, minor adverse impacts** on climate change. NOAA believes this potential adverse impact on climate change would be minor because there are other potential areas offshore California that could be considered for wind farm development to achieve renewable energy development goals (see Section 4.7.3).

Any increase in vessel traffic related to enforcement, research, education, recreation, or other similar activities in the study area resulting from sanctuary designation under the Initial Boundary Alternative would have **direct, long-term, minor adverse impacts** on air quality and climate change from increased vessel emissions.

Geology

Beneficial Impacts on Geologic Resources

Under the Initial Boundary Alternative, NOAA would apply sanctuary regulations prohibiting disturbance of the seabed, as well as oil, gas, and minerals exploration, development, and production. These regulations would reduce the amount of activities that could adversely affect geologic features and substrate, including the submerged lands, within the study area. Any potential reduction in these activities would provide **direct, long-term, localized, moderate beneficial impacts** on geologic resources.

As described further in Section 4.7, construction of subsea electrical transmission cables from the Morro Bay Lease Areas through the proposed sanctuary would likely violate the proposed seabed disturbance prohibition. Proposed sanctuary regulations include provisions whereby ONMS could review, approve, and condition specific cables within the sanctuary, including authority to impose mitigation measures reasonably necessary to protect geologic resources within the sanctuary. Any future ONMS permitting decision (and potential impacts of that decision and permitted activity) would be subject to project-specific environmental review processes. Any such future project-specific environmental review processes would consider mitigation measures imposed through ONMS' regulatory authority under the Initial Boundary Alternative.

Oceanography

Beneficial Impacts on Oceanographic Resources

As described above and in Section 4.7.3, designating the Initial Boundary Alternative could limit the potential to develop wind energy within proposed sanctuary boundaries as BOEM lacks regulatory authority to issue any leases for production of offshore wind inside a national marine sanctuary; moreover, the proposed prohibition on disturbance of the seabed would not allow development of offshore wind infrastructure under a separate regulatory authority without an authorization from ONMS. A preliminary study funded by the California Energy Commission and California Ocean Protection Council evaluated the effects of full buildout of offshore wind turbines in the Morro Bay and Diablo Canyon Call Areas, which are located directly adjacent to and within the study area, respectively. While the study is ongoing and currently in preparation for peer review, the preliminary findings suggest that wind speeds would be reduced by approximately 5–10% in the lee (sheltered side away from the wind) of wind farms in the Morro Bay and Diablo Canyon Call Areas. This reduction would be most pronounced in the spring and

summer, when wind speeds are the highest and, in turn, upwelling is the strongest. The study concluded that with both wind farm areas developed, upwelling could be reduced by 10–15% around and beyond the upwelling center of Point Arguello–Point Conception, greater than the inter-annual variability that has been observed (California Ocean Protection Council, 2021). Development of only the Morro Bay WEA was not modeled in the study but would represent fewer than half as many turbines as could be installed in the Diablo Canyon Call Area and is 20–40 miles further away from the upwelling center at Point Arguello–Point Conception, potentially lessening impacts on upwelling. Note that studies in the North Atlantic Ocean have partially affirmed these same projections while others have rejected any potential impacts from wind farms on upwelling (Golbazi et al., 2022; Johnson et al., 2021). Research focused on North Atlantic Ocean systems may have limited applicability to this region as upwelling processes can function differently in the two ocean basins and this leads to differences in the relative importance of upwelling to pelagic ecology. The potential impacts on upwelling in the temperate Eastern Pacific is an area of research where the science is not yet settled, and as more information is developed, the analysis in this chapter may be revised in the future (Hogan et al., 2023).

As detailed above and in Section 4.7.3, application of sanctuary regulations would likely result in **indirect, long-term, significant beneficial impacts** on upwelling in the study area, as the Initial Boundary Alternative may impede the potential for future additional wind energy development and its additive impacts on upwelling reduction. These benefits would be both **localized** and **extend beyond the proposed sanctuary boundaries**, to the extent that upwelling in the study area affects oceanographic conditions throughout the California Current System.

Water Quality

Beneficial Impacts on Water Quality

Under the Initial Boundary Alternative, NOAA would apply a sanctuary regulation prohibiting discharge and deposit of material within the proposed sanctuary boundaries and would apply a sanctuary regulation prohibiting discharges outside the sanctuary that subsequently enter the sanctuary and injure sanctuary resources, with some exceptions to both regulations. These proposed discharge regulations would establish more comprehensive water quality protection across the geographic range proposed for sanctuary protection and would bolster existing authorities. This would reduce the amount of discharges from vessels, new oil and gas facilities, or other activities occurring in the proposed sanctuary boundaries, providing **direct** and **indirect, long-term, moderate beneficial impacts** on water quality. These benefits would be both **localized** and **extend beyond the proposed boundaries**, to the extent that such prevented discharges and deposits could have been carried by currents, animals, vessels, etc. outside those proposed boundaries and because NOAA would also regulate discharges outside the sanctuary that enter the sanctuary and injure sanctuary resources. In addition, the Water Quality Action Plan in the proposed sanctuary management plan would promote stewardship of water quality in the proposed sanctuary while accommodating diverse uses.

If continued operations of DCP were approved by federal, state, and local regulators and PG&E elected to continue operations, extended operation of the DCP would include discharge of a

very large volume of cooling water at a temperature well above ambient. For more than a decade, California agencies have adopted policies and regulations to ban or phase out once through cooling water discharges because of impacts of both entrainment via intake systems and heat-related impacts on organisms and nearshore habitats from the discharges. Extending operations of DCPD would need to comply with these state policies and regulations related to once through cooling water. NOAA would have the ability at the time of sanctuary designation to review and certify ongoing discharges like those by PG&E at DCPD as long as such discharges were subject to any valid lease, permit, or license in existence on the date of sanctuary designation, considering and possibly mirroring mitigations and phase-out requirements state agencies would have imposed. This certification process would mean designation of the Initial Boundary Alternative would likely have **no impact** on discharges resulting from continued PG&E operations. See Section 4.7 for more details regarding DCPD.

4.2.4 Environmental Consequences of Alternative 1 (Physical Resources)

This section evaluates the impacts on physical resources from implementing Alternative 1, Bank to Coast, as described in Section 3.3.

Air Quality and Climate Change

Beneficial Impacts on Air Quality and Climate Change

Alternative 1 would include the same regulations and Climate Change Action Plan as the Initial Boundary Alternative (Section 3.2) but would affect a smaller spatial area. The beneficial impacts on air quality and climate change described in Section 4.2.3 would be similar under Alternative 1, because there is little commercial development anticipated in the waters west of the Santa Lucia Bank. These **beneficial impacts** would be the same as described in Section 4.2.3, and remain **indirect, long-term, and minor to moderate**.

Adverse Impacts on Air Quality and Climate Change

Alternative 1 would have the same level of potential **indirect, long-term, minor adverse impacts** on climate change as the Initial Boundary Alternative due to the potential impediment on development of an additional wind farm area. Alternative 1 would also have potential adverse impacts on air quality and climate change due to an expected increase in vessel traffic emissions related to enforcement, research and education, recreation, or other activities resulting from sanctuary designation; however, these adverse impacts would be less than those expected for the Initial Boundary Alternative because of the smaller overall area of the sanctuary and shorter transits from shore to the sanctuary areas within Alternative 1. While reduced, these **adverse impacts** would remain **direct, long-term, and minor**.

Geology

Beneficial Impacts on Geologic Resources

Under Alternative 1, the western-most and deepest portions of the escarpment and abyssal plain west of Santa Lucia Bank would be excluded from sanctuary boundaries and regulations, therefore leaving that area open to potential seabed disturbance and/or oil, gas, and minerals exploration, development, and production. Therefore, the beneficial impacts on geologic

resources described in Section 4.2.3 related to general reduction of seabed-disturbing activities and their effects (i.e., oil, gas, and minerals development and Morro Bay Lease Areas subsea electrical transmission lines) would be reduced under Alternative 1. These **beneficial impacts** would be **direct, long-term, localized, and minor to moderate**.

Oceanography

Beneficial Impacts on Oceanographic Resources

Under Alternative 1, the same conditions potentially reducing a future decline in upwelling due to wind energy production would be in place as under the Initial Boundary Alternative. At this time, the only potential wind development considered by BOEM, the state, or industry has focused on waters shallower than about 4,200 feet. The area west of Santa Lucia Bank is deeper than that, and thus NOAA does not anticipate the exclusion of that area would open it up to future potential wind energy development. Therefore, the **beneficial impacts** for Alternative 1 would be the same as for the Initial Boundary Alternative and would remain **indirect, long-term, and significant**.

Water Quality

Beneficial Impacts on Water Quality

Alternative 1 would include the same regulations and Water Quality Action Plan as under the Initial Boundary Alternative but would affect a smaller spatial area. Therefore, the beneficial impacts on water quality described in Section 4.2.3 would be similar, but reduced to a lesser level under Alternative 1, due to the potential for vessel discharges in the waters west of Santa Lucia Bank that would be excluded from sanctuary boundaries under Alternative 1. These beneficial impacts, while reduced slightly, would remain the same as described in Section 4.2.3. Therefore, Alternative 1 would have **direct and indirect, long-term, moderate beneficial impacts** on water quality.

4.2.5 Environmental Consequences of Alternative 2 (Physical Resources)

This section evaluates the impacts on physical resources from implementing Alternative 2, Cropped Bank to Coast, as described in Section 3.4.

Air Quality and Climate Change

Beneficial Impacts on Air Quality and Climate Change

Alternative 2 would include the same regulations and Climate Change Action Plan as the Initial Boundary Alternative (see Section 3.2) but would exclude the northern part of Alternative 1 above Hazard Canyon Reef. This excluded area would be available over the long-term for potential future offshore energy development, including offshore wind energy development related to the Morro Bay Lease Areas. However, new oil and gas development in the area north of Hazard Canyon Reef is not anticipated; therefore, the **moderate beneficial impacts** on air quality and climate change described in Section 4.2.3 for ozone related to preclusion of new oil and gas facilities would remain the same as described in Sections 4.2.3 and 4.2.4. For other pollutants besides ozone, the **beneficial impacts** described in Section 4.2.3 would be reduced

slightly but still considered **minor** under Alternative 2. The other **minor beneficial impacts** driven by the Climate Change Action Plan would be the same as for the Initial Boundary Alternative.

Adverse Impacts on Air Quality and Climate Change

Alternative 2 would have the same potential **minor adverse impacts** on climate change as the Initial Boundary Alternative due to the impediment of future offshore wind energy development within sanctuary boundaries, including at the Diablo Canyon Call Area, if its development were ever proposed. Alternative 2 would also have potential adverse impacts on air quality and climate change due to an expected increase in vessel traffic emissions related to enforcement, research and education, recreation, or other activities resulting from sanctuary designation; however these adverse impacts would be less than those expected for the Initial Boundary Alternative and Alternative 1 because of the smaller overall area of the sanctuary and shorter transits from shore to the sanctuary areas within Alternative 2. These **adverse impacts** would remain **indirect, long-term, and minor**.

Geology

Beneficial Impacts on Geologic Resources

Under Alternative 2, an area from Cambria to Hazard Canyon Reef would be excluded from the sanctuary boundary, thereby opening this area to potential seabed disturbance by subsea electrical transmission cables connecting the Morro Bay Lease Areas to shore at or near Morro Bay Harbor and grid connections north of the harbor. Therefore, the beneficial impacts on geologic resources described in Section 4.2.3 related to general reduction of seabed disturbing activities (i.e., oil, gas, and minerals development and subsea electrical transmission lines) would be reduced under Alternative 2 to a minor level compared to the Initial Boundary Alternative and Alternative 1. Under Alternative 2, these **beneficial impacts** would be **direct, long-term, localized, and minor**.

Oceanography

Beneficial Impacts on Oceanographic Resources

Under Alternative 2, the same conditions potentially reducing a future decline in upwelling due to wind energy production would be in place as under the Initial Boundary Alternative and Alternative 1 (see sections 4.2.3 and 4.2.4). Therefore, the **beneficial impacts** for Alternative 2 would be the same as for the Initial Boundary Alternative and Alternative 1, and would remain **indirect, long-term, and significant**.

Water Quality

Beneficial Impacts on Water Quality

Alternative 2 would include the same regulations and Water Quality Action Plan as under the Initial Boundary Alternative but would affect a smaller spatial area compared to the Initial Boundary Alternative and Alternative 1. Therefore, the beneficial impacts on water quality described in sections 4.2.3 and 4.2.4 would be similar, but reduced to a minor level under Alternative 2, due to the potential for vessel discharges in the waters between Cambria and Hazard Canyon Reef that would be excluded from sanctuary boundaries under Alternative 2.

This excluded area includes the Morro Bay area, which has a significant amount of vessel traffic and discharges from land-based sources. Under Alternative 2, **minor beneficial impacts** on water quality related to the proposed discharge regulations within sanctuary boundaries would be **direct** and **indirect, long-term**, and both **localized** and **general**.

4.2.6 Environmental Consequences of Alternative 3 (Physical Resources)

This section evaluates the impacts on physical resources from implementing Alternative 3, Diablo to Gaviota Creek, as described in Section 3.5.

Air Quality and Climate Change

Beneficial Impacts on Air Quality and Climate Change

Alternative 3 would include the same regulations and Climate Change Action Plan as the Initial Boundary Alternative (Section 3.2) but would exclude the northern portion of the study area and much of the Santa Lucia Bank, including an area previously identified by BOEM for a potential offshore wind energy development area (Diablo Canyon Call Area). The excluded area would also be available over the long-term for potential future oil and gas development. Therefore, the beneficial impacts on air quality and climate change described in Section 4.2.3 for ozone related to preclusion of new oil and gas facilities would be reduced to **indirect, long-term, minor beneficial impacts**; for other pollutants, the **beneficial impacts** would be reduced but still considered **minor** under Alternative 3. The other beneficial impacts driven by the Climate Change Action Plan would be the same as for the Initial Boundary Alternative.

Adverse Impacts on Air Quality and Climate Change

Because the Diablo Canyon Call Area or other areas outside sanctuary boundaries could be developed by BOEM for offshore wind power generation, Alternative 3 would have **no adverse impact** on climate change, compared to the minor adverse impact described for the Initial Boundary Alternative. Compared to the Initial Boundary Alternative, Alternative 3 would also have less of an adverse impact on air quality and climate change attributed to emissions from enforcement, research, education, and other activities necessary for sanctuary management due to a smaller area under management, but they would still be considered **indirect, long-term, minor adverse impacts**.

Geology

Beneficial Impacts on Geologic Resources

Compared to the Initial Boundary Alternative, the beneficial impacts on geologic resources under Alternative 3 would be reduced to **direct, long-term, minor beneficial impacts** because a smaller CHNMS would potentially allow for comparatively more extensive offshore energy development.

Under Alternative 3, the northern portion of the study area and much of the Santa Lucia Bank would be excluded from sanctuary boundaries and regulations, thereby leaving that area open to potential seabed disturbance or oil, gas, and minerals exploration, development, and production, or development of an additional wind farm in the area.

Further, it is far less likely there would be construction of subsea electrical transmission cables through the proposed sanctuary in Alternative 3 because this alternative does not overlap with the area between the Morro Bay WEA and potential onshore connections north of Morro Bay Harbor. If cables were to be routed through the sanctuary under Alternative 3 to a landing site other than Morro Bay, any future ONMS permitting decision would be subject to project-specific environmental review processes.

Oceanography

Under Alternative 3, any areas excluded from sanctuary boundaries under Alternative 3—including the Diablo Canyon Call Area—could be developed with wind turbines outside of the sanctuary boundaries. Therefore, the beneficial impacts described in Section 4.2.3 on oceanographic resources (by protecting the upwelling center) would not apply under Alternative 3. Alternative 3 would have **no impact** on oceanographic resources.

Water Quality

Beneficial Impacts on Water Quality

Alternative 3 would include the same regulations and Water Quality Action Plan as under the Initial Boundary Alternative but would affect a smaller spatial area. Furthermore, the area excluded, if developed for offshore wind (or possibly one day for oil and gas development) would be expected to have a large number of vessels transiting or otherwise active in the excluded area. Therefore, the beneficial impacts on water quality as described in Section 4.2.3 would be reduced under Alternative 3, due to the potential for discharges in the northern area of the study area. Therefore, NOAA determines Alternative 3 would have **direct and indirect, long-term, minor beneficial impacts** on water quality.

4.2.7 Environmental Consequences of Alternative 4 (Physical Resources)

This section evaluates the impacts on physical resources from implementing Alternative 4, Combined Smallest, as described in Section 3.6.

Air Quality and Climate Change

Beneficial Impacts on Air Quality and Climate Change

Alternative 4 would include the same regulations and Climate Change Action Plan as the Initial Boundary Alternative (Section 3.2) but would affect the smallest spatial area of all the action alternatives. The beneficial impacts on air quality and climate change described in Section 4.2.3 would therefore be reduced due to the exclusion of the waters west of the Santa Lucia Bank and northern area of the study area (the areas excluded in alternatives 1, 2, and 3). Beneficial impacts would be reduced compared to the Initial Boundary Alternative and alternatives 1, 2, and 3, but would remain **indirect, long-term, minor beneficial impacts** under Alternative 4.

Adverse Impacts on Air Quality and Climate Change

Similar to Alternative 3, Alternative 4 would have **no adverse impacts** on climate change related to restrictions on wind energy development, as areas outside sanctuary boundaries could eventually be developed for offshore wind power generation. Any **adverse impacts** on air quality and climate change due to increased emissions from vessel traffic related to sanctuary operations would be reduced to a **negligible** level under Alternative 4, due to the significantly smaller area.

Geology

Beneficial Impacts on Geologic Resources

Under Alternative 4, the western-most and deepest portions of the escarpment and abyssal plain west of Santa Lucia Bank, and northern areas of the study area poised for potential wind energy development would be excluded from sanctuary boundaries and regulations, thereby leaving that area open to potential seabed disturbance or oil, gas, and minerals exploration, development, and production, as described in Sections 4.2.4, 4.2.5, and 4.2.6 above. Therefore, compared to the Initial Boundary Alternative, the beneficial impacts on geologic resources described in Section 4.2.3 would be further reduced to **direct, long-term, minor beneficial impacts** under Alternative 4.

Oceanography

Under Alternative 4, the waters excluded would be potentially open to future wind energy development as under Alternative 3. Therefore, the beneficial impacts described in Section 4.2.3 on oceanographic resources (by protecting the upwelling center) would not apply under Alternative 4. Alternative 4 would have **no impact** on oceanographic resources.

Water Quality

Beneficial Impacts on Water Quality

Alternative 4 would include the same regulations and Water Quality Action Plan as the Initial Boundary Alternative but would affect the smallest spatial area of all action alternatives. Therefore, compared to the Initial Boundary Alternative, the beneficial impacts on water quality described in Section 4.2.3 would be further reduced under Alternative 4, due to the potential for discharges in the waters excluded from this alternative, as described in Sections 4.2.4, 4.2.5, and 4.2.6. Alternative 4 would have **direct and indirect, long-term, minor beneficial impacts** on water quality.

4.2.8 Environmental Consequences of Sub-alternatives 5a: Morro Bay Estuary and 5b: Gaviota Coast Extension (Physical Resources)

This section evaluates the impacts on physical resources from implementing sub-alternatives 5a: Morro Bay Estuary and 5b: Gaviota Coast Extension, as described in Sections 3.7.1 and 3.7.2, respectively. The same regulations, Climate Change Action Plan, and Water Quality Action Plan would apply to both sub-alternatives as described for the Initial Boundary Alternative.

Sub-Alternative 5a: Morro Bay Estuary

Sub-Alternative 5a would add the Morro Bay Estuary to sanctuary boundaries under either the Initial Boundary Alternative or Alternative 1. Therefore, this section only analyzes the incremental impacts associated with protecting the Morro Bay Estuary area as shown in Figure 3-10.

Air Quality and Climate Change

Beneficial Impacts on Air Quality and Climate Change

As it is not reasonably foreseeable that any potential oil and gas activities would occur in the Morro Bay Estuary, the beneficial impacts described in Section 4.2.3 with regard to preventing oil and gas activities would not apply to the area added to the proposed sanctuary boundaries under Sub-Alternative 5a. The other incremental beneficial impacts on air quality and climate change described in Section 4.2.3 would be negligible under Sub-Alternative 5a due to the waters within Morro Bay Estuary comprising a very small area. Therefore, the incremental **beneficial impacts** on air quality and climate change would be **negligible** under Sub-Alternative 5a.

Adverse Impacts on Air Quality and Climate Change

Any incremental **adverse impacts** on air quality and climate change due to increased emissions from vessel traffic related to sanctuary operations would be **negligible** under Sub-Alternative 5a, due to the small area.

Geology

Beneficial Impacts on Geologic Resources

The boundaries of Sub-Alternative 5a include the existing Morro Bay SMR and Morro Bay State Marine Recreational Management Area, within which California regulations: (1) prohibit injury, damage, take, or possession of any geological marine resource (California Department of Fish and Wildlife, 2021); and (2) generally prohibit take of marine resources (California Department of Fish and Wildlife, 2016); respectively. While these state regulations already provide some protection to geologic resources in the Morro Bay Estuary, Sub-Alternative 5a would provide additional protection due to the sanctuary regulation prohibiting disturbance of the estuary seabed. Therefore, Sub-Alternative 5a would have incremental **direct, long-term, localized, minor beneficial impacts** on geologic resources.

Oceanography

Because the shallow, sheltered waters of the Morro Bay Estuary do not include the same oceanographic upwelling conditions as the marine waters included in sanctuary boundaries under the Initial Boundary Alternative, Alternative 1, and Alternative 2, the beneficial impacts on upwelling described in Sections 4.2.3, 4.2.4, and 4.2.5 would not be affected by the addition of this area to the proposed sanctuary boundaries under either of those alternatives, and Sub-Alternative 5a would have **no incremental impact** on oceanographic resources.

Water Quality

Beneficial Impacts on Water Quality

The beneficial impacts on water quality would be similar to those described in Section 4.2.3 and would represent a slight incremental increase in **direct** and **indirect, long-term, minor beneficial impacts** due to the small additional protected area.

In addition, inclusion of the Morro Bay Estuary within the proposed sanctuary boundaries under Sub-Alternative 5a would add water quality benefits that none of the other action alternatives or Initial Boundary Alternative can claim, due to the unique water filtration ecosystem service estuaries provide. These benefits would result from the proposed regulations that would further restrict discharges into, or habitat disturbance of, the estuary. Protecting this important ecosystem service under Sub-Alternative 5a would have **direct, long-term, minor incremental beneficial impacts** on water quality. These benefits would be both localized to Morro Bay Estuary and extend beyond the estuary into surrounding waters.

Sub-Alternative 5b: Gaviota Coast Extension

Sub-Alternative 5b would add the Gaviota Coast to sanctuary boundaries under the Initial Boundary Alternative or any of the action alternatives. Therefore, this section only analyzes the incremental impacts associated with protecting the Gaviota Coast Extension area shown in Figure 3-11.

Air Quality and Climate Change

Beneficial Impacts on Air Quality and Climate Change

This sub-alternative would extend the sanctuary along the Gaviota Coast, in state waters. While this area includes or is adjacent to existing oil and gas facilities related to the Santa Ynez Unit, the proposed sanctuary regulations contain exemptions that would allow existing oil and gas production from existing reservoirs to continue. Thus, there would be **no incremental impact** on air quality and climate change related to emissions from existing oil and gas operations under sub-alternative 5b. Future oil and gas development in state waters along this coastline would be extremely unlikely due to existing state bans on oil and gas development. Thus, there would be **no incremental impacts** on air quality and climate change related to new oil and gas activities in state waters under Sub-Alternative 5b. The other incremental beneficial impacts driven by the Climate Change Action Plan, as described in Section 4.2.3, would be **negligible** under Sub-Alternative 5b due to the small area of the Gaviota Coast Extension.

Adverse Impacts on Air Quality and Climate Change

Due to the small size of Sub-Alternative 5b, adding it to the proposed sanctuary boundaries under any of the action alternatives would have an incremental **negligible adverse impact** on air quality and climate change (as described in Section 4.2.3) from increased vessel traffic emissions related to enforcement, research and education, recreation, or other activities resulting from sanctuary designation.

Geology

Beneficial Impacts on Geologic Resources

As described in Section 4.2.3, the proposed regulations would reduce activities that could adversely affect geologic resources within the area protected under Sub-Alternative 5b, resulting in incremental beneficial impacts. While these beneficial impacts on geologic resources would be extended to a small additional area under Sub-Alternative 5b, this extension would represent a slight incremental increase in **direct, long-term, localized, and minor beneficial impacts**.

Oceanography

As it is not reasonably foreseeable that potential offshore wind farms would be developed in the Gaviota Coast Extension area without sanctuary protections, the impacts on upwelling described in Section 4.2.3 would not apply under Sub-Alternative 5b, and this alternative would have **no impact** on oceanographic resources.

Water Quality

Beneficial Impacts on Water Quality

The beneficial impacts on water quality described in Section 4.2.3 would be extended to the expansion area, representing slight additional **direct and indirect, long-term, minor beneficial impacts** on water quality.

4.2.9 Environmental Consequences of No Action (Physical Resources)

This section evaluates the impacts on physical resources from the No Action Alternative, in which the Initial Boundary Alternative or any action alternative described in Chapter 3 would not be implemented.

Under the No Action Alternative, the study area would remain the same as the status quo and would not be subject to the proposed regulations and draft management plan described in Chapter 3. NOAA anticipates that implementing the No Action Alternative would be subject to the continuation of existing impacts, including ongoing impacts of climate change, and potential future impacts as described in Section 4.2.1.

No direct changes to air quality and climate change, geology, oceanography, or water quality are expected to result from the No Action Alternative. Failure to implement the proposed regulatory protections and management actions in the study area would indirectly allow ongoing deleterious changes to these physical resources to continue from certain current and potential future uses. In general, none of the beneficial and adverse impacts of designating the proposed sanctuary described in Sections 4.2.3–4.2.8 would occur under the No Action Alternative.

4.3 Biological Resources

The study area for biological resources includes the proposed sanctuary boundary in the Initial Boundary Alternative and all the action alternatives outlined in Chapter 3, including sub-alternatives that extend into Morro Bay Estuary and along the Gaviota Coast. Information presented here includes information from primary and grey literature, federal agency documentation, and expert opinion. Information was gathered with special attention to address the concerns regarding biological resources from the public scoping process and from a series of workshops held with local biological experts. The biological resources within the study area that may be affected by the Initial Boundary Alternative and range of alternatives include habitats, flora (e.g., macroalgae and plants), wildlife (e.g., fish, seabirds, marine mammals, sea turtles, and invertebrates), and protected species and habitats. The study area spans a strong ecological transition zone that encourages high biodiversity in the region.

4.3.1 Regional Overview of Affected Environment (Biological Resources)

Habitats

There are a variety of important marine habitats within the study area, including sandy beaches, rocky shores, kelp forests and rocky reefs, estuaries and seagrass beds, shallow sandy seafloor areas, deep seafloor environments, and pelagic habitats. These habitats support diverse algae, plants, invertebrates, fish, marine mammals, and seabirds (Figure 4.3-1). Connectivity between habitats is likely high and affected by spatial proximity.

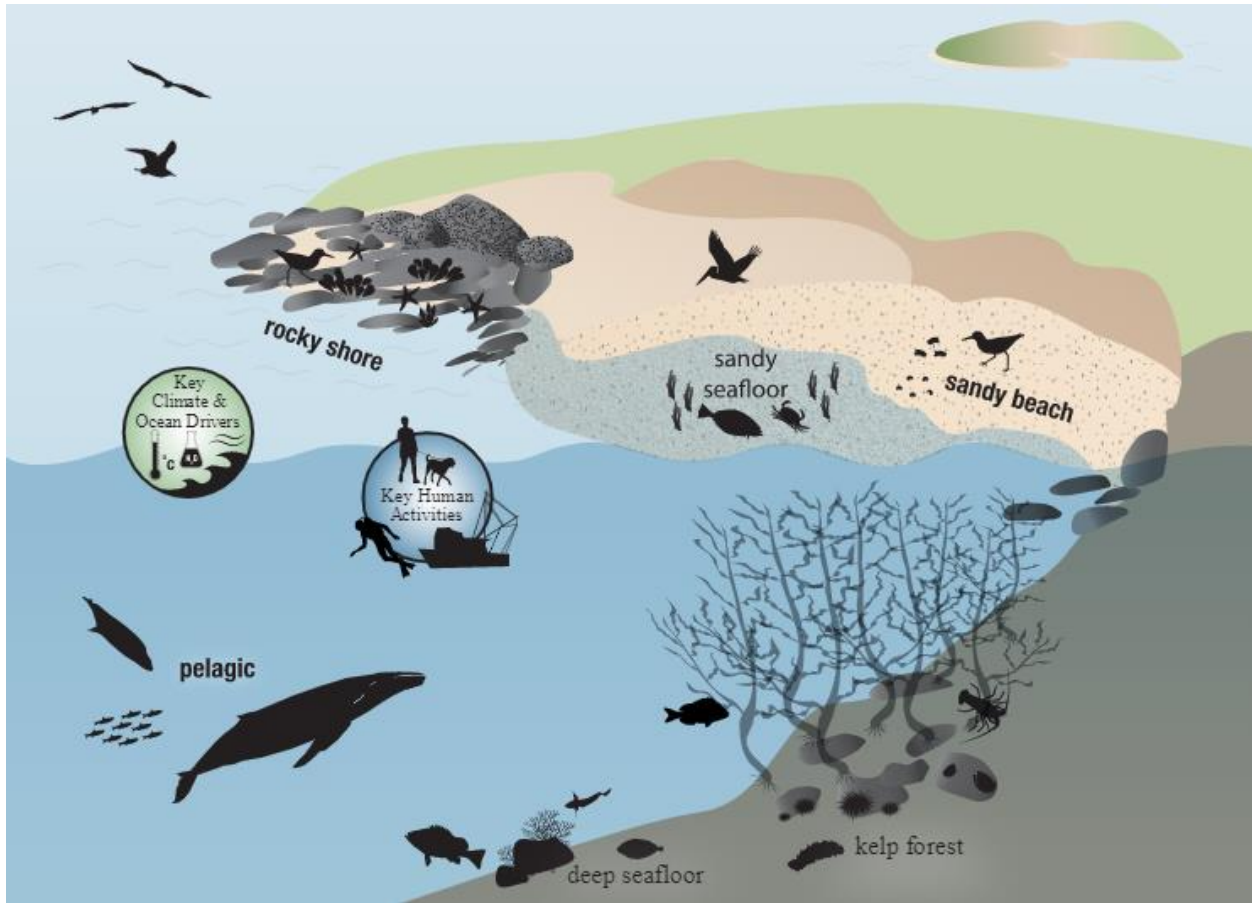


Figure 4.3-1. Some habitats of the study area. Source: NOAA, 2022

Sandy Beach

Sandy beaches are high-energy coastal habitats that are periodically covered and uncovered by waves and daily tides—the height of the tides can be more than two meters (6.5 feet). Sandy beaches are a major component of the intertidal region of the study area. Sandy beaches are used by a wide variety of species for foraging, nesting, resting, and breeding.

Rocky Shore

Changing tides, steady waves, and competition for food and space are among many physical and biological factors that determine the nature of plant, algal, and animal communities along the study area’s rocky shores. Similar to the sandy beach habitat, organisms here have adapted to thrive in this harsh and changing environment where they live part of their day under water and part of their day exposed to the air.

Shallow Sandy Seafloor

The nearshore shallow habitat extends from the surf out to waters that are approximately 30 meters (98 feet) deep. Waves and currents interact with the sandy seafloor in this relatively shallow zone, creating sand waves and ripples and organizing sediment particles into different group sizes (e.g., sand, gravel, cobble).

Kelp Forest and Rocky Reef

Rocky seafloor habitats are widespread within the study area and are vital habitats to supporting the region's biodiversity. These rocky underwater reefs are often characterized by dense patches of kelp, a structure-forming marine algae. Giant kelp (*Macrocystis pyrifera*) is the largest and most prominent species, but bull kelp (*Nereocytis luetkeana*) also appears in the study area.

Deep Seafloor

The deep seafloor habitat extends from about 30 meters (98 feet) to greater than 200 meters (656 feet) deep over the continental shelf and slope; the depth in some canyons may exceed 1,500 meters (4,921 feet). Many organisms live in and above the mud and sand, including clams, worms, sand crabs, sand dollars, sea stars, bottom-dwelling sharks, rays, and flatfishes. The less common rocky seafloor is made up of low-relief reefs less than one meter (3.3 feet) in height. Higher relief seamounts, pinnacles, and ridges occur in some areas, such as Rodriguez Seamount and Santa Lucia Bank. These high-relief volcanic reefs can include features such as walls, ledges, caves, pinnacles, boulders, and bedrock outcroppings. These rocky underwater environments provide habitat capable of supporting thousands of algal, invertebrate (most notably deep-sea corals and sponges), and fish species. Because of the difficulty in studying very deep habitats, less is known about these areas in the study area.

Pelagic Habitat

Pelagic habitat, the most extensive habitat in the study area, includes the oceanic water typically beyond two miles offshore. It is divided into sub-habitats based on depth, each of which has varying degrees of light penetration, temperature, oxygen concentration, and density. Light can penetrate the water's surface down to 200 meters (656 feet), known as the photic zone. This region of the water column is also called the epipelagic, and the base of its food webs are composed almost entirely of phytoplankton—tiny plants that turn sunlight into energy via photosynthesis. Zooplankton (i.e., tiny fish larvae and invertebrates) and small schooling fishes (e.g., anchovy and sardine) that feed on phytoplankton are in turn a major food source for larger fishes, seabirds, and marine mammals. In the midwater environment (200–1,000 meters; 656–3,281 feet), fishes and some invertebrates have developed special adaptations that enable them to live under higher water pressure, lower oxygen levels, and darkness. Many small midwater fishes and zooplankton feed on phytoplankton by migrating hundreds of meters to the surface layer after sunset and then returning to their midwater habitat at dawn.

Estuarine Habitat and Seagrass Beds

An estuary is a water body that has regular exchange and interaction with ocean water, or a marine embayment with no more than a temporary separation from seawater (Airamé et al, 2003). Estuaries represent the confluence of terrestrial, freshwater, and marine ecosystems, creating multiple, unique habitats supporting highly diverse communities and providing important ecosystem services (NOAA, 2015). There are a few large and many small estuaries along the California central coast in the study area; however, Morro Bay Estuary is the largest in the study area and is an established unit of the NEP. Estuaries are among the most productive natural ecosystems. Their physical, chemical, and biological characteristics are critically important to sustaining living resources. Estuaries serve as important habitats for many fishes, birds, and mammals (Caffrey et al., 2002; Zedler, 1996; Zedler et al., 2001). They provide

suitable microhabitats for reproduction, feeding, resting, and cover. Phytoplankton is the primary vegetation in the open water portion of these habitats, while seagrasses dominate the channels and benthos supporting a unique assemblage of invertebrates and fishes. Seagrasses also provide ecosystem services, including secondary production, habitat for many other species, shoreline protection, and carbon sequestration (Hughes et al., 2013). Many fishes spawn in seagrass beds and use the seagrass beds as a nursery habitat. Large numbers of shorebirds and waterfowl are attracted to seagrass beds, where they feed on the seagrass, fishes, and invertebrate eggs and young. Estuary habitats stock juvenile fish at high densities and act as critical nurseries for fish populations in surrounding coastal areas. Additionally, numerous predators come to estuaries to feed from nearby habitats. Morro Bay is also an important nesting habitat for birds that have linkages in other marine habitats. This makes Morro Bay a highly connected habitat to other locations along the coast regionally. That connectivity likely diminishes with distance so areas near the bay benefit most and decline toward Point Conception.

Continental Shelf and Slope

The continental shelf is the gradually-sloping submerged margin of a continent that extends from shore to the shelf break. The shelf break is where the continental slope descends off into a steep slope. This occurs in the study area west of Santa Lucia Bank as the depth drops significantly. Shelf and slope habitats are home to important resources like flatfish, grenadiers, angel sharks, and other fish species. The shelf edge is marked by the abrupt break in slope that occurs at a depth of approximately 99–124 meters (325–407 feet) (Greene et al., 2002). The continental slope usually begins at 131 meters depth and ends at approximately 3,000 meters (9,843 feet). The continental slope, together with the continental shelf, is called the continental margin.

Macroalgae and Plants

Macroalgae (i.e., seaweed) and marine plants (i.e., seagrasses) are habitat-forming primary producers that grow in intertidal and shallow subtidal waters, generally less than 30 meters (98 feet) deep, where enough light penetrates for photosynthesis. The study area supports a rich array of benthic algae and seagrasses. These algae and marine plants are critical to the life history of many of the invertebrates, fishes, seabirds, and marine mammals found locally. For example, giant kelp and bull kelp form extensive underwater forests on rocky substrates at shallow subtidal depths. The study area's impressive kelp forests are important not only ecologically, but also for recreational and commercial activities including fishing, diving, and tourism. Kelp beds are highly productive habitats and serve as important nursery habitat for juvenile fishes in the upper canopy (Carr, 1994). They also provide food, attachment sites, and shelter for a diverse assemblage of invertebrates and other species of algae on the benthos, throughout the water column, and in the root-like structure called the kelp holdfast (Dayton, 1985; Graham, 2004).

There are two types of marine flowering plants in the proposed sanctuary. Surfgrass (*Phyllospadix* spp.) occurs in rocky intertidal and shallow subtidal areas. Eelgrass (*Zostera pacifica*) occurs in soft bottom subtidal areas. These plants form productive and complex habitats that provide food and refuge for a wide variety of marine species, including recreational

and commercially important fish and invertebrates (den Hartog, 1970; Orth et al., 1984; Hemminga and Duarte, 2000). Seagrass beds provide nursery habitat (reviewed in Heck et al., 2003) and are important for nutrient cycling (Costanza et al., 1997) and substrate stabilization (Fonseca and Fisher, 1986). In Morro Bay, common California eelgrass (*Zostera marina*) has been shown to be critical to sustaining marine life abundance but has experienced extent declines of over 95% in the region (O’Leary, 2021).

Fish

More than 400 species of fish have been documented in the study area, which constitutes a greater species richness than nearby coastal regions due to its presence across a marine transition zone at Point Conception (Allen et al., 2006). The confluence of the warmer Davidson Current and cooler California Current creates a wide swath of environmental conditions that support fish with a diversity of thermal affinities (Freedman et al., 2020; Allen et al., 2006). Some of the common nearshore kelp bed- and rocky reef-associated fishes in the study area include bat rays, blacksmith, seniorita, kelp bass, garibaldi, and California sheephead. Common important groundfish found within the study area include but are not limited to bank rockfish, bocaccio, cowcod, chilipepper rockfish, Dover sole, English sole, sablefish, and widow rockfish. Coastal pelagic and highly migratory fish species include bonito, white sea bass, yellowtail, albacore, blue shark, jack mackerel, northern anchovy, opah, Pacific mackerel, Pacific northern bluefin tuna, Pacific sardine, shortfin mako shark, skipjack tuna, striped marlin, swordfish, thresher shark, white shark, and yellowfin tuna (Love, 2011). White sharks are a key top predator species in the study area and have additional protections from the state of California and other nearby national marine sanctuaries. The population status, structure, and connectivity of sub-adult and adult white shark aggregations are poorly understood; however, telemetry data suggest that the study area is an important foraging ground and experiences some connectivity with aggregation sites at CINMS, MBNMS, and Greater Farallones National Marine Sanctuary (GFNMS). White sharks are shown to use Morro Bay and Point Conception frequently on telemetry arrays, but limited coverage of receivers may mean research is missing some key other areas. Given that these sharks are likely using the area as a foraging ground due to the high abundance of marine mammal prey, it is important to ensure these individuals are receiving sufficient protections to continue their recovery in the region.

Seabirds

The study area is located along the Pacific Flyway, a major migratory route for birds. The region acts as a stopover during the birds’ northerly (i.e., April through May) and southerly (i.e., September through December) migrations. In addition, the diversity of habitats in the study area provides breeding and nesting sites for many resident species, which then forage in study area waters. Recent modeling indicates that birds in the study area are more species-rich than neighboring sanctuaries and represent a higher proportion of species that breed outside of the California Current than any other west coast sanctuary (Leirness et al., 2021; Russell, 2023).

Nearshore species generally occupy relatively shallow waters inshore of the continental slope waters. These species spend almost their entire time on the water surface. In the study area, common nearshore species include red-throated, Pacific, and common loons; western grebes; surf and white-winged scoters; and Brandt’s and pelagic cormorants. Pelagic species generally

occupy deeper waters over the continental shelf break (>200 meters (656 feet)) and can occur in substantial densities far from shore (Ainley & Terrill, 1996). Common offshore species include sooty, pink-footed, Buller's, and black-vented shearwaters; northern fulmars; and pomarine, parasitic, and long-tailed jaegers.

In addition to seabirds, numerous waterbirds and shorebirds occupy coastal and estuarine habitats in the study area. Morro Bay is an important wintering area for black brant, with as many as 5,000 individuals occurring there (Chiple et al., 2003). Other waterfowl present from fall through spring include Canada goose, blue-winged teal, cinnamon teal, northern shoveler, gadwall, American wigeon, mallard, northern pintail, green-winged teal, and bufflehead. Large numbers of shorebirds are present during much of the year with tens of thousands stopping over during migration (Chiple et al., 2003). Shorebirds wintering in large numbers include marbled godwits, willets, and long-billed curlews. Nearly 40 shorebird species use a variety of habitats in the Morro Bay area. Many of the locally occurring shorebirds are migratory in this area, with the majority occurring during the spring and fall migrations and during the winter; very few shorebirds breed in this area. Although most shorebirds occupy coastal wetlands, including estuaries, lagoons, and salt and freshwater marshes, they also utilize other coastal habitats, including sandy beaches, rocky shores, and open ocean.

Sea Turtles

Four sea turtle species have been reported in the offshore Southern California region and around the study area: green, leatherback, loggerhead, and olive ridley. All four sea turtle species are listed as endangered under the ESA (16 U.S.C. § 1531 *et seq.*), and three of the four species are rarely sighted within the study area because of range limits (green, loggerhead, and olive ridley), decreased populations, and their typical migratory habits.

Leatherback sea turtles have the most extensive range of any living reptile and have been reported circumglobally throughout the oceans of the world, but their migratory routes are not entirely known. The study area does include the main feeding habitat for leatherback sea turtles, which stretches along the California coast from Point Arena to Point Arguello east of the 3,000-meter (9,843-foot) depth contour. There are numerous documented leatherback sea turtle sightings along the Pacific coast of North America during the summer and fall months, when large aggregations of jellyfish form, on which they prey.

Marine Mammals

The study area shoreline and surrounding waters support a great diversity of marine mammals, including whales, pinnipeds, and sea otters. These species depend on a large volume of seasonal food resources. The abundance and distribution of marine mammals can serve as an indication of the general health and ecological integrity of the study area's marine ecosystem. At least 33 species of cetaceans have been reported in the area (C.J. Rennie, Santa Barbara Museum of Natural History, pers. comm.; Leatherwood et al., 1987), with 18 regularly observed (Becker et al., 2020; Office of National Marine Sanctuaries, 2019). Prominent species include blue whale, fin whale, orca, bottlenose dolphin, California gray whale, humpback whale, Pacific white-sided dolphin, Risso's dolphin, beaked whales, and short-beaked and long-beaked common dolphin. The study area provides vital habitat for pinnipeds, offering important feeding areas, breeding sites, and haul outs. Six species of pinnipeds have historically occurred in the region: California

sea lion, Guadalupe fur seal, northern fur seal, northern elephant seal, Pacific harbor seal, and Steller sea lion. The most common pinniped in the region is the California sea lion, with nearby San Miguel Island serving as one of the largest rookeries in the world. The least common pinniped in the proposed sanctuary is the Steller sea lion; the proposed sanctuary is at the southern edge of its range. Finally, the southern sea otter (*Enhydra lutris*) is listed as threatened under the federal ESA and is considered depleted and protected under the MMPA (16 U.S.C. § 1361 *et seq.*). In general, the California population of southern sea otter has been slowly increasing in recent years, particularly in the center portion of the mainland range (U.S. Fish and Wildlife Service, 2021). However, in the southern portion of the mainland range (Cayucos to Gaviota), the population has been slowly decreasing in recent years, likely a result of white shark predation (U.S. Fish and Wildlife Service, 2021).

Invertebrates

The total number of marine invertebrate species in Southern California may be in excess of 5,000, not including microinvertebrates (Smith & Carlton, 1975; Straughan & Klink, 1980). Common and ecologically important invertebrates in the study area include abalone, anemones, barnacles, clams, corals, gorgonians, crabs, jellyfish, mussels, nudibranchs, prawns, salps, scallops, sea cucumbers, sea slugs, sea stars, sea urchins, snails, chitons, limpets, sponges, bryozoans, copepods, euphausiids, prawns, spiny lobster, squid, tunicates, and worms. The high biodiversity of invertebrates supports fisheries, provides ecological stability, and provides habitat to a number of species in the region.

The study area includes habitats for two endangered marine invertebrates: black abalone (*Haliotis cracherodii*, endangered) and white abalone (*Haliotis sorenseni*, endangered). Black abalone are typically found in intertidal areas where they feed on kelp and other drifting algae. Comparatively, white abalone are usually found at depths of 50–180 feet (making them the deepest living abalone species) and have a diet consisting of a wide variety of algae. Both species have experienced declines from overfishing and diseases.

The study area is also home to numerous habitat-forming invertebrate species, most prominently in deep water with deep-sea corals and sponges that support groundfish populations. Deep-sea corals and sponges are poorly understood but occur in deep waters (typically > 100 meters (328 feet)) on rocky substrates. These deep-sea coral gardens are often protected as EFH under the MSA (16 U.S.C. § 1801 *et seq.*), but there is a large gap in knowledge about their extent.

Introduced Species

In the study area, numerous introduced species have been recorded. Introduced species are species that have appeared in habitats in which they have historically not been present due to human introduction, where the species also has the potential to degrade habitat, outcompete native species, and disrupt ecosystem processes. The most prominent introduced species in the study area is *Watersipora subtorquata*, which is a red encrusting red bryozoan. It is commonly found on piers and oil rigs, where it outcompetes native species. There have been individual *Watersipora* colonies spotted in Morro Bay (Cal Poly, 2022). There are two introduced algae species in the region that also extend into some sections of the study area: *Sargassum hornei* and *Undaria pinnatifida*. *Sargassum* has quickly spread in some parts of the Channel Islands to

displace native species and has the potential to cause ecological and economic harm. All three of these introduced species are potentially spread by vessels and have proliferated in the Santa Barbara Channel. There are several ongoing monitoring programs that record observations of introduced species as part of their standard procedures, so ONMS is hopeful that early detection can be achieved (Office of National Marine Sanctuaries, 2019).

Protected Species and Habitats

This section describes biological species and associated habitats that are protected by the ESA (16 U.S.C. § 1531 *et seq.*), the MMPA (16 U.S.C. § 1361 *et seq.*), and the MSA (16 U.S.C. § 1801 *et seq.*). The MSA is administered by NOAA Fisheries. Both NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS) administer the MMPA and the ESA. Each set of species is sub-grouped for further description by jurisdiction.

Section 7 of the ESA requires federal agencies to consult with USFWS and/or NOAA Fisheries, as applicable, before initiating any action that may affect a listed species or designated critical habitat. This EIS provides information about the potential impacts of the Initial Boundary Alternative and alternatives on protected species and designated critical habitat in the study area. As discussed below, ONMS believes implementation of the Initial Boundary Alternative and other action alternatives identified in this draft EIS is not likely to adversely affect any species listed as threatened or endangered, or habitats critical to such species, under the ESA. Concurrent with public review of this EIS, ONMS will initiate informal consultation with NOAA Fisheries and USFWS under section 7 of the ESA to ensure that the preferred alternative for sanctuary designation will be compliant with the ESA. See Appendix E for more details on ESA section 7 consultation, and Appendix G for lists of protected species.

Species and Critical Habitat Protected Under the ESA

Under the ESA, USFWS manages the protection of, and recovery effort for, listed terrestrial and freshwater species, and NOAA Fisheries manages the protection of, and recovery effort for, listed marine and anadromous species. The ESA protects plant, fish, and wildlife species (and their habitats) that are listed as **endangered** and **threatened**. A species is defined as **endangered** if it is at risk of extinction throughout all, or a significant portion of, its range. A species is defined as **threatened** if it is likely to become endangered within the foreseeable future. When USFWS or NOAA Fisheries lists a species under the ESA, they are required to determine whether critical habitat exists. **Critical habitat** is defined as (1) specific areas within the geographical area occupied by the species at the time of listing that contain physical or biological features essential to conservation of the species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species only upon a determination that such areas are essential for the conservation of the species (16 U.S.C. § 1532(5)(A)).

Species Protected Under the MMPA

The MMPA of 1972 (16 U.S.C. 1361 *et seq.*), as amended, prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the country. The MMPA defines “take” as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any

marine mammal” (16 U.S.C. § 1362). See Appendix G.3, Table G.3-1 for a list of species protected under the MMPA that could occur in the study area.

Species and Critical Habitat Under USFWS Jurisdiction

ONMS used the USFWS Environmental Conservation Online System (ECOS) Information for Planning and Conservation (IPaC) tool to search for ESA-listed species that may be present in the study area. The ECOS IPaC tool identified 38 species listed as endangered, threatened, proposed endangered, or candidate under USFWS jurisdiction that could occur in the study area, as well as designated critical habitat for six species (western snowy plover, California red-legged frog, tidewater goby, Morro shoulderband snail, Morro Bay kangaroo rat, and Gaviota tarplant) (U.S. Fish and Wildlife Service, 2022). See Appendix G.1, Table G.1-1, for all potential species with special protections under USFWS jurisdiction. See Appendix G.1, Table G.1-2 for ESA-listed species under USFWS jurisdiction with critical habitat in the study area.

Species and Critical Habitat Under NOAA Fisheries Jurisdiction

ONMS identified 22 ESA-listed species (or distinct population segments (DPS)/evolutionarily significant units (ESU)) under NOAA Fisheries jurisdiction that are expected to be present in the study area and could be affected by the Initial Boundary Alternative or action alternatives. Three of these species have designated critical habitat in the study area (humpback whale, black abalone, and leatherback sea turtle). See Appendix G.3, Table G.3-1 for the complete list of ESA-listed species under NOAA Fisheries jurisdiction, as well as species protected under other statutes. See Appendix G.3, Table G.3-2 for ESA-listed species under NOAA Fisheries jurisdiction with critical habitat in the study area.

Further, there are several dozen species or DPS/ESU that, while present on the U.S. West Coast, are not expected to occur in the study area or that proposed sanctuary activities would not affect. Appendix G provides the names of those species not expected in the study area.

EFH Protected by the MSA

The study area overlaps with EFH and Habitat Areas of Particular Concern (HAPCs) for various federally-managed fish species within the Pacific Coast Groundfish, Coastal Pelagic Species, and Highly Migratory Species Fishery Management Plans. EFH is defined as “those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 U.S.C. § 1802(10); GMFMC, 2005; NOAA, 2009). NOAA Fisheries’ EFH regulations encourage regional Fishery Management Councils to designate HAPCs within areas identified as EFH to focus conservation priorities on specific habitat areas based on several factors, including importance of the ecological function of the habitat and threats and stressors to the habitat (50 C.F.R. part 600, subpart J). HAPCs help focus research and conservation efforts on localized areas that are especially important ecologically or are vulnerable to degradation. HAPCs are subsets of the total area necessary to support healthy stocks of fish throughout all of their life stages. HAPCs have been designated for various federally-managed fish species within the Pacific Coast Groundfish Fishery Management Plan.

Among these, HAPCs found within the study area include eelgrass/seagrass, canopy kelp, rocky reefs, and a network of federal and state marine reserves and marine conservation areas. Regarding eelgrass/seagrass, it is NOAA Fisheries’ policy to recommend no net loss of eelgrass

habitat function in California (NOAA Fisheries, 2014). Specifically, these groundfish EFH areas include Point Conception EFH (518,320,000 acres); East San Lucia Bank EFH Conservation Area (43,105,280 acres); Big Sur Coast/Port San Luis EFH (1,875,028,480 acres); Southern California Bight EFH Conservation Area (711,087,360 acres). In all of these EFH areas, use of bottom contact fishing gear is prohibited under the applicable fishery management plan.

Under the MSA, federal agencies must consult with NOAA Fisheries on any action that may adversely impact EFH. See details regarding EFH consultation in Appendix E.7. See Appendix G.4, Table G.4-1 for a list of EFH overlapping with the study area, and Appendix G.4, Table G.4-2 for a list of HAPCs overlapping with the study area.

Species Protected Under the MBTA

The MBTA (16 U.S.C. § 703 *et seq.*) authorizes federal protection for migratory birds in the U.S. The MBTA makes it unlawful without a permit from USFWS to pursue, hunt, take, capture, kill, or sell migratory birds (16 U.S.C. § 703). Of the over 800 listed migratory bird species protected under the MBTA (50 C.F.R. § 10.13), 53 species may be found transiting, resting, or foraging within the study area. See Appendix G.2, Table G.2-1 for a list of the migratory birds potentially present in the study area.

4.3.2 Impact Assessment Methodology (Biological Resources)

Criteria to determine the significance of impacts on biological resources are based on federal, state, and local standards and regulations. Impacts on biological resources were evaluated by determining the sensitivity, significance, or rarity of each resource that could be affected by the Initial Boundary Alternative or alternatives. A mix of expert knowledge, monitoring data, and published research were used to determine impacts on natural resources and thresholds of significance to determine if the impact constitutes a significant impact. The significance threshold may be different for each habitat type, species, or location. Impacts may be either direct or indirect.

Direct impacts on biological resources result when biological resources or important habitats are altered, destroyed, or removed during the course of implementation. Indirect impacts on biological resources may occur when project-related activities result in environmental changes that indirectly influence the survival, distribution, or abundance of native species (or increase the abundance of an introduced species). Examples of indirect impacts include effects of noise, presence of chemical contamination, or incidence of human activity that may disturb or harm wildlife (i.e., scuba and other non-extractive recreational activities). It is also possible to have beneficial impacts, directly or indirectly. Finally, impacts may be short term or long term. Short-term impacts are less likely to be considered significant.

In sum, for this analysis an alternative was considered to have a significant adverse impact on the biological environment under any of the following circumstances:

- It would have an impact well outside the natural range of variability of a protected species' population, habitat, or the natural processes sustaining it. Impacts could include extensive (i.e., affecting a large proportion of the local population), life-threatening, or causing debilitating injury and mortality and substantial disruption of communication or

time sensitive behaviors such as breeding so that the continued viability of the local population is seriously threatened.

- It would have a substantial adverse effect on a species, natural community, or habitat that is recognized for scientific, recreational, ecological, or commercial importance.
- Any fish, marine mammal, seabird, or wildlife migration routes would be impeded for a period that would significantly disrupt that migration.
- It would alter or destroy habitat in such a way that would prevent biological communities that inhabited the area prior to the project from reestablishing themselves.
- It would alter or aid the spread of invasive species into new habitats.
- It would impact habitat quality, ecosystem resiliency or ecosystem functionality in some way.
- It would extensively alter or cause the loss of biological communities in high-quality habitat for longer than one year. or
- It would allow biological resources to be exploited in ways inconsistent with the plans and policies of the ONMS or would otherwise violate the ONMS or NOAA program regulations.

For beneficial impacts, ONMS considers such impacts to be significant if an alternative would result in long-term protection from harm, injury, or take; long-term protection of habitat; or other complementary support that would reasonably be expected to contribute to long-term viability or sustainability of a species, population, or biological setting.

For this analysis, assessing specific potential impacts on biological resources is based on looking at the biophysical implications of each proposed and alternative action considered in relation to the known presence and extent of biological resources in the relevant areas. Parameters for assessment include the following:

- Relative importance or value of the resource affected (e.g., its legal, commercial, recreational, ecological, tribal community, or scientific value).
- The resource's relevant occurrence in the region.
- Sensitivity of the resource to the proposed action either directly or indirectly.
- Anticipated physical extent of the potential impact.
- Anticipated duration of the ecological ramifications of the potential impact.

Where relevant, the importance or value of each biological resource is evaluated based on the following criteria (listed in order of importance):

- Designation of the resource by federal or state resource agencies (e.g., USACE and the USFWS) as a high value or sensitive resource.
- Known or presumed regional sensitivity and resilience of the resource.
- Known or presumed local significance of the resource.

The overall methodology, including data sources and assumptions, used to conduct the biological resources impact evaluation is consistent with NOAA NEPA guidelines (NOAA Administrative Order 216-6A).

4.3.3 Environmental Consequences of the Initial Boundary Alternative (Biological Resources)

Designation of a sanctuary, enacting the proposed regulations, and conducting supporting research would have beneficial and adverse impacts on the biological resources in the study area.

Beneficial Impacts of the Initial Boundary Alternative on the Biological Setting

The following direct and indirect beneficial impacts on the biological setting would result from implementing the proposed sanctuary regulations and management plan and conducting routine field activities.

Direct Protection Through Sanctuary Regulations or the Management Plan

Implementing the proposed sanctuary regulations outlined in Section 3.2.2 would protect marine habitats and species due to prohibitions on certain activities that would otherwise degrade habitats used by marine species or directly harm marine species, such as: (1) alteration of or construction on the seabed; (2) certain discharges into the sanctuary; (3) taking or possessing any marine mammal, sea turtle, or seabird except as authorized by other federal statutes; (4) attracting any white shark; (5) deserting a vessel (see Section 4.4.3 for more discussion on the benefits of this prohibition); and (6) introducing an introduced species. Implementing these prohibitions would provide direct resource protection benefits by protecting important biological habitat for living resources in the proposed area and reducing direct disturbance of living resources. Through direct protection and permitting authority, the new sanctuary under the Initial Boundary Alternative could limit the spatial domain of wind energy impacts including inadvertent take of resources, impacts on upwelling (California Ocean Protection Council, 2021), and seafloor alteration from cable installation.

Marine species that make their home or forage within benthic habitats and sediment benefit from compliance with these regulatory prohibitions because of the avoidance of injury, habitat disturbance, or destruction. Additionally, many ecosystem engineers like kelp or seagrass would benefit from limited seafloor disturbance and continue to provide bottom-up ecosystem effects on other species. Some ecosystems would benefit from additional protections outlined in Section 3.2.2, most notably Rodriguez Seamount. NOAA Fisheries, through EFH conservation actions under the MSA, has already prohibited bottom trawling on and around Rodriguez Seamount. Additional protections provided to the seamount by the proposed sanctuary regulations would protect the high biodiversity and deep-sea habitat on the seamount. Long life histories and slow growth of deep-sea resources mean direct adverse impacts have long recovery times in these habitats; so additional protections for resources 1,500 feet below sea level (roughly 750 ft above the top of the seamount) would add critical additional risk mitigation for these sensitive resources.

Beyond just habitat protection, white sharks, a species protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and by the state of California, would also be protected under the Initial Boundary Alternative through the proposed regulatory prohibition on attracting any white shark (defined to include conducting any activity

that lures or may lure a shark by using food, bait, chum, dyes, decoys, acoustics, or any other means except the mere presence of human beings). Telemetry data suggest that the coastal areas within the proposed boundary are important foraging grounds for young adult and adult white sharks. These populations likely experience connectivity with populations in other nearby national marine sanctuaries and warrant similar protections and rules to limit behavioral alteration and training of individuals to vessels. Attraction of white sharks is an issue that has been controlled through the sanctuary permit process at other west coast national marine sanctuaries (i.e., GFNMS, MBNMS, and CINMS) and should be replicated here given the species' current recovery status and unknown population structure. Prohibition of attracting white sharks would limit the species training to cue on vessels and limit unregulated ecotourism or poaching that could negatively impact and harass individuals. There has been increased attention on white sharks in recent years in the scientific/research community and in popular media, and there is a significant risk to these animals from unregulated ocean use of attractants. Attraction of white sharks may also pose a risk to other ocean users, as sharks would be trained to approach people more often if they are in areas where attractant use is common. Activity WD-1.5 in the draft management plan's Wildlife Disturbance Action Plan would monitor white shark activity and potential disturbance (typically attraction), with the goal of better understanding the white shark population, areas frequented by white sharks, and if attraction is occurring (usually associated with cage diving or viewing from boats).

Some historical resources function in the marine environment as structures that provide valuable three-dimensional habitat for marine life. Therefore, efforts to minimize or avoid disturbance of historical resources within the sanctuary (see Section 4.5) not only protect these important resources, but also reduce the likelihood of adverse impacts on marine biota using these sites as habitat. In addition, conducting a climate vulnerability assessment as part of the Climate Change Action Plan would provide sanctuary managers with tools to identify those living resources at greatest risk from a changing climate and better data to inform direct resource protection interventions.

The beneficial impacts of the Initial Boundary Alternative on oceanography and upwelling are described in Section 4.2.3.

Indirect Protection Through Enhanced Management and Stewardship

As part of the proposed sanctuary management plan, NOAA's implementing research and monitoring programs would provide sanctuary managers with information to guide decisions related to management of sanctuary resources, resulting in enhanced resource protection of marine species and their habitat. Specifically, supporting, promoting, and coordinating scientific research, characterization, and long-term monitoring in the proposed sanctuary would increase understanding of the structure, function, resilience, and status of the resources the proposed sanctuary would manage. An increased knowledge of the processes, dynamics, and responses of these systems to both human-induced and natural changes would improve long-term management of these resources and their habitats in the sanctuary. In addition, under the Initial Boundary Alternative, implementing resource protection and emergency response activities to remove hazards and introduced species from the waters of the sanctuary, would reduce or avoid disturbance of important habitats, reduce risk of collisions with or entanglement of marine

species, and mitigate any adverse impacts from hazardous spills on living marine species in the sanctuary. Some additional specific benefits include:

- Developing management action plans on topics of emerging concern (e.g., climate change) and ongoing management efforts (e.g., research and monitoring).
- Facilitating the recovery of ESA-listed species.
- Limiting release and spread of introduced species via proposed regulatory prohibitions and via management actions to remove such species.
- Developing best management practices to mitigate impacts on sanctuary resources.
- Working with partners to further ecosystem-based management approaches.

Some of the proposed management plan's goals are to increase understanding of sanctuary resources, to maintain and improve the status of sanctuary resources, and to maintain or increase efforts to reduce threats to sanctuary resources. As detailed in the action plans for Climate Change, Research and Monitoring, and others, the proposed sanctuary management plan would focus on addressing emergent environmental concerns in the sanctuary (e.g., marine debris, ship strikes, installation of offshore wind energy infrastructure) as well as expanding work in ongoing priority areas (e.g., wildlife entanglement, invasive species, ocean noise). The action plans propose various strategies and activities to help further these goals, for example:

- Evaluating impacts and vulnerability of resources to climate change.
- Assessing and facilitating local and regional ecosystem connectivity.
- Collaborating with fishery management agency partners to further ecosystem-based management approaches and advance understanding and management of fish aggregation sites.
- Continuing research on seabird ecology, habitat use, and contaminant loads as well as risk from offshore wind implementation.
- Expanding outreach programs to improve compliance with speed seasonal management areas for local cetaceans.
- Monitoring the sources and levels of noise producing activities and appropriate mitigation in the sanctuary.
- Monitoring, mitigating spread, and removing introduced species.
- Continuing research on habitat uses by living resources in the sanctuary and ecosystem service impacts of sanctuary management activities.

Through these efforts to expand research, outreach, and education activities, NOAA has the potential to expand the knowledge base and promote ocean stewardship principles among partners, tribal and other local communities, and the general public. NOAA could achieve this through publishing scientific research findings, formal and informal education programming, and outreach programs. These activities create an opportunity to influence the behavior and decision-making of individuals, communities, organizations, and agencies in ways that could indirectly benefit living marine resources within the sanctuary. For example, NOAA staff would support regional coordination to share information, increase capacity, evaluate the effectiveness of relationships, strengthen Sanctuary Advisory Council relationships with partners, and engage with international groups, tribes, Indigenous communities, nations, and organizations. This collaboration with agencies with overlapping management authority with NOAA would aim to

further protection of sanctuary resources while allowing each agency to achieve their respective missions.

In addition, interpretive programming and citizen science programs like the Long-term Monitoring Program and Experimental Training for Students (LiMPETS) program would provide the public with valuable opportunities to collect data and learn about the sanctuary while experiencing it first-hand. This program would provide long-term benefits to efforts to protect biological resources, particularly coastal resources, by teaching people how to be coastal stewards. For example, educating the public about and promoting the responsible use of sanctuary resources could reduce habitat and/or wildlife disturbances from other recreational uses of the sanctuary by ensuring that the public is aware of the need to avoid or minimize impacts on habitat for marine species.

All of these activities are intended to provide beneficial impacts on the sanctuary's living marine resources and/or biological habitat, or to address ongoing impacts of climate change. The magnitude of the potential beneficial impacts of some of these specific activities would largely depend on actions undertaken by partner agencies with direct regulatory authority over protection of certain species or habitat types.

Summary of Beneficial Impacts on the Biological Setting

Implementing the Initial Boundary Alternative would provide direct benefits from implementing the proposed regulations and indirect benefits through increased information to guide resource protection decisions, coordinate resource management, and promote ocean literacy and stewardship. Therefore, designating the Initial Boundary Alternative would have **long-term, significant beneficial impacts** on the living marine resources and habitats in the sanctuary.

Adverse Impacts of the Initial Boundary Alternative on the Biological Setting

Minor physical or acoustic disturbance, including temporary displacement of marine species could result from NOAA or its partners conducting research, monitoring, or resource protection activities to implement the proposed sanctuary management plan. These activities could include vessel use, scuba diving, deploying buoys and research or monitoring equipment, sampling organisms, removing materials (e.g., marine debris), deploying uncrewed underwater systems, deploying uncrewed aerial systems, deploying active acoustic equipment and towed instrument arrays, and seabird, fish and whale tagging studies. NOAA would avoid or minimize disturbance of living marine resources by:

- Posting a dedicated marine mammal observer during vessel operations to avoid collisions with marine mammals.
- Maintaining safe distances from any observed large whales and other protected species.
- Postponing deployment of equipment when marine species that could be potentially entangled are present.
- Supervising deployed instruments or instrument cables while they are deployed to minimize risk of collision or entanglement with marine species.

- Ensuring all NOAA divers are trained and follow NOAA protocols to avoid harming or otherwise disturbing habitat or living marine resources.

If living marine resources were present in close proximity to any equipment or an activity's location, NOAA anticipates that any disturbance of the individual would be brief due to the short period of time NOAA-led activities would occur at a single location. Any avoidance would be localized and temporary, animals are expected to return to the area quickly after the vessel leaves the area, and abandonment of habitat is not expected. NOAA would follow protocols to minimize the risk of vessel strike or entanglement, or other direct disturbance, of living marine species during vessel operations and other equipment used to support sanctuary research, monitoring, and resource protection activities. Therefore, no population-level impacts on living marine resources would be expected due to NOAA-led activities.

The contribution of noise to the sanctuary soundscape from conducting sanctuary management activities would be minor related to the scope of existing activities in the region. Therefore, any acoustics effects on living marine resources from engine noise, movement of equipment through the water, and other underwater sound generated from propulsion machinery or depth sounders would be minor and temporary. Due to these operational protocols (see Appendix C for more details on best management practices), and the low intensity of NOAA's planned activities within the sanctuary, the likelihood of disturbance of living marine resources through conducting sanctuary management activities would be very low and any adverse impacts would be temporary. Implementing the Initial Boundary Alternative would result in **negligible or minor adverse impacts** on living marine resources and the biological setting in the proposed sanctuary for the following reasons: (1) sanctuary-led field activities would occur infrequently (up to 120 days at sea per year), would be periodic, and spread out in space and time; and (2) all ONMS vessels must comply with the operational protocols and procedures in the NOAA Small Boats Policy (NOAA Administrative Order 209-125)¹⁷ and ONMS best management practices, which reduce the risk of adverse impacts. Any future proposed NOAA field actions would be subject to the NEPA and environmental compliance process at the time, including any applicable NEPA reviews and statutory consultations.

Beneficial Impacts of the Initial Boundary Alternative on Protected Species and Habitats

This section summarizes the anticipated impacts of the Initial Boundary Alternative on the species and habitats that may occur in the sanctuary that are protected under the ESA, MMPA, MBTA, and the EFH provisions of the MSA, as detailed in Section 4.3. NOAA analyzed the potential impacts on ESA-listed species and designated critical habitat within the context of the ESA regulatory framework, including ESA-specific determinations regarding whether the proposed action may affect listed species and designated critical habitat (See Appendix E.4).

For the protected species described in Section 4.3.1, implementation of the proposed regulatory prohibitions would largely provide resource benefits by protecting biological habitat and reducing potential for direct disturbance or take. In addition, implementing resource protection, research, monitoring, outreach, and citizen science programs under the proposed sanctuary

¹⁷ <https://www.noaa.gov/organization/administration/nao-209-125-noaa-small-boat-safety-program>

management plan would improve the understanding, management, and protection of sanctuary resources and therefore provide beneficial impacts on the living marine resources and habitats in the Initial Boundary Alternative area, including supporting recovery efforts for these ESA-listed species. Examples of both regulatory and non-regulatory benefits include:

- Regulatory prohibitions on taking or possessing any marine mammal, sea turtle, or bird, with limited exception, and attracting any white shark within the sanctuary – these species would benefit from the reduction in risk of disturbance or take through implementation of these prohibitions.
- Regulation protecting the submerged lands (seabed) – seafloor habitats would benefit from the significant reduction in area that could be developed for future offshore oil and gas development and from sanctuary management and the application of the proposed regulations to areas with the potential for additional offshore wind energy development. This would mean, for example, that potential future offshore wind farms may be impeded from being developed within the federal waters of the sanctuary, and that the sanctuary could adopt mitigation measures to reduce the potential impact of subsea electrical transmission cables on sanctuary resources and qualities through the ONMS authorization provision and special use permit provision in the proposed regulations (see Section 4.7.3). In addition, the decommissioning and removal of offshore oil and gas facilities could have reduced impacts based on potential mitigation measures imposed by the sanctuary.
- Resource Protection Action Plan – whales transiting the proposed sanctuary, including ESA-listed whale species, would experience beneficial impacts from implementation of the newly-expanded ATBA at CINMS and into the proposed CHNMS, as well as voluntary vessel speed reduction programs that currently exist on either side of the proposed sanctuary designed to reduce the risk of fatal ship strikes, and could be expanded into the proposed sanctuary in the future.
- Outreach Programs – initiatives such as “Finding Hal”¹⁸ (a CINMS program) would similarly generate more scientific information on, identify suitable habitat for, and support potential out-planting of ESA-protected abalone species.
- Resource Protection – ONMS’s response to sanctuary resource emergencies, including oil spills and whale entanglements, would augment existing efforts, or be “first-time” programs, and thus also provide beneficial impacts on ESA-listed species within the proposed sanctuary and adjacent region.

In aggregate these **long-term, beneficial impacts** would be **direct** and **indirect**, and range between **minor** to **significant** for protected species and sanctuary habitats.

Adverse Impacts of the Initial Boundary Alternative on Protected Species and Habitats

The potential adverse impacts of the Initial Boundary Alternative on these listed species would also be the same as those described for all biological resources above. However, ONMS would implement additional protective measures and standing orders designed to reduce the risk of

¹⁸ See <https://findinghal.org/>

interactions with ESA-listed species, such as potential strikes on blue whales, humpback whales, or leatherback sea turtles, during sanctuary management actions. Activities involved in implementing the sanctuary management plan that have the most potential to affect listed species are:

- Operating sanctuary vessels.
- Deploying mooring buoys and research or monitoring equipment.
- Deploying uncrewed underwater systems, specifically ROVs.
- Deploying uncrewed aerial systems and operating piloted aircraft.

ONMS research that may impact protected resources or habitat would be conducted in accordance with any applicable new or existing NOAA Fisheries and USFWS permits and with additional protective measures from any permits ONMS would issue to its own science staff, or standing orders to supplement protective measures in cases where there is increased risk to protected resources and habitats, including:

- Following standing orders for vessel speed, operations around marine mammals, and nighttime operations.
- Posting at least one dedicated lookout for ESA and MMPA protected species during all vessel operations.
- Vessel operators remaining vigilant at helm controls and ready to take action immediately to avoid an animal.
- Slow deployment and constant supervision of equipment to minimize risks and avoid interaction with protected species.
- Using soft substrate areas for vessel anchoring and securing scientific equipment, avoiding hard substrate areas (potential abalone habitat).
- Securing NOAA authorization for any uncrewed aerial systems.
- Where direct take is involved, such as in whale-tagging operations, ensure that appropriate permits have been obtained from NOAA Fisheries or USFWS pursuant to ESA and MMPA.

Future proposed NOAA field actions would be subject to the NEPA and environmental compliance process at the time they are undertaken, including any applicable NEPA reviews and statutory consultations (and any additional mitigation measures arising out of those consultations, as applicable).

If any sanctuary management activities were to occur in close proximity to protected species, the activity could result in temporary disturbance. For example, a vessel or ROV could cause a whale or sea turtle to change swimming speed or direction, change vocalization rate or intensity, or have no reaction. This type of behavior modification would be temporary due to the limited number of ONMS planned activities, and the short period of time that such activities would occur at a single location. As such, these sanctuary management activities could cause **direct, short-term, negligible adverse impacts** on a listed species due to disturbance.

As with any vessel operation, sanctuary vessel operations have the potential to result in a collision with ESA-listed species, or species protected by the MMPA. The severity of potential injuries from a vessel strike would depend on the speed of the vessel, the part of the vessel that

strikes the animal, and the body part impacted. To minimize the risk of vessel collisions with whales or sea turtles, ONMS implements specific standing orders and protective measures for reducing vessel speed and spotting marine species from a distance. In addition, ONMS staff avoid running sanctuary vessels at night. On rare occasions when sanctuary vessels must be operated at night, staff do so at much lower speeds and with additional crew lookouts. As discussed in the prior section, any acoustics effects on living marine resources, including protected species, from engine noise, movement of equipment through the water, and other underwater sound generated from propulsion machinery or depth sounders would be minor and temporary.¹⁹ As such, given the low level of vessel trips that would occur annually as part of sanctuary management activities and compliance with the standing orders and protective measures listed in this section, the risk of potential **adverse impacts** from a collision with a listed or protected marine species would be **negligible**.

As part of the Initial Boundary Alternative, ONMS staff would deploy research or monitoring equipment and some tethered ROVs or other uncrewed underwater systems. A listed or protected species could become entangled if an individual encounters buoy lines, ROV tethers, or other filamentous attachments associated with research and sampling activities (e.g., deploying a conductivity, temperature, and depth monitor). Entanglements can cause physical damage to an animal through constriction, which can partially sever limbs or flippers, create penetrating injuries, and potentially immobilize an animal (Andersen et al., 2008). If an entanglement is severe enough, it may also result in drowning. To minimize the risk of entanglement, ONMS staff would postpone deployment of short-term devices when marine species that could be potentially entangled are present, and staff would closely monitor the instrument cables at all times while they are deployed. For gear that requires a mooring system, staff generally deploy subsurface floats rather than surface floats. The subsurface floats are typically at 20 feet below the surface or deeper, causing the buoy line to be fully, vertically stretched out at all times, resulting in an extremely low risk of entanglement. Because of these measures, it would be extremely unlikely that any listed species would come into contact with instrument cables or buoys during sanctuary management activities. Therefore, the risk of potential **adverse impacts** from entanglement for listed or protected whales, sea turtles, and fish would be **minor**.

Due to these additional operational protocols and the low intensity of NOAA's planned activities, the likelihood of disturbance of living marine resources and their respective habitats would be very low and any adverse impacts would be temporary. Implementing the Initial Boundary

¹⁹ Potential impacts from use of multibeam sonar during sanctuary management actions are anticipated to be limited to temporary behavioral disturbances of marine mammals within the mid- and higher-frequency hearing range (e.g., dolphins) with all sound exposures anticipated to be less than one minute. ONMS's multibeam and other active acoustic activities have been assessed programmatically pursuant to NEPA with those of other NOS programs, including the Office of Coast Survey, which conducts the majority of echo sounder surveys for the NOS (NOS Surveying programmatic EIS). As part of that programmatic review, the National Ocean Service has completed an informal section 7 ESA consultation with NOAA Fisheries and is undertaking a formal section 7 consultation with USFWS. NOS has also requested authorization for incidental take of marine mammals under the MMPA from both USFWS and NOAA Fisheries. ONMS would comply with all required mitigation when conducting activities under this NOS Surveying programmatic EIS within the proposed CHNMS. NOS Surveying programmatic EIS online at: <https://oceanservice.noaa.gov/about/environmental-compliance/surveying-mapping.html>.

Alternative would result in **negligible or minor adverse impacts** on living marine resources and their habitats in the proposed sanctuary for the following reasons: (1) sanctuary-led field activities would occur infrequently (up to 120 days at sea per year), would be periodic, and spread out in space and time; and (2) all ONMS vessels must comply with the operational protocols and procedures in the NOAA Small Boats Policy (NOAA Administrative Order 209-125)²⁰ and ONMS best management practices (see Appendix C), which reduces the risk of adverse impacts.

4.3.4 Environmental Consequences of Alternative 1 (Biological Resources)

Alternative 1, Bank to Coast, would establish the same regulatory protections for biological resources as the Initial Boundary Alternative but on a smaller spatial domain. The main difference between Alternative 1 and the Initial Boundary Alternative is that protections that would benefit biological resources would be absent for a swath of deep-water and pelagic habitat west of Santa Lucia Bank. However, the large spatial domain of Alternative 1 would still have **minor to significant beneficial impacts** on the living marine resources and habitats within the Alternative 1 action area. This section describes differences in impacts on biological resources between Alternative 1 and the Initial Boundary Alternative.

Beneficial Impacts of Alternative 1 on the Biological Setting, Protected Species, and Habitat

Alternative 1 would have similar beneficial impacts on biological resources to those described in Section 4.3.3, but on a reduced spatial domain. Data on what biological resources would lose this additional protection is limited; however, the geomorphology of the seafloor west of Santa Lucia Bank suggests potential areas for deep sea corals and other sensitive habitats. Excluding this area from the sanctuary boundary under Alternative 1 would potentially leave this deep-water habitat open for extractive resource development over the long-term; however, data on the presence and abundance of sensitive habitats is limited and presently there are no known plans for extractive activities in this area.

Significant beneficial impacts on species and habitats under the Initial Boundary Alternative related to sanctuary regulations and potential future voluntary vessel speed reduction programs that would reduce adverse effects from discharges, ship strikes with protected species, and noise pollution due to offshore shipping activities in the area west of Santa Lucia Bank, would be reduced under Alternative 1. This reduction, compared to the Initial Boundary Alternative, is due to the smaller area that would be included in the proposed sanctuary boundaries and the absence of sanctuary jurisdiction in the high vessel traffic area west of Santa Lucia Bank. If the PAC-PARS process ends up shifting shipping lanes further offshore over the next five years, the proposed sanctuary would not have future regulatory authority over those shipping lanes under Alternative 1. Therefore, **beneficial impacts** related to offshore shipping activities in this area would be reduced from significant to **moderate** under Alternative 1. See Section 4.8 for more

²⁰ <https://www.noaa.gov/organization/administration/nao-209-125-noaa-small-boat-safety-program>

discussion on the difference of impacts related to marine transportation between Alternative 1 and the Initial Boundary Alternative.

While there would be a spatial reduction and associated loss in sanctuary-regulated area for protected species and habitats such as deep-sea coral and side slope areas west of Santa Lucia Bank under Alternative 1 compared to the Initial Boundary Alternative, significant beneficial impacts would still exist for those species and habitats within the proposed sanctuary boundaries under Alternative 1, such as Rodriguez Seamount and other important habitats that would receive added protection from sanctuary regulations and management programs under Alternative 1. Therefore, although the overall level of beneficial impacts would be lessened compared to the Initial Boundary Alternative, the general **beneficial impacts** related to the biological setting, protected species, and habitats within the boundaries would still be **significant** under Alternative 1.

Adverse Impacts of Alternative 1 on the Biological Setting, Protected Species, and Habitat

Alternative 1 would have similar adverse impacts on biological resources described in Section 4.3.3, but on a reduced spatial domain. Adverse impacts associated with research in the offshore areas west of Santa Lucia Bank would likely be reduced under Alternative 1, as there would likely be a reduction of research effort in those areas due to their exclusion from the proposed sanctuary's boundaries. Alternative 1 would also require shorter vessel transits to conduct research in the rest of the sanctuary from Bank to Coast. However, research efforts in offshore areas are typically limited in comparison to nearshore areas due to expense and effort, so the reduction in adverse impacts associated with research activities would lead to **minor adverse impacts** under Alternative 1.

4.3.5 Environmental Consequences of Alternative 2 (Biological Resources)

Alternative 2, Cropped Bank to Coast, would establish the same regulatory protections for biological resources as the Initial Boundary Alternative but on a smaller spatial domain. The main difference between Alternative 2 and the Initial Boundary Alternative is that protections that would benefit biological resources would be absent for a swath of deep-water and pelagic habitat west of Santa Lucia Bank and nearshore habitats in Morro Bay. However, the large spatial domain of Alternative 2 would still have minor to moderate beneficial impacts on the living marine resources and habitats compared to the Initial Boundary Alternative. This section describes differences in impacts on biological resources between Alternative 2 and the Initial Boundary Alternative.

Beneficial Impacts of Alternative 2 on the Biological Setting, Protected Species, and Habitat

Alternative 2 would have similar beneficial impacts on biological resources to those described in Section 4.3.3, but on a reduced spatial domain. Data on what offshore biological resources would be excluded from Alternative 2 is limited; however, the geomorphology of the seafloor west of Santa Lucia Bank suggests potential areas for deep sea corals and other sensitive

habitats. Excluding this area from the sanctuary boundary under Alternative 2 would potentially leave this deep-water habitat open for extractive resource development over the long-term; however, data on the presence and abundance of sensitive habitats is limited and presently there are no known plans for extractive activities in this area.

In addition, sanctuary protections would not occur in Morro Bay, an area with sensitive reefs, kelp forests, estuaries, seagrass beds, and other nearshore habitats. Although the area has some existing protection due to its status in the USEPA's National Estuary Program, the proposed sanctuary would have a reduced role in managing and protecting biological resources.

Numerous nearshore habitats and biological resources in the biodiverse Morro Bay would not have sanctuary protection compared to the Initial Boundary Alternative. This includes critical habitat for ESA-listed sea otters, numerous protected marine mammals, and shorebirds. Morro Bay is home to one of the larger harbors on the central coast of California, experiences a large amount of pollution, and would be the likely landing location for offshore wind energy subsea electrical transmission cables, leaving it vulnerable to anthropogenic impacts.

Significant beneficial impacts on species and habitats under the Initial Boundary Alternative related to sanctuary regulations and voluntary vessel speed reduction programs that would reduce adverse effects from discharges, ship strikes with protected species, and noise pollution due to offshore shipping activities in the area west of Santa Lucia Bank and Morro Bay, would be reduced under Alternative 2 due to that area's exclusion from the proposed sanctuary boundaries. If the PAC-PARS process ends up shifting shipping lanes further offshore over the next five years, the proposed sanctuary would not have future regulatory authority over those shipping lanes under Alternative 2. Therefore, **beneficial impacts** related to offshore shipping activities in this area would be reduced from significant to **moderate** under Alternative 1, compared to the Initial Boundary Alternative. See Section 4.8 for more discussion on the difference of impacts related to marine transportation between Alternative 2 and the Initial Boundary Alternative.

While there would be a spatial reduction in sanctuary-regulated area for protected species and habitats such as deep-sea coral and side slope areas west of Santa Lucia Bank under Alternative 2 compared to the Initial Boundary Alternative, beneficial impacts would still occur for species and habitats such as Rodriguez Seamount and other important habitats in the area included in Alternative 2. The level of **beneficial impacts** would be **moderate** under Alternative 2, compared to "significant" for the Initial Boundary Alternative.

Adverse Impacts of Alternative 2 on the Biological Setting, Protected Species, and Habitat

Alternative 2 would have similar adverse impacts on biological resources described in Section 4.3.3, but on a reduced spatial domain. Adverse impacts associated with research in the offshore areas west of Santa Lucia Bank and in Morro Bay would likely be reduced under Alternative 2, as there would likely be a reduction of research effort in those areas due to their exclusion from the proposed sanctuary's boundaries. This reduction of research effort in Morro Bay would only contribute to a minor reduction in adverse impacts due to the relatively small size of the nearshore area compared to the proposed sanctuary area as a whole. Alternative 2 would also require shorter vessel transits to conduct research in the rest of the sanctuary from Bank to

Coast. However, research efforts in offshore areas are typically limited in comparison to nearshore areas due to expense and effort, so there would be a moderate reduction in adverse impacts associated with research activities under Alternative 2. Therefore, **negligible adverse impacts** would be expected under Alternative 2.

4.3.6 Environmental Consequences of Alternative 3 (Biological Resources)

Alternative 3, Diablo to Gaviota Creek, would establish many of the same regulatory protections for biological resources as the Initial Boundary Alternative but on a substantially smaller spatial domain. The main difference between Alternative 3 and the Initial Boundary Alternative is that protections that would benefit biological resources would be absent for large swaths of nearshore, deep water, and pelagic habitats around BOEM's potential wind lease areas, which would be outside of the boundaries for Alternative 3. This reduction of protection means that Alternative 3 would have **minor to moderate beneficial impacts** in comparison to the minor to significant beneficial impacts of the Initial Boundary Alternative. The sub-sections below describe how these differences in impacts on biological resources between Alternative 3 and the Initial Boundary Alternative manifest.

Beneficial Impacts of Alternative 3 on the Biological Setting, Protected Species, and Habitat

Alternative 3 would have considerably fewer or reduced beneficial impacts on biological resources described in Section 4.3.3 due to this alternative's smaller spatial domain. The proposed sanctuary would have a reduced role in managing and protecting biological resources. Numerous nearshore habitats and biological resources would be excluded from sanctuary protection compared to the Initial Boundary Alternative. Habitats affected by the change in spatial scale under Alternative 3 would include: sandy beaches, rocky shores, and kelp forests from Cambria to Diablo Canyon. Also, a large portion of the Santa Lucia Bank, and its sandy seafloor, pelagic and deep-water habitats would not be protected. The reduction of spatial protections under Alternative 3 would leave these habitats and the biological resources within them vulnerable to impacts that the Initial Boundary Alternative would prohibit or mitigate, including discharge, deposit, seafloor disturbance, take of marine mammals, sea turtles and birds, and other proposed regulations described in Section 3.2.2. Consequently, **beneficial impacts** under Alternative 3 would be reduced to **minor to moderate**.

Adverse Impacts of Alternative 3 on the Biological Setting, Protected Species, and Habitat

Alternative 3 would have similar adverse impacts on biological resources described in Section 4.3.3 but on a reduced spatial domain. Additionally, research impacts would likely be reduced, compared to the Initial Boundary Alternative, as there would likely be a reduction of research effort by ONMS in those areas. Therefore, under Alternative 3, **negligible adverse impacts** are expected.

4.3.7 Environmental Consequences of Alternative 4 (Biological Resources)

Alternative 4, Combined Smallest, would establish the same regulatory protections for biological resources as the Initial Boundary Alternative but on a much smaller spatial domain, which excludes both nearshore and deep-water habitat areas. The main difference between Alternative 4 and the Initial Boundary Alternative is that protections that would benefit biological resources would be absent for areas excluded from the proposed sanctuary's boundary under alternatives 1, 2, and 3. The sub-sections below explain how this means the designation of Alternative 4 would only have **minor beneficial impacts** in comparison.

Beneficial Impacts of Alternative 4 on the Biological Setting, Protected Species, and Habitat

Alternative 4 would have the fewest beneficial impacts on biological resources described in Section 4.3.3 because of its reduced spatial domain that combines the reductions in the proposed sanctuary's boundary from Alternatives 1, 2, and 3. A large swath of habitats and biological resources would not have sanctuary protection under Alternative 4 and therefore would not benefit from the protections the Initial Boundary Alternative would provide (as described in Section 3.2.2). The proposed sanctuary would have a reduced role in managing and protecting biological resources. Numerous nearshore habitats and biological resources would not have sanctuary protection compared to the Initial Boundary Alternative. This includes sandy beaches, rocky shores, kelp forests, the continental slope, sandy seafloor, pelagic habitat, and deep-water habitat as well as the sensitive resources they contain including marine mammals, fish, and seabirds. The alternative lacks protection west of Santa Lucia Bank and toward the mainland coastline, an area which data show has some biodiversity hotspots for seabirds (Russel, unpublished data).

The benefit for offshore upwelling provided by the Initial Boundary Alternative would likely be eliminated if Alternative 4 were designated because there could be a large new offshore wind farm developed on the Santa Lucia Bank, directly upwind of the upwelling center at Point Arguello/Point Conception. Therefore, under Alternative 4, **minor beneficial impacts** are expected.

Adverse Impacts of Alternative 4 on the Biological Setting, Protected Species, and Habitat

Alternative 4 would have similar adverse impacts on biological resources described in Section 4.3.3 but on the smallest spatial domain. Research impacts would likely be reduced compared to the Initial Boundary Alternative, as there would likely be a reduction of research effort by ONMS in those areas. Under Alternative 4, **negligible adverse impacts** are expected.

4.3.8 Environmental Consequences of Sub-alternatives 5a and 5b (Biological Resources)

The sub-alternatives 5a, to include Morro Bay Estuary, and/or 5b, Gaviota Coast Extension would expand protections to biological resources on top of those from the Initial Boundary

Alternative or other action alternatives within their respective spatial domains. The main difference between sub-alternatives and the Initial Boundary Alternative is that protections that would benefit biological resources would be expanded into Morro Bay Estuary under Sub-Alternative 5a, and along the state waters of the Gaviota Coast until Naples Point SMCA under Sub-Alternative 5b. The addition of these sub-alternatives to the Initial Boundary Alternative or another action alternative would have incremental **minor to moderate beneficial impacts** on biological resources. This section describes those incremental impacts.

Beneficial Impacts of Sub-alternatives 5a and 5b on the Biological Setting, Protected Species, and Habitat

Sub-Alternative 5a (Morro Bay Estuary) could be added to the Initial Boundary Alternative or Alternative 1 and would extend the same protections to biological resources as the Initial Boundary Alternative or Alternative 1 into the estuarine habitat of Morro Bay Estuary. Morro Bay Estuary is one of the largest estuaries in California and has existing regulatory protections within the Morro Bay SMR and Morro Bay SMR Management Area. It also contains one of the largest seagrass beds in the area but that resource is experiencing declines in recent years (Walter et al., 2020). Large numbers of shorebirds and waterfowl are attracted to seagrass beds, where they feed on the seagrass, fishes, and invertebrate eggs, and young. The estuary would benefit from the additional protections including the proposed regulatory prohibition on seafloor disturbance, which may help seagrasses recover from its recent decline. Adding Sub-Alternative 5a to the Initial Boundary Alternative or Alternative 1 would therefore have incremental **minor to moderate beneficial impacts** on biological resources.

Sub-Alternative 5b (Gaviota Coast Extension) could be added to the Initial Boundary Alternative or to any other action alternative and would expand the proposed sanctuary's boundary to include state waters along the Gaviota coastline. The Gaviota coastline is a relatively uninhabited area that has healthy kelp forests, sandy beaches, rocky shores, reef habitats and soft bottom habitats. Most notably, the proposed sanctuary would extend protections to two state MPAs under Sub-Alternative 5b, enhancing the conservation benefits from these special areas. The area is also home to a number of robust and biodiverse kelp forests that would benefit from additional protection under Sub-Alternative 5b. These kelp forests are well studied due in part to the Santa Barbara Channel Long Term Ecological Research project. Under Sub-Alternative 5b, these and other sanctuary resources would benefit from proposed research actions, water quality improvement efforts, and indirect benefits from the proposed sanctuary's public education and outreach efforts. This could include activities that synthesize ecosystem status and trends in Condition Reports, increase efforts on ONMS identified research gaps with science needs assessments and reduce research impacts through ONMS permitting and coordination. These areas would stand to benefit from enhanced protection that the sanctuary would provide. Adding Sub-Alternative 5b to the Initial Boundary Alternative or any of the action alternatives would therefore have incremental **minor to moderate beneficial impacts** on biological resources

Adverse Impacts of Sub-alternatives 5a and 5b on the Biological Setting, Protected Species, and Habitat

The Sub-alternatives would have similar adverse impacts on biological resources described in Section 4.3.3 but on a substantially smaller spatial domain. Research impacts on resources would expand into Morro Bay Estuary and the Gaviota Coastline as the sanctuary would likely require the same information needs from that area. However, the sanctuary could partner with the Morro Bay National Estuary Program and other research partners to limit research and biological impacts by reducing duplicative efforts. Overall, the incremental **adverse impacts** would be **short-term** and **minor**.

4.3.9 Environmental Consequences of No Action (Biological Resources)

Under the No Action Alternative, NOAA would not designate a national marine sanctuary. Implementation of the No Action Alternative would not result in any change in the existing management of the biological resources in the study area or any change in the existing uses of the study area. The No Action Alternative would forgo the numerous beneficial impacts as well as the several adverse impacts from implementing the Initial Boundary Alternative or any of the action alternatives on the biological resources in and around the proposed sanctuary. The benefit of implementing the proposed sanctuary regulations and draft management plan to provide comprehensive, long-term management of biological resources located within the proposed sanctuary would not occur under the No Action Alternative. Therefore, the No Action Alternative would have **no beneficial or adverse impacts** on biological resources.

4.4 Commercial Fishing and Aquaculture

This section identifies commercial fishing resources and catch data, and assesses potential impacts on this resource from establishing the proposed sanctuary. The study area for commercial fisheries consists of the proposed CHNMS area as defined by the Initial Boundary Alternative combined with the area of Sub-Alternative 5a, Morro Bay Estuary, and Sub-Alternative 5b, Gaviota Coast Extension. The primary data source for the analyses are commercial fish landings data collected and managed by the California Department of Fish and Wildlife (CDFW); documents reporting on commercial fish activity, impacts and marine resource management by the PFMC, CDFW, and NOAA (NOAA, 2014); and research conducted in the study area. Aquaculture activity does not currently occur in the area of the Initial Boundary Alternative or any action alternative except the area of Sub-Alternative 5a, Morro Bay Estuary.

4.4.1 Regional Overview of Affected Environment (Commercial Fishing and Aquaculture)

Commercial Fishing

The waters within the study area support numerous types of commercial fisheries that are regulated by the PFMC, NOAA Fisheries, the California State Legislature and the California Fish and Game Commission. Coastal fisheries in state waters (up to 3 nmi from the shoreline) are

generally managed by CDFW, while NOAA Fisheries and PFMC manage ocean fisheries beyond state waters (from 3 nmi offshore to the extent of the EEZ, 200 nmi offshore). CDFW tracks California’s commercial fish landings annually via [Reports of Final California Commercial Landings](#)²¹ containing data by species, weight, price paid to fishermen (i.e., ex-vessel value), type of gear used, and the area where the fish were caught including both state and federal waters. The landings data record the location of harvest according to the state’s fishing blocks, which are typically 10 by 10 minute ‘grid blocks’.

Study Area

The majority of fish harvested in the study area, including the Morro Bay Estuary, (=62 CDFW grid blocks) are landed at the port complexes of Morro Bay, Santa Barbara, and Ventura (combined > 95% by value, and combined > 90% by weight). The landings at these port complexes are comparatively very different. According to the CDFW [Marine Region Year in Review Reports](#) 2017–2021,²² the Santa Barbara and Ventura harbor complexes combined consistently rank as number one among the state’s nine harbor complexes, while the Morro Bay complex (including Avila/Port San Luis) ranks as the lowest. According to fishing community vulnerability analyses²³ conducted by NOAA Fisheries socio-economists in 2018, the port complex of Morro Bay’s engagement with commercial fishing is high with a medium level of reliance on commercial fishing. The port complexes of Santa Barbara and Ventura also have high engagement with commercial fishing, but low reliance on commercial fishing.

Between 2000 and 2020, approximately 118 million pounds of fish were harvested from the Initial Boundary Alternative and Sub-Alternative 5a areas, at a value of nearly \$92 million. In that period, 109 million pounds of commercial fish species were landed at the Morro Bay port complex (including Avila/Port San Luis, Guadalupe, Oceano, and San Simeon harbors) and the Santa Barbara and Ventura complexes (including Gaviota Beach, Oxnard, and Port Hueneme harbors). The ex-vessel value over this period sums to \$87.7 million (adjusted to 2020 dollars). Only 9.2 million pounds of harvested fish were landed at ports further north or south of the Morro Bay, Santa Barbara, and Ventura harbor complexes (e.g., Monterey and San Diego) at a value of \$4.3 million (see Figures 4.4-1 and 4.4-2). Status and trends of California’s commercial fisheries over the 20-year period are variable and influenced by the complex interplay among environmental, socioeconomic, and regulatory dynamics, such as climate change, a recent global pandemic, and catch shares (Free et al., 2022).

Historically, West Coast fisheries in the 1970s through mid-2000s were heavily reliant on deep-water species, particularly from the groundfish complex, valued at hundreds of millions of dollars, and supporting thousands of jobs. Due to intensive fishing effort many populations of groundfish species declined between 1980 and 2000. In response, starting in early 2000 fishery managers began imposing restrictive fishing regulations aimed at rebuilding fish stocks and protecting EFH of the groundfish complex from bottom trawl gear or bottom contact gear (e.g., traps). The combination of low fish stocks, restrictive regulations, rising costs, competition from

²¹ CDFW Reports of Final California Commercial Landings: <https://wildlife.ca.gov/Fishing/Commercial/Landings>

²² Marine Region Year in Review, 2017–2021: <https://wildlife.ca.gov/Fishing/Ocean/Year-In-Review>

²³ Fishing Community Vulnerability Analysis: <https://www.st.nmfs.noaa.gov/data-and-tools/social-indicators/>

inexpensive foreign imports, and loss and consolidation of processors, caused a precipitous drop in landings in 2006 and 2007 (Rigg and Pontarelli, 2016).

After the collapse of many groundfish stocks, fishermen diversified the catch to include other species with healthier stocks, such as sablefish, spot prawn, Dungeness crab, and shortspine thornyheads. There has been a decline in fish landed beginning in 2015, which is likely due to the two extreme warming events that occurred in that period: an El Niño phase in 2014–2015 coinciding with a lengthy marine heatwave in 2013–2016 (Frölicher et al., 2018; NOAA, 2016). A weaker marine heatwave emerged in mid-2019, similar in size and intensity to the 2013–2016 marine heatwave, but weakened by mid-December (NOAA, 2021). The first ocean warming of 2014 appears to have impacted ocean productivity more negatively than the weaker event in 2019. Finally, although 2020 saw a transition from El Niño conditions to cooler water La Niña conditions for the first time in many years, fishery landings and revenue appear to be substantially lower in 2020 compared to 2019. The decline in landings and revenue in 2020 is possibly due to the COVID-19 pandemic (NOAA, 2021).

Between 2015–2019, NOAA estimates that an annual average of 245 commercial vessels fished in the Initial Boundary Alternative study area, including Morro Bay Estuary, predominantly targeting market squid, Pacific hagfish, sablefish, Dungeness crab, ocean shrimp, and shortspine thornyhead. A majority of these vessels land their harvest at the port complexes of Morro Bay, Santa Barbara, and Ventura. Less than 10% by ex-vessel value and 10% by weight of fish harvested from this area were landed in harbors further away, such as Moss Landing, Monterey, and San Diego (2015–2019).

Among the landed species, in the years 2015–2019, market squid and Dungeness crab have ranked among the top three in value, with sablefish and shortspine thornyhead on occasion also ranking in the top three. Market squid and Dungeness crab have been the highest ranked species in ex-vessel value for the state of California in the same time period. In 2015, commercial fishermen began landing Pacific hagfish in Port San Luis for the first time since 2009. By 2016, Port San Luis was the top performing Pacific hagfish port in California. In 2016, Wilcox Fisheries converted the old icehouse on Harford Pier into a hagfish offloading and processing facility. The hagfish fishery in 2018 directly employed approximately 10 people and was the second highest earning fishery in Port San Luis behind Dungeness crab (Lisa Wise Consulting Inc., 2018). Chinook salmon are ranked ninth in pounds landed but ranked fifth in terms of ex-vessel value because salmon have strong market value.

The species landed drive the fishing gear types used, with pots/traps to harvest Dungeness crab and sablefish, purse seine and seine/dipnets for market squid, and longline gear used for sablefish and shortspine thornyhead. The latter species is also harvested using bottom trawl gear. Hook and line/troll gear are used to harvest Chinook salmon.

State and federal fishery managers implemented two types of spatial management measures throughout the state that limit fish harvest and protect marine habitats and marine ecosystems (see Figure 4.4-3 for designated management areas within the study area). In 2012, the California Fish and Game Commission adopted the final plan for a statewide network of MPAs. Within the Initial Boundary Alternative area of the study area, there are seven state MPAs: Cambria SMCA, White Rock SMCA, Point Buchon State Marine Reserve (SMR), Point Buchon

SMCA, Vandenberg SMR, Point Conception SMR and Kashtayit SMCA (five in their entirety and two partly). SMRs restrict all commercial and recreational activities and are frequently referred to as no-take marine reserves; SMCAs have specific goals for conservation and activities are restricted to meet the conservation goals.

In federal waters, further offshore from the coastal network of state MPAs are the four much larger Groundfish EFH Conservation Areas. These EFH areas protect rocky benthic habitat and associated fragile benthic fauna such as deep-sea corals and sponges from bottom trawl gear. Within the study area, the EFH Conservation Areas protect these prominent geological features associated with upwelling: Santa Lucia Bank, Arguello Canyon, and Rodriguez Seamount. In addition, PFMC and NOAA Fisheries implemented the Deep-sea Ecosystem Conservation Area to protect fragile corals in habitat deeper than 3,500m from bottom contact gear.

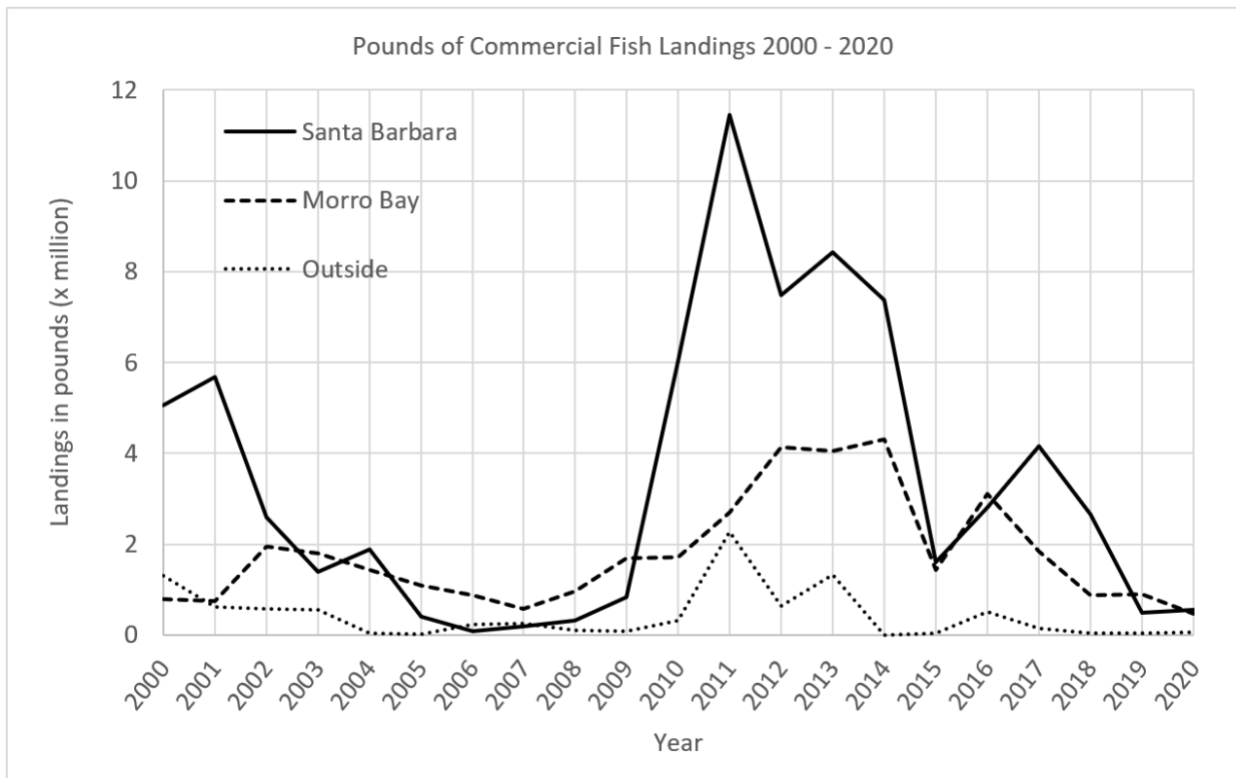


Figure 4.4-1. Pounds of commercial fish harvested within the proposed action and Morro Bay Estuary study area landing at Santa Barbara and Morro Bay port complexes (2000–2020).

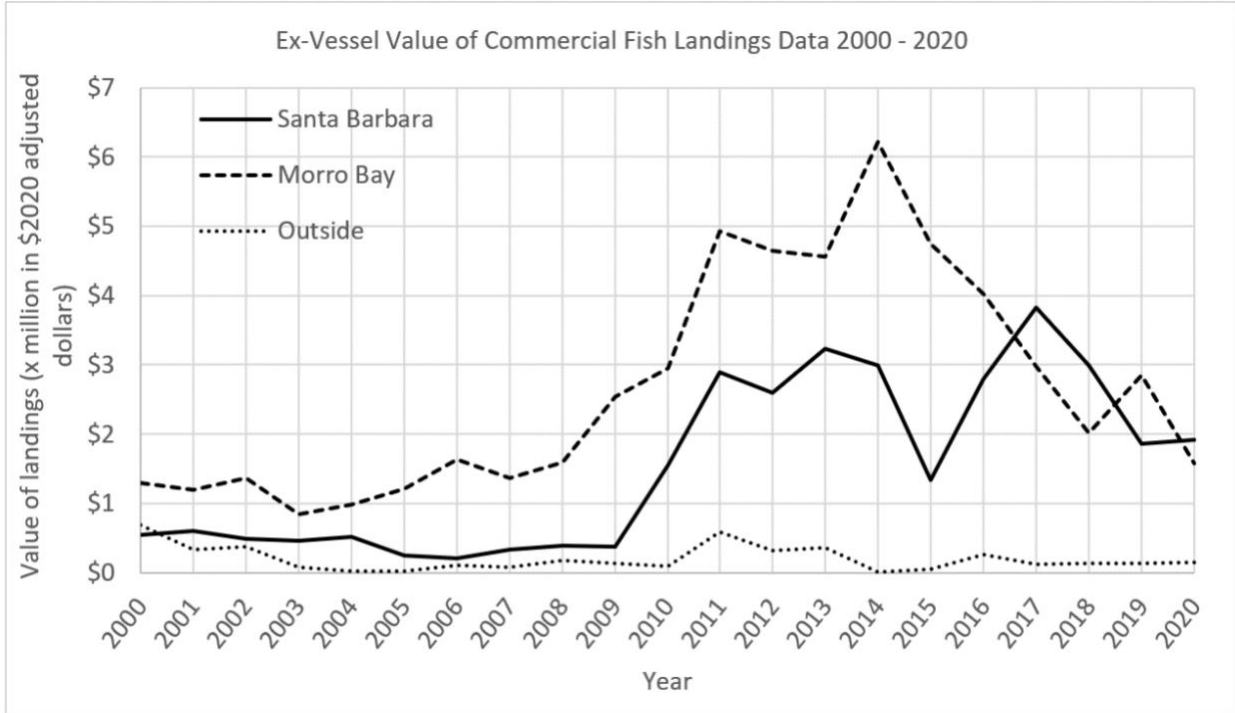


Figure 4.4-2. Value of commercial fish landings at Santa Barbara and Morro Bay port complexes (2000–2020).

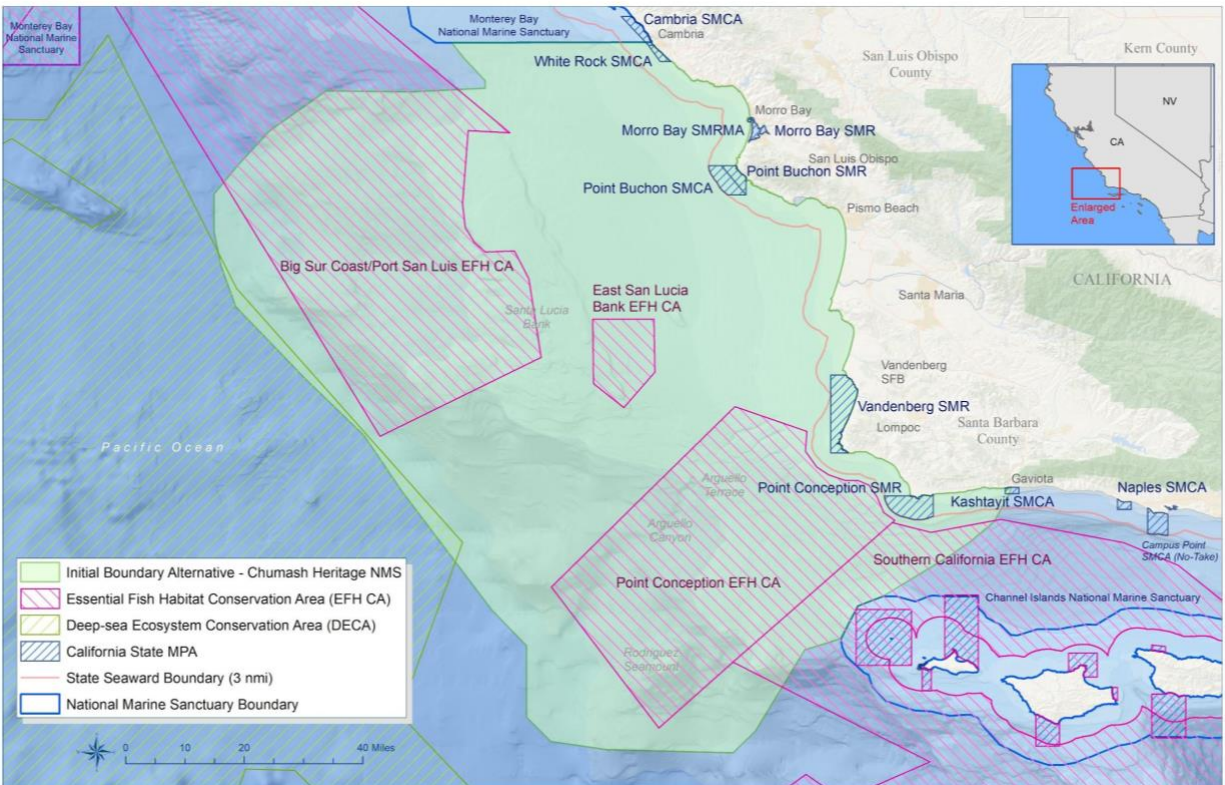


Figure 4.4-3. A map depicting the state network of MPAs, Groundfish EFH Conservation Areas, and DECAs within the study area. Image: NOAA

Sub-Alternative 5a – Morro Bay Estuary

There is no separate catch data or characterization relevant to this sub-alternative. Landings from aquaculture in the Morro Bay Estuary are discussed below.

Sub-Alternative 5a also overlaps in part with two state MPAs: Morro Bay SMR and Morro Bay State Marine Recreational Management Area. In the latter, take of living marine resources is prohibited, except north of 35° 19.70 N, where recreational take of finfish and oyster aquaculture is allowed; waterfowl hunting is allowed unless otherwise restricted by hunting regulations.

Sub-Alternative 5b – Gaviota Coast Extension

According to CDFW's landings data, fish are harvested off the Gaviota Coast in three grid blocks. Sub-Alternative 5b only overlaps a small portion of each of the three grid blocks, therefore the landings estimates reported for this sub-alternative are overestimates. Most of the fish harvested in this area are landed at the port complex of Santa Barbara and Ventura (> 95% by value, and nearly 95% by weight), which is not a surprise given the proximity of the port complex to the sub-alternative area.

Between 2000–2020, approximately 51 million pounds of fish were harvested from the three grid blocks along the Gaviota Coast, at a value of nearly \$33 million. Again, these are overestimates for the amount of fishing that occurs within the area that would be added to the proposed sanctuary's boundary in Sub-Alternative 5b, since the fish blocks are spatially at least four times larger than that area. In that period, 49 million pounds of commercial fish species were landed at the Santa Barbara and Ventura port complex, with an ex-vessel value of nearly \$31 million (adjusted to 2020 dollars). Only 0.1 million pounds of harvested fish from the Gaviota Coast grid blocks were landed at the Morro Bay complex at a value of \$131,000.

Among the landed species, in the years 2015–2019, California spiny lobster, market squid, crab (various species, including yellow rock, red rock, and spider crab), sea cucumber, and prawns and shrimp (e.g., ridgeback prawns and pink ocean shrimp) ranked in the top five in value. This is also an active area for the California halibut trawl and sea urchin fisheries (ranked 6th and 7th in value respectively).

The species landed drive the fishing gear types used, with pots/traps to harvest lobster, crabs, and prawns, purse seine and seine/dipnets for market squid, and hookah/diving used to harvest urchins and sea cucumbers.

Within Sub-Alternative 5b lies the eastern portion of Kashtayit SMCA and Naples SMCA, within which special state regulations prohibit harvest of most species.

Aquaculture

Within the Initial Boundary Alternative and alternatives 1–4 there are no aquaculture projects. The only aquaculture currently conducted in the study area is within the area of Sub-Alternative 5a, which covers parts of the Morro Bay Estuary. The California Fish and Game Commission has issued leases for two aquaculture operations there: Morro Bay Oyster Company and Grassy Bar Oyster Company. The areas leased for the two operations total 290 acres; however, only 8 acres are actively cultivated (CDFW, 2020). These farms grow Pacific oysters (*Crassostrea gigas*) and Manila clams (*Venerupis philippinarum*), which are both species not native to the U.S. West

Coast and would thus be considered an introduced species for purposes of the proposed CHNMS regulations. CDFW has determined that the oysters cultivated in aquaculture operations like those found in Morro Bay do not risk invasion into the ecosystem because their genetic makeup has been altered to prevent reproduction. Average annual harvest from 2019–2021 from leases in Morro Bay Estuary was 1.3 million oysters and 24,000 clams. The oyster farms in Morro Bay Estuary are regulated by CDFW, the California Department of Public Health, the Food and Drug Administration/U.S. Department of Agriculture Hazard Analysis and Critical Control Points Program; and for water quality standards by the Interstate Shellfish Sanitation Conference and the National Shellfish Sanitation Program. Also adjacent to Sub-Alternative 5b, the Gaviota Coast Extension, there is an onshore abalone farm in Dos Pueblos Canyon, The Cultured Abalone Farm, which takes water in from the ocean and has a discharge outfall (see Section 4.2.1 for details on the NPDES permit). They use kelp, *Macrocystis*, harvested from the local kelp beds, supplemented with various species of native algae which are cultivated in tanks on site. The Cultured Abalone Farm does not use composite feeds with terrestrial proteins or antibiotics. In general, the discharge returns water from the abalone and kelp tanks and contains waste from the animals.

4.4.2 Impact Assessment Methodology (Commercial Fishing and Aquaculture)

Criteria to determine the significance of impacts on commercial fisheries and aquaculture resources are based on fisheries population benchmarks as defined by federal and state standards and regulations and social and economic factors. Impacts are considered to be significant if the Initial Boundary Alternative or alternatives would result in the following:

- A reduced number of fishing vessels allowed to fish in the area.
- A substantial negative (or positive) population trend in one or more of the harvested species such that the population would be below (or improving towards) sustainable fishing levels, as defined by fishery management plans for that species.
- A substantial economic gain or loss to commercial fisheries and aquaculture.
- A conflict with the policies, fishery management plans, and regulations established under the MSA.

The impact analysis for the commercial fisheries and aquaculture resources considered the potential impacts of each relevant component of the Initial Boundary Alternative and other alternatives on population dynamics of commercial fish and aquaculture species and any operational, social, or economic impacts on the commercial fishery or aquaculture operation. Any potential impacts were compared to the significance criteria outlined above to determine if adverse impacts are expected from the Initial Boundary Alternative or other alternatives.

4.4.3 Environmental Consequences of the Initial Boundary Alternative (Commercial Fishing)

This section evaluates the impacts on commercial fishing from implementing the Initial Boundary Alternative, as described in Section 3.2. Currently no aquaculture operations exist within the boundaries of the Initial Boundary Alternative.

Beneficial Impacts on Commercial Fishing Resources

Implementing the Initial Boundary Alternative would have beneficial impacts on the commercial fishing resources in the proposed sanctuary from implementing activities related to the management plan and proposed regulations.

Management Plan

The management plan has the following action plans that would directly and indirectly enhance the status of commercial fishing, resulting in **indirect, minor to moderate beneficial impacts** (see Section 3.2):

- Blue Economy Action Plan: e.g., enhance visitation to local restaurants serving locally harvested fish.
- Climate Change Action Plan: e.g., enhance ecosystem function and resilience for fish resources.
- Water Quality Action Plan: e.g., promote healthy water quality conditions of the proposed sanctuary thereby enhancing healthy fish resources.
- Resource Protection Action Plan: e.g., collaborations on fishery management issues in support of sustainable fisheries and enhanced enforcement through partnerships.
- Research and Monitoring Action Plan: e.g., enhanced management of fishery resources by fishery managers through collaborative research and monitoring activities.
- Education and Research Action Plan: e.g., increased stewardship and heightened awareness of fishery resources.

Regulations

NOAA is not proposing to directly regulate lawful fishing activities. NOAA consulted with the PFMC under Section 304(a)(5) of the NMSA and the PFMC notified NOAA that it had determined that additional fishing regulations were not necessary at this time to implement the proposed sanctuary. NOAA accepts the PFMC's response relative to the proposed designation of CHNMS. Therefore, the Initial Boundary Alternative is not expected to cause significant adverse impacts on commercial fishing resources or cause significant economic loss to commercial fisheries. Direct protection of sanctuary resources through proposed federal regulations (see Section 3.2) are expected to provide **direct or indirect, long-term beneficial impacts** on ecosystem and habitat upon which healthy commercial fisheries depend. The relevant proposed regulatory prohibitions that would benefit commercial fishery resources are as follows and their potential impacts on commercial fishing are described in the following subsections:

- New oil, gas, and minerals exploration, development, and production.
- Discharges into the sanctuary, with exceptions (e.g., fish, fish parts, chumming materials, or bait used in or resulting from lawful fishing activities within the sanctuary are exempted from the discharge regulation).
- Cruise ship discharges.
- Discharges that enter and injure sanctuary resources.
- Submerged land disturbance with the exception as incidental and necessary to conduct lawful fishing activities or lawful kelp harvest and anchor a vessel.
- Deserting a vessel.

- Introduced species, with the exception of striped bass (*Morone saxitalis*) released during catch and release fishing activity.

Oil, Gas, Minerals

The proposed regulatory prohibition on exploring for, developing, or producing oil, gas, and minerals would safeguard the Initial Boundary Alternative from any new oil, gas, and mineral exploration, development, or production, with exceptions for production from several existing oil and gas platforms. Fewer oil, gas, and mineral exploration activities would lower the risk of detrimental environmental impacts from this type of activity and thus contribute to a healthy and thriving ecosystem that supports valuable commercial fisheries. Exploration and production of oil and gas operations may introduce toxins and oil into the marine environment (e.g., accidental spill, seepage during operations, etc.). Oil and other toxins are detrimental to most marine species, including fish. Oily and toxic waste discharges can have direct significant adverse impacts (e.g., death or illness) on fish populations or they can have indirect impacts from long-term habitat degradation and reduction in prey availability. Also, offshore oil and gas facilities can preclude fishing from areas where such facilities (e.g., platforms, pipelines, offshore storage, and treatment) are located. Thus, prohibiting future oil, gas, and minerals development within the proposed sanctuary's boundary would have the potential to protect habitat and water quality, benefit fish populations by maintaining ecosystem conditions within the sanctuary, and protect established fishing grounds (see Section 4.7 for more details). Therefore, the proposed regulatory prohibition on oil, gas, and minerals exploration and development would cause **indirect, long-term, significant beneficial impacts** on commercial fish species and their habitat.

Discharges

Current state and federal regulations limit different types of vessel discharges into the waters that would be within the proposed sanctuary's boundary under the Initial Boundary Alternative, so the application of sanctuary regulations to that area would represent an incremental increase in restrictions on vessel discharges. The proposed discharge regulations from shore or associated with vessel operations (e.g., prohibition on discharge of sewage, vessel wash down, oily bilge water, and graywater), cruise ship discharges, or discharges that enter and injure sanctuary resources would help maintain and may improve water quality and ecosystem health, on which thriving fish populations depend. Fish species would be exposed to fewer contaminants and bacteria within the proposed sanctuary, and would therefore potentially have a reduced risk of health problems. Better water quality would also create better habitats in the long term, which would benefit fish populations and potentially result in increased reproductive success and increases in population sizes. The proposed regulatory prohibition on discharges within and into the sanctuary would have **long-term, minor beneficial impacts** on fish species, which are harvested for commercial purposes, and their habitat.

Disturbance of Submerged Lands

The proposed regulatory prohibition on disturbance of submerged lands within the proposed sanctuary would not apply to commercial fishing operations since lawful fishing activities are excepted from the prohibition. The proposed regulatory prohibition on non-fishing activities that would disturb submerged lands would provide added protection to the benthic habitats of

the Initial Boundary Alternative, would prevent a further loss and degradation of habitats, and improve the overall health of the ecosystem of the study area. Potential development that disturbed the seabed, including any possible new wind farm development in federal waters of the sanctuary, would be prohibited under the Initial Boundary Alternative unless authorized pursuant to the proposed regulations. Fiber-optic cable repair or new fiber-optic cable construction would also not be allowed unless authorized or permitted pursuant to the proposed regulations. New oil and gas development would not be allowed, as discussed above. Therefore, the prohibition on disturbing the seabed would cause **long-term, significant beneficial impacts** on commercial fishing from habitat enhancement and greatly lowered risk of use conflicts.

Deserting a Vessel

The proposed regulations would prohibit vessels from being deserted within the proposed sanctuary and would prohibit leaving harmful matter (hazardous materials or wastes) aboard grounded or deserted vessels in the proposed sanctuary. Further, as described under the submerged land regulations (above), abandoning any structure, material, or other matter on or in the submerged lands in the study area would also be prohibited. The intent of this proposed regulatory prohibition would be to ensure that vessel owners take responsibility for their vessels before additional damage (e.g., release of harmful matter and marine debris) can be done to marine resources, including fishery resources, within the proposed sanctuary. Reducing the risks of hazards posed by abandoned vessels would have **indirect, long-term, minor beneficial impacts** on fisheries and fishing operations and activities.

Introduced Species

The proposed regulatory prohibition against introducing an introduced species into the proposed sanctuary could benefit commercial fisheries by limiting the potential for adverse competition between introduced and native species, thus improving the ongoing stability of the native fish populations, improving stability in the numbers of native fish species available for catch, and helping to stabilize the potential for future revenues derived from commercial catch. Furthermore, the proposed regulation would provide an exclusion for catch and release of an established introduced species, the striped bass. This exclusion, which does not adversely affect recreational (or commercial) fishing, has been requested by CDFW because the state has limits on the size of striped bass that can be retained; fish below that size limit must be released. NOAA finds that the proposed introduced species prohibition would have **indirect, long-term, moderate beneficial impacts** on commercial fisheries.

Adverse Impacts on Commercial Fishing Resources – Regulations

There are no adverse impacts related to the draft management plan.

While the proposed regulations would not directly regulate fishing activities, there could still be potential **adverse impacts**, which are detailed below, associated with proposed sanctuary regulations based on prohibitions that may be applicable to activities incidental to lawful fishing.

Discharges Within or Into the Sanctuary

The proposed sanctuary regulations on discharges of sewage and graywater may adversely impact commercial fishing operations under the Initial Boundary Alternative. For those vessels without a marine sanitation device (MSD) because for example they do not have an installed toilet, options to dispose of this waste under the Initial Boundary Alternative would include discharge of sewage outside of the proposed sanctuary boundaries, or discharge of sewage from a portable toilet or other sewage container into a dump station or other onshore sewage disposal facility. Pumping out a commercial fishing or recreational vessel at the harbors of Morro Bay, Santa Barbara, and Ventura is currently free. Dumping the contents of a portable toilet into a sewage receptacle (such as a toilet) is likely also free.

Should a vessel owner or operator choose to install an MSD or a portable toilet, there would be one-time costs for purchase of the device and installation, and periodic costs for maintenance. While an MSD could be expensive to install because vessel renovations could be involved, the cost for a portable toilet can be a hundred dollars or less. There is no way to accurately estimate costs for installing MSDs or portable toilets due to the wide range of vessel and MSD/portable toilet designs and varying labor costs. Due to lack of data, it is not possible to estimate the number of commercial fishing owners or operators who would need to choose these options. NOAA believes with these uncertainties taken into consideration, the Initial Boundary Alternative has the potential to cause some **direct, short-term, minor to moderate adverse impacts** on individual commercial fishing operations.

Similar to the holding tank capacity issue for sewage discussed above, the proposed discharge prohibition would require commercial fishing vessels with holding tanks for graywater to store graywater that contained detectable levels of harmful matter in holding tanks and to access a pump-out facility to pump out graywater. Vessel owners without sufficient capacity to hold graywater, provided that it did not meet the definition of clean, could consider upgrading their holding tank capacity. Should a vessel owner or operator choose to upgrade holding capacity, there would be one-time costs for purchase of the equipment and installation, and periodic costs for maintenance. Similar to installation of an MSD, the number of vessel owners would likely be limited, and therefore the **adverse impacts** are considered **direct, short-term, and minor to moderate**.

In summary, the proposed discharge regulation may have **short-term, minor to moderate adverse impacts** on some individual commercial fishing operators, particularly due to proposed prohibitions of sewage discharges and, to a lesser extent, from the proposed prohibition on graywater discharges containing detectable levels of harmful matter. The proposed regulation has the potential to cause limited economic loss to individuals within the commercial fishing industry; therefore, it is considered to create **minor adverse impacts** on commercial fisheries.

Disturbance of Submerged Lands

The proposed regulation prohibiting disturbance to the submerged lands of the proposed sanctuary would apply to mooring installations. The proposed prohibition would provide an exception for moorings for navigational purposes. Moorings for vessels would be prohibited by this regulation because of the potential for disturbance of submerged lands and habitats, or

possibly navigational threats. Fishing vessel owners in need of a mooring within the study area are already required to apply for a mooring lease from the California State Lands Commission (CSLC); under the proposed sanctuary regulations, ONMS could authorize a mooring within the proposed sanctuary if the mooring were permitted under a CSLC lease. Under the Initial Boundary Alternative, the additional requirement to obtain a sanctuary authorization of a CSLC mooring lease may pose a minor burden on boat owners requiring a mooring lease but would not cause a substantive economic loss to the commercial fishing industry. Any **adverse impacts** of the proposed regulatory prohibition on disturbing submerged lands would be **negligible**.

Deserting a Vessel

The proposed regulation prohibiting desertion of a vessel in the sanctuary under the Initial Boundary Alternative could place an additional economic burden on owners of vessels abandoned at anchor but at risk of sinking, or vessels that are otherwise incapacitated and need to be moved or salvaged before sinking or running aground and causing greater environmental damage. The regulation is also designed to require immediate removal of any hazardous substances from an abandoned vessel. While this may be a burden for the vessel owner, the overall risk of an individual boat being abandoned is relatively small, and the **adverse impacts** on the commercial fishing industry as a whole are considered **short term, indirect, and minor**.

Introduced Species

One of the pathways for the introduction of species can be through commercial fishing operations, specifically, baiting. In theory, the proposed regulatory prohibition on introducing non-native species into the proposed sanctuary, including by using introduced species for bait, may increase the burden on commercial fisheries, but no known non-native species are currently being used as bait in the area proposed for sanctuary designation. Therefore, this requirement may have either no impact or minor adverse impacts on commercial fisheries. The regulation could have an effect on commercial fishing vessels that might inadvertently transport an introduced species on the bottom of the vessel's hull. However, all vessel operators currently have an incentive to clean vessel hulls to maintain efficiency, and thus NOAA considers any **adverse impacts** from this regulation to be **negligible** on commercial fishing activities.

4.4.4 Environmental Consequences of Alternative 1 (Commercial Fishing)

This section evaluates the impacts on commercial fishing from implementing Alternative 1, Bank to Coast, as described in Section 3.3. Currently no aquaculture operations exist within the boundaries of Alternative 1.

Beneficial and Adverse Impacts on Commercial Fishing Resources

Under Alternative 1, NOAA would focus management plan activities and regulations that enhance the status of commercial fishing resources on a smaller area than in the Initial Boundary Alternative. Nonetheless, Alternative 1 would likely enhance management on the most productive and nationally significant areas from Santa Lucia Bank east to the coast. As a general

matter when fishing effort is low or nil, CDFW will have no fish blocks or extremely large fish blocks to make data collection feasible. This is the case west of Santa Lucia Bank, where not many fish species are harvested in the deeper waters (maximum depth 13,374 feet) of the Initial Boundary Alternative compared to the maximum depth (11,580 feet) of Alternative 1. Therefore, excluding the western area from Alternative 1 would not alter the beneficial and adverse impacts on commercial fishing as compared to the Initial Boundary Alternative as sanctuary management would focus on the area most productive and important to commercial and recreational fishing.

4.4.5 Environmental Consequences of Alternative 2 (Commercial Fishing)

This section evaluates the impacts on commercial fishing from implementing Alternative 2, Cropped Bank to Coast, as described in Section 3.4. Currently no aquaculture operations exist within the proposed boundaries of Alternative 2.

Under Alternative 2, NOAA would focus management plan activities and regulations that enhance the status of commercial fishing resources on an area similar to Alternative 1 from Santa Lucia Bank east to the coast, excluding the deeper portions of the Initial Boundary Alternative west of Santa Lucia Bank. Alternative 2 also excludes an area south of the MBNMS boundary from deep waters to the coastline down to the northern portion of Montaña de Oro State Park at Hazard Canyon Reef.

Beneficial Impacts on Commercial Fishing Resources

Alternative 2 would focus sanctuary management on a smaller section of the area most productive to fishing, and benefits from the sanctuary regime would also affect a smaller area; therefore, compared to the Initial Boundary Alternative, Alternative 2 would have reduced beneficial impacts on the ecosystem and fishery resources that rely on a healthy and resilient ecosystem. Specifically, the area afforded the benefits of proposed sanctuary regulations prohibiting future oil, gas, and mineral development or seabed disturbance from offshore energy production would be reduced spatially, resulting in reduced benefits afforded by those regulations. Overall, the **beneficial impacts** on commercial fishing from the proposed regulatory prohibition on altering the seabed would be reduced from a significant level under the Initial Boundary Alternative to **moderate** under Alternative 2. The other beneficial impacts on commercial fishing from proposed sanctuary regulations prohibiting discharges, deserting a vessel, and introducing an introduced species would also be reduced under Alternative 2 given the smaller area of protection compared to the Initial Boundary Alternative, but these benefits would remain at the same level of impact as described in Section 4.4.3.

Adverse Impacts on Commercial Fishing Resources

NOAA finds that the adverse impacts on commercial fishing would be reduced under Alternative 2 compared to the Initial Boundary Alternative for the regulations discussed in Section 4.4.3, because a smaller area would be designated as a sanctuary and would therefore affect fewer commercial fishing vessels. While slightly reduced, these impacts would remain at the same level as under the Initial Boundary Alternative (see Section 4.4.3).

4.4.6 Environmental Consequences of Alternative 3 (Commercial Fishing)

This section evaluates the impacts on commercial fishing from implementing Alternative 3, Diablo to Gaviota Creek, as described in Section 3.5. Currently no aquaculture operations exist within the boundaries of Alternative 3.

Under Alternative 3, NOAA would focus management plan activities and regulations that enhance the status of commercial fishing resources on an area that encompasses the western and deeper portions of the Initial Boundary Alternative. This alternative excludes the area south of the MBNMS boundary to south of DCP, as well as a large northeast portion of the Santa Lucia Bank, including an area that had been previously identified for offshore wind development by BOEM (Diablo Canyon Call Area).

Beneficial Impacts on Commercial Fishing Resources

Alternative 3 would focus sanctuary management on a smaller area, and benefits from the sanctuary regime would also affect a smaller area and, therefore, have fewer beneficial impacts on the ecosystem and fishery resources that rely on a healthy and resilient ecosystem. Specifically, the area afforded the benefits of proposed sanctuary regulations prohibiting future oil, gas, and mineral development would be significantly reduced, resulting in reduced benefits afforded by those regulations. Further, in contrast to the Initial Boundary Alternative, the proposed sanctuary regulation prohibiting seabed disturbance would not apply to the Diablo Canyon Call Area or other areas outside sanctuary boundaries, meaning that those areas could one day be developed for offshore wind energy production. Therefore, the benefit for commercial fishing associated with proposed sanctuary management of these areas would not be achieved in Alternative 3. Overall, the **beneficial impacts** on commercial fishing from the proposed regulatory prohibition on altering the seabed would be reduced from significant for the Initial Boundary Alternative to **minor** for Alternative 3. The other benefits to commercial fishing from proposed sanctuary regulations prohibiting discharges, deserting a vessel, and introducing an introduced species would also be less under Alternative 3 given the much smaller area of protection compared to the Initial Boundary Alternative, but would remain at the same level of impact.

Adverse Impacts on Commercial Fishing Resources

NOAA finds that the adverse impacts on commercial fishing would be fewer or less in Alternative 3 compared to the Initial Boundary Alternative for the regulations discussed in that section because a much smaller area would be designated as a sanctuary and would therefore affect fewer commercial fishing vessels. These impacts would remain at the same level as under the Initial Boundary Alternative.

4.4.7 Environmental Consequences of Alternative 4 (Commercial Fishing)

This section evaluates the impacts on commercial fishing from implementing Alternative 4, Combined Smallest, as described in Section 3.6. Currently no aquaculture operations exist within the boundaries of Alternative 4.

Beneficial Impacts on Commercial Fishing Resources

Under Alternative 4, the smallest area would be included in the proposed sanctuary. Like with Alternative 3, Alternative 4 would result in similar but substantially fewer and less beneficial impacts as compared to the Initial Boundary Alternative. This is because both deep waters elements excluded by Alternatives 1 and 2, the nearshore areas excluded by Alternatives 2 and 3, and northeast portion of Santa Lucia Bank excluded by Alternative 3, would not be included within the proposed sanctuary under Alternative 4, meaning that fewer beneficial impacts on the ecosystem and fishery resources that rely on a healthy and resilient ecosystem would accrue. The Initial Boundary Alternative would have a significant benefit to commercial fishing because potential development that disturbed the seabed, including any possible new wind farm development in federal waters of the sanctuary, would be prohibited unless authorized or permitted pursuant to the proposed regulations. This benefit would be reduced to a **minor** level of **beneficial impact** in Alternative 4, due to the smaller overall area of the sanctuary.

Adverse Impacts on Commercial Fishing Resources

The adverse impacts on commercial fishing under Alternative 4 would be fewer or less compared to the Initial Boundary Alternative because a much smaller area would be protected by the proposed sanctuary regulations and thus fewer fishing vessels and less fishing activity would be indirectly affected by the proposed sanctuary.

4.4.8 Environmental Consequences of Sub-Alternative 5a: Morro Bay Estuary and 5b: Gaviota Coast Extension (Commercial Fishing and Aquaculture)

Sub-Alternative 5a: Morro Bay Estuary

Sub-Alternative 5a may be added to the sanctuary boundaries under the Initial Boundary Alternative and Alternative 1. The type and level of beneficial and adverse impacts on commercial fishing resources under Sub-Alternative 5a are expected to be the same as outlined in the Initial Boundary Alternative (Section 4.4.3) and Alternative 1 (Section 4.4.4). However, because this is the only alternative that would include an existing aquaculture operation within its boundary (those found within Morro Bay Estuary), this sub-section focuses on the beneficial and adverse impacts on aquaculture resources under Sub-Alternative 5a.

Beneficial Impacts on Aquaculture Resources

Implementing Sub-Alternative 5a would have beneficial impacts on the aquaculture resources in Morro Bay Estuary due to the implementation of activities related to the management plan and proposed regulations. The same action plans listed in Section 4.4.3 would directly and indirectly enhance the status of aquaculture resources in the Morro Bay Estuary. As described in Section 4.4.3, the proposed sanctuary regulations would likely provide long-term beneficial ecosystem and habitat impacts, upon which aquaculture operations depend. In particular, the proposed regulatory limits on harmful discharges would potentially improve water quality. Improved water quality is known to enhance aquaculture production. The **beneficial impacts** on aquaculture from the proposed discharge prohibition would be **long term, indirect, and moderate**. The prohibition on introducing an introduced species would also provide **long-**

term, indirect, moderate beneficial impacts on aquaculture by reducing the risk of competition or predation on aquaculture species.

Adverse Impacts on Aquaculture Resources

Discharges Within or Into the Sanctuary

Depending on the type of aquaculture practice, discharge of organic nitrogen and phosphorus may be present, leading to eutrophication and organic pollution. These harmful discharges would be prohibited for any new aquaculture operations within the proposed sanctuary. Currently, the type of aquaculture operational in the Morro Bay Estuary is of oysters, which typically do not produce harmful discharges and are known to deliver valuable ecosystem goods and services, including improved water quality and provision of new habitats for fish and mobile invertebrate species (Theuerkauf et al., 2021). Therefore, including Sub-Alternative 4a in the sanctuary boundaries would have **no adverse impact** on existing aquaculture operations due to discharges. New and expanded aquaculture operations within the proposed sanctuary, to the extent they create a discharge, could be considered via an ONMS authorization under the proposed regulations, and therefore the proposed regulatory prohibition on discharging into the sanctuary may have **negligible adverse impacts** on new or expanded aquaculture operations.

Submerged Lands

The current aquaculture operations in Morro Bay have a disturbance to the submerged lands due to anchors in the seafloor. However, these can be allowed via the certification process as an existing activity, and thus NOAA consideration of that certification would have **no impact** on existing aquaculture operations. As discussed above with respect to proposed discharge regulations, new and expanded aquaculture operations within the proposed sanctuary could be considered via an ONMS authorization under the proposed regulations and therefore the proposed prohibition on disturbing submerged lands may have **negligible adverse impacts** on new or expanded aquaculture operations.

Introduced Species

Currently, nonnative species (Pacific oyster and Manila clams) are cultivated in the Morro Bay Estuary. Under the regulations proposed for Sub-Alternative 5a (see Section 3.7.1), commercial shellfish aquaculture operations that are authorized by the state of California prior to the effective date of sanctuary designation would not be subject to the regulatory prohibition on introducing an introduced species. Therefore, the introduced species regulation would have **no adverse impact** on existing aquaculture operations in Morro Bay Estuary.

New aquaculture operations proposing to cultivate an introduced species would be prohibited by the proposed sanctuary regulations unless, pursuant to the MOA with the state of California (see Section 3.2.2), the project is approved by CDFW and cultivates a species that CDFW and NOAA determine is non-invasive and will not cause significant adverse effects on sanctuary resources or qualities and receives an ONMS authorization. The proposed regulations for ONMS authorizations also contain a provision that would allow NOAA to issue an authorization when NOAA and the state find that an introduced species used in a new aquaculture project would be non-invasive to the ecosystem and would not cause significant adverse impact to sanctuary resources. The state normally conducts this very review for an introduced species aquaculture project outside of a sanctuary and there would not be an additional review for the state to

conduct such an analysis in concert with NOAA for CHNMS. Therefore, the introduced species regulation would have **negligible adverse impacts** on future aquaculture operations in Morro Bay Estuary.

Sub-Alternative 5b: Gaviota Coast Extension

Sub-Alternative 5b may be added to the sanctuary boundaries under the Initial Boundary Alternative and any of the other action alternatives. The same type of beneficial and adverse impacts on commercial fishing described for the Initial Boundary Alternative (see Section 4.4.3) would be expected in this sub-alternative, just incrementally fewer and less impactful given the small size of this area. These impacts would remain at the same level as under the Initial Boundary Alternative.

Regarding aquaculture, currently the Cultured Abalone Farm lies adjacent to Sub-Alternative 5b (see Section 4.2.1); its outfall into the proposed sanctuary would be a prohibited discharge per the proposed regulations. As discussed in Section 3.2.2, NOAA would have the ability at the time of sanctuary designation to review and certify ongoing discharges like those by the Cultured Abalone Farm into sanctuary waters as long as such discharges were subject to any valid lease, permit, or license in existence on the date of sanctuary designation, considering and possibly mirroring mitigations and phase-out requirements state agencies would have imposed. This certification process would mean designation of the Sub-Alternative 5b would likely have **no impact** on discharges resulting from continued aquaculture operations at the Cultured Abalone Farm.

4.4.9 Environmental Consequences of No Action (Commercial Fishing and Aquaculture)

Under the No Action Alternative, no sanctuary would be designated and the status quo would be maintained. There would be no added beneficial impacts on commercial fish species or aquaculture operations due to no change in actions regarding water quality, benthic habitat, or ecosystem function; and there would not be any adverse economic or operational impacts on owners or operators of fishing vessels or aquaculture operations in the study area.

4.5 Cultural Heritage and Maritime Heritage Resources

Under the NMSA implementing regulations, a “cultural resource” is defined as any historical or cultural feature, including archaeological sites, historic structures, shipwrecks, and artifacts. 15 C.F.R. 922.11. “Historical resources” are defined as any resources possessing historical, cultural, archaeological, or paleontological significance, including sites, contextual information, structures, districts, and objects significantly associated with or representative of earlier people, cultures, maritime heritage, and human activities and events. Historical resources include “submerged cultural resources,” and also include “historical properties,” as defined in the NHPA, as amended, and its implementing regulations, as amended. 15 C.F.R. 922.11. For the purposes of this EIS, submerged cultural resources are defined loosely as archaeological or culturally significant sites over 50 years old that are located underwater.

Within the study area (inside the boundaries of the Initial Boundary Alternative and action alternatives), the cultural heritage and maritime heritage resources that may be affected by the

Initial Boundary Alternative or range of alternatives include submerged shipwrecks, aircraft, and Native American cultural resources, artifacts, and values. The ONMS West Coast Region has developed and maintained a thorough database of submerged ship and aircraft wreck sites that serve as the primary data source for these resources within the study area (Schwemmer, R., 2022). Regarding cultural resources, affected environment information published in the Morro Bay WEA Draft Environmental Assessment by BOEM (BOEM, 2022), a cooperating agency in preparation of this EIS, serves as one data source for describing Chumash and Salinan tribes in the region of the study area. Information published by the National Park Service in the Gaviota Coast Feasibility Study serves as another important source of cultural resource information (NPS, 2003). Additionally, NOAA draws on information from Chumash and Salinan tribes and tribal-affiliated organizations, much of it provided through the sanctuary nomination and designation processes. Other information sources were identified in numerous EIS scoping comments. Through the scoping process and discussions with tribes, NOAA was made aware that designating the sanctuary with the name “Chumash Heritage” National Marine Sanctuary in proposed boundary areas involved in inter-tribal disputes could cause harm to Salinan tribes. The name for the proposed sanctuary has not been finalized and is not normally an issue area requiring an agency to analyze potential impacts under NEPA. This issue is addressed in Section 3.10, Disputed Issues – Proposed Sanctuary Name, where more details with regard to the proposed sanctuary name are provided, including potential options to resolve this issue.

4.5.1 Regional Overview of Affected Environment (Cultural Heritage and Maritime Heritage Resources)

Cultural Heritage Resources

For Chumash and Salinan people, there is a deep history of connection with sections of the study area’s coast and the adjacent marine waters. Native culture remains closely tied to this coastal area, which for millennia has supported values and traditions that are still honored by Indigenous people and tribes engaged in their protection.

Tribal and Indigenous community interest and engagement in the proposed sanctuary has been high, underscoring the cultural significance of the area under consideration for designation. Just prior to preparation of this EIS, BOEM also engaged tribal communities in the same region in preparation for evaluating leasing for offshore wind energy development in the above-referenced Environmental Assessment.

Pre-contact Historic Properties – Paleoshoreline Environments

Corresponding with lower global sea level during the Late Pleistocene, areas extending west from the present central California coastline that may have the potential to contain now submerged landform features extend less than three miles off the Big Sur coast, up to six miles just north and south of Point Piedras Blancas, and up to approximately nine miles offshore of Estero Bay (BOEM, 2022). This corresponds to an area from the present-day shoreline out to a water depth of approximately 800 feet. Pre-contact period (from a time before Indigenous people encountered an outside culture) sites within this area would most likely be found in the vicinity of paleochannels or river terraces that offer the highest potential of site preservation; however, preservation conditions are variable and depend on local geomorphological conditions

and the speed of sea level rise (BOEM, 2022, p. 68). Figure 4.5-1 depicts paleoshoreline contours along a segment of the central California coast. Numerous pre-contact archaeological sites have been documented along the central California coast, and a few nearby isolated artifact finds suggest human occupation in the area may date back at least 10,000 years (Jones et al., 2009).

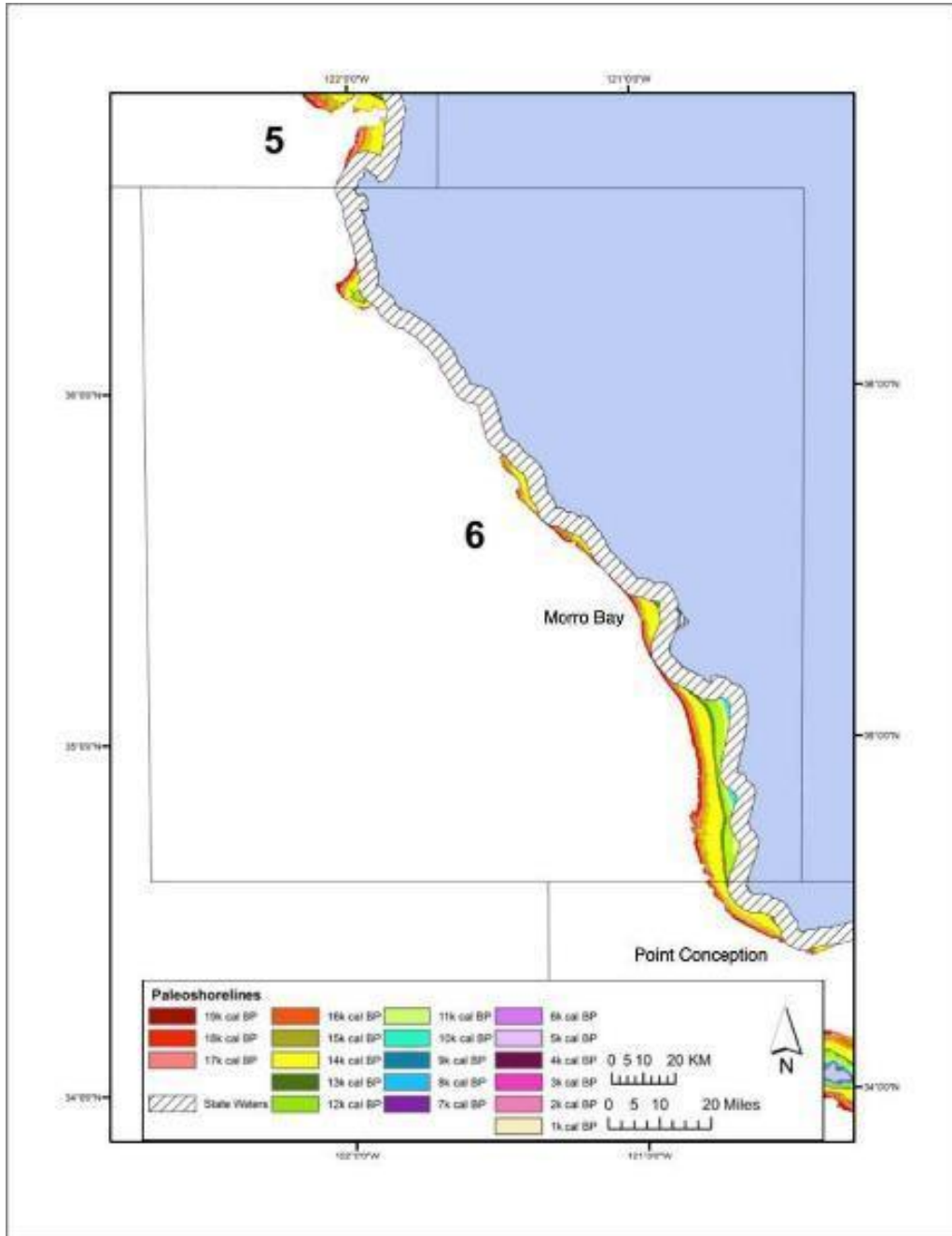


Figure 4.5-1. Paleoshoreline contours for a coastal landscape during the last glacial maximum time in federal waters of the Pacific Outer Continental Shelf (OCS). Source: ICF, 2013

Native American Cultural Resources

Numerous Native American tribal and Indigenous communities have deep ties to the study area and its coast and have called this area home for thousands of years. Native American connections to the region include their traditional and ancestral homelands, customary uses of marine resources for food and cultural connections, and stewardship of resources and ecosystems within their ancestral homelands and waters (Northern Chumash Tribal Council [NCTC], 2015; Cordero et al., 2016). Coastal landscapes and seascapes, including viewsheds, are integral and sacred elements of tribal cultural connections to the region. Additionally, during the last glacial maximum, the region's coastline extended beyond the present-day coast to include now-submerged areas that were likely inhabited by ancestors of California tribes before the last sea level rise (BOEM, 2022).

Coastal and offshore areas of the study area are within or near the traditional cultural regions of several tribes and cultural groups, including Chumash- and Salinan-affiliated tribes. Chumash-affiliated tribes and Chumash-associated organizations in the region, including those that expressed interest in the proposed sanctuary, include the Barbareño/Ventureño Band of Mission Indians, Coastal Band of the Chumash Nation, Wishtoyo Chumash Foundation, Barbareño Chumash Tribal Council, Chumash Maritime Association, Northern Chumash Tribal Council, Northern Chumash Bear Clan, Santa Ynez Band of Chumash Indians, and yak tityu yak tilhini Northern Chumash Tribe. Salinan-affiliated tribes are the Salinan Tribe of Monterey and San Luis Obispo Counties, and the Xolon Salinan Tribe.

For those tribes listed by the California Native American Heritage Commission (NAHC), cultural affiliations are self-reported (NAHC, 2021). One tribe, the Santa Ynez Band of Chumash Indians, is the only Federally recognized Chumash tribe in the nation (see the list of federally recognized tribes maintained by the Bureau of Indian Affairs, 88 Fed. Reg. 2112 (Jan. 12, 2023)). Accordingly, NOAA is engaged in an ongoing formal government-to-government consultation process with the Santa Ynez Band of Chumash Indians (see Appendix E). NOAA is also engaging with interested non-federally recognized tribes from the area.

Tribes in central California were displaced from much of their ancestral homelands with the arrival of several waves of European, Mexican, and American colonists and settlers. Native bands in the central California coastal region were among the first tribes and Indigenous communities in California to encounter Europeans when Spanish explorers arrived in the mid-1500s. Chumash, Salinan, and Esselen peoples were heavily impacted by the establishment of several Spanish missions in the region in the late 1700s and later the arrival of Mexican and American settlers and ranchers (Millikin and Johnson, 2005; Chung, 2018). The subsequent onslaught of disease, removals from homeplaces to missions, forced labor, and vigilante violence and genocide resulted in tremendous population declines and displacement from tribal lands (BOEM, 2022). Today, many of the tribes in the central California region do not have formal ownership or management of lands within their ancestral territories. However, the Santa Ynez Band of Chumash Indians has over 1,500 acres in Santa Barbara County in trust as a reservation (SYBCI, 2021b). Other tribes work with nonprofit and government organizations to regain or protect areas of their homelands (BOEM, 2022, pp. 74–75; YTT, 2023).

Chumash ancestral territory has been described as encompassing approximately 7,000 square miles on the central California coastline from what is today Malibu to Paso Robles, including the four northern Channel Islands, and inland to the western edge of the San Joaquin Valley (SYBCI, 2021a; UXL, 2008). Efforts have been made to understand the historical northern coastal range of Chumash occupation as it joins with the historical southern coastal areas of the Salinan people (Millikin and Johnson, 2005). The yak tityu yak tilhini Northern Chumash Tribe describes the homeland of tilhini peoples as inclusive of a coastal area that extends northward to Ragged Point on the coast of Big Sur (YTT, 2022).

The Chumash were traditionally, and continue to be, inextricably connected to the marine environment. They are recognized as one of the few ocean-going tribes and Indigenous communities on the California coast (NCTC, 2015), traveling to sea, to the Channel Islands, and along the coast in traditional redwood plank canoes called tomols. Coastal Chumash traditionally harvested an array of marine resources such as abalone and other shellfish, *Olivella* shells, fish, kelp and other seaweeds, and marine mammals (Kennett, 2005). Chumash individuals and organizations describe the importance of coastal areas of the central California region to Chumash culture and work to revive coastal- and ocean-based cultural traditions: “The Chumash way of life is interwoven with the ocean and the many clans who still exist and thrive on the central coast.” (NCTC, 2015; p. 9) Today, Chumash people celebrate their ancestral ocean voyages in tomol canoes to honor their ancestors (Cordero et al., 2016) and continue to honor ceremonial sites within their historic areas.” (NCTC, 2015; p. 9). Coastal and marine-based cultural activities include a renewal of tomol voyages, including from the mainland to Santa Cruz Island, and associated ceremonies, among other activities (Cordero et al., 2016). The Chumash are a maritime culture, and the tomol crossings are significant to Chumash culture and the restoration of Chumash maritime heritage (Cordero, 2009; Pagaling, 2018; NCTC, 2015).

Representatives of Chumash tribes have expressed to NOAA and BOEM that they consider many locations along the central coast region to be sacred places (BOEM and CEC, 2021). In particular, Morro Rock and the surrounding waters has been identified as a culturally significant place (BOEM and CEC, 2021). The Channel Islands and surrounding waters and Point Conception are also identified as significant places for Chumash tribes (NCTC, 2015; Cordero et al., 2016). Tribes often choose to hold sacred or culturally important places confidential, and BOEM and NOAA recognize that many other coastal and offshore locations are important to tribes. The mention of a few publicly identified locations here is not intended to imply these are the only important or sacred places. During the scoping period for the proposed sanctuary, the Northern Chumash Tribal Council described sacred sites along the coast of the study area as including the following:

“Point Conception, an extremely important Chumash Sacred Place known to Native Americans as the Western Gate, Humqaq.” (NCTC, 2022, p. 4). “It is the spot where souls leave this world, and local archeological sites confirm we [Chumash] have been its guardians for over 20,000 years.” (NCTC, 2022, p. 13).

“Other sites adjacent to or extending into submerged land include Jalama; two 10,000-year-old sites within Vandenberg AFB including the “Swordfish Cave” featuring an ancient painting

of Elye'wun; sites at Point Sal; four major Chumash Sacred sites onshore San Luis Bay of which three known to have been continuously occupied for at least 9,000 years: the site for which the City of Pismo Beach is named, the site was the Chumash people return to renew the Traditional Ritual Ceremony Cycle, the old Chumash Capital in Avila Beach, now partially covered by sea-level rise, the Chumash Sacred site at Diablo Cove along the coastline of the Pecho Coast dated over 9,000 years, the Chumash Village Sacred site in Los Osos; hundreds of Chumash Sacred sites ringing Morro Bay; the Chumash village Sacred site of Cayucos (continuously occupied for 8,000 years); other large sites found in the area to a mile north of Pt. Estero; and two Chumash village Sacred sites in Cambria continuously occupied for 10,000 years" (NCTC, 2022, p. 13), "and the sacred site and Bird Refuge of Morro Rock" (NCTC, 2022, p. 13–14).

"Chumash coastal and submerged sacred site areas continue northward to Ragged Point in the Monterey Bay National Marine Sanctuary. Several significant Chumash villages and foraging sites are found near Point Sal. A variety of sites are found within the Nipomo Dunes and adjacent to its wetlands. Extensive shell mounds from thousands of years of clamming have been documented. Other sites are positioned along the Pleistocene-era dunes of Nipomo and Arroyo Grande above what was once a large estuary formed by Arroyo Grande Creek and Price Canyon drainage. Several other sites surround the old estuary on its northern embankment. An unknown number of submerged sites are off Pismo Beach, most probably located along older drainage systems dating back nearly 20,000 years. Other Chumash sites have been covered by ocean rise. Significant Chumash solstice alignments arrive from the interior, passing through present coastal sites that 9,000 years ago were miles from the coast. Presently operating alignments pass along coastal benches and pass offshore to now-submerged rock outcrops, similar to those on the Carrizo Plain, and pass beyond over areas that were once dry land" (NCTC, 2022, p. 13–14).

The ancestral territory of Salinan-speaking groups covers the areas of the central California coast inland to the Temblor and Diablo ranges, including the Santa Lucia range and the areas encompassing the Salinas River (Xolon Salinan Tribe, 2019; STMSLO, 2020). The Salinan were traditionally a hunter-gatherer society who utilized abundant resources, such as acorns, pine nuts, and sage seeds, and a variety of land and marine animals (Chung, 2018; Taylor, ND). Among the first Native Americans in California to be impacted by Europeans, the establishment of Missions by the Spanish in the region greatly disrupted the lifeways and social structures of Salinan cultural groups (Taylor, ND; Rivers and Jones, 1993). Present-day Salinan-affiliated tribes and individuals work to maintain cultural practices connected to the natural environment (STMSLO, 2020; Xolon Salinan Tribe, 2019). The Xolon Salinan Tribe considers its ancestral coastal lands to include the area from around Point Sur south to near Morro Rock (map of territory, Xolon Salinan Tribe, 2019). Morro Rock, among other culturally important places in the central California region, is identified as a sacred place by many Salinan (Herrera, 2017; Shuman, 2021; Taylor, ND). The Xolon Salinan Tribe describes their ancestors as living within permanent and seasonal villages throughout coastal regions from Le'Sam lak' (Morro Lands) extending northward to Dolan Rock in Big Sur (K. White (Chair, Xolon Salinan Tribe), personal communication, January 21, 2022).

Many tribes in the region include as their mission the preservation and revitalization of cultural heritage through traditional practices, language, customary gathering of natural resources, and other means (STMSLO, 2020; Xolon Salinan Tribe, 2019; ETMC, 2021; SYBCI, 2021a). Tribes work to protect sacred sites and artifacts through advocacy and formal regulatory processes (e.g., NHPA, Native American Graves Protection and Repatriation Act). Additionally, several tribes indicate they identify as the original stewards and caretakers of their natural environment and recognize a cultural mandate to care for and maintain a relationship with traditional ecosystems (Cordero et al., 2016; NCTC, 2015; ETMC, 2021). Some tribes recognize an interconnection and relationship between humans and the natural world, including marine species and ecosystems. For example, “Chumash worldview holds that all living and non-living beings are relatives. This includes plants, animals, water, land, fire, wind, etc. Humans are neither at the apex nor the center of this worldview, but are part of a large extended family,” (Cordero et al., 2016, p. 187).

The National Park Service (NPS) completed a Gaviota Feasibility Study in 2003 to evaluate the area for possible designation as a unit of the National Park System. The NPS study area covered a 76-mile stretch of coastal watersheds in Santa Barbara County, from Coal Oil Point in the south, extending north to Point Sal (NPS, 2003). The cultural resource significance of this coastal area is well documented in the NPS Gaviota Feasibility Study and mapped (Figure 4.5-2). Study highlights relevant to the proposed sanctuary area, including Sub-Alternative 5b (which extends east along the Gaviota Coast to the east end of Naples SMCA, east of Dos Pueblos Creek), include the following:

- The NPS Gaviota Coast study area is rich in cultural resources that illustrate over 10,000 years of human inhabitation. Over 1,000 archeological and historic sites are documented, spanning national, state, and local levels of significance.
- Accessible ceremonial sites along the NPS study area coast continue to be used by Chumash people. Chumash tribal organizations remain actively engaged in protecting cultural and sacred sites and archeological resources along the Gaviota Coast.
- A 77-acre parcel of land was donated by Chevron Oil, east of Gaviota State Park, for Chumash cultural, social, and ceremonial use purposes.
- Chumash organizations and tribes continue to lack access to many cultural and sacred sites. For example, access to Point Conception (Humqag) is limited by surrounding private property.
- VSFB has granted Chumash tribes and tribal groups with access to sacred sites since 1974.
- The abundance of resources within the study area accounted for the richness and cultural complexity of the Chumash in this area.
- The unique environment of the study area east of Point Conception, a south-facing coast with a channel sheltered by the offshore islands, allowed Chumash to develop and make use of the plank canoe, called a tomol, for fishing and trade with other Chumash groups. Chumash villages north of Point Conception could not make use of the plank canoe in the rough waters and instead relied on the abundance of shellfish in this area.

- There were approximately fourteen Chumash villages within the study area at the time of historic contact. The largest Chumash village on the California Coast at the time of historic contact was Mikiw, located on the west bluff of Dos Pueblos Canyon.
- A prehistoric village located near Pillar Point on VSFB and twelve sites at Point Conception have been listed on the NRHP (U.S. Air Force, 1998; Palmer, 2002).
- Archeological deposits in the Gaviota Coast study area date back as far as the Paleoindian Period (13,000–8,500 B.P.) (Johnson, 2002).
- Most of the sites inhabited were located at the mouths of rivers and along the seashore where there was an abundance of food (Gibson, 1991).
- Because development has been limited along the study area coast, the region has many sites that have retained a high degree of integrity (Johnson, 2002).
- The range of sites documented within the Gaviota Coast study area includes rock art, shrines, village sites, camp sites, cemeteries, organic remains, evidence of trade systems, and evidence of various forms of subsistence, including hunting, fishing, and extraction (NPS, 2003).

The pronounced Chumash cultural significance of the Gaviota coast is also well researched and substantiated through the work of L.H. Gamble (2008).

Maritime Heritage Resources

Historical archaeological and cultural heritage resources are collectively referred to as “maritime heritage” and include the wide variety of tangible and intangible resources that represent human connections to ocean areas. Archaeological sites and other cultural resources, such as shipwrecks and Native American artifacts, are protected under state and federal law, including the NHPA (54 U.S.C. § 300101 *et seq.*).

As described above, the coastal area in the study area has been occupied for centuries by Indigenous people. The area embodies a special sense of place with sacred meaning and significant cultural values for the Chumash, Salinan, and other Indigenous people that still reside in the region today (NOAA, 2020). During the post-contact period, the California central coast comprised maritime activities since the mid-16th century. Juan Rodriguez Cabrillo and his successor, Bartolome Ferrer, led the first European exploration of this coastline from 1542–1543. The Spanish east-bound Manilla Galleon Trade Route starting in 1565 continued for about 250 years with vessels passing south along the central coast. In the years to follow, Pedro Unamuno, 1587; and Sebastian Vizcaino, 1602; were in the region exploring and mapping the coastline and establishing European place-names (Bailey, J., 1982). During the Spanish period (1769–1821), missions and presidios were established along the California coast extending from Sonoma to San Diego. San Luis Obispo de Tolosa (1772) was the first mission founded in the land of the Chumash people. In the early 19th century, agriculture and ranching activities led to the growth of the hide and tallow trade. Other maritime activities included the fur trade, whaling, commercial fisheries, and foreign and domestic trade. During World War II, the Japanese Imperial Navy’s submarines were attacking U.S. merchant shipping in the region (Webber, B., 1992). Today, commercial fisheries, recreational boating, exploration and survey vessels, military and merchant shipping continue. The offshore shipping lanes are major trade routes for vessels engaged in foreign and domestic trade.

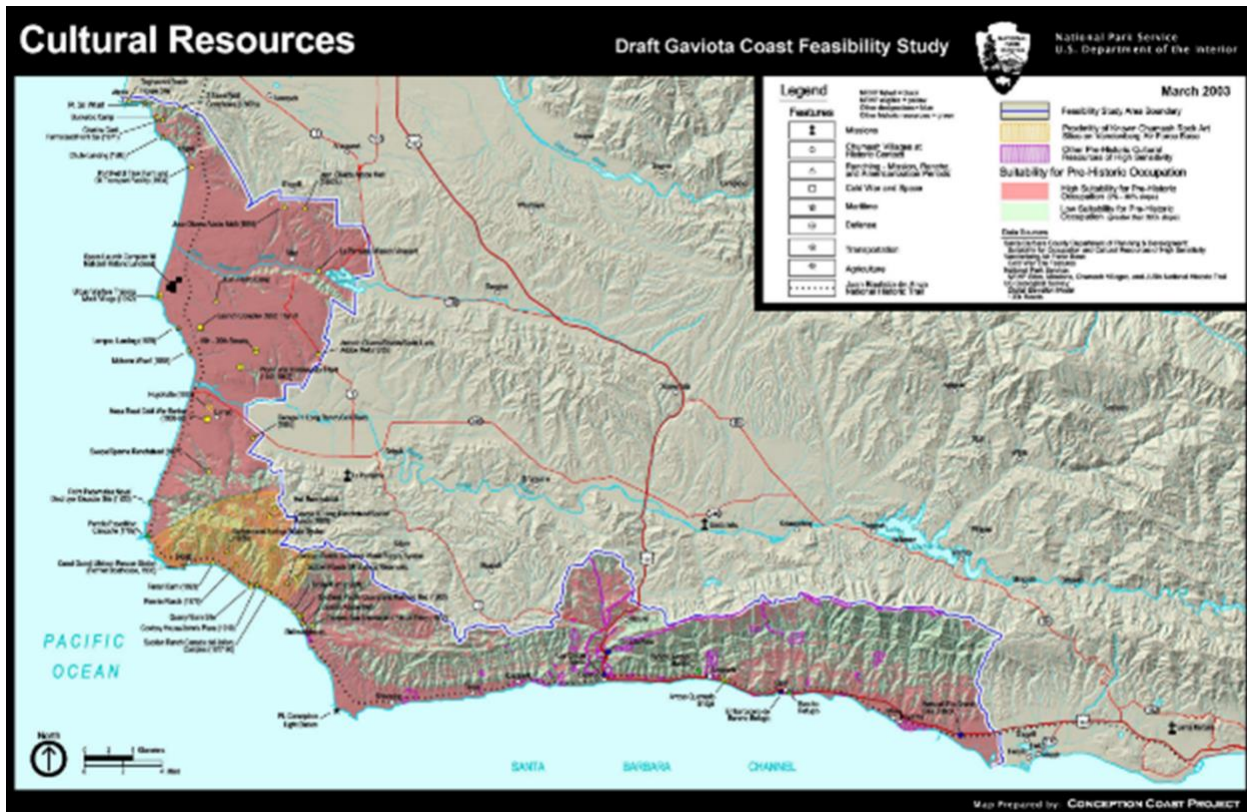


Figure 4.5-2. Cultural resources map for the National Park Service’s Gaviota Coast Feasibility Study completed in 2003. Available [online](#). Source: ICF, 2003

The region off Point Conception and to the north up to Point Sal is considered California’s central coast graveyard of shipwrecks due to the high number of vessel losses in close proximity to each other (Schwemmer, R., 2022). George Davidson, surveyor with the U.S. Coast Survey, later U.S. Coast and Geodetic Survey, and author of “Pacific Coast – Coast Pilot of California, Oregon, and Washington 1889” describes California steamers stranding in the region in foggy weather before the establishment of a fog-signal at Point Conception. He further describes Point Conception as the “Cape Horn” and the “Hatteras” of the Pacific, on account of the “heavy northwesterners” winds (Davidson & U.S. Coast and Geodetic Survey, 1889, p. 66). The first lighthouse at Point Conception was started in 1854. With delays in finishing the lighthouse station, in 1855 a petition from the steamship companies to the U.S. Lighthouse Board begged for a fog-bell and life-boat at Point Conception due to its peculiar geographical position, isolated and dangerous, lying as it does directly in the track of the whole trade from San Francisco to Panama. Even after the completion of the lighthouse station in 1856, 19 years later it was recommended that a new lighthouse structure be built on the lower bluff as the current light was frequently hidden in layers of fog. The new lighthouse was constructed in 1881 and first exhibited in 1882.

As the air and land warms along the central coast in summer months, the hot air rises creating a vacuum for the cold moisture-filled ocean air to rush in creating foggy conditions. These foggy conditions have been the leading cause for multiple vessel strandings and vessel collisions offshore prior to the availability of radar and modern navigation equipment. Even in modern

times, collisions still occur, as in the case of the bulk carrier M/V *Pacbaroness* colliding with the car-carrier M/V *Atlantic Wing* off Point Conception in 1987. *Pacbaroness* sunk in 1400 feet (427m) of water with its cargo of 21,000 metric tons of copper concentrate, bunker fuel, and lubricants, and is still considered a potentially polluting wreck (Schwemmer, R., 2002). In 2002, NOAA's Sanctuary Quest: West Coast Expedition with a multidisciplinary team of scientists conducted remotely operated vehicle (ROV) reconnaissance dives at the wreck site and collected sediment samples (NOAA, 2013).

There are numerous submerged historic maritime heritage resources that include the remains of landings, wharves, and ship and aircraft wrecks located in the study area, some of which are important in our nation's history and are listed on the NRHP. The NRHP is maintained by the Department of Interior; under the NHPA and its implementing regulations (36 C.F.R. part 60), properties or other cultural and historic resources that meet the required criteria may be added to the NRHP by acts of Congress, directly by the Department of Interior, or through nominations submitted by federal agencies, states, local governments, or persons (consistent with the requirements of the NHRP regulations). The NHPA requires federal agencies to consider the effects of their undertakings on historic properties. Over two hundred ship and aircraft wrecks have been reported in the study area; several vessels were later salvaged or were reported as not being a total loss (see Table 4.5-1). Shipwreck sites currently listed on the NRHP are described below.

The California Gold Rush side-wheel passenger steamer S.S. *Yankee Blade* stranded in fog off Point Pedernales in 1854 with 939 passengers and crew aboard, resulting in the loss of approximately 30 souls. The site of the shipwreck remains was nominated to the NRHP and successfully listed on May 16, 1991.

S.S. *Montebello*, an oil tanker owned by the Union Oil Company of California, was torpedoed off Cambria by the Imperial Japanese Navy's submarine I-21 on December 23, 1941, just over two weeks after the attack on Pearl Harbor. Heroic citizens of Cambria, Cayucos and Morro Bay risked their lives and vessels to launch a sea and shoreline rescue that saved all 38 crewmen. NOAA and MBNMS funded two submersible expeditions in 1996 and 2003 to survey and characterize the archaeological remains of this historically significant shipwreck associated with the Japanese submarine patrols in the Eastern Pacific during WWII (Schwemmer et al., 2009). In 2011, the USCG conducted an ROV survey assessment, in partnership with the state of California and ONMS, to determine if the wreck contained its original cargo of over three million gallons of crude oil. It was determined by USCG that there is no substantial oil threat from the *Montebello* to California waters and shorelines (USCG, 2011). ONMS submitted a nomination to list the shipwreck S.S. *Montebello* to the NRHP (Schwemmer, 2016). The listing was approved on September 20, 2016, commemorating the 75th anniversary year of the loss.

USCG Cutter *McCulloch* was sunk in a collision with the passenger ship S.S. *Governor* near Point Conception on June 13, 1917. At the time of the collision, *McCulloch* was involved in World War I patrols along the Eastern Pacific and was en route to the Mare Island Naval Shipyard to be refitted with larger guns. *Governor's* lifeboats were deployed rescuing 92 of the cutter's USCG and U.S. Navy personnel. *McCulloch's* contributions in American history included serving in the U.S. Revenue Service in the Bering Sea Patrols as a floating courtroom in the summer months

and patrolling the coastline between Cape Blanco, Oregon, and the Mexican border. Its early history included being the first U.S. Revenue Service cutter to pass through the Suez Canal and Indian Ocean. The cutter and its crew are most noted for serving at the Battle of Manila Bay under the command of Commodore George Dewey, ultimately becoming Dewey's official dispatch ship to deliver the news of the first successful battle of the Spanish American War. During a joint NOAA – USCG ROV mission off the NOAA R/V *Shearwater* in 2016, the archaeological remains of the shipwreck *McCulloch* were confirmed (Schwemmer et al., 2021). In 2020, ONMS and the USCG submitted a nomination to list the shipwreck USCG cutter *McCulloch* to the NRHP. On April 22, 2021, the site of the shipwreck remains was listed to the NRHP, as well as California's Register of Historical Resources.

Another historically significant vessel loss in the region, not located, is the U.S. Quartermaster steam auxiliary bark USS *Edith* lost at San Antonio River (north VSFB) in 1849. At the time, it was headed for Santa Barbara and San Diego to pick up delegates who were to attend California's state constitutional convention at Monterey. This is the earliest known steamship loss in the Eastern Pacific along the U.S. continental mainland and possibly the first U.S. military vessel loss in the area. Other military wrecks include several WWII military aircraft reported in the study area; to date no surveys have confirmed their locations. The U.S. Navy's worst peacetime disaster due to the loss of seven navy destroyers, known as the "Honda Naval Disaster" occurred at Point Pedernales on September 8, 1923. Twenty-three sailors' lives were lost as a result of this peacetime disaster when the USS *Delphy*, USS *Young*, USS *Chauncey*, USS *S. P. Lee*, USS *Nicholas*, USS *Woodbury*, and USS *Fuller* stranded in fog due to navigational error. Just north of the Honda Naval Disaster are the remains of the civilian passenger cargo steamships S.S. *Santa Rosa* lost 1911 and the S.S. *Harvard* lost 1931 as a result of errors in navigation. At Point Pedernales are the remains of the Japanese tanker M/V *Nippon Maru* lost in 1933.

Known submerged remains of historic landings, wharves, and piers are listed in Table 4.5-2.

Table 4.5-1. Known shipwreck sites.

Name	Year Lost	Type/Service	Site Location	Presence in Alternatives*						
				IBA	1	2	3	4	5a	5b
<i>Yankee Blade</i> **	1854	Steamship/Passenger – Cargo	Point Pedernales	✓	✓	✓	✓	✓		
<i>Gosford</i>	1893	Bark/Collier	Cojo Bay	✓	✓	✓	✓	✓		
<i>San Pedro</i>	1894	Steamship/Wrecker	Cojo Bay	✓	✓	✓	✓	✓		
<i>Sibyl Marston</i>	1909	Steam Schooner	Surf	✓	✓	✓	✓	✓		
<i>Santa Rosa</i>	1911	Steamship/Passenger – Cargo	Point Pedernales	✓	✓	✓	✓	✓		
USCG Cutter <i>McCulloch</i> **	1917	USCG Cutter	Point Conception	✓	✓	✓	✓	✓		
USS <i>Delphy</i>	1923	U.S. Navy Destroyer	Point Pedernales	✓	✓	✓	✓	✓		
USS <i>S. P. Lee</i>	1923	U.S. Navy Destroyer	Point Pedernales	✓	✓	✓	✓	✓		
USS <i>Nicholas</i>	1923	U.S. Navy Destroyer	Point Pedernales	✓	✓	✓	✓	✓		
USS <i>Woodbury</i>	1923	U.S. Navy Destroyer	Point Pedernales	✓	✓	✓	✓	✓		

Name	Year Lost	Type/Service	Site Location	Presence in Alternatives*						
				IBA	1	2	3	4	5a	5b
USS <i>Young</i>	1923	U.S. Navy Destroyer	Point Pedernales	✓	✓	✓	✓	✓		
USS <i>Chauncey</i>	1923	U.S. Navy Destroyer	Point Pedernales	✓	✓	✓	✓	✓		
USS <i>Fuller</i>	1923	U.S. Navy Destroyer	Point Pedernales	✓	✓	✓	✓	✓		
<i>Harvard</i>	1931	Steamship/Passenger – Cargo	Point Pedernales	✓	✓	✓	✓	✓		
<i>Nippon Maru</i>	1933	Motorship Tanker	Point Pedernales	✓	✓	✓	✓	✓		
<i>Montebello</i> **	1941	Motorship Tanker	Cambria	✓	✓					
<i>Humble SM-1</i>	1961	Oil Drilling Barge	Government Point	✓	✓	✓	✓	✓		
<i>Pacbaroness</i>	1987	Motorship Bulk Carrier	Point Conception	✓	✓	✓	✓	✓		
<i>Ballena</i>	2000	NOAA Research Vessel	Point Arguello	✓	✓	✓	✓	✓		
<i>Nash</i>	2014	Freight Barge	Point Conception	✓	✓	✓	✓	✓		

* Abbreviations for alternatives: IBA = Initial Boundary Alternative, 5a = Sub-Alternative 5a, 5b = Sub-Alternative 5b.

** Listed on the NRHP.

Source: Schwemmer, R., 2022.

Table 4.5-2. Historic landings, wharves, and piers.

Historic Place Name	County	Nearest Geographic Place Names	Presence in Alternatives*						
			IBA	1	2	3	4	5a	5b
Cayucos Landing & Pier	San Luis Obispo	Cayucos	✓	✓			✓		
Pecho Landing	San Luis Obispo	Point Buchon	✓	✓					
Mallagh’s Wharf	San Luis Obispo	San Luis Obispo Bay							
People Wharf	San Luis Obispo	San Luis Obispo Bay							
Harford Wharf**	San Luis Obispo	San Luis Obispo Bay							
Union Oil Wharf	San Luis Obispo	San Luis Obispo Bay							
Pismo Landing	San Luis Obispo	Pismo	✓	✓	✓	✓	✓		
Point Sal Wharf	Santa Barbara	Point Sal	✓	✓	✓	✓	✓		
Chute Landing	Santa Barbara	Point Sal South	✓	✓	✓	✓	✓		
Meherin Wharf	Santa Barbara	Lompoc North	✓	✓	✓	✓	✓		
Lompoc Landing	Santa Barbara	Purisima Point	✓	✓	✓	✓	✓		
Espada Landing	Santa Barbara	Point Conception	✓	✓	✓	✓	✓		
Gaviota Wharf	Santa Barbara	Gaviota	✓	✓	✓	✓	✓		

* Abbreviations for alternatives: IBA = Initial Boundary Alternative, 5a = Sub-Alternative 5a, 5b = Sub-Alternative 5b.

** Within Port San Luis, not technically within the sanctuary.

Source: Davidson & U.S. Coast and Geodetic Survey, 1889.

4.5.2 Impact Assessment Methodology (Cultural Heritage and Maritime Heritage Resources)

In evaluating the potential for significant impacts, ONMS considered the potential for the proposed action to cause effects on significant cultural and historical resources. ONMS evaluated several criteria for determining which sites may be identified as significant cultural or historical resources. Cultural and historical resources must meet certain federal criteria to be considered a significant historic resource. The following significance criteria are the basis for determining inclusion of a property on the NRHP (36 C.F.R. 60.4). The property must have the following:

- Association with events that have made a significant contribution to the broad patterns of our history.
- Association with the lives of persons significant to our past.
- Resources that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose component may lack individual distinction.
- Resources that have yielded, or may be likely to yield, information important in prehistory or history.

Pursuant to the NHPA and its implementing regulations (see Appendix E for details on NHPA section 106), a proposed action would have an adverse effect on a historic property when it may alter, directly or indirectly, any of the characteristics of the property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 C.F.R. 800.5). Adverse effects include, but are not limited to, the following:

- Physical destruction, damage, or alteration of all or part of the property.
- Removal of the property or alteration of the character of the property's setting when that character contributes to the property's qualifications for the NRHP.
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or changes that alter its setting.
- Neglect of a property resulting in its deterioration or destruction.
- Transfer, lease, or sale of a property without adequate provision to protect the property's historic integrity.

Any of these adverse effects on a significant cultural or historical resource would be considered a significant effect. In addition, an action that may alter any characteristic of a resource determined by a Native American tribe to be of traditional religious and cultural significance to the tribe would be considered to have a significant effect. Effects may include changes to a cultural resource or its setting. ONMS considers potential beneficial effects to be significant if they would result in a substantial increase in long-term protection of a historical resource and/or a considerable action to honor, promote, or enhance cultural resource values or qualities.

The following assessment of impacts (beneficial, adverse, and cumulative) on cultural and maritime heritage resources within the Initial Boundary Alternative area as well as within the range of additional boundary alternatives is based upon the understanding that the location of all such resources is not known. Known shipwreck sites and other historic landings, wharfs, and piers (see Tables 4.5-1 and 4.5-2) do not represent the full inventory of maritime heritage sites that are expected to be present; several ships, for example, were reported lost in the area but have not been found or recorded. Similarly, with regard to cultural resources, definitive and comprehensive lists of known site locations do not exist. Paleoshoreline environments are assumed to have the potential for containing artifacts and other Indigenous cultural heritage resources within the benthic sediments. Additionally, it is understood that many local tribes hold in private additional information about sensitive and significant cultural sites. Exact locations of Native American Cultural Resources (e.g., locational information for pre-contact archaeological sites, or traditional cultural properties) are protected under NHPA, ARPA, and FOIA exceptions. Consequently, for both maritime heritage and cultural resources, it is generally assumed in this assessment that the extent of such resources present within each boundary alternative lessens with overall reduced boundary size by an amount that cannot be quantified.

4.5.3 Environmental Consequences of the Initial Boundary Alternative (Cultural Heritage and Maritime Heritage Resources)

There are both beneficial and minor adverse impacts on cultural heritage resources and maritime heritage resources implementing the Initial Boundary Alternative.

Beneficial Impacts on Cultural Heritage Resources and Maritime Heritage Resources

Implementing the Initial Boundary Alternative would have the following types of beneficial impacts on cultural heritage resources and maritime heritage resources in the study area:

- Direct protection of resources through proposed sanctuary regulations and implementation of components of the management plan that would directly protect underwater cultural and heritage resources from disturbance and physical damage (see Section 3.2).
- Enhanced management of underwater cultural and heritage resources from information gained through research and monitoring activities, as well as ongoing consultation and collaboration with local tribes.
- Increased stewardship and heightened awareness of underwater cultural and heritage resources by conducting community outreach activities and volunteer training that helps foster awareness of these resources, and by emphasizing resource sensitivity concerns with enforcement partners.

Direct Protection of Underwater Cultural Heritage Resources and Maritime Heritage Resources

Under the Initial Boundary Alternative, NOAA would directly protect underwater cultural and maritime heritage resources in the proposed sanctuary from injury and disturbances by

developing and enforcing regulations, and by implementing a long-term, comprehensive management plan. The proposed regulations (see Section 3.2.2) would directly protect these underwater resources by prohibiting “possessing, moving, removing, or injuring, or attempting to possess, move, remove or injure, a sanctuary historical resource.” This prohibition does not apply to “moving, removing, or injury resulting incidentally from lawful kelp harvesting or lawful fishing activities.” These proposed regulations would enforce the principles of in situ preservation of underwater cultural resources in the sanctuary to maintain their long-term integrity. These sanctuary regulations would provide additional protection to cultural heritage and maritime heritage resources in addition to existing protections under state and federal law. See Appendix F for more details on relevant federal and state statutes applicable to cultural heritage and maritime heritage resources in the study area.

With regard to Native American cultural and ceremonial activities, a proposed category for sanctuary general permits would allow those types of activities to be approved that: “will promote or enhance local Native American cultural or ceremonial activities; or will promote or enhance education and training related to local Native American cultural or ceremonial activities.” In this manner, the Initial Boundary Alternative would protect and preserve the integrity of submerged cultural resources, while also supporting associated cultural resource values and Native American community practices. NOAA is proposing this general permit category to address a need identified during scoping; specifically, NOAA received a scoping comment letter stating that tribes and Indigenous communities should be allowed to conduct the following cultural activities in the proposed sanctuary: collecting culturally significant resources including bones, feathers, shells, animals and plants; burials of cremated remains in biodegradable receptacles; survey and other work at submerged Indigenous living sites, like villages or caves, including collecting artifacts like stone bowls or pestles. The proposed permit category would be recipient neutral; i.e., any person, as that term is defined in 15 C.F.R. 922.11, would be able to apply for a permit under the proposed category. However, permits may only be issued for those activities that will promote or enhance local Native American cultural or ceremonial activities or education and training related to such activities. NOAA has determined that this proposed permit category would further the purposes and policies of the NMSA by facilitating uses of sanctuary resources compatible with the primary objective of resource protection, and by enhancing public awareness, understanding, appreciation, and wise and sustainable use of the historical, cultural, and archaeological resources of the proposed sanctuary.

Enhanced Management of Underwater Cultural Heritage Resources and Maritime Heritage Resources through Research and Monitoring and Tribal Consultation and Engagement

Under the Initial Boundary Alternative, NOAA’s designation of a sanctuary would enhance the management of underwater cultural and heritage resources through collection of data and information, and application of traditional ecological knowledge, to support resource protection and informed management decisions. For example, under the proposed Management Plan’s Indigenous Cultural Heritage Action Plan and Maritime Heritage Plan, NOAA would conduct research and monitoring programs that would fill important gaps in archaeological knowledge and historical context of cultural heritage resources and maritime heritage resources. NOAA

would engage in a research and exploration effort in state and federal waters to find and characterize paleoshorelines. As part of its Indigenous Cultural Heritage Action Plan, NOAA would celebrate and protect the unique Indigenous cultural heritage and resources connected to the sanctuary through meaningful collaboration and partnership with Chumash and Salinan communities.

In addition, the Maritime Heritage Action Plan calls for NOAA to conduct research to assess and collate baseline data on known shipwrecks, and their associated artifacts. As described in Section 4.5.1, there are over two hundred ship and aircraft wrecks that have been reported for the Initial Boundary Alternative area; several vessels were later salvaged or were reported as not being a total loss. There are 20 known shipwreck sites, three of which are listed on the NRHP (see Table 4.5-1). NOAA would collect data addressing eligibility for the NRHP (see Section 4.5.2) and the condition of the sites using various methodologies, including such activities as scuba, ROV, and towed instrument or remote sensing surveys. NOAA would develop and implement a monitoring program for underwater cultural resources in the sanctuary. These proposed research and monitoring activities would inform long-term management of underwater cultural resources.

Enhanced Stewardship through Education and Outreach Activities, Tribal Consultation, Volunteers, and Law Enforcement Training

Under the Initial Boundary Alternative, NOAA's implementation of education, outreach, community engagement, volunteer, and enforcement coordination programs would enhance protection of underwater cultural heritage and maritime heritage resources in the sanctuary by fostering awareness and stewardship of these resources. The proposed sanctuary's draft management plan includes several strategies and activities for promoting public education. NOAA anticipates that under the Initial Boundary Alternative, its education and outreach efforts and Indigenous community collaborations would enhance public appreciation of the historical and cultural significance of the proposed sanctuary's resources and encourage greater public stewardship of the area. For example, NOAA would promote marine technology with educators and develop outreach programs that endorse sanctuary resource protection, such as publicizing best management practices for scuba divers to minimize their impacts while wreck diving. NOAA would work closely with Native American tribes and involved Indigenous community groups to understand specific cultural resource sensitivities and needs for protection, and implement education, training, and outreach activities accordingly. For example, NOAA would develop programs for volunteers to assist with sanctuary interpretation, including training on cultural resource significance and sensitivity. Further, NOAA would work with several partnering law enforcement agencies to raise awareness about cultural resource sensitivities and the need for oversight.

Summary of Beneficial Impacts on Underwater Cultural Heritage Resources and Maritime Heritage Resources

Overall, the **beneficial impacts** on underwater cultural heritage and maritime heritage resources from implementing the Initial Boundary Alternative would be **direct, long-term,** and **significant**. This is due primarily to the direct and permanent protections of these culturally and historically significant resources that would be provided by implementing

regulations to prohibit harm or injury to shipwrecks and cultural/historic resources. In addition, protection of these resources would be enhanced through conducting research and monitoring activities to inform long-term management, ongoing tribal consultation, and enhancing stewardship through outreach initiatives, volunteer involvement, and enforcement agency coordination.

Adverse Impacts on Underwater Cultural Heritage Resources and Maritime Heritage Resources

Implementing the Initial Boundary Alternative could have some minor adverse impacts on cultural and historical resources in the study area due to increased field activities and site visitation. NOAA-led field activities to support management of the proposed sanctuary could include vessel operations and maintenance; scuba operations; deployment of autonomous underwater vehicles (AUVs), remotely operated vehicles (ROVs), gliders, and drifters; and archaeological site investigations. These activities have the potential to cause minor adverse impacts. Deploying AUVs, ROVs, and remote sensing equipment to better document underwater cultural resources within the proposed sanctuary would carry a slight risk of entanglement or accidental contact with a wreck or other historic resource. However, NOAA operators are highly trained, deploy these types of vehicles regularly, and follow NHPA protocols that describe how to avoid harm to cultural heritage and maritime heritage resources.

Scuba diving during field activities could injure cultural and maritime heritage resources if divers use improper diving techniques and make physical contact with a wreck or submerged cultural resource. Under the Initial Boundary Alternative, NOAA would conduct scuba diving operations as part of its research efforts to study known and possible shipwrecks within the proposed sanctuary. NOAA divers would adhere to the established NOAA guidelines for archaeological site work.

Most recreational divers responsibly follow best management practices. However, poorly trained or careless recreational divers could damage underwater cultural or maritime heritage resources by using improper diving techniques. Designating the proposed sanctuary may increase non-NOAA dive traffic within its boundaries. NOAA's education and outreach efforts would promote responsible diving practices and increase public appreciation and stewardship of these sanctuary resources. Overall, any **adverse impacts** on underwater cultural and maritime heritage resources from implementing the Initial Boundary Alternative would be **negligible** due to best management practices NOAA would follow during research and other field activities and due to NOAA's efforts to promote responsible diving practices for recreational divers. See Appendix C for more details on proposed best management practices.

4.5.4 Environmental Consequences of Alternative 1 (Cultural Heritage and Maritime Heritage Resources)

Under Alternative 1, Bank to Coast, NOAA would focus research and monitoring activities on fewer underwater cultural heritage and maritime heritage resources west of the Santa Lucia Bank compared to the Initial Boundary Alternative, which would reduce the amount of new archaeological information available for the research community, public, and tribes. Alternative 1 would still include offshore areas known to be paleoshoreline environments where submerged

cultural resources may be located under bottom sediments (see Figure 4.5-1). Alternative 1 might represent a smaller number of shipwreck sites, yet at this time NOAA is unaware of known shipwrecks or other submerged cultural sites that would be excluded from sanctuary protection.

Nonetheless, this alternative would protect a substantial number of nationally significant shipwreck sites and coastal cultural heritage resources, in the same way as the Initial Boundary Alternative. Therefore, the **beneficial impacts** on underwater cultural resources from implementing Alternative 1 would be **significant** and the same as for the Initial Boundary Alternative. Any **adverse impacts**, under Alternative 1, would be **negligible** because NOAA would follow best management practices (see Appendix C) during research and other field activities while promoting responsible diving practices for recreational divers.

4.5.5 Environmental Consequences of Alternative 2 (Cultural Heritage and Maritime Heritage Resources)

Under Alternative 2, Cropped Bank to Coast, NOAA would focus research and monitoring activities on fewer underwater cultural heritage and maritime heritage resources as compared to the Initial Boundary Alternative, which would reduce the amount of new archaeological information available for the research community, public, and tribes. Under Alternative 2, the proposed sanctuary boundaries would include a smaller number of shipwreck sites within recreational and technical diving limits, resulting in fewer opportunities for visitor engagement and enjoyment. Importantly, Alternative 2 would not provide additional federal protection for the shipwreck SS *Montebello* that is listed on the NRHP (see Section 4.5.1), since it would be outside of the proposed sanctuary boundaries. In addition, NOAA and partners' interpretive activities would be narrower in scope than under the Initial Boundary Alternative or Alternative 1 due to the reduced geographic scope of the proposed sanctuary.

Under Alternative 2, the coastal area extending north from Hazard Canyon Reef in the northern portion of Montaña de Oro State Park would not be within the sanctuary. As such, the extent of coastal culturally sensitive and sacred sites within the sanctuary would be significantly reduced compared to the Initial Boundary Alternative. Also, not included within the sanctuary would be a stretch of coastal area from Los Osos to Cambria that several tribes (Northern Chumash and Salinan) identify as important parts of their historic territories.

Alternative 2 would still protect numerous nationally significant shipwreck sites and cultural heritage resources that would benefit from the regulatory protections and implementation of consultation and collaborative management practices with local tribes. However, NOAA believes the **direct, long-term, beneficial impacts** on underwater cultural resources from implementing Alternative 2 would be **moderate**, less than for the Initial Boundary Alternative. Any **adverse impacts**, under Alternative 2, would be **negligible** because NOAA would follow best management practices (see Appendix C) during research and other field activities while promoting responsible diving practices for recreational divers.

4.5.6 Environmental Consequences of Alternative 3 (Cultural Heritage and Maritime Heritage Resources)

Under Alternative 3, Diablo to Gaviota Creek, NOAA would focus research and monitoring activities on fewer underwater cultural heritage and maritime heritage resources as compared to the Initial Boundary Alternative, which would reduce the amount of new archaeological information available for the research community, public, and tribes. Under Alternative 3, the proposed sanctuary boundaries would include a smaller number of shipwreck sites within recreational and technical diving limits, resulting in fewer opportunities for visitor engagement and enjoyment. Importantly, Alternative 3 would not provide additional federal protection for the shipwreck SS *Montebello* that is listed on the NRHP (see Section 4.5.1), since it would be outside of the proposed sanctuary boundaries. In addition, NOAA and partner's interpretive activities would be narrower in scope than in the Initial Boundary Alternative or Alternative 1 due to the reduced geographic scope of the proposed sanctuary.

Under Alternative 3, the coastal area starting from one mile southeast of the private marina at Diablo Canyon, running north to Cambria, would not be within the sanctuary. As such, the extent of coastal culturally sensitive and sacred sites within and directly adjacent to the sanctuary would be significantly reduced as compared to the Initial Boundary Alternative. Also, not included within and adjacent to the sanctuary under Alternative 3 would be a stretch of coastal area from Diablo Canyon to Cambria that several tribes (Northern Chumash and Salinan) identify as important parts of their historic territories.

Alternative 3 would still protect numerous nationally significant shipwreck sites and cultural heritage resources that would benefit from the regulatory protections and implementation of consultation and collaborative management practices with local tribes. However, NOAA believes the **direct, long-term beneficial impacts** on underwater cultural resources from implementing Alternative 3 would be **moderate**, substantially less than the Initial Boundary Alternative and Alternative 1, and slightly less than Alternative 2. Any **adverse impacts**, under Alternative 3, would be **negligible** because NOAA would follow best management practices (see Appendix C) during research and other field activities while promoting responsible diving practices for recreational divers.

4.5.7 Environmental Consequences of Alternative 4 (Cultural Heritage and Maritime Heritage Resources)

Under Alternative 4, Combined Smallest, the smallest boundary alternative being considered, NOAA would focus research and monitoring activities on fewer underwater cultural heritage and maritime heritage resources, which would reduce the amount of new archaeological information available for the research community, public, and tribes. The effects on cultural and maritime heritage resources from approving Alternative 4 would largely be the same as explained for Alternative 3 in Section 4.5.6. In summary, the **long-term, direct beneficial impacts** on underwater cultural and maritime heritage would be **moderate**, substantially less than for the Initial Boundary Alternative and Alternative 1, and slightly less than Alternative 2. Any **adverse impacts**, under Alternative 4, would be **negligible** because NOAA would follow best

management practices (see Appendix C) during research and other field activities while promoting responsible diving practices for recreational divers.

4.5.8 Expanded Protection from Sub-alternatives 5a and 5b

Sub-Alternative 5a: Expansion for Morro Bay Estuary

Under Sub-Alternative 5a, expanding proposed sanctuary boundaries to include Morro Bay Estuary, NOAA would focus research and monitoring activities on additional possible underwater cultural heritage resources which would add to the amount of new archaeological information available for the research community, public, and tribes. Adding Sub-Alternative 5a to the Initial Boundary Alternative or to Alternative 1 would not include any additional known or reported shipwrecks in the proposed sanctuary boundaries. NOAA and partner interpretive activities would be slightly larger in scope than in the Initial Boundary Alternative due to the slightly larger geographic scope of the proposed sanctuary. Sub-Alternative 5a would likely place within the proposed sanctuary additional cultural “sacred sites” that “ring Morro Bay”, as noted by the Northern Chumash Tribal Council in their scoping comment letter. Although the precise locations of these sites are not known to NOAA, it is likely that some are found within the estuary area that is contained within Sub-Alternative 5a. Morro Rock and the surrounding Morro Bay are identified as sacred places by many Salinan (Herrera, 2017; Shuman, 2021; Taylor, ND).

This action has the potential to protect nationally significant cultural heritage resources. The incremental **long-term, direct beneficial impacts** on underwater cultural resources from implementing Sub-Alternative 5a would be **significant** due to the direct and permanent protection of any culturally significant resources in the Morro Bay Estuary that would be provided by implementing regulations to prohibit harm or injury to these resources, research and monitoring activities to inform long-term management of them, ongoing tribal consultation, and enhanced stewardship through outreach initiatives. Any **adverse impacts**, under Sub-Alternative 5a, would be **negligible** because NOAA would follow best management practices (see Appendix C) during research and other field activities while promoting responsible diving practices for recreational divers.

Sub-Alternative 5b: Gaviota Coast Extension

Under Sub-Alternative 5b, Gaviota Coast Extension, NOAA would focus research and monitoring activities on additional underwater cultural heritage and maritime heritage resources, which would add to the amount of new archaeological information available for the research community, public, and the tribes. Adding Sub-Alternative 5b to the Initial Boundary Alternative or any of the action alternatives would include three additional reported shipwrecks and two military aircraft wrecks in the proposed sanctuary and may provide additional recreational and technical diving opportunities for visitor engagement and enjoyment. One additional historic wharf site would also be included within the proposed sanctuary boundaries (see Table 4.5-2). In addition, NOAA and partner interpretive activities would be larger in scope than in the Initial Boundary Alternative due to the larger geographic scope of the proposed sanctuary.

Sub-Alternative 5b, by extending further along the Gaviota Coast to the east of Dos Pueblos Creek (see Figure 3-8 a and b), would add a significant number of coastal cultural resources beyond those included in the Initial Boundary Alternative. As described above and shown in Figure 4.5-2 the NPS Gaviota Coast Feasibility Study (NPS, 2003) documented the significant presence of coastal cultural resources, including in the area extending from Gaviota Creek (the eastern shoreline boundary of the Initial Boundary Alternative) to the east of Dos Pueblos Creek (the eastern coastal extent of Sub-Alternative 5b).

Overall, adding this sub-alternative to the Initial Boundary Alternative or any of the other action alternatives would protect more shipwreck sites and the waters offshore numerous significant cultural heritage resources. The incremental **long-term, direct beneficial impacts** on underwater and intertidal and coastal cultural and historical resources from implementing Sub-Alternative 5b would be **significant**. Any **adverse impacts**, under Sub-Alternative 5b, would be **negligible** because NOAA would follow best management practices (see Appendix C) during research and other field activities while promoting responsible diving practices for recreational divers.

4.5.9 Environmental Consequences of No Action (Cultural Heritage and Maritime Heritage Resources)

Under the No Action Alternative, NOAA would not designate a national marine sanctuary. The No Action Alternative would not result in any change to the existing state and federal management setting for cultural and historical resources along and offshore San Luis Obispo and Santa Barbara counties. The No Action Alternative would forgo the moderate to significant beneficial and negligible adverse impacts of implementing the Initial Boundary Alternative or alternatives on the resources and human uses in and around the proposed sanctuary. Generally, the No Action alternative would forgo the beneficial impacts of implementing sanctuary regulations, as well as management plan implementation that would provide comprehensive, long-term protection of cultural and historical resources located within the proposed sanctuary.

Under the No Action alternative, the suite of strategies and activities included within the proposed Indigenous Cultural Heritage Action Plan would not be implemented. Those strategies are directed at enhancing protection to Indigenous cultural resources through training, education, mitigation for research permits, ongoing consultation, and development of best practices for sanctuary research and management activities. Additionally, the No Action alternative would not provide for NOAA's use of Traditional Ecological Knowledge to enhance sanctuary management and resource protection, nor would it provide for the planned NOAA coordination and support for Indigenous community access to the proposed sanctuary for cultural purposes.

4.6 Socioeconomics, Human Uses, and Environmental Justice

This section describes recent socioeconomic and demographic conditions including population density, income and employment, and economic value to determine the baseline to be used in the impact analysis. This section describes sources of income and employment as indicators of the health of the local economy and opportunities for employment. An overview of what is currently known about the uses of the natural and cultural resources includes recreation,

tourism, land use, research, and education. Commercial fishing is addressed separately in Section 4.4. NOAA prepared a detailed socioeconomic profile to characterize recent demographic and economic conditions and to determine the baseline statistics to be used in the impact analysis of the alternatives (see NOAA’s Proposed Chumash Heritage National Marine Sanctuary Community Profile). The information is provided for the socioeconomic study area, which is composed of the counties of San Luis Obispo and Santa Barbara in the state of California. These two counties, referred to as the “sanctuary community” in this section, are the counties along the shoreline where the primary social and economic (socioeconomic) impacts would take place (see Figure 4.6-1).

The impacts on commercial fishing and aquaculture, cultural heritage and maritime heritage resources, offshore energy, marine transportation, and DoD and homeland security activities are addressed in sections 4.4, 4.5, 4.7, 4.8, and 4.9, respectively.

4.6.1 Regional Overview of Affected Environment (Socioeconomics, Human Uses, and Environmental Justice)

Socioeconomics

Population

In 2019, the total population of San Luis Obispo County was 283,111 and the total population in California was 39,512,223 (U.S. Census Bureau, 2020). The population of San Luis Obispo County was smaller than the total population of Santa Barbara County, which was 446,499 in 2019. The sanctuary community (San Luis Obispo and Santa Barbara counties) included 1.8% of the total population of California. Of the two counties in the sanctuary community, Santa Barbara County also had the highest population in 2010, at 1.1% of the total population of California, while San Luis Obispo County had 0.7%.



Figure 4.6-1. Proposed Chumash Heritage National Marine Sanctuary community counties. Image: NOAA

Population Growth

From 2010 to 2019, the population of San Luis Obispo County increased by 4.9% (U.S. Census, 2020). During the same period, the total population of Santa Barbara County increased by 5.2%, and the state of California's population increased by 5.9% (see NOAA's Proposed Chumash Heritage National Marine Sanctuary Community Profile).

Population Density

In 2010, the population density of San Luis Obispo County was 74 people per square mile (U.S. Census, 2020). The population density increased from 2010 to 2019, with a density of 78 people per square mile in 2019. Similarly, the population density of Santa Barbara County was 112 and increased in 2019 to 118 people per square mile. Both densities are lower compared with California.

Per Capita Income

In 2019, per capita income in San Luis Obispo County was \$61,004 (U.S. Census, 2020). Santa Barbara County had a per capita income of \$66,076 in 2019. The per capita income of California was \$70,662, ranking California sixth compared to the rest of the U.S. in 2019.

Poverty Rate

According to the U.S. Census, in 2019 the poverty rate for San Luis Obispo County was 11.8%, while in Santa Barbara County the poverty rate was 12.3% of the population. The poverty rate in the sanctuary community (12.1%) is slightly higher than the state-wide poverty rate (11.6%).

Demographics

Gender distribution

In 2019, the estimated population in San Luis Obispo County was 283,111 with 50.6% male and 49.4% female (see NOAA's Proposed Chumash Heritage National Marine Sanctuary Community Profile). The estimated population in Santa Barbara County was 446,499, with 50.0% male and 50.0% female in 2019 (Census.gov, 2020).

Race

In 2020, the San Luis Obispo County population was comprised of white as the largest racial group at 68.5% (non-white Latinos excluded). Asians comprised 4.0% of the population. In Santa Barbara County, white comprised 85.1% of the population (non-white Latinos excluded)

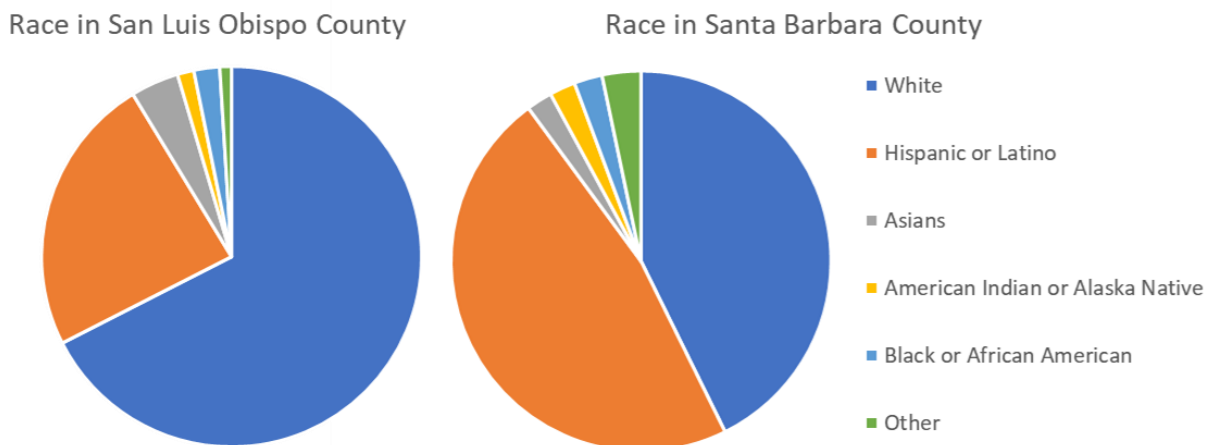


Figure 4.6-3. Race in San Luis Obispo and Santa Barbara Counties, 2019. Source: U.S. Census, Quick Facts for San Luis Obispo and Santa Barbara Counties, 2020

Ethnicity

In the 2020 census, Hispanic represents those of Hispanic, Latino, or Spanish origin and any race may identify as Hispanic. As of 2019, Hispanic people accounted for 22.9% of the San Luis Obispo County population, while in Santa Barbara County, 44.6% identified as Hispanic or Latino (U.S. Census, 2020).

Education level

At least 30% of the population over 25 years old in San Luis Obispo and Santa Barbara Counties have some college or associate degree. More than 20% have a bachelor's degree and 14% have a graduate or professional degree (See NOAA's Proposed Chumash Heritage National Marine Sanctuary Community Profile).

Economic Profile

Personal Income

In 2017, 58.3% of households in the proposed sanctuary community had a personal income of at least \$60,000 (see NOAA's Proposed Chumash Heritage National Marine Sanctuary Community Profile). For both counties, most households had a personal income between \$60,000 and \$149,999 (Samonte et al., 2023).

Employment by Industry Sector

There were 343,826 total employed civilians²⁴ in 2020 in San Luis Obispo County (131,426 individuals) and Santa Barbara County (212,400 individuals). The larger sectors of employment in Santa Barbara and San Luis Obispo counties are management, business, science, and arts (38.3%) and in-service occupations (20.6%) (see NOAA's Proposed Chumash Heritage National Marine Sanctuary Community Profile).

Land Use and Development

This section describes current land uses along the coast adjacent to the study area not described in other sections. Land use in the coastal areas of San Luis Obispo and Santa Barbara Counties that are adjacent to or could be affected by the proposed action (designating a new sanctuary) mainly consists of coastal communities with residential, industrial, civic, visitor serving uses; rural and remote residential uses, open space public uses, and agriculture uses. This discussion also addresses whether there is the potential for conflicts between the proposed action and the objectives of federal, regional, state, tribal, and local land use plans, policies, and controls for the study area.

Santa Barbara County

The County of Santa Barbara spans 110 miles of shoreline, of which only 20.4 miles (18.5%) are publicly owned beaches. The coastline supports a range of recreational uses, including surfing, kayaking, sunbathing, swimming, and nature study. These beaches, in addition to receiving extensive use by local residents, provide popular destination points for visitors. Existing beach parks are being used to capacity, especially during summer weekends. The California Department of Parks and Recreation is a major supplier of coastal recreational opportunities in Santa Barbara County. Most state park developments along the coast provide a high level of amenities, including facilities for campers and trailers. Generally, overnight use of these facilities is by out-of-County users, particularly those living in the Los Angeles metropolitan area. In the County's coastal zone, public recreational areas (rather than commercial visitor serving facilities) are the dominant activity. From Ellwood west to Point Conception and north to the San Luis Obispo County line, the coastal area is rural and remote; extensive state park development, County parks, large cattle ranches, and rugged open areas characterize this area.

San Luis Obispo County

The coastal zone in San Luis Obispo County spans 96 miles of coastline. Along most of California, the coastal zone boundary generally extends inland only 1,000 yards, while in San

²⁴ The U.S. Census Bureau employment data, by definition, excludes people on active duty in the United States Armed Forces.

Luis Obispo County the coastal zone extends further inland in several areas because of important habitat, recreational, and agricultural resources. Those areas include the lands surrounding Nipomo Dunes, Hearst Ranch and other north coast areas, and the Morro Bay watershed. Along the shoreline of San Luis Obispo County, there are 10 state parks and numerous smaller local parks providing access to the coast. Within the County, the state owns more than 14,500 acres of coastal parklands, which are designated as parks, beaches, historical monuments, vehicular recreation areas, reserves, or preserves. The 10 state park units range from Montana de Oro State Park's 7,828 acres with over 21 miles of bay and ocean frontage to the relatively small 15 acres of Cayucos State Beach. In addition to these state parks, there are several smaller parks and natural areas maintained by San Luis Obispo County. These include such sites as Oceano Memorial Park, Elfin Forest Natural Area, and Lampton Cliffs Park. Six of the 10 state parks and one county park in coastal San Luis Obispo County provide overnight camping opportunities. In San Luis Obispo County, public parks account for 30 miles of available public lateral access, close to one-third of the 96-mile shoreline. An additional 275 acres of land known as the Estero Bluffs have been acquired for public use. In Cambria, the shorefront 407-acre East-West Ranch also has been acquired for public use. In addition to the parks, there are other types of smaller coastal accessways, principally access easements.

Infrastructure and Activities

There are 51 known permitted infrastructure and activities within the Initial Boundary Alternative (Appendix H). These include industrial use, oil and gas leases, protective structure use, public agency use, recreational use, and right-of-way use. There are also three permit applications, two for offshore wind and one for an oil and gas pipeline.

Recreation

Recreational Fishing

A [commercial passenger fishing vessel](#) is any vessel licensed for commercial passenger fishing purposes within the state out of which it is operating and from which, while under charter or hire, persons are legally permitted to conduct sportfishing activities. Data on commercial passenger fishing vessel activity were provided by CDFW (2020). In the two counties, the five-year (2015–2019) annual average number of commercial passenger fishing vessels reporting catch was 25 vessels (minimum = 19, maximum = 32). In terms of effort, for the five-year period (2015–2019) there were 22,225 angler days (minimum = 19,655, maximum = 24,666). The top species groups that were kept by commercial passenger fishing vessels are shown in Table 4.6-1.

Table 4.6-1. Top 10 species kept by recreational fishers, 2015–2019.

Species Group	Average Number Kept
Rockfish	187,849
Sablefish Louvar Whiting Whitefish	7,799
Crab	1,331
California Scorpionfish Cabezon Thornyheads	383
Flatfish	215
Sculpin Basses Greenlings Grenadier	110
All Other (e.g., rock scallop, white croaker, bluebanded goby, brown bullhead, barracuda)	110

Species Group	Average Number Kept
Tuna	105
California Sheephead	54
Salmon	25

Source: California Department of Fish and Wildlife, 2020. Commercial passenger fishing vessel (CPFV) log data, 1980–2020 [Data set].

Other Recreational Activities

In 2017, more than half of visitors to Santa Barbara County engaged in beach activities during their trip. Santa Barbara County residents partake in outdoor coastal recreation such as biking, hiking, surfing, sea kayaking, stand-up paddle boarding, beach volleyball, and beach combing. Other common activities for visitors were whale watching, kayaking, sailing, surfing/paddle boarding, and excursions to the Channel Islands (Table 4.6-2; Destination Analysts, 2017).

Table 4.6-2. Other visitor recreation activities in Santa Barbara County, 2017.

Marine/Coastal Recreation Activity	Hotel Guest	Visit Family/Relatives	Day Trip
Beaches	58.9%	68.4%	51.8%
Whale watching	4.8%	4.8%	2.6%
Kayaking	1.9%	7.0%	2.4%
Sailing	2.0%	3.9%	2.7%
Surfing/Stand-up Paddle Boarding	1.8%	7.5%	2.0%
Channel Islands excursion	1.3%	1.3%	1.5%
Sample size	894	228	548

Source: Derived from Destination Analysts, Inc. 2017.

San Luis Obispo County has a coastline for beach activities (such as sand volleyball, hiking down the beach or at the tidepools) at all times of the year. Other year-round activities along the coast waters include stand-up paddle boarding, surfing, and kayaking. Cruises are also year-round and whale watching (for whales such as gray whales, humpback whales, and blue whales) occurs between December and February and again between March and May. Aside from whales, visitors also look out for otters, sea lions, seals, and pelicans as well. Visitation data is not currently available for San Luis Obispo County.

Tourism

Tourism is a major contributor to San Luis Obispo County's economy. In 2017, 7.2 million visitors to the county spent nearly \$1.69 billion (Tourism Economics, 2018) (see Figure 4.6-2). Employment sustained by tourism was 23,386 jobs or 13.3% of all jobs in the county. Compared to 2014, visits, visitor spending, and tourism employment increased 6.8%, 9.2%, and 8.2%, respectively. Lodging represented the largest spending sector at approximately \$490 million, followed by spending on food and beverages (\$354 million). On average, each visitor spent \$234. Overnight visitors outpaced day visitors in 2017, increasing 5.2% from 2014 to 4.6 million visits. Day visitors increased 0.7% from 2014, registering 2.6 million visits.

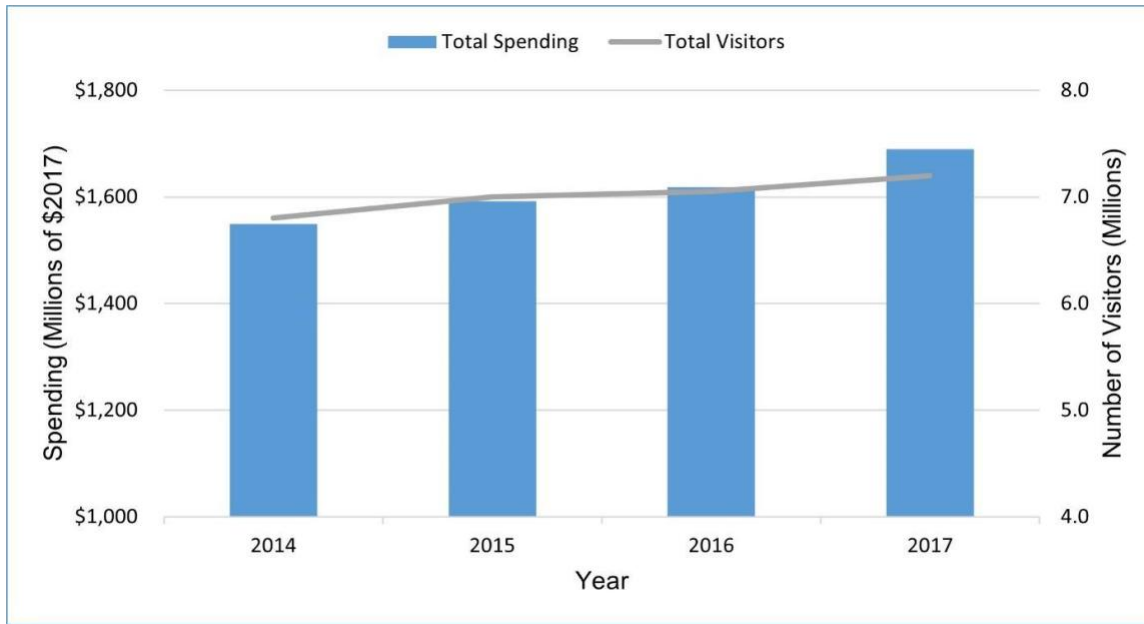


Figure 4.6-2. Total visitation and spending in San Luis Obispo County, 2014–2017. Source: Tourism Economics, 2018

In Santa Barbara County, key findings from a survey between September 2016 and August 2017, showed that total direct visitor related spending contributed \$1.9 billion to the local economy, which represented a 25.3% increase since 2013 (when visitor spending was \$1.5 billion; see Figure 4.6-3; Destination Analysts, 2017). In Santa Barbara County, 7.2 million total visitors represented an 18% increase compared to 6.1 million in 2013. The majority of visitors surveyed reside within the U.S. (82%), while the remaining 18% were international residents, with Canada, the U.K., and China being the top international markets (up from 15.6% in 2013).

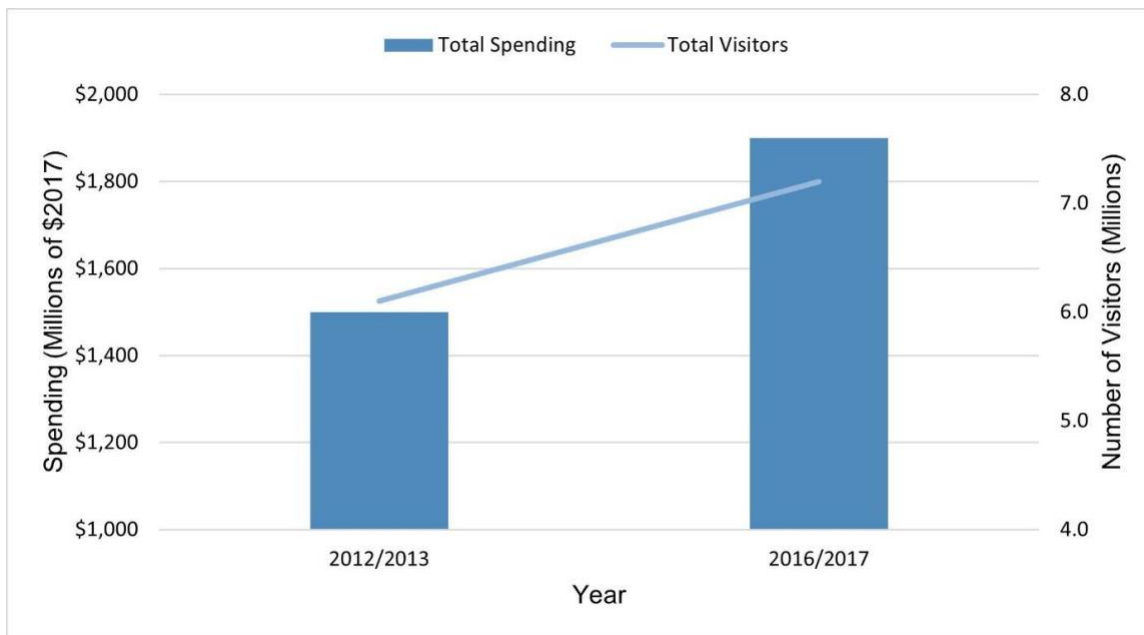


Figure 4.6-3. Total visitation and spending in Santa Barbara County, 2012–2017. Source: Destination Analysts, 2017

Available data indicates that visitor spending in the Santa Barbara South Coast supported more than 13,000 jobs (Destination Analysts, 2017). Visitors reported spending an average of \$430.22 per day compared to \$255.75 in the 2013 study. Going to the beach was one of the most common activities visitors participated in during their trip to the Santa Barbara South Coast (55.5%). Data is not available for the northern coast of Santa Barbara County.

Ocean-Related Facilities

There are 15 ocean-related facilities in San Luis Obispo County, 14 are public access. The two private boating facilities are in Avila Beach and Morro Bay (Table 4.6-3). In Santa Barbara County, there are six boat access locations (Table 4.6-4).

Table 4.6-3. Ocean-related facilities in San Luis Obispo County.

Facility Name	City	Type
San Simeon S.P. Leffingwell Landing	Cambria	Launch
Bay Front Marina	Morro Bay	Marina
DeGarimore's Central Coast Fuel and Ice Dock	Morro Bay	Fuel dock
Morro Bay – City Harbor	Morro Bay	Department/district
Morro Bay Boatyard	Morro Bay	Marine services/repair
Morro Bay Kayak Ramp – Kayak Shack	Morro Bay	Boating access
Morro Bay Marina	Morro Bay	Marina/mooring fields
Morro Bay Public Launch Facility	Morro Bay	Launch
Morro Bay State Park Marina	Morro Bay	Marina
Olde Port Beach	Avila Beach	Launch
Port San Luis Boat Launch Facility	Avila Beach	Launch
Port San Luis Boatyard	Avila Beach	Marine services/repair
Port San Luis Harbor Dry Storage	Avila Beach	Dry storage
Port San Luis Harbor Mooring Field	Avila Beach	Launch/mooring fields
Port Side Marine	Avila Beach	Marina/launch

Source: California State Parks Division of Boating and Waterways, 2022a.

Table 4.6-4. Ocean-related facilities in Santa Barbara County within or near the study area.

Facility Name	City	Type
Gaviota State Park	Goleta	Launch
Goleta Beach County Park	Goleta	Launch
Goleta Beach Restoration	Goleta	Beach/erosion project
Harbor Marine Works	Santa Barbara	Marine services/repair
Santa Barbara Harbor	Santa Barbara	Marina/launch
Santa Barbara Palm Park (Chase Palm Park)	Santa Barbara	Boating access

Source: California State Parks Division of Boating and Waterways, 2022b.

Research

Research is conducted within the proposed sanctuary by a plethora of public and non-profit groups including academic institutions, non-profit and community-based organizations, Native American community groups, and regional, state, and federal agencies. Various studies include water quality monitoring for pollutants; oceanographic research including upwelling and sea

surface temperature, wave, wind, and surface current monitoring; monitoring bird and mammal population distribution, status and trend and potential disturbance factors; fisheries assessment; and substrate and habitat mapping. Several agencies and organizations, among many others, conducting this research include the following: California State University Long Beach, California Polytechnic State University, NOAA's Deep Sea Coral and Research Technology Program, Morro Bay National Estuarine Reserve, California Cooperative Oceanic Fisheries Investigations long-term monitoring, and Santa Barbara Channel Long Term Ecological Research site and Partnership for Interdisciplinary Studies of Coastal Oceans. Some of the additional ongoing areas of research in the study area include the following:

- Projects investigating climate change, oceanographic conditions, acoustic monitoring, ecosystem connectivity, sea level, deoxygenation, species distributions, and ocean acidification.
- Monitoring and research to understand impacts of wind farm implementation on biological resources, including soundscape monitoring.
- Tribal cultural landscape studies and research on traditional historic properties, shipwrecks, aircraft, and other maritime heritage sites.
- Seafloor mapping, remotely operated vehicle (ROV) footage, and autonomous underwater vehicle (AUV) surveys.
- Water quality contaminant monitoring at beaches and tributaries.

Education

Educational programming in the coastal communities adjacent to the proposed sanctuary area includes formal education programs, informal education programs, docent and volunteer programs, and programs organized by Indigenous communities, regional tourism organizations, and nonprofit organizations. Some of the organizations offering educational programming in the area include California State University San Luis Obispo and Channel Islands, University of California, Santa Barbara, Antioch University, Santa Ynez Band of Chumash Indians, Northern Chumash Tribal Council, yak tityu tityu yak tilhini Northern Chumash Tribe, National Park Service, National Estuary Program, NOAA National Centers for Coastal and Ocean Science, and many more. More information on local museums and visitor centers is provided in the Sanctuary Community Profile, which is provided as a supporting document for this draft EIS. Some of the additional ongoing educational programs in the study area include the following:

- The Office of National Marine Sanctuary-U.S. Forest Service partnership initiated in 2016 between sanctuaries in California and U.S. Forest Service Region 5.
- Informal school programs such as after-school programs and environmental education programs.
- Whale watching boat tours led by Subsea Tours and Morro Bay Whale Watching.
- Central Coast Parks Association coastal interpretation and naturalist programs.
- Highway 1 Stewardship Program group beach clean-ups.

4.6.2 Impact Assessment Methodology (Socioeconomics, Human Uses, and Environmental Justice)

Please note that impacts on commercial fishing and aquaculture, cultural heritage and maritime heritage resources, offshore energy, marine transportation, and DoD and homeland security activities are addressed in Sections 4.4, 4.5, 4.7, 4.8, and 4.9, respectively. The criteria to determine the impacts associated with socioeconomic, demographic, and environmental justice issues are based on federal, state, and local standards and regulations. Environmental justice considers the potential for the proposed action to result in disproportionately high and adverse human health or environmental effects on low-income or minority populations.

Socioeconomics, human use, and environmental justice impacts are considered to be significant if the Initial Boundary Alternative or action alternatives were to result in:

- Substantial changes in unemployment rate.
- Substantial changes in total income.
- Substantial changes in business volume.
- A conflict or inconsistency with established land use plans (e.g., county plans).
- A substantial change in existing land uses.
- An interference with the public's right of access to the sea.
- A long-term preemption of a recreational use or substantial temporary preemption during a peak use season.
- Disproportionately high and adverse human health or environmental effects on minority or low-income populations.

Socioeconomic, demographic, environmental justice, land use, recreation, research, and education data in and around the proposed sanctuary boundaries were examined to determine their sensitivity to the foreseeable impacts of the Initial Boundary Alternative and other alternatives. The method of analysis applied to the socioeconomics and environmental justice issue areas is qualitative since there is very little quantitative information to assess the Initial Boundary Alternative and other alternatives.

4.6.3 Environmental Consequences of the Initial Boundary Alternative (Socioeconomics, Human Uses, and Environmental Justice)

This section evaluates the impacts of implementing the Initial Boundary Alternative, as described in Section 3.2, related to socioeconomics, human uses, and environmental justice. In evaluating the Initial Boundary Alternative against the criteria listed above, the following determinations were made:

- The Initial Boundary Alternative is not likely to change the population of the sanctuary community. However, it could have some positive effects on unemployment rate, and on personal and business income. The Initial Boundary Alternative would result in a national marine sanctuary designation that may attract new users to the area for recreation and tourism, resulting in an increased demand for various tourism,

recreation, and hospitality services. The Initial Boundary Alternative would not generally affect demographics of the two counties adjacent to the proposed sanctuary boundary.

- The Initial Boundary Alternative would not lead to any negative impacts related to environmental justice. In fact, the establishment of a sanctuary in this region is likely to positively impact underserved and underrepresented communities, as a result of actions proposed in the draft management plan. Examples include working with Indigenous groups for tribal participation and collaborative management (Indigenous Cultural Heritage Action Plan); and working with local and regional organizations to promote sanctuary sustainable and equitable tourism, activities, and events (Blue Economy Action Plan).
- The Initial Boundary Alternative is expected to result in long-term beneficial impacts on local residents (including low-income and minority populations), as well as on the health and well-being of children, and would not result in disproportionate adverse impacts on any minority or low-income population.
- The Initial Boundary Alternative would not conflict with federal, state, or local plans, policies, or regulations, including county land use plans. The proposed sanctuary is intended to offer additional resource protection, consistent with existing federal and state policy.
- The minor beneficial and adverse impacts on research and education would be similar across all action alternatives.

Protecting these important resources under the Initial Boundary Alternative would provide benefits to recreation and tourism and would also provide important benefits to people who use the sanctuary and depend on a functioning, healthy, and resilient ecosystem for cultural practices, recreation, and livelihoods. Some of these benefits would include visitors and tourists experiencing enhanced enjoyment from outreach and interpretive services.

The proposed regulations would not restrict activities of user groups such as recreational fishing and other marine recreation. Instead, the Initial Boundary Alternative would conserve and potentially improve the sanctuary resources and therefore is likely to provide beneficial impacts on the marine uses (recreation, fishing, and cultural practices) and the industries that support those uses.

The Initial Boundary Alternative would not adversely affect public access to the shoreline, as there are no proposed prohibitions against public access. Ocean access would remain unchanged. Designating the waters off of San Luis Obispo and Santa Barbara counties as a national marine sanctuary under the Initial Boundary Alternative is expected to have beneficial effects on recreation and tourism overall. Sanctuary status may serve to attract visitors to the area and provide better quality resources in the future for residents and non-residents of the area engaging in recreation activities and cultural activities in the proposed area. Sanctuaries across the U.S. generally increase recognition of their unique and remarkable natural and cultural resources, which lead to increased tourism opportunities (NAPA, 2021).

Sanctuary designation under the Initial Boundary Alternative would provide added protection to the natural resources that contribute to the area's value as a recreation-tourist destination, while not restricting consumptive and non-consumptive activities such as boating, fishing, wildlife

viewing, and coastal access. This could result in a beneficial impact on recreation and tourism. Employment opportunities from increased tourism and recreation-related activities include jobs in the hospitality, boating, transportation, guide services, and other support service industries to accommodate travelers interested in coastal activities and opportunities. Therefore, NOAA does not anticipate any adverse impact on human access or recreation under the Initial Boundary Alternative.

Vessels would not be permitted to discharge in the proposed sanctuary boundary under the proposed regulations. However, discharging would still be permitted outside of the proposed sanctuary boundaries, so long as the discharged material does not enter the sanctuary. This proposed regulatory prohibition would be unlikely to have an adverse impact on recreational vessels, provided they plan accordingly and discharge while outside the sanctuary or at the appropriate facilities near shore. The proposed discharge regulations would help maintain and may improve water quality and ecosystem health, on which thriving fish populations depend (see Section 4.4).

The Initial Boundary Alternative would generally prohibit disturbance of the seabed within the proposed sanctuary, although this prohibition would include exceptions for several activities, including anchoring a vessel, installing an authorized navigational aid, and repairing, replacing, or rehabilitating an existing dock, pier, breakwater, or jetty. Aside from the enumerated exceptions, approval of any coastal construction involving submerged lands in the proposed sanctuary area would be limited to certification of existing permitted uses (e.g., existing offshore cables) or issuance of a sanctuary general permit or authorization for a new or expanded use pursuant to the proposed sanctuary regulations. A special use permit could be issued for activities on or in submerged lands of the proposed sanctuary if an activity involved: placement and recovery of objects for a public event on non-living substrate; placement and recovery of objects related to commercial filming (may also be allowed for discharge); or continued presence of submarine cables on or within submerged lands. NOAA does not consider the administrative process to seek and obtain a permit from the sanctuary to be an adverse impact.

For the reasons detailed above, any adverse impact from the Initial Boundary Alternative on human uses in the sanctuary would be **negligible**.

Establishing discharge regulations in the proposed sanctuary area would provide an overall **beneficial impact**, by limiting pollutants in the ocean environment. The proposed discharge regulations would apply within the proposed sanctuary boundaries and would also prohibit the discharge from onshore land uses or discharge of any material beyond the boundary of the sanctuary that subsequently enters the sanctuary and injures a sanctuary resource. This measure would help reduce potentially harmful pollutants such as oil, sewage, and other hazardous materials from injuring sanctuary resources. Although many land uses, such as livestock grazing, agriculture, and suburban development may discharge pollutants that enter the sanctuary through runoff, the threat of any one discharge injuring a sanctuary resource is very small to negligible. A prohibited discharge under the sanctuary regulations may also be considered for a permit, authorization, or certification, as applicable and as described above. Overall, the sanctuary designation is expected to result in **long-term, moderate beneficial**

impacts on recreational, tourism, and commercial uses of the sanctuary and the local region. Only **negligible to minor adverse impacts** are expected related to land use development.

A **moderate beneficial impact** on research and education may take place if the Initial Boundary Alternative facilitates additional research and education programs or projects in the area. Positive market economic impacts for research and education activities are also likely to the extent the Initial Boundary Alternative results in increased research and education activities. Research and education activities that constitute scientific research or scientific monitoring of a sanctuary resource or quality, would generally qualify for a sanctuary general permit as long as the permit procedures and review criteria are met. Therefore, adverse impacts of the proposed sanctuary regulations on research and education activities would be negligible because most of these activities would be allowed or would be eligible for a sanctuary general permit if they were otherwise prohibited under the proposed regulations. In rare instances, it is possible that new research activity would not qualify for a permit or authorization. The proposed certification regulation would allow approval of preexisting uses in the proposed sanctuary that are specifically authorized by a valid federal, state, or local lease, permit, license, or right of subsistence use or access, if those activities are in existence on the effective date of sanctuary designation. The proposed regulations define the application process and establish criteria for the certification approval process. NOAA does not consider the administrative process to seek and obtain a permit from the sanctuary to be an adverse impact.

4.6.4 Environmental Consequences of Alternative 1 (Socioeconomics, Human Uses, and Environmental Justice)

In evaluating Alternative 1, Bank to Coast, against the criteria listed above, NOAA makes the following determinations:

- Alternative 1 would have similar potential consequences as the Initial Boundary Alternative.
- The reduction in proposed sanctuary area under Alternative 1, compared to the Initial Boundary Alternative, may result in proportionally less beneficial impacts on the adjacent communities.
- Only negligible to minor adverse consequences on land use development are expected from this alternative, the same as identified for the Initial Boundary Alternative.

4.6.5 Environmental Consequences of Alternative 2 (Socioeconomics, Human Uses, and Environmental Justice)

In evaluating Alternative 2, Cropped Bank to Coast, against the criteria listed above, NOAA makes the following determinations:

- Alternative 2 would have similar potential consequences as Alternative 1.
- The reduction in proposed sanctuary area under Alternative 2, compared to the Initial Boundary Alternative, may result in proportionally less beneficial impacts on the adjacent communities.

- Only negligible to minor adverse consequences on land use development are expected from this alternative, less than those identified for the Initial Boundary Alternative, due to the smaller proposed sanctuary area.

4.6.6 Environmental Consequences of Alternative 3 (Socioeconomics, Human Uses, and Environmental Justice)

In evaluating Alternative 3, Diablo to Gaviota Creek, against the criteria listed above, NOAA makes the following determinations:

- Alternative 3 would have similar potential consequences as the Initial Boundary Alternative.
- The reduction in proposed sanctuary area under Alternative 3, compared to the Initial Boundary Alternative, may result in proportionally less beneficial impacts on the adjacent communities.
- Only negligible to minor adverse consequences on land use development are expected from this alternative, less than those identified for the Initial Boundary Alternative, due to the smaller proposed sanctuary area.

4.6.7 Environmental Consequences of Alternative 4 (Socioeconomics, Human Uses, and Environmental Justice)

In evaluating Alternative 4, Combined Smallest, against the criteria listed above, the following determinations were made:

- Alternative 4 would have similar potential consequences as the Initial Boundary Alternative.
- The reduction in proposed sanctuary area under Alternative 4, compared to the Initial Boundary Alternative, may result in proportionally less beneficial impacts on the adjacent communities.
- Only negligible to minor adverse consequences on land use development are expected from this alternative, less than those identified for the Initial Boundary Alternative due to the smaller proposed sanctuary area.

4.6.8 Environmental Consequences of Sub-Alternative 5a and 5b (Socioeconomics, Human Uses, and Environmental Justice)

Sub-Alternative 5a: Morro Bay Estuary

- Sub-Alternative 5a would have similar potential consequences as the Initial Boundary Alternative.
- Overall, adding the Morro Bay Estuary to the Initial Boundary Alternative or to Alternative 1 is expected to result in some incremental beneficial impacts on both the local communities.
- Only incremental negligible to minor adverse consequences on land use development are expected under this sub-alternative, similar to those identified for the Initial Boundary Alternative.

Sub-Alternative 5b: Gaviota Coast Extension

- Sub-Alternative 5b is an extension along the Gaviota coast that may result in more beneficial impacts on the adjacent communities than identified for the Initial Boundary Alternative alone.
- Overall, adding the Gaviota extension to the Initial Boundary Alternative or any of the action alternatives is expected to result in some incremental beneficial impacts on local communities.
- Only incremental negligible to minor adverse consequences on land use development are expected from this sub-alternative, similar to those identified for the Initial Boundary Alternative.

4.6.9 Environmental Consequences of No Action (Socioeconomics, Human Uses, and Environmental Justice)

Under the No Action Alternative, NOAA would not designate the proposed sanctuary and would not implement the proposed sanctuary regulations, management plan, and field activities to support management of the proposed sanctuary. Under the No Action Alternative, the beneficial impacts and negligible adverse impacts from the proposed sanctuary designation would not be realized. For example, the No Action Alternative would prevent NOAA from implementing additional resource protections and advance understanding of socioeconomic issues such as providing support for sustainable recreational activities within the sanctuary.

4.7 Offshore Energy

The offshore energy resources within the study area that may be affected by the Initial Boundary Alternative or other action alternatives include ongoing operations from existing oil and gas development projects, pending decommissioning and removal of several other offshore oil and gas facilities, the ongoing operations and potential decommissioning and removal of a nuclear power plant, and the potential permitting, construction, and operation of offshore wind energy generation and transmission facilities.

4.7.1 Regional Overview of Affected Environment (Offshore Energy)

Oil and Gas Development

The history of coastal, and eventually offshore, oil and gas development along the San Luis Obispo and northern Santa Barbara County coasts adjacent to the proposed sanctuary dates back to the early 1900s when the first production oil well was drilled onshore in the Santa Maria oil field. Over the last 115 years, oil and gas exploration, production, transportation, and shipping in this region have created a robust energy industry. A substantial amount of the regional oil production, as well as production from the San Joaquin Valley, was transported by rail and pipeline to a marine terminal at Avila Beach. This product was shipped to refineries along the West Coast and Hawaii (Avila Beach Golf Resort, 2018). Some locally produced crude oil was refined in the region with the product sold across California.

By the late 1970s and early 1980s, offshore oil and gas development that had been previously centered in southern California, including southern Santa Barbara and Ventura counties

expanded to include fields in federal waters offshore Gaviota and northern Santa Barbara County near VSFB. Unocal developed the Point Pedernales Unit from Platform Irene; Chevron and Texaco developed the Point Arguello Unit from Platforms Harvest, Hermosa, and Hidalgo; and Exxon developed the Santa Ynez Unit from Platforms Hondo, Harmony, and Heritage. The Point Arguello Unit has now been relinquished and the platforms and wells permanently closed. The Point Pedernales Unit and former Point Arguello Unit are now owned and operated by Freeport-McMoRan oil company; Exxon/Mobil own and operate the Santa Ynez Unit. Oil production from Point Pedernales and former Point Arguello has been shipped onshore via pipelines, and then on to refineries locally or outside the region via tanker or pipeline. Initial oil production from Platform Hondo was processed, stored, and loaded onto tankers via a moored offshore storage and treatment ship, but eventually all development from the Santa Ynez Unit came to shore via pipeline for processing and then to refineries outside the area via pipeline. Natural gas for all facilities was and still is shipped to shore via pipelines then processed, stabilized, used onsite, or sold to local utilities.

All the Point Pedernales and former Point Arguello units and any associated pipelines or cables to shore lie within the proposed sanctuary. Approximately 28 square miles of the Santa Ynez Unit are within the proposed sanctuary boundaries; none of the Santa Ynez Unit platforms are within the proposed sanctuary (see Figures 4.7-1 and 4.7-2). An oil pipeline, gas pipeline, and a power cable from Platform Hondo to shore lie within the boundaries of Sub-Alternative 5b, Gaviota Coast Extension; this corridor also includes a produced water pipeline connecting onshore processing facilities with Platform Harmony for offshore discharge. For different reasons, the platforms associated with the former Point Arguello and Santa Ynez units are shut in and not operating, while approximately 126,000 gallons of crude oil a day are produced at Platform Irene and shipped to shore via pipeline. It is possible that in the next five years, production from the Santa Ynez Unit could recommence if an onshore pipeline to ship production to refineries can be reestablished (E. Briggs, Santa Barbara County Planning & Development Department, personal communication, April 2022). Table 4.7-1 provides more details about these oil and gas facilities.

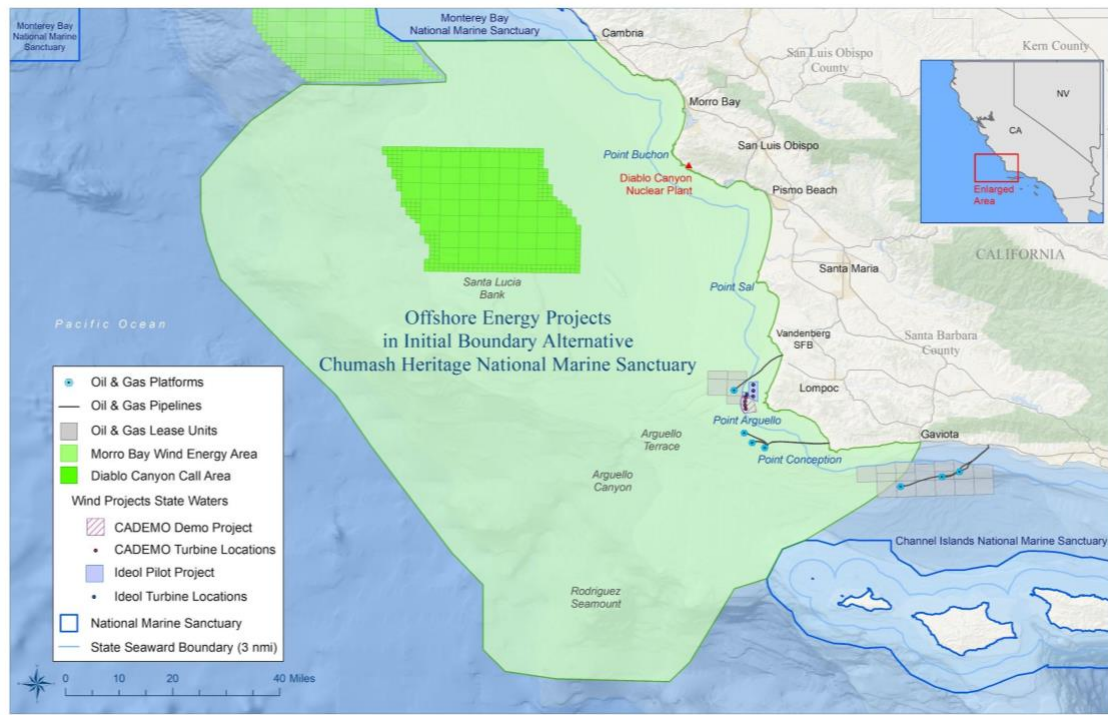


Figure 4.7-1. Overview of existing and proposed offshore energy projects in and adjacent to the study area. Image: NOAA

The region has also endured numerous spills and leaks from onshore and offshore oil and gas operations. For instance, one of the largest onshore petroleum spills in U.S. history continues to be remediated in the Guadalupe-Nipomo Dunes field along the coast in southern San Luis Obispo County. Likely greater than 20 million gallons of toxic petroleum product—different diluents injected into pipelines and storage tanks to aid processing and shipment of highly viscous, produced crude oil—leaked into sand dunes and reached the groundwater, with some of the product reaching adjacent wetlands and the ocean (Guadalupe Fund Committee, 2001). Also, in San Luis Obispo County, one of the most expensive oil cleanup efforts in California history (\$200 million) involved remediating the town of Avila Beach due to leakage of crude oil and refined product from a Unocal tank farm. Here too, petroleum products contaminated a coastal area, including soil and groundwater underneath businesses and homes, and reached the ocean (California Department of Fish and Game, 2001; Guadalupe Fund Committee, 2001; Martin, 1998).

Table 4.7-1. Existing offshore oil and gas facilities, for all alternatives (unless noted).

	Point Pedernales Unit	Point Arguello Unit			Santa Ynez Unit		
Area of unit overlapping proposed CHNMS	34.4 square miles	None. Since the leases and unit for Pt. Arguello project have been relinquished, the unit no longer exists.			27.8 square miles		
Platform Name	Irene	Hidalgo	Hermosa	Harvest	Heritage*	Harmony*	Hondo*
Pipelines ^a	20" oil 8" gas	16" oil 10" gas	24" oil to shore 20" gas to shore	12" oil 8" gas	20" oil 12" gas	20" oil 12" gas 12" water disposal	14" oil 12" gas
Miles of pipelines in proposed CHNMS ^b	9.5 mi in fed waters 8 mi in state waters	9.6 mi (to Hermosa)	12.2 mi in fed waters 6.9 mi in state waters	5.8 mi (to Hermosa)	None	10.8 mi (in state waters) ^c	None
Wells within proposed CHNMS	45 wells	None. Wells have been shut in.	None. Wells have been shut in.	None. Wells have been shut in.	24 wells, in Sacate formation.	None	None
Date installed	Aug. 1985	July 1986	Oct. 1985	June 1985	Oct. 1989	June 1989	June 1976
Operator	Freeport-McMoRan	Freeport-McMoRan	Freeport-McMoRan	Freeport-McMoRan	ExxonMobil	ExxonMobil	ExxonMobil
Status	Producing (126,000 gpd)	Permanent Shut in	Permanent Shut in	Permanent Shut in	Temporary Shut in	Temporary Shut in	Temporary Shut in
Oil produced, ^d cumulative	4.2 billion gallons	1.2 billion gallons	3.2 billion gallons	3.6 billion gallons	8.2 billion gallons	5.2 billion gallons	7.9 billion gallons
Gas produced, ^d cumulative	36.4 trillion cubic feet	22.8 trillion cubic feet	54.5 trillion cubic feet	99.9 trillion cubic feet	274 trillion cubic feet	264 trillion cubic feet	426 trillion cubic feet
Remaining reserves ^d (Est.)	112 million gallons	None			3.3 billion gallons		
Water depth	242 feet	430 feet	603 feet	675 feet	1,075 feet	1,198 feet	842 feet

Notes: *Outside proposed sanctuary boundaries for all alternatives. (a) There is also a power cable between Platform Irene and shore, and multiple cables between Platform Harmony and shore. (b) Miles shown are additive for various pipelines noted above. (c) Only for Sub-Alternative 5b, Gaviota Coast Extension. (d) Source: BSEE, data through Oct. 2017.

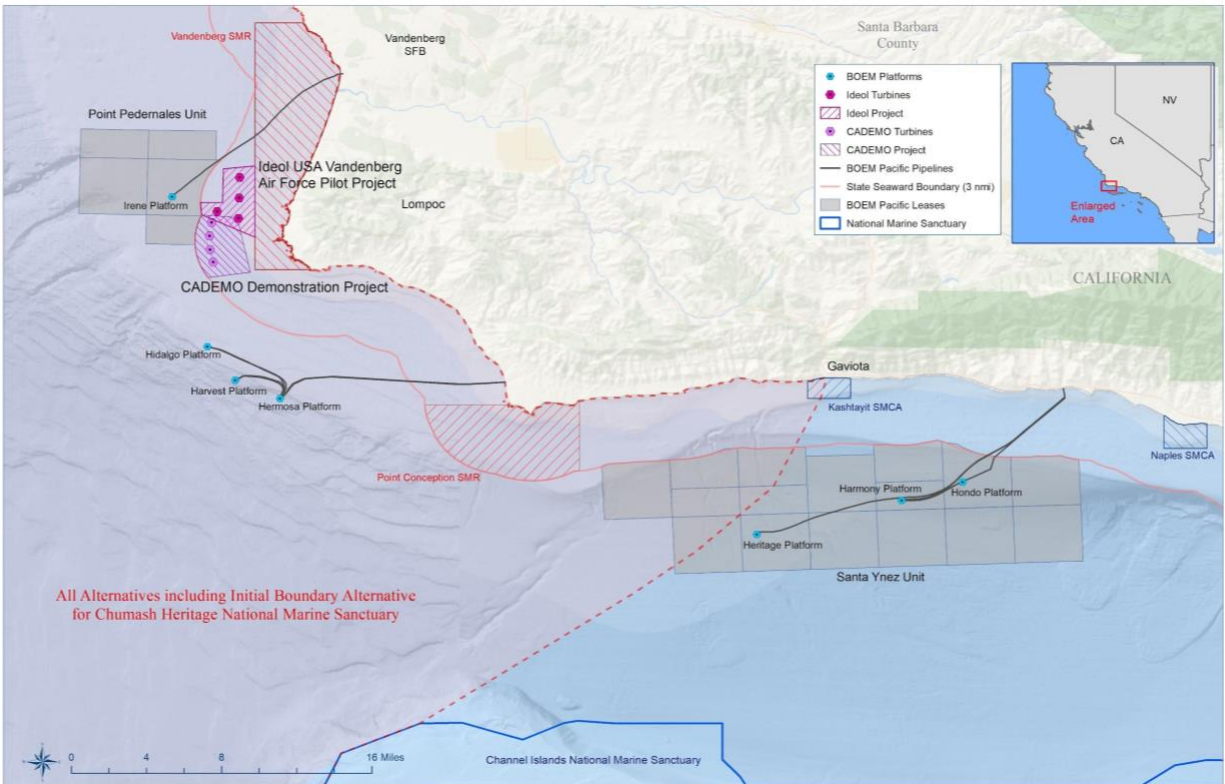


Figure 4.7-2. Detailed view of existing and proposed offshore energy projects in and adjacent to the east end of the study area. Image: NOAA

More recent offshore oil and gas development has also caused leaks into the marine environment. The pipeline from Platform Irene to shore (then operated by Torch) ruptured in September 1997, spilling 7,000 gallons of oil, which resulted in extensive environmental damage, including killing over 700 birds and fouling intertidal habitat and recreational beaches. The ultimate size of the settlement for civil claims, including natural resource damages, was \$3 million ([Torch/Platform Irene Trustee Council, 2007](#)).

In May 2015, an onshore rupture of the Plains All American pipeline carrying processed crude oil largely from the Santa Ynez Unit to refineries leaked approximately 123,000 gallons of crude oil, about half of which flowed several hundred yards through culverts and a ravine into the ocean near Refugio Beach. At least \$22 million from the settlement has been dedicated to habitat and resource restoration projects ([Refugio Beach Oil Spill Trustees, 2021](#)). Subsequent inspections of the entire Plains All American pipeline indicated numerous weak points such that the entire pipeline has been shut down, in effect preventing further production from the Santa Ynez Unit since May 2015. Exxon has been unsuccessful in obtaining permits to truck produced crude oil in order to allow the platforms to recommence operation. Industry attention is now focused on permitting repairs to the onshore pipeline that would allow operation from the three Santa Ynez Unit platforms. It may take at least another year to obtain permits and, if successful, several more years to repair the pipeline (E. Briggs, personal communication, April 2022). Exxon had been producing approximately 1.25 million gallons of crude oil and 27 million cubic

feet of natural gas per day from its three platforms before the Refugio Beach Oil Spill ([Exxon Mobil Corporation, 2018](#)).

The offshore oil and gas industry in central and southern California is entering a new phase as platforms reach the end of their operational lives: decommissioning, platform and possibly pipeline removal, and offshore site remediation ([BOEM et al., 2019](#)). BSEE and BOEM will review and accept or reject decommissioning applications for the removal and disposal of oil and gas platforms, associated pipelines, and other facilities offshore southern California on the Pacific OCS, as required by regulation and governing lease terms (BSEE & BOEM, 2022). Some projects like the offshore facilities for the Point Arguello Unit are already shut in and closed down. Companies throughout the region are preparing plans for facility decommissioning and removal, and once large equipment is available and permits issued, removal activities will begin. BSEE, the lead federal agency for platform decommissioning and removal, anticipates that removal of platforms in the region, including within the study area, will tentatively begin in 2027 and continue for at least 10 years for about a dozen platforms and pipelines. As described in the draft Programmatic EIS for Oil and Gas Decommissioning Activities on the Pacific OCS (BSEE & BOEM, 2022), BSEE envisions that there are three principal decommissioning outcomes for an offshore platform once wells are plugged and petroleum and other toxic materials are removed from offshore structures:

- **Complete Removal** – Complete removal of platforms, associated infrastructure, including pipelines and power cables, and other facilities. All platform structures would be removed via cutting tools or explosives below the mudline, and the platform transported by barge to shore to be recycled or disposed of.
- **Partial Removal** – Includes partial rather than complete platform removal, and abandonment-in-place (rather than complete removal) of pipelines. Accessible facilities and obstructions would be removed, and only the topsides would be disposed of onshore.
- **Rigs-to-Reef Option** – Includes partial platform removal, with the upper jackets placed as an artificial reef. Decking on an offshore oil and gas platform would be removed; the undersea structure could be partially left in place or fully removed and relocated to another site to serve as an artificial reef. Facility owners could offer or be required to share some cost savings for monitoring effectiveness given this option is often considerably less expensive. This option will generally always be a hybrid where some elements of the offshore facility such as the deck structures, offices, and labs are not suitable for ocean disposal and thus removed to shore and recycled or disposed of. Associated pipelines would be abandoned in place.

BOEM regulations pertaining to platform decommissioning also allow the owner of a facility, or a third party, to propose re-use/alternate use of an offshore energy structure onsite for alternative energy development or other marine purposes, or possibly removal and reuse of the structure at another site (30 C.F.R. part 586).

Regardless of which decommissioning action is selected for the four platforms in the proposed sanctuary, there will be activity at offshore platforms to remove some hazardous materials and remove much of the above-deck facilities. Platform removal typically requires many weeks of

activities to cut and remove the upper deck and jacket of the platform via offshore cranes, load these structures onto barges, and bring them ashore for disposal.

All these offshore platforms are connected to shore via offshore pipelines, and, for Point Pedernales and Santa Ynez units, power cables. Removal of pipelines and cables are typically required in lease agreements yet final plans for removal/disposition are not clear.

Assessments of environmental impacts and alternatives for decommissioning projects including assessing impacts on natural and cultural resources from complete removal, partial removal, or rigs-to-reef scenarios would be conducted by BSEE and CSLC, possibly the County of Santa Barbara and others to comply with federal and state environmental laws, respectively.

Leasing for potential new oil and gas development within the study area is unlikely over the next five years. However, given BOEM estimates, there are still considerable recoverable oil and gas reserves in this area (2.18 billion barrels of oil [91.5 billion gallons] and 2 trillion cubic feet of natural gas) ([BOEM, 2020](#)) and potential future leasing to develop these reserves cannot be ruled out.

DCPP

Pacific Gas & Electric (PG&E) owns and operates the DCPP, which is located onshore near Avila Beach in San Luis Obispo County. Its ocean intake structure is located within the marina behind a breakwater, and its discharge outfall structure is located along the shoreline in Diablo Cove. The plant's permit requires operations to cease and decommissioning to commence in 2024 and 2025. PG&E, at the urging and with incentives provided by the state and federal governments, has been exploring continuing to operate the DCPP for another five years to as many as 20 years. As of early 2023, adjusting and extending necessary state and federal permits have not been completed. Thus, there is also the chance that PG&E will continue with its plans to decommission the plant, remove most of the structures and remediate the site. The County of San Luis Obispo is the lead agency conducting environmental review of the plan for power plant decommissioning, facility removal, and eventual site remediation. This EIS has had to assume both scenarios in assessing potential impacts of the sanctuary designation on offshore energy including this facility. The proposed sanctuary boundary for the Initial Boundary Alternative and for alternatives adjacent DCPP—alternatives 1 and 2—includes Diablo Cove but excludes the actual marina.

If continued operations of DCPP were approved by federal, state, and local regulators and PG&E elected to continue operations, extended operation of the DCPP would include discharge of a very large volume of cooling water at a temperature well above ambient. For more than a decade, California agencies have adopted policies and regulations to ban or phase out once-through cooling water discharges because of impacts of both entrainment via intake systems and heat related impacts on organisms and nearshore habitats. Extending operations of DCPP would need to comply with these state policies and regulations related to once-through cooling water.

For the decommissioning pathway, PG&E plans to stabilize radioactive material and equipment and remove large structural elements from 2024–2029. Removal of smaller elements and soil remediation will occur from 2029–2034. Final site remediation and restoration will take place from 2032–2039. Related to the marine environment, PG&E proposes to keep the marina and

seawater intake system (within the marina) intact after all decommissioning, but will remove the thermal outfalls in Diablo Cove, just north of the marina (PG&E, 2021). Regardless of whether or not DCPD continues to operate, as described below, the plant will one day be decommissioned and potential impacts of the new national marine sanctuary discussed later are relevant.

In the continued operation scenario PG&E would continue to operate the plant through roughly 2029, five years after the current shutdown was planned (note however, that this timeline remains fluid as PG&E has also suggested it could seek to continue operations for 10 or 20 years beyond the current 2024 shutdown (T. Jones (PG&E), personal communication, January 19, 2023)). Legislation has been passed and signed by the state to allow an extension of the operations, but various state and federal permits would need to be amended. PG&E draws in 2.5 billion gallons of seawater daily for use as once-through cooling water to help cool the power plant and discharges this same volume through a shore-side outfall at approximately 20 degrees above ambient temperatures. PG&E also discharges treated sewage, storm runoff, and desalination brine from this same outfall (see Section 4.2.1 for more details on discharges).

DCPD has also been identified as a potential offshore wind electricity transmission facility for future interconnection of the Morro Bay Lease Areas (California Independent System Operator, 2023). The timing and capacity of this potential transmission capability would depend on future plans for DCPD, as briefly discussed above.

Offshore Wind Development – Federal Waters

On the OCS in federal waters outside national marine sanctuaries and some other federally protected areas, BOEM has the authority to issue leases, rights of way, and easements, and to regulate offshore wind development. While BOEM does not have the authority to lease areas for wind development in national marine sanctuaries, OCSLA recognizes other federal agency jurisdiction and authorities to regulate activities on the OCS. Under NMSA, NOAA has the authority to manage all uses in sanctuaries. In several sanctuaries, NOAA has allowed oil and gas development as well as construction and the continued presence of submarine telecommunication cables. This authority would similarly allow NOAA to regulate wind development within the proposed sanctuary, including the placement and continued presence of subsea electrical transmission cables, via a sanctuary general permit or ONMS authorization and/or special use permit; other agencies would also have a permit role for installation of subsea electrical transmission cables or other offshore wind activity. NOAA intends to coordinate with BOEM, as necessary, on the potential integration of NMSA authorities with BOEM's OCSLA authorities for the purposes of specific wind development projects contemplated in the vicinity of and within the study area. A more detailed description of NOAA's likely permitting approach for transmission cables within the proposed sanctuary is provided in Section 4.7.3. Although there are no current offshore wind development or transmission activities in the area proposed for designation, the certification process could also be used to allow for existing permitted uses that pre-date the sanctuary designation to continue to operate consistent with federal, state, or local permits, leases, or authorizations.

Planning, engineering, and leasing for offshore wind in federal waters is rapidly developing at the time of drafting this EIS in response to demand driven by the state of California's goals of 2–

5 GW of offshore wind energy by 2030, and 25 GW of offshore wind energy by 2045. Similarly, the Biden-Harris Administration has a goal of deploying 30 GW of offshore wind energy capacity by 2030, and 15 GW of floating offshore wind energy by 2035.

In October 2018, BOEM issued a Call for Information and Nominations related to two potential wind development sites in the study area: the Morro Bay Call Area and the Diablo Canyon Call Area. The calls for public and industry input were preceded by two years of planning and study by BOEM, including consultations with industry, fishermen, tribes, and other government agencies. In May 2021, BOEM designated a refined Morro Bay WEA (see Figure 4.7-1). In contrast, BOEM did not move forward with a WEA designation for the Diablo Canyon Call Area at that time. However, they could pursue it in the future with additional outreach, collaboration, and a public process. A slight adjustment was made to the proposed sanctuary boundary to ensure the sanctuary and the Morro Bay WEA did not overlap. In October 2022, BOEM finalized the designation of the Morro Bay Lease Areas, and the Morro Bay Lease Areas are not within the boundaries of the Initial Boundary Alternative, nor any action alternative. However, as described below, subsea electrical transmission cables would likely be required to pass through the proposed sanctuary under several action alternatives if wind energy facilities are developed in the Morro Bay Lease Areas.

BOEM opened the lease bidding process on December 6, 2022, concluding a day later. All three lease areas in the Morro Bay WEA were bid on and provisional winners were declared. Leases will likely be allocated by Spring 2023. Successful lease bidders will then have a one-year preliminary term followed by five years to complete characterization of the lease site and potential routes for cables to shore, engineering, and other planning, culminating in a Construction and Operations Plan. BOEM then conducts an environmental and technical review of the Construction and Operations Plan and issues a final action to approve the plan, disapprove it, or approve it with modifications.

Wind turbines that may be installed within the Morro Bay Lease Areas will be floating wind platforms, where turbines are mounted on a floating structure that is affixed to the seafloor via chains and/or cables attached to multiple large anchors. Inter-array power cables would connect groups of platforms within a lease together and would hang below platforms (but likely not extend to the seafloor). Groups of platforms typically connect to one or more floating, offshore electric substation(s). From the substations, energy generated from wind turbines in the Morro Bay Lease Areas would be brought to shore via one or more subsea electrical transmission cables laid on or in the seabed. The location, number, design, size, and burial depth, if any, have not been determined for these cables. BOEM has suggested to NOAA that designs for energy transmission from the Morro Bay Lease Areas to shore could be similar to designs for offshore wind development on the East Coast, which at present can include up to 7–10 subsea electrical transmission cables to shore for each of the three leases.

The routing for the subsea electrical transmission cables from the Morro Bay WEA to shore will require successful lease developers to conduct various evaluations including assessing seafloor conditions and terrain and other structures around which to design subsea electrical transmission cables. For instance, over a dozen trans-Pacific fiber-optic cables come ashore just south of Morro Bay, and industry representatives have noted the complexity with laying electric

transmission cables on the seafloor over the top of fiber-optic cables. While BOEM has indicated the most likely landing site for these subsea electrical transmission cables would be north of Morro Bay Harbor, allowing interconnection with the existing power grid to market at the former Morro Bay power plant, companies awarded leases within the Morro Bay Lease Areas have indicated to ONMS staff an interest in connecting to the grid at DCPD or other locations throughout the study area and beyond into southern California. Overall, project designs for offshore subsea electrical transmission cables are not yet final or firmly defined and may not be for several years due to the need to collect and analyze further site characterization data.

Alternative 3, proposed by BOEM as a cooperating agency for this EIS, would shift the proposed sanctuary boundary so that subsea electrical transmission cables from the Morro Bay Lease Areas would not require routing through the proposed sanctuary if they proposed to connect at either Morro Bay or DCPD. Alternative 3, as well as Alternative 4, would also allow BOEM to evaluate additional areas on the central coast of California for potential future wind energy leasing, to support state planning offshore wind and renewable energy goals, including possibly considering development of the Diablo Canyon Call Area (see sections 3.5 and 3.6 for details on alternatives 3 and 4).

State and federal energy agencies and the wind industry are coordinating various development, construction, and operation aspects of the Morro Bay Lease Areas. One possible but not yet defined ancillary development project would involve building a new harbor or expanding an existing harbor along the coast of the study area to function as a deep-water port for fabrication of offshore wind platforms and turbines that would then be towed and installed in the Morro Bay Lease Areas or any other WEA developed regionally.

Offshore Wind Development – State Waters

In summer 2019, CSLC received two unsolicited lease requests to develop offshore floating wind projects in state waters off Point Arguello, near VSFB (see Figure 4.7-3; (CSLC, 2021)). This location is within the boundaries of all action alternatives. Both companies—CIERCO proposing the CADEMO Wind Demonstration Project and IDEOL proposing the Vandenberg Pilot Project—seek approval to develop four offshore floating platforms and sell power locally. CIERCO envisions its project as a demonstration project to test various elements of offshore floating wind technology, such as floating structure design, anchoring, cable routing, and impact assessment. For both projects, floating platforms would be held in place with anchors, chains, and cables. CIERCO's platforms and turbines would be 2.5 miles offshore, similar in size to those identified above for platforms/turbines in federal waters, and would generate between 12–15 megawatts each, for a total project output of 60 megawatts. IDEOL's platforms and turbines would be approximately 1.5 miles offshore, and similar yet slightly smaller in size than those identified for federal waters, generating 10 megawatts each, for a total project output of 40 megawatts. Both firms propose to land power cables south of Point Arguello and, with varying designs, bring power to local substations or directly to Vandenberg. CSLC is evaluating both projects via a single environmental review and project analysis and anticipates a decision by 2024 (CSLC, 2021).

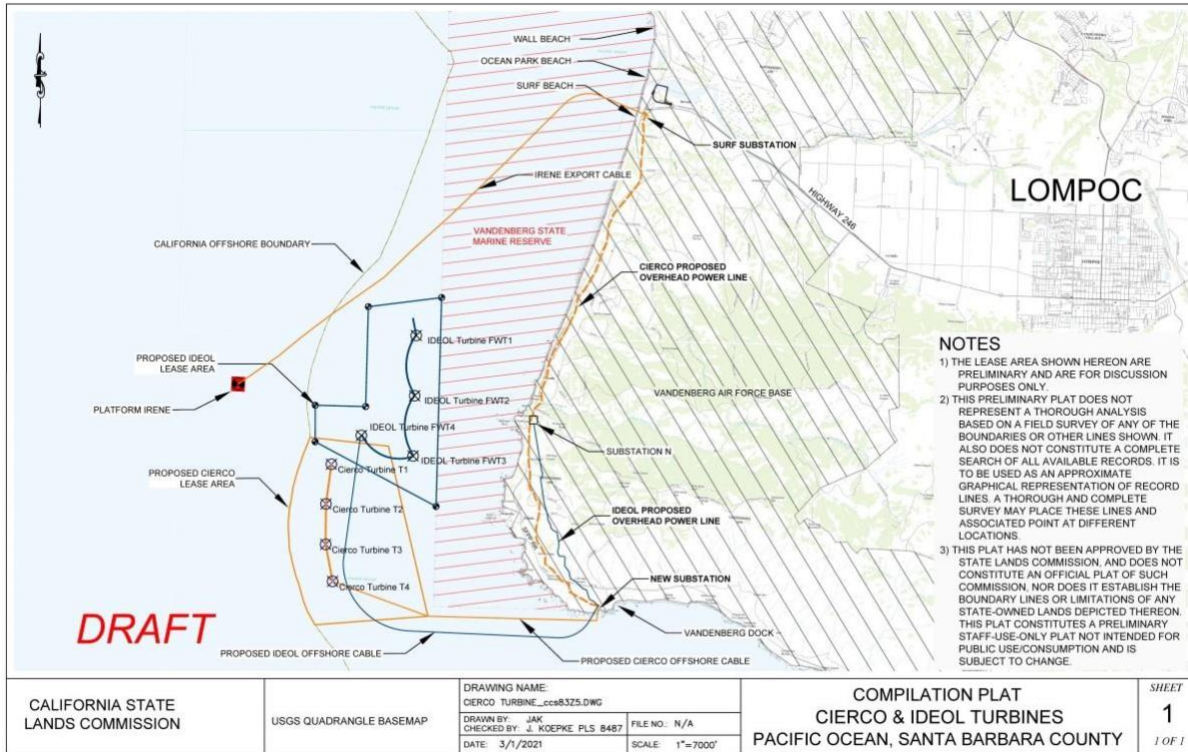


Figure 4.7-3. Proposed wind energy projects off Point Arguello in state waters, under review by CSLC. Courtesy of CSLC, May 2022.

4.7.2 Impact Assessment Methodology (Offshore Energy)

The Initial Boundary Alternative or any of the alternatives would result in a significant impact on offshore energy if its designation and implementation would result in:

- Substantial reductions in production of existing offshore oil and gas reserves;
- Substantial reductions in development of offshore wind energy from what is projected and permitted by federal or state lead agencies; or
- Substantial delay to obtain final project approval so as to render the project infeasible for offshore or coastal energy projects including site characterization or site assessment studies; new facility construction; decommissioning, abandonment, and site remediation of existing facilities.

Impacts on offshore energy were assessed based on review of current wind development plans, onshore and offshore decommissioning plans, and the anticipated application of NMSA system-wide regulatory authorities and the proposed site-specific regulations under the Initial Boundary Alternative. Because the proposed site-specific regulations and the system-wide NMSA authorities contain several permitting mechanisms, it is possible that activities that would otherwise be prohibited under the proposed regulations could be approved via a permit (sanctuary general permit, ONMS authorization, certification, or special use permit). NOAA does not consider the administrative process to seek and obtain a permit from the sanctuary to be an adverse impact, but substantial delay to obtain final project approval from NOAA or any

other federal, state, or local agency, could be a component of determining a significant impact. Many of the offshore energy projects and activities in the study area are early in the development and planning phase, and many project designs and plans are actively changing and may continue to change for years. Because of this, some details on potential impacts on specific offshore energy projects and activities from sanctuary designation are uncertain or in some cases may be speculative; however, for the reasons described below, ONMS determines that the reasonably foreseeable adverse effects evaluated below would not rise to a level that is significant. In addition, any future permitting decision by NOAA or other agencies relating to offshore energy projects within the sanctuary would be subject to project-specific environmental review processes.

4.7.3 Environmental Consequences of the Initial Boundary Alternative on Offshore Energy

This section evaluates the impacts on offshore energy from implementing the Initial Boundary Alternative, as described in Section 3.2. There are no identified beneficial effects on offshore energy. There are some adverse impacts of the proposed sanctuary regulations on several types of existing or potential offshore energy development within the proposed sanctuary boundaries.

Adverse Impacts on Oil and Gas Development

Prohibition on New Oil and Gas Development

The regulations proposed for the sanctuary designation would prohibit new exploration, development, or production of oil and gas resources within the sanctuary under all action alternatives, including leasing of new areas for development. Leasing is not anticipated in the next five years as no lease sales are contemplated offshore California in the National OCS Oil and Gas Proposed Program for 2023–2028. Elected leaders at the federal, state, and local levels in California have expressed opposition to new offshore oil and gas leasing. A lease sale for oil and gas development has not occurred offshore California since 1984. As stated in Section 4.7.1, BOEM has estimated there could be 2.18 billion barrels of oil [91.5 billion gallons] and 2.00 trillion cubic feet of natural gas within the proposed sanctuary boundaries. BOEM did not distinguish if these are total reserves or recoverable reserves, meaning reserves that are economically and technically feasible to recover at the existing price of oil. The industry has been developing offshore oil and gas in the area proposed for the sanctuary since the 1980s, having already produced roughly 485 million barrels [20.4 billion gallons] of crude oil and nearly 500 billion cubic feet of natural gas. The U.S. and the state of California are moving aggressively toward offshore renewable energy development, foregoing offshore oil and gas. Any new offshore oil and gas development has been concentrated in the Gulf of Mexico over the past decade. The **adverse impacts** caused by the Initial Boundary Alternative on offshore oil and gas development would be **direct, long-term, localized,** and **moderate** because other domestic offshore oil and gas fields exist and future energy development in offshore waters is likely to be from renewable sources.

The proposed sanctuary regulations include an exception to allow existing oil and gas production. Therefore, under the Initial Boundary Alternative, Freeport-McMoRan would be able to continue its current operations within the Point Pedernales Unit. Exxon/Mobil's Santa

Ynez Unit remains shut in, as of 2023; if the oil industry can solve onshore transportation issues to move product to refineries, this project could resume operations. Thus, the proposed exception from the regulatory prohibition on oil and gas production within the sanctuary would also allow continued oil and gas operations to resume from Platform Heritage. Activities that normally occur in the reservoirs, like well drilling, work over to repair and maintain product flow, and well abandonment would also be excepted from the prohibitions in the proposed sanctuary regulations. Therefore, with this exception, **no impacts** on existing oil and gas operations at Platform Irene and Platform Heritage are anticipated from the Initial Boundary Alternative. If a pipeline between a platform and shore required repair such that it led to disturbance of the seabed, that activity might require NOAA to also issue a permit. None are known or planned at this time, but it can be anticipated that NOAA could issue an ONMS authorization for a federal or state-issued permit if a pipeline repair project were necessary. This would result in no more than **negligible adverse impacts** on offshore energy because of the ability to rely on another agency's permitting actions, expertise, and likely mitigation measures.

Prohibition on Discharges

NOAA is proposing a standard regulation prohibiting discharges within or into the sanctuary, and has proposed to include an exception for discharges "... incidental and necessary to existing oil and gas production within or into existing reservoirs..." This exception acknowledges normal oil and gas development from Platform Irene and Heritage could include the discharge of material into existing reservoirs to aid production of oil and gas product from a well. However, this exception would not allow discharges from the platform into the sanctuary; most likely this could occur at Platform Irene since Platform Heritage is not located inside any of the sanctuary boundary alternatives. Thus, a leak or spill from Platform Irene's oil pipeline to shore or from the platform would lead to prohibited discharges within or into the sanctuary. Also, NOAA is proposing a standard regulation that prohibits a discharge from beyond the boundary of the sanctuary, that subsequently enters and injures sanctuary resources. That regulation might more aptly apply to Platform Heritage, which is beyond the proposed sanctuary in the Initial Boundary Alternative. A leak or spill from Platform Heritage that enters and injures sanctuary resources would be prohibited under that proposed discharge regulation.

NOAA cannot predict the probability of a future spill; however, it is reasonable to assume that there is a risk of future oil spills, given past accidental spills in the study area (see Section 4.7.1).

Because spills from the platforms or pipelines operating in or adjacent to the study area have occurred, NOAA believes it is appropriate to assess what a spill comparable to past incidents would mean in relation to the proposed sanctuary regulations. Should a spill comparable to previous major spills in 1997 and 2015 occur, it is reasonable to assume there would be adverse effects on sanctuary resources, and in turn, it is reasonably foreseeable that civil penalties, response costs, damages, and required restoration and mitigations would be greater than what would have been imposed if the sanctuary were not present. It is reasonably foreseeable that the financial consequences associated with the assessment of response costs, damages, and any required restoration and mitigation for a future spill at the Point Pedernales or Santa Ynez Unit, while hard to predict with specificity at this time, could have **direct, long-term, localized, moderate adverse impacts** on oil and gas operations.

Offshore Facility Abandonment, Decommissioning, and Removal

Abandonment, decommissioning, and removal of offshore platforms and pipelines are anticipated to commence in the next five years for the Point Arguello Unit, and perhaps subsequently for the Point Pedernales Unit. BSEE is conducting a program-level environmental review of facilities decommissioning on the Pacific OCS (86 Fed. Reg. 39055; July 23, 2021) but lacks any project-specific plans for these two units. Because present federal and state lease requirements for these facilities include full removal (M. Mitchell (BSEE), personal communication, May 2022; J. Lucchesi (CSLC), personal communication, April 2022), a reasonable assumption is that the four platforms and pipelines to shore will be removed and any seafloor or other impacts restored. The NMSA and ONMS place a preference on restoring damaged habitats. Like BSEE and state agencies, ONMS has no policy at this time either promoting or objecting to any alternative plans such as creation of artificial reefs from platform abandonment. Therefore, it is anticipated that agency reviews and actions will rely on project-specific proposals and environmental review. Any activity that results in seafloor disturbance or discharges within the proposed sanctuary boundaries would be prohibited by proposed sanctuary regulations but could be approved by ONMS via either a sanctuary general permit or an ONMS authorization. Under the proposed regulations, ONMS could impose mitigation measures through this ONMS authorization process. It would participate in environmental review that BSEE would conduct for site-specific activities. Any mitigation measures would be derived by required environmental review and expected to be largely consistent with actions from partner agencies, although the sanctuary would have a clear mandate to mitigate impacts on habitats and sanctuary resources. It is not reasonably foreseeable at this time what specific mitigation measures, if any, may be necessary to protect sanctuary resources from individual platform decommissioning, or removal activities beyond what other agencies would require. Nonetheless, the inclusion of a permit process to allow activities otherwise prohibited under the proposed sanctuary regulations would limit the degree of any adverse impacts of the Initial Boundary Alternative on the oil and gas industry with respect to offshore facility decommissioning and removal (note: well abandonment, as a final step in the oil and gas production process, is treated differently than decommissioning of all other facilities necessary for offshore oil and gas development and NOAA proposes an exception from sanctuary prohibitions for well abandonment).

Adverse Impacts on Diablo Canyon Power Plant

The amount and temperature (above ambient) of once-through cooling water from DCPD discharged into the ocean is substantial, and it has been occurring for more than 35 years. Numerous agencies have permitted it and continue to oversee the impacts of that discharge. At the time this EIS has been developed, NOAA is not aware of any specific requirements, including phase out requirements, the state will impose to ensure extended operations at DCPD comply with plans to eliminate once-through cooling water from coastal power plants. Under the regulations proposed for the Initial Boundary Alternative for CHNMS, NOAA would have the ability to review and certify preexisting, permitted discharges like those by PG&E at DCPD and in that process, consider and possibly mirror mitigation measures via terms and conditions on a NOAA-issued permit and phase out requirements state agencies would have imposed to limit the impact of once-through cooling water. This certification process would mean designation of

the Initial Boundary Alternative would likely have no more than **negligible adverse impacts** on continued PG&E operations.

Decommissioning, removal, and restoration at DCPD over the next 10–20 years would be subject to the proposed sanctuary regulations prohibiting alteration of the seabed and discharges within or into the sanctuary. Present plans for removal of DCPD’s offshore discharge apparatus would require constructing a coffer dam to dewater the cove to remove the outfall. Proposed sanctuary regulations would prohibit disturbance of the seabed; however, these regulations also allow ONMS to issue permits or authorizations, as applicable, for activities otherwise prohibited. ONMS would work with the County of San Luis Obispo, CCC, CSLC, and other agencies to ensure effective resource protection during removal of the outfall, or other abandonment and decommissioning activities affecting the sanctuary. Permit review by ONMS would likely require conducting a NEPA review, and it is possible that a joint review under NEPA and California Environmental Quality Act could be conducted by ONMS and state/local agencies. The impacts of any mitigation measures that ONMS might impose through this process in order to protect sanctuary resources beyond what other agencies would require are not reasonably foreseeable at this time. In particular, it is not clear if decommissioning activities would occur in the next 10 years, or the next 20 years after extended operations are complete. However, the inclusion of a permit process to allow activities otherwise prohibited in the proposed sanctuary regulations would limit the degree of any adverse impacts on the decommissioning of DCPD.

Site decommissioning plans also include the use of barges to transport non-radioactive concrete and scrap metal to shore, where it would be hauled to recycling sites most likely in the Portland, Oregon area. NOAA is not proposing any regulations to prohibit shipment via barge of material removed from DCPD, so the Initial Boundary Alternative would have **no adverse impacts** on that activity.

Adverse Impacts on Offshore Wind Development – Federal Waters

Morro Bay Lease Area Development

The planned offshore wind development of roughly 3 GW of power from hundreds of wind turbines in the Morro Bay Lease Areas lies outside the proposed sanctuary boundary under the Initial Boundary Alternative and any alternative boundary option. Development within the lease areas would not, therefore, be directly impacted by the proposed sanctuary.²⁵ However, the subsea electrical transmission cables necessary to service these leases would likely have to be routed through the proposed sanctuary under the Initial Boundary Alternative. The impacts related to placement and permitting of these subsea electrical transmission cables under the Initial Boundary Alternative are discussed below.

²⁵ As noted earlier, the NMSA includes a provision, section 304(d), that requires federal agencies to consult with NOAA if their activities are likely to destroy, cause the loss of, or injure any sanctuary resource. That consultation may be necessary between BOEM and NOAA with regard to the existing MBNMS adjacent to the Morro Bay Lease Areas, and if CHNMS is designated, could involve this sanctuary too.

Site Characterization for Subsea Electrical Transmission Cables to Shore

Site characterization investigations for subsea electrical transmission cables typically consist of a number of phases where the preceding phase informs the following phase. Site characterization generally includes the following activities: desktop studies, seabed exploration and sample collection, laboratory testing of collected sediment samples, evaluation and assessment of geotechnical engineering properties, and documentation of the results in a written report. Critical information is gathered during geophysical and geotechnical surveys where high resolution geophysical equipment collects information on the depth, contour, and nature of the sediments on and below the seabed. Ground truthing the geophysical data is necessary and requires the collection or testing of the sediments with the use of grab samplers, sediment cores, and/or cone penetration tests.

The resulting site characterization report(s) typically include a large array of site-specific information. Some examples of the data generated include information on geohazards, anthropogenic hazards, seabed topography, slope stability, rocky versus softer substrates, and more. The data gathering process for site characterization work such as this within a national marine sanctuary is very standard and typically offers benefits because the research would further the understanding of the sanctuary and its resources. The proposed regulations would allow ONMS to issue a sanctuary general permit or authorization for research activities that disturb the seabed. With a quality permit application, review, and approval of this sort of permit typically can be completed within weeks to a month. If this work is proposed to be conducted after CHNMS is designated, the **adverse impact** would be **negligible** on site characterization work for offshore wind.

Installation, Maintenance, Repair, and Continued Presence of Subsea Electrical Transmission Cables

BOEM plans to issue the three Morro Bay Lease Areas in Spring 2023 and has advised ONMS there may be floating substations and up to 30 subsea electrical transmission cables to shore, as noted in Section 4.7.1. Under the Initial Boundary Alternative, it is anticipated that these cables would be routed through the proposed sanctuary. Although BOEM cannot issue leases, rights of way, or easements for wind development within national marine sanctuaries per OCSLA, NOAA intends to coordinate with BOEM on potential integration of NMSA authorities and BOEM's OCSLA authorities for the purposes of specific wind development projects contemplated adjacent to and within the proposed sanctuary. Installation of a subsea electrical transmission cable through the proposed sanctuary would likely violate the proposed prohibition on disturbing the seabed and leaving a structure on or in the seabed. Proposed regulations for the Initial Boundary Alternative (and all action alternatives) include provisions whereby ONMS could approve seabed disturbance associated with the installation, maintenance, and repair of subsea electrical transmission cables, as well as their continued presence on or beneath the seabed. Although the details of any individual permit or authorization would be project-specific and would depend upon NOAA's consideration of the permit application(s) for any particular project, NOAA believes that the most likely permitting approach for activities associated with subsea electrical transmission cables is as follows.

- As stated in an earlier section, to **allow the site assessment and characterization activities that must be conducted prior to cable installation**, NOAA could consider issuing a sanctuary general permit for research purposes under 15 C.F.R. subpart D and section 922.233 of the proposed rule.
- For the **installation of a subsea electric transmission cable on the outer continental shelf within the proposed sanctuary**, NOAA could consider issuing an ONMS authorization of a permit issued by the USACE under section 10 of the Rivers and Harbors Act (33 U.S.C. 403), under 15 C.F.R. 922.36 and section 922.232(e) of the proposed rule.
- For **installation of cables within state waters of the proposed sanctuary**, NOAA could similarly consider authorizing a lease issued by the State Lands Commission or a coastal development permit issued by the California Coastal Commission, under 15 C.F.R. 922.36 and section 922.232(e) of the proposed rule.
- To **authorize the continued presence of the cable on or in the seabed within the proposed sanctuary**, NOAA could then consider issuing a special use permit under section 310 of the NMSA.
- To **allow any necessary maintenance and repair associated with the cable that might cause a disturbance of the submerged lands of the sanctuary**, NOAA could consider several potential options. These could include relying on the initial ONMS authorization of the USACE section 10 permit and/or state permit for the cable installation (depending on the duration of that permit and whether it included future repair and maintenance), or issuing an ONMS authorization of a separate USACE and/or state permit that is issued specifically for the maintenance and repair activity.

NOAA has coordinated with USACE regarding this approach in federal waters, and intends to continue that coordination throughout the designation process and as plans for cabling in the area are developed. Regular coordination with state agencies has occurred in the past and NOAA would conduct specific coordination meetings related to cable permitting as necessary. That said, NOAA's proposed regulations contain several permitting mechanisms (see Section 3.2.2 of this EIS) that would provide NOAA with flexibility in its approach to any individual permitting request.

ONMS has experience successfully permitting fiber-optic cables via these same permit mechanisms through several national marine sanctuaries. For instance, ONMS has approved construction of fiber-optic cables within other national marine sanctuaries by authorizing an USACE permit and has issued special use permits to allow the continued presence of those cables within the seabed of the proposed sanctuary. Sanctuary general permits, authorizations, and special use permits are only issued after necessary reviews under NEPA, NHPA, and other environmental compliance processes are completed.

One purpose of the proposed action is to protect offshore resources including habitats, commercially important species, and uses. Through the permitting processes described above, ONMS would be able to review, approve, and condition specific subsea electrical transmission cables proposed within the sanctuary, and would have the authority to impose mitigation measures that are necessary to protect sanctuary resources, and uses that depend on them. No final approval for any offshore wind development that definitively requires construction and

operation of subsea electrical transmission cables through the proposed sanctuary has yet been issued by BOEM or any other agency, and such a decision could be several years away. Moreover, the potential designs of the size and numbers of cables for such future projects are unknown, as are other details such as whether or not cables will be buried or surface-laid, specific cable routes to shore, the size of the construction corridor, and the need for offshore floating substations between the Morro Bay Lease Areas and shore. As such, there is substantial uncertainty over what mitigation measures, if any, ONMS may determine to be necessary to authorize the placement and continued presence of any specific subsea electrical transmission cables within the proposed sanctuary under the Initial Boundary Alternative. Any future ONMS permitting decision would be subject to project-specific environmental review processes. The potential impacts due to any mitigation measure imposed through ONMS's regulatory authority under the Initial Boundary Alternative are therefore not reasonably foreseeable. BOEM has issued several RODs and plan decisions regarding subsea electric transmission cables in the Atlantic off the East Coast (e.g., BOEM & NOAA, 2023). While future plans for subsea transmission cables for the Morro Bay Leases may be similar to the plans that have been evaluated on the East Coast, the specifics for cabling projects in the area proposed for sanctuary designation have not yet been developed or proposed.

Wind industry representatives during the public scoping process and thereafter have expressed concerns to ONMS about NOAA's inability to issue a lease within a sanctuary that would provide property interests to the developer for a cable corridor.²⁶ They have expressed doubts that NOAA's process to permit underwater fiber-optic cables would be sufficient for subsea electrical transmission cables needed by the wind industry. Industry representatives have said they fear that even if NOAA issues a wind company a permit to build a subsea electrical transmission cable, another user could conduct incompatible development within the permitted cable corridor before or after the company built the electrical cable. In turn, industry representatives have stated that this lack of granted/leased property interest for the lifetime of the project (20–30 years) would create significant challenges if not outright impediments to obtaining financing for offshore wind development projects.

However, NOAA's experience at other sites indicates large cable construction projects may be successfully proposed and built within national marine sanctuaries. Several companies on the East and West coasts have developed, deployed, and operated trans-oceanic fiber-optic cable projects through national marine sanctuaries relying on the ONMS authorization process for construction of the cable and a special use permit for continued presence of that cable within the sanctuary seafloor.²⁷ These trans-oceanic fiber-optic cable projects required investment of hundreds of millions of dollars and did not have a granted/leased property interest for their cable corridors within the sanctuary. While acknowledging the concerns expressed by the wind industry, as well as the fact that the level of investment necessary for offshore wind development may be higher than for fiber-optic communications cables, NOAA believes the example of

²⁶ The NMSA does not provide NOAA the authority to issue leases that grant exclusive use of the seafloor/water column for an activity, a legal tool available to BOEM outside national marine sanctuaries and other protected areas via OCSLA.

²⁷ Under section 310 of the NMSA, special use permits may only be issued for five years, but the permit terms may provide for seamless permit renewals over the lifetime of a project as long as the permittee remains in compliance.

communication companies pursuing cable projects within sanctuaries shows that financing challenges could be overcome.

In light of all this, the Initial Boundary Alternative would likely impose **direct, localized, short-term, moderate adverse impacts** on offshore wind development due to present concerns developers have about existing financing models and the need to develop or be comfortable with alternative financing models that are not limited by reliance on a sanctuary permit process (and lack of a lease) for construction and operation of subsea electrical transmission cables within the proposed sanctuary. Further NOAA does not believe there would be any meaningful delay, or any delay at all, due the requirement to obtain an ONMS authorization, when compared to the timeline necessary to conduct NEPA review and obtain BOEM lease approval, USACE permit approval, CSLC lease approval, and CCC consistency determination for any subsea electrical transmission cables developed outside a national marine sanctuary. BOEM needs to evaluate environmental impacts for cable routes to shore regardless of the jurisdiction in federal or state waters of that route, and NOAA can participate as a cooperating agency in the environmental review process to facilitate its development. Once BOEM, the USACE, and various key state agencies issue their permits, NOAA could issue an ONMS authorization within a matter of weeks. Therefore, there is **no impact** linked to the time necessary to pursue an ONMS authorization and special use permit.

Vessel Traffic

Construction of floating platforms in the Morro Bay Lease Areas and associated electrical cables to shore would result in a large but not yet quantified increase in vessel traffic in the northern end of the proposed sanctuary. NOAA is not proposing any regulations to prohibit construction-related or operation-related vessel traffic to build and operate the new wind farm, so the Initial Boundary Alternative would have **no adverse impacts** on that activity.

Additional Offshore Wind Development in Federal Waters

BOEM has sought public and industry input on the potential wind energy development of the Diablo Canyon Call Area, which would be within the proposed sanctuary boundaries under the Initial Boundary Alternative. While there was industry interest in developing that area, there was also opposition expressed by many parties, including commercial fishermen and the DoD. BOEM has indicated that it is not currently pursuing further offshore wind leasing activity in the Diablo Canyon Call Area. Nonetheless, the California Energy Commission, in response to state legislation (“AB 525”), released a report that indicated technically feasible offshore floating wind production for California could range between 21.8–25 GW by 2045 (California Energy Commission, 2022). Future evaluation of the previously designated Diablo Canyon Call Area is one of several potential areas that could contribute to realization of these production goals.

So, while there is presently no reasonably foreseeable plan to develop offshore wind energy production in the Diablo Canyon Call Area (or any other area in federal waters of the Initial Boundary Alternative), NOAA has assessed the extent to which designating the Initial Boundary Alternative could have an impact on this future development. Under OCSLA, BOEM cannot issue leases, rights of way, or easements for wind development in national marine sanctuaries. Therefore, designating the Initial Boundary Alternative would foreclose the ability to develop the Diablo Canyon Call Area under BOEM’s jurisdiction. If interest in developing the Diablo

Canyon Call Area arises after sanctuary designation under the Initial Boundary Alternative, NOAA could consult with BOEM, the state, and others regarding potential options for that development subject to a sanctuary permit or other authorization. However, as noted above, the offshore wind industry has expressed concerns that large-scale wind development requires financing that may be difficult to obtain if a developer lacks a lease to provide long-term property interest for the development. The NMSA does not provide NOAA with this legal tool. For all intents and purposes, the regulatory uncertainty, permit processes contained in the proposed regulations, and industry's approach to seek financing for large projects, may mean that another potential wind energy development area like Diablo Canyon Call Area would not be developed within the proposed sanctuary's boundaries under the Initial Boundary Alternative. For this reason, it is likely that the designation of the Initial Boundary Alternative would have a **direct, long-term, localized, moderate adverse impact** on additional offshore wind development in federal waters. NOAA believes this adverse impact from a sanctuary designation would be no more than moderate because: development of other potential areas offshore California may be available and preferable to achieve renewable energy goals; and opposition to developing this area could limit the scale and scope of any additional future development.

Deep-water Port Development

Determining the potential impact from designating the Initial Boundary Alternative on the potential future development in San Luis Obispo County or possibly Santa Barbara County of a deep-water port is speculative at this time. Because of considerable interest in this potential development during the scoping process, NOAA is providing this characterization of how such a project would be considered should the proposed sanctuary be designated. It is reasonably foreseeable that any future construction of a deep-water port—likely to include offshore dredging and discharge of material, as well as placement of rock for revetments, breakwaters, and harbor facilities below the mean high tide line—would likely violate proposed CHNMS regulations prohibiting disturbing the seabed, placing a structure on the seabed, and discharges from within or into the proposed sanctuary. Should such a project ever advance to the stage of environmental review after sanctuary designation, ONMS would participate with local, state, and federal agency partners, and ensure effective consultation with tribes. Under the proposed regulations, NOAA would be able to consider authorizing a proposed deep-water port project; however, that determination would be based on project-specific information that would be developed at the time and is not available now, such as proper and complete project engineering and design, environmental review, and mitigation planning.

Adverse Impacts on Offshore Wind Development – State Waters

CSLC is the state lead agency, under the California Environmental Quality Act, for reviewing and rendering the principal decision on the two wind projects proposed in state waters off VSF. The CCC review would follow CSLC review, as a responsible state agency. CSLC anticipates completing environmental and project review by late 2023 or early 2024. The impacts of the Initial Boundary Alternative on the offshore wind development in state waters cannot be precisely known until environmental review, including analysis of alternatives, has been completed. Nonetheless, NOAA considers four scenarios to be reasonably foreseeable outcomes from this California process:

1. CSLC or CCC deny(ies) both projects before or after designation of the proposed sanctuary. The Initial Boundary Alternative would have **no adverse impact** in this scenario because the state regulatory agencies would have denied the projects.
2. CSLC and CCC both approve one or both projects before designation of the proposed sanctuary. In this scenario, NOAA would treat the permit issuance like other existing, permitted facilities and rely on the certification process in the proposed sanctuary regulations to allow the approved activity to continue, subject to any terms and conditions consistent with the purposes for which the sanctuary was designated. Therefore, the Initial Boundary Alternative would have **no adverse impact** on the offshore wind developers in this scenario.
3. CSLC and CCC approve one or both projects after designation of the proposed sanctuary. NOAA would then, pursuant to the proposed regulations, decide whether or not to issue an ONMS authorization, most likely of the CSLC lease or CCC permit, which would allow the developer to disturb the seabed by placing anchors for the platforms and laying power cables to shore. If NOAA were to decide not to issue authorizations for one or both of these projects, **impacts** would be:
 - **Direct**, because it would directly impact the project developers;
 - **Localized**, because the developer(s) could relocate the project to another location including possibly outside the proposed sanctuary; and
 - **Moderate**, because while the developer(s) would have invested in design and studies to develop this location, it/they could relocate the project to another location including possibly outside the proposed sanctuary; to the extent California Environmental Quality Act/NEPA reviews evaluated alternative locations, it may be possible to promptly pursue one of these alternative locations with little to no cost or loss of time.
4. The last scenario is CSLC and CCC approve one or both of the projects after designation of the proposed sanctuary and NOAA decides to authorize a state lease or permit. In doing so, it would work closely with CSLC and CCC to ensure proper mitigation of potential impacts on proposed sanctuary resources were in place. It is not possible at this time to speculate on what potential mitigations would be needed that neither of the state agencies would not have imposed on their own. Nonetheless, given this scenario assumes a permit authorization is granted, the Initial Boundary Alternative can be considered to have **no adverse impact** on offshore wind energy development in state waters.

4.7.4 Environmental Consequences of Alternative 1 (Offshore Energy)

Because the area that would be excluded from the proposed sanctuary boundaries under Alternative 1, Bank to Coast, does not include any planned offshore energy development projects, impacts would be the same as in Section 4.7.3 under the Initial Boundary Alternative for all offshore energy activities.

4.7.5 Environmental Consequences of Alternative 2 (Offshore Energy)

Adverse Impacts on Oil and Gas Development, Diablo Canyon Power Plant, and Offshore Wind in State Waters

The boundary for Alternative 2, Cropped Bank to Coast, is identical to Alternative 1 from Hazard Canyon Reef to Gaviota, which includes existing and potential future offshore and gas development, DCP, and the area planned for offshore wind in state waters. Therefore, the adverse impacts for Alternative 2 for these activities are the same as for Alternative 1 and the Initial Boundary Alternative.

Adverse Impacts on Offshore Wind Development – Federal Waters

Because there would be no sanctuary designated from Cambria south to Hazard Canyon Reef, Alternative 2 would exclude a large area being planned for installation and operation of subsea electrical transmission cables from the Morro Bay Lease Areas to shore from sanctuary status. For any cables proposed to be routed through this area beyond (north of) the boundary for Alternative 2, none of the potential concerns that the wind industry has expressed regarding obtaining financing for construction and operation of subsea electrical transmission cables would occur because the cables would not be within the proposed sanctuary. BOEM would have jurisdiction over leasing this area for subsea electrical transmission cables under OCSLA. For these cables, there would be no impact from designating Alternative 2. It is possible that not all cables would be proposed for landfall near Morro Bay Harbor. Thus, there could still be the potential for adverse but reduced impacts on offshore energy should a small subset of cables be proposed for routes through the sanctuary in Alternative 2 to other landing sites. Impacts are reduced compared to the Initial Boundary Alternative because the number of cables possibly routed through the proposed sanctuary is likely a smaller percentage than those to land in or around Morro Bay Harbor, the most reasonable scenario at this time based on agency and industry projections. Accordingly, the impact from designating Alternative 2 on offshore energy-related subsea electrical transmission cables would be less than described for the Initial Boundary Alternative, thus in aggregate, reducing potential adverse impacts on categories **direct, localized, short-term** and **minor**.

The potential impacts for other offshore wind development in federal waters—for instance, future development of a wind farm area within the proposed sanctuary—would be the same as for the Initial Boundary Alternative, and Alternative 1.

4.7.6 Environmental Consequences of Alternative 3 (Offshore Energy)

Adverse Impacts on Oil and Gas Development

Because existing oil and gas facilities are within the boundaries of Alternative 3, Diablo to Gaviota Creek, impacts on existing offshore oil and gas development and platform decommissioning would be the same as described in Section 4.7.3 under the Initial Boundary Alternative. However, the potential adverse impacts on future oil and gas development, including new leasing, would be substantially reduced under Alternative 3 compared to the Initial Boundary Alternative, as a large portion of the Santa Lucia Bank all the way to Cambria would not be included in the proposed sanctuary boundaries. As explained in Section 4.7.3,

there is more information about potential oil and gas reserves in the area that would remain in the proposed sanctuary under Alternative 3, because that area has been developed for 40 years. While lessened, the **adverse impacts** of Alternative 3 on oil and gas development would still be **direct, long-term, localized, and moderate** because known reserves that could be developed would still exist within the reduced sanctuary area.

Adverse Impacts on Diablo Canyon Power Plant

Under Alternative 3, there would be **no impacts** on PG&E's abandonment, decommissioning, and restoration of DCPD because the proposed sanctuary boundary would shift to the south of DCPD. Thus, all decommissioning activities could occur outside the proposed sanctuary. There would also be **no impact** on continued operation of DCPD because its discharge or other potential impacts would fall outside the proposed sanctuary boundary.

Adverse Impacts on Offshore Wind Development – Federal Waters

Similar to Alternative 2, Alternative 3 would exclude from the proposed sanctuary an area between the Morro Bay Lease Areas and the anticipated grid connection at Morro Bay and DCPD. None of the potential concerns that the wind industry has expressed regarding obtaining financing for construction and operation of subsea electrical transmission cables would materialize for any future cables installed in this area because they would not be within the proposed sanctuary. For these potential cables, there would be no impact from designating Alternative 3. As noted for Alternative 2, there is a chance that not all cables from the Morro Bay Lease Areas would be proposed to land at Morro Bay. If cables were proposed to land at DCPD, those would also likely be outside the proposed sanctuary in Alternative 3 and thus there would be no impact on those cable projects. However, if any cables were proposed to land south of DCPD and require a route through the sanctuary, the potential impacts as explained for the Initial Boundary Alternative could result. However, because at this time so few subsea electrical transmission cables are anticipated to require routes and landfalls other than to Morro Bay Harbor or DCPD area, in aggregate the potential adverse impacts on offshore energy for cable routing would be reduced to **direct, localized, short-term and minor** if Alternative 3 were designated.

Alternative 3 would also not include a large area where the Diablo Canyon Call Area had been proposed, creating the possibility that additional offshore wind development could be eventually leased under BOEM's OCSLA authorities. Therefore, the potential impacts from the proposed sanctuary designation on the wind industry related to development of new offshore wind development in or around the Diablo Canyon Call Area would not occur. Depending on how much of and in what configuration BOEM chose to lease this area, the adjacent sanctuary boundary could require lease configurations that avoided platform anchors or cables into or through the proposed sanctuary. Although there is no development scenario to assess, NOAA foresees designating Alternative 3 would have **no adverse impacts** on development of a wind energy facility in federal waters because much or all of the area considered for the Diablo Canyon Call Area could be developed.

Any potential development of a new deep-water port from Diablo Canyon north to Cambria—an area outside the proposed sanctuary under Alternative 3—would not be subject to sanctuary regulations and thus, **no impacts** would occur. Otherwise, the potential but undefinable

impacts on a deep-water port if one is proposed for development south of (down coast) of Diablo Canyon (within the Alternative 3 boundaries) would be the same as explained in Section 4.7.3.

Adverse Impacts on Offshore Wind Development – State Waters

Impacts on offshore wind development proposals in state waters near VSFB would be the same as in Section 4.7.3 for the Initial Boundary Alternative because that area would remain in the proposed sanctuary boundaries under Alternative 3.

4.7.7 Environmental Consequences of Alternative 4 (Offshore Energy)

Because the boundary for Alternative 4, Combined Smallest, includes existing oil and gas facilities, but excludes areas of the ocean that could be developed for offshore energy—including potential offshore wind energy development or oil and gas development—similar to Alternative 3, the impacts from approving Alternative 4 would be the same as described in Section 4.7.6 above for Alternative 3 for all offshore energy activities.

4.7.8 Environmental Consequences of Sub-alternatives 5a and 5b Expanded Protection Areas (Offshore Energy)

Sub-Alternative 5a – Morro Bay Estuary

The inclusion of Morro Bay Estuary in the proposed sanctuary boundaries would not affect any existing offshore oil and gas development and would not affect future potential wind energy development, as no facilities are planned within the estuary. Therefore, there would be **no incremental impacts** on offshore energy under Sub-Alternative 5a.

Sub-Alternative 5b – Gaviota Coast Extension

Adding Sub-Alternative 5b, Gaviota Coast Extension, to any of the action alternatives would expand the proposed sanctuary boundaries to include several existing oil and gas facilities: an oil pipeline and gas pipeline transporting produced oil and gas from platforms in the Santa Ynez Unit to shore; a pipeline that ships produced water from onshore operations back to Platform Harmony for offshore discharge; and an electric cable between offshore platforms and the substation at Las Flores Canyon. Including this area in the proposed sanctuary boundaries under Sub-Alternative 5b would have **no impact** on operation of these pipelines because their operation is not limited by proposed regulations. However, similar to Section 4.7.3, any future repair activity to a pipeline would likely require an ONMS authorization of a state permit due to disturbance of the seabed. This would result in no more than **negligible adverse impacts** because of the ability to rely on other agencies' permitting actions, expertise, and likely mitigation measures. A leak or spill from these pipelines would not be exempt from sanctuary regulations; thus, the potential impacts of the proposed sanctuary on offshore oil and gas activities from a pipeline leak or spill within or into the proposed sanctuary, or from beyond the boundary that subsequently enters and injures a sanctuary resource, would be same as those impacts analyzed in Section 4.7.3 for the Initial Boundary Alternative.

Discussions with BSEE indicate that the decommissioning and removal of these pipelines and the electrical cable to shore would most likely occur well into the future, far beyond five or 10 years. To date, there are no plans, conceptual or specific, that have been shared about

abandonment and decommissioning of facilities within the boundaries of this sub-alternative. Therefore, NOAA is unable to consider impacts of the proposed sanctuary on such a distant and undefined project. Nevertheless, the proposed regulations would allow ONMS to review and authorize any proposed repair, abandonment, or removal of these pipelines and the power cable. Therefore, impacts on decommissioning of these facilities would be the same as described for the Initial Boundary Alternative in Section 4.7.3.

Sub-Alternative 5b lies wholly within state waters where there is currently a ban on new oil and gas development. Thus, this sub-alternative would have **no impact** on new oil and gas development.

4.7.9 Environmental Consequences of No Action on Offshore Energy

Under the No Action Alternative, NOAA would not designate the proposed sanctuary and would not implement the proposed sanctuary regulations to support management of the proposed sanctuary. Offshore energy development in the study area would continue to be regulated by state and federal agencies with no additional ONMS authority. BOEM would continue to be the lead agency to review and approve routing, mitigation, and leases for subsea electrical transmission cables and floating substations between the Morro Bay Lease Areas and shore, and BSEE would continue to be the lead agency for ongoing oil and gas development and the permitting for abandonment and decommissioning of those facilities. Energy projects within coastal onshore areas would continue to be regulated by local jurisdictions. Therefore, **no impacts** on offshore energy development would result from the No Action Alternative.

4.8 Marine Transportation

Section 4.8 summarizes existing marine transportation activities in the region, including commercial cargo vessels (container, bulk, reefer, car carriers), tankers, and passenger vessels (cruise ships, ferries, and large private yachts). Commercial fishing, recreational fishing and boating, and homeland security and military transportation are addressed separately in Sections 4.4, 4.6, and 4.9. The impact analysis presents the standards used to evaluate impacts on marine transportation and addresses the reasonably foreseeable effects of the Initial Boundary Alternative and alternatives on marine transportation activities. The study area for the marine transportation analysis includes the waters of the Initial Boundary Alternative and alternative boundaries. In addition, implementation of proposed regulations would affect vessel discharges occurring outside the study area that enter and injure resources of the proposed sanctuary. A majority of the traffic in the study area is coming to or from the Santa Barbara Channel.

4.8.1 Regional Overview of Affected Environment (Marine Transportation)

The history of the development of California's coastal economy has been influenced by the maritime industry. Ocean-based commerce and industries are important to maritime history, the modern economy, and the social character of this region.

The study area is north of the Ports of Los Angeles and Long Beach (LA/LB), so the statistics for vessels transiting this area are strongly influenced by the LA/LB port traffic and are of particular

interest for this analysis. A majority of commercial vessel traffic (over 300 gross tons) that transits through the study area is either inbound or outbound from the Santa Barbara Channel. In 2022 there were approximately 3,700 transits (inbound and outbound) through the Santa Barbara Channel (Marine Exchange of Southern California, 2023).

Using Automatic Identification System (AIS) data, NOAA staff analyzed vessel traffic density in the study area. Vessel traffic density was analyzed as the number of kilometers traveled by vessels per square kilometer (km²) block. The vessels included were cargo vessels, large passenger ships, and tankers, all greater than 328 feet (100 meters) in length (see Figure 4.8-1). 2021 data shows that approximately 77% of the transits completed in a heavily trafficked portion of this region were made by cargo ships (container, bulk, reefer, car carrier, bulk), 9% were tankers, and 3% of the traffic were passenger/recreational vessels. The remaining 11% of transits were completed by other types of vessels, including tugs, towing vessels, and fishing vessels (USCG, 2022). Figure 4.8-1 shows an average representation of the most recent vessel traffic data available and captures recent changes in traffic since new queuing processes went into effect in January 2022, which drastically changed the distribution of container vessel traffic compared to 2021. As the per capita income of the region and the U.S. increases, demand for consumer goods would likely increase the volume of goods shipped and the number of vessels traversing the area.

Due to the 2016 expansion of the Panama Canal, decreases in freight transport from Asia to large U.S. ports along the West Coast may occur (Park et al., 2020). The expanded Panama Canal allows larger vessels from Asia to travel directly to the ports along the Atlantic Ocean and bypass the prior route of U.S. West Coast Ports en route to eastern U.S. cities.

Vessel transits within the region would also be affected by amendments to the Santa Barbara Channel Traffic Separation Scheme (TSS) and an expanded ATBA recently approved by the IMO subcommittee on Navigation, Communication, Search, and Rescue that will come into effect in May 2023. The amended IMO routing measures will help protect marine mammal populations and better organize shipping coming into the Santa Barbara Channel or transiting south of the Channel Islands. The 13-nautical mile extension of the TSS will queue ships farther west and off the continental shelf in deeper waters where there are fewer whales. The ATBA expansion covers important whale feeding habitat. As shown in Figure 4.8-2, the western-most portion of the amended ATBA would fall within the Initial Boundary Alternative boundaries.

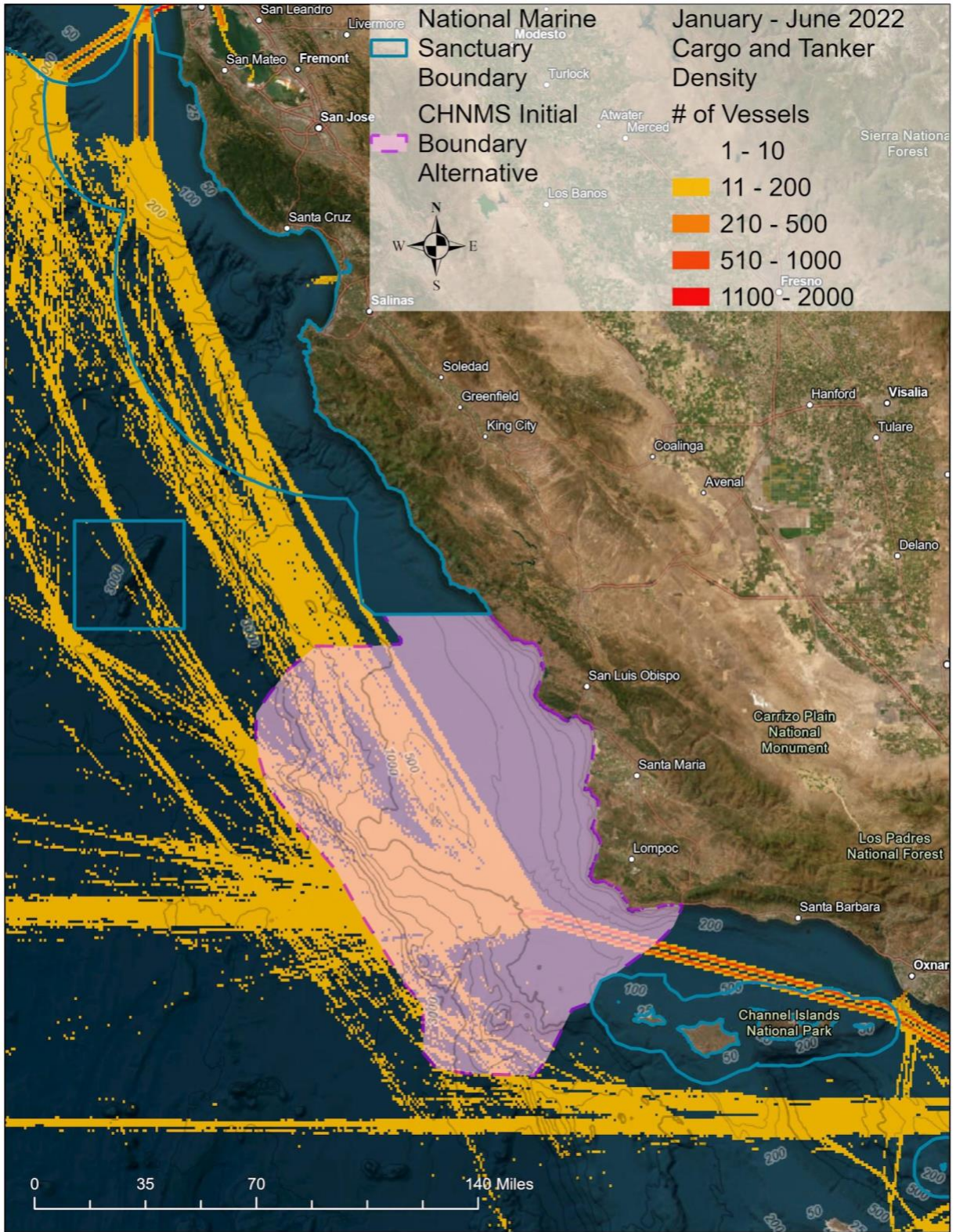


Figure 4.8-1. Vessel traffic density from AIS data. Source: Gatehouse maritime

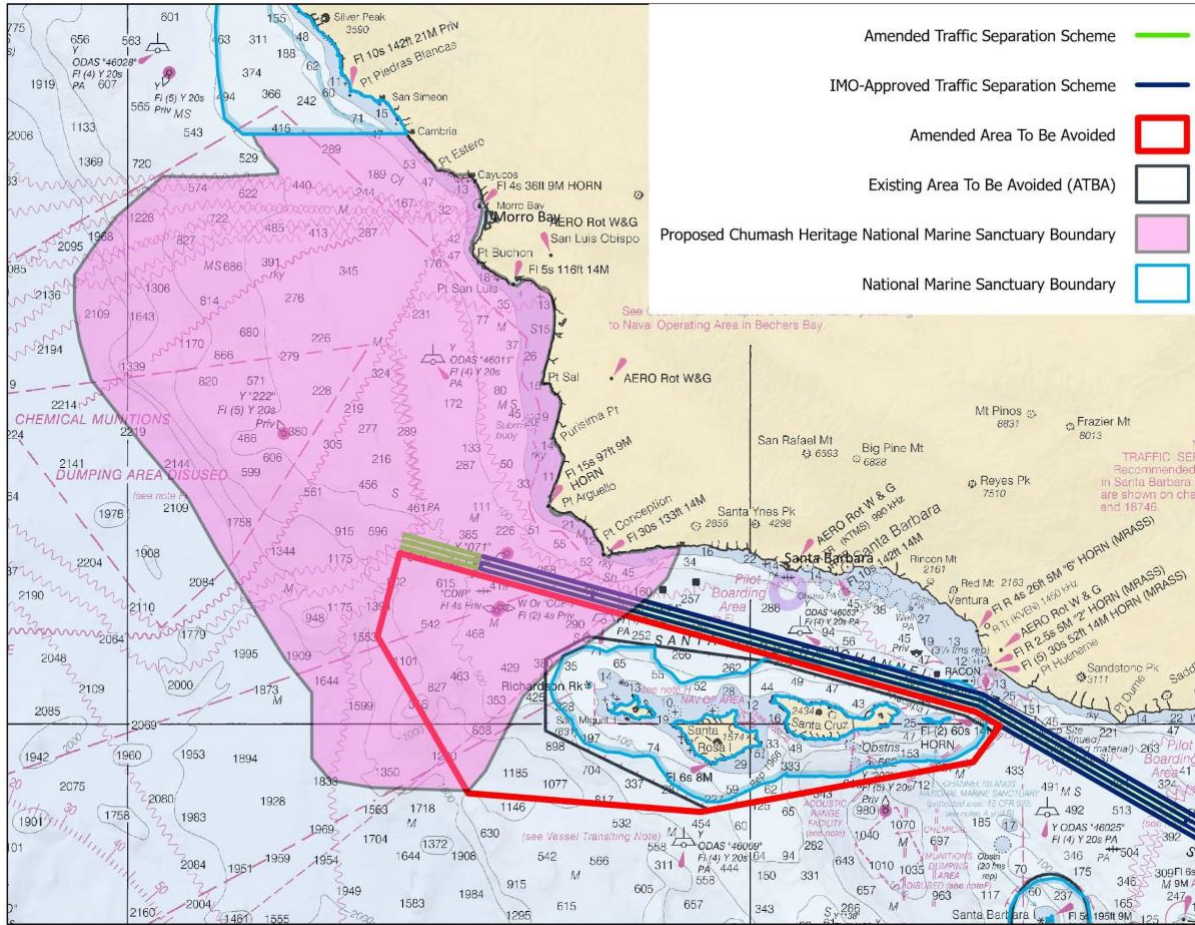
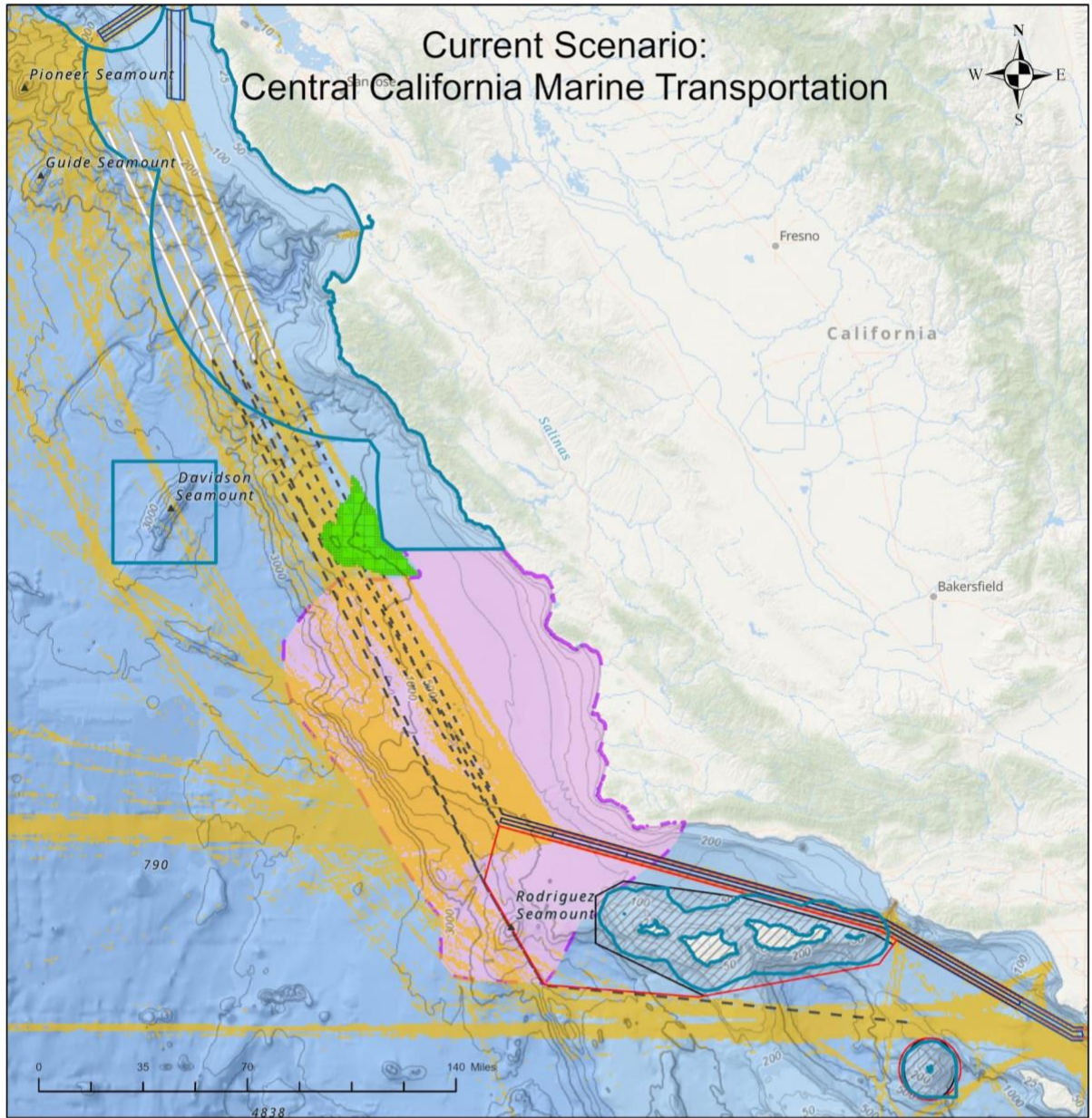


Figure 4.8-2. Newly amended ATBA and TSS in the Santa Barbara Channel. Source: NOAA

Other changes in large vessel traffic may also occur in the future because the USCG is conducting a PAC-PARS. The PAC-PARS will evaluate safe access routes for vessel traffic movement proceeding to or from ports or places along the western seaboard of the U.S. and determine whether a Shipping Safety Fairway and routing measures should be established and adjusted or modified. The PAC-PARS will evaluate the continued applicability of, and the need for modifications to, current vessel routing measures. Data gathered during this PAC-PARS may result in the establishment of one or more new vessel routing measures, modification of existing routing measures, or disestablishment of existing routing measures off the Pacific Coast between Washington and California. Some of these routes overlap with the study area for CHNMS. Figure 4.8-3 depicts current vessel traffic patterns and routing measures overlaid on the Initial Boundary Alternative area.



- | | | |
|--|--|--|
| <ul style="list-style-type: none"> --- Estimated Vessel Paths from Extended TSS and Expanded ATBA National Marine Sanctuary Boundary CHNMS Initial Boundary Alternative BOEM Morro Bay Wind Energy Area | <ul style="list-style-type: none"> IMO-Approved Traffic Separation Scheme IMO-Approved Area To Be Avoided MBNMS Recommended Tracks Extended TSS Expanded ATBA | <p>January-June 2022 Cargo and Tanker Density</p> <p># of Vessels</p> <ul style="list-style-type: none"> 1 - 10 11 - 200 210 - 500 510 - 1000 1100 - 2000 |
|--|--|--|

Figure 4.8-3. Current Scenario: Central California Marine Transportation. Existing vessel traffic and fairways overlaid with the Initial Boundary Alternative. Image: NOAA

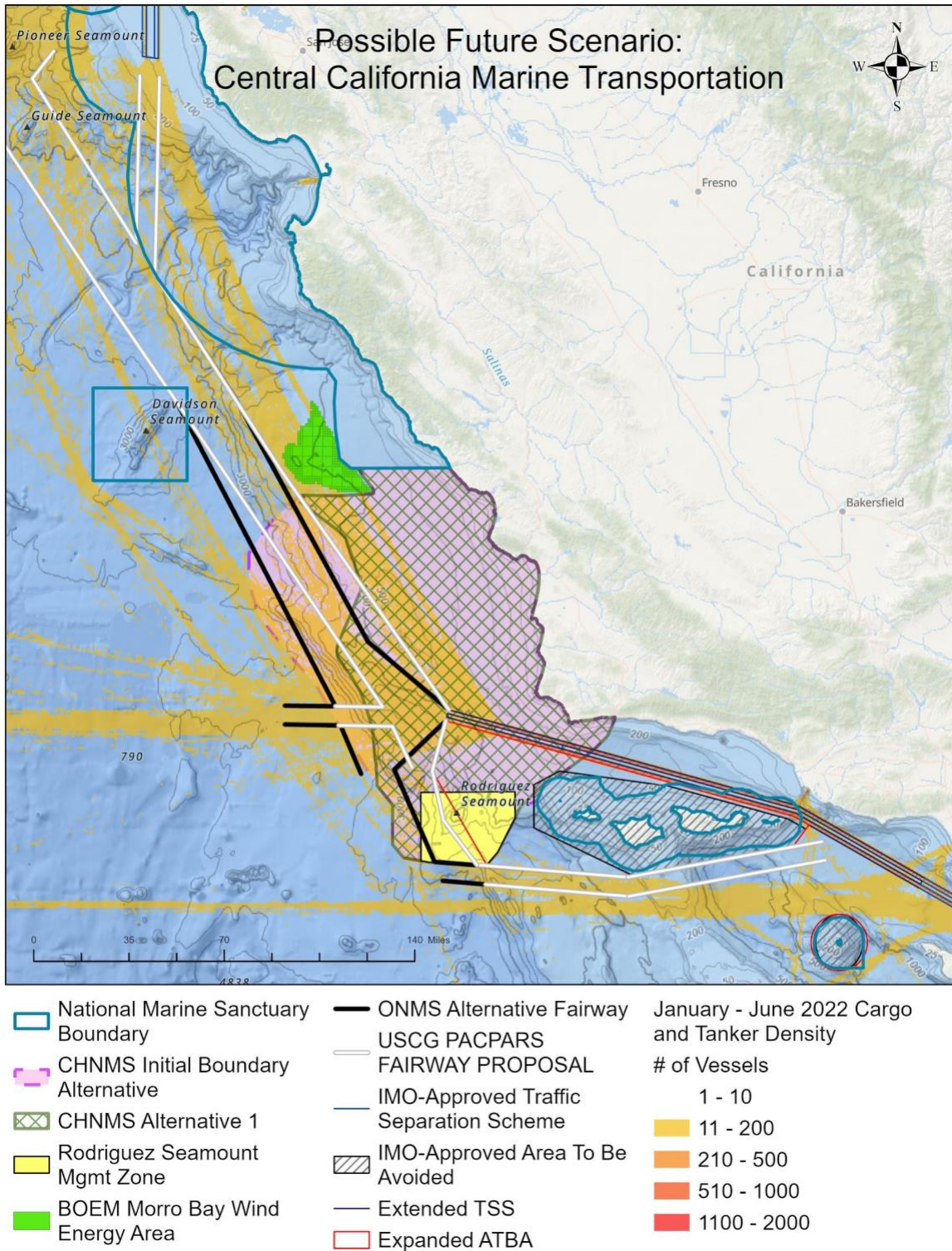


Figure 4.8-4. Possible Future Scenario: Central California Marine Transportation. USCG-proposed fairways from Draft PAC-PARS (white lines) and ONMS-recommended changes (black lines) overlaid with the Initial Boundary Alternative, Alternative 1, and Rodriguez Seamount Management Zone. Image: NOAA

Vessel traffic within the study area would also likely increase in the future due to new planned development of the Morro Bay WEA, including towing of constructed wind platforms/turbines, or components of those wind platforms/turbines to be constructed locally. At this time, NOAA has not received detailed projections from BOEM or the wind industry as to how much and what type of marine vessels could be expected but there is consensus that full development of the Morro Bay WEA, or any other wind development should it occur in the area, will be a substantial increase in the amount of coastal transits of large ships, barges, and crew boats. Oil and gas platform abandonment and decommissioning will also likely occur in the next five to 10 years in the study area and would result in an increase in vessel traffic.

In addition to the threat of materials being deposited from vessels into the ocean, vessels themselves can directly affect various marine resources. Vessels can potentially alter the behavior of marine mammals and seabirds, changing the distribution of the animals or the amount of time that they spend feeding and/or resting. Vessels also injure or kill marine mammals through collisions. In the fall of 2007, there were at least three blue whale deaths off the coast of southern California that were attributed to ship strikes (Santa Barbara Museum of Natural History, 2013). From 1986–2019, there were 107 recorded fatal ship strikes on large whales in California, and from 2007–2019, there were 48 recorded fatal ship strikes on endangered whales in California (Carretta, 2020). Documented ship strike deaths are considered minimum values. Cetacean carcasses detection is consistently quite low across regions and species. Observed numbers are unrepresentative of true impacts. For example, reporting for humpback whale vessel strikes is estimated to be only 10% of all strikes (Carretta, 2020).

4.8.2 Impact Assessment Methodology (Marine Transportation)

The Initial Boundary Alternative or any of the other action alternatives would result in a significant impact on marine transportation if its implementation would result in any of the following:

- Displacement of vessels in harbors within the study area;
- Substantial increase in operating cost to comply with any new sanctuary regulation; or
- Substantial delay of commercial vessel traffic.

The analysis includes an assessment of commercial shipping, which includes both domestic and foreign passenger vessels, such as cruise ships, dry cargo freighters, and tankers. None of the alternatives would result in significant impacts on marine transportation, as documented in the following subsections.

In the following analysis, the use of the terms “nautical miles” and “miles” depends on the jurisdiction and regulatory authority. Some regulations refer to nautical miles, while other regulations simply refer to miles, which is assumed to be statute miles. The same applies to the use of the terms “gross registered tons” and “gross tons” because the existing regulations vary in their references.

4.8.3 Environmental Consequences of the Initial Boundary Alternative (Marine Transportation)

Several prohibitions in the proposed sanctuary regulations have the potential to affect marine transportation. These include the proposed prohibitions on: discharge or deposit of matter or materials within the proposed sanctuary and from beyond the boundary of the sanctuary, if the discharged material subsequently enters the sanctuary and injures a sanctuary resource or quality; introduction or release of introduced species; desertion of a vessel aground, at anchor, or adrift and leaving harmful matter on deserted vessels in the sanctuary; and abandoning any structure, matter or material on the submerged lands of the sanctuary. However, as discussed below, the **adverse impacts** on marine transportation operations under the Initial Boundary Alternative would be **minor**. The Initial Boundary Alternative would not result in displacement of vessels in harbors or delay of commercial traffic.

Adverse Effects on Marine Transportation

Discharge Regulations

The proposed regulations prohibiting discharges of matter and material into the sanctuary would result in a **short-term, direct, minor adverse** impact on marine transportation. Current state and federal regulations limit different types of discharges into the waters of the proposed sanctuary so the addition of the proposed sanctuary regulations would represent an incremental increase in restrictions on vessel discharges. The proposed discharge regulations affect sewage and other materials associated with vessel operations. The proposed regulations would prohibit the discharge or deposit of any matter or material from vessels within or into sanctuary waters. The relevant exceptions to this prohibition would be:

- Fish, fish parts, chumming materials or bait used during lawful fishing activities.
- Clean effluent generated incidental to vessel use by an operable, approved Type I or II marine sanitation device, from vessels less than 300 gross register tonnage (GRT) and from vessels 300 GRT or greater without sufficient capacity to hold sewage while in the sanctuaries.
- Clean vessel deck wash down, vessel engine cooling water, vessel generator cooling water, and bilge water.
- Anchor wash.
- Vessel engine or generator exhaust.
- Discharge of clean graywater, as defined by section 312 of the CWA (galley, bath, and shower water), from vessels less than 300 GRT and from vessels 300 GRT or greater without sufficient capacity to hold graywater within the sanctuaries.

Cruise ships would also be prohibited from discharging or depositing material or matter in the proposed sanctuary. Section 4.2 also contains details on cruise ship.

Under the proposed regulations, the exceptions for cruise ships, as listed below, would be more limited than the exceptions for other vessels:

- Clean: vessel engine cooling water, vessel generator cooling water, and bilge water.
- Vessel engine or generator exhaust.

- Anchor wash.

Sewage

The USEPA has established a No Discharge Zone (NDZ) for marine waters within three miles of the California coastline (the territorial sea, as defined in the CWA), prohibiting discharge of treated and untreated sewage from all large passenger vessels of 300 gross tons or greater and large oceangoing vessels of 300 gross tons or greater with available holding tank capacity or containing sewage generated while the vessel was outside state waters (40 C.F.R. § 140.4(b)(2)). This 3-mile NDZ currently applies within the Initial Boundary Alternative boundaries and all other alternatives. Section 312 of the CWA (33 U.S.C. § 1322) and its implementing regulations (33 C.F.R. part 159) require the use of marine sanitation devices for all vessels within three miles of the coast if equipped with an installed toilet. Vessels up to 65 feet (19.7 meters) may use a Type I, II, or III MSD. Vessels over 65 feet in length must have a Type II or Type III MSD. Smaller vessels may have MSDs (but are not required to), or may have portable toilets, portable sewage receptacles, or no toilet facilities.

Beyond three miles from the coast vessels may discharge treated or untreated sewage from any type of MSD. The proposed sanctuary regulation to prohibit discharge of untreated sewage would apply throughout the sanctuary regardless of distance from shore. Smaller vessels spending time in the area rather than transiting through it, including vessels engaged in research, would either discharge waste through an approved Type I or II MSD, or hold the waste, so little impact is expected on that type of vessel. Vessel operators would be required to lock all MSDs in a manner that prevents discharge or deposit of untreated sewage. Aside from discharge of sewage outside proposed sanctuary boundaries, discharge into a mobile or shore pumpout or other on-shore sewage disposal facility would be an option for the waste from smaller vessels, when the facilities have the capacity to accept their volume of waste; such facilities exist in local harbors and are free to use. Typically, pumpout services cannot serve large vessels due to their size and limited pumpout equipment and tank capacities. Should a vessel owner or operator choose to install an MSD, there would be one-time costs for purchase of the device and installation, and periodic costs for maintenance. Due to these factors, the Initial Boundary Alternative has the potential to cause some adverse economic effects on marine transportation. While it is not possible due to lack of data to quantify the number of vessels that would choose to engage in these options, the number is expected to be limited because the majority of vessels already have installed toilets and MSDs. In addition, the one-time installation cost and periodic maintenance cost is not expected to cause a substantial increase in the cost of operating a vessel. Therefore, the Initial Boundary Alternative's prohibition on discharge of untreated sewage into the proposed sanctuary is expected to result in **short-term, direct, minor adverse impacts** on the marine transportation industry.

Cruise ships, which generate more sewage and wastewater than other vessels due to the numbers of passengers they carry, have a typical transit speed of 18–20 knots in open water (King County 2007). Although their ability to hold sewage and treated wastewater varies, cruise ships may hold sewage for an average of 62 hours (USEPA, 2008) or treated wastewater for 1-2 days (King County, 2007). Cruise ships would be prohibited from discharging sewage in the proposed sanctuary, but it is feasible for cruise ships to pass through the proposed sanctuary

without discharging. Overall, the impact on marine transportation from the prohibitions on sewage discharge is expected to be less than significant.

Other Material

The proposed discharge regulations would affect vessel discharge of other matter in the proposed sanctuary, including, but not limited to, graywater, bilge water, and solid waste. Most vessels with graywater are larger in size and function, requiring a kitchen, shower, and/or laundry facilities onboard.

Graywater is a category of discharge covered by a Vessel General Permit issued by USEPA, which applies only to the territorial sea (three miles from shore). Large passenger vessel and cruise ship graywater discharges are prohibited in state waters under the Vessel General Permit, and graywater discharges (including graywater mixed with sewage) from oceangoing vessels of 300 gross tons with sufficient holding capacity are prohibited. The proposed discharge regulation would not prohibit discharge of clean graywater for vessels less than 300 gross tons, or for vessels above that size without sufficient capacity to hold graywater while within the proposed sanctuary boundaries. Moreover, responsible vessel operators generally secure loads to prevent loss into the ocean and do not discharge other solid waste deliberately overboard. Therefore, any adverse impacts from the proposed regulatory prohibitions on discharging graywater and other material would be **negligible** on marine transportation.

Deserted Vessels Regulation

It is currently illegal for abandoned vessels to “trespass” on submerged lands under CSLC’s jurisdiction. It is also illegal to abandon barges greater than 100 gross tons on the navigable waters of the U.S. per the Abandoned Barge Act of 1992 (46 U.S.C. § 4701 *et seq.*), but there is currently no comparable federal law for other vessels. Under the Initial Boundary Alternative, the proposed regulation prohibiting vessel desertion would mean no owner, operator, or person in charge could desert any vessel within the proposed sanctuary. Vessels could not be deserted while aground, adrift or at anchor under the proposed regulation. In addition, no harmful matter could be left aboard a grounded or deserted vessel; this could lead to a prohibited discharge or deposit of harmful material or matter from the untended vessel. The potential for a vessel at anchor to ground or discharge or deposit materials, when the vessel is not secured in a timely manner, is another factor for considering a vessel deserted.

The proposed regulation prohibiting abandoning a vessel might have a **direct, short-term, minor adverse** impact on the marine transportation industry, as it would place an additional economic burden on vessel owners/responsible parties to ensure that capsized, sunken, or otherwise incapacitated vessels be salvaged rather than abandoned and to ensure that any hazardous substances are removed from grounded or abandoned vessels. The intent of the proposed regulations is to ensure that vessel owners take responsibility for their vessels before damage to proposed sanctuary resources and habitats can occur or worsen. The financial impact of penalties, response costs, or damages on a responsible party found to have abandoned a vessel in violation of the proposed sanctuary regulations could vary depending on such factors as the nature of the deserted vessel, if it contained hazardous substances, and impacts from the vessel on sanctuary resources. While this might be an immediate burden for vessel owners, the overall risk of an individual boat being abandoned is expected to be relatively small based on

experiences in other sanctuaries, especially those offshore of California, and the **adverse impact** on marine transportation as a whole is expected to be **minor**.

Discharge Prohibition/Introduced Species Regulations

The ballast water management regime in offshore waters of California, out to the EEZ, is managed by CSLC, USCG, and USEPA. One of the principal purposes of the ballast water management program is to prevent the spread of introduced species from ballast water. Vessels that will come to port in California currently have the option to retain all ballast water on board or take up or exchange/discharge ballast water if in compliance with the ballast water management regime for this region. Compliance with these current regulations largely requires exchange of ballast water beyond 200 nmi from shore for vessels coming to port in California. For vessels transiting along the coast, they may exchange ballast water that has been taken aboard within the U.S. Pacific Coast Region and discharge it within the Pacific Coast Region if they do so when beyond 50 nmi from shore. Other regulations and restrictions from these three agencies apply to ballast water discharges, including some exemptions in the case of emergency.

The proposed sanctuary regulation prohibiting discharges would not allow ballast water to be discharged within the proposed sanctuary, the furthest western boundary of which would be 68 nmi from shore. Vessels coming from international ports that transit the proposed sanctuary will have already exchanged ballast water beyond 200 nmi from shore. Because some vessels engaged in trade along the U.S. Pacific Coast Region may have planned to rely on discharge beyond 50 nmi, this proposed prohibition might affect their operations. However, because few if any of these vessels would be making port calls within CHNMS, because relatively few vessels transit along the coast in the range between 50 nmi and 68 nmi from shore in this area, and because the proposed sanctuary is not an area where many vessels are actively engaged in uptake and discharge of ballast water, the proposed discharge regulation and introduced species regulation would have **short-term, direct, minor adverse impacts** on vessel operations.

4.8.4 Environmental Consequences of Alternative 1 (Marine Transportation)

The adverse impacts from Alternative 1, Bank to Coast, due to the proposed discharge regulations would be the same type as described for the Initial Boundary Alternative but less, because a large portion of the offshore waters beyond the Santa Lucia Bank would not be within the proposed sanctuary boundaries. This would provide either a shorter distance for vessels to travel to discharge sewage or graywater, or would reduce the area where large vessels transiting the coast would be within the proposed sanctuary. Further, the PAC-PARS process could shift coastal vessel traffic lanes and corridors further offshore over the next five years, quite possibly into the offshore waters excluded in Alternative 1. This could mean even fewer vessels would be subject to the adverse, albeit minor, impact caused by the proposed discharge regulation.

For the potential impacts from the proposed regulations prohibiting discharges and introduced species, which are largely linked to ballast water, the **minor adverse impacts** described for the Initial Boundary Alternative would be reduced to **negligible** levels since most of the current ballast water discharge management takes place beyond 50 nmi from shore and the farthest distance from shore for the boundary under Alternative 1 would be 51 nmi from shore.

The proposed regulation prohibiting deserting a vessel would have the same impacts under Alternative 1 as the Initial Boundary Alternative.

4.8.5 Environmental Consequences of Alternative 2 (Marine Transportation)

Impacts from Alternative 2, Cropped Bank to Coast, would be reduced compared to the Initial Boundary Alternative because the projected increase in vessel traffic to construct and operate wind farms in the Morro Bay WEA and any related dredging activity in the Morro Bay would be outside the sanctuary and therefore not subject to discharge regulations.

Alternative 2 would also provide a shorter distance for vessels to travel to discharge sewage or graywater and would reduce the area where large vessels transiting the coast would be within the proposed sanctuary. Further, the PAC-PARS process could shift coastal vessel traffic lanes and corridors further offshore over the next five years, quite possibly into the offshore waters excluded in Alternative 2. This could mean even fewer vessels would be subject to the adverse, albeit minor, impact caused by the proposed discharge regulation.

The impacts from deserting a vessel would still represent a **direct, short-term, minor adverse** impact on marine transportation for Alternative 2. However, because the coast from the southern boundary of MBNMS to Hazard Canyon Reef of the Initial Boundary Alternative would be excluded from the proposed sanctuary in Alternative 2, the impacts on marine transportation would be proportionally reduced. For the rest of the proposed sanctuary in Alternative 2, from Hazard Canyon Reef to Gaviota Creek, the potential adverse impacts from the vessel desertion regulation would be unchanged compared to the Initial Boundary Alternative.

For the potential impacts from the proposed regulations prohibiting discharges and introduced species, which are largely linked to ballast water, the **minor adverse impacts** described for the Initial Boundary Alternative would be reduced to **negligible** levels since most of the current ballast water discharge management takes place beyond 50 nmi from shore and the farthest distance from shore for the boundary under Alternative 2 would be 51 nmi from shore.

4.8.6 Environmental Consequences of Alternative 3 (Marine Transportation)

Impacts from Alternative 3, Diablo to Gaviota Creek, due to the discharge regulation would be reduced compared to the Initial Boundary Alternative because a considerable portion of the area from Santa Lucia Bank and Diablo Canyon all the way to the Morro Bay WEA would not be included in the proposed sanctuary boundaries. Current vessel traffic in that area, and the increase in vessel traffic projected to construct and operate wind farms in the Morro Bay WEA would not be subject to any impacts from the proposed discharge regulation. However, because Alternative 3 includes the offshore portions west of the Santa Lucia Bank, the impacts from the proposed regulations prohibiting discharge in that area would be the same as for the Initial Boundary Alternative.

The impacts from the proposed regulations prohibiting discharges and introduced species would be the same under Alternative 3 as the Initial Boundary Alternative.

The impacts from deserting a vessel would still represent a **direct, short-term, minor adverse** impact on marine transportation for Alternative 3. However, because about a third of the coast of the Initial Boundary Alternative is excluded from sanctuary protection in Alternative 3 (the area from Cambria to Diablo Cove, including the waters near the active port of Morro Bay), the impacts on marine transportation are proportionally reduced. For the rest of the sanctuary in Alternative 3, from Diablo Cove to Gaviota, the potential **adverse impacts** from the vessel desertion regulation would be unchanged.

4.8.7 Environmental Consequences of Alternative 4 (Marine Transportation)

Alternative 4, Combined Smallest, would have the least impact on marine transportation because both the exclusions offshore of the Santa Lucia Bank (Alternative 1) and much of the Bank north to Cambria and the Morro Bay WEA (Alternative 3) would place a large area outside the proposed sanctuary boundaries. The impacts from the prohibitions on discharging sewage, graywater, other matter, and on deserting a vessel would still be considered **short-term, direct, minor adverse** impacts, but would affect far fewer vessels and vessel operators because about 3,000 fewer square miles would be protected by the proposed sanctuary. The impacts on marine transportation from the vessel desertion regulation would be the same as for Alternative 2.

4.8.8 Expanded Protection from Sub-alternatives 5a and 5b (Marine Transportation)

Sub-Alternative 5a: Morro Bay Estuary

Sub-Alternative 5a, the inclusion of Morro Bay Estuary, would have an incremental **indirect, short-term, minor adverse impact** on marine transportation due to the prohibition on deserting a vessel for the same reasons as articulated for the Initial Boundary Alternative (Section 4.8.3). Sewage discharge is already prohibited in the Morro Bay Estuary and the number of vessels which would need to discharge gray water is likely very low. In addition, Morro Bay Harbor is immediately adjacent to the Morro Bay Estuary and has pumpout facilities for vessels that could handle any sewage or gray water discharge needs.

Sub-Alternative 5b: Gaviota Coast Extension

Sub-Alternative 5b, Gaviota Coast Extension, would have a slight incremental increase in adverse impacts identified for the Initial Boundary Alternative on marine transportation for general vessel discharge prohibitions and for the vessel desertion prohibition but impacts would remain **minor**. Because this proposed extension of the proposed sanctuary boundaries would be exclusively in state waters, discharge of sewage in state waters is prohibited, so this proposed regulatory prohibition would have **no impact**.

4.8.9 Environmental Consequences of No Action (Marine Transportation)

Under the No Action Alternative, marine transportation would continue to be managed in the study area as it is currently managed under federal and state laws. No impacts on marine transportation would therefore occur under the No Action Alternative. Under the No Action Alternative, NOAA would not designate the proposed sanctuary, and vessel owners and operators would not need to take any additional actions to comply with the proposed sanctuary regulations.

4.9 Department of Defense and Homeland Security Activities

The DoD and homeland security activities within and adjacent to the study area for the proposed sanctuary include operations of the USCG, the Department of the Air Force, and U.S. Navy.

4.9.1 Regional Overview of Affected Environment (Department of Defense and Homeland Security Activities)

VSFB; U.S. Navy Training and Testing Areas Offshore; and the USCG Station Morro Bay and Marine Safety Detachment, Santa Barbara are located within the study area.

Department of Defense

DoD activities within the meaning of the proposed exemption described in the proposed rule are those activities that DoD carries out or approves. DoD has informed NOAA that all activities described here are carried out or approved by DoD.

The U.S. Navy, within DoD, has been using the waters and airspace off the coast of central and southern California for military training and testing activities for nearly 80 years. There are specific areas within which they have regular at-sea activities.

The study area overlaps substantially with long-standing Military Warning Areas (see Figure 4.9-1). DoD performs critical military testing, training, and operations in these areas and is committed to active participation and collaboration with NOAA.

DoD activities are conducted to meet the military services' statutory requirement to train and equip forces in preparation for deployment in support of military operations and national defense objectives. DoD conducts training, testing and operations in the airspace, sea surface, subsurface, and seafloor of the OCS offshore California that includes the proposed sanctuary area. Maintaining access to DoD training and testing areas is critical to supporting the National Defense Strategy's focus on warfighting readiness and resilience.

A key component to these operations is VSFB, located on the coast northwest of Lompoc, California. The base is mainly a space launch base, launching spacecraft from the Western Range, and performs missile testing. In addition to its military space launch mission, VSFB hosts space launches for civil and commercial space entities, such as the National Aeronautics and Space Administration and SpaceX. Moreover, VSFB has intercontinental ballistic missile launch facilities and activities. Finally, Space Launch Delta 30's national defense mission

includes various other activities, including training for war and other operations, such as deployments. VSFb is permitted to conduct up to 110 launches per year. Current launches average about 30 per year over the last several years. However, the number of launches is expected to increase in the near future.

VSFB contains 99,604 acres of land, operates approximately 16 launch facilities and complexes, and maintains the second largest airfield runway in the DoD, which is 15,000 feet long. The installation provides a safe location for testing new and existing DoD-sanctioned programs as well as government and commercial launch and range services. VSFb also offers future space lift and land-based mission capabilities in support of the National Defense Strategy. The base has 42 miles of coastline, 9,000 acres of sand dunes, 5,000 acres of wetlands, more than 1,600 prehistoric archaeological resources, 14 rock art sites, a National Historic Landmark, five Native American villages, a National Historic Trail, 42 Cold War-era complexes, and more than 17 different endangered or threatened species (VSFB, 2022).

VSFB has a coastal loading dock that is used to bring to the base large rocket components, including rocket components recovered at sea from launches that jettison such components. The loading dock area lies within a small, protected cove with a few pilings and a small breakwater and ramp. There is no fueling station, maintenance yard or other infrastructure, which might pose a discharge threat. DoD conducts occasional dredging of the approach to the loading dock, with the dredged sand placed upland.

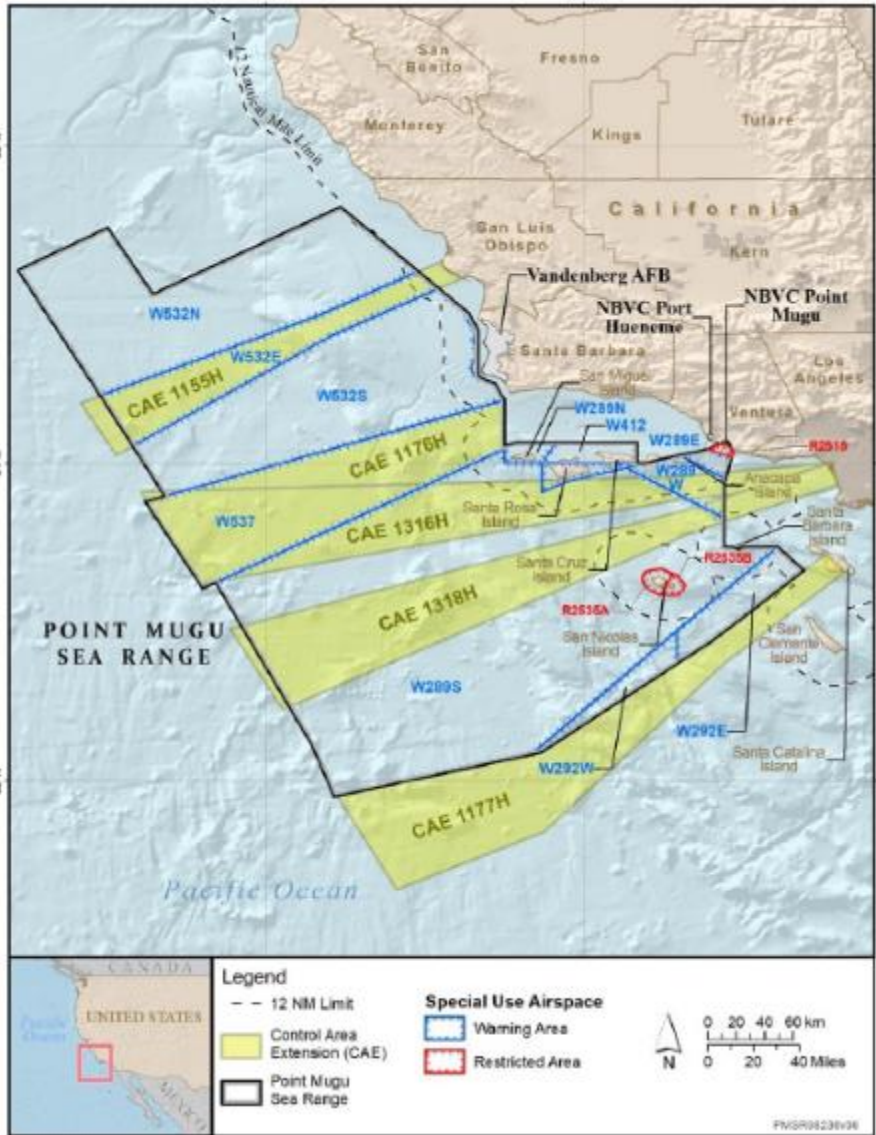


Figure 4.9-1. Military use areas in and adjacent to the proposed sanctuary. Vandenberg AFB was renamed to Vandenberg Space Force Base (VSFB) on May 14, 2021. Image: VSFB. Source: PMSR EIS, 2022

VSFB is recognized as a DoD Major Range Test Facility Base (MRTFB) activity. MRTFB activities are part of the designated core set of DoD Test and Evaluation (T&E) infrastructure and associated workforce and are considered a national asset. VSFB offers a unique and irreplaceable T&E operating environment that is used by all DoD branches. VSFB commands the West Coast Offshore Operating Area, a 200-nautical-mile-wide corridor off the West Coast that stretches from Portland, Oregon to Baja, California. The WCOOA is used extensively for space lift operations, ballistic missile test events, and aeronautical operations. Moreover, the Navy conducts state-of-the-art weapons systems testing and evaluations in Point Mugu Sea Range (PMSR), which overlaps with the proposed sanctuary area (see Figure 4.9-1). PMSR is also recognized as a MRTFB.

VSFB supports air warfare training and testing for the Joint Strike Fighter, F-22 Raptor, F-15 Eagle, F-16 Falcon, RQ-9 Global Hawk, hypersonic platforms, and multiple uncrewed aerial vehicle programs. VSFB also supports national defense missions and commercial launch endeavors by Firefly, United Launch Alliance, SpaceX, Missile Defense Agency, and Global Strike Command. This range is one of the few at-sea ranges where some long-range weapons systems can be used in a test or training environment to their full capacity. Future uses are expected to utilize this capability to support hypersonic weapons and long-range anti-ship missiles. PMSR supports live-fire training exercises required prior to deployment, including activities that can only be conducted in PMSR.

PMSR also maintains military operational readiness by providing a safe, operationally realistic, and thoroughly instrumented sea range testing environment in collaboration with VSFB, foreign allies, and industry partners who conduct additional weapons and systems testing and training missions. Established in 1946, the 36,000-square-mile at-sea range is DoD's largest and most extensively instrumented over-water range, offering unique capabilities for realistic open ocean and littoral operating environments. The PMSR is the U.S. Navy's primary ocean testing area for guided missiles and related ordnance. Test operations on the PMSR are conducted under highly controlled conditions, allowing for collecting empirical data to evaluate weapon system or subsystem performance. The sea range supports a wide range of test and training activities, including ships, aircraft, weapons systems, and specialized systems.

The types and tempo of testing and training activities have fluctuated over time because of the introduction of new technologies, the evolving nature of international events, advances in warfighting doctrine and procedures, and changes in force structure (e.g., organization of ships, submarines, aircraft, and weapons). Such developments influence the frequency, duration, intensity, and location of required testing and training activities. Most of the factors influencing frequency and types of activities are fluid in nature (i.e., continually evolving and changing), and the PMSR activity level will continue to fluctuate in the future. Projecting future testing activities' duration and frequency varies depending on U.S. Navy Fleet requirements and funding. Future testing depends on scientific and technological developments that are not easy to predict, and experimental designs may evolve with emerging science and technology. Even with these challenges, the U.S. Navy makes every effort to forecast all future testing requirements. Requirements are ultimately driven by the need to support DoD and U.S. Navy readiness based on emerging national security interests.

Major categories of training activities currently conducted in the study area include air warfare (e.g., air-to-air, surface-to-air), electronic warfare (e.g., directed energy/airborne electronic detection and counter measures, lasers, and high-powered microwave systems), and surface warfare (e.g., surface-to-surface, air-to-surface, and subsurface-to-surface). PMSR regularly hosts activities such as live-fire gunnery or missiles that are hazardous to non-participants. PMSR safety officials make every practical effort to clear non-participating ships and aircraft out of the hazard area. Conflict avoidance is aided by use of the Federal Aviation Administration designated special use airspace, Notices to Mariners and Notices to Airmen, as well as coordination with agencies controlling aircraft and surface traffic.

There are numerous Navy activities that conduct testing and training in this region. Although the PMSR is the largest designated area, other Navy activities such as the U.S. Pacific Fleet and the Naval Sea Systems Command conduct Military Readiness Activities in this region, as well as other services.

The Naval History and Heritage Command administers the U.S. Navy's authorities and responsibilities under the Sunken Military Craft Act to protect sunken military crafts. The study area includes eight U.S. Navy sunken military craft and potentially additional sunken military craft that have not been located.

U.S. Coast Guard

The USCG operates in the waters of the proposed sanctuary. The primary USCG missions in this sector include search and rescue, marine safety, ports and waterways coastal security, marine environmental protection, aids to navigation, maritime law enforcement, and recreational boating safety. These operations are conducted off USCG cutters, and various smaller law enforcement and search and rescue vessels. The USCG also assists NOAA with surveillance efforts and actions related to enforcing regulations for existing national marine sanctuaries. USCG units conduct surveillance activities during their routine operations in the vicinity of a sanctuary and schedule periodic site inspections. Both air and surface craft are involved in these activities.

The USCG operates Coast Guard Station Morro Bay, located within the Morro Bay Harbor. The USCG maintains a Rescue Station at Morro Bay Harbor to provide services for the entire central California coast, including port safety coverage for the DCPV VSF and search and rescue.

The Coast Guard Marine Safety Detachment, Santa Barbara, deals with pollution incidents reported in Morro Bay. The Coast Guard Marine Safety Detachment also provides inspections for vessels carrying passengers or freight for hire.

USCG boats from Station Morro Bay and larger USCG vessels routinely transit, train, and patrol within the proposed sanctuary boundaries. These vessels most frequently conduct patrols to enforce laws and regulations related to Living Marine Resources/Protected Species/Fisheries Enforcement, Counterdrug and Migrant Interdiction Operations, and Marine Safety missions, as well as routine transits and training within the proposed sanctuary boundaries. USCG vessels also respond to urgent search and rescue missions within the proposed sanctuary boundaries.

USCG helicopters and fixed wing aircraft routinely transit and train within the proposed sanctuary boundaries. Additionally, USCG aircraft respond to urgent search and rescue missions of mariners in distress within the study area. Search and rescue response efforts may result in aircraft flying below 1,000 feet within a mile of the coast or the emergency discharge of aviation fuel in order to maintain flight safety.

In addition, USCG vessels may be required to patrol Limited Access Areas (i.e., Safety/Security Zones) based on risk to national security associated with commercial and defense launch operations. Currently, the USCG works with the VSF program manager to evaluate the risk to the maritime community associated with each rocket launch. Specific commercial space companies can recover the first stage rocket on a barge. The exact location of the barge landing

zone for each launch changes based on specifics of the mission. In the past, recovery operations were from 6–60 nautical miles offshore west of VSFB in the study area. DoD has indicated that an increase in operations in the Pacific Ocean and VSFB should be expected (S. Chung (U.S. Navy), personal communication, June 2022).

It is too early to fully predict the USCG roles and planning for potential wind development offshore of this section of the California coast. The wind energy projects would likely cause increased navigation, construction activity, and safety management, and are expected to increase the number of vessels operating from multiple ports along the California coastline to include construction, crew, and cargo vessels. These vessels may transit and operate within the study area. Based on risk evaluation, USCG may be required to increase patrol, search and rescue operations, law enforcement operations, pollution responses, and other operations due to the increased use of the waterway. Transit from USCG home ports would require vessels and aircraft to transit through the proposed marine sanctuary.

4.9.2 Impact Assessment Methodology (Department of Defense and Homeland Security Activities)

The Initial Boundary Alternative and action alternatives would result in significant adverse impacts on DoD and homeland security activities if their implementation would result in substantial restrictions on existing operations. NOAA assessed impacts on DoD activities and homeland security uses based on review of existing and planned operations and how the proposed sanctuary regulations might affect them. The proposed regulations that may affect DoD and homeland security activities are similar to existing regulations for other national marine sanctuaries in California.

4.9.3 Environmental Consequences of the Initial Boundary Alternative (Department of Defense and Homeland Security Activities)

This section evaluates the impacts on DoD and homeland security activities from implementing the Initial Boundary Alternative.

Department of Defense

In recognition of the importance and irreplaceable nature of VSFB and PMSR to national defense, the proposed sanctuary regulations would exempt all existing DoD activities as identified in this section and Appendix I to this draft EIS, which include military training and testing activities, similar to exemptions in other national marine sanctuaries. Under the exemption as described in the proposed rule, all current activities carried out or approved by DoD within the proposed sanctuary, as identified in Section 4.9 and Appendix I to the final EIS for the proposed sanctuary, would be exempted. DoD activities within the meaning of the proposed exemption are those activities that DoD carries out or approves. With respect to commercial and civil launches from the base and associated activities, DoD has informed NOAA that:

- DoD conducts NEPA reviews for these activities. Other federal agencies, such as the Federal Aviation Administration and/or the U.S. Coast Guard, may be cooperating agencies for purposes of these NEPA reviews.
- DoD also conducts all required natural and cultural resource consultations for these activities.
- Civil partners and commercial providers conducting these activities are required to comply with DoD best management practices.

Therefore, existing DOD activities would not be subject to the proposed regulations' prohibitions.²⁸ The proposed regulation also describes DoD's obligations in the event an accident or unanticipated activity causes harm to a sanctuary resource. Given the scope of military training that occurs in this area, NMSA's policy requirement to balance compatible activities, and DoD's past and present strong commitment to work with NOAA to ensure its activities limit resource harm when feasible but do not disrupt training or other national defense operations, NOAA finds that these proposed DoD activities exemptions are warranted. Therefore, the designation of the Initial Boundary Alternative and the proposed regulations with the DoD exemption is determined to cause **no adverse impacts** on DoD's current activities.

NOAA advises that based on public comments received, additional coordination with DoD, and NOAA's experience administering the national marine sanctuary system, pursuant to NEPA and the Administrative Procedure Act, the final rule and final EIS may reflect any modifications to the DoD exemption that are a logical outgrowth of the proposed rule and that do not constitute a substantial change to the proposed action relevant to environmental concerns.

Adverse Impacts on New DoD Activities

New DoD activities that are not prohibited by the CHNMS regulations would not require an amendment to the list of exempted activities. For those new activities that would otherwise be prohibited by one or more of the regulations, NOAA has proposed a process whereby the ONMS Director, upon consultation with the appropriate counterpart at the Department of Defense, can also exempt such new activities.

An activity is considered to be a new activity, and not covered by the exemption for existing Department of Defense activities, if, as determined by NOAA, the activity is new or modified in any way (including change in location, frequency, duration, or technology used) from the activities described or listed in Section 4.9 or Appendix I, and the activity is likely to cause adverse effects on sanctuary resources or qualities that are substantially greater or different in kind than the effects of the activities described or listed in Section 4.9 or Appendix I.

A new activity that is not covered by the exemption for existing DoD activities could be conducted if a sanctuary general permit or ONMS authorization, as applicable, were issued for the proposed activity. DoD would conduct these new activities in compliance with other

²⁸ The proposed regulations would exempt existing DoD activities from most of the proposed regulatory prohibitions, but the exemption would not apply to the proposed prohibition on new oil and gas exploration, development, or production or the proposed prohibition on attracting a white shark. ONMS does not anticipate DoD activities would include oil and gas exploration, development, and production or attracting white sharks.

applicable federal resource protection requirements, including complying with NEPA to evaluate potential impacts and identify feasible mitigation measures.

NOAA, like other federal agencies, does not consider the mere requirement and administrative process to seek and obtain a permit or to engage in consultation to necessarily cause an adverse impact. For instance, while NOAA may require a NEPA document to render a decision on a permit, DoD itself complies with NEPA for its own activities and NOAA could rely upon that document as support for its decision. A substantial delay to obtain final project approval from NOAA, beyond the time involved for DoD itself and any other federal, state, or local agency to approve a future project, could be a component of determining a significant impact. However, without a specific project description for such a future activity to evaluate at this time, it is not possible and would be speculative to definitively assign an impact level with certainty. Although the potential impacts of the consultation process for future DoD activities are not reasonably foreseeable at this time, for the reasons outlined in this section, NOAA does not anticipate that any such impacts would be significant.

In addition, NOAA commits to working with the DoD to consider exempting new activities from the CHNMS regulatory prohibitions through subsequent rule-making procedures, for instance in subsequent management plan and regulatory review processes for CHNMS. Any changes to the list of exempted DoD activities could only occur after compliance with all applicable laws, such as the Administrative Procedure Act and NEPA, as necessary, and after public notice and comment, as applicable. (Note: A new DoD activity that would not violate the CHNMS regulatory prohibitions would not require an amendment to the list of exempted DoD activities).

NOAA is willing to work with the DoD to create a mechanism whereby new activities that are likely to injure sanctuary resources, and thereby also require NMSA 304(d) consultation, could be handled in a single, consolidated review.

Beneficial Impacts on Department of Defense activities

Implementing the proposed sanctuary regulations would have **indirect, long-term, significant beneficial impacts** for DoD activities because of proposed restrictions in the sanctuary on development that can impede military training activities. Specifically, the proposed prohibition on leasing and developing new offshore oil and gas fields and the prohibition on disturbing the seabed, which may impede developing additional offshore wind farms in the sanctuary (see Section 4.7.3), means a reduced risk of conflicts for military training and related defense activities. DoD has repeatedly characterized to ONMS staff and those from other state and federal agencies that military training in this area is highly specialized, nearly impossible to relocate, and critical for military readiness. DoD has expressed concerns that wind farms create challenges for radar and other DoD activities, cause conflicts with use of ocean space, and invariably reduce effective sea space for military training. This reduced risk is considered a beneficial effect of the Initial Boundary Alternative.

U.S. Coast Guard

Activities conducted by the USCG would not be exempt under the exemption for DoD activities, as the USCG operates as part of the Department of Homeland Security and the exemption is specific to DoD activities. Therefore, USCG activities may be affected in slightly different ways

than DoD uses in the proposed sanctuary area. Because the USCG is often involved in responding to emergencies that threaten life and property, much of its emergency response and search and rescue activities would be exempt from the proposed sanctuary prohibitions due to a proposed exemption for all activities necessary to respond to an emergency threatening life, property, or the environment. Therefore, the Initial Boundary Alternative would result in **no impacts** on USCG search and rescue and other emergency response functions.

The proposed regulations would prohibit discharge or deposit of any matter or material from vessels within or into the sanctuary waters, with exceptions as noted in Section 3.2. The proposed regulations would exempt clean effluent generated incidental to vessel use from Type I or II MSDs, acceptable treatment systems to reduce the impact from discharging human waste (e.g., sewage, gray water) into the sanctuary, for vessels less than 300 GRT or a vessel 300 GRT or greater without sufficient holding tank capacity to hold sewage while in the proposed sanctuary. Most USCG vessels lack Type I or II MSDs on their cutters and patrol vessels; rather, they rely on holding tanks that can later be pumped out onshore or offshore in acceptable areas. However, due to the large size of the proposed sanctuary and the limited holding tank capacity of vessels in the USCG fleet, the USCG does not believe they can conduct normal patrols or training and comply with the proposed discharge prohibitions (T. Conner (USCG), personal communication, May 2022). Accordingly, the USCG has requested that its vessels be specifically exempted from the proposed regulatory discharge prohibition. This exception is included in the proposed prohibition on discharging any material into the proposed sanctuary (see Table 3-1), to avoid potential adverse impacts on USCG operations.

For example, the 87-foot USCG Coastal Patrol Boats have limited holding tank capacity, requiring discharge every 24 to 48 hours; so, if they did not have a Type I or II MSD, mission plans for these vessels would need to take the vessels' holding capacity into account to ensure the vessels were outside national marine sanctuary waters when a discharge needed to be made. Otherwise, vessels would need to come ashore more regularly than planned to dispose of waste in onshore pump out facilities. Depending on the nature of the missions they undertake, this could potentially have an impact on USCG operations.

Additionally, USCG vessels are required to conduct regular training that includes discharge of ammunition in live-fire exercises, and discharge of pyrotechnics for search and rescue. The USCG has asked that it be allowed to conduct these training activities at all locations seaward of 12 nautical miles within the proposed sanctuary boundaries. This is consistent with USCG operations at other large national marine sanctuaries, in particular those on the U.S. West Coast.

NOAA has approved similar USCG requests for exception from the discharge regulations in other national marine sanctuaries, including related to the large expansion of Cordell Bank National Marine Sanctuary and GFNMS. USCG patrol vessels provide a tremendous benefit to NOAA by assisting with enforcement of national marine sanctuary regulations. Moreover, the USCG is an essential element of marine safety to all mariners operating offshore in central California, and they also provide enforcement of other federal laws, conduct drug smuggling interdiction activities, and protect the homeland. ONMS has developed informal plans with USCG District 11 leadership to limit discharges into other West Coast national marine

sanctuaries and anticipates similar approaches could be explored for USCG operations in the proposed sanctuary. Therefore, NOAA considers the proposed discharge exception for USCG vessels appropriate. Due to the proposed discharge exception, the designation of the Initial Boundary Alternative would have **no impact** on USCG patrols and training.

Adverse Impacts on U.S. Coast Guard Activities

Under the proposed sanctuary regulations, USCG vessels would not be exempt from the proposed prohibition on introduced species. This proposed regulation could apply to USCG activities since many introduced species move into a new ecosystem by attaching to the bottom of a vessel or are discharged via ballast water. USCG vessels transiting along the U.S. West Coast are not a concern with regard to discharge from ballast water since organisms that disperse in ballast water could also have the ability to disperse naturally on ocean currents along the West Coast. However, it is possible that introduced species could move into the area on the hull of a USCG vessel. ONMS would work with the USCG in District 11 to ensure regular hull inspections and removal of attached organisms. Conducting hull inspections to comply with the introduced species regulation would cause **indirect, short-term, negligible adverse impacts** on USCG operations.

Beneficial Impacts on U.S. Coast Guard Activities

NOAA is also concerned about desertion of vessels in the proposed sanctuary; thus, the proposed sanctuary regulations prohibit vessel desertion. Across the U.S. West Coast, ONMS works closely with the USCG on emergency response for vessel incidents like groundings and sinkings. When ONMS determines a vessel is deserted, ONMS works to find the owner and have the vessel removed or secured to prevent running aground or sinking. This proactive response aids both mariners and response agencies, such as the USCG, as securing a vessel before it sinks or runs aground always costs less in time and money than responding after an incident takes place. Thus, implementing the vessel desertion regulation under the Initial Boundary Alternative would have **direct, long-term, localized, minor beneficial impacts** on USCG and enforcement partners.

4.9.4 Environmental Consequences of Alternative 1 (Department of Defense and Homeland Security Activities)

Alternative 1, Bank to Coast, would remove a large area west of Santa Lucia Bank from the proposed sanctuary boundaries. This would not result in any difference in beneficial or adverse impacts on DoD, compared to the Initial Boundary Alternative. While the area for the proposed sanctuary would be smaller overall, the area removed from consideration is very far offshore and in very deep water, so potential new development that could conflict with DoD activities would be highly unlikely; thus, this alternative would not reduce the benefit to DoD from designating the new sanctuary compared to the Initial Boundary Alternative, as analyzed in Section 4.9.3. Therefore, Alternative 1 would also have **indirect, long-term, significant beneficial impacts** on DoD activities.

The potential adverse impacts and the one beneficial impact on the USCG under the Initial Boundary Alternative (see Section 4.9.3) would be minimally different under Alternative 1, largely due to Alternative 1 being spatially smaller than the Initial Boundary Alternative.

Therefore, Alternative 1 would also have **indirect, short-term, negligible adverse impacts** on USCG operations due to the introduced species regulation, and **direct, long-term, localized, minor beneficial impacts** on USCG and enforcement partners due to the vessel desertion regulation. There would be **no impact** on USCG emergency response functions or patrols and training due to the proposed exemption for emergency activities and proposed discharge exception for USCG vessels.

4.9.5 Environmental Consequences of Alternative 2 (Department of Defense and Homeland Security Activities)

Alternative 2, Cropped Bank to Coast, would be similar in area to Alternative 1 but would exclude the northern portion, cut off at Hazards Reef, thus creating a smaller sanctuary area. Alternative 2 would open up an area to potential development inshore of the Morro Bay Lease Areas. DoD opposes offshore energy development, including offshore wind, in the area due to conflicts with PMSR and VFSB missions. Therefore, the indirect, long-term, significant beneficial impacts on DoD activities under the Initial Boundary Alternative would be reduced to a **moderate beneficial impact** level under Alternative 2.

For USCG, because Alternative 2 would result in a smaller sanctuary, the impacts are similar to Alternative 1 impacts, and therefore minimally different from the impacts described for Alternative 1. Therefore, Alternative 2 would also have **indirect, short-term, negligible adverse impacts** on USCG operations due to the introduced species regulation, and **direct, long-term, localized, minor beneficial impacts** on USCG and enforcement partners due to the vessel desertion regulation. There would be **no impact** on USCG emergency response functions or patrols and training due to the proposed exemption for emergency activities and proposed discharge exception for USCG vessels.

4.9.6 Environmental Consequences of Alternative 3 (Department of Defense and Homeland Security Activities)

Alternative 3, Diablo to Gaviota Creek, would not result in any difference in adverse impacts on DoD activities compared to the Initial Boundary Alternative (which were largely negligible). However, Alternative 3 would substantially reduce the beneficial impacts on DoD activities, compared to the Initial Boundary Alternative, because it would not include a very large area of the Santa Lucia Bank that could be developed with wind energy facilities. As explained in Section 4.9.5, DoD has opposed additional offshore wind development and expressed concerns about further oil and gas development in this area. Excluding most of the Santa Lucia Bank would exclude proposed sanctuary prohibitions on future development of offshore oil and gas or offshore wind farms that could conflict with DoD activities. Therefore, the **indirect, long-term, beneficial impacts** on DoD activities described under the Initial Boundary Alternative (see Section 4.9.3) would be reduced to a **minor beneficial impact** level under Alternative 3.

Potential adverse impacts on the USCG under Alternative 3 would be minimally different from impacts identified for the Initial Boundary Alternative due to Alternative 3 being geographically smaller overall. However, the small beneficial impact due to the vessel desertion prohibition would be lessened because the area subject to the proposed sanctuary regulations, including the waters in and around Morro Bay, an active harbor, would be smaller. Nonetheless, this

alternative would have **direct, long-term, localized, minor beneficial impacts** on USCG and enforcement partners, as described in Section 4.9.3. Like the Initial Boundary Alternative, Alternative 3 would also have **indirect, short-term, negligible adverse impacts** on USCG operations due to the introduced species regulation. There would be **no impact** on USCG emergency response functions or patrols and training due to the proposed exemption for emergency activities and proposed discharge exception for USCG vessels.

4.9.7 Environmental Consequences of Alternative 4 (Department of Defense and Homeland Security Activities)

The potential adverse and beneficial impacts on DoD and USCG under Alternative 4, Combined Smallest, would be the same as the impacts outlined for Alternative 3 in Section 4.9.6 above.

4.9.8 Expanded Protection from Sub-alternatives 5a and 5b (Department of Defense and Homeland Security Activities)

Sub-Alternative 5a: Morro Bay Estuary

There are no DoD or USCG standard patrol or training operations within Morro Bay Estuary. Therefore, there would be **no impacts** on DoD or USCG activities if NOAA were to include Morro Bay Estuary in the proposed sanctuary under Sub-Alternative 5a.

The beneficial impacts on USCG operations from having a prohibition on deserting a vessel would be incrementally increased by adding Sub-Alternative 5a to the Initial Boundary Alternative or Alternative 1. NOAA bases this conclusion on its experience dealing with vessel desertions in other estuaries, which has demonstrated the value of regulations that aid enforcement agencies to help vessel owners recognize when a vessel needs to be secured or removed to avoid environmental damage. Sub-Alternative 5a would therefore result in incremental **direct, long-term, localized, minor beneficial impacts** on USCG operations.

Sub-Alternative 5b: Gaviota Coast Extension

There would be no additional adverse impacts on DoD activities or USCG operations if NOAA were to extend the proposed sanctuary boundary in state waters under Sub-Alternative 5b, Gaviota Coast Extension.

Sub-Alternative 5b would have additional incremental **indirect, long-term, minor beneficial impacts** on DoD activities from the proposed prohibition on new offshore industrial activity in this area, predominantly offshore wind development along the Gaviota Coast. These incremental beneficial impacts would be minor because it is unlikely that offshore wind development would occur in state waters along this stretch of coast, and it is a relatively small area.

4.9.9 No Action Alternative (Department of Defense and Homeland Security Activities)

Under the No Action Alternative, DoD and homeland security activities would continue to be managed within the proposed sanctuary area as they are currently managed under federal and state laws, since there would be no new national marine sanctuary. **No adverse impacts** on

DoD or homeland security activities would occur under the No Action Alternative. However, the **beneficial impacts** on both DoD and USCG operations **would also not occur** under the No Action Alternative.

4.10 Cumulative Impacts Analysis

This section describes the potential cumulative impacts of implementing the proposed action and each alternative. The 2020 NEPA regulations issued by the CEQ define “effects” or “impacts” to mean “changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives” (40 C.F.R. 1508.1(g)). As explained in Section 4.1.3, NOAA divided the reasonably foreseeable effects of the proposed action and alternatives into three categories—direct impacts, indirect impacts, and cumulative impacts—to facilitate the most meaningful analysis and to provide clarity to the public about the nature of those effects.

This section describes the potential cumulative impacts of implementing the proposed action and each alternative. Based on historical practice and case law, NOAA uses the term “cumulative impact” to mean a known or potential impact resulting from the incremental effect of the proposed action added to other past, present, or reasonably foreseeable future actions. This section presents the methods used to evaluate cumulative impacts, lists projects that may have cumulative effects when combined with the impacts from the proposed action or alternatives discussed in this EIS, and evaluates potential cumulative impacts.

4.10.1 Approach to Cumulative Impact Analysis

This analysis reflects NOAA’s consideration of the impacts of the proposed action and alternatives in combination with the impacts of other actions or projects in the study area (see Table 4.10-1) to determine the overall cumulative impact on the resources in the affected environment.

Cumulative impacts can result from, individually minor but collectively significant, actions that take place over a period of time or geographic area. Cumulative effects may arise from single or multiple actions and may result in additive or interactive effects. For the purposes of this analysis, NOAA only considers the cumulative impacts that are reasonably foreseeable and have the potential to overlap with impacts of the proposed action or alternatives.

4.10.2 Actions with Potential to Contribute to Cumulative Impacts

NOAA determined that the projects listed in Table 4.10-1 could contribute to cumulative impacts on the resources assessed in this chapter. These are actions or projects that have occurred, are currently occurring, or are anticipated to occur in the reasonably foreseeable future within the study area. NOAA compiled this information based on staff knowledge of other existing activities occurring in and around the proposed sanctuary. NOAA selected these past, present, and reasonably foreseeable future actions because they are likely to have similar types of impacts on the resources within the study area, would affect similar resources to those that are affected by the action, or are large enough to have far-reaching effects on a resource. The actions described in Table 4.10-1 are related primarily to local and regional management of the environment and resources in and adjacent to the proposed sanctuary boundaries. NOAA has

considered the effects of these actions in combination with the impacts of the proposed action and alternatives to determine the overall cumulative impact on the resources in the study area.

Table 4.10-1. Actions with potential to contribute to cumulative impacts.

Project Name	Project Location	Project Sponsor or Management Entity	Project Description	Estimated Completion Date
Endangered Species Conservation	U.S. federal waters	NOAA, NOAA Fisheries, and USFWS	Ongoing activity. NOAA Fisheries and USFWS developing and implementing recovery plans and conducting five-year status reviews for ESA-listed species. Consulting on federal actions that may affect a listed species or its designated critical habitat. Issuing permits that authorize scientific research on listed species.	Ongoing
“Decadal Review” of State MPAs	Approximately 7 locations within study area	CDFW	California is conducting a review of its networks of MPAs including approximately 7 within proposed CHNMS.	2023
Proposed Shipping Lane and Area To Be Avoided Modifications	West and South of CINMS	CINMS; U.S. Delegation to the IMO	CINMS has led a coalition to review and expand the ATBA around CINMS, extending into the proposed CHNMS. Would affect marine shipping and possibly marine wildlife.	2023 (IMO amendments to the Santa Barbara TSS and an expanded ATBA will come into effect in May 2023)
USCG – PAC-PARS	Pacific Coast	USCG	The USCG is leading a planning process to reassess the shipping lanes along the U.S. West Coast. A particular focus is being placed on the waters around Morro Bay given the new plan to develop offshore wind in this area, within and adjacent to the proposed CHNMS. https://www.regulations.gov/document/USCG-2021-0345-0054	2023

Project Name	Project Location	Project Sponsor or Management Entity	Project Description	Estimated Completion Date
Federal Waters – Offshore Wind Energy Development	Morro Bay WEA	BOEM	BOEM has produced an EA to assess the impacts from issuing up to 3 leases to develop approximately 3 GW from the Morro Bay WEA. BOEM has suggested assuming up to 30 separate power cables to shore landing around (north of) Morro Bay Harbor.	Ongoing
California Waters – Offshore Wind Development	State waters offshore of Vandenberg	CSLC	State Lands Commission is the lead agency under the California Environmental Quality Act to evaluate the impacts from developing one or both demonstration wind energy projects—4 platforms each—and 2 power cables to shore near Pt. Arguello in state waters.	2023
Decommissioning of Oil and Gas Platforms and Pipelines	Federal waters off Pt. Arguello and Pt. Conception	BSEE	Draft programmatic EIS published on October 12, 2022, for the removal of the three platforms in federal waters and pipelines off Pt. Conception – Harvest, Hermosa, Hidalgo; and likely removal of Platform Irene, near Pt. Arguello.	2023
Existing Oil and Gas Production Activities	Platforms Irene, Heritage, Harmony, and Hondo	BSEE	See Table 4.7-1. Ongoing production at Irene of app. 126,000 gallons/day of oil; other platforms are currently shut in but could reach historic production levels.	Ongoing
Decommissioning of DCP; near-term continued operation of DCP	Approximately 5 miles west of Port San Luis	County of San Luis Obispo	In 2023, the County intends to publish an Environmental Impact Report under the California Environmental Quality Act about the impacts from decommissioning and removing DCP, including removing the outfall in the proposed sanctuary and up to 60 barges carrying clean debris to Portland, OR, for recycling. PG&E, state of CA, and federal government may take action to keep DCP open until 2030.	2024/2025 or 2030

Project Name	Project Location	Project Sponsor or Management Entity	Project Description	Estimated Completion Date
Fisheries Management Actions		NOAA Fisheries, Pacific Fishery Management Council, CDFW, and California Fish and Game Commission.	Ongoing activity. Implementing and amending fishery management plans and associated fishing regulations, issuing exempted fishing permits, modifications to EFH and HAPCs, enforcing fisheries regulations. For more information: https://www.fisheries.noaa.gov/region/west-coast#fisheries https://www.pcouncil.org/ https://wildlife.ca.gov/Regions/Marine https://fgc.ca.gov/	Ongoing
Navy Point Mugu Sea Range Increased DoD Activities		U.S. Navy	Department of the Navy (Navy) increased military readiness activities within the Point Mugu Sea Range Study Area as described in the Point Mugu Sea Range Final EIS/OEIS. Military readiness activities include research, development, acquisition, testing, and evaluation (referred to as “testing”) and training activities. For more information: https://pmsr-eis.com/	Ongoing

4.10.3 Description of Cumulative Impacts

As the proposed action (designating a new sanctuary) is a regulatory and management action rather than a specific development action, the cumulative effects are related primarily to local and regional management of marine resources.

Physical Resources

The proposed action and alternatives would not cause any significant adverse impacts on air quality and climate change, geology, oceanography, or water quality, as described in sections 4.2.3–4.2.8. There would be less than significant adverse impacts on physical resources due to air quality and climate change impacts from increased research and enforcement vessel use and potential impediment to offshore wind energy development.

Certain projects listed in Table 4.10-1 would have potential adverse impacts on physical resources, such as potential increased air emissions, degradation/alteration of geologic and oceanographic resources, or harmful discharges due to offshore wind energy development, decommissioning of DCP or oil and gas facilities, existing oil and gas production activities, and Navy activities.

However, the proposed action and alternatives would not make a substantial contribution to these adverse cumulative impacts. Rather, the beneficial impacts on physical resources from the proposed action and alternatives could offset some of the potential adverse impacts caused by the anticipated projects described above. The resource protections and restoration provided by designating CHNMS would result in positive influences on physical resources, primarily due to the proposed sanctuary's regulatory protections prohibiting seafloor disturbance and discharges, thereby preventing degradation of physical resources. These **beneficial impacts** would be **less than significant** from a cumulative perspective due to their low level of intensity in the context of the wide array of ongoing activities and human uses affecting the physical resources in the California central coast region.

Biological Resources

With regard to biological resources in the study area, the proposed action and alternatives would not cause any significant adverse impacts, as described in sections 4.3.3–4.3.8. Rather, the potential adverse impacts expected would be **negligible or minor** from the proposed management plan activities, such as research operations and other field activities.

The regulations under the proposed action and alternatives would have beneficial impacts on biological resources by adding additional protections to sensitive resources. The proposed sanctuary regulations would supplement and complement other applicable authorities and would improve and enhance other past, present, and future conservation actions such as the state's no-take marine reserves, designated EFH, and Areas of Biological Significance. The proposed action and alternatives would result in less than significant adverse impacts on local biological resources within the proposed sanctuary's boundaries.

Table 4.10-1 lists several significant construction, or decommissioning, projects that would be expected to have the potential to harm marine resources in the region. Protections afforded to biological resources by the proposed action and alternatives, including the proposed sanctuary regulations, would be beneficial and offer additional protections from the cumulative development projects and impacts. Sanctuary regulations and management actions would help to incrementally mitigate adverse impacts from future coastal development projects in the region. Additionally, sanctuary research, resource protection, education, and management activities are expected to be harmonized and coordinated with the activities of other agencies and jurisdictions and would continue to be protective and supportive of sustainable conservation of biological resources and habitats.

Some of the projects in Table 4.10-1 will include research activities that could harm biological resources. The proposed sanctuary is also expected to have such impacts (albeit with a minor adverse impact). Overall, the **cumulative adverse impact** of the proposed action and alternatives in combination with other potential sanctuary research and monitoring programs would be **negligible** on biological resources and habitats because of the relatively low intensity and frequency of ONMS-led field activities in the context of those caused by projects in Table 4.10-1, and because of ONMS' use of operational protocols to reduce or avoid adverse impacts as much as possible, and because of the protections afforded by the proposed regulatory and management measures, as described above.

The beneficial impacts of the proposed regulatory and management measures would likely have an interactive/synergistic effect when considered in the context of the cumulative projects (i.e., they would help offset some potential adverse impacts of the cumulative projects) as described above.

Commercial Fishing and Aquaculture

With regard to commercial fishing and aquaculture resources in the study area, the proposed action and alternatives considered would not cause any significant adverse impacts, as described in sections 4.4.3–4.4.8. Rather, the potential adverse impacts expected would be negligible from the draft management plan activities, such as research operations and other field activities.

The proposed sanctuary regulations would have beneficial impacts on commercial fish species and less than significant adverse impacts on commercial fisheries and aquaculture operations due to restrictions on vessel discharges, moorings, and introduced species. The proposed regulations would not directly regulate commercial fishing and would not contribute to regional closures of fishing grounds, establish gear restrictions, or adopt other fishery management actions. As noted in Table 3-1, the regulations allowing ONMS authorizations include a provision that would allow NOAA to authorize new aquaculture projects that involve an introduced species that NOAA and the state determine would be non-invasive to the ecosystem and would not cause significant adverse impact to proposed sanctuary resources. As further described in Section 3.2.2, NOAA intends to expand an existing MOA with the state of California to guide review of ONMS authorizations for future, proposed aquaculture projects within CHNMS that would cultivate an introduced species. The state normally conducts this type and level of an assessment for introduced species aquaculture projects anywhere in the state, so the collaborative review between the state and NOAA envisioned by the MOA and regulations would not cause any new burden on future projects.

When considering potential incremental effects from the proposed action and alternatives in combination with activities expected to continue or take place in the future (Table 4.10-1), such as any fisheries management actions, potential regulatory changes to state MPAs that may result from CDFW’s “decadal review” of state MPAs, or potential restrictions on fishing due to offshore wind energy development, the adverse impacts on commercial fishing and aquaculture under the proposed action and alternatives would **not contribute** to a significant adverse cumulative impact. Additionally, sanctuary research, resource protection, education, and management activities are expected to be harmonized and coordinated with the activities of other agencies and jurisdictions and would continue to be protective and supportive of sustainable commercial fishing and aquaculture resources and activities.

Overall, the incremental **impacts** of the proposed action and alternatives in combination with cumulative projects and activities in the region, would result in **negligible cumulative impacts** on commercial fishing and aquaculture resources because of the relatively low intensity and frequency of ONMS-led field activities, and because of ONMS’ use of operational protocols to reduce or avoid adverse impacts as much as possible and because of the protections afforded by the proposed regulatory and management measures, as described above.

Cultural Heritage and Maritime Heritage Resources

With regard to maritime heritage and cultural resources in the proposed sanctuary area, the proposed action and alternatives would not cause any significant adverse impacts, as described in sections 4.5.3–4.5.8. Rather, the potential **adverse impacts** expected would be **negligible** due to best management practices NOAA would follow during research operations and other field activities.

When considering potential incremental effects from the proposed action and alternatives in combination with activities expected to continue or take place in the future (Table 4.10-1), NOAA does not expect the negligible adverse impacts that could occur on cultural heritage and maritime heritage resources to cumulatively worsen. On the contrary, the beneficial impacts on cultural and maritime heritage resources from the proposed action and alternatives could partially offset the potential adverse impacts on cultural heritage and maritime heritage resources caused by the numerous offshore and coastal development projects anticipated in the study area (e.g., potential disturbance and physical damage of underwater cultural and heritage resources due to activities associated with new offshore wind development, construction of subsea electrical transmission cables, and potential construction of a new harbor ancillary to offshore wind development). Such beneficial cumulative impacts would arise primarily from the sanctuary’s regulatory protections offered to sanctuary waters and seafloor habitats, preventing disturbance to maritime heritage and cultural resources.

NOAA would continue to use best management practices to mitigate potential resource harm from sanctuary operations. Additionally, sanctuary research and management activities are expected to be harmonized and coordinated with the activities of other agencies and jurisdictions and would continue to be protective of sensitive maritime heritage and submerged cultural resources. A proposed category for sanctuary general permits would enable ONMS to issue a general permit for certain Native American cultural and ceremonial activities within CHNMS. Thus, the proposed action and alternatives would protect and preserve the integrity of submerged cultural resources, while also supporting associated cultural resource values and Native American Indigenous community practices.

Overall, the incremental adverse impacts of the proposed action and alternatives in combination with ongoing resource protection, research, and stewardship programs, and ongoing or future commercial and industrial activities in the region, would be negligible for cultural heritage and maritime heritage resources because of the relatively low intensity and frequency of ONMS-led field activities, and because of ONMS’ use of operational protocols to reduce or avoid adverse impacts as much as possible and because of the benefits afforded by the proposed regulatory and management measures, as described above. The proposed action and alternatives would not result in significant adverse cumulative impacts on cultural heritage and maritime heritage resources.

Socioeconomics, Human Uses, and Environmental Justice

The proposed action of designating a new sanctuary would result in beneficial impacts on tourism, recreation, and local economies, research, education, and passive economic use, as well as minor adverse impacts on marine area use, recreation, and socioeconomics as a result of prohibitions on bottom-disturbing activities and discharges, as described in sections 4.6.3–

4.6.8. The actions listed in Table 4.10-1 are not anticipated to cause substantial adverse impacts on socioeconomic resources, environmental justice, or human uses in the study area. Their impacts in combination with the proposed action or alternatives would be less than significant due to their low level of intensity in the context of the total marine area use, recreation, and socioeconomic activity along the central coast of California. None of the alternatives or the cumulative actions would contribute to adverse effects on environmental justice because they would not be expected to result in disproportionate adverse impacts on any minority or low-income population for the same reasons described in Chapter 4.6 (see E.O. 12898, Appendix E). The cumulative effects would not be substantially greater than what was identified for the proposed action and alternatives. The proposed action and alternatives would not make a substantial contribution to cumulative adverse impacts.

Offshore Energy

The Initial Boundary Alternative and alternatives 1 and 2 would have moderate adverse impacts on offshore energy resources due to the prohibition of future new oil and gas facilities and could impede wind energy development in the vicinity of the Diablo Canyon Call Area and elsewhere within proposed sanctuary boundaries, as described in sections 4.7.3–4.7.8. When combined with the effects of cumulative projects and activities in the study area, these impacts would not result in a significant adverse cumulative impact, nor would the Initial Boundary Alternative’s incremental contribution to cumulative impacts be significant. Several of the projects in Table 4.10-1 would lead to an increase in offshore energy development and some lead to a decrease, like the decommissioning projects. NOAA does not anticipate that the new sanctuary would adversely affect decommissioning projects but could adversely (but not significantly) affect offshore renewable energy projects. Thus, in aggregate, the **cumulative adverse impact** of the proposed action and alternatives would be **minor** to **moderate**.

Marine Transportation

Similar to commercial fishing, there is the potential for some adverse impacts on marine transportation from the proposed sanctuary discharge regulations. Under the proposed discharge regulations, vessels could be required to hold discharges for a longer distance, if transiting up or down the coastline. The adverse impacts of the proposed action and alternatives on marine transportation are less than significant. Also, proposed regulations that apply to all boundary alternatives include an exception for discharge of sewage from Type I and II marine sanitation devices and for clean graywater discharge for certain vessels (see sections 4.5.3–4.5.8). None of the projects listed in Table 4.10-1 affect discharges from offshore marine traffic. Thus, there are no additional **adverse cumulative impacts** on marine transportation from discharge regulations.

Other cumulative projects that may have some adverse impact on marine transportation include the USCG PAC-PARS shipping lane adjustments and the expansion of the ATBA around CINMS. The PAC-PARS project is not complete, yet is projected to adjust vessel routing along the West Coast, which could have adverse impacts on vessel traffic due to vessel operators having to adjust to new routes. The expansion of the ATBA around CINMS has been adopted and it too may result in minor adverse impacts on vessel traffic as vessel operators adjust to new routing. However, because the regulations under the proposed action and alternatives do not include

additional routing restrictions, the proposed action and alternatives do **not contribute** to adverse cumulative impacts on routing of marine transportation.

Department of Defense and Homeland Security Activities

Offshore energy projects listed in Table 4.10-1 could have cumulative adverse impacts on DoD and homeland security activities if developed in areas where these activities are carried out. In aggregate, the designation of the Initial Boundary Alternative and Alternative 1 could offset the cumulative adverse impacts from offshore energy projects on DoD and homeland security activities. Alternatives 3 and 4 would not offer the same offset to cumulative adverse impacts. Alternative 2 would offer some offset, but not as much as the Initial Boundary Alternative or Alternative 1. Designation of the sanctuary under the proposed action and alternatives would itself have **negligible adverse impacts** on USCG operations as a result of the proposed sanctuary regulations. The proposed regulatory exemptions for DoD activities and USCG vessels would ensure that the potential contribution of the proposed action and alternatives to cumulative adverse impacts on DoD and homeland security activities would be minimized (see sections 4.9.3–4.9.8).

Chapter 5: Conclusion

5.1 Unavoidable Adverse Impacts

Pursuant to NEPA, an EIS must describe any adverse environmental effects which cannot be avoided should the proposal be implemented (42 U.S.C. § 4332(C)(ii); 40 C.F.R. 1502.16). All potential impacts are identified in Chapter 4, by issue area. Potential impacts from the sanctuary designation include numerous beneficial impacts, as well as adverse impacts that range from minor to moderate. There are no unavoidable significant adverse impacts identified for the Initial Boundary Alternative or any of the action alternatives.

5.2 Relationship of Short-term and Long-term Productivity

NEPA requires that federal agencies consider the relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity (42 U.S.C. § 4332(C)(iv); 40 C.F.R. 1502.16).

The short-term uses of the environment relating to the Initial Boundary Alternative and each of the action alternatives may increase the number of visitors to the study area, while at the same time improving the health and quality of the environment by increasing protection of the physical, biological, cultural heritage, and maritime heritage resources through: (1) establishing regulations that prohibit damaging the seabed and the underwater cultural resources; (2) establishing regulations that restrict discharges that may harm resources; (3) providing a mechanism through the NMSA to respond to hazardous spills that damage sanctuary resources; and (4) monitoring human activities through regulations and nonregulatory programs that incorporate community involvement in the stewardship of the proposed sanctuary's underwater cultural resources.

Long-term productivity derived from the Initial Boundary Alternative and action alternatives is based on the goals of the proposed sanctuary and the proposed management actions to achieve the goal of long-term protection of the sanctuary resources. These actions include management plan action plans related to resource protection, recreation and tourism, education, science and research, and infrastructure and operations. Benefits to both short-term uses of the environment and long-term productivity based on designation of the proposed sanctuary are proportional to the number of underwater resources within the area of the Initial Boundary Alternative and each alternative.

5.3 Irreversible and Irrecoverable Commitment of Resources

NEPA requires discussion of commitments of nonrenewable resources that would be irreversible or irretrievable if the proposal is implemented (42 U.S.C. § 4332(C)(v); 40 C.F.R. 1502.16). This discussion also addresses the energy requirements and conservation potential of the alternatives, as well as the natural or depletable resource requirements and conservation potential of the alternatives (40 C.F.R. 1502.16).

The mission of a national marine sanctuary is to conserve resources for future users, but implementing routine management activities and protective regulations may require some irreversible and irretrievable commitments of resources.

Irreversible commitments of natural resources include the consumption or destruction of nonrenewable resources or degradation of renewable resources over long periods of time. The Initial Boundary Alternative and action alternatives would result in the following irreversible commitments of natural resources:

- Nonrenewable resources that would be consumed during management and research activities include fuel, water, power, and other resources necessary to maintain and operate the proposed sanctuary's potential future research vessel(s) and a potential future sanctuary office.
- Electricity to power sanctuary facilities would be an irreversible use of resources, if derived from a nonrenewable electrical power source (e.g., natural gas or nuclear energy).

Irretrievable commitments of resources include opportunities foregone, expenditure of funds, loss of production, and restrictions on resource use. The Initial Boundary Alternative and action alternatives would result in the following irretrievable commitments of natural resources:

- Monetary funds would be expended to support management activities in the purchase of fuels, electricity, water, and other nonrenewable supplies, for wages and rents, and for potential construction of facilities.
- Natural resources may be used in construction of potential future sanctuary facilities and structures, such as buildings, signs, navigational markers, and mooring buoys.

The irreversible and irretrievable commitment of resources would be minimized and mitigated by best management practices, staff training, and sustainability goals and procedures documented in the proposed sanctuary's management plan.

5.4 Comparison of Impacts of the Alternatives

In this comparison of alternatives, NOAA identifies that all alternatives would achieve the requirements of sections 101 and 102(1) of NEPA. This section presents a summary comparison of the overall potential environmental impacts of the Initial Boundary Alternative and alternatives. Environmental advantages and disadvantages of each alternative are discussed. Sections 4.2–4.9 address the individual impacts associated with the Initial Boundary Alternative and each alternative, by topic. There are environmental tradeoffs among the Initial Boundary Alternative and alternatives even within resource issue areas or topics, making it difficult to summarize the net effect of the Initial Boundary Alternative and alternatives together. Since all the impact analysis in this draft EIS is necessarily qualitative, specifying precise differences among the Initial Boundary Alternative and other action alternatives is even more difficult. The type of impact (e.g., beneficial, adverse, or no impact) and relative environmental advantages and disadvantages of the Initial Boundary Alternative and other action alternatives are summarized, by topic, in Table 5-1 at the end of this chapter.

The primary issue areas to consider in comparing the Initial Boundary Alternative and alternatives are physical resources; biological resources; commercial fishing and aquaculture; cultural heritage and maritime heritage resources; and offshore energy, because there are differences between the Initial Boundary Alternative and alternatives regarding impacts on these resource areas and types of uses. For the Initial Boundary Alternative and all action alternatives, there would be significant beneficial impacts associated with implementation of proposed sanctuary regulations (e.g., prohibitions against seabed disturbance, certain vessel discharges, and new offshore oil and gas development) that provide added resource protection in the issue areas of physical resources; biological resources; commercial fishing and aquaculture; cultural heritage and maritime heritage resources; and DoD and homeland security activities. The issue area with the largest number of significant beneficial impacts across the Initial Boundary Alternative and action alternatives would be cultural and maritime heritage resources; Alternative 2, Cropped Bank to Coast, Alternative 3, Diablo to Gaviota Coast, and Alternative 4, Combined Smallest, would result in moderate beneficial impacts on this issue area. Some of the action alternatives would result in reduced beneficial impacts when compared to the Initial Boundary Alternative, due to their reduced sanctuary boundary size.

There would be no significant adverse impacts on any of the issue areas from designating the Initial Boundary Alternative or any of the action alternatives, however there would be adverse impacts that are less than significant (negligible, minor, or moderate) on most issue areas from the Initial Boundary Alternative or any of the alternatives. The Initial Boundary Alternative and Alternative 1, Bank to Coast, would adversely affect offshore energy development the most, however impacts would be less than significant. Alternative 2, Cropped Bank to Coast, would lessen adverse (but less than significant) impacts on installation and operation of subsea electrical transmission cables from offshore wind developed outside the proposed sanctuary. Alternative 3, Diablo to Gaviota Creek, and Alternative 4, Combined Smallest, would eliminate any adverse (but less than significant) impacts on offshore wind development. Compared to the Initial Boundary Alternative, Alternatives 1, 2, 3, and 4 would each lessen the adverse (yet still less than significant) impacts on marine transportation. These minor adverse effects would be offset by the substantial aggregate beneficial effects of the proposed sanctuary's regulatory and draft management plan resource protections. Some of the adverse impacts on topics such as marine transportation, commercial fishing operations, and future offshore energy activities would be reduced under the action alternatives when compared to the Initial Boundary Alternative.

Because of its relatively small size, Sub-Alternative 5a, Morro Bay Estuary, would cause no new adverse impacts on any of the issue areas, yet would offer minor incremental adverse impacts on those found for the Initial Boundary Alternative on physical resources; biological resources; socioeconomics, human uses, and environmental justice; and marine transportation, while it would offer an incremental beneficial impact on cultural and maritime heritage resources. Sub-Alternative 5b, Gaviota Coast Extension, would offer adverse but less than significant impacts on commercial fishing due to regulations that could affect vessel operations, socioeconomics, offshore energy and marine transportation. However, this sub-alternative would offer significant beneficial impacts for cultural and maritime heritage resources given the importance of the Gaviota Coast culturally and historically for Chumash heritage, and less than significant

beneficial impacts on physical and biological resources, commercial fishing, socioeconomics, and DoD activities.

5.4.1 Initial Boundary Alternative

The Initial Boundary Alternative would result in significant beneficial impacts on physical resources; biological resources; commercial fishing and aquaculture; cultural heritage and maritime heritage resources; and DoD and homeland security activities due to the added resource protection afforded by the proposed sanctuary regulations and increased awareness of the area's resources.

The Initial Boundary Alternative would result in adverse, but less than significant impacts on offshore energy. These moderate adverse impacts are associated with the proposed prohibition of future new oil and gas facilities in an area with known oil and gas reserves, financial and regulatory burdens of proposed discharge restrictions in the event of a spill, and the proposed prohibition on seabed disturbance that may impede potential future offshore wind energy development within proposed sanctuary boundaries. The Initial Boundary Alternative would also result in moderate adverse impacts associated with installing, maintaining, and operating subsea electrical transmission cables from offshore wind development leases in the Morro Bay WEA to shore.

The implementation of proposed sanctuary regulations would involve restrictions that could cause adverse, but less than significant impacts on commercial fishing operators, recreational boating, land use development, marine transportation, and homeland security and military vessel operations. These impacts are associated with the proposed regulatory prohibitions on discharges and seabed disturbance within the proposed sanctuary.

5.4.2 Alternative 1, Bank to Coast

Alternative 1 would have the same types of beneficial and adverse impacts as the Initial Boundary Alternative but to a lesser extent due to the smaller size of the proposed sanctuary area and some reduction in user conflicts due to the distance from shore. Certain beneficial impacts would still be significant for physical resources; biological resources; commercial fishing and aquaculture; cultural heritage and maritime heritage resources; and DoD and homeland security activities. Minor adverse impacts on marine transportation due to the proposed discharge prohibition would be reduced when compared to the Initial Boundary Alternative.

5.4.3 Alternative 2, Cropped Bank to Coast

Alternative 2 would have the same types of beneficial and adverse impacts as Alternative 1 from the northern end of Montaña de Oro State Park along the coast to Gaviota Creek, and offshore waters. Certain beneficial impacts would still be significant for physical resources (i.e., geologic and oceanographic resources). Minor adverse impacts on marine transportation due to the discharge prohibition would be reduced to a negligible level compared to the Initial Boundary Alternative.

However, the principal difference between Alternative 2 and Alternative 1 is that the open area north of Montaña de Oro at Hazard Canyon Reef to Cambria would avoid or greatly reduce adverse (yet not significant) impacts on developing, installing, and operating potential subsea electrical transmission cables associated with the Morro Bay WEA. Beneficial impacts specific to the area omitted from the proposed sanctuary via Alternative 2 on physical resources; biological resources; commercial fishing and aquaculture; and cultural heritage and maritime heritage resources from regulations and sanctuary programs that protect resources—e.g., kelp forests, rocky shores, sandy beaches, protected resources like black abalone and sea otters, the shipwreck *Montebello*—as identified for the Initial Boundary Alternative and Alternative 1, would not occur. Beneficial programs carried out via the draft management plan, like in education and outreach and research and monitoring, would likely not occur in this area as NOAA would scale back such activities.

During the scoping process and in subsequent meetings, NOAA has received input from the Xolon Salinan and the Salinan Tribe of San Luis Obispo and Monterey Counties expressing strongly held concerns that including coastal waters they consider their ancestral areas—from Morro Bay north to and past Cambria—within a sanctuary with the name “Chumash Heritage,” would not be acceptable. NOAA has also heard repeatedly from the Xolon Salinan that they support in concept the designation of a national marine sanctuary in this area. The Chumash bands have not been interested in discussing a different name, and NOAA received thousands of comments during scoping supporting this name. Although not a NEPA issue discussed in the EIS, not designating a sanctuary north of Montaña de Oro to Cambria would help to mitigate issues the Salinan bands have raised regarding naming a portion of the coast they identify with as “Chumash” (see Section 3.10).

5.4.4 Alternative 3, Diablo to Gaviota Creek

Alternative 3 is substantially smaller than the Initial Boundary Alternative. It excludes a northern area that may be desired for subsea electrical transmission cables and substations from offshore wind energy lease areas to shore. It also excludes potential areas for developing future additional offshore wind farms, including the Diablo Canyon Call Area over the heart of the Santa Lucia Bank, along with a broad area to route subsea electrical transmission cables from the Diablo Canyon Call Area or other areas potentially developed with future offshore wind farms to the present transmission grid at DCP. Offshore oil and gas development could conceivably be carried out in the areas omitted from sanctuary protection. As a result, there would be no sanctuary regulations or programs to protect resources, nor would there be sanctuary regulations to limit offshore energy development in these areas. This is the major difference between this alternative and the Initial Boundary Alternative or Alternative 1. Significant benefits for all issue areas identified in the Initial Boundary Alternative and Alternative 1, or to a lesser extent Alternative 2, would not occur. Beneficial impacts would occur in the same topic areas as identified for the Initial Boundary Alternative but would be at a much smaller scale and at a less than significant level, particularly in the areas of physical resources; biological resources; commercial fishing and aquaculture; and cultural heritage and maritime heritage resources. Excluding the coastal area south of Cambria would preclude any conservation benefits from protecting the shipwreck *Montebello*.

There would be no adverse impacts on development of potential new offshore wind farms under Alternative 3. Less than significant adverse impacts on new offshore oil and gas development would be reduced compared to the Initial Boundary Alternative. Also, the DCPD site would be excluded from the proposed sanctuary under Alternative 3; therefore, future development and operation of a new deep-water port at that site would not be subject to sanctuary permits or authorizations.

5.4.5 Alternative 4, Combined Smallest

Alternative 4 would provide the lowest level of beneficial impacts on physical resources; biological resources; commercial fishing and aquaculture; cultural heritage and maritime heritage resources; socioeconomics, human uses, and environmental justice; and DoD and homeland security activities, due its substantially smaller size compared to the Initial Boundary Alternative and other action alternatives. Similar to Alternative 3, Alternative 4 would have no impacts on potential offshore wind energy development because it would not include much of Santa Lucia Bank (including the Diablo Canyon Call Area), the northern area that may be needed for Morro Bay Lease Areas cables and substations, and the shoreline at DCPD that may be developed for a deep-water port in the future.

Beneficial impacts would occur in the same topic areas as identified for the Initial Boundary Alternative but would be at a substantially smaller scale, particularly in the areas of physical resources; biological resources; commercial fishing and aquaculture; and cultural heritage and maritime heritage resources. Excluding the coastal area south of Cambria would preclude any conservation benefits from protecting the shipwreck *Montebello*. Alternative 4 would have the least amount of beneficial impacts on environmental resources.

5.4.6 Sub-Alternative 5a, Morro Bay Estuary

This boundary sub-alternative, which could be implemented with the Initial Boundary Alternative or Alternative 1, would include the Morro Bay Estuary in the proposed sanctuary boundaries, as described in Section 3.7.1. By applying the proposed sanctuary regulations to this area, this sub-alternative would offer increased significant benefits (relative to the Initial Boundary Alternative or Alternative 1) for cultural heritage and maritime heritage resources, and additional, less than significant benefits in the issue areas of physical resources; biological resources; commercial fishing and aquaculture; and socioeconomics, human uses, and environmental justice due to protections afforded by the proposed sanctuary regulations. Sub-Alternative 5a would have minor incremental adverse impacts on physical resources; biological resources; socioeconomics, human uses, and environmental justice; and marine transportation.

5.4.7 Sub-Alternative 5b, Gaviota Coast Extension

This boundary sub-alternative would extend the proposed or alternative sanctuary boundaries along the Gaviota Coast, as described in Section 3.7.2. By applying proposed sanctuary regulations to this area, Sub-Alternative 5b would offer increased significant beneficial impacts (relative to the Initial Boundary Alternative or other action alternatives) for cultural heritage and maritime heritage resources; additional less than significant benefits in the issue areas of physical resources; biological resources; commercial fishing and aquaculture; and

socioeconomics, human uses, and environmental justice would be achieved due to protections afforded by the proposed sanctuary regulations. Including this area in the proposed sanctuary would have the potential to result in a small incremental increase in adverse impacts on commercial fishing and aquaculture (i.e., commercial fishing operations); socioeconomics, human uses, and environmental justice (i.e., land use development); and marine transportation, due to the implementation of discharge and submerged lands disturbance regulations. The overall adverse impacts would still be less than significant.

5.4.8 No Action Alternative

The impact analysis for the No Action Alternative describes the impacts of the status quo, where the proposed sanctuary boundary area is not included in the NMSS and continues to be managed under existing applicable federal and state programs. Choosing the No Action Alternative would not result in any of the adverse or beneficial impacts identified for the Initial Boundary Alternative or other action alternatives. Therefore, the No Action Alternative is not represented in Table 5-1, because there are no impacts associated with each topic area under the No Action Alternative. Adverse impacts presently occurring would continue to occur. Attempting to identify impacts of potential future activities that could occur under the No Action Alternative would be speculative and beyond the scope of this EIS.

In summary, the No Action Alternative would have the following implications within the study area:

- Beneficial impacts on physical resources; biological resources; commercial fishing and aquaculture; cultural heritage and maritime heritage resources; socioeconomics, human uses, and environmental justice identified under the Initial Boundary Alternative and action alternatives would not occur.
- New oil and gas development could occur in federal waters if the relevant federal agencies authorized such development. New oil and gas facilities would not be expected in state waters due to the legislative ban on such development by the state government.
- Wind energy projects could be pursued in both state and federal waters and would not be subject to the additional regulations proposed for this sanctuary. There would be a potential for adverse impacts on ocean upwelling from offshore wind energy projects.
- Commercial fishing, recreational, homeland security, and other vessels would not be subject to the discharge prohibitions in the proposed sanctuary regulations.
- Construction of new or repairs to any existing structures would not be subject to the proposed discharge or submerged lands disturbance regulations and would not require NOAA approval.

5.4.9 Agency-Preferred Alternative

NOAA is identifying an Agency-Preferred Alternative consisting of Alternative 2, Cropped Bank to Coast, and Sub-Alternative 5b, Gaviota Coast Extension (see Figure 5-1). NOAA has carefully evaluated the adverse and beneficial impacts from the Initial Boundary Alternative, as well as the various alternatives that considered smaller and larger boundaries. NOAA staff have held meetings with cooperating agencies for this action and considered their input on administrative drafts of the EIS. NOAA has also held formal government-to-government consultation meetings

with the Santa Ynez Band of the Chumash Indians (SYBCI) and has held information meetings with other bands of the Chumash and two bands of the Salinan tribe. Identification of the Agency-Preferred Alternative is based on weighing the NEPA analysis, input from cooperating agencies and the SYBCI on potential effects from all alternatives, and the input from outreach meetings.

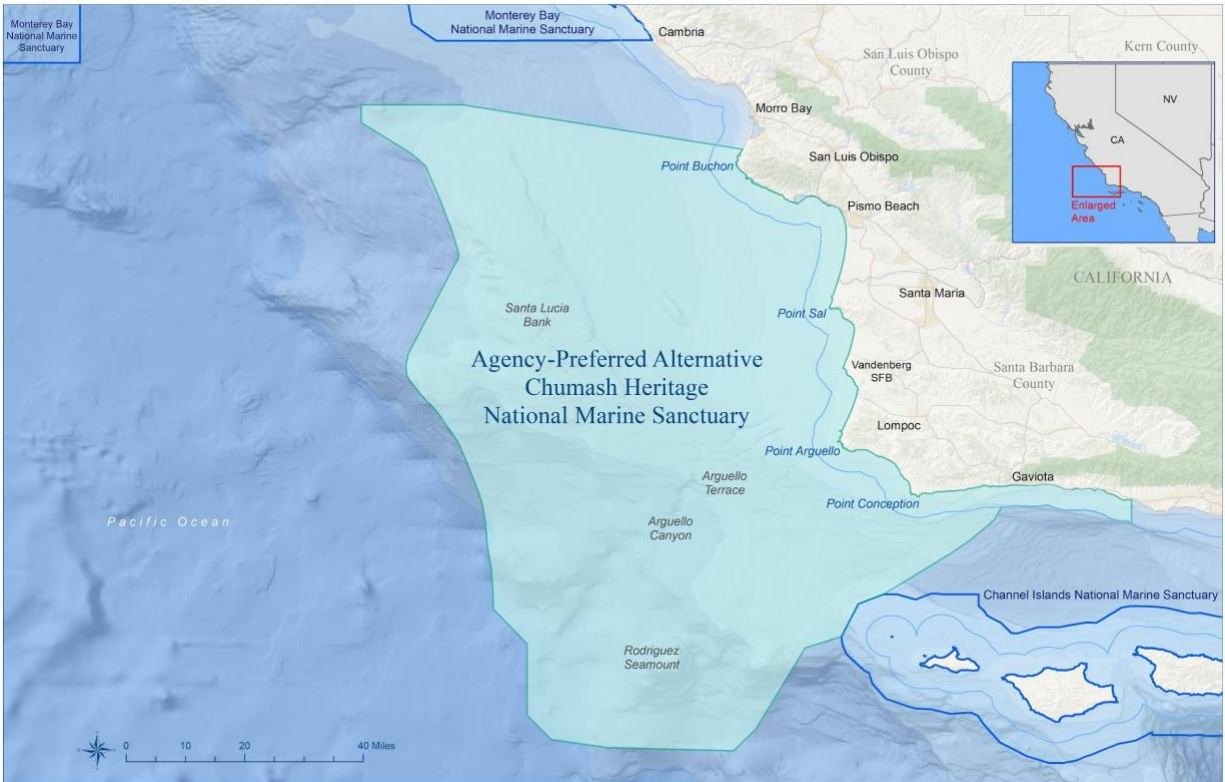


Figure 5-1. Agency-Preferred Alternative, consisting of Alternative 2 (Cropped Bank to Coast) and Sub-Alternative 5b (Gaviota Coast Extension). Image: NOAA

The Agency-Preferred Alternative provides numerous beneficial impacts in various issue areas, such as physical resources; biological resources; commercial fishing and aquaculture; cultural heritage and maritime heritage resources; socioeconomics, human uses, and environmental justice; and DoD and homeland security activities, largely through sanctuary regulations that would limit the scale and scope of offshore development activities and other human uses that could harm natural, historical, and cultural resources. NOAA has considered the adverse impacts of the Agency-Preferred Alternative and finds them to be not significant while also allowing an acceptable balance between resource use and conservation of sanctuary resources. This alternative would also limit adverse impacts on offshore wind development and would lessen adverse impacts on marine transportation (compared to the Initial Boundary Alternative).

In identifying the Agency-Preferred Alternative, NOAA has considered which boundary alternative would be most manageable while simultaneously maximizing the principal purposes for the proposed sanctuary. Including the deeper water portions west of the Santa Lucia Bank within the proposed sanctuary boundaries would create an extra management burden at the

time of designation without hosting clearly significant natural or submerged maritime heritage resources in that area, or without significant threats to those resources at this time. If new information becomes available in the future about significant resources or threats for which a national marine sanctuary would offer suitable protection, NOAA could consider adding some or all of that area to the sanctuary at a future date. The Agency-Preferred Alternative does include significant offshore features of national importance, including the majority of the Santa Lucia Bank, Arguello Canyon and Rodriguez Seamount. The preferred boundary allows NOAA to focus its management on key areas historically important to the Chumash tribes and natural resources important to their heritage.

NOAA's choice of Alternative 2 rather than Alternative 1 to be part of the Agency-Preferred Alternative centers on two principal concerns with designating a sanctuary from Montaña de Oro north to Cambria. The first has to do with subsea electrical transmission cables. NOAA has relied upon a fair and robust permit process to authorize the placement and continued presence of subsea cables (both research and trans-oceanic fiber-optic cables) within national marine sanctuaries. Based on its experience at other sites, NOAA believes that its authorities under the NMSA and the proposed regulations could be effectively utilized to allow fair and robust consideration of the placement and continued presence of subsea electrical transmission cables within the proposed sanctuary to connect new leases in the Morro Bay WEA to shore (see Section 4.7.3). However, NOAA is concerned about the amount of seabed disturbance and potential ongoing impact on biological resources that could result from the construction, maintenance, and continued operation of between 20–30 cables, as well as potential floating substations, in this one corridor between the Morro Bay WEA and shore. That level of anticipated disturbance would likely be unprecedented within a national marine sanctuary. It is possible that as planning advances for cable routes, a developer may seek to route a subsea electrical transmission cable from the Morro Bay WEA to another location that would require routing through the proposed sanctuary boundaries under the Agency-Preferred Alternative. In that potential future scenario, NOAA would be prepared to rely upon its fair and robust permit process to review, and if deemed acceptable, allow a subsea cable through the sanctuary.

The second consideration for NOAA's choosing Alternative 2 as part of the Agency-Preferred Alternative had to do with conflicts that have arisen regarding the name for the portion of the new national marine sanctuary from roughly Cambria to south of Morro Bay, in particular the waters off Morro Rock. The Salinan bands commented during the scoping process and informational meetings to object to naming the sanctuary "Chumash" in that area which they identify as being part of their ancestral homeland. Chumash bands have also considered this section of coast part of their ancestral homeland. The Xolon Salinan expressed support for a sanctuary in this area, provided it had a different name. Chumash bands were unwavering in their view that the entirety of the sanctuary should be named "Chumash Heritage." As explained in Chapter 3, NOAA evaluated but is not pursuing with this sanctuary designation other ideas to adjust the boundary of Alternative 1 to accommodate issues raised by the Salinan and to address the potential impacts from the number of subsea cables that are anticipated to transit the area.

Although not a factor in selecting the Agency-Preferred Alternative, an ancillary outcome is that this alternative avoids several perceived user conflicts. First, it would exclude from sanctuary boundaries the dredge disposal sites used on a regular basis to maintain the channel and

conduct other dredging in Morro Bay Harbor. Although the Initial Boundary Alternative would have exempted use of those sites from the prohibitions in the proposed regulations, not including this area in sanctuary boundaries would allow the City of Morro Bay and/or USACE some flexibility should they seek to alter or expand dredged material discharge around the harbor mouth. Additionally, the city's existing sewer outfall would not be within the sanctuary either. Also, with the boundary initiating at Hazard Canyon Reef, the landing site for about a dozen trans-oceanic fiber-optic cables would be about a mile north of, and thus beyond, the sanctuary boundary. While segments of those cables would still remain within the sanctuary, the landfall would be outside the sanctuary, which excludes sanctuary jurisdiction over any work done at the landfall.

Including the Gaviota Coast extension within the Agency-Preferred Alternative would provide additional protection of important coastal resources. It would include waters off three popular state beaches and parks—Gaviota, Refugio, and El Capitán—and would ensure that Kashtayit and Naples SMCAs are entirely within the sanctuary. It would include beaches, kelp forests, and rocky and soft substrate reefs. As discussed in Section 4.5, that portion of the Gaviota Coast was home to numerous, large Chumash villages at the time of European first contact. Ensuring conservation of these resources is an important benefit to including this sub-alternative in the Agency-Preferred Alternative. The continued presence and use of offshore structures and development in this area, such as pipelines and cables related to the Santa Ynez Unit oil and gas development, could be accommodated via the certification process included in the proposed regulations. Repair, replacement, or removal of the structures necessary for existing oil and gas production could be considered via an ONMS authorization process.

Specific Changes to the Proposed Management Plan

As explained in more detail in Section 3.2.3, NOAA has developed and published a draft management plan that would apply to the Initial Boundary Alternative. If NOAA ultimately selects the Agency-Preferred Alternative for the final designation, the final sanctuary management plan would be changed in the following ways (based on the draft as written; other changes may be needed based on public comment on the draft):

- Throughout the management plan, carefully review references to expected involvement by the Salinan Tribe and bands to ensure any suggested involvement or references are appropriate and considerate of their interest in participation in the new sanctuary.
- Edit Partners Lists to remove any partners not included or directly affected and add any new partners as a result of the addition of the Gaviota Coast Extension (e.g., California state parks units).
- Amend or remove RP-8 (“Consider Expanded Conservation in Morro Bay Estuary”) with regard to Morro Bay Estuary as needed.
- For the Maritime Heritage Action Plan, locating the northern boundary at Hazards Canyon Reef might protect a smaller number of reported shipwreck sites (perhaps 12 fewer sites) within recreational and technical diving limits, resulting in fewer opportunities for visitor engagement and enjoyment. Importantly, it would not provide federal protection for the shipwreck SS *Montebello* that is listed on the NRHP. Thus, the Maritime Heritage Action Plan would instead mention *Montebello* once and refer to the

MBNMS management plan, where *Montebello* has been part of that site's Maritime Heritage Action Plan work. In addition, references to Cambria and potential partners such as the Piedras Blancas Lighthouse Association and Cambria Historical Museum would be removed.

- For the Education and Outreach Action Plan, NOAA and partner interpretive activities would be narrower in scope due to the reduced geographic scope of the proposed sanctuary. This action plan would also need to be expanded to include the Gaviota Coast Extension, specifically noting public education opportunities at state parks in that area.
- For the Research and Monitoring Action Plan, NOAA would focus research and monitoring activities on fewer underwater cultural heritage and maritime heritage resources, which would reduce the amount of new archaeological information available for the research community, public, and tribes. This action plan would also need to be expanded to include the Gaviota Coast Extension.
- For the Water Quality Action Plan, NOAA would remove mention of Morro Bay and its tributaries as needed. Also, NOAA would consider adding water quality monitoring for the Gaviota Coast Extension.

In the introduction to the Wildlife Disturbance Action Plan, NOAA would delete reference to Estero Bluffs State Park. Table 5-1 is a summary table that captures the main differences between the Initial Boundary Alternative and other action alternatives. The symbols depicted in Table 5-1 represent the highest level of beneficial or adverse impact (or negligible/no impact) from each resource area or human use analyzed in the EIS. See Chapter 4 for details on other impacts for each resource area or human use not represented in Table 5-1.

Key to symbols:

- ○ = No impact or negligible impact
- ~ = Less than significant adverse impact
- + = Less than significant beneficial impact
- ++ = Significant beneficial impact

Table 5-1. Comparison of Initial Boundary Alternative and action alternatives.

	Initial Boundary Alternative (IBA) ^{a, b}	Alt. 1, Bank to Coast ^{a, b}	Alt. 2, Cropped Bank to Coast ^b	Alt. 3, Diablo to Gaviota Creek ^b	Alt. 4, Combined Smallest ^b	Sub-alt. 5a, Morro Bay Estuary*	Sub-alt. 5b, Gaviota Coast Extension*
Physical resources (air quality and climate change, geology, oceanography, and water quality)	++ Highest level of benefit; significant beneficial impacts on upwelling; minor to moderate beneficial impacts on air quality & climate change, geology, & water quality	++ Same as IBA for upwelling; slightly less than IBA for air quality & climate change, geology, & water quality	++ Same as IBA & Alt. 1 for upwelling; less than IBA & Alt. 1 for air quality & climate change, geology, & water quality	+ No beneficial impacts on upwelling; less than IBA, alts. 1 & 2 for air quality & climate change, geology, & water quality	+ No beneficial impacts on upwelling; least beneficial for air quality & climate change, geology, & water quality	+ No beneficial impacts on upwelling; negligible to minor beneficial impacts for air quality & climate change, geology, & water quality	+ No beneficial impacts on upwelling; negligible to minor beneficial impacts for air quality & climate change, geology, & water quality
	~ Minor adverse impacts on air quality & climate change due to increased research & enforcement vessel use & potential impediment to wind energy	~ Slightly less than IBA related to increased vessel use; same as IBA related to potential impediment to wind energy	~ Slightly less than IBA & Alt. 1 related to increased vessel use; same as IBA & Alt. 1 related to potential impediment to wind energy	~ Less than IBA, alts. 1 & 2 related to increased vessel use; no adverse impacts related to potential impediment to wind energy	O Negligible adverse impacts related to increased vessel use; no adverse impacts related to potential impediment to wind energy	O Negligible adverse impacts related to increased vessel use	O Negligible adverse impacts related to increased vessel use
Biological resources**	++ Highest level of benefit	++ Slightly less than IBA	+ Less than IBA & Alt. 1	+ Less than IBA, alts. 1 & 2	+ Least beneficial	+	+
Commercial fishing and aquaculture	++ Highest level of benefit on fisheries	++ Slightly less than IBA	+ Less than IBA and Alt. 1	+ Less than IBA, alts. 1 & 2	+ Least beneficial	+	+

	Initial Boundary Alternative (IBA) ^{a, b}	Alt. 1, Bank to Coast ^{a, b}	Alt. 2, Cropped Bank to Coast ^b	Alt. 3, Diablo to Gaviota Creek ^b	Alt. 4, Combined Smallest ^b	Sub-alt. 5a, Morro Bay Estuary*	Sub-alt. 5b, Gaviota Coast Extension*
	~ Minor to moderate effects on vessel operations due to regulations	~	~	~	~	0	~
Cultural heritage & maritime heritage resources**	++ Highest level of benefit	++ Slightly less than IBA	+ Less than IBA & Alt. 1	+ Less than IBA, alts. 1 & 2	+ Least beneficial; substantially less than IBA	++	++
Socioeconomics, human uses, and environmental justice	+ Highest level of benefit	+ Slightly less than IBA	+ Less than IBA & Alt. 1	+ Less than IBA, alts. 1 & 2	+ Least beneficial; substantially less than IBA	+	+
	~ Negligible to minor adverse impacts on land use development	~ Same as IBA	~ Slightly less than IBA & Alt. 1	~ Less than IBA, alts. 1 & 2	~ Least adverse impacts	~	~

	Initial Boundary Alternative (IBA) ^{a, b}	Alt. 1, Bank to Coast ^{a, b}	Alt. 2, Cropped Bank to Coast ^b	Alt. 3, Diablo to Gaviota Creek ^b	Alt. 4, Combined Smallest ^b	Sub-alt. 5a, Morro Bay Estuary*	Sub-alt. 5b, Gaviota Coast Extension*
Offshore energy	~ Moderate adverse impact on new oil/gas development; on existing oil/gas operations in event of a spill; on <i>planned</i> offshore wind wrt cable routing; on <i>new</i> wind farm development in Diablo Canyon Call Area or other federal waters; varying potential effects, or no effects, on offshore wind in state waters; negligible or no impact on DCPP	~ Same as IBA	~ Only minor impact on <i>planned</i> wind energy development if cables routed south of Morro Bay; same adverse impacts as IBA on oil/gas development, and <i>new</i> offshore wind farm development in federal waters; same as IBA for offshore wind in state waters	~ Only minor impact on <i>planned</i> wind energy development if cables routed south of DCPP; same adverse impacts on oil/gas development as IBA, and wind energy development in state waters; no impact on <i>new</i> offshore wind farm development in federal waters	~ Only minor impact on <i>planned</i> wind energy development if cables routed south of DCPP; same adverse impacts on oil/gas development as IBA, and wind energy development in state waters; no impact on <i>new</i> offshore wind farm development in federal waters	0	~
Marine transportation	~ Minor impact due to discharge, introduced species, and deserted vessel regulations	~ Slightly less than IBA due to discharge regulation	~ Slightly less than IBA and Alt. 1 due to discharge regulation	~ Less than IBA, alts. 1 & 2	~ Least adverse impacts	~	~

	Initial Boundary Alternative (IBA) ^{a, b}	Alt. 1, Bank to Coast ^{a, b}	Alt. 2, Cropped Bank to Coast ^b	Alt. 3, Diablo to Gaviota Creek ^b	Alt. 4, Combined Smallest ^b	Sub-alt. 5a, Morro Bay Estuary*	Sub-alt. 5b, Gaviota Coast Extension*
DoD and homeland security activities ^{***}	++ Highest level of benefit due to potential impediment of wind and new oil and gas development	++ Same as IBA related to potential impediment of wind and new oil and gas development	+ Loss of significant benefit by impeding development	+ Loss of significant benefit by impeding development	+ Same as Alt. 3	+	+

^a Sub-Alternative 5a could be added to the Initial Boundary Alternative or Alternative 1.

^b Sub-Alternative 5b could be added to the Initial Boundary Alternative or any action alternative.

* Small incremental increase in impacts, when combined with Initial Boundary Alternative or other action alternative.

** Negligible adverse impacts associated with increased vessel use due to sanctuary research and enforcement activities.

*** Negligible adverse impact on USCG under Initial Boundary Alternative and all action alternatives due to introduced species regulation.

Key to symbols:

- O = No Impact or Negligible Impact
- ~ = Less Than Significant Adverse Impact
- + = Less Than Significant Beneficial Impact
- ++ = Significant Beneficial Impact

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Chapters 1–3

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Chapter 4

4.2 Physical Resources

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Appendix A: Scoping Summary

Introduction

Scoping is the public process under the National Environmental Policy Act (NEPA) by which the National Oceanic and Atmospheric Administration (NOAA) solicits public input on the scope and significance of issues and alternatives to be addressed in an environmental impact statement (EIS) that are related to designating a portion of waters along and offshore of the central coast of California as a national marine sanctuary. Appendix A describes the public scoping process for the proposed Chumash Heritage National Marine Sanctuary (CHNMS) and presents the analysis and summary of public comments received.

Public scoping is conducted early in the NEPA planning process and is not a single event or meeting. NOAA published a NOI to conduct scoping and prepare a draft EIS for the proposed CHNMS in the Fed. Reg. on November 10, 2021. The public scoping period was open from November 10, 2021, through January 31, 2022, during which NOAA hosted three virtual public scoping meetings where oral comments were accepted, and written comments were due by January 31, 2022.

How this Summary Was Used

The results of the scoping process have assisted NOAA in moving forward with the designation process, including preparation and release of draft designation documents, and in formulating alternatives for the draft EIS, including developing proposed CHNMS boundaries, regulations, and a management plan. The scoping process also informed the initiation of any consultations with federal, state, or local agencies, tribes, and other interested parties, as appropriate.

Statistics

- *Number of overall written comments: 1,190*
- *Number of oral scoping meeting comments: 100*
- *Number of comments in support of designation: 766*
 - *Number of petitions: 11*
 - *Number of signatures: 8,732*
 - *Number of campaign comments: 217*
 - *Elected officials:*
 - Wade Crowfoot, Secretary for California Natural Resources (appointed by Governor Gavin Newsom)
 - Bruce Gibson, District 2 Supervisor, San Luis Obispo County
 - John Laird, Senator – California Senate District 17
 - County of Santa Barbara Board of Supervisors
 - Steve Gama, Port Hueneme City Council member, 2021 Mayor
 - Representative Salud Carbajal (CA-24)
 - Senator Dianne Feinstein (CA)
 - Senator Alex Padilla (CA)

- Jan Marx, San Luis Obispo City Council Member
- *Number of comments in opposition to designation: 315*
 - *Number of petitions: 0*
 - *Number of campaign comments: 218*
 - *Elected officials:*
 - City of Morro Bay
 - Morro Bay Chamber of Commerce
 - San Luis Obispo County Board of Supervisors
 - Jeff Heller, Morro Bay City Councilmember
- *Number of comments that did not take a position: 146*
 - *Number of campaign comments: 69*
 - *Note: Some commenters did not explicitly support or oppose the proposed sanctuary designation but had specific requests/critiques that are incorporated into this summary.*

Appendix A.1: Scoping Comment Summary

Appendix A.1 organizes summarized public scoping comment points into topic areas. Appendix A.1 is organized by topic area section and includes where that topic area is addressed (either in the EIS, management plan, or sanctuary regulations (REGS)). In-text superscript number citations in Appendix A.1 refer to the corresponding row number the table in Appendix A.2.

Appendix A.1 starts with NEPA issues such as alternatives and affected environment topics, which generally match up with the chapters/sections/appendices identified in the EIS Table of Contents. The last section of Appendix A.1 addresses non-NEPA issues, such as sanctuary names and main reasons for support/opposition.

Alternatives

Many comments supported the proposed boundary in the NOI; while some comments requested a larger boundary and others requested downsizing the boundaries or excluding certain geographic areas. Additionally, some comments requested the inclusion or exclusion of numerous specific regulations.

Larger Boundaries

Addressed: EIS Chapter 3

- Extend boundaries to connect MBNMS to CINMS; creating a contiguous stretch of protected area where oil drilling is prohibited and wildlife is protected.
- Extend boundaries to include the following locations given their importance to the Chumash people: the Ventura County border (plus offshore islands), including waters around Carpinteria Valley (major Chumash site and harbor seal rookery); Hollister Ranch through Gaviota to Dos Pueblos Ranch (also important biological resources); Hueneme Beach (Chumash vessel launch site).
- Extend the eastern boundary further into the Santa Barbara Channel to provide additional Channel protections and better management activities in the Channel including oil and gas development and vessel speed reductions for whale protections.⁴¹
- Establish a 200-mile boundary to reduce negative impacts of Mega Fishing Factories.
- Expand boundaries to include the following areas: Goleta Slough; southern coast of SB County; more of the Gaviota Creek watershed; coastal Blue Carbon areas (e.g., Morro Bay East Estuary State Marine Reserve and Morro Bay State Marine Recreational Areas).
- Study the largest possible boundaries; approve the proposal including the WEA.

Smaller Boundaries – General

Addressed: EIS Chapter 3

- Scale boundaries back. Exclude the Morro Bay WEA if it is proved to negatively impact migrating and resident marine animals, sea birds, and plant ecosystems.
- Expect a myriad of existing marine resource conservation laws/regs to exist within proposed boundaries and potentially limit or inhibit certain activities.
- Reduce boundaries to the smallest size justified per NMSA's language: *discrete ecological unit*.

- Limit boundaries to (a) 2 miles offshore, (b) federal waters given threats from oil and gas.
- Narrow boundaries to include ONLY locations with cultural resources and significance essential to the Chumash people (e.g., submerged villages) similar to national marine sanctuaries designated for a specific cultural feature: Monitor National Marine Sanctuary, Wisconsin Shipwreck Coast National Marine Sanctuary.
- Exclude the following: all tributaries, fishing, property, coastal beaches, and dunes between Point Buchon and Point Sal (see Comment 1034); buffer zones extending sanctuary protections to the Oceano Dunes SVRA; 8 known U.S. Navy sunken military crafts.
- If sanctuary allows development of offshore wind within its boundary, the seaward boundary should follow the 40-fathom curve (northern to southern) boundary and most of the westward portion of the BOEM-proposed Diablo Canyon Call Area. Set the northernmost boundary to a min. of 5 miles south/away from the Morro Bay WEA.
- Consider excluding submarine telecommunications cable landing sites and routes.
- Consider and address the need for sanctuary boundaries to connect with MBNMS (north) and the CINMS (south).
- Make it the size of the proposed wind farm.

Smaller Boundaries – Offshore Energy Concerns

Addressed: EIS Chapter 3

- Include an appropriate number of exclusion zones, buffers, and coastal buffers around offshore wind energy within the proposed CHNMS.
- Exclude the following: BOEM’s Morro Bay WEA (Morro Bay 399 Area); offshore wind project areas in state waters near Vandenberg Space Force Base (~11 mi²) under consideration by the CSLC or applications accepted for consideration.
- Adjust sanctuary boundaries in coordination with agencies (BOEM, BSEE, USCG, and DoD) to reduce and avoid jurisdictional overlap causing regulatory hurdles and ensure no imposition on Morro Bay WEA’s operational infrastructure. Consult with these agencies to clarify and resolve issues related to offshore energy use prior to undertaking any designation.
- Reconsider boundaries (shift northernmost boundary southward and offshore) to allow for undersea export cable routes to onshore interconnection points and other associated electrical substations (avoiding legal conflicts and permitting hurdles between NOAA and BOEM) and offshore wind vessel traffic routes.
- Set boundaries at a minimum 5-mile buffer to any offshore wind farms, in addition to sufficient sanctuary-free corridors, areas for transmission cables, and service vessels.
- Consider modified boundaries to balance the complementary goals of conserving this marine ecosystem and advancing offshore wind energy projects outside the sanctuary.
- Avoid implementing sanctuary boundaries such that future opportunities for offshore wind generation or supply chain in the Central Coast is prevented. Considering the economic and environmental benefits it could bring historically disadvantaged communities.

- Ensure enough area outside the sanctuary boundaries is available to achieve the state's goals for offshore wind production, given CA's increasingly limited areas offshore available.
- Exclude existing oil and gas facilities; exclude or grant exemptions/waivers for terminated leases (8 platforms to be decommissioned in the future) and these specific leases: Santa Ynez Unit (Platforms Heritage, Harmony, and Hondo), Point Pedernales Unit (Irene).
- Boundaries should be no larger than reasonably necessary to protect and preserve the sanctuary, while allowing for the continued and future production of energy from all sources.
- Analyze the extent to which proposed area is already adequately protected and managed by existing federal, state, and local regulations such that designation may not be required or can be limited to an area smaller than proposed.
- Proposed CHNMS would be the largest protected ocean area in the continental U.S., NOAA should reassess the purpose and need for sanctuary this large considering the panoply of existing federal, state, and local protections in the area.
- Consider moving the proposed southern half of the sanctuary boundary northward and westward to avoid unnecessary conflict with existing users.

Regulations – General

Addressed: EIS Chapter 3, REGS, Management Plan

- Prohibit developments that risk altering the shoreline, ocean stability, or disturbing seabed.
- Adopt sanctuary regulations that protect wildlife, plants, fish, and their habitats; prohibit or strictly regulate any commercial harvesting of biological resources; consider designating some areas as marine reserves, restricting any kind of fishing/taking.
- Adopt sanctuary regulations and measures that protect water quality by prohibiting the discharge or deposit of any harmful materials into the sanctuary (with exceptions similar to language within MBNMS regulations).
- Develop programs to reduce pollution from land and ocean-based sources.
- Adopt sanctuary regulations that protect cultural values with the strongest possible protection for Chumash sacred sites, cultural places, and cultural values; prohibit disturbing cultural resources and taking of cultural artifacts.
- Ensure any water quality regs do not inadvertently and adversely impact traditional Central Coast fishing, cattle grazing, agricultural, or residential uses.
- Allow regulatory exceptions for agricultural discharges from agricultural lands.
- Do not include water quality regulations relating to discharging or depositing. Use the low water datum as maximum regulatory extent impacting onshore uses.
- Regulate/restrict non-consumptive recreation activities when appropriate (e.g., to protect nesting birds, migrating/feeding whales, etc.).
- Prohibit sanctuary from permitting or authorizing dredging, disposal, or commenting on harbor dredging. Grandfather all existing dredged material disposal sites.
- Consider dredging disposal exemption for Port San Luis Harbor, contingent upon compliance with Coastal Regional Sediment Management Plan.

- Department of Defense exclusions and exemptions to account for past, current, and future military operations inside of the sanctuary; Ensure military, civil, and commercial operations at Vandenberg are unimpeded.
- Discuss each regulation of the adjacent sanctuaries in CA to determine what level of regulation the proposed sanctuary should have.
- Do not restrict or prohibit submarine telecommunication cable installation, maintenance, and repair, or existing or future submarine fiber-optic cables transiting the proposed sanctuary boundaries.
- Allow access for everyone to enjoy, study, and benefit from the marine resources in the proposed area; do not limit recreational boat access and ensure the allowance of Motorized Personal Watercraft (MPWC) use.
- Regulate transit corridors and vessel speeds to reduce vessel strike risk for threatened or endangered blue, humpback, fin, and other large whales in the proposed area.
- Address any potential restrictions to current and future marine transportation activities' ability to provide economic opportunities to harbors within the proposed sanctuary. This includes commercial and recreational fishing, industrial marine related uses, as well as all coastal dependent and related user groups.
- Consider prohibitions similar to those of other sanctuaries as related to hydrocarbons/minerals; discharging/depositing material; submerged lands; disturbing, taking, possessing, harvesting, etc. marine mammals, seabirds, or resources; fishing gear; historical resources; sanctuary signs and boundary markers; introduced species; seized property; bombing activities (Department of Defense); deserting vessels; attracting white sharks.
- Consider reflecting sediment management in sanctuary regulations with an exemption for sediment management activities that benefit habitat protection and restoration.
- Exempt shipping activities so as not to cause further delays in the shipping supply chain.
- Discourage any prohibitions or disincentives to develop desalination projects in the future.
- Proposed sanctuary should not preclude the possibility of future advancements in innovative technologies not yet available, but potentially useful for power generation or potable water.
- Consider banning industrial scale development of deep-water port at the Diablo Canyon site (under consideration as a post de-commissioning use).
- Accommodate existing commercial, recreational, and municipal uses. Explicitly state this with no prohibitions of existing uses and with no layers of added regulatory review.
- Integrate the use of reports prepared for state level compliance into the federal approval process with respect to future activities potentially impeded by this designation. E.g., accept documents such as a California Environmental Quality Act Environmental Impact Report to satisfy any federal documentation requirements.
- Allow exploration of seafloor and seismic testing to learn about Ring of Fire threats.⁸⁸
- Prohibit mining.

Regulations – Fishing

Addressed: EIS Chapter 3, REGS, Management Plan

- Retain part “9” of Section II, “Goals Description” in the final designation, stating CHNMS will have no impact on treaty fishing rights or impose future fishing regulations.
- Do not impose regulations that interfere, directly or indirectly, with existing recreational fishing access and practices or unnecessarily inhibit, burden, or restrict sportfishing.
- Create stronger/more detailed language than in MBNMS that prohibits a sanctuary role in fisheries management or fisheries-related issues. Issue a strong statement of the sanctuary’s support of commercial and recreational fishing (recognizing the social and economic benefits they provide in the proposed sanctuary regulations).
- Exempt seafood industry from regulation of indirect activities that may fall outside those managed through the Magnuson-Stevens Act.
- Clearly reflect that sanctuary managers must have the authority to regulate fishing.
- Exempt scientific surveys (Exempted Fishing Permits) are used to inform stock assessments, Fishery Management Plans, and both recreational and commercial fishing regs from any regulations that could affect ongoing research.
- Prior to any regulatory change, conduct consultations with the Pacific Fishery Management Council and NOAA Fisheries.
- Prohibit fishing in some areas to protect unique oceanographic features such as underwater seamounts (i.e., include a no-fishing zone around Rodriguez Seamount and buffer area of 10–40km in the EIS), plateaus, and canyons.
- Permanently ban use of all forms of gill nets within the sanctuary.
- Phase in regulations leading to requiring “ropeless” gear for all fixed-gear fisheries when large whales are at the greatest entanglement risk; require use of weak-line measures to mitigate adverse impacts of pot-trap fisheries on listed humpback whales.
- Only allow operation of small scale and family-based fishing industry (like in the Central Coast) do not allow large scale commercial fishing.

Regulations – Offshore Energy

Addressed: EIS Chapter 3, REGS, Management Plan

- Prohibit development of the following: any offshore wind and associated infrastructure (including any exemptions or permits), other renewable energy projects, oil and gas (and phase out existing infrastructure and leases), exploration (including seismic surveys), drilling, seismic testing, seabed mining, or procurement activities.
- Prohibit (or regulate) transport of liquid petroleum products through the sanctuary.
- Ensure sanctuary regulations and management plan allow for Morro Bay WEA’s vital activities and infrastructure, including geophysical surveys, seafloor cable placement and maintenance (reference Olympic Coast National Marine Sanctuary submarine fiber optic cables for impact), vessel transit, and shore power landings or upgrading port and harbor areas to streamline permitting.
- Do not restrict offshore energy research, exploration, development activities, and allow continued use of marine seismic technology for existing and future energy activity.

- Grandfather activities authorized by a valid lease, permit, license, approval, or other authorization in existence on the effective date of sanctuary designation.
- Prohibit boundary changes to accommodate new wind farm areas or aquaculture.
- Consider impacts of, and alternatives to, promulgating regulations specifically granting the Secretary discretionary approval authority to allow seabed disturbance to facilitate the transmission of potential offshore wind energy from the Morro Bay 399 WEA.
- Do *not* prohibit offshore energy production (oil, gas, and wind), leases, and transportation facilities, or other uses like carbon capture and sequestration.

Management Plan

- Enact commitments for monitoring and enforcement of sanctuary regulations.
- Create research programs to develop an understanding of climate change and analyze threats, impacts, resilience, and adaptation potential.
- Include wildlife/conservation scientists in research, management, and decision making.
- Develop a set of accessible and scientific performance metrics to monitor, evaluate, and track marine life protection success that can be communicated to the public and stakeholders, and to compare to domestic and international counterparts.¹⁴
- Address vessel traffic-related issues by developing a vessel speed reduction plan, establishing advisory bodies, and exploring creative planning tools and technologies.⁴⁸
- Describe strategy to fund and staff sanctuary including the impact on other sanctuaries.
- Define consensus community support and address this proposal's failure to meet that threshold. Specifically address opposition letters NOAA has received in draft EIS analysis.
- Identify each nationally significant resource within the proposed sanctuary and discuss the sanctuary's plan to manage threats.
- Identify and discuss any impacts on other NMSs for this sanctuary to reach its goals.
- Discuss plan to allow maintenance, research, and development to take place for energy/data transmission lines or kinetic energy devices.
- Consider the costs and benefits associated with additional sanctuary-based permitting and regulatory requirements on top of existing regulatory layers.
- Consult, collaborate, and coordinate with other federal agencies and governmental stakeholders concerning responsibility for communications infrastructure, and its security, reliability, and integrity; developing regulatory procedures and processes for allowable and prohibited activities; creating straightforward, clear, and consistent requirements on the protection and use of the marine environment.
- Develop a Purpose & Need (P&N) statement for the CHNMS that acknowledges the multiple critical marine uses and an evaluation of reasonable alternatives.
- Discuss NOAA's strategy to publicly communicate with regulatory agencies.
- Identify unique elements of the proposed sanctuary not protected by other MPAs.
- Discuss what areas within the EEZ do not meet NOAA's National Significance Criteria for designation of a sanctuary.
- Determine the location of the shoreward boundary (watersheds to the U.S. Exclusive Economic Zone) and assess pros and cons of each potential boundary.

- Engage with landowners and resource custodians to develop long-term protection strategies for traditional activities, cultural, natural, and maritime resources.
- Do not limit recreational vehicular access to Oceano Dunes in the management plan.
- Work with the Department of Navy (DON) to avoid interfering with DoD activities.
- Consult with the business community and stakeholders (e.g., offshore wind, space/aeronautics, blue economy) to improve conservation and understand possible impacts and implications.
- Conduct careful spatial planning for the disposal of dredging spoils.
- Design management measures and alternatives with USFWS for sea otter conservation.
- Include a “quality of life” impact study strategizing community engagement, enrichment, and support for efforts to improve community quality of life.
- Promote collaborative, connective marine research with MBNMS and CINMS.
- Historical shipwreck discoveries should not interfere with protection of Indigenous cultural resources and heritage.
- Promote recreational access and activities (e.g., boating, diving, angling, jet skiing, etc.).
- Provide public guidance, education, and training on responsible recreational water access, boater use and infrastructure installment, and MPWC operators’ practices.
- Focus on marine research that improves the marine science field and its management. Perform baseline biodiversity studies and monitor change over time (e.g., surveys inside/outside sanctuary) to identify management effectiveness.⁹²

Sanctuary Co-management

Addressed: Management Plan, EIS Chapter 3

- Promote education for historically underrepresented communities and create programs concerning ocean ecology, tribal culture, and hands-on citizen science including (See Comment 1053).
- Ensure adequate public media, publicity, and onsite signage.
- Regulate threats through management programs or other mechanisms: Climate change; Offshore renewable energy; Desalination; Recreation and tourism; Commercial shipping; DoD activities; Introduced species; Whale entanglement; Platform decommissioning; Aquaculture; algal blooms; Ports and Harbors.
- Do not restrict handicap access and create a policy on universal accessibility.
- Encourage programs engaging and soliciting data from the angling, spearfishing, diving, and hunting communities to promote sound management practices for fish and wildlife.
- Address opportunities to benefit "Blue Economy" (per Federal Register NOI).
- Address alternatives for any proposed administrative, operations, and enforcement office locations including economics and budget estimates. Include effects to existing coastal related uses, transportation, offices, and related buildings.
- Apply lessons learned from MBNMS’ establishment and management plans concerning fisheries, marine transportation, and harbors operations.
- Center Native American culture interpretation in designation, management documents.
- Hold public meetings to dynamically explore prospective sanctuary boundaries.
- Encourage community science, promote NEPA-compliant ecosystem-based management practices, incorporate traditional ecological knowledge (TEK).

- Embrace a “partnerships first” model and cultivate partnerships with scientific, academic, and community organizations.
- Ensure regulations and management plan requirements are compatible with the California State Land Commission’s responsibilities and authorities.
- Support wide ranging surveys of diverse ocean ecosystems in the proposed area and conduct eDNA ecological monitoring. See Comment 1053 for details. Making the biodiversity research program in the CHNMS fully integrated with the local community of leaders and students will advance STEM education, provide links to future careers, and connect the Chumash heritage with this new type of data.
- Create a coastal educational center connecting education, culture and science that includes community and classroom spaces, a lab, computational center, culturally centered gathering space, and a small aquarium.
- Establish dedicated CHNMS staff and a Coordinator for Research Activities position to coordinate activities between other national marine sanctuaries. in the sanctuary.
- Ensure a continuous, interactive relationship with the public and research socio economic impacts of sanctuary designation on the local area.
- Explore and promote a govt-to-govt collaboration and co-management approach that includes the Chumash, state, and federal agencies for a future CHNMS designation. (See Comment 1029. See pgs. 9–13 in Comment 1018).
- Suggestions support an inclusive, intentional government-to-government collaboration structure for the new sanctuary between Chumash Tribes, state, and federal governments and co-management system across all management activities that prioritizes Indigenous perspectives and values within management plans.
- Suggest a two-dimensional management structure: (1) the political dimension of the government-to-government relationship, and (2) the active, analytical, and inclusive co-management dimension between tribal, federal, and state agencies.
- Benefits to co-management: consistent with E.O.s and Biden’s recent memo; provides an opportunity to uplift and prioritize California’s Indigenous People’s stewardship knowledge and perspectives in management decisions; studies show benefits to a more formal, collaborative co-management approach¹³.
- Design and establish protocols, policies, and practices that formally and systematically allow for the integration of traditional ecological knowledge, tribal perspectives, preferences, and stewardship into sanctuary management; ensure Indigenous input is incorporated into all phases of the CHNMS designation process to recognize the Indigenous perspective and culture.
- As sovereign entities, the Chumash political status should be acknowledged in decision-making and planning at all levels.
- Support co-management between tribal, state, and federal agencies by (a) exploring different co-management frameworks, and (b) developing collaborative planning tools to help integrate each government’s approach to policy and management processes (including ecosystem-based management and traditional ecological knowledge perspectives).
- Chumash commenters recommend integrating the following into management plans: (a) developing and implementing programmatic and ecosystem-based planning tools (e.g., Ocean Health Index, marine spatial planning) to evaluate impact on sanctuary over time,

(b) protocols and protections for integrating aspects of tribal stewardship, specifically regarding consent for sharing Indigenous knowledge and data (e.g., requests) such that TEK is protected, safeguarded for future generations, and the diversity of Tribal science and knowledge is acknowledged.

- Center Indigenous leadership and role in management by: (a) directing leadership to Indigenous peoples regarding studies, planning, and monitoring of ecosystems, (b) recognizing the Chumash Tribe as the appropriate governmental entity to manage their own resources, (c) giving deference to tribal decisions on conservation and management plans, (d) ensuring tribal co-authorship of formal planning and policymaking agreements between tribes and the sanctuary, (e) following Hawaiian Islands Humpback Whale National Marine Sanctuary as an example of relationship-building with Indigenous peoples.
- Commenters noted the benefits of recognizing, respecting, prioritizing, and incorporating tribal and Indigenous voices in co-management: (1) form a more integrative, adaptive, and ecosystem-based approach to sanctuary governance; (2) restoring and maintaining traditional relationships can create integrated health within and between ecological and human communities; (3) elevate the understanding of Indigenous people's inherent part of the land, (4) continue the region's legacy of collaborative approaches to conservation (e.g., MOU between TNC and Santa Ynez Band of Chumash Indians at Dangermond Preserve).
- Include and engage diverse Chumash communities (all culturally affiliated tribal governments and related Chumash Bands) in a collaborative and robust consultation process and participation in co-management, including federally unrecognized tribes and groups, the San Luis Obispo Chumash community.
- Avoid transferring regulatory power from sanctuary to the Chumash people in order to avoid any potential regulation of fisheries; push to not provide any legal authorities the ability to manage fisheries.
- The Northern Band of Chumash is not federally recognized; government-to-government relationship would not exist.
- Synergistic and cumulative impacts on marine ecosystems should be taken into account. No single marine resource use or activity, such as commercial and recreational fishing, should be considered and managed in isolation from other marine activities within a sanctuary. As co-managers, we should recognize that the synergistic and cumulative impacts from human use of marine ecosystems, including the impacts of land-use activity such as farming and urban development and climate disturbance impact coastal and marine systems.
- Support implementation of meaningful tribal co-management with the Northern Chumash Tribal Council.
- Look to existing tribal governing structures and works, such as the Mai Ka Po Mai Native Hawaiian guidance document, Wishtoyo Foundation Tribal Marine Protected Areas White Paper, the Chumash portion of CINMS' Ecosystems Services Assessment (pgs. 185–207), and others for further reference.

Indigenous Concerns

- Develop a management plan that provides the strongest possible protection and commitment to preserving Chumash sacred sites, cultural place, tribal resources, cultural values, and underwater Native archeological sites (investigate only with the consent and involvement of Chumash elders).
- Integrate Indigenous leadership, Indigenous values, and traditional knowledge throughout the planning, implementation processes, management and decision making, to ensure equitable, effective, and community-led co-management and collaborative conservation moving forward.
- Consider establishing a visitor or educational centers with programs that provide educational and outreach opportunities to local students, community members (with special attention and encouragement directed towards underserved communities) related to: tribal culture, heritage, history, and ocean ecology in a manner that honors all voices past and present and recognizes this sanctuary as a novel, inclusive conservation effort due to the past exclusion of Indigenous ecological knowledge in modern science and conservation).
- Recognize, implement, and elevate the use of Indigenous traditional ecological knowledge (TEK) as a foundational scientific ecosystem-based management strategy to aid in sanctuary preservation.
- Create specific spaces, roles, agreements within sanctuary management for Indigenous peoples: (a) prioritize full-time paid positions for Indigenous peoples involving day-to-day operations, decision-making, native/cultural practitioner roles, STEM/research positions, (b) include an Office of Tribal Affairs (OTA), establish a cultural working group or council, and adopt a U.N. Declaration of Rights of Indigenous Peoples, (c) trained Native certified divers to work alongside NOAA divers.
- Concerns include separately naming and creating the proposed CHNMS separate from CINMS does not acknowledge that CINMS is part of the Chumash heritage as well; “That the impact of this sanctuary would not protect the rights of Chumash and Salinan people with regards to fishing, gathering and religious rights (exact wording from Commenter 1091).”
- Future grants and revenue generated by the sanctuary must benefit natives first and foremost.
- Support implementation of policies designating funds/set asides specifically earmarked for native groups in all efforts from education to research to any other lucrative practice overseen by future sanctuary administration.

Fishing

- Support and facilitate sportfishing access; ensure management does not unnecessarily inhibit, burden, or restrict sportfishing unless regulation is specifically tailored to address genuine, specific, and demonstrable harms.
- Support and facilitate scientific activities (e.g., NOAA surveys, stock assessments, etc.) that are important to improve understanding of living marine species (e.g., marine species populations, whale migratory patterns).

- Support, protect, and promote recreational and commercial fishing activities as they are economically important, socially, and culturally integral to the local identity; include a clear statement reflecting this in the management plans.
- Include explicit, clear, detailed, and strong language (stronger than MBNMS') that indicates the sanctuary will avoid regulatory interference in fisheries and prohibits the sanctuary from taking any role in fisheries management or regulation (directly, indirectly, or even appear to have regulatory interference).
- Include comprehensive language in designation documentation that recognizes (a) native and modern commercial fishing and recreational fishing as a resource that will be protected, preserved, and promoted as part of the sanctuary equal to that of other sanctuary resources, and (b) supporting responsible and equitable development of local aquaculture industry, including aspects regarding education, access, and financial support for cultivators.
- Acknowledge fishing activities as a compatible use compliant with 16 U.S.C. §1434(a)(5).
- Include language that guides the sanctuary interactions with the fishing community, including engagement, soliciting input and feedback, and discussions regarding how to improve public relations with the fishing community and help improve best practices (voluntarily).
- Consider allowing NOAA to have a more active, authoritative role in managing and regulating fisheries and engaging local and commercial fishing to ensure responsible use of fishing resources continue and any new regulations do not overly constrain public use; particular concerns covered allowing the sanctuary to manage gear type used and allowing certain types of fishing to a specified spatial extent (e.g., see precedent examples with fishing regulations: Gray's Reef, Flower Garden Banks, and Florida Keys national marine sanctuaries).
- Sanctuary should consult and coordinate with the PFMC while (a) developing a management plan, (b) regarding potential conflicts with regulations that could economically impact the seafood industry (alongside fishermen and seafood processors) and (c) to continue the transparent, public, and science-based processes of fisheries management continues and be the main pathway for evaluating and setting fishing regulations (alongside CDFW and others).
- Discuss how the sanctuary will work with commercial fishing and aquaculture industries, especially considering the majority of commercial fishing organizations in the area are opposed to the sanctuary.
- Although ONMS does not regulate fishing, ONMS should coordinate with agencies which do to meet the Biden Administration goals for protected areas by 2030. Potential places to evaluate the need for increased fishing protection would be to mirror the polygons of the established state of California MPAs within the proposed area that do not currently prohibit fishing.²³
- Establish a Native Chumash Fishing Commission (NCFC) within all the sanctuaries of our Northern Islands off the Coast of California in order to establish a cooperative relationship with local coastal communities.
- Recommend a careful review of the level of protection to marine life that can be provided by the proposed CHNMS. There are designated California MPAs within the proposed area as well as many unprotected yet significantly important quality habitats offshore,

nearshore kelp forests, and diverse coastal wetlands. We recommend a careful review of the role of these MPAs in supporting the priority management goals of the NMSA, and whether additional protective measures and/or marine zoning strategies (such as no-take MPAs) and tools should be considered under a co-management strategic framework that combines the Chumash, California, ONMS, and other relevant federal agencies. The CHNMS should consider management actions supporting California's MPA network in partnership with CDFW and should include an education, outreach, monitoring, and enforcement plan focused specifically on supporting MPA implementation within its boundary.

- If any MPA is implemented, recommend keeping it within Point Conception and Espada Bluff. This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
 - 34° 27.000' N. lat. 120 28.000' W. long
 - 34° 27.000' N. lat. 120 32.000' W. long
 - 34° 32.000' N. lat. 120 31.000' W. long
 - 34° 32.000' N. lat. 120 41.000' W. long

Sanctuary Advisory Council (SAC)

- Include economic interest groups and ocean users within sanctuary and adjacent areas.
- Designate representation for local operators: commercial, recreational fishing, and fishing industry dependent business (e.g., buyers and processors); offshore wind industry (specifically requested a seat for American Clean Power and Offshore Wind California); tourism and recreation; harbor managers; farmers, and ranchers; renewable energy.
- Suggested 50% of voting members should represent and be chosen by local, resource-dependent tribes and stakeholders.
- Local jurisdictions should organize SAC independently from national marine sanctuary management.
- SAC input should have a clearly functional role as indicated in the management plan and members should have binding authority in management decisions.
- SAC members should fully represent the entire region and all interested parties to create an inclusive, diverse SAC stakeholder group (beyond NOAA's interests) and have the ability to provide input to the Draft Management Plan.
- All SAC agendas and supporting materials should be made publicly available < 5 days prior to any meeting.
- All meeting information and policy decisions should be publicly available for comment and review.
- Designate multiple seats specifically and solely for Chumash natives (ensure equal participation for First Peoples) representation with a budget/stipend to ensure that Chumash natives are compensated.
- First Peoples require equal participation alongside the SAC in determining the agenda and the role of Salinan and Chumash Peoples.
- Solicit thoughts on support research, monitoring, and advance scientific understanding of the area from SAC Research Members and Alternates.

Offshore Energy

- ONMS should coordinate with USCG, NOAA Fisheries, and the offshore wind energy industry to evaluate the location of vessel traffic lanes and access routes to allow large installation and construction vessels to enter/exit CA central coast ports.
- Continue to include the offshore wind industry in the planning process to reduce the risk of unintended consequences that might occur due to this potential designation.
- Continue collaboration, open dialogue, and avoid undue limitations with the California State Land Commission's decision-making authority (especially with regard to the offshore wind lease areas currently under California Environmental Quality Act review).
- Management plan and regulations should acknowledge the presence of "preexisting" infrastructure (e.g., undersea electricity transmission cables) and account for repair, maintenance, and removal of facilities in areas leased by the California State Land Commission or a local grantee of public trust lands, to ensure that the regulations and management plan do not interfere with lessees' rights and responsibilities under their lease terms.
- Include measures to minimize conflict between climate action, environmental protection, federal and state policies.
- Consider the possibility of future renewable ocean energy opportunities beyond wind projects as the designation process moves forward.
- CHNMS management should recognize management plans and regulatory framework that undersea cable corridors will need to pass through the proposed CHNMS from Morro Bay WEA or other offshore wind developments; cables must be properly cited and buried and demonstrate no electromagnetic disturbance and minimize impacts on natural and cultural resources within the proposed sanctuary.
- Regarding transmission cables and other associated onshore infrastructure, address siting and impact assessment through permits (e.g., special use permit) and mitigation hierarchy analysis; specify the mechanisms for authorizations or granting easements (suggested that associated fees contribute to SLO county subsidizing housing for citizen science groups and Chumash personnel participating in cultural educational programs); explain the structure of permitting authority and roles; consider concrete blankets for electromagnetic cables to avoid exposure and disturbance; include stipulations for funding climate science research (suggested for commercial offshore wind farm in the 399 area).
- Support research for and establish a monitoring plan for impacts related to offshore wind energy cables. Suggested study areas include using ROVs to monitor the cables, noise studies, electromagnetic fields, sediment movement, oxygen and phosphorus levels, temperature, current, wind velocity, wave height changes, impacts on marine life behavior, and changes in migration patterns related to offshore wind farms and undersea cables.
- Highlight sensitivity of marine habitat and wildlife to oil and gas development and spills and ensure through regulation that impacts of such activities within or adjacent to the sanctuary are minimized.

- Completely remove all four offshore oil and gas facilities still in operation within the proposed sanctuary boundary allowing the marine environment to be restored to its natural condition.
- Defer designation until there is more certainty on impacts on existing and potential energy production, such as pending development of the Morro Bay WEA.
- Federal, state, and regional goals cannot be met without offshore wind development and leasing West Coast. There is clear local and national support for offshore wind in this region and an economic opportunity ready to be seized.
- NOAA must make clear that any designation will allow—or at a bare minimum, not prohibit or separately regulate—facilities or activities needed for offshore energy development and transmission. At a minimum, any CHNMS regulations and management plan must allow for energy development from existing and future facilities inside and outside the Morro Bay WEA, including allowing transportation rights of way or easements to shore.
- Work with BOEM and BSEE to proactively expedite decommissioning of existing oil and gas infrastructure, phase-out leases, and preclude additional leases (avoid ‘grandfathering in’). As offshore wells are abandoned, a well-designed “rigs-to-reefs” program could be developed in the proposed area to provide artificial reef habitat and to support an ocean trust fund (with the cost savings relative to costs for complete removal).
- As part of the management plan and the sanctuary’s role in this region, ONMS should work with BOEM and the State Lands Commission (SLC) to prioritize seascape-level planning and processes to balance the multiple uses of the ocean (energy production, wildlife habitat, sensitive habitat, and productive fishing grounds) and to fully evaluate potential impacts of renewable energy development to natural and cultural resources in the region. Create designation document language that prohibits offshore wind development and associated infrastructure from being allowed inside the CHNMS boundary, ever. Including, do not allow any of the following that would allow for offshore wind development: permitting methods for turbines or cables, changing boundaries.
- In order to fill data gaps and advance climate science, Home Front EJ suggests that interested investors in the OWF development fund a NOAA Pacific Marine Environmental Laboratory (PMEL) observation buoy system in the 399 area as soon as possible. This will open data share and collaboration avenues between NOAA and the California Polytechnic University of San Luis Obispo’s (Cal Poly), Marine Science Department studying Ocean Acidification (OA) and other oceanic climate science issues.

Water Quality

- Develop programs similar to MBNMS’ approach to address impacts associated with water pollution (similar to MBNMS’ Water Quality Protection Program (WQPP) and Agriculture Water Quality Alliance (AWQA)).
- Include strong agricultural representation in any management or governing bodies.

Introduced Species

- Create a monitoring plan for protecting against invasive species, with special attention to any use of foreign-flagged vessels for offshore wind construction and operations.

- Include measures to contain and limit the spread of introduced species.
- Create an action plan in response to new sightings of introduced species. Continue research partnerships and develop a CHNMS monitoring and research program.

Marine Debris

- Include an action plan and activities related to reducing marine debris including sources of single use plastic and microplastic.
- Support federal and statewide legislative efforts and local ordinances that ban or reduce single-use plastics and participate in watershed-related municipal public processes.

Air Quality/Climate Change

Addressed: Management Plan, EIS Section 4.2

- Address how the proposed area is ideal for studying climate change.
- Address threats of climate change and evaluate potential impacts on air quality from commercial shipping regulations and/or management activities.
- Analyze climate change impacts on the ocean if sanctuary is not designated, considering ocean protected areas build resiliency and help combat and adapt to climate change impacts.
- Analyze the proposed sanctuary's carbon sequestering potential (e.g., kelp forests, seagrass beds, wetlands) and ability to buffer vulnerable coastal communities.
- Address that the proposed sanctuary would create a connected corridor of ocean and coastal management and protection in CA between three national marine sanctuaries and enhance the ability of managers to respond to climate change threats and conserve valuable resources.
- Consider CHNMS alignment with the state of California Ocean Acidification Action Plan.

Water Quality

Addressed: Management Plan, EIS Section 4.2

- Analyze water pollution associated impacts and address the current state of water quality.⁴⁹
- Assess sources of pollution that degrades the quality of water that ultimately flows to the ocean, such as: oil and gas activities, urban point and nonpoint sources, agriculture, etc.
- Address and analyze impacts on water quality in the proposed area from (1) allowing offshore oil drilling, (2) submarine cables,¹⁸ (3) sanctuary programs dedicated to water quality protection, (4) sanctuary regulations related to watersheds that feed into the proposed area, (5) preventing discharges of certain harmful materials, and (6) potential discharges from DoD activities associated with Vandenberg Space Force Base.

Oceanography

Addressed: Management Plan, EIS Section 4.2

- Address importance/uniqueness of converging ocean currents creating “critical transition area” for upwelling, nutrient availability, productivity in proposed area.⁴¹

- Address how additional protections could impact the proposed area's unique/important oceanographic features (e.g., underwater seamounts, plateaus, canyons)⁴¹ that consequently create special habitats for marine life.
- Analyze the impacts of an alternative with full protection of the Rodriguez Seamount area (i.e., no fishing).²²

Geology/Mining

Addressed: Management Plan, EIS Section 4.2

- Examine seismic setting in the proposed area including at the Murray Fracture Zone area and the southern portion of the San Andreas Fault's largest subsidiary, the Hosgri Fault.
- Examine historic seismic activity creation of unique biological niches.
- Examine shifting historic Chumash cultural resources/artifacts into concentrated areas (besides being spread out across the proposed national marine sanctuary).
- Analyze negative impacts of allowing offshore oil drilling in sanctuary to natural resources.
- Analyze impacts of prohibiting seafloor exploration and seismic testing.⁸⁸

Biological Resources

Addressed: EIS Section 4.3, Management Plan

- Analyze threats to marine mammals: vessel traffic (speed and routes)⁷⁶, noise, sonar technology; water pollution; fisheries; oil^{38, 70, 72} and analyze the potential need for additional protected coastal areas.
- Assess and address biologically important areas for: gray and blue whales,² pinniped pupping areas^{37, 71} and consider connectivity impacts on southern sea otter population.³⁶
- Address habitat and potential benefits to ESA-listed species;⁴³ address introduced species⁵⁰ and impacts on specific species: sea turtles (leatherbacks)⁸³ and invertebrates (e.g., abalone, crustaceans).
- Address marine habitats in the area, highlighting important and critical habitats plus the species they support⁴⁴ (e.g., kelp forests).
- Concerning fish in the proposed area, address: diversity, species, stock status, overfishing, MPA effectiveness/spillover, assess importance area for juvenile white sharks, and analyze impacts on fish in watersheds connected (e.g., steelhead).
- Address bird species and habitat in proposed area,⁴⁴ assess the need for further protection.
- Address potential benefits resulting from location adjacent to Morro Bay National Estuary, inclusion of Santa Lucia Bank.
- Analyze an alternative with full protection for the Rodriguez Seamount.²²
- Analyze impacts on biological resources of integrating Indigenous cultural practices.⁸⁵
- Address ecological hotspots,⁴¹ biodiversity, and endemic species in proposed area,⁴⁰ unique aspects of the biogeographic transition zone and how sanctuary would impact it.
- Analyze impacts of non-consumptive recreational activities on wildlife.
- Analyze climate change threats to biological resources^{46, 69} and ways to mitigate threats.
- Evaluate regulations and/or management activities that address harmful algal blooms.

- Concerning fishing, address potential impacts of EIS alternatives: (1) “ropeless” gear regulations for all fixed-gear fisheries, (2) requiring weak-line measures, (3) permanently banning use of all forms of gill nets, in order to reduce marine mammal bycatch and mitigate impacts of pot/trap fisheries on listed DPSs of humpback whales.
- Concerning fishing, address sanctuary overlaps with MPAs; commercial fishing and marine biodiversity loss;⁴⁷ lack of evidence that CA’s well-managed fisheries harm biodiversity.⁷³
- Address and analyze all impacts of offshore wind (especially Morro Bay WEA) and other energy construction, operation, and decommissioning activities on biological resources.
- Assess alternatives to permanent cable line placement.
- Consider the impacts of designating “cable corridors” to avoid fragile natural resources.
- Analyze impacts prohibiting oil and gas development on biodiversity.
- Analyze impacts of aquaculture, deep-sea mining, and submarine telecommunication.¹⁹

Commercial Fishing and Aquaculture

Addressed: EIS Section 4.4

- Analyze impacts of additional commercial fishing regulations on fishermen, possible negative socioeconomic impacts on the local fishing community^{12,11} and the seafood industry’s resiliency and viability.
- Address and mitigate any restrictions to the historic “wet fish” commercial fisheries.
- Address impacts of the area’s fishing industry on the sanctuary as well as benefit of sanctuary designation on the fishing industry.
- Living marine resources are harvested sustainably under rules/regs offered by NOAA Fisheries and CA Fish and Game Commission.
- Address California sea lion current populations, outlook, and potential effects to marine life within the boundaries, including commercial fisheries/sea lion interactions.
- Analyze offshore wind energy impacts on commercial fisheries in the proposed area.
- Analyze potential benefits of using oil and gas platforms and wind turbine foundations as artificial habitats on fisheries and the fishing community (given the “reefing” effect⁶⁴).
- Address possible mitigation measures such as proper layout, adequate surveys, and active coordination to minimize potential impacts from offshore wind.⁶⁵
- Consider and collaborate with the Central California Joint Cable/Fisheries Liaison Committee.⁵⁸

Recreational Fishing

Addressed: EIS Section 4.6

- Analyze impacts recreational fishing restrictions would have on fishermen.
- Address potential benefits and impacts of ensuring recreational fishing access.^{34, 59, 66}
- Examine opportunities to educate local anglers on fishing opportunities, the importance of MPAs, and other conservation measures vital to maintaining thriving fisheries.
- See CINMS as an example of recreational fishing coexisting with conservation.

Cultural Heritage and/or Maritime Heritage Resources/Indigenous Communities

Addressed: EIS Section 4.5

- Address Indigenous cultural and historical resources present in the proposed area^{54, 67, 79, 82, 84, 89} particularly the sacred significance of Pt. Conception; examine impacts of protection (addressing the cultural benefits), and consequence of not protecting them.
- Address the diversity of Chumash communities and other Indigenous people's traditional ecological knowledge, perspectives, and traditions in the proposed area.
- Address history of Chumash dependence on a healthy marine environment⁶ and acknowledge Chumash interdependence evident throughout the proposed area.
- Consider how co-management would impact resources of the proposed CHNMS.
- Study maritime heritage resources in the proposed area, including historical shipwrecks⁶⁰ and address potential impacts of sanctuary on U.S. Navy sunken military craft.
- Assess impacts of existing and future offshore energy development on cultural resources.
- Consider the comprehensive cultural resource reviews submarine cables go through for project permitting, and benignly coexist with other ocean resources and uses.
- Address and respect the history of Xolon Salinan Tribe in proposed area,¹⁰ and assess the cultural resources impacts on Xolon Salinan Tribe—particularly review the MOA and MOU regarding Morro Rock, Morro Bay, and the estuary.⁹

Socioeconomic Resources, Human Uses, and Environmental Justice

Addressed: EIS Section 4.6

- Address and analyze the potential economic impacts and benefits sanctuary designation could provide local communities, including: e.g., employment opportunities, income, property values; recreational opportunities;⁴² tourism revenue⁸⁶ (wildlife-based tourism,³ recreational boating,³⁹ etc.); promotion/marketing for local businesses; sustainable management of fisheries; scientific research, education, and outreach revenue and opportunities; ensuring military, civil, and commercial operations are unimpeded at Vandenberg³³, and protection of ecosystem services.^{24, 29}
- Specifically assess economic benefits of the designation to these specific counties: SB, SLO, and adjacent Ventura, Monterey, Kings, and Kern.
- Address marine sanctuary effects to coastal development: desalination projects, harbor expansion/improvement, and wind energy, and sediment management (for harbor maintenance/improvement and sea level rise resilience).
- Address potential short- and long-term impacts on ports and harbors: operations, increased costs, and potential restrictions. Emphasis on assessing impacts on Morro Bay Harbor.
- Assess economic contribution of current/potential tourism and recreation activities.^{53, 78}
- Study the trends indicating higher appreciation of native rights and culture in the U.S. and the impact public valuation of the proposed sanctuary.

- Consider the proposed sanctuary area’s position as a major submarine cable landing hub already containing critical communications infrastructure⁵⁶ which is essential to the nation’s economic stability and other vital public interests.⁵⁷
- Analyze potential impacts of designation on submarine cables and global communications infrastructure (e.g., interruption cost, repair delays resulting from restricted operations).
- Analyze and address socioeconomic impacts on nearby agricultural communities (and Hollister Ranch) Assess impacts of existing and future offshore energy development on agriculture, tourism, and rural quality of life.
- Analyze economic benefits of allowing wind energy.^{32, 61}
- Address potential impacts of power transmission lines on recreational and commercial activities; viewshed impacts⁶³(Big Sur Coast).
- Assess economic benefits of using innovative economic opportunities (e.g., renewable energy, aquaculture, desalination) during Diablo Canyon Power Plant decommissioning.
- Address how ONMS and the state could bolster efforts to increase collaboration with Native American tribes and enhance public access for all people in the state.
- Analyze social and environmental justice issues on local tribal, Indigenous, low income, and communities of color^{31, 81} and address how restricting oil and gas could advance EJ.²⁹
- Address impacts on/potential for discrimination against those with mobility impairment-related disabilities.
- Address how past and present environmental injustices disproportionately affect Indigenous communities and analyze how sanctuary would potentially alleviate those impacts.
- Analyze potential benefits of sanctuary citizen science programs to historically underrepresented students in ocean science.
- Evaluate regulations and/or management activities that address potential threats from desalination activities in proposed area.

Offshore Energy

Addressed: EIS Section 4.7

- Analyze impacts of sanctuary boundaries including offshore oil and gas facilities on lessee’s ability to perform lease activities, future development of offshore oil reserves, and terminated leases and the decommissioning process.⁴
- Evaluate, address, and analyze the potential impacts of sanctuary designation on: offshore energy research, exploration, future development and production activities (of both offshore wind⁸⁷ and oil); transmission cables for offshore energy (Morro Bay WEA and other projects); state/national energy independence; regional employment, energy availability, reliability, cost, and affordability (e.g., renewable wind); protection from oil and gas activities.
- Analyze buffer options between offshore wind farms and sanctuary boundaries.

Marine Transportation

Addressed: EIS Section 4.8

- Analyze impacts on vessel traffic to accommodate development of the Morro Bay WEA, informed by USCG’s Pacific Coast Port Access Route Study.⁸
- Assess impacts on all vessels that will transit the area, including recreational boaters.

Homeland Security and Military Uses

Addressed: EIS Section 4.9

- Analyze potential impacts of sanctuary designation on submarine cables accounting for installation and maintenance requirements and their critical role in national security.¹⁶
- Address potential impacts of sanctuary on DON, Air Force, U.S. Space Force operations.⁸⁰
- Account for potential impacts of restricting installation and repair of submarine cables.

Relevant Federal and State Statutes

30x30 Goal

Addressed: EIS Appendix F

- Biodiversity protections afforded to national marine sanctuary will help reach Governor Gavin Newsom’s [E.O. N-82-20](#) conserve 30% of our state’s lands and coastal waters by 2030, and contribute to national and international 30x30 goals.

Biden Administration “Conserving and Restoring America the Beautiful” Initiative

Addressed: EIS Appendix F

- Calls for the protection and restoration of at least 30% of lands and waters by 2030.
- Sanctuary would exemplify the principles of and contribute to the administration plan by increasing ocean access for traditionally underserved minorities, marine education, research, and uplift local and traditional knowledge within conservation strategies.

E.O. 14008 – “Tackling the Climate Crisis at Home and Abroad”

Addressed: EIS Appendix F

- Sanctuary would be consistent with Biden-Harris Administration’s goals to tackle climate crisis by conserving and restoring ocean and coastal habitats, advancing tribally and locally led stewardship, preventing oil drilling, and promoting renewable energy sources.

[Biden Administration Announcement to Jumpstart Offshore Wind Energy Projects to Create Jobs \(March 29, 2021\)](#)

Addressed: EIS Appendix F, EIS Section 4.6

- Goal of developing 30 GW of offshore wind by 2030, creating nearly 80,000 jobs, while protecting biodiversity and promoting ocean co-use.

[Secretary of the Interior Deb Haaland Announced First Proposed Commercial Wind Project Offshore Virginia](#)

Addressed: EIS Appendix F, EIS Section 4.6

- “The demand for offshore wind energy has never been greater...offshore wind a promising avenue for diversifying our national energy portfolio, creating good-paying union jobs, and tackling climate change...”

Existing Federal Legislation to Protect Marine and Coastal Environment

Addressed: EIS Appendix F

- Clean Water Act, Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, Endangered Species Act, Migratory Bird Treaty Act, Coastal Zone Management Act, National Environmental Policy Act, Rivers and Harbors Act (as amended by OCSLA), National Historic Preservation Act, Antiquities Act, Native American Graves and Repatriation Act, Marine Protection, Research and Sanctuaries Act of 1972 or Ocean Dumping Act.
- Identify how these fail to address threats in the proposed sanctuary and how the sanctuary fulfills these purposes and policies.

Existing State Legislation to Protect Marine and Coastal Environment

Addressed: EIS Appendix F

- California Coastal Act, Marine Life Management Act, Marine Life Protection Act, California Environmental Quality Act, California Coastal Sanctuary Act.
- Identify how these fail to address threats in the proposed sanctuary and how the sanctuary fulfills these purposes and policies.

Existing Local Legislation to Protect Marine and Coastal Environment

Addressed: EIS Appendix F

- Plan Morro Bay, Central Coast Regional Water Quality Control Board Irrigated Lands Program (stems from California’s Porter-Cologne Act and the Federal Clean Water Act).
- Identify how these fail to address threats in the proposed sanctuary and how the sanctuary fulfills these purposes and policies.

Outer Continental Shelf Lands Act

Addressed: EIS Appendix F, EIS Section 4.7

- BSEE has authority to enforce safety and environmental regulations for the exploration, development, and production of offshore energy activities, including oil and gas, on the outer continental shelf (OCS), pursuant to the Outer Continental Shelf Lands Act (OCSLA; 43 U.S.C. § 1331 *et seq.*) and permitting and regulating decommissioning activities of the oil and gas platforms, pipelines, and facilities (30 C.F.R. 250 Subpart Q) located on the OCS.
- Under section 8(p)(10), BOEM has no authority to lease or issue a right-of-way or easement on the OCS within the boundaries of a National Marine Sanctuary System (43 U.S.C. § 1337(p)(10)).

UN Declaration of Rights of Indigenous Peoples

Addressed: EIS Appendix F, EIS Chapter 3, Management Plan

- Adopt the UN Declaration of Rights of Indigenous Peoples.

NOAA & BOEM Memorandum of Understanding (MOU): Responsibly Advance Offshore Wind Energy

Addressed: EIS Appendix F

- Underscores NOAA and BOEM’s commitment to leverage their resources and expertise to responsibly deploy 30 GW by 2030 in a way that protects environmental quality, creates jobs, and advances environmental justice.

California Senate Bill (SB) 100

Addressed: EIS Appendix F

- Established a policy for CA that renewable energy and zero-carbon resources supply 100% of electric retail sales to end-use customers by 2045.
- Offshore wind is an essential addition to CA’s clean power mix.

MOA; 2012 MOU; 2015 Between the Salinan and Northern Chumash Regarding Morro Rock, Morro Bay, and the Estuary

Addressed: EIS Appendix F, EIS Section 4.5

- MOA and MOU available through the California Native American Heritage Commission, The Governor’s Office Tribal Advisor, The California Department of Parks and Recreation, and the City of Morro Bay.

Pacific Fisheries Management Council under Magnuson-Stevens Fishery and Conservation Act

Addressed: EIS Appendix F

- The Pacific Fisheries Management Council (PFMC; manages fisheries on the U.S. West Coast) has the organizational structure, staffing, and appropriate stakeholder involvement to study fisheries and adopt appropriate regulations.

NMSA – Procedures for Designation and Implementation – Sanctuary Proposal – Fishing Regulations (16 U.S.C. §1434(a)(5))

Addressed: EIS Appendix F

- This stands for the proposition that the PFMC is charged with developing commercial and recreational fishery regulations in federal waters, including measures that apply to waters within a national marine sanctuary.

NMSA – Sanctuary Designation Standards – Factors and Consultations Required in Making Determinations and Findings (16 U.S.C. §1433(b)(1)(D))

Addressed: EIS Appendix F

- Commenter 1008 (Commercial Fishermen of Santa Barbara) does not see how the factors for designation are being met per this language. They will track this detail carefully and demand accountability on it if the designation moves forward.

E.O.s by Clinton and Obama, Plus Biden’s Recent Memorandum Prioritizing Consultation and Collaboration Between Federal Agencies and Tribes in Future Regulatory Policies

Addressed: EIS Appendix F

- Collaborative co-management of the proposed designation and potential management and planning of the CHNMS is consistent with these.

Biden’s E.O. on Climate-Related Financial Risk – Sets the Stage for the Federal Government, Including its Financial Regulatory Agencies, to Begin to Incorporate Climate-Risk and Other Environmental, Social, and Governance Strategies

Addressed: EIS Appendix F

- Climate change adaptation focuses on conducting and translating research to minimize the dire impacts of anthropogenic climate change, including threats to biodiversity and human welfare. One adaptation strategy is to focus conservation on “climate-change refugia” (that is, areas relatively buffered from contemporary climate change over time that enable persistence of valued physical, ecological, and sociocultural resources). It is important to consider the proposed CHNMS as one regulatory tool that can provide climate-change refugia for marine life.

NMSA – Findings, Purposes, and Policies; Establishment of System – Purposes and Policies (16 U.S.C. § 1431(b)(6))

Addressed: EIS Appendix F, Management Plan

- Requires that marine resource use in sanctuary waters be “compatible” with the goal of marine life protection, allowing any use to take place if it does not threaten the marine life of a sanctuary. A compatible use criterion for marine governance prioritizes the protection of sensitive natural and cultural areas.
- The Chumash Tribe recommends that future marine resource use should be carefully considered in terms of this compatible use value that has yet been clearly defined by the NMSA.

Presidential Policy Directive – Critical Infrastructure Security and Resilience, PPD-21 (Feb. 12, 2013); Department of Homeland Security, Communications Sector – Specific Plan 12-14 (2010)

Addressed: EIS Appendix F, EIS Section 4.6, EIS Section 4.9

- Submarine cables have long been designated as critical infrastructure by the U.S. government due to their importance for U.S. commercial and national security interests.

United Nations Convention on the Law of the Sea (UNCLOS), Dec. 10, 1982, 1833 U.N.T.S. 397 (entered into force on Nov. 16, 1994) arts. 58(1); Proclamation No. 5030, 48 Fed. Reg. 10,605 (Mar. 10, 1983) (establishing the U.S. EEZ); Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999) (establishing the U.S. contiguous zone)

Addressed: EIS Appendix F, EIS Section 4.6, EIS Section 4.9

- The freedom to install and maintain submarine cables is well-established by treaty and customary international law. The U.S. has recognized UNCLOS as customary international law since 1981.
- Presidential proclamations expressly stated that EEZ and contiguous zone establishments did not infringe on these freedoms.

Biden’s E.O. on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government

Addressed: EIS Appendix F

- “An ambitious whole-of-government equity agenda” addresses “entrenched disparities in our laws and public policies,” and mandates a “comprehensive approach to advancing equity for all.”
- Emphasis on enabling and empowering people with disabilities.

E.O. 12898 – Requires that Environmental Justice Considerations be Incorporated into Agency Analysis

Addressed: EIS Appendix F, EIS Section 4.6

- See, e.g., *California v. Bernhardt*, 472 F. Supp. 3d 573, 621–22 (N.D. Cal. 2020) (finding NEPA’s “hard look” requirement was not met when BLM concluded there would be no significant impact on minority or low-income populations while ignoring contrary evidence in the record); Exec. Order No. 12,898 § 1-101, 59 Fed. Reg. 7629, 7629 (Feb. 16, 1994).

Sunken Military Craft Act

Addressed: EIS Appendix F, EIS Section 4.5

- The Naval History and Heritage Command administers the Navy’s authorities and responsibilities under the Sunken Military Craft Act to protect sunken military crafts.

California Governor Newsom’s [Statement of Administration Policy on Native American Ancestral Lands](#)

Addressed: EIS Appendix F, Management Plan, EIS Section 4.5

- Directs state agencies, departments, commissions, etc. to support California tribes’ co-management and access to lands and waters within tribes’ ancestral territories. This designation would support this policy by protecting culturally important sites, preserving traditional history, and promoting Chumash stewardship of ancestral lands and waters.

[Guidelines for Specification of Disposal Sites for Dredged or Fill Materials](#) – 40 C.F.R. 230.4

Addressed: EIS Appendix F, Management Plan

- Designation would redefine the area as a special aquatic site (defined at 40 C.F.R. 230.4).

Infrastructure Investment and Jobs Act (2021)

Addressed: EIS Appendix F

- Directed the Department of the Interior to move expeditiously to set a regulatory framework for carbon capture and sequestration on the OCS.

Appendix A.2: Information and Analyses for EIS (Submitted by Commenters)

Appendix A.2 contains information and analyses for the EIS submitted by commenters. Appendix A.2 satisfies the 2020 CEQ NEPA regulations requiring identification of these types of scoping comments in the EIS ((85 Fed. Reg. at 43372-73 (§§ 1506.13, 1507.3(a))). These comments are identified by in-text superscript number citations in Appendix A.1, which refer to the corresponding row number in Appendix A.2.

The following supplemental information (i.e., supplemental materials or references) was submitted during scoping for consideration by the lead and cooperating agencies in developing the EIS. Numbering corresponds to superscripts in Appendix A.1.

* Superscript numbers in sections above refer to the citations below:

Comment Number	Information and/or Analyses	Relevant EIS Section
1. Commenter 84	<ul style="list-style-type: none"> Fewings, M. R., Washburn, L., Dorman, C. E., Gotschalk, C., and Lombardo, K. (2016), Synoptic forcing of wind relaxations at Pt. Conception, California, <i>J. Geophys. Res. Oceans</i>, 121, 5711–5730, doi:10.1002/2016JC011699. Caselle, J., Rassweiler, A., Hamilton, S. et al. (2015) Recovery trajectories of kelp forest animals are rapid yet spatially variable across a network of temperate marine protected areas. <i>Sci Rep</i> 5, 14102. https://doi.org/10.1038/srep14102. 	EIS Sec. 4.3
2. Commenter 93	<ul style="list-style-type: none"> Roman, Joe, et al. "Whales as Marine Ecosystem Engineers." <i>The Ecological Society of America</i>, John Wiley & Sons, Ltd, 3 July 2014, https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/130220. 	EIS Sec. 4.3
3. Commenter 93	<ul style="list-style-type: none"> Wilson, Clevo, and Clem Tisdell. "Conservation and Economic Benefits of Wildlife-Based Marine Tourism: Sea Turtles and Whales as Case Studies." <i>Economics, Ecology and the Environment</i>, The University of Queensland, Brisbane 4072 Australia, Feb. 2002, https://espace.library.uq.edu.au/data/UQ_177584/WP64.pdf. 	EIS Sec. 4.6
4. Commenter 1223	<ul style="list-style-type: none"> On July 23, 2021, BSEE published a Notice of Intent in the Federal Register for the Programmatic Environmental Impact Statement for Oil and Gas Decommissioning Activities on the Pacific OCS (86 Fed. Reg. 39055; https://www.federalregister.gov/documents/2021/07/23/2021-15723/programmatic-environmental-impact-statement-for-oil-and-gas-decommissioning-activities-on-the). BSEE extended the scoping period on September 23, 2021, through October 15, 2021 (86 Fed. Reg. 52922; https://www.federalregister.gov/documents/2021/09/23/2021-20588/programmatic-environmental-impact-statement-for-oil-and-gas-decommissioning-activities-on-the) 	EIS Sec. 4.7
5. Commenter 1206	<ul style="list-style-type: none"> U.S. Census Bureau 2012 (full citation not provided) 	EIS Sec. 4.5

Comment Number	Information and/or Analyses	Relevant EIS Section
6. Commenter 1206	<ul style="list-style-type: none"> The marine component of the Chumash diet consisted of >150 types of marine fishes as well as a variety of shellfish including crabs, lobsters, mussels, abalone, clams, oysters, chitons, and other gastropods. Shellfish were essential to the Chumash economy and material culture. In fact, the Chumash produced the majority of shell bead money used by peoples throughout southern California. The Chumash had an intimate relationship with the culture, sea, and our channel. Many animals, such as the swordfish, played a central role in Chumash maritime song, ceremony, ritual, and dance. As the first inhabitants of the region, Chumash recognized and celebrated the deep connection between coastal, marine and island areas. It was and is a cultural protocol to offer a prayer and or a song before harvesting as an interdependent act of reciprocity. Today, as Chumash recover a sense of place and community, they recognize the urgent need to re-build a bridge to their historic maritime traditions and to the other creatures that share this region with them. 	EIS Sec. 4.5
7. Commenter 1191	<ul style="list-style-type: none"> California Polytechnic Institute, https://doi.org/10.1088/2515-7620/ab4ee1 & E3, The Economic Value of Offshore Wind Power in California, http://castlewind.com/wp-content/uploads/2019/08/2019-08-08_E3-CastleWind-OffshoreWindValueReport_compressed.pdf. 	
8. Commenter 1191	<ul style="list-style-type: none"> U.S. Coast Guard and Dept. of Homeland Security, Port Access Route Study: The Pacific Coast From Washington to California – Notification of Study, Request for Comments, 86 Fed. Reg. 40791 (July 29, 2021) available at https://www.federalregister.gov/documents/2021/07/29/2021-15923/port-access-route-study-the-pacific-coast-from-washington-to-california. 	EIS Sec. 4.8
9. Commenter 774	<ul style="list-style-type: none"> MOA and MOU (2012, 2015), established between the Salinan and Northern Chumash regarding Morro Rock, Morro Bay, and the estuary. The MOA and MOU describing “Salinan” and “Northern Chumash” includes all cultural and non-profit entities who use these cultural identities. The memorandums are available through the California Native American Heritage Commission, The Governor’s Office Tribal Advisor, The California Department of Parks and Recreation, and the City of Morro Bay. 	EIS Sec. 4.5
10. Commenter 774	<ul style="list-style-type: none"> The Xolon-Salinan ancestors lived within permanent and seasonal villages throughout these sacred coastlines, for over 13,000 years. Our ancestors’ remains are documented throughout these coastal regions of California, from Le’Sam lak’ aka Morro Lands, and north up to Dolan Rock-Sur’ coastline. Our ancestors fought many battles to protect these ancestral coastline territories. To this day, the Xolon-Salinan continues to protect these sacred landscapes within our coastal territories. 	EIS Sec. 4.5
11. Commenter 1216	<ul style="list-style-type: none"> According to California Department of Fish and Wildlife datasets, between 2010 and 2017, Morro Bay and Port San Luis Commercial fishermen and women landed, on average, 5,068,806 pounds of seafood with an ex-vessel value of \$8,750,108 per year. Note, ex-vessel revenues do not reflect the true economic impact of our fishermen’s actions. Some economists conservatively estimate a multiplier of at least 4x measures the true economic impact to the local economy. 	EIS Sec. 4.4

Comment Number	Information and/or Analyses	Relevant EIS Section
12. Commenter 1216	<ul style="list-style-type: none"> “Not only is the fishing industry of Morro Bay a powerful link to the past, but it is also an integral part of the city’s identity and provides a great sense of pride for its local residents.” – author of The Rise and Fall of Commercial Fishing in Morro Bay (source: Hidden History Final Project) Comments made over 40 years ago during a public hearing held by the South Central Regional Coastal Commission: the following "amenities" were highlighted by the City as being offered to tourists: boat builders, sport fishing accommodations, marinas, piers, commercial fishing operations, an aquarium, a museum of natural history, and 38 motels with 745 rooms to accommodate about 2,600 guests. (source: A Timeline – Historical Society of Morro Bay) 	EIS Sec. 4.4
13. Commenter 908	<ul style="list-style-type: none"> Literature on co-management shows benefits to a more formal, collaborative co-management approach, including improved management due to incorporation of better data and local ecological knowledge; more appropriate rules and regulations that can respond rapidly to changing conditions; more effective and efficient enforcement due to increased legitimacy of the co-management structures. Scholars show that successful co-management can increase equitable and fair use of resources and can contribute to the empowerment and development of marginalized communities. (Citations not provided.) 	Management Plan
14. Commenter 908	<ul style="list-style-type: none"> National Academy of Public Administration 2021: 51. 	Management Plan
15. Commenter 908	<ul style="list-style-type: none"> Vessel strike studies completed for CINMS. (Citations not provided.) 	EIS Sec. 4.3
16. Commenter 1177	<ul style="list-style-type: none"> Michael Matis, The Protection of Undersea Cables: A Global Security Threat (July 3, 2012) (M.S.S. Strategy Paper, U.S. Army War College: Carlisle, PA), https://apps.dtic.mil/sti/pdfs/ADA561426.pdf. 	EIS Sec. 4.9
17. Commenter 1177	<ul style="list-style-type: none"> L. Carter et al., Submarine Cables and the Oceans—Connecting the World, 30 UNEP-WCMC Biodiversity Series, ICPC and the United Nations Environment Program-World Climate Monitoring Centre (2009), https://www.unep-wcmc.org/system/dataset_file_fields/files/000/000/118/original/ICPC_UNEP_Cables.pdf?1398680911. U.N. Secretary-General, Oceans and the Law of the Sea, Seventieth Session, ¶¶ 53–55, U.N. Doc. A/70/74 (2015), https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/093/76/PDF/N1509376.pdf?OpenElement. U.N. Group of Experts on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects, World Ocean Assessment I: The First Global Integrated Marine Assessment, pt. V, ch. 19 at 3–4 (2016), https://www.un.org/depts/los/global_reporting/WOA_RPROC/Chapter_19.pdf. 	EIS Sec. 4.3
18. Commenter 1177	<ul style="list-style-type: none"> Lionel Carter et al., Chemical and Physical Stability of Submarine Fibre-Optic Cables in the Area Beyond National Jurisdiction (ABNJ), Presentation at SubOptic 2019 (Mar. 3, 2019). 	EIS Sec. 4.2

Comment Number	Information and/or Analyses	Relevant EIS Section
19. Commenter 1177	<ul style="list-style-type: none"> Luana Albert et al., A current synthesis on the effects of electric and magnetic fields emitted by submarine power cables on invertebrates, 159 Marine Environmental Research 104958, 104962 (2020). Lionel Carter et al., Chemical and Physical Stability of Submarine Fibre-Optic Cables in the Area Beyond National Jurisdiction (ABNJ), Presentation at SubOptic 2019 (Mar. 3, 2019); Christoph Kraus and Lionel Carter, Seabed recovery following protective burial of subsea cables – Observations from the continental margin, 157 Ocean Engineering 251 (2018), https://doi.org/10.1016/j.oceaneng.2018.03.037. L.A. Kuhnz et al., MARS Biological Survey Report: Potential Impacts of the Monterey Accelerated Research System (MARS) Cable on the Seabed and Benthic Faunal Assemblages, Monterey Bay Aquarium Rsch. Inst., at i (2020) http://dx.doi.org/10.13140/RG.2.2.12907.57122. 	EIS Sec. 4.3
20. Commenter 1151	<ul style="list-style-type: none"> Katie Lebling and Eliza Northrop, "Leveraging the Ocean's Carbon Removal Potential," World Resources Institute, October 8, 2020. 	EIS Sec. 4.2
21. Commenter 1151	<ul style="list-style-type: none"> "Blue Carbon," IUCN, last accessed January 31, 2022. 	EIS Sec. 4.2
22. Commenter 1139	<ul style="list-style-type: none"> Marine Conservation Institute videos, story maps, and reports on CA seamounts can be found at: https://marine-conservation.org/californias-seamounts/. Detailed report on all CA seamounts including Rodriguez and the references can be found at: https://marine-conservation.app.box.com/s/woq71yl0sg8ragf6mnuxdqrf3ocysola. Contact Marine Conservation Institute for dataset and code used to manipulate Global Fishing Watch raw data into 23-km² blocks and calculate hours of fishing effort over a 9-yr period into each block. 	EIS Sec. 4.2, EIS Sec. 4.3, REGS
23. Commenter 1128	<ul style="list-style-type: none"> See Protected Seas letter for analysis of existing marine regulatory seascape information and maps. 	Management Plan
24. Commenter 1112	<ul style="list-style-type: none"> Edward B. Barbier, Progress and Challenges in Valuing Coastal and Marine Ecosystem Services, 6 REV. ENV'T ECON. & POL'Y 1, 2 (2012) 	EIS Sec. 4.6
25. Commenter 1112	<ul style="list-style-type: none"> Inst. for Pol'y Integrity, Comments Re: Review of Certain National Monuments Established Since 1996; Notice of Opportunity for Public Comment 6–9 (July 10, 2017) https://policyintegrity.org/documents/National_Monument_comments_July2017.pdf. 	EIS Sec. 4.6
26. Commenter 1112	<ul style="list-style-type: none"> Paul Lorah & Rob Southwick, Environmental Protection, Population Change, and Economic Development in the Rural Western United States, 24 POPULATION AND ENVIRONMENT 255, 265 (Jan. 2003). Rural Western United States, 24 POPULATION AND ENVIRONMENT 255, 265 (Jan. 2003). 7 Ray Rasker, Patricia H. Gude & Mark Delorey, The Effects of Protected Federal Lands on Economic Prosperity in the Non-metropolitan West, 43 J. REG'L ANALYSIS & POL'Y, 110, 118, 110 (2013). 	EIS Sec. 4.6

Comment Number	Information and/or Analyses	Relevant EIS Section
27. Commenter 1112	<ul style="list-style-type: none"> The Non-metropolitan West, 43 J. REG'L ANALYSIS & POL'Y, 110, 118, 110 (2013). 8 Kathryn Gazal, Ross Andrew & Robert Burns, Economic Contributions of Visitor Spending in Ocean Recreation in the Florida Keys National Marine Sanctuary, 14 WATER 198, 198, 204 (2022). 9 In considering the "marine economy," the relevant NOAA report evaluates "benefits 	EIS Sec. 4.6
28. Commenter 1112	<ul style="list-style-type: none"> In considering the "marine economy," the relevant NOAA report evaluates "benefits derived from the oceans and Great Lakes that result in jobs and wages, and that contribute directly to the nation's gross domestic product, or GDP." NAT'L OCEANIC & ATMOSPHERIC ADMIN. OFFICE OF COASTAL MGMT., NOAA Report on the U.S. Marine Economy: Regional and State Profiles 1 (2021), https://coast.noaa.gov/data/digitalcoast/pdf/econ-report-regional-state.pdf 	EIS Sec. 4.6
29. Commenter 1112	<ul style="list-style-type: none"> Jason Scorse & Judith Kildow, Ecosystem Services and Their Economic and Social Value, in ROUTLEDGE HANDBOOK OF OCEAN RESOURCES AND MANAGEMENT 176, 182 (Hance D. Smith et al., eds., 2015). 	EIS Sec. 4.5, EIS Sec. 4.6
30. Commenter 1112	<ul style="list-style-type: none"> Mary Ruckelshaus et al., Securing Ocean Benefits for Society In the Face of Climate Change, 40 MARINE POL'Y 154, 154 (2012). 	EIS Sec. 4.2
31. Commenter 1112	<ul style="list-style-type: none"> White House Environmental Justice Advisory Council, Final Recommendations: Justice40 Climate and Economic Justice Screening Tool & E.O. 12898 Revisions 77-81 (2021), https://www.epa.gov/sites/default/files/2021-05/documents/whiteh2.pdf (defining environmental justice and environmental justice communities). 	EIS Sec. 4.6
32. Commenter 1090	<ul style="list-style-type: none"> Economic Impact of Offshore Wind Farm Development on the Central Coast of California: https://reachcentralcoast.org/wp-content/uploads/Economic_Value_OSW_REACH.pdf. 	EIS Sec. 4.6
33. Commenter 1090	<ul style="list-style-type: none"> Building a Thriving Space Enterprise on the Central Coast of California: https://reachcentralcoast.org/wp-content/uploads/Commercial-Space-Master-Plan.pdf. 	EIS Sec. 4.6
34. Commenter 1088	<ul style="list-style-type: none"> In 2020, California anglers contributed \$62.71 million in license sales and another \$17.1 million in excise taxes on fishing tackle and motorboat fuels to conservation of California's marine and freshwater aquatic resources through a system known as the American System of Conservation Funding. Ensuring continued fishing access for Californians is critical to providing much needed conservation funding for the California Department of Fish and Wildlife, while also providing opportunities for the public to connect with, and appreciate, the area's fish and wildlife resources. (Citations not provided.) 	EIS Sec. 4.6

Comment Number	Information and/or Analyses	Relevant EIS Section
35. Commenter 1056	<ul style="list-style-type: none"> ● California Dungeness Crab Fishing Gear Working Group: https://www.opc.ca.gov/whale-entanglement-working-group/ ● CDFW 2021. Draft Conservation Plan for California’s Commercial Dungeness Crab Fishery – December 2021 Draft. 129 pages. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=195798 ● Lebon, K.M., and R.P. Kelly. 2019. Evaluating alternatives to reduce whale entanglements in commercial Dungeness crab fishing gear. <i>Global Ecology and Conservation</i> 18:e00608. ● Moore, M.J. 2019. How we can all stop killing whales: a proposal to avoid whale entanglement in fishing gear. <i>ICES Journal of Marine Science</i> 76(4):781–786. 	REGS, EIS Sec. 4.3
36. Commenter 1056	<ul style="list-style-type: none"> ● Hatfield, B.B., J.L. Yee, M.C. Kenner, and J.A. Tomoleoni. 2019. California sea otter (<i>Enhydra lutris nereis</i>) census results, spring 2019. U.S. Geological Survey Data Series 1118, Reston, Virginia, USA. 	EIS Ch. 3, EIS Sec. 4.3
37. Commenter 1056	<ul style="list-style-type: none"> ● Henry, A.E., J.E. Moore, J. Barlow, J. Calambokidis, L.T. Ballance, L. Rojas Bracho, and J. Urbán Ramírez. 2020. Report on the California Current Ecosystem Survey (CCES): Cetacean and seabird data collection efforts, June 26–December 4, 2018, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-636. 38 pages. ● Carretta, J.V., E.M. Oleson, K.A. Forney, M.M. Muto, D.W. Weller, A.R. Lang, J. Baker, B. Hanson, A.J. Orr, J. Barlow, J.E. Moore, and R.L. Brownell, Jr. 2021a. U.S. Pacific Marine Mammal Stock Assessments: 2020. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-646. 394 pages. ● Calambokidis J., G.H. Steiger, C. Curtice, J. Harrison, M.C. Ferguson, E. Becker, M. DeAngelis, and S.M. Van Parijs. 2015. Biologically important areas for selected cetaceans within U.S. waters – West Coast region. <i>Aquatic Mammals</i> 41(1):39–53. ● Hazen, E.L., D.M. Palacios, K.A. Forney, E.A. Howell, E. Becker, A.L. Hoover, L. Irvine, M. DeAngelis, S.J. Bograd, B.R. Mate, and H. Bailey. 2016. WhaleWatch: a dynamic management tool for predicting blue whale density in the California Current. <i>Journal of Applied Ecology</i> 54(5):1415–1428. ● Abrahms B., E.L. Hazen, E.O. Aikens, M.S. Savoca, J.A. Goldbogen, S.J. Bograd, M.G. Jacox, L.M. Irvine, D.M. Palacios, and B.R. Mate. 2019. Memory and resource tracking drive blue whale migrations. <i>Proceedings of the National Academy of Sciences</i> 116(12): 5582–5587. 	EIS Sec. 4.3

38. Commenter 1056	<ul style="list-style-type: none"> ● Carretta, J.V., J. Greenman, K. Wilkinson, J. Freed, L. Saez, D. Lawson, J. Viezbicke, and J. Jannot. 2021b. Sources of Human-Related Injury and Mortality for U.S. Pacific West Coast Marine Mammal Stock Assessments, 2015–2019. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-643. 157 pages. ● Carretta, J.V., E.M. Oleson, K.A. Forney, M.M. Muto, D.W. Weller, A.R. Lang, J. Baker, B. Hanson, A.J. Orr, J. Barlow, J.E. Moore, and R.L. Brownell, Jr. 2021c. Draft U.S. Pacific Marine Mammal Stock Assessments: 2021. Unpublished. Available at: https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports. ● Data extracted from a bar chart published in NOAA’s “2020 West Coast Whale Entanglement Summary,” available at: https://media.fisheries.noaa.gov/2021-03/2020_West_Coast_Whale_Entanglement_Summary.pdf. ● The “2019 West Coast Whale Entanglement Summary,” available at: https://media.fisheries.noaa.gov/dam-migration/wcr-nmfs_2019_entanglement_report_final-508_5-11-2020_rev.pdf, provides detailed species and fisheries entanglement data from 2014–2019. ● Cassoff, R.M., K.M. Moore, W.A. McLellan, S.G. Barco, D.S. Rotstein, and M.J. Moore. 2011. Lethal entanglement in baleen whales. <i>Diseases of Aquatic Organisms</i> 96(3):175–185. ● Moore, M.J., and J.M. Van der Hoop. 2012. The painful side of trap and fixed net fisheries: chronic entanglement of large whales. <i>Journal of Marine Biology</i> 2012:230653. ● Santora, J.A., N.J. Mantua, I.D. Schroeder, J.C. Field, E.L. Hazen, S.J. Bograd, W.J. Sydeman, B.K. Wells, J. Calambokidis, L. Saez, and D. Lawson. 2020. Habitat compression and ecosystem shifts as potential links between marine heatwave and record whale entanglements. <i>Nature Communications</i> 11:536. ● Ingman K., E. Hines, P.L.F. Mazzini, R.C. Rockwood, N. Nur, and J. Jahncke. 2021 Modeling changes in baleen whale seasonal abundance, timing of migration, and environmental variables to explain the sudden rise in entanglements in California. <i>PLoS ONE</i> 16(4): e0248557. ● Pace, R.M., III, R. Williams, S.D. Kraus, A.R. Knowlton, and H.M. Pettis. 2021. Cryptic mortality of North Atlantic right whales. <i>Conservation Science and Practice</i> 3(2):e346. ● Wade, P.R. 2017. Estimates of Abundance and Migratory Destination for North Pacific Humpback Whales in Both Summer Feeding Areas and Winter Mating and Calving Areas: Revision of Estimates in SC/66b/IA21. International Whaling Commission Report SC/A17/NP/11. 9 pages. ● NOAA Fisheries (National Marine Fisheries Service). 2020. Biological report for the designation of critical habitat for the Central America, Mexico, and Western North Pacific DPS of Humpback Whales (<i>Megaptera novaeangliae</i>). 162 pages. Available at: https://media.fisheries.noaa.gov/2021-04/Biological%20Report_HWCH_081420_updated_508.pdf. ● Barlow, J., and D. Hanan. 1995. An Assessment of the Status of Harbor Porpoise in Central California. Report of the International Whaling Commission, Special Issue 16:123–140. ● Forney, K.A., J.E. Moore, J. Barlow, J.V. Carretta, and S.R. Benson. 2020. A multidecadal Bayesian trend analysis of harbor porpoise (<i>Phocoena phocoena</i>) populations off California relative to past fishery bycatch. <i>Marine Mammal Science</i> 37(2):546–560. 	EIS Sec. 4.3
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Comment Number	Information and/or Analyses	Relevant EIS Section
	<ul style="list-style-type: none"> • Carretta, J.V. 2021. Estimates of Marine Mammal, Sea Turtle, and Seabird Bycatch in the California Large-Mesh Drift Gillnet Fishery: 1990–2019. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-654. 72 pages. • Barlow, J., and G.A. Cameron. 2003. Field experiments show that acoustic pingers reduce marine mammal bycatch in the California drift gillnet fishery. <i>Marine Mammal Science</i> 19:265–283. • Carretta, J.V., J. Barlow, and L. Enriquez. 2008. Acoustic pingers eliminate beaked whale bycatch in a gill net fishery. <i>Marine Mammal Science</i> 24(4):956–961. • Carretta, J.V. and J. Barlow. 2011. Long-term effectiveness, failure rates, and “dinner bell” effects of acoustic pingers in a gillnet fishery. <i>Marine Technology Society Journal</i> 45(5):7–19. • Barlow, J., R.L. Brownell, Jr., D.P. DeMaster, K.A. Forney, M.S. Lowry, S. Osmeck, T.J. Ragen, R.R. Reeves, R.J. Small. 1995. U.S. Pacific Marine Mammal Stock Assessments. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-219. • Moore, M.J., G.H. Mitchell, T.K. Rowles, and G. Early. 2020. Dead cetacean? Beach, bloat, float, sink. <i>Frontiers in Marine Science</i> 7:333. • Freedman, R., S. Herron, M. Byrd, K. Birney, J. Morten, B. Shafritz, B., C. Caldwell, and S. Hastings. 2017. The effectiveness of incentivized and non-incentivized vessel speed reduction programs: case study in the Santa Barbara channel. <i>Ocean and Coastal Management</i>. 148:31–39. • https://www.bsee.gov/stats-facts/ocs-regions/pacific/pacific-ocs-platforms • https://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/largest-oil-spills-affecting-us-waters-1969.html • See BOEM Central California Call Area map at https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/CA/Central-California-Call-Areas-Map.pdf (November 2018). • Nichols, K.D., L. Segui, and K.A. Hovel. 2015. Effects of predators on sea urchin density and habitat use in a southern California kelp forest. <i>Marine Biology</i> 162:1227–1237. • Raymond, W.W., B.B. Hughes, T.A. Stephens, C.R. Mattson, A.T. Bolwerk, and G.L. Eckert. 2021. Testing the generality of sea otter-mediated trophic cascades in seagrass meadows. <i>Oikos</i> 130(5):725–738. • Smith, J.G., J. Tomoleoni, M. Staedler, S. Lyon, J. Fujii, and M.T. Tinker. 2021. Behavioral responses across a mosaic of ecosystem states restructure a sea otter–urchin trophic cascade. <i>Proceedings of the National Academy of Sciences</i> 118:11. • https://www.fws.gov/ventura/endangered/species/info/sso.html 	
39. Commenter 1096	<ul style="list-style-type: none"> • According to the Bureau of Economic Analysis Outdoor Recreation Satellite Account, Boating and Fishing in California generated \$2,781,456,000 in 2020, dwarfing almost every other measured recreational sector. 	EIS Sec. 4.8, EIS Sec. 4.6

Comment Number	Information and/or Analyses	Relevant EIS Section
40. Commenter 1095	<ul style="list-style-type: none"> Marchese, Christian. 2015. Biodiversity hotspots: A shortcut for a more complicated concept. <i>Global Ecology and Conservation</i>. Vol. 3; 297–309. sciencedirect.com/science/article/pii/S235198941400095X http://channelislands.noaa.gov/; http://www.nps.gov/chis/index.htm. For a detailed discussion of the biological and geographic attributes of the Santa Barbara Channel region, see NOAA's A Biogeographic Assessment of the Channel Islands National Marine Sanctuary: A Review of Boundary Expansion Concepts for NOAA's National Marine Sanctuary Program, NOAA Technical Memorandum NOS NCCOS 21, November 2005. National Park Service, U.S. Department of the Interior. Gaviota Coast Draft Feasibility Study & Environmental Assessment. April 2003. See pp. 48–49. 	EIS Sec. 4.3
41. Commenter 1095	<ul style="list-style-type: none"> NOAA National Centers for Coastal Ocean Science (NCCOS). 2005. A Biogeographic Assessment of the Channel Islands National Marine Sanctuary: A Review of Boundary Expansion Concepts for NOAA's National Marine Sanctuary Program. Prepared by NCCOS's Biogeography Team in cooperation with the National Marine Sanctuary Program. Silver Spring, MD. NOAA Technical Memorandum NOS NCCOS 21. 215 pp. 	EIS Ch. 3, EIS Sec. 4.2, EIS Sec. 4.3
42. Commenter 1095	<ul style="list-style-type: none"> https://sanctuaries.noaa.gov/visit/qiys.html 	EIS Sec. 4.6
43. Commenter 1095	<ul style="list-style-type: none"> https://www.fws.gov/endangered/species/ https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline 	EIS Sec. 4.3
44. Commenter 1095	<ul style="list-style-type: none"> Inventory of Unconveyed State School Lands and Tide and Submerged Lands Possessing Significant Environmental Values. 1975. California State Lands Commission. https://www.slc.ca.gov/wp-content/uploads/2018/11/1975-InvUnconveyedLands.pdf 	EIS Sec. 4.3
45. Commenter 1095	<ul style="list-style-type: none"> The proposed CHNMS overlaps with several Audubon Pelagic Important Bird Areas (IBAs) and is adjacent to six onshore IBAs in an international program to identify high conservation areas for birds. The Pelagic IBAs include sooty shearwater, ashy-storm petrel, Brandt's cormorant, and pink-footed shearwater. The onshore IBAs include Point Conception 120W34N, Point Conception 121W34N, Vandenberg Air Force Base and Santa Ynez Sanctuary IBA and cover over 20 species of seabirds. For example, the projects are adjacent to a major Audubon marine IBA—the Piedras Blancas, CA IBA—that has high concentrations and congregations of sooty shearwater, which forage in these waters during the California summer months after breeding and nesting on Pacific islands. The IBA is already used extensively by fisheries and aquaculture (30% of the IBA), tourism and recreation (10% of the IBA), urban/industrial transport and ports (30% of the IBA), and the military (30% of the IBA). The proposed sanctuary is also along the Pacific Flyway migration route: https://www.audubon.org/birds/flyways 	EIS Sec. 4.3

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46. Commenter 1095	<ul style="list-style-type: none"> • http://www.unesco.org/new/en/natural-sciences/special-themes/biodiversity/biodiversity-science-and-policy/ipbes/#:~:text=The%20Intergovernmental%20Science%2DPolicy%20Platform,of%20biodiversity%20and%20ecosystem%20services • Listed on the California Endangered Species Act or as a Species of Special Concern; https://wildlife.ca.gov/Conservation • IPCC, 2019: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. In press. • Caselle, J.E., K. Davis, L.M. Marks. 2017. Marine management affects the invasion success of a non-native species in a temperate reef system in California, USA. Ecology Letters, (2017) doi: 10.1111/ele.12869 • Office of National Marine Sanctuaries. 2019. Channel Islands National Marine Sanctuary 2016 Condition Report. • U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. 482 pp. • http://www.piscoweb.org/sea-star-wasting-syndrome-0 • Osborne, E.B., R.C. Thunell, N. Gruber, R.A. Feely, and C.R. Benitez-Nelson. 2020. Decadal variability in twentieth-century ocean acidification in the California Current Ecosystem. Nat. Geosci. 13, 43–49 (2020). https://doi.org/10.1038/s41561-019-0499-z 	EIS Sec. 4.3
47. Commenter 1095	<ul style="list-style-type: none"> • 27 IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. https://doi.org/10.5281/zenodo.3831673 • Ramírez, Francisco, Isabel Afán, Lloyd S. Davis, and André Chiaradia. "Climate impacts on global hot spots of marine biodiversity." Science Advances 3, no. 2 (2017): e1601198. • Gittings, S.R., M. Tartt, and K. Broughton. 2013. National Marine Sanctuary System Condition Report 2013. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. 33 pp. (URL http://www.sanctuaries.noaa.gov/science/condition/) • "Management Plan Reviews." Office of National Marine Sanctuaries. Accessed January 12, 2022. https://sanctuaries.noaa.gov/management/mpr/. 	EIS Sec. 4.3
48. Commenter 1095	<ul style="list-style-type: none"> • https://channelislands.noaa.gov/manage/resource/whales-and-ships.html • CINMS Advisory Council Marine Shipping Working Group Final Report. 2016. Available at: https://www.environmentaldefensecenter.org/pdf/Marine_Shipping_Working_Group_Final_Report_May_2016.pdf 	Management Plan, EIS Ch. 3

Comment Number	Information and/or Analyses	Relevant EIS Section
49. Commenter 1095	<ul style="list-style-type: none"> Central Coast Cooperative Monitoring Program 2019 Annual Water Quality Report, Central Coast Water Quality Preservation, Inc., at 4 (https://ccwqp.org/wp-content/uploads/2020/07/2019-CMP-Annual-Report.pdf) 	EIS Sec. 4.2
50. Commenter 1095	<ul style="list-style-type: none"> https://www.nps.gov/chis/learn/news/pr042817.htm https://sanctuaries.noaa.gov/science/sentinel-site-program/channel-islands/invasive-species.html#:~:targetText=CINMS%20is%20near%20a%20major,species%2C%20and%20disrupt%20ecosystem%20processes. 	EIS Sec. 4.3
51. Commenter 1095	<ul style="list-style-type: none"> https://olympiccoast.noaa.gov/management/intergovernmentalpolicy.html 	Management Plan
52. Commenter 1095	<ul style="list-style-type: none"> Office of Hawaiian Affairs, National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, and State of Hawai'i. (2021). Mai Ka Pō Mai: A Native Hawaiian Guidance Document for Papahānaumokuākea Marine National Monument. Honolulu, HI: Office of Hawaiian Affairs. 	Management Plan
53. Commenter 1095	<ul style="list-style-type: none"> NOAA Office for Coastal Management. 2015 NOAA Report on the National Significance of California's Ocean Economy. Middlebury Institute of International Studies at Monterey, Center for the Blue Economy. 2016. National Ocean Economics Program, State of the U.S. Ocean and Coastal Economies, 2016 Update. National Ocean Economics Program Market Data. https://www.oceaneconomics.org/Market/oceanEconResults.asp?IC=N&dataSource=E&selState=6&selCounty=06083&selYears=All&selSector=6&selIndust=All&selValue=All&selOut=display&noepID=unknown 	EIS Sec. 4.6
54. Commenter 1094	<ul style="list-style-type: none"> The tomol is an example of how the Chumash have used natural resources from the sea. Our tomols are made from redwood logs that drifted to our shores from Canada and the Northwestern United States. Natural tar seeps along the shore were used as sealants for our boats and baskets. Coastal wetlands serve as fish nurseries. Plants from the wetlands were used to make cording to secure the planks of our boats. Ocean resources were vital to the Coastal Chumash communities. The abundant sea life fed our families. Abalone and other shells were used to make beads, household tools and many other items that were traded far and wide. There are numerous sacred sites, cemeteries and former village sites that are encompassed within the boundaries of the proposed marine sanctuary, both onshore and submerged that deserve preservation. For example, Point Conception is a key element of Chumash culture. The Western Gate or Humqaaq is known amongst most Indigenous North Americans as the way spirits of the dead pass from this world to the next. 	EIS Sec. 4.5

Comment Number	Information and/or Analyses	Relevant EIS Section
55. Commenter 1083	<ul style="list-style-type: none"> ● Cables have a very low environmental impact. See: Vineyard Wind 1 Offshore Wind Energy Project Final EIS, Vol. 1 at 2-9 to 2-10 (Mar. 2021), describing the export cable installation method for an offshore wind energy project approved by the Bureau of Ocean Energy Management in a Record of Decision dated May 10, 2021. Available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Vineyard-Wind-1-FEIS-Volume-1.pdf. ● Cables are constructed of a metal conductor wrapped in solid plastic insulation, shielding, and steel wire armor on the exterior. The cables contain no oil and therefore present no risk of an accidental spill, and they are typically buried under the seabed. 	EIS Sec. 4.3
56. Commenter 1068	<ul style="list-style-type: none"> ● PC-1 is a 13,076-route-mile fiber-optic system designed and built from 1998 to 2000, with a total project cost of approximately \$1.35 billion. ● In addition to PC-1, Pan American Crossing, connecting the U.S. and Latin America, and near-completion CAP-1, which will connect the U.S. and the Philippines, land at Grover Beach. ● As noted, a sixth major international cable, landing in Grover Beach, is under construction and near completion. 	EIS Sec. 4.6

Comment Number	Information and/or Analyses	Relevant EIS Section
57. Commenter 1068	<ul style="list-style-type: none"> ● U.S. Department of Homeland Security, National Infrastructure Plan – Communications Sector at 1, http://www.dhs.gov/xlibrary/assets/nipp_snapshot_communications.pdf (“Communications Sector Plan”); see also Cybersecurity & Infrastructure Security Agency, Homeland Security Presidential Directive 7: Critical Infrastructure Identification, Prioritization, and Protection, https://www.cisa.gov/homeland-security-presidential-directive-7 (identifying telecommunications as a critical infrastructure sector). ● Improving Outage Reporting for Submarine Cables and Enhanced Submarine Cable Outage Data, 31 FCC Rcd 7947, 7948, para. 3 (2016). The FCC notes that it is estimated that submarine cables carry as much as 99% of all U.S.-international voice and data traffic. Id. at 7949, para. 3. PC Landing, for example, is a “carrier’s carrier” – a wholesale provider of large-scale circuit capacity to leading U.S. and Asia telecommunications carriers as well as to enterprise customers in the technology sector that operate their own networks, for the provision of high-speed, IP-based communications between the U.S., Japan and beyond. The type of traffic carried on the PC-1 network includes all manner of data, voice and video communications, such as secure U.S. government traffic, enterprise network traffic, broadcast network traffic, and financial institution-related traffic, to name just a few. ● L. Carter, D. Burnett, et al., Submarine Cables and the Oceans: Connecting the World, at 3 (ICPC/UNEP/UNEP-WCMC 2009) (UNEP Report) (describing the international network of submarine cables as “one of the most important infrastructural foundations for the development of whole societies and nations within a truly global economy”). ● Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs, Notice of Proposed Rulemaking, 33 FCC Rcd 4058, 4097 (2018) (statement of FCC Chairman Ajit Pai). 	EIS Sec. 4.6
58. Commenter 1068	<ul style="list-style-type: none"> ● Central California Joint Cable/Fisheries Liaison Committee, http://www.cencalcablefishery.com/. 	EIS Sec. 4.4
59. Commenter 1060	<ul style="list-style-type: none"> ● According to the U.S. Department of Commerce’s Fisheries Economics of the United States 2018 report, California’s saltwater recreational anglers annually generate \$2.8 billion in total sales impacts while supporting 21,145 jobs in the state. ● Furthermore, recreational anglers and boaters contribute the vast majority of funding for conservation of our nation’s marine habitats and marine life. (Citations not provided.) 	EIS Sec. 4.6
60. Commenter 1057	<ul style="list-style-type: none"> ● There are 40 known historic shipwrecks in the region. The area encompassed by the proposed sanctuary includes the wrecks of Honda Point – site of the Navy’s worst peacetime loss of ships as well as the gold-laden steamship S.S. Yankee Blade. (Citations not provided.) 	EIS Sec. 4.5
61. Commenter 1050	<ul style="list-style-type: none"> ● American Clean Power Association, et al., Federal Revenue and Economic Impacts from BOEM Offshore Wind Leasing (December 2021), https://cleanpower.org/resources/federal-revenue-and-economic-impacts-from-boem-offshore-wind-leasing/. 	EIS Sec. 4.6

Comment Number	Information and/or Analyses	Relevant EIS Section
62. Commenter 1050	<ul style="list-style-type: none"> • https://www.nrdc.org/experts/francine-kershaw/landmark-offshore-wind-agreement-protects-right-whales 	EIS Sec. 4.3
63. Commenter 1050	<ul style="list-style-type: none"> • https://www.boem.gov/sites/default/files/documents/renewable-energy/Vineyard-Wind-1-Supplement-to-EIS.pdf 	EIS Sec. 4.6
64. Commenter 1050	<ul style="list-style-type: none"> • Claisse, J.T.; Pondella, D.J.; Love, M.; Zahn, L.A.; Williams, C.M.; Williams, J.P.; Bull, A.S. Oil platforms off California are among the most productive marine fish habitats globally. Proc. Natl. Acad. Sci. USA 2014, 111, 15462–15467. 	EIS Sec. 4.4
65. Commenter 1050	<ul style="list-style-type: none"> • https://www.vineyardwind.com/fisheries-science • https://www.enbw.com/media/enbw_us/docs/fisheries-outreach.pdf 	EIS Sec. 4.4
66. Commenter 1044	<ul style="list-style-type: none"> • In California, saltwater recreational fishing supports 21,145 jobs and generates \$2.8 billion annually in sales. • National Marine Fisheries Service. 2021. Fisheries Economics of the United States, 2018. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-225, 246 p. • Through fishing license purchases, excise taxes and direct donations, the recreational fishing community contributes approximately \$1.7 billion toward aquatic resource conservation each year. 	EIS Sec. 4.6
67. Commenter 1029	<ul style="list-style-type: none"> • Chumash oral traditions include stories, saq'saqutina'ni and context with archeological discoveries suggest occupation of the central coast area for more than 15,000 years, with an older recorded date at Point Conception, an extremely important Chumash Sacred Place known to Native Americans as the Western Gate, Humqaq. Our histories begin and end on this coastline for time immemorial. The Chumash people have been known as the “Keepers” of the Souls the place where all people exit this life into the next, the journey from any other place on the “turtle island” to the afterlife has been widely accepted to be the furthestmost western point jutting out into the Pacific Ocean and towards the setting sun. • Also see pgs. 13–15 in Comment 1029. 	EIS Sec. 4.5, Management Plan
68. Commenter 1018	<ul style="list-style-type: none"> • See “Chumash Caretaker Culture” (pg. 9) in Comment 1018. 	EIS Sec. 4.5, Management Plan
69. Commenter 918	<ul style="list-style-type: none"> • Scripps Institute of Oceanography, FAQs: Climate Change in California, https://scripps.ucsd.edu/research/climate-change-resources/faq-climate-change-california. 	EIS Sec. 4.3
70. Commenter 918	<ul style="list-style-type: none"> • Monterey Bay Aquarium, These Are the Greatest Threats Facing Sea Otters Today, https://www.montereybayaquarium.org/stories/threats-facing-sea-otters. 	EIS Sec. 4.3
71. Commenter 899	<ul style="list-style-type: none"> • Hatfield, B., Yee, J., Kenner, M. C., Tomoleoni, J. A., & Tinker, M. T. (2018). California sea otter (<i>Enhydra lutris nereis</i>) census results, spring 2018 [Report]. United States Geological Survey. https://pubs.usgs.gov/ds/1097/ds1097.pdf. 	EIS Sec. 4.3

Comment Number	Information and/or Analyses	Relevant EIS Section
72. Commenter 899	<ul style="list-style-type: none"> Kuhn, R. A., Ansorge, H., Godynicki, S., & Meyer, W. (2010). Hair density in the Eurasian otter <i>Lutra lutra</i> and the sea otter <i>Enhydra lutris</i>. <i>Acta Theriologica</i>, 55, 211–222. https://doi.org/10.4098/j.at.0001-7051.014.2009 Costa, D. P., & Kooyman, G. L. (1982). Oxygen consumption, thermal regulation, and the effect of fur oiling and washing on the sea otter, <i>Enhydra lutris</i>. <i>Canadian Journal of Zoology</i>, 60(11), 2761–2767. https://doi.org/10.1139/z82-354 	EIS Sec. 4.3
73. Commenter 790	<ul style="list-style-type: none"> Hilborn, Walters, Parrish, 2006. Review: California Marine Life Protection Act Science Advice and MPA Proposals “<i>Resulting from precautionary “ecosystem-based” fishery regulations enforced by both State and Federal fishery management agencies in recent years, there is now no evidence that current fishing practices upset the “natural” biological diversity of the marine ecosystem.</i>” 	EIS Sec. 4.3
74. Commenter 790	<ul style="list-style-type: none"> Emery 1969, in McW.Bickel, <i>The Journal of California Anthropology</i>, Vol. 5, No. 1 (SUMMER 1978) Bloom 1971; Flint 1971:324–328; Fairbridge 1976. 	EIS Ch. 3
75. Commenter 716	<ul style="list-style-type: none"> Our research on coastally breeding seabirds in central Californian (Robinette et al. 2015) shows significant populations of pigeon guillemots, Brandt’s cormorants, pelagic cormorants, western gulls, and black oystercatchers breeding within the proposed sanctuary. For much of the proposed sanctuary, human disturbance to seabirds is low compared to other areas in California. However, seabirds breeding along the coast of Shell Beach (a hotspot for seabird breeding within the proposed sanctuary) experience relatively high rates of human-caused disturbance. Biological resources in the Shell Beach area would benefit from increased education and outreach opportunities provided by a new sanctuary. Additionally, Robinette et al. (2019) shows that large headlands like Point Arguello and Point Buchon (both within the proposed sanctuary boundaries) provide enhanced foraging opportunities for breeding seabirds and likely enhance rates of juvenile fish recruitment to nearshore habitats. Finally, the proposed sanctuary would include important breeding populations of the federally threatened western snowy plover and the state and federally endangered California least tern (Robinette et al. 2021). Nur et al. (2011) shows that the waters over the shelf support a high abundance of foraging and migrating seabirds and that this hotspot is persistent from year to year. 	EIS Sec. 4.3
76. Commenter 716	<ul style="list-style-type: none"> Rockwood et al. (2017) shows that the proposed sanctuary would provide opportunities to decrease mortality of migrating blue, humpback, and fin whales due to ship strikes. 	EIS Sec. 4.3
77. Commenter 716	<ul style="list-style-type: none"> Our assessment of conservation opportunities in the California Current System shows that the proposed sanctuary is in the upper 90% for potential conservation value (Elliott et al. 2020). 	EIS Sec. 4.3

Comment Number	Information and/or Analyses	Relevant EIS Section
78. Commenter 641	<ul style="list-style-type: none"> It has been documented that visitors in the existing Greater Farallones and the northern portion of Monterey Bay National Marine Sanctuaries spent \$127 million for non-consumptive recreation activities, those that do not include removal of marine resources, and thereby supported nearly 1,700 jobs in 2011. Collectively, an estimated 4.17 million visitors engaged in recreation in the North Central California region, including 438,000 visitors in the Greater Farallones and the northern portion of Monterey Bay National Marine Sanctuaries. On average, each of these visitors made roughly five trips per year. Total spending for non-consumptive recreation was estimated at \$1.15 billion in 2011 for the entire North Central California Region. Roughly 11% of the total spending took place in the two Sanctuaries – \$86.25 million in Greater Farallones and \$40.82 million in the northern portion of Monterey Bay. The complete recreational economic impacts study, along with earlier national marine sanctuary socioeconomic reports, can be found at http://sanctuaries.noaa.gov/science/socioeconomic/pdfs/ncc-recreation-report.pdf. 	EIS Sec. 4.6
79. Commenter 521	<ul style="list-style-type: none"> "Marine Archaeology Along the Southern California Coast," D.T. Hudson, 1976, San Diego Museum Papers, No. 9). 	EIS Sec. 4.5
80. Commenter 253	<ul style="list-style-type: none"> See Comment 253. 	EIS Sec. 4.9
81. Commenter 180	<ul style="list-style-type: none"> See Comment 180 letter and attachments. 	EIS Sec. 4.6
82. Commenter 679	<ul style="list-style-type: none"> See Comment 679. Book titled "Kuta Teachings" has detailed ethnographic commentary on the religious importance of Point Conception to the Chumash people. "Kahismuwas," a history of the Purisima mission Indians and their socio/political adjustments to Spanish and Mexican colonialism. This history is distinctive from many previous texts, for it is told from the perspective of the Kahismuwas people and not from that of the invading Spanish. "Jonjonata," a book featuring the history of a Chumash town located on the eastern Kahismuwas border. The "Tejon Chumash Handbook" is a useful reference for any study of coastal refugees fleeing Spanish and Mexican abuses in missions such as San Luis Obispo. "The Chumash Nation" is a book which provides an overview of Chumash history from the 1770's to 1996. "No Brave Champion," "Marginalizing the Chumash Indians," "An Apology to the Chumash Indians," and "Academic Nihilism" are a series of related books in the John Anderson Library. They document the past failures of local, state, and federal agencies to foster meaningful Chumash participation in planning and management of public facilities. Copies of these texts are available at: johnandersonlibrary.org. 	EIS Sec. 4.5

Comment Number	Information and/or Analyses	Relevant EIS Section
83. Commenter 151	<ul style="list-style-type: none"> ● Benson, S.R., K.A. Forney, J. Harvey, J. Carretta and P. Dutton. 2007. Abundance, distribution, and habitat of leatherback turtles (<i>Dermochelys coriacea</i>) off California, 1990–2003. <i>Fish. Bull.</i> 105:337–347. ● Benson, S. R., T. Eguchi, D. G. Foley, K. A. Forney, H. Bailey, C. Hitipeuw, B. P. Samber, R. F. Tapilatu, V. Rei, P. Ramohia, J. Pita, and P. H. Dutton. 2011. Large-scale movements and high-use areas of western Pacific leatherback turtles, <i>Dermochelys coriacea</i>. <i>Ecosphere</i> 2(7):art84. doi:10.1890/ES11-00053.1. ● Curtis, K., J. Moore, S. Benson. 2015. Estimating limit reference points for Western Pacific leatherback turtles (<i>Dermochelys coriacea</i>) in the U.S. West Coast EEZ. <i>PLOSone</i>. 10, 1–24. 	EIS Sec. 4.3
84. Commenter 341	<ul style="list-style-type: none"> ● Yak tityu tityu yak tilhini Northern Chumash Tribe of San Luis Obispo County and Region are the Indigenous people of the coastal and interior areas of San Luis Obispo County and Region. This place has been our home for more than 10,000 years with an unbroken chain of inhabiting our homeland. We have an enduring and special relationship with yat spasini (the ocean) including the millions of ocean people who live there and the winged people who rely on her. Yat spasini covers some of our ancestral homeland and we know there are significant sites under the water of yat spasini. These sites include cemeteries, villages, ceremonial sites, and countless other places once used in our everyday lives. These places may be underwater but that does not diminish their importance and we seek their protection. We also understand that the good health of yat spasini is imperative to the good health of our tribal community and all people. Humans are dependent on yat spasini and we must do all we can to defend her. 	EIS Sec. 4.5
85. Commenter 710 and 719	<ul style="list-style-type: none"> ● There are multiple peer-reviewed studies which support the integration of Indigenous leadership and cultural practices into marine management. Indigenous stewardship has not only shown to improve the sustainability of fish stocks as with Indigenous fisheries management in British Columbia, it also strengthens the resilience of ecosystems. Indigenous environmental stewardship practices strengthen ecosystem resilience and enhance biodiversity. (Citations not provided.) ● Though Indigenous peoples represent ~5% of the world's population, they sustain nearly 80% of the world's biodiversity. (Citations not provided) 	EIS Sec. 4.3
86. Commenter 84 (and others)	<ul style="list-style-type: none"> ● Scorse, Jason Ph.D. & Kildow, Judith Ph.D. (2014). <i>The Potential Economic Impacts of the Proposed Central Coast National Marine Sanctuary</i>. Prepared for the Sierra Club of California. 	EIS Sec. 4.6
87. Commenter 895	<ul style="list-style-type: none"> ● Studies by the National Renewable Energy Laboratory estimate that California has the potential to provide 150% of the State's electricity demand from offshore wind sources. https://www.nrel.gov/docs/fy16osti/65352.pdf ● https://slcprdwordpressstorage.blob.core.windows.net/wordpressdata/2021/10/Vandenberg-Offshore-Wind-Final-PEA_webacc.pdf. 	EIS Sec. 4.7

Comment Number	Information and/or Analyses	Relevant EIS Section
88. Commenter 902	<ul style="list-style-type: none"> The Hosgri Fault was discovered using these testing means, and this is currently our largest threat. It was found as a result of such testing by an oil company. If such testing had been prohibited the Hosgri Fault would have never been identified or explored. As a result of the Hosgri Fault identification the Diablo Canyon Power Plant Units One and Two were re-evaluated and the facility was back-fit to increase its ability to withstand a larger seismic event. The 6.5Mw San Simeon Earthquake of Dec. 22, 2003 resulted in much infrastructural damage and two people were killed in Paso Robles due to a masonry building collapse. The earthen fill dam at Whale Rock Reservoir developed longitudinal cracks along it's crest and roads and bridges were damaged. Morro Bay Power Plant suffered damage. Not a lot is known about the blind thrust fault that caused this event. (Report ISBN-0-7844-0747-9, copyright 2004 by the American Society of Civil Engineers.) 	EIS Sec. 4.2
89. Commenter 927	<ul style="list-style-type: none"> The Chumash once lived in villages west of current tidal lines and on Point Conception. The ocean has submerged these lifeways of our Chumash ancestors. 	EIS Sec. 4.5
90. Commenter 1033	<ul style="list-style-type: none"> There are many studies showing the benefits of Marine protected areas. 7 Year Study --Early Results Suggest California Marine Protected Areas are a Success 9/5/19 https://scripps.ucsd.edu/news/early-results-suggest-california-marine-protected-areas-are-success 	EIS Sec. 4.3
91. Commenter 1111	<ul style="list-style-type: none"> Edgar, G., R. Stuart-Smith, T. Willis, S. Kininmonth, S. Baker, N. Barrett, et al. 2014. Global conservation outcomes depend on marine protected areas with five key features. Nature 506:216–220. doi: 10.1038/nature13022. Silver, E. 2009. An analysis of management strategies for the protection of shipwrecks in the NOAA National Marine Sanctuaries. PhD. diss., East Carolina Univ. https://www.proquest.com/docview/305070656/2550857697AE436CPQ/1?accountid=10362. 	Management Plan
92. Commenter 1111	<ul style="list-style-type: none"> Dasgupta, S., A. Fensome. 2018. The ups and downs of marine protected areas: Examining the evidence. Mongabay. https://news.mongabay.com/2018/01/the-ups-and-downs-of-marine-protected-areas-examining-the-evidence/. 	Management Plan
93. Commenter 1111	<ul style="list-style-type: none"> Davis, G. 2005. Science and society: marine reserve design for the California Channel Islands. Conservation Biology 19:1745-1751. doi: 10.1111/j.1523-1739.2005.00317. 	Management Plan

Appendix B: Draft Terms of CHNMS Designation

The content below was copied from the preamble to CHNMS notice of proposed rulemaking.

Proposed Terms of Designation for Chumash Heritage National Marine Sanctuary

Section 304(a)(4) of NMSA as amended, 16 U.S.C. 1434(a)(4), requires that the terms of designation be described at the time a new sanctuary is designated, including the geographic area proposed to be included within the sanctuary, the characteristics of the area that give it conservation, recreational, ecological, historical, research, educational, or aesthetic value, and the types of activities that will be subject to regulation to protect those characteristics.

The following represents the proposed terms of designation:

Preamble

Under the authority of the NMSA, approximately 5,600 mi² (4,200 nmi²) of the coast of central California's San Luis Obispo and Santa Barbara counties are hereby designated as a National Marine Sanctuary for the purpose of providing long-term protection and management of the ecological, cultural, and historical resources and the conservation, recreational, scientific, educational, and aesthetic qualities of the area.

Article I: Effect of Designation

The NMSA authorizes the issuance of such regulations as are necessary and reasonable to implement the designation, including managing and protecting the ecological, cultural, and historical resources and the conservation, recreational, scientific, educational, and aesthetic qualities of Chumash Heritage National Marine Sanctuary (the "Sanctuary"). Section 1 of Article IV of these terms of designation lists those activities that may have to be regulated on the effective date of designation, or at some later date, in order to protect Sanctuary resources and qualities. Listing an activity does not necessarily mean that it will be regulated. However, if an activity is not listed it may not be regulated, except on an emergency basis, unless Section 1 of

Article IV is amended by the same procedures by which the original Sanctuary designation was made.

Article II: Description of the Area

CHNMS covers approximately 5,600 mi² (4,200 nmi²) in central California. The Sanctuary's shoreline is approximately 130 miles long along the mainland, and 163 miles long when also counting the shoreline of offshore rocks and islands. The boundary begins at the mean high water line (MHWL) at Hazard Canyon Reef in Montaña de Oro State Park, in San Luis Obispo County, and extends to the south along the MHWL to approximately two miles east of Dos Pueblos Canyon near the township of Naples along the Gaviota Coast, in Santa Barbara County. The boundary then shifts due south offshore to the State waters line, then to the west along the State waters line to approximately the outfall of Gaviota Creek, then in a southwest direction along the western end of Channel Islands National Marine Sanctuary, southward to include Rodriguez Seamount and shifting to the northwest in an arc reaching approximately 47 miles due west of Purisima Point and another arc reaching a distance approximately 54 miles due west of Morro Rock, then approximately 2.5 miles to the north, then approximately 15 miles due east, and finally to the southeast approximately 39 miles to the point of origin at MHWL at Hazard Canyon Reef. The private marina at Diablo Canyon Power Plant and Port San Luis are not included in the Sanctuary. The Sanctuary includes offshore waters and seafloor features such as Rodriguez Seamount, Arguello Canyon, and the Santa Lucia Bank. The boundary coordinates are defined by regulation (see 15 C.F.R. 922.230 and Appendix A to 15 C.F.R. Part 922, Subpart V).

Article III: Special Characteristics of the Area

For well over 10,000 years, First Peoples along North America have resided on the coast and in inland valleys adjacent to central California. Caves and other village sites at the nearby Channel Islands indicate occupation in this region as much as 13,000 years before present. At that time, due to glaciation at northern latitudes, the sea level was as much as 10 miles offshore

from the present coastline. Paleoshorelines may exist in this area that could provide further evidence of early human occupation. The Native Americans who live in this coastal area today, the Chumash and Salinan, can trace generations of family lineages in this region, that, when coupled with other historical accounts and archaeological data, show this coast and ocean area have supported their people, cultures, and heritage for thousands of years.

The special characteristics of the coast east of Point Conception, consisting of a south-facing coast with a channel sheltered by offshore islands, allowed Chumash to develop and make use of the plank canoe, called a “tomol,” for fishing and trade with other Chumash groups. Chumash villages north of Point Conception could not make use of the plank canoe in the rough waters and instead relied on the abundance of shellfish in this area and reed canoes. There were approximately 14 Chumash villages within the area of the sanctuary at the time of contact with Europeans, nearly 500 years ago. The largest Chumash village on the California coast at that time was “Mikiw,” located on the west bluff of Dos Pueblos Canyon. Most of the inhabited sites were located at the mouths of rivers or along the seashore where there was an abundance of food. The range of sites documented along or near the Sanctuary’s coast includes rock art, shrines, village sites, camp sites, cemeteries, organic remains, evidence of trade systems, and evidence of various forms of subsistence, including hunting, fishing, and extraction.

Serial use and development along this coastline, beginning with Indigenous peoples, then Spanish exploration and occupation, Russian fur trading, ranching and the trade for hides and tallow, discovery of gold, commercial fishing, and onshore and offshore oil and gas development have all had a hand in shaping this region’s coast and human use of resources. All of these uses have been dependent on marine transportation, and as a result over 200 ship and aircraft wrecks are recorded in this area, including several of national significance such as the *Yankee Blade*. Commercial fishing for numerous abundant fish stocks and commercial fishermen are also part of the rich maritime heritage in the central coast region.

The natural resources of the ocean have been a principal element of most of the human occupation and exploitation of the region. Strong and persistent coastal winds drive upwelling, an oceanographic process critical to the highly productive marine ecosystem. Large kelp forests, vast sandy beaches, rocky shorelines, shallow and deep reefs, and coastal wetlands are interconnected, co-dependent biological communities prominent in this region. Important, large-scale features include the Santa Lucia Bank, a highly productive, approximately 1,000-square mile area in the heart of the Sanctuary, and thriving deep sea communities at Rodriguez Seamount and in Arguello Canyon. These productive waters complement other protected portions of the California Current by serving as critical foraging habitat for huge populations of shearwaters from New Zealand, humpback whales born offshore of Central America, leatherback sea turtles that migrate from and back to Indonesian islands, and albatross from Hawaii. More sedentary, local species depend on healthy communities in the Sanctuary, including the endangered snowy plover and black abalone, and commercially-important fish species like Dungeness crab, sablefish, spot prawn, squid, salmon, and lingcod. An estimated 33 species of marine mammals are found in the area, 18 of which can be seen on a regular basis. The Sanctuary is considered a seabird hot spot, with a higher richness of bird species than other sanctuaries offshore California. At least 400 species of fish have been documented in the area, which is also a higher richness of species than in nearby areas, likely because the Sanctuary includes warmer waters south and east of the ecological transition zone around Point Conception – Point Arguello and colder waters to the north.

The nationally significant ecological transition zone in the area around Point Conception – Point Arguello, where species more common in sub-tropical waters to the south meet with species more common in colder temperate waters to the north, is a central feature of the Sanctuary. The northern range of many warmer water species and the southern range of many colder water species meet in the area between Point Conception and Point Arguello. Increasing ocean temperatures and other impacts from climate change intensify the need to study

biogeographic shifts in this area and affirm the importance of protecting the habitats on which these species depend.

Rodriguez Seamount, 38 nmi southwest of Point Conception, formed 10–12 million years ago through volcanic activity. It rises more than a mile above the seafloor to a relatively shallow depth of around 2,000 ft. below sea level. Scientists consider it to be relatively rare in that it may once have been an island, rising to possibly 200 ft. above sea level; due to sea level rise and seafloor subsidence, the seamount is now fully submerged. From its time as an island, it has remnants of sandy beach features and from its time as a seamount, it has large coral and sponge colonies. Preliminary studies indicate a high percentage of invertebrate species as well as fish species found on Rodriguez Seamount that are not found on other nearby seamounts. Some surveys have uncovered substantial aggregations of coral colonies, with large individuals likely decades old, indicating a low level of disturbance to date. A special management zone for Rodriguez Seamount has been designated by Sanctuary regulations to allow for special protection in the water column 500 ft. above the seamount and to complement regulations adopted separately under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to protect benthic habitats.

The area contains dramatic coastlines consisting of rocky shorelines, large bluffs, and sweeping sandy beaches. Other than an approximately 10-mile stretch of urban development along the coast from Port San Luis through Oceano, most of the 134 miles of Sanctuary coastline is undeveloped due to State and county park ownership, a large stretch owned by the U.S. Government as a military installation, and private landholdings of large and small ranches or dispersed single-family dwellings. This lack of development creates a sense of wildness and highly-valued aesthetics of a natural coastal setting worthy of national marine sanctuary designation.

Article IV: Scope of Regulations

Section 1. Activities Subject to Regulation

The following activities are subject to regulation, including prohibition, as may be necessary to ensure the protection and effective management of the ecological, cultural, historical, conservation, recreational, scientific, educational, or aesthetic resources or qualities of the area:

- a. Exploring for, developing, or producing oil, gas, or minerals (e.g., clay, stone, sand, metalliferous ores, gravel, non-metalliferous ores, or any other solid material or other physical matter of commercial value) within the Sanctuary;
- b. Discharging or depositing, from within or into the boundary of the Sanctuary, or from beyond the boundary of the Sanctuary, any material or other matter;
- c. Taking, removing, moving, catching, collecting, harvesting, feeding, injuring, destroying, attracting, possessing, or causing the loss of, or attempting to take, remove, move, catch, collect, harvest, feed, injure, destroy, attract, or cause the loss of, a marine mammal, sea turtle, bird, historical resource, or other Sanctuary resource;
- d. Drilling into, dredging, or otherwise altering the submerged lands of the Sanctuary; or constructing, placing, or abandoning any structure, material, or other matter on or in the submerged lands of the Sanctuary;
- e. Flying a motorized aircraft above the Sanctuary; f. Operating a vessel (i.e., water craft of any description) within the Sanctuary;
- g. Aquaculture or kelp harvesting within the Sanctuary;
- h. Introducing or otherwise releasing from within or into the Sanctuary an introduced species; and,
- i. Interfering with, obstructing, delaying, or preventing an investigation, search, seizure, or disposition of seized property in connection with enforcement of the NMSA or any regulation or permit issued under the NMSA.

Listing an activity here means that Secretary of Commerce can regulate the activity, after complying with all applicable regulatory laws, without going through the designation procedures required by paragraphs (a) and (b) of section 304 of the NMSA, 16 U.S.C. 1434(a) and (b). No term of designation issued under the authority of the NMSA may take effect in California state waters within the Sanctuary if the Governor of California certifies to the Secretary of Commerce that such term of designation is unacceptable within the review period specified in the NMSA.

Section 2. Emergencies

Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource or quality, or to minimize the imminent risk of such destruction, loss, or injury, any and all activities, including those not listed in Section 1, are subject to immediate temporary regulation, including prohibition.

Article V: Effect on Leases, Permits, Licenses, and Rights

Pursuant to section 304(c)(1) of the NMSA, no valid lease, permit, license, approval, or other authorization issued by any Federal, State, or local authority of competent jurisdiction, or any right of subsistence use or access, may be terminated by the Secretary of Commerce or designee as a result of this designation or as a result of any Sanctuary regulation if such authorization or right was in existence on the effective date of this designation. The Secretary of Commerce or designee, however, may regulate the exercise (including, but not limited to, the imposition of terms and conditions) of such authorization or right consistent with the purposes for which the Sanctuary is designated.

In no event may the Secretary or designee issue a permit authorizing, or otherwise approve: (1) The exploration for, development of, or production of oil, gas, or minerals within the Sanctuary except for existing oil and gas production of existing reservoirs under production prior to the effective date of Sanctuary designation from Platform Irene and Platform Heritage; (2) the discharge of primary-treated sewage except for regulation, pursuant to section 304(c)(1) of the Act, of the exercise of valid authorizations in existence on the effective

date of Sanctuary designation and issued by other authorities of competent jurisdiction; or (3) the disposal of dredged material within the Sanctuary other than at sites authorized by the U.S. Environmental Protection Agency (EPA) prior to the effective date of designation. The disposal of dredged material does not include the beneficial use of dredged material. Any purported authorizations issued by other authorities after the effective date of Sanctuary designation for any of these activities within the Sanctuary shall be invalid.

Article IV does not authorize the direct regulation of lawful fishing activities within the Sanctuary, such as setting catch quotas, establishing spatial closures for fishing, or setting fishing seasons. However, all activities listed in Article IV could apply to a person engaged in the act of fishing, such as but not limited to vessel operations, wildlife disturbance, discharges, introduction of an introduced species, or disturbance of cultural or historical resources. Aquaculture and kelp harvesting are not subject to this limitation and are subject to regulation under these terms of designation. Fishing in the Sanctuary may be regulated by other Federal or State authorities of competent jurisdiction, and designation of the Sanctuary shall have no effect on any fishery management regulation, permit, or license issued thereunder.

Article VI: Alteration of this Designation

The terms of designation, as defined under section 304(a)(4) of the NMSA, may be modified only by the same procedures by which the original designation is made, including public hearings, consultations with interested Federal, State, Tribal, regional, and local authorities and agencies, review by the appropriate Congressional committees, and approval by the Secretary of Commerce, or his or her designee.

Appendix C: Best Management Practices

This section identifies proposed sanctuary resource protection mitigation measures used by NOAA for vessel operations, anchoring, deployment of instruments, scuba diving, seafloor protection, uncrewed aircraft systems, aircraft operations, and tagging fish.

Vessel Operations

All ONMS vessels must comply with the operational protocols and procedures in the NOAA Small Boats Policy (NOAA Administrative Order 209-125)²⁹ and mitigation measures in the NOS Surveying and Mapping programmatic environmental impact statement.³⁰ To minimize impacts on sanctuary resources during field activities, sanctuary vessels would adhere to the following standing orders and practices, which includes applicable mitigation measures from the NOS Surveying and Mapping programmatic EIS.

Lookouts/Staying at the Helm

- While underway, vessel operators should always stay alert for marine mammals, sea turtles, and other collision hazards.
- While transiting in areas where marine mammals and sea turtles are likely to occur, vessel operators should post a minimum of one dedicated lookout, and operators should remain vigilant at the helm controls (keeping hands on the wheel and throttle at all times) and be ready to take action immediately to avoid an animal in their path.
- When operating in areas where marine mammals and sea turtles are present, a dedicated lookout is required in addition to the operator. A second lookout may be posted in circumstances where visibility is restricted.
- When marine mammals are riding the bow wake, or porpoising nearby, operators should exercise caution and take actions that avoid possible contact or collisions.
- When operating within visual range of whales, vessel operators should follow [NOAA Fisheries Whale Watching guidelines](#)³¹ unless otherwise covered by a NOAA Fisheries permit, and only then with extreme caution.

Vessel Speed and Maintaining Distance

- An Endangered Species Act (ESA)-listed whale is identified within 457 meters (500 yards) of the forward path of the vessel: All vessels must steer a course that increases the distance from the whale at a speed of 10 knots or less until the 457 meters (500 yards) minimum separation distance has been established.
- An ESA-listed whale is sighted within 91 meters (100 yards) of the forward path of a vessel: The vessel operator must reduce speed and shift the engine to neutral. Engines

²⁹<https://www.noaa.gov/organization/administration/nao-209-125-noaa-small-boat-safety-program>

³⁰ <https://aambpublicoceanservice.blob.core.windows.net/oceanserviceprod/about/environmental-compliance/final-peis/Appendix%20D%20Mitigation%20Measures%20During%20NOS%20Mapping%20and%20Surveying%20Activities.pdf>

³¹ <https://www.fisheries.noaa.gov/topic/marine-life-viewing-guidelines>

must not be engaged until the whale has moved outside the vessel's path and beyond 457 meters (500 yards). If stationary, the vessel must not engage engines until the large whale has moved beyond 457 meters (500 yards). A single cetacean at the surface may indicate the presence of submerged animals in the vicinity of the vessel; therefore, precautionary measures should always be exercised.

- One or more cetaceans (whales, dolphins, or porpoises) are sighted while a vessel is underway: Attempt to remain parallel to the animal's course if feasible. Avoid excessive speed or abrupt changes in direction until the cetacean has left the area.
- One or more sea turtles are sighted while the vessel is underway: Attempt to maintain a distance of 45 meters (50 yards) or greater whenever possible.
- Avoid transit through North Pacific right whale critical habitat. For unavoidable transits, vessels must maintain a speed of 10 knots or less.
- Maintain a vessel separation distance of 3 nautical miles from Steller sea lion critical habitat, rookeries listed in 50 C.F.R. 223.202, and other haulouts/rookeries as observed during operations.
- Vessel crew should be trained to know the locations of known mammal haul out areas and avoid unnecessary transits within 0.5 nautical miles of these areas.
- Avoid approaching within 91 meters (100 yards) of in-water seals and sea lions.
- Vessel operators on project vessels operating at night will use the appropriate lighting to comply with navigation rules and best safety practices. All project areas will be continually monitored for protected species by posted crewmembers during vessel operations.
- In-water seals or sea lions are identified within 91 meters (100 yards) of the vessel: Avoid approaching within 91 meters (100 yards) of in-water seals and sea lions.

Operation of Vessels

- Due to the increased risk of collision at night, vessel operations, whenever possible, should be planned for daylight hours (i.e., between one half hour before sunrise and one half hour after sunset when possible).
- Restricted visibility can hinder an operator's ability to see and respond to marine mammals and sea turtles. Prudent seamanship should be applied, including posting an additional lookout when there is the potential for marine animals in the vicinity.
- Standing Order for Nighttime Operations – If nighttime operations are essential and integral to the mission, the principal investigator must discuss mitigations for avoiding whales and other objects within the vessel operation corridor and incorporate them into the cruise plan. Mitigation measures could include speed restrictions, additional lookouts, use of navigation lights, and use of sound signals, etc.
- Implement mandatory invasive species prevention procedures including, but not limited to, vessel and equipment washdown (including diving equipment), cleaning, and de-ballasting (exchange of ballast water in open ocean waters for those vessels used by NOS that have ballast tanks).
- Do not attempt to feed, touch, ride, or otherwise intentionally interact with any marine protected species.

- Vessel crew must maintain at least one Protected Species Observer (PSO) at all times. This individual may perform other duties simultaneously. PSOs should use all means necessary to enhance visibility (e.g., spotlights, night vision, Forward Looking Infrared), and will be trained according to NOS Standard Operating Procedures.
- NOS would internally coordinate the location and timing of a given project, wherever possible, to ensure that areas are not repeatedly surveyed, except as needed to achieve research or monitoring goals.
- NOS would not perform surveys on or near ongoing Navy exercises.
- Sighting of any injured, dead, or entangled right whales: Report sighting immediately to the U.S. Coast Guard (USCG) via VHF Channel 16.
- Sighting of any injured, dead, or entangled ESA-listed species: Immediately report to NOAA Fisheries using the contact information on the [NOAA Fisheries website](#). NOAA Fisheries also has created a Dolphin & Whale 911 telephone app that can be used to direct calls to the nearest stranding response helpline.
- Sightings of critically endangered cetaceans including North Atlantic right whale, North Pacific right whale, Southern Resident killer whale, Main Hawaiian Island insular false killer whale, and Rice's whale: Report sighting within two hours of occurrence when practicable and no later than 24 hours after occurrence to [NOAA Fisheries](#). Right whale sightings in any location may also be reported to the USCG via VHF channel 16 and through the [WhaleAlert App](#).
- Operating vessels in northern sea otter habitat: Do not operate vessels in such a way as to separate sea otters from other members of their group. If northern sea otters are observed in groups of fewer than 10 animals, do not approach within 100 m (109 yd). If the group size is greater than 10, do not approach within 500 m (547 yd).
- Sighting of any protected marine species within 91 m (100 yd) of the vessel: Do not discharge.
- Additional discharge restrictions when operating a vessel:
 - Follow the International Convention for the Prevention of Pollution from Ships (MARPOL) discharge protocols.
 - Meet all U.S. Environmental Protection Agency (USEPA) Vessel General Permits and USCG requirements.
 - Use anti-fouling coatings.
 - Clean hull regularly to remove aquatic nuisance species.
 - Avoid cleaning of hull in critical habitat. Avoid cleaners with nonylphenols.

Anchoring and Deployment of Instruments

- Ensure that all instruments placed in contact with the seafloor are properly secured to minimize bottom disturbance. Use retrievable instruments, when possible, to avoid abandoning deployed equipment on the seafloor.
- Deployment of instruments would occur slowly and under constant supervision to minimize risk and mitigate impacts should a collision or entanglement occur. Deployment operations would be postponed if species at risk of entanglement are observed.
- While vehicles or personnel are deployed, spotters would monitor activities at all times.

- Where possible NOAA staff will avoid leaving weights behind through use of an anchor retrieval system for sanctuary research gear.
- Do not anchor in coral critical habitat or other known areas of coral. Avoid anchoring in [abalone habitat](#).
- Avoid anchoring in seagrass.
- Vessel operators would not drag anchor chains.
- Vessel operators would select the anchor location based on depth, protection from seas and wind, and bottom type. Preferred bottom types are sticky mud or sand, as those characteristics allow the flukes of the anchor to dig into the bottom and hold the chain in place. When working in an un-surveyed area or in an area that has not been surveyed in many years, the ship would try to anchor in bays where data have already been collected, providing the ship with better information on where to drop the anchor.
- For instruments required to be left in the marine environment for long periods of time (i.e., a few months or more), staff would deploy subsurface floats that keep the mooring lines vertically tight at all times in order to significantly reduce any entanglement risk.
- Stiffer line materials should be used for towing and kept taut during operations to reduce the potential for entanglement in bottom features such as coral habitats and shipwrecks.
- Sighting of any protected marine species within 91 m (100 yd) of the work area: Suspend deployment of all instruments, divers, and autonomous systems. Work already in progress may continue if that activity is not expected to adversely affect the animal(s).
- Autonomous Underwater Vehicle (AUV) operation: Equipment such as AUVs would be programmed and operated to avoid seafloor disturbance.

Scuba Diving

- NOAA divers are required to be certified by the [NOAA Diving Program](#).³²
- Annual training requirements assure that NOAA divers are versed in NOAA diving standards, policies, and procedures that minimize impacts on sanctuary resources.
- When using a boat or platform to conduct self-contained underwater breathing apparatus (scuba) or snorkeling operations: At least one person should maintain a visual watch for mobile protected species to ensure none are sighted within the working area. If a listed species moves into the area of work, cessation of operation of any moving equipment within 15 m (50 ft) of the animal should occur. Activities may resume once the species has departed the project area of its own volition.
- Diving on or near coral: Divers/snorkelers/swimmers should not stand or rest on live corals/coral reefs. Bottom contact should only be in unconsolidated areas or non-living hard bottom.
- At all times during scuba or snorkel operations: scuba divers/snorkelers involved in in-water activities should have proper training and be capable of responsible dive/snorkel practices (e.g., proper buoyancy) such that they minimize injury to organisms, avoid unnecessary habitat impacts, and avoid injury to sensitive archaeological materials. It is the responsibility of NOAA or grantees/contractors to ensure that divers/snorkelers are trained to a level commensurate with the type and conditions of the diving activity being

³² <https://www.oma.noaa.gov/learn/diving-program/diving/training>

undertaken. Divers shall use appropriate diving equipment and tools, expert boat anchoring (e.g., hand placement by divers/snorkelers on verified non-living bottom habitat before deployment) and have diver awareness. The organization must have the capacity (appropriate insurance, safety policies, etc.) to oversee all proposed diving/snorkeling activities. Scuba divers will avoid inadvertent disturbance to the seafloor.

Seafloor Protection

- To avoid potential disturbance of submerged cultural resources and artifacts, and to protect seafloor habitats and benthic species, sanctuary staff would continue to comply with NOAA regulations prohibiting unauthorized disturbance of the seafloor (15 C.F.R. § 922.232(a)(3)) and removal or disturbance of historical resources (15 C.F.R. § 922.232(a)(4)).
- When considering issuance of an ONMS research permit to authorize any coring of the sanctuary seafloor or other use of equipment that could impact seafloor habitats or benthic species, NOAA would exercise caution and, upon permitting any activities, require protective conditions to reduce impacts.
- When securing research and monitoring equipment to the seafloor, NOAA staff will select areas with sandy substrate for vessel anchoring and gear deployment.
- Anchoring of sanctuary vessels will be limited to sandy-bottom substrates to avoid damage to seagrasses and coral habitat.
- Whenever possible, NOAA staff will avoid leaving weights behind through use of an anchor retrieval system with sanctuary research gear.

Uncrewed Aircraft Systems

NOAA recognizes that even though responsibly operated UAS can be less disturbing to sanctuary wildlife than larger and noisier fixed wing aircraft and helicopters, these craft still hold the potential to create disturbance to wildlife, and in particular seabirds.

- NOAA requires that special permitting, authorization, and environmental compliance work must be addressed when flights will occur over sensitive areas or in the vicinity of protected species or marine mammals. Such operations “may require a permit, authorization, or inter-agency consultation to meet environmental compliance requirements. Sensitive areas may include, but are not limited to, national parks, national wildlife refuges, waterfowl production areas, wilderness areas, and national marine sanctuaries. For flights over animals, applicable statutes may include but are not limited to the ESA, 16 United States Code (U.S.C.) § 1531 *et seq.*, Marine Mammal Protection Act (MMPA), 16 U.S.C. § 1361 *et seq.*, and Migratory Bird Treaty Act (MBTA), 16 U.S.C. § 703 *et seq.* These permits may contain specific mitigation measures, or other terms and conditions that will need to be met. All flights must comply with the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.*; NOAA Administrative Order 216-6A. The principal investigator is responsible for all environmental compliance.”
- In accordance with this agency policy, NOAA’s National Ocean Service (NOS) requires that an Unmanned Aircraft Systems Operations Checklist be followed prior to the

initiation of the operational phase of any UAS activity, including within national marine sanctuaries. The checklist includes requirements for assuring environmental compliance. This includes:

- Completion of all applicable environmental compliance reviews, consultations, and permitting requirements, including, but not limited to the:
 - National Environmental Policy Act (42 U.S.C. § 4321 *et seq.*);
 - NOAA Administrative Order 216-6A;
 - ESA (16 U.S.C. § 1531 *et seq.*); and
 - MMPA (16 U.S.C. § 1361 *et seq.*)
- Any required mitigation measures, best management practices, monitoring, terms and conditions, or other environmental compliance requirements.
- More specifically, UAS operations within the sanctuary are planned and executed in a manner that follows best practices designed to minimize or avoid disturbance to seabirds. These practices include:
 - Conduct a pre-flight check for birds in the flight area prior to UAS take-off. If birds are detected in the flight airspace, wait until they depart before initiating takeoff.
 - Provide a 50–100 foot buffer from areas where birds are present. This includes on land, nearshore, or on the water.
 - If one or more migratory birds or non-migratory birds is suspected of being disturbed in the air during airborne operations, wait until the bird(s) clear the flight area. Attempt operations again using more conservative parameters such as a different approach angle, different time of day, etc. If a second incident occurs, conduct no further UAS operations for this day.
 - If one or more threatened or endangered bird(s) is suspected of being disturbed in/around its nest, and/or if disturbance occurs during nesting season, conduct no further UAS operations. Contact the environmental compliance coordinator.
 - Maintain a log of each day’s UAS operations to account for any disturbances to migratory or other birds and review this information with the site coordinator and the environmental compliance coordinator.

Aircraft Operations

- NOAA recognizes and requests pilots of charter and NOAA aircraft to comply with applicable Federal Aviation Administration-recommended practices relevant to flights above the sanctuary. In addition, the Federal Aviation Administration’s [Advisory Circular 91-36D](#)³³ “encourages pilots making visual flight rule flights near any noise-sensitive areas to fly at altitudes higher than the minimum permitted by regulation and on flight paths, which will reduce aircraft noise in such areas.”

Tagging Fish

- Researchers would follow all local and federal laws, and secure proper permits.

³³https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentid/23156

- Where directed take is involved, such as in whale-tagging operations, sanctuary staff would ensure that appropriate permits are obtained from NOAA Fisheries pursuant to ESA and MMPA.
- To reduce stress on the fish (e.g., sharks, giant sea bass), NOAA researchers would minimize physical handling, keep the fish in the water for tagging, and use proper fishing gear.
- Fishes would not be tagged with tags greater than 2% of their body weight, and prohibited species will be released immediately.
- NOAA staff would follow [additional best practices for tagging](#), as identified by NOAA Fisheries.³⁴

³⁴ <https://www.fisheries.noaa.gov/new-england-mid-atlantic/atlantic-highly-migratory-species/tagging-instructions-and-resources-volunteers>

Appendix D: Economic Cost-Benefit Analysis Prepared to Support Proposed Regulations

The White House Office of Management and Budget's Office of Information and Regulatory Affairs (OIRA) determined that the *Proposed Chumash Heritage National Marine Sanctuary; Notice of Proposed Rulemaking* is a significant regulatory action as defined by Executive Order (E.O.) 12866, *Regulatory Planning and Review*, because OIRA believes it raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866. To meet the obligations under E.O. 12866, NOAA has provided an assessment of the potential costs and benefits of the proposed Chumash Heritage National Marine Sanctuary (CHNMS). Similar to other national marine sanctuaries within the National Marine Sanctuary System, the proposed regulations identify prohibited uses and establish a process by which some of the prohibited uses may be permitted, as appropriate. The analysis provided here considers the effects of the proposed sanctuary on offshore oil and gas, commercial fishing, recreational fishing, and non-consumptive recreation (e.g., snorkeling and scuba diving) sectors.

This analysis is qualitative in nature. This cost-benefit analysis only analyzes the expected costs and benefits of the Agency-Preferred Alternative.

Need for the Proposed Action

The proposed sanctuary would address the failure of the private markets to comprehensively manage this marine environment for public benefit, including for the purposes of protecting underwater historical and cultural resources, environmental resources, regulating human use of these resources, and conducting research and monitoring, education, and enforcement. To address the market failure and natural and human threats to marine and cultural resources in the Agency-Preferred Alternative, NOAA is proposing to designate the area as a national marine sanctuary.

NOAA proposes to designate Chumash Heritage National Marine Sanctuary (CHNMS) along the coast of central California to recognize the national significance of the area's ecological, historical, archaeological, and cultural resources and to manage this special place as part of the National Marine Sanctuary System. The National Marine Sanctuaries Act (NMSA; 16 U.S.C. 1431 *et seq.*) authorizes the Secretary of Commerce (Secretary) to designate national marine sanctuaries to meet the purposes and policies of the NMSA, including:

- “to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance and to manage these areas as the National Marine Sanctuary System” (16 U.S.C. 1431(b)(1));
- “to provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities” (16 U.S.C. 1431(b)(2));
- “to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities” (16 U.S.C. 1431(b)(6));

- “to develop and implement coordinated plans for the protection and management of these areas with appropriate federal agencies, state and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas” (16 U.S.C. 1431(b)(7)); and
- “to create models of, and incentives for, ways to conserve and manage these areas, including the application of innovative management techniques” (16 U.S.C. 1431(b)(8)).

The nationally-significant natural resources, physical features and habitats, and the cultural and historical resources within the proposed sanctuary warrant and require long-term protection and management to reduce threats that would adversely affect their historical, cultural, archaeological, recreational, and educational value. For example, many threatened or endangered species—such as blue whales, snowy plovers, black abalone, white sharks, and leatherback sea turtles—rely on habitats, physical features, or prey found in the proposed sanctuary. This area also contains hundreds of known or suspected shipwrecks of historical importance including several on the National Register of Historic Places. Moreover, this region and its abundant resources have been home to coastal, ocean-going tribal and Indigenous peoples for tens of thousands of years, and submerged village sites may exist along paleoshorelines in the submerged lands of the sanctuary. Threats to these natural, cultural, and historical resources include various levels of human development and activity, from offshore energy development, decommissioning and removal of coastal and offshore industrial facilities, vessel traffic, coastal runoff, and, most of all, from acute and cumulative impacts from climate change.

Accordingly, NOAA is proposing to designate this area as a national marine sanctuary to: (1) manage and protect nationally-significant natural resources, physical features and habitats, and cultural and historical resources through a regulatory and nonregulatory framework; (2) document, characterize, monitor, study, and conserve these resources; (3) provide interpretation of their natural, cultural, historical, and educational value to the public; (4) promote public stewardship and responsible use of these resources for various purposes to the extent compatible with the sanctuary’s principal goal of resource protection; (5) develop a coordinated, community-based, ecosystem-based management regime with partner federal agencies, state and local governments, and Indigenous tribes and tribal organizations; and (6) develop and carry out an innovative collaborative management structure to involve Indigenous communities, including federally recognized tribes and other tribal groups and organizations, in important management programs and initiatives of the sanctuary.

Establishing a new national marine sanctuary along the coast of central California would allow NOAA to complement and supplement existing federal and state resource management programs, policies, and regulations. For instance, proposed discharge regulations to establish more comprehensive water quality protection across the geographic range proposed for sanctuary protection under NMSA would bolster existing authorities under the Clean Water Act (CWA; 33 U.S.C. § 1251 *et seq.*). NOAA has well-regarded and successful programs to conduct outreach, education, and communication that would recognize and promote this area’s nationally significant natural, historical, and cultural properties. NOAA could contribute to the region’s scientific expertise and technological resources to enhance ongoing research, and could

provide a hub for the coordination of these activities. Through its focus on various initiatives benefiting the marine and coastal economy, NOAA designating the area as a national marine sanctuary would enhance and facilitate public stewardship of natural, historical, and cultural resources. Lastly, designating this new national marine sanctuary would provide expanded conservation of key resources within the California Current Large Marine Ecosystem, and create a collaborative framework to involve Indigenous communities in this important region-wide management opportunity.

Baseline

If NOAA does not designate a sanctuary along the coast of central California through this proposed rulemaking, NOAA would not promulgate regulations under the National Marine Sanctuaries Act; implement a management plan to protect and manage living marine resources and underwater cultural resources in the area; provide resources for research and monitoring, enforcement, education, or outreach; or otherwise maintain a presence along and offshore of the coast of central California. Existing activities in the proposed sanctuary include recreation and tourism, research, education, marine transportation, offshore oil and gas development, fishing and aquaculture, and DOD activities. The existing activities occurring in the area of the proposed sanctuary are described in the draft EIS by resource area under the No Action Alternative subsections in Chapter 4 (Affected Environment and Environmental Consequences). These activities would be allowed to continue, although they may be subject to regulations as detailed below.

Economic Effects of the Proposed Sanctuary

Designation of Chumash Heritage National Marine Sanctuary

Although the benefits of resource protection and conservation are not mentioned in each individual proposed regulation below, they are applicable to the proposed action as a whole.

Increased Value from Sanctuary Designation. Many of the goods and services provided by ecological, cultural, and heritage resources are challenging to estimate economically as they are not bought and traded in the market to yield benefits. These benefits are split into two types: use value and non-use value. Willingness to pay (WTP) is mathematically defined as the area below the demand curve for a good or service and includes both use and non-use value. Use value can be estimated using several methods, including the travel cost method. Use value may be impacted by the number of species or cultural sites protected and the level of investment in museum exhibits, maritime heritage trails (including virtual trails using video and mobile phone technology), and educational workshops on topics highlighting sanctuary resources such as marine biodiversity and cultural heritage.

While use value comes from the direct enjoyment of resources, non-use value is comprised of option value (the value people place on the option to use the resource in the future), existence value (the value of knowing a resource or place exists), and bequest value (the value of knowing that the resource will be available to future generations). Non-use value is typically estimated using stated preference surveys that elicit WTP. Even if a person must spend money to access the resource, such as an entrance fee to a park, the price of admission does not reflect their true

value. The difference between the price a person pays and the most they would be willing to pay for the good or service is what economists refer to as consumer surplus. This consumer surplus is a person's non-market value and does not require a person to actually use the resource.

Similar to other types of protected areas, national marine sanctuaries have economic value from both use and non-use value. When studying national parks, Haefele et al., 2016 found that over 95% of responding households to a survey indicated that protecting national parks for current and future generations was important to them, and 85% of respondents felt that, regardless of whether or not they had visited them, they personally benefited from national parks. The same study also found that the American public's total economic value of national parks is \$92 billion, where \$62 billion is for national park lands, waters, and historic sites, while \$30 billion was attributed to National Park Service programs. Total economic value includes both use and non-use (or existence value), meaning the total economic value includes the value that the public derives from knowing these resources are there and protected for current and future generations. The estimates included both land and water parks, indicating that the American public has value for protected marine resources, such as this proposed national marine sanctuary designation.

One study has been conducted to estimate the use or non-use value of the proposed CHNMS designation (Scorce & Kidlow, 2014). This research describes the economic benefits of sanctuary designation to the local community. Moreover, this proposed action would increase protection and conservation of resources located within the proposed boundaries. As a result, the proposed action provides value to the American public at large.

Improved Tourism and Recreational Experiences. The designation of the sanctuary alone is likely to result in positive effects to the local region via increased national visibility and increased regional coordination of sanctuary messaging.

NOAA also has a robust communications and education program that focuses on educating the country about national marine sanctuaries, as well as encouraging the public to visit and use sanctuaries in a responsible manner. NOAA's promotion of the new sanctuary would likely attract more tourists to the area. Upon sanctuary designation through the proposed rule, NOAA would implement research, education, interpretation, and outreach activities associated with the proposed sanctuary. NOAA anticipates that these activities would have a positive impact on tourism by heightening public awareness of, and interest in, the natural, cultural, and historical resources found in and around the proposed sanctuary.

As outlined in the CHNMS draft management plan, NOAA would work with state, tribal, and local partners to create more public exhibits, improve outreach, and raise awareness and knowledge to enhance the visitor experience. For example, designating the sanctuary would complement and enhance existing marine science and cultural heritage initiatives locally, at the state level, and regionally. This increased coordination and potential exposure of the site may attract and encourage divers, snorkelers, boaters, and maritime enthusiasts to visit these nationally significant marine resources, while following best management practices to reduce adverse impacts. While the specific efforts and partners would be determined as part of the implementation of the sanctuary management plan, NOAA would be creating opportunities for people to learn about and visit the proposed sanctuary.

It is expected that the sanctuary designation will have positive impacts to human use, based on the anticipated increase in tourism driven by (a) the name recognition associated with national marine sanctuary designation; (b) the enhanced promotion of tourism; and (c) improved recreational experiences. However, given the absence of more detailed baseline data specific to the proposed rule, NOAA is unable to state the degree of effects with certainty. Without a sanctuary, NOAA would be unable to dedicate resources or create the programs described above to promote the proposed sanctuary.

Transfers and Positive Economic Contributions from Increased Recreation and Tourism Spending in the Local Economy. The natural, recreational, and underwater cultural resources located along the Santa Barbara and San Luis Obispo coastline support the heritage and culture of Indigenous communities, improve residents quality of life, create a sense of place unique to the region, and are integral to the region's economy. An increase in tourism to the proposed sanctuary could benefit the local economy in many ways. The increase in tourism could result in an associated increase in revenue since tourists tend to stay at hotels, eat at restaurants, purchase services and supplies from dive shops, and visit other local businesses. Increased visitation and demand for recreational experiences may result in newly established or expanded business.

Leeworthy et al. (2016) reported results from a household survey in the state of Washington that show the counties from which people are visiting Olympic Coast National Marine Sanctuary (OCNMS). We can make the comparison that many visitors are coming from counties that are not adjacent to OCNMS. For example, the counties of King, Pierce, and Thurston are part of the top five counties that recreators reside in that visited OCNMS. Households participated in outdoor recreation activities such as beach going (92.0 thousand person-days), sightseeing (81.0 thousand person-days), and wildlife watching (56.2 thousand person-days).

Shea et al. (2021) show the economic contributions to Channel Islands National Marine Sanctuary (CINMS) from spending induced by whale watching operations near CINMS. Overall, day trippers who use whale watching operations that visit CINMS contribute about \$3.3 million in output, \$2.1 million in value added, \$1.4 million in income, and 33 full- and part-time jobs to the local economy annually. Hotel guests who use whale watching operations that visit CINMS contribute \$11.2 million in output, \$6.9 million in value added, \$4.7 million in income, and 94 full- and part-time jobs to the local economy. In the 2018–2019 seasons, about 19% of whale watching activity within the Channel Islands' region occurred within CINMS, which means that these contributions have the potential to be impacted by changes within the sanctuary.

NOAA has determined that the proposed sanctuary may result in economic transfers due to the potential increase in revenue and contributions to the local economy from higher resident and tourist spending. These transfers may occur because of local users switching to businesses within the area of the proposed sanctuary that rely or utilize sanctuary resources and away from businesses that do not use sanctuary resources.

Although NOAA expects that the sanctuary designation will have positive effects for the local economy, NOAA is unable to state the economic effects with certainty given the absence of baseline data specific to the proposed rule.

Government Costs

Costs

The potential operating budget below is an estimate of the costs involved in managing and operating a national marine sanctuary. This estimated cost range envisions NOAA and its partners increasing sanctuary activities over time. NOAA estimates these annual costs to be between \$400,000 and \$2,000,000. This range is based upon estimates from existing budgets of ONMS sites. The activities NOAA would focus on after designation would include:

- hiring a sanctuary superintendent;
- establishing an administrative office;
- supporting the creation and operation of a Sanctuary Advisory Council;
- staff support for sanctuary administration and operation;
- staff support for resource protection needs including permitting, review and certification of existing permitted activities, and reviewing planned projects in the sanctuary;
- tribal cultural liaison to work closely with numerous tribal partners;
- creating a NOAA presence with exhibits and signage;
- mapping, characterization, archaeological documentation, and other activities described in the Maritime Heritage Action Plan;
- designing, building, and initial operation of a dedicated research vessel;
- implementing volunteer citizen science programs and a water quality protection program; and
- implementing sustainable recreation and tourism activities.

Net Effects

Although the benefits cannot be monetized or quantified at this point, net positive effects are expected as a result of increased marine conservation, cultural and maritime heritage recreation, improved recreational experiences, and increased non-market economic value from protection and management of sanctuary resources. NOAA also requests public comment on the potential benefits of this proposed rulemaking.

Regulation-Specific Effects of the Proposed Rule

By designating this area as a national marine sanctuary, NOAA would administer the new sanctuary under the National Marine Sanctuaries Act; implement site-specific regulations; and implement a permit program to protect and manage natural, cultural, and historical resources in accordance with 16 U.S.C. 1431(b) and 1433(a). The proposed sanctuary regulations include the following prohibitions, and several of the prohibitions are subject to specified exceptions:

- prohibition on new oil and gas exploration, development, and production;
- prohibition on discharges;
- prohibition on drilling into or altering submerged lands;
- prohibition on possessing, taking, or injuring a sanctuary historical or cultural resource;
- prohibition on taking or possessing any marine mammal, sea turtle, or bird;

- prohibition on deserting a vessel aground, at anchor, or adrift in the sanctuary or leaving harmful matter aboard a grounded or deserted vessel;
- prohibition on attracting a white shark;
- prohibition on introducing or otherwise releasing from within or into the sanctuary an introduced species;
- prohibition on moving, collecting, catching, possessing, or injuring a sanctuary resource located below 1,500 feet water depth within the Rodriguez Seamount management zone; and
- prohibition in interfering with an enforcement action.

Lawful fishing activities would be allowed to continue in the proposed sanctuary. The proposed regulations would also provide processes for permits, authorizations, and certifications consistent with other national marine sanctuaries on the West Coast. The proposed sanctuary would enhance existing protections and programs for natural resources and underwater cultural and historical resources. It would also include additional management and enforcement mechanisms focused specifically on preserving nationally significant marine environments. The proposed rule would add additional levels of protection through increased enforcement, the ability to add stipulations to permits, and consequences of violating the law.

This section qualitatively assesses the costs and benefits of implementing the proposed regulatory prohibitions as compared to the baseline of not designating a sanctuary.

Prohibitions

Oil, gas, and minerals exploration, development, and production, except for continued oil and gas production and well abandonment at Platform Irene and at Platform Heritage

The proposed rule would prohibit new exploration, development, and production of oil, gas, or mineral resources, while exempting ongoing oil and gas production of existing reservoirs under production prior to the effective date of sanctuary designation from two existing platforms.

Benefits: By prohibiting new oil and gas exploration, development, and production, this regulation would result in a reduction in the likelihood of future oil spills from within the sanctuary. This would provide both short- and long-term benefits to both users and non-users of the proposed sanctuary via the protection of sanctuary habitat and resources. The exception would allow existing oil and gas reservoirs in production at the time of sanctuary designation to continue operations, which would not harm those existing activities.

Costs: In the long-term, the existing operations within the sanctuary are likely to be decommissioned as those projects reach the end of their operational life and not as a result of the proposed rule. Additionally, no new costs to the current operators are anticipated as they are already required by the federal government leases and state and local approvals to remove all structures and rehabilitate any seabed disturbance. NOAA's participation in the review and permitting of those future actions would result in minimal, if any, additional time or permit review costs (ONMS authorizations have no cost to the permittee). There are currently no proposed lease sales for oil and gas development in the Pacific OCS. Long-term, within the next

30 years, it is possible that there may be policy changes that support oil and gas drilling in the ocean, resulting in long-term costs to oil and gas companies who would not be able to explore and extract oil from other reservoirs and fields in the area.

Discharges within or into the sanctuary, with some exceptions

NOAA is proposing a regulation prohibiting a discharge within or into the sanctuary, subject to enumerated exceptions.

Benefits: Water quality is important to all water-based natural resources, recreation-tourism uses, and commercial activities such as fishing within the proposed boundaries. The proposed discharge regulations would benefit fish populations, their habitat, and potentially result in benefits to commercial and recreational fisheries revenue. NOAA is proposing exceptions such as certain discharges from lawful fishing activities and certain discharges from routine vessel operations, which would limit the costs to commercial and recreational activities as described in more detail below. NOAA is also proposing to exempt certain Department of Defense and U.S. Coast Guard activities related to discharge.

Costs: Costs to vessels would be minimal since they would be able to discharge outside of sanctuary boundaries (which may require additional gas to leave and return to the sanctuary) or at onshore pumpout facilities and because certain discharges from routine vessel operations are excepted from the discharge prohibitions. It is possible that some vessels may add sanitation devices to their vessels if they felt the individual benefits of doing so would exceed their costs of leaving sanctuary waters or using onshore pumpout facilities. For existing operations that discharge into the sanctuary, such as cooling water discharged at the Diablo Canyon Power Plant, NOAA's proposed regulation includes a certification process, at no fee, to allow existing permitted discharges to continue grandfathering them in for the life of existing permits (see DEIS section 4.7.3 for more details). In the future, proposals for new discharges can be reviewed through proposed permit mechanisms. Administrative costs to the federal government may also increase due to permit reviews since NOAA does not charge a fee for review of certifications, sanctuary general permits, or ONMS authorizations.

Cruise ship discharges, with limited exceptions

Benefits: Protecting water quality in the proposed sanctuary area has enormous potential to provide both short- and long-term ecosystem service benefits (such as recreation) by improving and sustaining the resources on which users rely. Water quality is fundamental to commercial fishing and water-based recreation-tourism uses. Cruise ships, often with thousands of passengers, can create enormous volumes of treated sewage and other discharges. Most of these discharges would not be allowed in the sanctuary via proposed regulations.

Costs: The costs to the cruise ship industry would be minimal to non-existent since ships do not call on any ports within the sanctuary and ships in passage could discharge once outside sanctuary boundaries.

Discharging or depositing from beyond the boundary of the sanctuary any material or other matter that enters the sanctuary and injures a sanctuary resource or quality

NOAA is proposing a standard regulation that prohibits a discharge from beyond the boundary of the sanctuary, that subsequently enters and injures sanctuary resources, subject to specified exceptions.

Benefits: Water quality is important to all water-based recreation-tourism uses and commercial fishing within and surrounding the proposed boundaries. The proposed discharge regulations would benefit fish populations and their habitat, and potentially result in benefits on commercial fisheries revenue.

Costs: Violators of this proposed regulation could potentially incur costs associated with enforcement actions. For example, while unlikely, if a vessel outside of the proposed sanctuary sunk or ran aground releasing harmful materials such as diesel fuel, that discharge could flow into the sanctuary and injure sanctuary resources. In such an instance, the vessel operator, regardless of size of vessel or size of business, could be subject to costs related to remediating disturbance and harm to sanctuary resources, which could also include enforcement penalties.

Disturbing the submerged lands

NOAA is proposing to prohibit disturbing the submerged lands of the sanctuary. This prohibition aims to reduce the risk of harm to sanctuary resources and habitats. NOAA has implemented similar regulations at other national marine sanctuaries and has determined that it effectively protects underwater resources, while allowing for compatible uses within the sanctuary. Exceptions are included for normal operations like anchoring a vessel or installing aids to navigation. NOAA is also proposing to exempt certain Department of Defense and U.S. Coast Guard activities related to disturbance of the seabed.

Benefits: The proposed regulation may indirectly benefit commercial and recreational fishing by reducing the likelihood that activities could damage, or otherwise destroy seabed habitat. Through the protection of habitat, short- and long-term benefits are likely to occur to both users of the proposed boundary and non-users who have value for ocean protection and the resources located within the sanctuary. The proposed regulation would also benefit submerged maritime or cultural heritage resources such as shipwrecks or submerged Indigenous villages or cultural sites.

Costs: The proposed regulations would allow submerged lands disturbance through a permitting process. Permitting review for disturbance of the submerged lands typically does not have any administrative cost to the applicant since NOAA does not charge for review of most activities. However, some anticipated activities such as any proposals to route subsea electrical transmission cables from offshore wind farms to shore through the sanctuary could be assessed a fee, via the special use permit provision of the NMSA (16 U.S.C. § 1441), to use the sanctuary seabed to protect the cables. Offshore wind development is unlikely to see a change in potential costs associated with permits because of the low likelihood that cables will transit the sanctuary under the boundaries proposed in the Agency-Preferred Alternative.

Disturbing a historical resource

NOAA is proposing to prohibit disturbing a historical resource. This prohibition aims to reduce the risk of harm to sanctuary resources. NOAA has implemented similar regulations at other national marine sanctuaries and has determined that it effectively protects underwater historical resources while allowing for compatible uses within the sanctuary.

Benefits: This action is expected to further the protection and conservation of historical resources. This would have both short- and long-term benefits to non-consumptive user groups such as snorkeling and diving that utilize these resources for recreation. Although no studies have been conducted specific to the use or non-use value of shipwrecks in the proposed area, there is evidence that both users and non-users are willing to pay for the protection of these resources (Whitehead & Finney, 2003; Mires, 2014). A more recent study that evaluated the total economic value of national parks to the American public found that nearly 95% of responding households indicated it was important to protect national parks, including historic sites, for current and future generations (Haefele et al., 2016). The same study also found that households placed a marginal value of \$3.87 (2014\$) on each history-focused national park. Although this estimate may seem small, extrapolating across all households in the U.S. yields a value in the millions.

Costs: There are no costs expected.

Taking or possessing a marine mammal, sea turtle, or bird

This prohibition is intended to deter sale of sanctuary resources and to further the policy of *in situ* preservation.

Benefits: Existing federal statutes that provide some level of protection for biological resources include the ESA (16 U.S.C. § 1531 *et seq.*), EFH provisions of the MSA (16 U.S.C. § 1801 *et seq.*), MMPA (16 U.S.C. § 1361 *et seq.*), and MBTA (16 U.S.C. § 703 *et seq.*). With additional, comprehensive protection provided by NMSA under the proposed action, including proposed prohibitions on new oil and gas development and production and seabed disturbance, vulnerable biological resources in the proposed sanctuary would be protected from potential industrial impacts, such as petroleum exploration and development and other activities that could disturb the seabed. In addition, by strengthening the existing laws and enabling additional enforcement presence as well as additional education and outreach, the proposed prohibition on taking or possessing a marine mammal, sea turtle, or bird may help to further deter any existing illegal activities.

Costs: Costs may be incurred due to enforcement actions. There are no other expected costs.

Deserting a vessel

At other adjacent national marine sanctuaries, NOAA has had problems with vessels left abandoned or deserted. Such vessels can break loose from anchorages and become marine debris or cause environmental harm. Also, the regulation allows NOAA further enforcement authority if a beached vessel is left by its owner.

Benefits: The potential for harm to sanctuary resources from abandoned vessels is very high. This proposed regulation is expected to minimize future damage to sanctuary resources by

allowing enforcement authority before a vessel sinks or runs aground, thereby avoiding costs resulting from navigation and environmental hazards. There is potential for both substantial short- and long-term benefits from avoiding pollution that comes from harmful substances that destroy fish habitat. For example, an abandoned boat that sinks may leak oil, fuel, and antifreeze, and leach many synthetic or often toxic materials from the body of the vessel into the environment.

Costs: The cost of vessel removal is minimal compared to the cost of liability if abandoned vessels damage sanctuary resources and damage assessment cases are brought to recover damages from responsible parties. Abandoned vessels present costs to the county, state, or federal government if a responsible party cannot be identified, in addition to the cost of damage and resulting restoration as required.

Attracting a white shark

The proposed sanctuary is increasingly becoming a hotspot for sub-adult and possibly adult white sharks. Having the ability to control research on or ecotourism at white shark aggregation sites has been important at other national marine sanctuaries offshore California.

Benefits: NOAA is aware that some research involving chumming for, catching, and tagging white sharks in this area has occurred. NOAA has not identified operations that attract white sharks for ecotourism activities within the proposed sanctuary. The benefits are expected to be small in the short- and long-term as a result of regulating attraction activities that may impact white shark behavior to help ensure any such activities, if conducted, would be conducted in a way compatible with the primary objective of protection of sanctuary resources, including white sharks.

Costs: The costs would be minimal in the short term, and could only affect one researcher; effects could be zero for tourism operators, since no ecotourism operations attracting white sharks are known to engage in this practice in the sanctuary. Operations would be able to apply for permits to engage in this practice, which have no cost to permittees.

Disturbing resources deeper than 1,500 feet within the Rodriguez Seamount Management Zone, other than from fishing activities

The prohibition on disturbing resources deeper than 1,500 feet within the Rodriguez Seamount zone would cause a beneficial impact on natural resources, many uncommon if not unique to this seamount, and on commercial fishing from habitat enhancement and greatly lowered risk of use conflicts (e.g., new fiber optic cable placement; oil and gas development).

Benefits: The extra protections are expected to promote conservation of this environmentally important area, providing both short- and long-term benefits to those who depend on the resources that utilize this area for migration, nurseries, feeding, and habitat.

Costs: The proposed rule would not change existing NOAA Fisheries regulations within the Rodriguez Seamount Management Zone. There are no costs anticipated for the commercial fishing sector. This is not a recreational diving site; thus, no costs are anticipated for the non-consumptive recreation sector. There is currently no offshore energy production proposed in this zone.

Introducing or otherwise releasing an introduced species

Consistent with similar regulations at all other national marine sanctuaries offshore California, NOAA proposes to adopt a regulation that would prohibit the release of an introduced species.

Benefits: The prohibition against introducing non-native species would benefit the natural ecosystem, as these species can survive and spread through sanctuaries, sometimes resulting in negative impacts to native species and habitats. These introductions can lead to catastrophic disruption of native populations. In turn, this protection could benefit commercial and recreational fisheries by improving stability in the numbers of indigenous fish species available for catch and helping to stabilize the potential for future revenues derived from commercial and for-hire fishing operations.

Costs: The proposed sanctuary regulation prohibiting discharges would not allow ballast water to be discharged within the proposed sanctuary, the furthest western boundary of which would be 51 nmi from shore under the boundaries proposed. Ballast water discharge is a primary vector for introduced species, and therefore ballast water discharge would be prohibited under both the discharge regulation and the introduced species regulation. Vessels coming from international ports that transit the proposed sanctuary will have already exchanged ballast water beyond 200 nmi from shore. Because some vessels engaged in trade along the U.S. Pacific Coast Region may have planned to rely on discharge beyond 50 nmi, this proposed prohibition might affect their operations. However, because only one small area of the proposed sanctuary is beyond 50 nmi from shore, and because few if any of these vessels would be making port calls within CHNMS, the proposed discharge regulation and introduced species regulation would have short-term negligible costs. Additionally, there would be no expected costs associated with recreational fishing activities related to the introduced species prohibition because this proposed regulation provides an exception for catch-and-release of striped bass. NOAA is not proposing any commercial or recreational fishing regulations with this action.

Determination of Significant Regulatory Action

Under E.O. 12866, as supplemented and reaffirmed by E.O. 14094 (Apr. 6, 2023), a regulation is considered a “significant regulatory action” if it is likely to: (1) have an annual effect on the economy of \$200 million or more; or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, territorial, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raise legal or policy issues for which centralized review would meaningfully further the President's priorities or the principles set forth in this Executive Order, as specifically authorized in a timely manner by the Administrator of OIRA in each case.”

Based upon the information provided throughout this document, the proposed rule would not meet the criteria for a 3(f)(1) significant regulatory action under E.O. 12866.

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Appendix E:

Compliance with Additional Regulatory Requirements

This section presents the existing additional statutory and regulatory consultation requirements and compliance for the proposed action. This section also includes the agencies or persons consulted regarding these requirements.

E.1 Consultations under the National Marine Sanctuaries Act

Under National Marine Sanctuaries Act (NMSA) section 303(b)(2), NOAA is required to conduct a series of consultations with Congress, federal and state agencies, and other interested agencies. Per this requirement, upon publication of this draft EIS, NOAA will send consultation letters with a copy of the draft EIS to the following parties:

- U.S. House of Representatives Natural Resources Committee.
- U.S. Senate Committee on Commerce, Science, and Transportation.
- Department of Defense.
- Department of State.
- Department of Transportation.
- Department of the Interior.

NOAA will also send copies of this draft EIS to the following agencies and organizations, consistent with NEPA requirements for inviting comments (40 C.F.R. 1503.1):

- Santa Ynez Band of Chumash Indians.
- State of California.
- Bureau of Ocean Energy Management.
- Bureau of Safety and Environmental Enforcement.
- U.S. Environmental Protection Agency.
- U.S. Army Corps of Engineers.
- U.S. Fish and Wildlife Service.
- U.S. Coast Guard.
- Department of Defense: U.S. Navy, Naval History and Heritage Command.

NOAA has determined that the designation of CHNMS will not have a negative impact on the National Marine Sanctuary System and that sufficient resources exist to effectively implement sanctuary management plans and to update site characterizations. The preliminary finding for NMSA section 304(f) is available on the proposed sanctuary's [website](#).

In addition, NOAA consulted with the PFMC, as required in accordance with NMSA section 304(a)(5). Under section 304(a)(5) of the NMSA, NOAA shall accept a Council determination that regulations are not necessary unless NOAA finds that the determination fails to fulfill the purposes and policies of the NMSA and the goals and objectives of the proposed designation. Through this consultation, NOAA provided the PFMC with the opportunity to recommend any fishing regulations it deemed necessary to implement the proposed sanctuary designation and participated in two public meetings with the PFMC in September 2022 and November 2022, as the Council deliberated on this issue. At its hearing on November 6, 2022, the PFMC decided

not to recommend any fishing regulations to implement the proposed designation but expressed a willingness to reconsider in the future should new information about the need for fishing regulations arise. The PFMC documented this decision in a letter to ONMS West Coast Regional Office dated December 1, 2022. NOAA accepts the PFMC's response relative to the proposed designation of CHNMS.

E.2 National Historic Preservation Act of 1966 (54 U.S.C. §§ 300101 et seq.) – Section 106 Consultation

Section 106 of the National Historic Preservation Act (NHPA; 54 U.S.C. 306108) requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment with regard to the undertaking. “Historic property” means any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and material remains that are related to and located within such properties, including properties of traditional religious and cultural importance to an Indigenous nation or tribe or Native Hawaiian organization. 36 C.F.R. 800.16(l).

The regulations implementing Section 106 of the NHPA (36 C.F.R. 800) establish a process requiring federal agencies to (i) determine whether the undertaking is a type of activity that could affect historic properties; (ii) identify historic properties in the area of potential effects; (iii) assess potential adverse effects; and (iv) resolve adverse effects. The regulations require that federal agencies consult with states, tribes, and other interested parties when making their effect determinations.

NOAA has determined that designation of a national marine sanctuary and related rulemaking for sanctuary-specific regulations meet the definition of an undertaking as defined at 800.16(y). In fulfilling its responsibilities under Section 106 of the NHPA, NOAA is seeking to identify potential consulting parties in addition to the State Historic Preservation Officer, and will complete the identification of historic properties in the area of potential effects and the assessment of the effects of the undertaking on such properties in consultations with those identified parties. NOAA seeks public input, particularly in regard to the identification of historic properties within the proposed area of potential effect.

Pursuant to 36 C.F.R. 800.16(l)(1),³⁵ the term “historic property” means: “any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior.” The term includes “artifacts, records, and remains that are related to and located within such properties,” as well as “properties of traditional religious and cultural importance to an Indian tribe... that meet the National Register criteria.” Responses to comments received on the proposed rule, the draft EIS for CHNMS designation, and the section 106 consultation will be published in the final EIS and in the final rule.

³⁵ <https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-C/section-800.16>

E.3 Coastal Zone Management Act (16 U.S.C. §§ 1451 et seq.) – Federal Consistency

In 1972, Congress enacted the CZMA (16 U.S.C. 1456) to encourage coastal states, Great Lakes states, and U.S. Territories and Commonwealths to preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone. Section 307 of the CZMA is known as the “federal consistency” provision. The federal consistency provision requires federal actions (inside or outside a state’s coastal zone) that affect any land or water use or natural resource of a state’s coastal zone, to be consistent to the maximum extent practicable with the enforceable policies of the state coastal management program.

Section 307 of the CZMA requires federal agencies to consult with a state’s coastal program on potential federal agency activities that affect any land or water use or natural resource of the coastal zone. Because the proposed sanctuary lies partially within state waters, NOAA intends to submit a copy of the proposed rule and supporting documents, including this draft EIS, to the California Coastal Commission for evaluation of federal consistency under the CZMA. This EIS provides the backbone of the analysis necessary for that determination. NOAA will publish the final rule and designation only after completion of the federal consistency process under the CZMA. The federal consistency regulations can be reviewed at 15 C.F.R. part 930.

E.4 Endangered Species Act (16 U.S.C. §§ 1531 et seq.) – Section 7 Consultation

The ESA of 1973, as amended, provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend. The ESA directs all federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the act. NOAA Fisheries works with USFWS to manage ESA listed species. Generally, NOAA Fisheries manages marine species, while USFWS manages land and freshwater species.

A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become an endangered species within the foreseeable future. When listing a species as threatened or endangered, NOAA Fisheries or USFWS also designates critical habitat for the species to the maximum extent prudent and determinable (16 U.S.C. § 1533(a)(3)).

Section 7(a)(2) of the ESA states that each federal agency shall, in consultation with the Secretary of Commerce and/or Interior, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. In fulfilling these requirements, each agency must use the best scientific and commercial data available. The consultation process is further developed in regulations promulgated at 50 C.F.R. part 402.

The ESA requires action agencies to consult or confer with the USFWS and/or NOAA Fisheries when there is discretionary federal involvement or control over the action. When a federal agency’s action “may affect” a protected species, that agency is required to consult formally with NOAA Fisheries or USFWS, depending upon the endangered species, threatened species, or

designated critical habitat that may be affected by the action (50 C.F.R. § 402.14 (a)). Federal agencies are exempt from this general requirement if they have concluded that an action “may affect but is not likely to adversely affect” endangered species, threatened species, or designated critical habitat and NOAA Fisheries or the USFWS concurs with that conclusion (50 C.F.R. § 402.14 (b)). This is commonly referred to as “informal consultation.” This finding can be made only if *all* the reasonably expected effects of the proposed action will be beneficial, insignificant, or discountable. An action agency shall confer with USFWS and/or NMSF if the action is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat.

Most consultations are conducted informally with the federal agency or a designated non-federal representative. When the biological assessment or other information indicates that the action has no likelihood of adverse effect (including evaluation of effects that may be beneficial, insignificant, or discountable), NOAA Fisheries and/or USFWS provide(s) a letter of concurrence, which completes informal consultation. The agency is not required to prepare a biological assessment for actions that are not major construction activities, but, if a listed species or critical habitat is likely to be affected, the agency must provide the services with an account of the basis for evaluating the likely effects of the action.

In Section 4.3.1 and Appendix G.1 of this draft EIS, NOAA identified 38 ESA-listed species under USFWS jurisdiction potentially present in the study area and designated critical habitat for six species in the study area. In Section 4.3.1 and Appendix G.3 of this draft EIS, NOAA identified 22 ESA-listed species under NOAA Fisheries jurisdiction potentially present in the action area. NOAA then evaluated which of these species and habitat would likely be present in the action area and affected by implementing the proposed action and described any potential impacts in sections 4.3.3–4.3.8.

As detailed in Section 4.3 of the draft EIS, ONMS believes implementation of the Initial Boundary Alternative or other action alternatives identified in the draft EIS is not likely to adversely affect any species listed as threatened or endangered, or habitats critical to such species, under the ESA. Concurrent with public review of this EIS, ONMS will initiate consultation with NOAA Fisheries and USFWS under section 7 of the ESA to ensure that the selected alternative for sanctuary designation will be compliant with the ESA. NOAA/ONMS will update this section in the final EIS to include any correspondence transpiring between the issuance of this draft EIS and the final EIS.

E.5 Marine Mammal Protection Act of 1972 (16 U.S.C. §§ 1361 et seq.)

The MMPA, as amended, prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. The MMPA defines “take” as: “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal” (16 U.S.C. § 1362(13)). Harassment means any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing

disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment) (16 U.S.C. § 1362).

Section 101(a)(5)(A-D) of the MMPA provides a mechanism for allowing, upon request, the "incidental," but not intentional, taking, of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing or directed research on marine mammals) within a specified geographic region. The NOAA Fisheries Office of Protected Resources processes applications for incidental takes of small numbers of marine mammals. Authorization for incidental takes may be granted if NOAA Fisheries finds that the taking would be of small numbers, have no more than a "negligible impact" on those marine mammal species or stocks, and not have an "unmitigable adverse impact" on the availability of the species or stock for "subsistence" uses. NOAA Fisheries issuance of an incidental take authorization also requires NOAA Fisheries to make determinations under NEPA and section 7 of the ESA.

Effect Determination for Marine Mammals for the Proposed Action

NOAA/ONMS determined that implementing the proposed action would result in beneficial impacts on marine mammals as described in Section 4.3 of the draft EIS. Section 4.3 describes the marine mammals potentially occurring in the study area and analyzes potential impacts that the proposed action could have on marine mammals. Without mitigation measures, vessel operations do create the possibility for collision with a marine mammal or for temporary disturbance of a marine mammal, such as a California sea lion or common dolphin, which are frequently encountered in the study area. NOAA will operate sanctuary vessels using the precautionary practices described in Section 3.2 and Appendix C of the draft EIS, including posting lookouts, managing vessel speed, and avoiding night operations.

The contribution of noise to the sanctuary soundscape from conducting sanctuary management activities would be minor related to the scope of existing activities in the region. Any acoustics effects on living marine resources from engine noise, movement of equipment through the water, and other underwater sound generated from propulsion machinery or depth sounders would be minor and temporary. Potential impacts from use of multibeam sonar during sanctuary management actions are anticipated to be limited to temporary behavioral disturbances of marine mammals within the mid- and higher- frequency hearing range (e.g., dolphins) with all sound exposures anticipated to be less than one minute. ONMS's multibeam and other active acoustic activities have been assessed programmatically pursuant to NEPA with those of other NOS programs, including the Office of Coast Survey, which conducts the majority of echo sounder surveys for the NOS (NOS Surveying programmatic EIS). As part of that programmatic review, the National Ocean Service has completed an informal section 7 ESA consultation with NOAA Fisheries and is undertaking a formal section 7 consultation with USFWS. NOS has also requested authorization for incidental take of marine mammals under the MMPA from both USFWS and NOAA Fisheries. ONMS would comply with all required mitigation when conducting activities under this NOS Surveying programmatic EIS within the proposed CHNMS. NOS [Surveying programmatic EIS](#) is available online.

Should ONMS conduct, permit, or authorize any future activities, NOAA/ONMS would evaluate the environmental impacts from such activities on a case-by-case basis and would seek any necessary authorizations from NOAA Fisheries prior to conducting the proposed activity.

E.6 Migratory Bird Treaty Act (16 U.S.C. §§ 703 et seq.)

The MBTA of 1918 implements the U.S.’ commitment to bilateral treaties, or conventions, with Great Britain, Canada, Japan, Russia, and Mexico for the protection of shared migratory bird resources. The MBTA establishes that it is unlawful to pursue, hunt, take, capture, kill or sell migratory birds unless authorized by a permit issued by USFWS. Take is defined in regulations as: “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 C.F.R. § 10.12). The statute does not discriminate between live or dead birds and gives full protection to any bird parts including feathers, eggs, and nests. The MBTA protects over 800 species of birds that occur in the U.S., and the list of migratory bird species protected by the MBTA is set forth in 50 C.F.R. § 10.13. Of these migratory bird species protected under the MBTA, 53 species may be found transiting, resting, or foraging within the study area (see Appendix G.2). USFWS issues permits for scientific collecting, banding, and marking, falconry, raptor propagation, depredation, import, export, taxidermy, waterfowl sale and disposal, and special purposes. USFWS has also developed, and continues to develop, voluntary guidance that helps project proponents reduce incidental take of migratory birds.

MBTA No Take Statement for the Proposed Action

Effect Determination for Migratory Birds

NOAA/ONMS determined that the proposed action would not cause the take of any migratory bird species protected under the MBTA. Section 4.3.1 and Appendix G.2 of the draft EIS describes the 53 migratory bird species that may be found transiting, resting, or foraging within the study area, and analyzes potential impacts the proposed action could have on these species. Any impacts on migratory birds associated with implementing the proposed action would be negligible, such as human disturbances from vessel traffic, noise from recreational activities, or from other activities in support of the sanctuary management such as research or educational activities. Any disturbances that did occur would be negligible and would not rise to the level of take under the MBTA. Should NOAA/ONMS conduct, permit, or authorize any future activities that would cause the take of any species protected under the MBTA, NOAA/ONMS would evaluate the environmental impacts from such activities on a case-by-case basis.

E.7 Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. §§ 1801 et seq.) – Essential Fish Habitat Consultation

In 1976, Congress passed the MSA. The MSA fosters long-term biological and economic sustainability of the nation’s marine fisheries out to 200 nautical miles from shore. Key objectives of the MSA are to prevent overfishing, rebuild overfished stocks, increase long-term economic and social benefits, and ensure a safe and sustainable supply of seafood. The MSA promotes domestic commercial and recreational fishing under sound conservation and management principles and provides for the preparation and implementation, in accordance with national standards, of fishery management plans (FMPs).

The MSA provides Councils and NOAA Fisheries with authority to identify and designate in the FMP EFH and HAPC. The MSA defines EFH as “those waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity” (MSA § 3(10)). HAPCs are subsets of EFH that exhibit one or more of the following traits: (i) provide important ecological function; (ii) are sensitive to human-induced environmental degradation; (iii) are stressed by development; or (iv) are rare (50 C.F.R. § 600.815(a)(8)).

The consultation requirements of section 305(b) of the MSA provide that:

- Federal agencies must consult with the Secretary of Commerce on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.
- The Secretary shall provide recommendations (which may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH) to conserve EFH to federal or state agencies for activities that would adversely affect EFH.
- The federal action agency must provide a detailed response in writing to NOAA Fisheries and to any regional fishery management council commenting under section 305(b)(3) of the MSA within 30 days after receiving an EFH conservation recommendation.

“Adverse effect” is defined in the regulations as: “any impact that reduces quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions” (50 C.F.R. § 600.910).

The trigger for EFH consultation is a federal action agency’s determination that an action or proposed action, funded, authorized, or undertaken by that agency may adversely affect EFH. If a federal agency makes such a determination, then EFH consultation is required. If a federal action agency determines that an action does not meet the may adversely affect EFH test (i.e., the action will not adversely affect EFH), no consultation is required.

The Department of Commerce’s guidelines for implementing the EFH coordination and consultation provisions of the MSA are at 50 C.F.R. §§ 600.905-930. These guidelines provide definitions and procedures for satisfying the EFH consultation requirements, which include the use of existing environmental review processes, general concurrences, programmatic consultations, or individual EFH consultations (i.e., abbreviated, expanded) when an existing process is not available. The EFH guidelines also address coordination with the councils, NOAA Fisheries EFH conservation recommendations to federal and state agencies, and council comments and recommendations to federal and state agencies.

The proposed sanctuary action area is located within EFH and HAPCs for various federally managed fish species within the Pacific Coast Groundfish, Coastal Pelagic Species, and Highly Migratory Species FMPs. The EFH regulations encourage regional Fishery Management Councils to designate HAPCs within areas identified as EFH to focus conservation priorities on specific habitat areas that play a particularly important role in life cycles of federally managed

fish species. HAPCs help focus research and conservation efforts on localized areas that are especially important ecologically or are vulnerable to degradation. HAPCs are subsets of the total area necessary to support healthy stocks of fish throughout all their life stages. Section 4.3.1 and Appendix G.4 of this EIS identifies the EFH and HAPCs that overlap with the action area following procedures established by the MSA.

Upon publication of this draft EIS, NOAA/ONMS will begin consultation with NOAA Fisheries to make an effects determination with regard to the proposed action's effects on EFH. NOAA/ONMS will update this section in the final EIS to include any correspondence transpiring between the issuance of this draft EIS and the final EIS.

E.8 E.O. 13175 – Consultation and Coordination with Indian Tribal Governments and Tribal Engagement

Under E.O. 13175 of November 6, 2000, federal departments and agencies are charged with engaging in regular and meaningful consultation and collaboration with officials of federally recognized nations and tribes on the development of federal policies that have tribal implications. The E.O. identifies fundamental principles guiding agencies in formulating or implementing policies that have tribal implications, including working with Indian tribes (defined to be federally recognized tribes) on a government-to-government basis to address issues concerning Indian tribal self-government, tribal trust resources, and Indian tribal treaty and other rights, recognizing the right of Indian tribes to self-government, and supporting tribal sovereignty and self-determination. NOAA implements E.O. 13175 through the NOAA Administrative Order 218-8 (Policy on Government-to-Government Consultation with Federally Recognized Indian Tribes and Alaska Native Corporations), and the NOAA Tribal Consultation Handbook. Under these policies and procedures, NOAA offers affected federally recognized tribes government-to-government consultation at the earliest practicable time it can reasonably anticipate that a proposed policy or initiative may have tribal implications.

NOAA identified the Santa Ynez Band of Chumash Indians (SYBCI) as the only federally recognized tribe in the area of the proposed sanctuary. NOAA sent a letter to this tribe following publication of the NOI (November 19, 2021) offering government-to-government consultation. NOAA subsequently accepted a request for government-to-government consultation from the Santa Ynez Band of Chumash Indians on January 26, 2022. To date, five formal consultation meetings have been conducted, on January 27, 2022, April 14, 2022, August 12, 2022, September 1, 2022, and December 19, 2022, as well as one informational meeting with NOAA Leadership on April 28, 2022. In the course of this consultation, NOAA has shared relevant portions of the draft EIS and the draft management plan with the SYBCI and incorporated comments received and information exchanged in consultation to revise and update the draft EIS. NOAA's government-to-government consultation with the SYBCI for the purpose of designating the new national marine sanctuary is still ongoing.

E.9 E.O. 12898 – Federal Actions to Address Environmental Justice in Minority and Low-Income Populations

E.O. 12898 directs federal agencies to identify and address disproportionately high and adverse effects of their actions on human health and the environment of minority or low-income populations. The designation of national marine sanctuaries by NOAA helps to ensure the enhancement of environmental quality for all populations in the United States. The proposed sanctuary designation would not result in disproportionate negative impacts on any minority or low-income population. In addition, many of the potential impacts from designating the proposed sanctuary would result in long-term or permanent beneficial impacts by protecting sanctuary resources, which may have a positive impact on communities by providing employment and educational opportunities, and potentially result in improved ecosystem services. In compliance with E.O. 12898, Section 4.6, *Socioeconomic Resources, Human Uses, and Environmental Justice*, in this EIS addresses environmental justice issues associated with the proposed action in the Environmental Consequences sections (sections 4.6.3–4.6.9).

E.10 National Environmental Policy Act

ONMS has prepared this EIS to evaluate the environmental effects of the proposed action of designating a new national marine sanctuary, which considered alternatives for the proposed designation of a national marine sanctuary along and offshore of the coast of central California, in accordance with NEPA.

E.11 Paperwork Reduction Act (44 U.S.C. §§ 3501 et seq.)

Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act (PRA), 44 U.S.C. 3501 *et seq.*, unless that collection of information displays a currently valid Office of Management and Budget (OMB) control number.

NOAA has an OMB control number (0648–0141) for the collection of public information related to the processing of ONMS permits across the National Marine Sanctuary System. NOAA's proposal to create a national marine sanctuary along the coast of central California would likely result in a minimal increase in the number of requests for ONMS general permits, special use permits, certifications, and authorizations because this action proposes to add those approval types for this proposed sanctuary. A large increase in the number of permit requests would require a change to the reporting burden certified by OMB control number 0648–0141. While not expected, if such permit requests do increase, a revision to this control number for the processing of permits would be requested.

In the most recent Information Collection Request revision and approval for national marine sanctuary permits (dated November 30, 2021), NOAA reported approximately 424 national marine sanctuary permitting actions each year, including applications for all types of ONMS permits, requests for permit amendments, and the conduct of administrative appeals. Of this amount, CHNMS is expected to add 5 to 15 permit requests per year. The public reporting burden for national marine sanctuaries general permits is estimated to average three responses

with an average of 1.5 hours per response, to include application submission, a cruise or flight log (or some other form of activity report), and a final summary report after the activity is complete. See section G of the proposed rule for more detailed information.

E.12 Regulatory Flexibility Act (5 U.S.C. §§ 601 et seq.)

The Regulatory Flexibility Act (RFA), as amended and codified at 5 U.S.C. 601 *et seq.*, requires federal agencies to prepare a regulatory flexibility analysis of a rule's impact on small entities whenever the agency is required to publish a notice of proposed rulemaking, unless the agency can certify, pursuant to 5 U.S.C. 605, that the action will not have significant economic impact on a substantial number of small entities.

The RFA requires agencies to consider, but not necessarily minimize, the effects of proposed rules on small entities. There are no decision criteria in the RFA. Instead, the goal of the RFA is to inform the agency and public of expected economic effects of the proposed rule and to ensure the agency considers alternatives that minimize the expected economic effects on small entities while meeting applicable goals and objectives. Section F of the proposed rule quantifies the potential effects of a national marine sanctuary designation.

The analysis detailed in section F of the proposed rule serves as the factual basis for and supports NOAA's decision to certify that the proposed rule will not have a significant economic impact on a substantial number of small entities. Therefore, no further analysis is needed under the RFA (5 U.S.C. 605(b)).

E.13 E.O. 12866 – Regulatory Impact

OMB has determined this rule is significant action under Executive Order 12866, "Regulatory Planning and Review," 58 Fed. Reg. 190 (Oct 4, 1993), as supplemented and reaffirmed by and E.O. 14094, "Modernizing Regulatory Review," 88 Fed. Reg. 21879 (April 11, 2023). Based upon the information provided in NOAA's accompanying Cost-Benefit Analysis, this proposed rule would not meet the criteria for a significant regulatory action as defined in Section 3(f)(1) of E.O. 12866, as supplemented and reaffirmed by E.O. 14094. This means the estimated annual effect is less than \$200 million, and the action would not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities. Therefore, NOAA did not prepare the full regulatory impact analysis under E.O. 12866.

E.14 Consultation Correspondence

Refer to the CHNMS website for [relevant correspondence](#) between NOAA and consulting parties on this draft EIS.

Appendix F: Analysis of Relevant Federal and State Statutes

Numerous federal and state agencies provide regulatory oversight of the resources within or near the study area. Many of these are particularly relevant to the study area, as they provide the primary current regulatory framework for resources in the study area. This appendix provides information on these federal and state laws and policies and how they intersect with management of the study area. NOAA’s proposed sanctuary designation complies with all applicable environmental laws and regulations associated with the study area.

F.1 Physical Resources

Air Quality and Climate Change

Federal Clean Air Act, 42 U.S.C. § 7401 et seq.

The federal Clean Air Act requires the USEPA to set National Ambient Air Quality Standards (40 C.F.R. part 50) for six principal pollutants (“criteria” air pollutants) that can be harmful to public health and the environment (USEPA, 2022c).

Section 176(c)(4) of the federal Clean Air Act contains provisions that apply specifically to federal agency actions, including actions that receive federal funding. This section of the Clean Air Act requires federal agencies to ensure that their actions are consistent with the Clean Air Act and with applicable state air quality management plans. The USEPA’s general conformity rule applies to federal actions occurring in nonattainment or in certain designated maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds under National Ambient Air Quality Standards. The federal agency providing the funding for the proposed action is responsible for submitting conformity determination documentation to the USEPA (USEPA, 2022k; USEPA, 2022a). The proposed sanctuary designation does not include stationary or mobile sources of emissions and would not result in emissions that exceed the thresholds; therefore, the proposed sanctuary designation is not subject to a formal conformity determination.

California Clean Air Act

The California Clean Air Act requires the California Air Resources Board to evaluate and identify air quality-related indicators for Air Pollution Control Districts to use in assessing progress toward attainment of the state ozone standards (California Health and Safety Code, Sections 39607(f) and (g)).

The California Air Resources Board has established California Ambient Air Quality Standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, 10-micron particulate matter, airborne lead, hydrogen sulfide, and vinyl chloride at levels designed to protect the most sensitive members of the population, particularly children, the elderly, and people who suffer from lung or heart diseases (California Air Resources Board, 2022).

MARPOL Annex VI Regulations for the Prevention of Air Pollution from Ships

Annex VI of MARPOL, the International Convention for the Prevention of Pollution from Ships, addresses air pollution from ocean-going ships. Annex VI's international air pollution requirements set limits on nitrogen oxides emissions and require use of fuel with lower sulfur content to reduce ozone-producing pollution. Designated emission control areas set more stringent standards for sulfur oxides, nitrogen oxides, and particulate matter. These requirements apply to vessels operating in U.S. waters as well as ships operating within 200 nautical miles of the coast of North America, also known as the North American Emission Control Area (USEPA, 2021). In 2011, the International Maritime Organization (IMO) adopted more stringent measures to significantly reduce the amount of greenhouse gas emissions from ships; these measures went into effect on January 1, 2013 (IMO, 2019a).

Geology and Oceanography

See Section 4.7 for specific regulations regarding oil, gas, and alternative energy development.

Submerged Lands Act, 43 U.S.C. § 1301 et seq.

Under the Submerged Lands Act, the location of energy and mineral resources determines whether or not they fall under state control. The Submerged Lands Act granted states title to natural resources located within three miles of their coastline. For purposes of the Submerged Lands Act, the term “natural resources” includes oil, gas, and all other minerals.

Outer Continental Shelf Lands Act, 43 U.S.C. § 1331 et seq.

OCSLA established federal jurisdiction over submerged lands on the OCS seaward of state boundaries. Under OCSLA, the Secretary of the Interior is responsible for the administration of mineral exploration and development of the OCS. OCSLA provides guidelines for implementing an OCS oil and gas exploration and development program, and authorities for ensuring that such activities are safe and environmentally sound.

Deep Seabed Hard Mineral Resources Act, 30 U.S.C. § 1401 et seq.

The Deep Seabed Hard Mineral Resources Act establishes a U.S. legal regime for the exploration and recovery of hard mineral resources in the deep seabed, pending the United States' adoption of an international legal regime, such as the United Nations Convention on the Law of the Sea. Under the Act, “deep seabed” is defined to mean the seabed lying seaward of and outside the continental shelf of any nation and any area of national resource jurisdiction of any nation that extends beyond the continental shelf if such jurisdiction is recognized by the United States. The Act establishes a licensing and permit process for exploration and recovery of hard mineral resources for persons and entities under U.S. jurisdiction; the process helps to ensure the protection of the marine environment, safety of life and property at sea, prevention of unreasonable interference with other uses of the high seas, and conservation of mineral resources. With regard to minerals on the deep seabed, seabed nodules contain nickel, copper, cobalt, and manganese—minerals important to many industrial uses. No commercial deep-seabed mining is currently conducted in the study area, nor is such activity anticipated in the near future.

Water Quality

Marine water quality is regulated by numerous statutes and government agencies. These serve to protect the marine environment from various point and nonpoint sources of marine pollution.

Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), 33 U.S.C. § 1251 et seq.

The CWA was passed in 1972 by Congress and amended in 1987. Point source discharges into waters of the United States are prohibited under the CWA unless authorized by a NPDES permit. NPDES permits require compliance with technology- and water quality–based treatment standards. Two sections of the CWA deal specifically with discharges to marine and ocean waters.

CWA Section 312 (33 U.S.C. § 1322) establishes a regulatory framework to protect human health and the aquatic environment from disease-causing microorganisms that may be present in sewage from boats. Pursuant to Section 312 of the CWA and its implementing regulations (33 C.F.R. part 159), all recreational boats with installed toilet facilities must have an operable Marine Sanitation Device on board. All installed marine sanitation devices must be USCG-certified. USCG-certified devices are so labeled except for some holding tanks, which are certified by definition under Section 312 of the CWA (33 U.S.C. § 1322).

Under CWA Section 403 (33 U.S.C. § 1343), any discharge to the territorial seas (3 miles) or beyond also must comply with the Ocean Discharge Criteria established under CWA Section 403.

Section 404 of the CWA establishes a permit program to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Section 404 requires a permit before dredged or fill material may be discharged into waters of the U.S., unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities) (USEPA 2022e).

Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the U.S. unless a Section 401 water quality certification is issued, or certification is waived. States and authorized tribes where the discharge would originate are generally responsible for issuing water quality certifications. In cases where a state or tribe does not have authority, the USEPA is responsible for issuing certification (33 U.S.C. § 1341) (USEPA, 2022d).

CWA Section 311 pertains to cleanup and removal of oil and/or hazardous substance discharges into navigable waters, adjoining shorelines, or certain other areas. Section 311(c)(1)(A) requires the President to ensure effective and immediate removal of a discharge by, for example, directing all federal, state, and private actions to remove a discharge or mitigate or prevent a substantial threat of a discharge (USEPA, 2023a).

Vessel Incidental Discharge Act (Title IX of the Frank LoBiondo Coast Guard Authorization Act of 2018, Pub. L. 115-282)

The Vessel Incidental Discharge Act was signed into law by the President on December 4, 2018. The Vessel Incidental Discharge Act requires the USEPA to develop new national standards of performance for commercial vessel incidental discharges and the USCG to develop corresponding implementing regulations.

Pursuant to the Vessel Incidental Discharge Act, the following interim requirements apply until the USEPA publishes future standards and the USCG publishes corresponding implementing regulations under the Vessel Incidental Discharge Act:

- For large, non-fishing commercial vessels: The existing vessel discharge requirements established through the USEPA 2013 Vessel General Permit and the USCG ballast water regulations, and any applicable state and local government requirements.
- For small vessels and fishing vessels of any size: The existing ballast water discharge requirements established through the USEPA 2013 Vessel General Permit and the USCG ballast water regulations, and any applicable state and local government requirements (USEPA, 2022j).

On October 26, 2020, the USEPA published a Notice of Proposed Rulemaking for Vessel Incidental Discharge National Standards of Performance under the 2018 Vessel Incidental Discharge Act (USEPA, 2022h).

Prior to the Vessel Incidental Discharge Act, the USEPA regulated incidental discharges from commercial vessels under the NPDES Permit Program, primarily through two NPDES general permits: the Vessel General Permit and the Small Vessel General Permit (USEPA, 2022i).

Rivers and Harbors Appropriations Act of 1899, 33 U.S.C. § 401 et seq.

Section 9 of the Federal Rivers and Harbors Appropriations Act of 1899 prohibits the construction of any dam or dike across any navigable water of the United States in the absence of Congressional consent and approval of the plans by the Chief of Engineers and the Secretary of the Army.

Section 10 prohibits the unauthorized obstruction or alteration of any navigable water of the United States. Under Section 10, the construction of any structure in or over any navigable water of the United States, the excavating from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters is unlawful unless authorized by the U.S. Army Corps of Engineers (USACE; 33 C.F.R. § 320.2(b)). Navigable waters under the Rivers and Harbors Act are those “subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce” (33 C.F.R. § 329.4). Typical activities requiring Section 10 permits are construction of piers, wharves, bulkheads, marinas, ramps, floats, intake structures, cable, or pipeline crossings, and dredging and excavation. The proposed action does not include any construction or alteration that would require a permit under this act.

Title I of the Marine Protection, Research, and Sanctuaries Act (MPRSA), also known as the Ocean Dumping Act, 33 U.S.C. §§ 1401 et seq.

The MPRSA, also known as the Ocean Dumping Act, prohibits dumping into marine waters material that would unreasonably degrade or endanger human health or the marine environment. Ocean dumping cannot occur unless a permit is issued under the MPRSA. The USEPA is the permitting agency for the ocean disposal of all materials except dredged material. In the case of ocean disposal of dredged material, the decision to issue a permit is made by the USACE, using the USEPA's environmental criteria and subject to USEPA's concurrence (USEPA, 2022b).

Oil Pollution Act of 1990, 33 U.S.C. § 2701 et seq.

The Oil Pollution Act (OPA) of 1990 streamlined and strengthened the USEPA's ability to prevent and respond to catastrophic oil spills. A trust fund financed by a tax on oil is available to clean up spills when the responsible party is incapable or unwilling to do so. The OPA requires oil storage facilities and vessels to submit to the federal government plans detailing how they will respond to large discharges. The USEPA has published regulations for aboveground storage facilities; the USCG has done so for oil tankers. The OPA also requires the development of Area Contingency Plans to prepare and plan for oil spill response on a regional scale (USEPA, 2022g). See Section 4.8 (Marine Transportation) for more information.

MARPOL Annex I Regulations for the Prevention of Pollution by Oil

Annex I of MARPOL, the International Convention for the Prevention of Pollution from Ships, addresses pollution of the marine environment by oil pollution from ships. It details discharge requirements for prevention of pollution by oil and oily materials (IMO, 2019b).

MARPOL Annex IV Regulations for the Prevention of Pollution by Sewage from Ships

Annex IV of MARPOL, Prevention of Pollution by Sewage from Ships, contains a set of regulations regarding the discharge of sewage into the sea from ships, including regulations regarding the ships' equipment, systems for the control of sewage discharge, the provision of port reception facilities for sewage, and requirements for survey and certification. The regulations in Annex IV prohibit the discharge of sewage into the sea within a specified distance from the nearest land, unless otherwise provided, since it is generally considered that bacterial processes in the ocean are capable of processing raw sewage (IMO, 2019b).

MARPOL Annex V Regulations for the Prevention of Pollution by Garbage from Ships

The Act to Prevent Pollution from Ships (33 U.S.C. § 1901 *et seq.*) implements provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL), including Annex V, which regulates prevention of pollution by garbage from ships. The discharge of solid wastes in United States waters is regulated under the Act to Prevent Pollution from Ships, as amended by the Marine Plastic Pollution Research and Control Act of 1987, and the CWA. Under these laws, the disposal of plastics is prohibited in all waters, and other garbage, including paper, glass, rags, metal, and similar materials, is prohibited within 14 miles (12 nmi)

from shore (unless macerated). Garbage ground to pieces under an inch can be discharged beyond 3 nmi from shore (IMO, 2019c).

Coastal Zone Management Act, 16 U.S.C. § 1451 et seq.

CZMA provides incentives for coastal states to develop and implement coastal area management programs. Among other things, the CZMA requires states that participate in the National Coastal Zone Management Program to develop coastal nonpoint pollution control programs.

Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) addresses cleanup of hazardous substances and mandates liability for environmental cleanup on those whose actions cause release into the environment. In conjunction with the CWA, it requires preparation of a National Contingency Plan for responding to oil or hazardous substances release. The Superfund Enterprise Management System (SEMS) database contains information on hazardous waste sites, potentially hazardous waste sites, and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL. SEMS contains information on sites located within the shoreline counties of the study area. There are 24 sites in San Luis Obispo County, 7 of which are near the coast (USEPA, 2022f). There are 33 sites in Santa Barbara County, 5 of which are near the coast, and 1 of which is located in marine waters near the study area (Platform Henry). Only one site in each county is on the NPL; all other sites mentioned are not on the NPL (USEPA, 2022f).

Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq.

The Resource Conservation and Recovery Act (RCRA) addresses hazardous waste management, establishing duties and responsibilities for hazardous waste generators, transporters, handlers, and disposers. RCRA requires that vessels that generate or transport hazardous waste offload these wastes at treatment or disposal facilities or outside the territorial waters of the United States.

Porter-Cologne Water Quality Control Act, California Water Code § 13000 et seq.

The Porter-Cologne Water Quality Control Act contains provisions for enforcing water quality standards through issuance of Waste Discharge Requirements. Pursuant to the act, the State Water Resources Control Board (SWRCB) has the primary responsibility to protect California's coastal and ocean water quality. SWRCB has been given the authority by the USEPA to administer the NPDES program for California. The Regional Water Quality Control Boards, in coordination with the SWRCB, issue both state waste discharge requirements and NPDES permits to individual dischargers. Dischargers are required to establish self-monitoring programs for their discharges and to submit compliance reports to Regional Water Quality Control Boards. The SWRCB has established regulations to implement these measures through water quality control plans, including the California Ocean Plan, the Regional Water Quality Control Plans (Basin Plans), and the Thermal Water Quality Control Plan.

Marine Debris Act 33 U.S.C. § 1951 et seq.

The Marine Debris Act, signed into law in 2006 and amended in 2012, 2018, and 2020, establishes a Marine Debris Program within NOAA to identify, determine sources of, assess, prevent, reduce, and remove marine debris and address the adverse impacts of marine debris on the economy of the United States, the marine environment, and navigation safety. The Marine Debris Act also directs NOAA to provide national and regional coordination to assist states, tribes, and regional organizations in the process of addressing marine debris, and to undertake outreach and education activities for the public and other stakeholders on sources of marine debris, threats associated with marine debris, and approaches to identifying and addressing marine debris. For instance, NOAA is charged with helping Regional Ocean Partnerships, such as the West Coast Governors Marine Debris Alliance.

California Health and Safety Code § 115875 et seq

Originally authorized under AB 411, California has established minimum standards for the sanitation of public beaches, including: (1) requiring the testing of the waters adjacent to all public beaches for microbiological contaminants; (2) establishing protective minimum standards for total coliform, fecal coliform, and enterococci bacteria, or for other microbiological indicators; and (3) requiring that the waters adjacent to public beaches are tested for total coliform, fecal coliform, and enterococci bacteria, or for other microbiological indicators if appropriate. Since 2012, testing on beaches that are visited by more than 50,000 people annually and are located on an area adjacent to a storm drain that flows in the summer is required on a weekly basis from April 1 to October 31, inclusive, of each year.

California Coastal Act, Cal. Pub. Res. Code § 30000 et seq.

The CCA of 1976 mandates protections for terrestrial and marine habitat through its policies on visual resources, land development, agriculture, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, power plants, ports, and public works. The California Coastal Commission administers various programs, including Local Coastal Programs and the Water Quality Program, which facilitates the interagency Nonpoint Source Pollution Control Program.

California Marine Invasive Species Act, Cal. Pub. Res. Code § 71200 et seq.

The California Marine Invasive Species Act of 2003 applies to all vessels, United States and foreign, carrying, or capable of carrying, ballast water into the coastal waters of the state after operating outside the coastal waters of the state, except vessels of the armed forces or a foreign vessel merely traversing the territorial sea of the United States and not entering or departing a United States port, or not navigating the internal waters of the United States, and that does not discharge ballast water into the waters of the state, or into waters that may impact waters of the state. The act requires mid-ocean exchange or retention of ballast water for vessels coming from outside the EEZ and requires vessels coming from other West Coast ports to minimize ballast water discharge. Record-keeping and other compliance measures apply to all vessels entering California waters.

California Ballast Water Regulations, CCR, Title 2, Division 3, Chapter 1, Article 4.6 et seq.

The master, operator, or person in charge of vessels over 300 gross registered tons capable of carrying ballast water arriving at a California port or place carrying ballast water from another port or place within the Pacific Coast must employ at least one of the following ballast water management practices: (1) exchange the vessel's ballast water in near-coastal waters (more than 50 nmi from land and at least 657 feet deep), before entering the waters of the state, if that ballast water has been taken on in a port or place within the Pacific Coast region; (2) retain all ballast water on board the vessel; (3) use an alternative, environmentally sound method of ballast water management that, before the vessel begins the voyage, has been approved by the CSLC or the USCG as being at least as effective as exchange, using mid-ocean waters, in removing or killing nonIndigenous species; (4) discharge the ballast water to a reception facility approved by the commission; or (5) under extraordinary circumstances where compliance with the four options above is not practicable, perform a ballast water exchange within an area agreed to by the CSLC in consultation with the USCG. "Pacific Coast Region" is defined in Article 4.6 as all estuarine and ocean waters within 200 nmi of land or less than 2,000 meters (6,560 feet, 1,093 fathoms) deep, and rivers, lakes, or other water bodies navigably connected to the ocean on the Pacific Coast of North America east of 154 degrees west longitude and north of 25 degrees north latitude, exclusive of the Gulf of California. Additional information on ballast water management is provided in Section 4.8 (Marine Transportation).

California Clean Coast Act, Cal. Pub. Res. Code § 72400 et seq

The California Clean Coast Act, which became effective on January 1, 2006, prohibits the release from large passenger vessels (cruise ships) and other oceangoing ships (300 gross tons or more) of hazardous waste, oily bilge water, other waste, and sewage sludge into the marine waters of the state and marine sanctuaries and sets up notification protocols for release of these substances into state waters or waters of a national marine sanctuary. The Clean Coast Act also prohibits the release of graywater from cruise ships and oceangoing ships with sufficient holding capacity into the marine waters of the state. Furthermore, the Clean Coast Act requires the State Water Resources Control Board to request the appropriate federal agencies to prohibit the release of wastes from cruise ships and oceangoing ships into state marine waters and the four national marine sanctuaries in California. The Act is more stringent than federal regulation of cruise ships and also provides the strongest state protections from cruise ship pollution in the United States.

F.2 Biological Resources

There are numerous federal and state laws and regulations providing protection of biological resources in the study area. An overview of some of the primary regulations and regulating agencies are summarized below (note, the following does not comprise a comprehensive list).

Federal Authorities

Endangered Species Act, 16 U.S.C. § 1531 et seq.

The ESA of 1973, as amended, provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend. The ESA directs all federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the act. NOAA Fisheries works with USFWS to manage ESA listed species. Generally, NOAA Fisheries manages marine species, while USFWS manages land and freshwater species.

A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become an endangered species within the foreseeable future. When listing a species as threatened or endangered, NOAA Fisheries or USFWS also designates critical habitat for the species to the maximum extent prudent and determinable (16 U.S.C. § 1533(a)(3)).

Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801 et seq.

Under the MSA, the U.S. claimed sovereign rights and exclusive fishery management authority over all fish, and all Continental Shelf fishery resources, within the U.S. EEZ (within 230 mi [200 nmi] of the shoreline). The MSA established a procedure for authorizing foreign fishing and prohibited unauthorized foreign fishing within the U.S. EEZ.

The MSA also established national standards for fishery conservation and management within the U.S. EEZ and created eight Regional Fishery Management Councils composed of state officials with fishery management responsibility, the regional administrators of NOAA Fisheries, and individuals appointed by the Secretary of Commerce who are knowledgeable regarding the conservation and management, or the commercial or recreational harvest, of the fishery resources of the geographical area concerned. The Councils are responsible for preparing and amending fishery management plans for each fishery under their authority that requires conservation and management.

Fishery management plans (FMPs) describe the fisheries and contain necessary and appropriate conservation and management measures, applicable to foreign vessels in U.S. waters and fishing by U.S. vessels. The plans are submitted to the Secretary of Commerce, who has delegated to NOAA approval of the plans. If approved, NOAA Fisheries promulgates implementing regulations. NOAA Fisheries may prepare Secretarial FMPs if the appropriate Council fails to develop such a plan.

Of particular relevance to this EIS is the Pacific Coast Groundfish FMP. Approved in 2006, Amendment 19 was prepared by NOAA Fisheries and the PFMC to comply with section 303(a)(7) of the MSA by amending the Pacific Coast Groundfish FMP to:

- Describe and identify EFH for the fishery.
- Designate HAPC.
- Minimize to the extent practicable the adverse effects of fishing on EFH.

- Identify other actions to encourage the conservation and enhancement of EFH.

On January 1, 2020, NOAA Fisheries published a final rule to implement regulatory provisions of Amendment 28 to the Pacific Coast Groundfish FMP (84 Fed. Reg. 63966). Building on Amendment 19 that implemented management measures such as gear restrictions and area closures, Amendment 28 modified the configuration of EFH Conservation Areas that are closed to groundfish bottom trawl fishing in order to protect EFH. There are three Bottom Trawl Closed Areas in the study area: East San Lucia Bank, Point Conception Point Arena North, and part of Big Sur Coast/Port San Luis. Additional areas were added to this list as part of Amendment 28, however none of the added areas are located in the study area. Also, Amendment 28 introduced block area closures (BACs) as a groundfish bottom trawl-specific management tool; BACs are areas of federal waters that may be closed to groundfish bottom trawl fishing and, when implemented, would have restrictions very similar to those of the trawl RCA. BAC boundaries and duration will be published in the Fed. Reg. and announced in a fishery bulletin (NOAA Fisheries, 2023a; PFMC, 2022). There is also a bottom trawl footprint closure that prohibits the use of bottom trawl gear in depths greater than 700 fathoms to the outer extent of groundfish EFH (3,500 m) or the seaward extent of the EEZ, preventing the expansion of the use of this gear type into area where its historical use has been limited.

Fish and Wildlife Coordination Act and Implementing Regulations, 16 U.S.C. § 661 et seq.

Any federal agency that proposes to control or modify any body of water must first consult with the USFWS or NOAA Fisheries, as appropriate, and with the head of the appropriate state agency exercising administration over the wildlife resources of the affected state. The USACE has a MOU with the USFWS to provide a coordination act report to assist in planning efforts.

Marine Mammal Protection Act, 16 U.S.C. § 1361 et seq.

The MMPA, enacted by Congress on October 21, 1972, establishes a national policy to prevent marine mammal species and population stocks from declining beyond the point where they cease to be significant functioning elements of the ecosystems of which they are a part. The MMPA, as amended, prohibits, with certain exceptions, the “take” of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. The MMPA defines “take” as: “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal” (16 U.S.C. § 1362(13)). Harassment means any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment) (16 U.S.C. § 1362).

Section 101(a)(5)(A-D) of the MMPA provides a mechanism for allowing, upon request, the "incidental," but not intentional, taking, of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing or directed research on marine mammals) within a specified geographic region. The NOAA Fisheries Office of Protected Resources processes applications for incidental takes of small numbers of marine mammals.

Authorization for incidental takes may be granted if NOAA Fisheries finds that the taking would be of small numbers, have no more than a "negligible impact" on those marine mammal species or stocks, and not have an "unmitigable adverse impact" on the availability of the species or stock for "subsistence" uses. NOAA Fisheries issuance of an incidental take authorization also requires NOAA Fisheries to make determinations under NEPA and section 7 of the ESA.

Migratory Bird Treaty Act, 16 U.S.C. § 703 et seq.

The MBTA of 1918 implements the U.S.' commitment to bilateral treaties, or conventions, with Great Britain, Canada, Japan, Russia, and Mexico for the protection of shared migratory bird resources. The MBTA establishes that it is unlawful to pursue, hunt, take, capture, kill or sell migratory birds unless authorized by a permit issued by USFWS. Take is defined in regulations as: "pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 C.F.R. § 10.12). The statute does not discriminate between live or dead birds and gives full protection to any bird parts including feathers, eggs, and nests. The MBTA protects over 800 species of birds that occur in the U.S., and the list of migratory bird species protected by the MBTA is set forth in 50 C.F.R. § 10.13. Of these migratory bird species protected under the MBTA, 54 species may be found transiting, resting, or foraging within the study area. USFWS issues permits for scientific collecting, banding, and marking, falconry, raptor propagation, depredation, import, export, taxidermy, waterfowl sale and disposal, and special purposes. USFWS has also developed, and continues to develop, voluntary guidance that helps project proponents reduce incidental take of migratory birds.

Coastal Zone Management Act, 16 U.S.C. § 1451 et seq.

The CZMA encourages states to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation's coastal zone, such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. To encourage states to participate, the CZMA makes federal financial assistance available to any coastal state or territory that develops a coastal management program that is approved by NOAA. Federal agencies are required to carry out activities that affect any land or water use or natural resource of a state's coastal zone in a manner consistent to the maximum extent practicable with the enforceable policies of an approved state management plan.

Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, 16 U.S.C. § 4701 et seq.

The Nonindigenous Aquatic Nuisance Prevention and Control Act mandates ballast water management for vessels entering the Great Lakes. This law was reauthorized as the National Invasive Species Act of 1996 (NISA 96; Pub. L. 104-332), which strengthened the 1990 law and required the development of voluntary ballast management guidelines for all other ships entering U.S. waters. The law also requires all vessels that enter U.S. territorial waters (with certain exemptions) to manage ballast water according to prescribed measures. NISA 96 also required the USCG to evaluate the effectiveness of the voluntary ballast management program three years after implementation. In 2004, voluntary guidelines were determined to be ineffective, and thus USCG initiated mandatory ballast management for all ships entering U.S. waters from outside the U.S. EEZ.

Current management strategies for preventing introductions via ballast water are limited to ballast water retention, open ocean exchange or alternate environmentally sound methods of ballast water management approved by USCG.

USCG Ballast Water Management Regulation

Linked to the National Invasive Species Act of 1996, the USCG established the rule, “Standards for Living Organisms in Ships’ Ballast Water Discharged in U.S. Waters” (77 Fed. Reg. 17253), which is codified at 33 C.F.R. Part 151 and 46 C.F.R. Part 162. The final rule became effective on June 21, 2012. The rule prohibits all vessels with ballast tanks to discharge untreated ballast water into U.S. waters. Ships must also manage their ballast water by following treatment methods and good practices.

E.O. 13112: Invasive Species

E.O. 13112 (1999) tasked executive departments and agencies to take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established. E.O. 13112 also tasked the Department of the Interior with establishing an Invasive Species Advisory Committee. President Biden’s E.O. 14048 (2021) reestablished the Invasive Species Advisory Committee. The proposed action would support the agency in meeting the mandates of E.O. 13112 to prevent the introduction and spread of invasive species because it would be prohibited to introduce or otherwise release from within or into the proposed CHNMS an introduced species. See Table 3-1 in the draft EIS and the proposed rule for more details on introduced species regulations.

State Authorities

California Endangered Species Act, California Fish and Game Code § 2050 et seq.

The California ESA places the responsibility for maintaining a list of threatened and endangered species with the CDFW. The CDFW also maintains a list of candidate species that are under review for addition to either the list of endangered species or the list of threatened species. Pursuant to the requirements of California ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any California-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species.

Fish and Wildlife Protection and Conservation, California Fish and Game Code § 1600 et seq.

The state’s authority in regulating activities in wetlands resides primarily with the CDFW and the State Water Resources Control Board (SWRCB). California regulates wetlands through the CDFW, which provides comment on USACE permit actions under the Fish and Wildlife Coordination Act. The CDFW may develop mitigation measures and require the preparation of a streambed alteration agreement if a proposed project would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there are fish or wildlife resources, including

intermittent and ephemeral streams. The CDFW is authorized to do so by the State Fish and Game Code Sections 1600–1616.

The California legislature gave the Fish and Wildlife Commission the authority to establish State Marine Reserves, State Marine Conservation Areas (SMCAs), State Marine Parks, State Marine Recreational Management Areas, and special closures as a result of the California Marine Life Protection Act of 1999. The California Fish and Wildlife Commission also has the authority to prohibit or restrict activities that may harm resources, including fishing, collecting, swimming, boating, and public entry. The CDFW also conducts oil spill response, damage assessment, and restoration through its Office of Spill Prevention and Response.

California Assembly Bill 2109, California Fish and Game Code § 5517

California Assembly Bill 2109 was signed into law by Governor Gavin Newsom on September 19, 2022, providing new protections for white sharks in California waters. Sponsored by Assemblymember Steve Bennett, the bill passed the California legislature with an overwhelming majority of support. The new restrictions aim to get ahead of activities that may lead to increased interactions between white sharks and humans, and to give law enforcement more tools to protect white sharks from intentional efforts to catch or attract them. The new law also helps protect the public from interactions with white sharks that have been unintentionally hooked by fishermen by restricting when and where chum and shark bait can be used, while still allowing other legal fishing activities to continue.

New rules regarding take of white sharks went into effect on January 1, 2023. These rules, found in California Fish and Game Code, section 5517, prohibit the use of shark bait, shark lures or shark chum to attract a white shark. Anglers also may not place those items into the water within one nautical mile of any shoreline, pier, or jetty, when a white shark is visible or known to be present.

California Code of Regulations, Title 14 Division 1

The California Fish and Game Commission has broad authority under Title 14 to establish regulations that restrict both sport and commercial fishing and otherwise afford protection to marine organisms and habitats. Of particular relevance to this EIS are the 10 existing state MPAs in the study area (Title 14, Section 632).

There are a total of four state marine reserves in the study area: Morro Bay, Point Buchon, Vandenberg, and Point Conception. In a state marine reserve, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource, except under a scientific collecting permit or specific authorization from the California Fish and Wildlife Commission for research, restoration, or monitoring purposes.

There are a total of five SMCAs in the study area: Cambria (which is also a state marine park), White Rock, Point Buchon, Kashtayit, and Naples. In a SMCA, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for commercial or recreational purposes, or a combination of commercial and recreational purposes except as specified. The California Fish and Wildlife Commission may issue scientific collecting permits or specifically authorize research, education, and recreational activities, and certain commercial

and recreational harvest of marine resources, provided that these uses do not compromise protection of the species of interest, natural community, habitat, or geological features.

There is one State Marine Recreational Management Area in the study area: Morro Bay. In a state marine recreational management area, it is unlawful to perform any activity that would compromise the recreational values for which the area may be designated. Recreational opportunities may be protected, enhanced, or restricted, while preserving basic resource values of the area. No other use is restricted unless specified.

CCA, California Public Resources Code § 30000 et seq.

The CCA defines the “coastal zone” as the area of the state that extends three miles seaward and generally about 1,000 yards (910 meters) inland. Almost all development within the coastal zone, which contains many wetlands, requires a coastal development permit from either the California Coastal Commission or a local government with a certified Local Coastal Program. Additional details are provided in Section 4.6 of the EIS.

State Water Resources Control Board (SWRCB)

The SWRCB adopts statewide water quality control plans and policies, such as the Ocean Plan, the Thermal Plan, and the State Implementation Policy. The SWRCB has established a system of 34 Areas of Special Biological Significance (ASBS). These areas are designated for special protection from undesirable alteration in natural water quality. There are no ASBSs located in the study area. Additional information about the regulatory environment of the SWRCB is in Section 4.2 of the EIS.

California Marine Invasive Species Act, Cal. Pub. Res. Code § 71200 et seq.

The California Marine Invasive Species Program, authorized by the California Marine Invasive Species Act and administered by the CSLC, is charged with preventing or minimizing the introduction of introduced species to California Waters from vessels over 300 gross registered tons, capable of carrying ballast water. See sections 4.2, 4.3, 4.4, and 4.8 of the EIS for more information about the California invasive species regulatory environment.

California Code of Regulations, Title 2, Division 3, Chapter 1, Article 4.6

Article 4.6, “Ballast Water Regulations for Vessels Arriving at California Ports or Places after Departing from Ports or Places Within the Pacific Coast Region” was designed to move the state toward elimination of the discharge of introduced species into the waters of the state or into waters that may impact the waters of the state, based on the best available technology economically achievable. The provisions of Article 4.6 apply to all vessels arriving at a California port or place from another port or place within the Pacific Coast Region. All such vessels shall: (1) exchange ballast water in near-coastal waters (more than 50 nmi from land and in water at least 200 meters [656 feet, 109 fathoms] deep) before entering the waters of the state if that ballast water was taken on in a port or place within the Pacific Coast Region; (2) retain all ballast water on board; (3) discharge the ballast water to a reception facility approved by the CSLC; or (4) use an alternative, environmentally sound method of ballast water management that has been approved by the CSLC or the USCG.

California Coastal Ecosystems Protection Act

The California Coastal Ecosystems Protection Act was authorized by SB 497 and signed by the Governor in 2005. The Act requires the state to adopt ballast water performance standards and sets specific deadlines for the removal of different types of species from ballast water.

F.3 Commercial Fishing and Aquaculture

Commercial fisheries in the study area are regulated by PFMC, NOAA Fisheries, the California State Legislature, and the California Fish and Game Commission. Coastal fisheries in state waters (up to 3 nmi from the shoreline) are generally managed by CDFW. NOAA Fisheries and PFMC regulate and manage ocean fisheries beyond state waters (from 3 nmi offshore to the extent of the U.S. Exclusive Economic Zone [EEZ], 200 nmi offshore). In federal waters, NOAA, USACE, USEPA, U.S. Department of Interior, U.S. Department of Agriculture, and the U.S. Department of Health and Human Services all have various jurisdictional oversight over aquaculture facilities and operations. Jurisdiction over aquaculture in state waters is addressed below.

See Appendix F, 4.2 (Physical Resources) above for a summary of water quality and vessel discharge requirements.

Federal Authorities

Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801 et seq.

General Provisions

The MSA is the primary federal law governing marine fisheries management in the United States. The MSA was enacted in 1976 and has been amended many times over the years with a notable revision in 1996 including provisions to minimize bycatch (the incidental harvest of non-target species), promote protection of essential fish habitat (EFH), and catch and release in recreational fishing. The 1996 MSA revision is often referred to as the Sustainable Fisheries Act (SFA). Revisions in 2006 required an end to overfishing and to prevent overfishing through annual catch limits and accountability measures. The 2006 MSA revision is commonly referred to as the Magnuson-Stevens Reauthorization Act. Revisions in 2018 required modernization of recreational fishing data and mixed-use fisheries management through new reports, studies, and new guidance on fisheries management and science. The 2018 amendment is commonly referred to as the Modernizing Recreational Fisheries Management Act (NOAA Fisheries, 2023b). Key objectives of the MSA are to prevent overfishing, rebuild overfished stocks, increase long-term economic and social benefits, and ensure a safe and sustainable supply of seafood.

The MSA defines EFH as those waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity. The consultation requirements of section 305(b) of the MSA provide that:

- Federal agencies must consult with the Secretary of Commerce on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.

- The Secretary shall provide recommendations (which may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH) to conserve EFH to federal or state agencies for activities that would adversely affect EFH.
- The federal action agency must provide a detailed response in writing to NOAA Fisheries and to any regional fishery management council commenting under section 305(b)(3) of the MSA within 30 days after receiving an EFH conservation recommendation.

The PFMC is one of eight regional fishery management councils established by the MSA in 1976. The PFMC is tasked to recommend fishery management measures in the federal waters off Washington, Oregon, and California and has developed four fishery management plans (FMPs) focused on: groundfish, salmon, coastal pelagics, and highly migratory species. PFMC addresses a wide range of fisheries issues through regular amendments to those plans. The Groundfish FMP covers over 100 species of rockfish, including: flatfish, roundfish, sharks, skates, and others (PFMC, 2021). Chinook and Coho are the primary salmon species addressed in the Salmon FMP, while Northern Anchovy, Market Squid, Pacific Sardine, Pacific Mackerel, and Jack Mackerel are specified in the Coastal Pelagic Species FMP. Finally, the Highly Migratory Species FMP authorizes the PFMC to actively manage tunas (North Pacific Albacore, Yellowfin, Bigeye, Skipjack, and Northern Bluefin), sharks (Common Thresher, Pelagic Thresher, Bigeye Thresher, Shortfin, Mako, and Blue) billfish/swordfish (Striped Marlin and Pacific Swordfish), and other highly migratory fishes (Dorado). The PFMC also participates in international fishery management organizations such as the International Pacific Halibut Commission, and international commissions tasked with managing migratory tunas (Albacore, Yellowfin, and other highly migratory species).

Groundfish Management

The Groundfish FMP contains the rules for managing the groundfish fishery. It outlines the areas, species, regulations, and methods that PFMC and NOAA Fisheries must follow to make changes to the fishery. Groundfish are managed through numerous management measures including harvest guidelines, quotas, trip and landing limits, area restrictions, seasonal closures, and gear restrictions (such as minimum mesh size for nets and small trawl footrope requirements for certain areas). The trawl sector of the groundfish fishery recently shifted to an individual fishing quota (IFQ) system and harvest co-operative program that was implemented in 2011. This program is expected to reduce harvest capacity in the fishery, to make the trawl sector of the fishery more efficient, and to lower bycatch from trawl gear. All sectors of the groundfish fishery are currently constrained by the need to rebuild groundfish species that have been declared overfished (Yelloweye Rockfish, Darkblotched Rockfish, Bocaccio, Pacific Ocean Perch, and Cowcod). Rebuilding plans have been developed to help these species recover. Because of the low available harvest of species managed under rebuilding plans, the overall groundfish harvest has been significantly reduced.

Since 2003, several groundfish conservation areas have been implemented through regulation by NOAA Fisheries to reduce overfishing on various groundfish species. A groundfish conservation area is defined by NOAA Fisheries as “any closed area intended to protect a particular groundfish species or species group or species complex.” The Rockfish Conservation Areas (RCA) are the only groundfish conservation areas in the study area. The RCAs are large area closures intended to protect overfished shelf rockfish species (e.g., Yelloweye Rockfish).

The RCAs have boundaries defined by specific latitude and longitude coordinates that approximate depth contours over the shelf and differ between gear types, for example trawl, non-trawl, and recreational RCA, which vary throughout the year with cumulative limit periods. A core area over the shelf has been protected for more than a decade.

Based on recommendations within amendment 19 of the Pacific Coast Groundfish FMP, in 2006 NOAA Fisheries implemented EFH for groundfish. To minimize impacts on ecologically important habitats of groundfish EFH, NOAA Fisheries implemented areas closed to bottom trawl gear or all bottom contact gear (trawl and other bottom tending gear). In 2020, amendment 28 then modified the configuration of EFH Conservation Areas (EFHCAs) that are closed to groundfish bottom trawl fishing in order to protect EFH, closed waters deeper than 3,500 meters to bottom contact fishing gear, opened the trawl RCA to bottom trawl fishing off Oregon and California, and created a framework to consider and implement more flexible area closures with block area closures (PFMC, 2022). There are three EFH areas protected from fishing in the proposed sanctuary area: Point Conception, East San Lucia Bank, and part of the Big Sur Coast/Port San Luis EFH Conservation Areas. In addition, EFH guidelines identify Habitat Areas of Particular Concern (HAPCs) within EFHs, the study area contains two HAPCs including: rocky reefs and canopy kelp habitats.

National Fishing Enhancement Act

In 1984, the U.S. Congress signed the National Fishing Enhancement Act (Public Law 98-623, Title II) calling for the enhancement of fisheries resources through the use of artificial reefs. It provided for the creation of a National Artificial Reef Plan, the establishment of a reef-permitting system, national standards for artificial reef development, and required the development of long-term artificial reef plans. The National Artificial Reef Plan, updated in 2007, was designed to guide understanding the many facets of artificial reef development and use, including the roles of various levels of government, responding to information needs of various users, facilitating reef programs, and performance monitoring.

E.O. 13921: Promoting American Seafood Competitiveness and Economic Growth

In 2020, E.O. 13921 called for the expansion of sustainable U.S. seafood production, specifically highlighting aquaculture. Its goals are to strengthen the American economy; improve the competitiveness of American industry; ensure food security; provide environmentally safe and sustainable seafood; support American workers; ensure coordinated, predictable, and transparent federal actions; and remove unnecessary regulatory burdens. Sections 6, 7, and 8 direct NOAA to be the lead agency for NEPA review for aquaculture projects when the projects meet specific criteria, identify Aquaculture Opportunity Areas, and create a guidance document to assist individuals with navigating the federal permitting process for marine aquaculture.

State Authorities

Marine Life Management Act

California's Marine Life Management Act (MLMA), which became law on January 1, 1999 (codified in scattered sections of the California Fish and Game Code), regulates the harvest of

California’s marine living resources, including commercial fisheries. The fishery management system established by the MLMA applies to four groups of fisheries:

1. The nearshore finfish fishery and the white seabass fishery.
2. Emerging fisheries – new and growing fisheries that are not currently subject to specific regulation.
3. Those fisheries for which the Fish and Game Commission held some management authority before January 1, 1999. Future regulations affecting these fisheries will need to conform to the MLMA.
4. Those commercial fisheries for which there is no statutory delegation of authority to the Fish and Game Commission and Department.

The California Aquaculture Development Act, Cal. Pub. Res. Code § 825 et seq.

The California Aquaculture Development Act of 1979 established the CDFW (formerly the California Department of Fish and Game) as the lead agency for aquaculture in the state. In 1982, legislation was passed that provided guidelines and authority for aquaculture regulations developed by the Fish and Game Commission. These guidelines and authority for aquaculture regulations are in California Code of Regulations, Title 14, Natural Resources: Division 1. Fish and Game Commission – Department of Fish and Game. These regulations are referred to as Title 14. CDFW is responsible for issuing leases and permits for specific aquaculture activities and coordinating with two committees, the Aquaculture Development Committee, and the Aquaculture Disease Committee, which exist for the purpose of interaction among sectors of the aquaculture industry and government regulatory agencies.

There are several other state agencies that have regulatory authority over certain aspects of aquaculture. They include the California Departments of Health Service and Food and Agriculture (disease and health), the California State Lands Commission (CSLC; leased lands), the California Coastal Commission (coastal uses and public recreation and access), and the State Water Resources Control Board (water quality).

F.4 Cultural Heritage and Maritime Heritage Resources

Cultural and historical resources are regulated through numerous federal and state laws, as summarized below. Depending on the resources identified, the following authorities could apply within the study area.

Federal Regulations

National Historic Preservation Act of 1966, 54 U.S.C. § 300101 et seq.

Cultural and historical resources on state and federal lands are protected primarily through the NHPA (16 U.S.C. § 300101 *et seq.*) of 1966 and its implementing regulations (found at 36 C.F.R. Part 800). Section 106 of the NHPA requires federal agencies to identify and evaluate the effects of their actions on properties listed in or eligible for listing in the NRHP. Consultation with the State Historic Preservation Officer, Native American tribes Tribal Historic Preservation Officer, the Advisory Council for Historic Preservation, and other interested parties is part of the regulatory process. The intent of the process is to require the federal agency, in consultation

with other affected parties, to make an informed decision as to the effect its actions would have on something that may be important to our heritage. To be protected under the NHPA, a property must meet specific criteria of significance established under the NHPA's regulations at 36 C.F.R. Part 60.

According to NHPA (36 C.F.R. PART 800), the agency official shall apply the National Register criteria (36 C.F.R. part 63) to properties identified within the area of potential effects that have not been previously evaluated for National Register eligibility, in consultation with the State/Tribal Historic Preservation Officer(s) and any Indian tribe that attaches religious and cultural significance to identified properties, and guided by the Secretary's Standards and Guidelines for Evaluation. The passage of time, changing perceptions of significance, or incomplete prior evaluations may require the agency official to reevaluate properties previously determined eligible or ineligible. The agency official shall acknowledge that Indian tribes possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to them. The National Historic Lighthouse Preservation Act of 2000 (NHLPA) (54 U.S.C. § 305101 *et seq.*) amended the NHPA and provided a mechanism for the disposal of Federally owned historic light stations that have been declared excess to the needs of the responsible agency (National Park Service, 2015).

Regarding assessment of adverse effects, NHPA (36 C.F.R. § 800.5) states that the agency official shall apply criteria of adverse effects to historic properties within the area of potential effects, in consultation with the State/Tribal Historic Preservation Officer and any Indian tribe that attaches religious and cultural significance to identified historic properties. The agency official shall consider any views concerning such effects which have been provided by consulting parties and the public.

Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470aa et seq.

This act requires all archaeological excavations on federal lands to be undertaken pursuant to a permit issued by the federal land manager. This act also imposes criminal penalties for unauthorized excavations.

Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. § 3001 et seq.

This act requires federal agencies to identify and inventory possible Native American, native Alaskan, or native Hawaiian human remains, burial goods, or cultural items in their collections and to make them available for repatriation to affiliated tribes or lineal descendants. The act also establishes procedures for handling and disposing of such remains, burial goods, or cultural items discovered on federal lands.

E.O. 13175: Tribal Consultation and Collaboration

Under E.O. 13175 of November 6, 2000, federal departments and agencies are charged with engaging in regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications. In support of implementation of E.O. 13175, on January 26, 2022, President Biden issued a Memorandum on Tribal Consultation

and Strengthening Nation-to-Nation Relationships.³⁶ For more details on the ongoing government-to-government consultation process between NOAA and the federally recognized Santa Ynez Band of Chumash Indians, see Appendix E.

National Marine Sanctuaries Act, Section 301(b)(7) (16 U.S.C. § 1431(b)(7))

Section 301(b)(7) of the NMSA authorizes NOAA to “Develop and implement coordinated plans” with various government entities, including “Native American Tribes.” In 2000, E.O. 13158: Marine Protected Areas reaffirmed this by stating each federal agency whose actions affect the natural or cultural resources that are protected by an MPA shall identify such actions. To the extent permitted by law and to the maximum extent practicable, each federal agency, in taking such actions, shall avoid harm to the natural and cultural resources that are protected by an MPA.

NOAA Implementing Regulations, 15 C.F.R. Part 922

15 C.F.R. 922.2 reiterates the NMSA policy of coordinating with government entities, including Native American Tribes. 15 C.F.R. 922.3 defines “Indian Tribes” as Indian or Alaska Native tribes, bands, nations, pueblos, villages, or communities that the Secretary of Interior acknowledges to exist as Indian Tribes pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. § 5130. Other sections of the regulation clarify NOAA’s responsibility to protect treaty rights, fishing rights, cultural activities, and other interests of federally recognized tribes.

Abandoned Shipwreck Act of 1987, 43 U.S.C. § 2101 et seq.

This act asserts federal ownership over certain shipwrecks found in state waters (within the 3-nmi line) and transfers ownership of those resources to the states. Included in the range of resources covered by this act are certain abandoned shipwrecks, which have been deserted and to which the owner has relinquished ownership rights with no retention. Shipwrecks in federal waters remain under the jurisdiction of the federal government.

Sunken Military Craft Act of 2005, 10 U.S.C. § 113 et seq.

This act asserts federal ownership over sunken military craft, regardless of their location. The Act provides that no person shall engage in or attempt to engage in any activity directed at a sunken military craft that disturbs, removes, or injures any sunken military craft, except (1) as authorized by a permit under this title by the Secretary concerned; (2) as authorized by regulations issued under this title; or (3) as otherwise authorized by law.

Antiquities Act of 1906, 54 U.S.C. § 320301 et seq.

This act requires a permit to excavate or remove any historic objects or antiquities from federal lands and grants the President the authority to designate as national monuments landmarks of historic or scientific importance. The permit provisions of the Antiquities Act are generally enforced through the NHPA process.

³⁶ <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and-strengthening-nation-to-nation-relationships/>

Historic Sites, Buildings, Objects, and Antiquities Act of 1935, 54 U.S.C. § 3201 et seq.

This act establishes the national policy of preserving historic sites, buildings, and objects of national significance and gives the Secretary of the Interior the power to make historic surveys and document, evaluate, acquire, and preserve archaeological and historic sites across the country. This act provided the authority behind the establishment of the National Historic Landmarks and Historic American Buildings Survey programs.

State Authorities

Administration and Control of State Lands, California Pub. Res. Code § 6301 et seq.

The referenced section of the California Public Resources Code provides authority for the CSLC (or “commission”) to administer and control state lands. In relevant part, it provides that the commission has exclusive jurisdiction over all ungranted tidelands and submerged lands owned by the state, and of the beds of navigable rivers, streams, lakes, bays, estuaries, inlets, and straits, including tidelands and submerged lands or any interest therein, whether within or beyond the boundaries of the state as established by law, which have been or may be acquired by the state (a) by quitclaim, cession, grant, contract, or otherwise from the United States or any agency thereof, or (b) by any other means. All jurisdiction and authority remaining in the state as to tidelands and submerged lands as to which grants have been or may be made is vested in the commission. The commission shall exclusively administer and control all such lands, and may lease or otherwise dispose of such lands, as provided by law, upon such terms and for such consideration, if any, as are determined by it. Relevant excerpts of the California Public Resources Code include the following:

§§ 6309. (a) The commission shall administer the Shipwreck and Historic Maritime Resources Program, which consists of the activities of the commission pursuant to this section and Sections §§6313 and §§6314.

(b) The commission has exclusive jurisdiction with respect to salvage operations over and upon all tide and submerged lands of the state. The commission may grant the privilege of conducting salvage operations upon or over those lands by the issuance of permits. The commission may adopt rules and regulations in connection with applications for those permits, and the operations to be conducted in the salvage operation, that the commission determines to be necessary to protect those lands and the uses and purposes reserved to the people of the state.

(c) The commission may issue permits for salvage on granted tide and submerged lands only after consultation with the grantee and a determination by the commission that the proposed salvage operation is not inconsistent with the purposes of the grant.

The CSLC’s regulations are codified in Title 2 of the California Code of Regulations.

Department of Parks and Recreation, California Public Resources Code § 5001 et seq.

The California Public Resources Code provides for California Department of Parks and Recreation's (California state parks') control of the state park system, including management of submerged archaeological and historical resources within state park units.

The department may manage state marine reserves, state marine parks, SMCAs, state marine cultural preservation areas, and state marine recreational management areas. Department authority over units within the state park system shall extend to units of the State Marine Managed Areas (MMAs) system that are managed by the department.

The California state parks regulations are found in the California Code of Regulations, Title 14, Natural Resources, Division 3, § 4300 *et seq.* Several of the regulations pertain to historic or cultural resources.

California Code of Regulations, Title 14 Division 3

The Department of Parks and Recreation has broad authority under Title 14 to protect geological and archaeological features within designated state parks.

§ 4307. Geological Features.

(a) No person shall destroy, disturb, mutilate, or remove earth, sand, gravel, oil, minerals, rocks, paleontological features, or features of caves. (b) Rockhounding may be permitted as defined in Section 4301(v).

Note: Authority cited: Section 5003, Public Resources Code. Reference: Section 5008, Public Resources Code. This regulation is relevant because it addresses paleontological features.

§ 4308. Archaeological Features.

No person shall remove, injure, disfigure, deface, or destroy any object of archaeological or historical interest or value.

Note: Authority cited: Section 5003, Public Resources Code. Reference: Section 5008, Public Resources Code.

§ 4309. Special Permits.

The Department may grant a permit to remove, treat, disturb, or destroy plants or animals or geological, historical, archaeological, or paleontological materials; and any person who has been properly granted such a permit shall to that extent not be liable for prosecution for violation of the foregoing.

Note: Authority cited: Section 5003, Public Resources Code. Reference: Sections 5001.65 and 5008, Public Resources Code.

Fish and Wildlife Protection and Conservation, California Fish and Game Code § 1600 et seq.

California Code of Regulations, Title 14 Division 1

The California Fish and Game Commission has broad authority under Title 14 of the CCR to establish regulations that restrict unlawful injury, damage, taking, or possessing any geological or cultural marine resource. Of particular relevance to this EIS are the 10 existing MPAs in the study area (Title 14, Section 632 – Marine Protected Areas, Marine Managed Areas and Special Closures), some of which include submerged historic shipwrecks or other cultural or historic artifacts. They include cultural resources from Indigenous tribes. Regarding protection of cultural resources, Section 632 states, in part:

(A) State Marine Reserves: In a state marine reserve, it is unlawful to injure, damage, take, or possess any geological or cultural marine resource, except under a scientific collecting permit issued pursuant to Section 650 or specific authorization from the commission for research, restoration, or monitoring purposes.

(B) State Marine Parks: In a state marine park, it is unlawful to injure, damage, take, or possess any living or nonliving marine resource for commercial purposes. Any human use that would compromise protection of geological or cultural features may be restricted by the commission as specified in subsection 632(b), areas and special regulations for use. The commission may issue scientific collecting permits pursuant to Section 650 or specifically authorize research, monitoring, and educational activities consistent with protecting resource values.

(C) State Marine Conservation Areas: In a state marine conservation area, it is unlawful to injure, damage, take, or possess any geological or cultural marine resource for commercial or recreational purposes, or a combination of commercial and recreational purposes except as specified in subsection 632(b), areas and special regulations for use. The commission may issue scientific collecting permits pursuant to Section 650 or specifically authorize research, education, and recreational activities, provided that these uses do not compromise protection of the species of interest, natural community, habitat, or geological features.

See Appendix F, Section 4.3 (Biological Resources) for additional information on MPAs.

F.5 Socioeconomics, Human Uses, and Environmental Justice

E.O. 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations and E.O. 14008: Tackling the Climate Crisis at Home and Abroad (2021)

E.O. 12898 directs federal agencies to identify and address disproportionately high and adverse effects of their actions on human health and the environment of minority or low-income populations. NOAA's compliance with this E.O is discussed in Appendix E (E.9), and Section 4.6 of the EIS addresses environmental justice issues. In 2021, President Biden signed E.O. 14008 reaffirming E.O. 12898, stating in Sec. 219 that agencies shall make achieving environmental

justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related, and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts. In addition, Sec. 220 of E.O. 14008 called for the creation of a White House Environmental Justice Interagency Council (Interagency Council) within the Executive Office of the President.

E.O. 13045, Protection of Children from Environmental Health or Safety Risks

In April 1997, President Clinton signed E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks. This E.O. requires federal agencies to identify, assess, and address disproportionate environmental health and safety risks to children from federal actions.

California Coastal Act of 1976, Cal. Pub. Res. Code § 30000 et seq

The CCA of 1976 defines the “coastal zone” as the area of the state that extends three miles seaward and generally about 1,000 yards (910 meters) inland. In particularly important and generally undeveloped areas, where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of 5 miles (8 km) inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards (910 meters) inland.

The Act establishes policies guiding development and conservation along the California coast. The Coastal Act requires that local governments lying wholly or in part within the coastal zone prepare a Local Coastal Program (LCP) for its portion of the coastal zone. LCPs implement the CCA by establishing plans that are consistent with the Coastal Act. A Local Coastal Program is defined by Coastal Act Section 30108.6 as “a local government’s (a) Land Use Plans, (b) zoning ordinance, (c) zoning district maps, and (d) within sensitive coastal resources areas, other implementing actions, which, when taken together, meet the requirements of, and implement the provisions and policies of, this division at the local level.” Almost all development within the coastal zone, which contains many wetlands, requires a coastal development permit from either the Coastal Commission or a local government with a certified LCP.

County and City Plans

Santa Barbara County’s comprehensive General Plan governs physical development within the unincorporated parts of the county, including land use along Santa Barbara’s coastline (County of Santa Barbara 2023b). The Coastal Land Use Plan is an element of the County’s General Plan and outlines the Local Coastal Program (LCP). The LCP contains land use plans, zoning, and an implementation program. Under California Government Code Section 65303(k), the LCP is designed as a separate coastal element that takes precedence over the County’s General Plan within the coastal zone. Santa Barbara County LCP was partially certified in 1981 and numerous amendments have been approved since then. The uncertified portion of the plan relates to the Channel Islands, which is located outside the study area (County of Santa Barbara, 2023a).

In San Luis Obispo County, a Local Coastal Program (LCP) is incorporated within the County's Land Use Element (LUE)/Land Use Ordinance (LUO) systems. The LUE/LUO systems replace typical general plan designations and zoning districts (County of San Luis Obispo, 2007).

Other Regulatory Requirements and Permit Processes

Other regulatory requirements and permit processes that affect land use in the study area include regulation of wetlands under section 404 of the CWA and regulation of navigable waters under section 10 of the Rivers and Harbors Act by the USACE; the regulations, plans and management procedures of the open space management authorities mentioned above; and CSLC management of public lands under its jurisdiction, pursuant to the California Environmental Quality Act.

F.6 Offshore Energy

Offshore Oil and Gas

Offshore oil and gas development in federal waters is governed by BOEM, which is within the U.S. Department of Interior. BOEM manages offshore oil and gas leases and is responsible for administering the provisions of the OCS Lands Act (43 U.S.C. § 1331 *et seq.*) regarding oil and gas development on the OCS. BOEM is authorized to prepare and implement five-year plans which identify federal waters to be opened for offshore oil and gas exploration and development. The BOEM five-year plan for 2012-2017 does not include plans for leasing tracts offshore California. Areas off the Pacific coast are not included in the 2012-2017 proposed program (BOEM 2013b), "which seeks to accommodate the recommendations of governors of coastal states and of state and local agencies—an important priority established by the OCS Lands Act. The exclusion of the Pacific Coast is consistent with state interests, as framed in an agreement that the governors of California, Washington and Oregon signed in 2006, which expressed their opposition to oil and gas development off their coasts."

In addition to BOEM provisions, offshore oil and gas exploration, development and production facilities are subject to compliance with numerous federal laws such as (but not limited to):

- National Environmental Policy Act.
- Endangered Species Act.
- Coastal Zone Management Act.
- Federal Water Pollution Control Act.
- Ports and Water Safety Act.
- Marine Mammal Protection Act.
- Clean Air Act.
- National Historic Preservation Act.
- Oil Pollution Act.
- Federal Oil and Gas Royalty Management Act.

Offshore oil and gas development within state waters is governed by the CSLC, which stopped leasing of new offshore tracts after the Santa Barbara oil spill in 1969. The California legislature codified the ban on new leases in 1994 when it approved the California Coastal Sanctuary Act.

The California Coastal Commission and other state agencies would have regulatory authority over any proposal to lease and ultimately develop oil and gas resources within state waters. Local governments would also have regulatory authority over onshore facilities necessary and dependent on offshore oil and gas development.

Federal approval of new leases offshore California on the OCS was halted in 1982. Starting in 1990, there was a series of Presidential E.O.s that gave these dormant leases two “red lights” followed by a “green light.” President George H.W. Bush banned new federal offshore oil leasing from 1990 to 2000, including in California. In 1998, President Bill Clinton extended this moratorium through 2012. However, in July 2008, President George W. Bush rescinded the E.O. On December 1, 2010, President Barack Obama issued an E.O. banning oil leasing in the Gulf of Mexico and off both the Atlantic and Pacific coasts for five years.

Alternative Energy

There are both federal and state regulations and permitting agencies governing the development of offshore alternative energy projects.

Ocean Thermal Energy Conversion Act, 42 U.S.C. § 9101 et seq.

With regard to alternative energy sources from the ocean, the Ocean Thermal Energy Conversion (OTEC) Act of 1980 established a licensing program for facilities and plants that would convert thermal gradients in the ocean into electricity. The OTEC Act directed the Administrator of NOAA to establish a stable legal regime to foster commercial thermal energy conversion development. In addition, the OTEC Act directed the Secretary of the department in which the USCG is operating to promote safety of life and property at sea for thermal energy operations, prevent pollution of the marine environment, clean up any discharged pollutants, prevent or minimize any adverse impacts from thermal energy facility construction and operation, and ensure that the thermal plume of a plant does not unreasonably impinge on and thus degrade the thermal gradient used by any other thermal energy plant or facility, or the territorial sea or area of national resource jurisdiction of any other nation unless the Secretary of State has approved such impingement after consultation with such nation. The OTEC Act also assigned responsibilities to the Secretary of State and the Secretary of Energy regarding offshore thermal energy conversion plants. Although there are no existing large-scale OTEC facilities worldwide, several pilot projects are being planned in other parts of the world (e.g., China). Tropical regions are considered the primary viable locations for OTEC plants due to the greater temperature differential between the shallow and deep water. It is unlikely that OTEC energy development is reasonably foreseeable in the proposed sanctuary expansion area.

Energy Policy Act of 2005

The Energy Policy Act of 2005 (Pub. L. 109-58) addresses offshore renewable energy and alternative uses of OCS oil and gas facilities. The Act amends the OCSLA to authorize the U.S. Department of the Interior to act as lead federal agency for certain alternative energy and marine-related uses on the OCS; in the study area, the most likely alternative offshore energy projects covered by this Act are wind or wave generating facilities. The U.S. Department of the Interior delegated OCSLA authority to U.S. Department of the Interior’s Minerals Management Service (now BOEM). The Act states that the Secretary of the Interior may grant a lease,

easement, or right-of-way on the OCS for activities that: support production of energy from sources other than oil and gas; support exploration, production, storage, and transportation of oil and gas; or use OCSLA-authorized facilities for other purposes.

The Energy Policy Act of 2005 precludes BOEM from issuing leases, easements, and rights-of-way for renewable energy projects in a national marine sanctuary (43 U.S.C. § 1337(p)(10)). BOEM's regulations essentially restate the Energy Policy Act of 2005. 30 C.F.R. § 585.204 states “BOEM may offer any appropriately platted area of the OCS, as provided in § 585.205, for a renewable energy lease, except any area within the exterior boundaries of any unit of the National Park System, National Wildlife Refuge System, National Marine Sanctuary System, or any National Monument.”

While they only pertain to marine and hydrokinetic energy development (MHK),³⁷ the BOEM/Federal Energy Regulatory Commission Guidelines on Regulation of Marine and Hydrokinetic Energy Projects on the OCS state: “Neither BOEM, through its leasing authority, nor Federal Energy Regulatory Commission, through its licensing authority, can approve a project in a National Park or a National Monument located on the OCS. For BOEM, the same restriction applies to National Marine Sanctuaries and National Wildlife Refuges located on the OCS” (BOEM, 2020). Therefore, BOEM has no authority to approve such projects within national marine sanctuaries. The guidelines further state that “depending on the individual authorization, Federal Energy Regulatory Commission may be authorized to approve MHK licenses without a BOEM lease in national marine sanctuaries.” Finally, the guidelines explain that unless the applicant is a federal agency with congressional authorization, MHK applicants generally must have a Federal Energy Regulatory Commission license to operate on the OCS.

Office of Renewable Energy Programs

Within BOEM, the Office of Renewable Energy Programs oversees development of offshore renewable energy projects on the OCS. This relatively new activity in the marine environment requires an assessment of the potential environmental impacts on resources on the OCS. The Bureau's responsibilities include determining and evaluating the effects of OCS activities on natural, historical, and human resources and the appropriate monitoring and mitigating of those effects.

State Alternative Energy Regulations

Alternative energy projects in state waters would be subject to regulations and approvals established by the CSLC and California Coastal Commission, plus any onshore facilities would require approvals from local jurisdictions. In addition, offshore energy projects in state waters would likely require approval from numerous other resource and permitting agencies, including CDFW, USCG and Federal Energy Regulatory Commission (license to tie-in to the onshore electrical transmission grid).

³⁷ Marine and hydrokinetic energy encompasses ocean thermal energy conversion (OTEC), which falls under the jurisdiction of NOAA. However, the BOEM guidelines uses the term only as it applies to technologies under BOEM's leasing responsibility primarily referring to wave, tidal and ocean current technologies.

Recently enacted legislation (SBX2-Simitian, Chapter 1, Statutes of 2011) establishes a state policy goal of producing 33% of California’s electrical needs with renewable energy resources by December 31, 2020. The goal applies to all electricity retailers in the state. A substantial number of renewable energy projects are required to meet this directive, as well as to achieve the state’s climate change goal of reducing greenhouse gases in the atmosphere to 80% of 1990 levels by 2050, as set forth in E.O. #S-3-05, signed June 1, 2005, by then Governor Schwarzenegger.

CSLC staff from the Environmental Planning, Land Management, Mineral Resource Management, and Legal Divisions formed an interdivisional planning team (the “Alternative Energy Program”) in December 2011 in order to more effectively coordinate Commission activities related to renewable/alternative energy projects. CSLC staff members also participate in the Ocean Protection Council’s Marine Renewable Energy Working Group, which is working to solve the environmental and logistical challenges associated with development of offshore wave, tidal, and wind energy. There are no pending applications for development of offshore renewable energy at this time.

F.7 Marine Transportation

Authorities that apply to vessel traffic offshore California are summarized in this section. Additional authorities related to vessel discharges and marine water quality are described in Section 4.2, Physical Resources, (under the water quality subsection), and in Section 4.8, Marine Transportation.

Federal Authorities

Several acts of Congress govern the movements of commercial vessels in specified waterways. These acts include the Ports and Waterways Safety Act of 1972, the Port and Tanker Safety Act of 1978, and the Oil Pollution Act of 1990. In addition, the USCG Vessel Traffic Services (VTS) regulations became effective October 1994. The study area does not overlap with any USCG VTS area.

Ports and Waterways Safety Act (PWSA) of 1972, 46 U.S.C. § 70001 et seq.

The PWSA of 1972 authorizes the USCG to establish vessel traffic service/separation (VTSS) schemes for ports, harbors, and other waters subject to congested vessel traffic. The VTSS applies to commercial ships, other than fishing vessels, weighing 300 gross tons or more. The Oil Pollution Act of 1990 amended PWSA to mandate that appropriate vessels comply with VTSSs. Two categories of vessels are defined in 33 C.F.R. 161 – VTS Users and Vessel Movement Reporting System (VMRS) Users, each with specific requirements.

Port and Tanker Safety Act of 1978, Pub. L. 95-474

The Port and Tanker Safety Act of 1978 amended the PWSA to provide broader regulatory authority over regulated and nonregulated areas. The Act improved the supervision and control of all types of vessels operating in navigable waters of the U.S. and improved the safety of foreign or domestic tankers that transport or transfer oil or hazardous cargoes in ports or places subject to U.S. jurisdiction.

Oil Pollution Act of 1990, 33 U.S.C. § 2701 et seq.

The Oil Pollution Act of 1990 established that parties responsible for discharging oil from a vessel or facility are liable for: (1) certain specified damages resulting from the discharged oil; and (2) removal costs incurred in a manner consistent with the National Contingency Plan (NCP). The liability for tankers larger than 3,000 gross tons was increased to \$1,200 per gross ton or \$10 million, whichever is greater. The fine for failing to notify the appropriate federal agency of a discharge was increased from a maximum of \$10,000 to a maximum of \$250,000 for an individual or \$500,000 for an organization, and the maximum prison term was increased from one year to five years. Civil penalties were authorized at \$25,000 for each day of violation or \$1,000 per barrel of oil discharged, and failure to comply with a federal removal order can result in civil penalties of up to \$25,000 for each day of violation (USEPA, 2022g).

Act to Prevent Pollution from Ships, 33 U.S.C. § 1901 et seq.

The discharge of solid wastes is regulated under the APPS, (33 U.S.C. § 1901 *et seq.*) as amended by the Marine Plastic Pollution Research and Control Act of 1987, and the CWA. The APPS regulates the disposal of plastics and garbage for the United States Annex V of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL). Under these laws the disposal of plastics is prohibited in all waters, and other garbage, including paper, glass, rags, metal, and similar materials, is prohibited within 14 miles (12 nmi) from shore (unless macerated).

State Regulations

California Ocean-Going Vessel Fuel Regulation

The California Air Resources Board (CARB) adopted the regulation, “Fuel Sulfur and Other Operational Requirements for Ocean-Going Vessels (OGVs) within California Waters and 24 Nautical Miles of the California Baseline” on July 24, 2008. This regulation is designed to reduce particulate matter, oxides of nitrogen, and sulfur oxide emissions from ocean-going vessels; reductions that are necessary to improve air quality and public health in California. The regulation is aimed at reducing emissions from OGVs by requiring low-sulfur fuels to be used within 24 nmi (about 28 mi) of the California coastline. As a result of this rule, the relative volume of vessel traffic has moved farther offshore and has resulted in a higher percentage of vessels now using the western approach to San Francisco. In 2020, Marine Notice 2020-2 was issued to remind owners, operators, and vessel management companies of the California OGV Fuel Regulation requirements, and to notify the aforementioned stakeholders that CARB enforcement will begin performing further analysis of samples collected during the inspection process (California Air Resources Board, 2023).

F.8 Homeland Security and Military Uses

Homeland security and military uses of the study area are subject to federal regulations such as the CWA, the Act to Prevent Pollution from Ships (APPS) and MARPOL (the International Convention for the Prevention of Pollution of Ships) 73/78, MMPA, ESA and Federal Aviation Administration. See the Biological Resources Appendix F section above for information on the MMPA and ESA. The Physical Resources and Marine Transportation Appendix F sections above

provide summary information for water quality regulations applicable to most types of vessels. See the Cultural Heritage and Maritime Heritage Resources Appendix F section above for information on the Sunken Military Craft Act. Additional information applicable to the Department of Defense (DoD), USCG, and military vessels is provided below.

Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), 33 U.S.C. § 1251 et seq.

USCG and military vessels are included in the CWA definition of “vessels of the Armed Forces of the United States.”³⁸ The Vessel General Permit does not apply to vessels of the Armed Forces of the United States. The No Discharge Zone (NDZ) offshore of California also does not apply to homeland security and military vessels.

Section 312(n) of the CWA (33 U.S.C. § 1322(n)), added in 1996, requires the USEPA and DoD to identify and evaluate discharges of Armed Forces vessels to determine which discharges require control for protection of the environment, and to set standards for those discharges. The Uniform National Discharge Standards program establishes national discharge standards for vessels of the Armed Forces that operate nationwide in coastal and inland waters. These national standards aim to reduce the environmental impacts associated with vessel discharges, stimulate the development of improved pollution control devices, and advance the development of environmentally sound military vessels (USEPA, 2022l; USEPA, 2023b).

APPS and MARPOL

The Act to Prevent Pollution from Ships (APPS) (33 U.S.C. § 1901 *et seq.*) includes exemptions for armed forces ships owned or operated by the USCG and military departments that the Secretary of the relevant department determines cannot fully comply with specified discharge requirements because compliance is not technologically feasible or would impair the ships’ operations or operational capability.

The Secretary of the Navy is required to develop and support technologies and practices for solid waste management aboard ships owned or operated by the Department of the Navy, including technologies and practices for the reduction of the waste stream generated aboard such ships. APPS includes provisions for plastic collection, storage, and disposal aboard Navy ships with plastic processors. There are exceptions for Navy ships for security, the safety of a ship, personnel health, and lifesaving, but otherwise, there are prohibitions for discharge of buoyant garbage or plastic from Navy submersibles, for discharge from Navy surface ships of plastic contaminated by food during the last three days before the ship enters port and for plastic except that contaminated by food during the last twenty days before the ship enters port. The President of the U.S. also has authority to make waivers of up to one year from specified requirements when in the paramount interest of the U.S.

³⁸ Section 312(a)(14) of the CWA (33 U.S.C. 1322(a)(14)) states, "vessel of the Armed Forces" means – (A) any vessel owned or operated by the DoD, other than a time or voyage chartered vessel; and (B) any vessel owned or operated by the Department of Transportation that is designated by the Secretary of the department in which the Coast Guard is operating as a vessel equivalent to a vessel described in subparagraph (A).

Department of Defense Activities

The proposed area encompasses existing DoD Operating Areas (OP AREAS) utilized by the 30th Space Wing located at VSFB, California. The 30th Space Wing conducts spacelift operations, intercontinental ballistic missile testing, missile defense and aircraft operations. See Section 4.9 of the EIS for more details on DoD activities in the study area.

National Marine Sanctuaries Act 16 U.S.C. § 1431 et seq.

Regarding interagency cooperation, per NMSA section 304(d)(1)(A), in general, federal agency actions internal or external to a national marine sanctuary, including private activities authorized by licenses, leases, or permits, that are likely to destroy, cause the loss of, or injure any sanctuary resource the actions are subject to consultation with the Secretary of Commerce. Section 304(d)(1)(B) describes the responsibilities of the parties during such a consultation, including that a written statement must be provided to the Secretary by the federal agency proposing the action. If the Secretary finds that the federal action is likely to destroy, cause the loss of, or injure a sanctuary resource, the Secretary can provide the federal agency with recommended reasonable and prudent alternatives to further protect sanctuary resources. Section 304(d) also outlines actions that may take place in cases where a recommendation by the Secretary of Commerce is not followed, and a sanctuary resource is subsequently injured. As federal agencies, this section applies to the Department of Homeland Security and DoD.

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Appendix G: Biological Species Lists

Appendices G.1, G.2, and G.3 provide lists of protected species that are present in the study area and could be affected by the proposed action or alternatives.

ONMS does not believe the following species or distinct population segments (DPSs)/evolutionarily significant units (ESUs) occur in the study area or that proposed sanctuary activities would affect these species: Puget Sound DPSs of bocaccio and yelloweye rockfish, Eastern Pacific DPS of scalloped hammerhead shark, and Gulf grouper. In addition, ONMS determined that the following DPSs or ESUs of West Coast salmon and steelhead do not occur in the study area: Hood Canal summer-run chum salmon, Ozette Lake sockeye salmon, Puget Sound chinook salmon, Puget Sound steelhead, Middle Columbia River steelhead, Snake River fall-run chinook salmon, Snake River spring/summer-run chinook salmon, Snake River sockeye salmon, Snake River steelhead, Upper Columbia River spring-run chinook salmon, Upper Columbia River steelhead, Columbia River chum salmon, Lower Columbia River chinook salmon, Lower Columbia River coho salmon, Lower Columbia River steelhead, Upper Willamette River chinook salmon, Upper Willamette River steelhead, Oregon Coast coho salmon, Southern Oregon/Northern California Coasts coho salmon, Northern California steelhead, and California Central Valley steelhead.

G.1 ESA-Listed Species Under USFWS Jurisdiction

Table G.1-1 provides a list of the ESA-listed species under USFWS jurisdiction potentially present in the study area, and the species listing status.

Table G.1-1. ESA-listed species under USFWS jurisdiction.

Common Name	Species Name	Status	Habitats in Study Area	Probability of Effect	Conclusion
Giant Kangaroo Rat	<i>Dipodomys ingens</i>	Endangered	- May be found on coastal grasslands with sandy soils - Potentially present on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Morro Bay Kangaroo Rat	<i>Dipodomys heermanni morroensis</i>	Endangered	- Endemic to the Baywood fine sands in the Los Osos vicinity in western SLO - Potentially present on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
San Joaquin Kit Fox	<i>Vulpes macrotis mutica</i>	Endangered	- May be found in the desert and grasslands of the San Joaquin Valley - Potentially present on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Southern Sea Otter	<i>Enhydra lutris nereis</i>	Threatened	- Found throughout the coast in nearshore areas including kelp forests and areas with high human activity like harbors	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities. - Management activities by vessel would be conducted to reduce strikes.	May affect, not likely to adversely affect

Common Name	Species Name	Status	Habitats in Study Area	Probability of Effect	Conclusion
California Clapper Rail	<i>Rallus longirostris obsoletus</i>	Endangered	- Found within tidal wetlands near or on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
California Condor	<i>Gymnogyps californianus</i>	Endangered	- Known to forage in open grasslands and beaches adjacent to coastal mountains	- Minimal disturbance from management activities.	May affect, not likely to adversely affect
California Least Tern	<i>Sterna antillarum browni</i>	Endangered	- Nest on beaches, mudflats and sand dunes - Forage in shallow estuaries and lagoons	- Minimal disturbance from management activities. - Management activities by vessel would be conducted to reduce strikes.	May affect, not likely to adversely affect
Hawaiian Petrel	<i>Pterodroma sandwichensis</i>	Endangered	- May be found in transit over offshore open ocean	- Minimal disturbance from management activities. - Management activities by vessel would be conducted to reduce strikes.	May affect, not likely to adversely affect
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	Endangered	- Potentially found in coastal chaparral habitats	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	Threatened	- Found in near-shore marine waters less than 100 feet deep - Potential nesting sites on shorelines (ground or rock cavities)	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities. - Management activities by vessel would be conducted to reduce strikes.	May affect, not likely to adversely affect

Common Name	Species Name	Status	Habitats in Study Area	Probability of Effect	Conclusion
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered	- May be found in transit over coastal and open ocean	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	Endangered	- Prefer deciduous/mixed forests, but may be found on shorelines near riparian zones with dense tree cover	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Western Snowy Plover	<i>Charadrius nivosus nivosus</i>	Threatened	- Frequently found on sand spits and dune-backed beaches - Potentially found on estuarine sands and mud flats	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Yellow-billed Cuckoo	<i>Rana draytonii</i>	Threatened	- Prefer dense wooded habitats near water - Although they prefer riparian habitat, they may also be found in coastal marshes	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
California Red-legged Frog	<i>Rana draytonii</i>	Threatened	- Primarily found in streams or stock ponds that may be adjacent to shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
California Tiger Salamander	<i>Ambystoma californiense</i>	Threatened	- Potentially found in coastal wetlands	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect

Common Name	Species Name	Status	Habitats in Study Area	Probability of Effect	Conclusion
Foothill Yellow-legged Frog	<i>Rana boylei</i>	Proposed Endangered	- Potentially found in rivers or streams on or adjacent to shorelines.	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Tidewater Goby	<i>Eucyclogobius newberryi</i>	Endangered	- Potentially found in estuaries, marshes and lagoons	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Unarmored Threespine Stickleback	<i>Gasterosteus aculeatus williamsoni</i>	Endangered	- Found in intertidal areas including estuaries, salt marshes and tidal pools	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Morro Shoulderband Snail	<i>Helminthoglypta walkeriana</i>	Threatened	- Primary habitat consists of coastal dune, coastal dune scrub, maritime chaparral, and Baywood fine sands	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate	- Overwintering habitats made up of Monterey pines, Monterey cypress, and eucalyptus potentially near shorelines - Present in coastal wetlands and grasslands	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Vernal Pool Fairy Shrimp	<i>Branchinecta lynchi</i>	Threatened	- Found in vernal pool regions and wetlands	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect

Common Name	Species Name	Status	Habitats in Study Area	Probability of Effect	Conclusion
Beach Layia	<i>Layia carnosa</i>	Threatened	- Restricted to coastal sand dune habitat	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
California Jewelflower	<i>Caulanthus californicus</i>	Endangered	- Potentially found in non-native grasslands near shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
California Seablite	<i>Suaeda californica</i>	Endangered	- Restricted to upper intertidal zone of coastal salt marshes	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Chorro Creek Bog Thistle	<i>Cirsium fontinale var. obispoense</i>	Endangered	- Restricted to open seep areas in serpentine soils that may near shorelines - Only natural populations found in SLO County	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Contra Costa Goldfields	<i>Lasthenia conjugens</i>	Endangered	- Found in vernal pools, swales, and other depressions in open grassland and woodland communities on or adjacent to shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Gambel's Watercress	<i>Rorippa gambellii</i>	Endangered	- Found in coastal wetland areas of SLO and Santa Barbara counties	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect

Common Name	Species Name	Status	Habitats in Study Area	Probability of Effect	Conclusion
Gaviota Tarplant	<i>Deinandra increscens ssp. villosa</i>	Endangered	- Found in rare needlegrass grasslands within coastal sage scrub	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Indian Knob Mountainbalm	<i>Eriodictyon altissimum</i>	Endangered	- Found in coastal dune scrub and maritime chaparral communities	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
La Graciosa Thistle	<i>Cirsium loncholepis</i>	Endangered	- Often found in riparian habitat near seeps or marshes	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Lompoc Yerba Santa	<i>Eriodictyon capitatum</i>	Endangered	- Endemic to western Santa Barbara County, with populations just north of Lompoc as well as the VSFB - These populations prefer coastal sage and maritime chaparral	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Marsh Sandwort	<i>Arenaria paludicola</i>	Endangered	- Primarily found in coastal freshwater marshes	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Morro Manzanita	<i>Arctostaphylos morroensis</i>	Threatened	- Found in coastal dune scrub, maritime chaparral, and coast live oak woodlands	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect

Common Name	Species Name	Status	Habitats in Study Area	Probability of Effect	Conclusion
Nipomo Mesa Lupine	<i>Lupinus nipomensis</i>	Endangered	- Limited to coastal dune scrub habitat	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Pismo Clarkia	<i>Clarkia speciosa ssp. immaculata</i>	Endangered	- Only 20 coastal occurrences between Pismo Beach and Morro Bay - Found in dry sandy soil derived from ancient marine terraces	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Salt Marsh Bird's Beak	<i>Cordylanthus maritimus ssp. maritimus</i>	Endangered	- Limited to upper tidal marsh habitat	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect
Spreading Navarretia	<i>Navarretia fossalis</i>	Threatened	- Primarily found in vernal pools, alkali beaches, and sinks	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.	May affect, not likely to adversely affect

Source: USFWS' ECOS IPaC tool.

Table G.1-2 provides a list of the ESA-listed species under USFWS jurisdiction with critical habitat in the study area.

Table G.1-2. ESA-listed species under USFWS jurisdiction with critical habitat in the study area.

Common Name	Species Name	Status
California Red-legged Frog	<i>Rana draytonii</i>	Designated critical habitat
Gaviota Tarplant	<i>Deinandra increscens ssp. villosa</i>	Designated critical habitat
Morro Bay Kangaroo Rat	<i>Dipodomys heermanni morroensis</i>	Designated critical habitat
Morro Shoulderband (=banded dune) Snail	<i>Helminthoglypta walkeriana</i>	Designated critical habitat
Tidewater Goby	<i>Eucyclogobius newberryi</i>	Designated critical habitat
Western Snowy Plover	<i>Charadrius nivosus nivosus</i>	Designated critical habitat

G.2 Migratory Birds Under USFWS Jurisdiction

Table G.2-1 provides a list of the USFWS migratory birds potentially present in the study area, their status, and some notes on range, habitat use, and potential effects.

Table G.2-1. Migratory birds under USFWS jurisdiction.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Allen's Hummingbird	<i>Selasphorus sasin</i>	BCC Rangewide (CON)	Feb 1–Jul 15	5–7	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Non-BCC Vulnerable	Jan 1–Aug 31	3–4	- May be found on shorelines and over open water in study area	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Belding's Savannah Sparrow	<i>Passerculus sandwichensis beldingi</i>	BCC-BCR	Apr 1–Aug 15	6–7	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black Oystercatcher	<i>Haemotopus bachmani</i>	BCC Rangewide (CON)	Apr 15–Oct 31	6–7	- May be found on shorelines or over study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Black Scoter	<i>Melanitta niger</i>	Non-BCC Vulnerable	Breeds elsewhere	0–3	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black Skimmer	<i>Rynchops niger</i>	BCC Rangewide (CON)	May 20– Sep 15	1–4	- May be found on shorelines or over study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black Swift	<i>Cypseloides niger</i>	BCC Rangewide (CON)	Jun 15– Sep 10	0–3	- May be found on shorelines or over study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black Tern	<i>Chlidonias niger</i>	BCC Rangewide (CON)	May 15– Aug 20	0–5	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black Turnstone	<i>Arenaria melanocephala</i>	BCC Rangewide (CON)	Breeds elsewhere	2–7	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Black-chinned Sparrow	<i>Spizella atrogularis</i>	BCC Rangewide (CON)	Apr 15–Jul 31	0–3	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black-footed Albatross	<i>Phoebastria nigripes</i>	BCC Rangewide (CON)	Breeds elsewhere	0–3	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black-legged Kittiwake	<i>Rissa tridactyla</i>	Non-BCC Vulnerable	Breeds elsewhere	0–3	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Black-vented Shearwater	<i>Puffinus opisthomelas</i>	BCC Rangewide (CON)	Breeds elsewhere	0–5	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Brown Pelican	<i>Pelecanus occidentalis</i>	Non-BCC Vulnerable	Jan 15– Sep 30	8–9	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Bullock's Oriole	<i>Icterus bullockii</i>	BCC-BCR	Mar 21–Jul 25	3–7	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
California Gull	<i>Larus californicus</i>	BCC Rangewide (CON)	Mar 1–Jul 31	8	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
California Thrasher	<i>Toxostoma redivivum</i>	BCC Rangewide (CON)	Jan 1–Jul 31	7–8	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Cassin's Finch	<i>Carpodacus cassinii</i>	BCC Rangewide (CON)	May 15–Jul 15	0–4	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Clark's Grebe	<i>Aechmophorus clarkii</i>	BCC Rangewide (CON)	Jun 1–Aug 31	5–6	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Common Loon	<i>Gavia immer</i>	Non-BCC Vulnerable	Apr 15–Oct 31	4–8	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Common Murre	<i>Uria aalge</i>	Non-BCC Vulnerable	Apr 15–Aug 15	1–4	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Common Yellowthroat	<i>Geothlypis trichas sinuosa</i>	BCC-BCR	May 20–Jul 31	8–9	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	Non-BCC Vulnerable	Apr 20–Aug 31	6–9	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Golden Eagle	<i>Aquila chrysaetos</i>	Non-BCC Vulnerable	Jan 1–Aug 31	2–4	- May be found on shorelines or above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Lawrence's Goldfinch	<i>Carduelis lawrencei</i>	BCC Rangewide (CON)	Mar 20–Sep 20	1–5	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Laysan Albatross	<i>Phoebastria immutabilis</i>	BCC Rangewide (CON)	Breeds elsewhere	Insufficient surveys	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Long-eared Owl	<i>Asio otus</i>	BCC Rangewide (CON)	Mar 1–Jul 15	0–2	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Long-tailed Duck	<i>Clangula hyemalis</i>	Non-BCC Vulnerable	Breeds elsewhere	0–4	- May be found on shorelines and in open water in study area	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Manx Shearwater	<i>Puffinus puffinus</i>	Non-BCC Vulnerable	Apr 15–Oct 31	0–4	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Marbled Godwit	<i>Limosa fedoa</i>	BCC Rangewide (CON)	Breeds elsewhere	6–8	- May be found on shorelines or above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Mountain Plover	<i>Charadrius montanus</i>	BCC Rangewide (CON)	Breeds elsewhere	0–4	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Nuttall's Woodpecker	<i>Picoides nuttallii</i>	BCC-BCR	Apr 1–Jul 20	7–8	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Oak Titmouse	<i>Baeolophus inornatus</i>	BCC Rangewide (CON)	Mar 15–Jul 15	7–8	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	BCC Rangewide (CON)	May 20–Aug 31	0–6	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Pink-footed Shearwater	<i>Puffinus creatopus</i>	BCC Rangewide (CON)	Breeds elsewhere	0–2	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Pomarine Jaeger	<i>Stercorarius pomarinus</i>	Non-BCC Vulnerable	Breeds elsewhere	0–4	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Red Phalarope	<i>Phalaropus fulicarius</i>	Non-BCC Vulnerable	Breeds elsewhere	0–2	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Red-breasted Merganser	<i>Mergus serrator</i>	Non-BCC Vulnerable	Breeds elsewhere	2–7	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Red-necked Phalarope	<i>Phalaropus lobatus</i>	Non-BCC Vulnerable	Breeds elsewhere	0–8	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Red-throated Loon	<i>Gavia stellata</i>	Non-BCC Vulnerable	Breeds elsewhere	1–6	- May be found on shorelines and in open water in study area	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Ring-billed Gull	<i>Larus delawarensis</i>	Non-BCC Vulnerable	Breeds elsewhere	5–8	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Royal Tern	<i>Thalasseus maximus</i>	Non-BCC Vulnerable	April 15– Aug 31	5–7	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Scripp's Murrelet	<i>Synthlobaramphus scrippsi</i>	BCC Rangewide (CON)	Feb 20–Jul 31	0–4	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Short-billed Dowitcher	<i>Limnodromus griseus</i>	BCC Rangewide (CON)	Breeds elsewhere	1–7	- May be found on shorelines or above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
South Polar Skua	<i>Stercorarius maccormicki</i>	Non-BCC Vulnerable	Breeds elsewhere	0–2	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Surf Scoter	<i>Melanitta perspicillata</i>	Non-BCC Vulnerable	Breeds elsewhere	4–8	- May be found on shorelines and in open water in study area	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Tricolored Blackbird	<i>Agelaius tricolor</i>	BCC Rangewide (CON)	Jun 1–Aug 10	0–3	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Western Grebe	<i>Aechmophorus occidentalis</i>	BCC Rangewide (CON)	Jun 1–Aug 31	5–8	- May be found on shorelines and in open water in study area	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
White-winged Scoter	<i>Melanitta fusca</i>	Non-BCC Vulnerable	Breeds elsewhere	0–4	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Common Name	Species Name	Status	Breeding Season	Probability of Presence (yearly range scored out of 10)	Onsite habitat use	Probability of effect
Willet	<i>Tringa semipalmata</i>	BCC Rangewide (CON)	Breeds elsewhere	6–9	- May be found on shorelines or above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Wilson's Storm-petrel	<i>Oceanites oceanicus</i>	Non-BCC Vulnerable	Breeds elsewhere	Insufficient surveys	- May be found on shorelines or in/above study area waters	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Wrentit	<i>Chamaea fasciata</i>	BCC Rangewide (CON)	Mar 15– Aug 10	8–9	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.
Yellow-billed Magpie	<i>Pica nuttalli</i>	BCC Rangewide (CON)	Apr 1–Jul 31	0–3	- May be found on shorelines	- Actions would be mostly beneficial to reduce disturbance; minimal disturbance from management activities.

Key: BCC: USFWS Birds of Conservation Concern

BCR: BCC only in Bird Conservation Region

CON: BCC throughout range

Non-BCC Vulnerable: not BCC but warrants attention due to Eagle Act or from potential offshore activities

Source: USFWS' ECOS IPaC tool.

G.3 Protected Species Under NOAA Fisheries Jurisdiction or Other Protections

Table G.3-1 provides a list of the protected species under NOAA Fisheries jurisdiction or other protections potentially present in the study area, the species listing status, and regional occurrence.

Table G.3-1. List of protected species in the study area under NOAA Fisheries jurisdiction or other protections.

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Southern sea otter	<i>Enhydra lutris</i>	ESA Threatened (USFWS jurisdiction); MMPA	Year-round, Common	Live and feed in marine coastal areas, bays, estuaries, and potentially on rocky or sandy areas along exposed outer coast.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
California sea lion	<i>Zalophus californianus</i>	MMPA	Year-round, Common	Haulout sites include sandy beaches or rocky coves. Found transiting and feeding in coastal waters. May be found foraging in pelagic waters.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Steller sea lion	<i>Eumetopias jubatus</i>	MMPA	Year-round, Occasional	Haulout sites include sandy beaches or rocky coves. Found transiting and feeding in coastal waters. May be found foraging in pelagic waters.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Harbor seal	<i>Phoca vitulina</i>	MMPA	Year-round, Common	Haulout sites include sandy beaches or rocky coves. Found transiting and feeding in coastal waters. May be found foraging in pelagic waters.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Northern fur seal	<i>Callorhinus ursinus</i>	MMPA Depleted	Seasonal, Rare	Haulout sites include sandy beaches or rocky coves. Found transiting and feeding in coastal waters. May be found foraging in pelagic waters.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Northern elephant seal	<i>Mirounga angustirostris</i>	MMPA	Year-round, Common	Haulout sites include sandy beaches or rocky coves. Found transiting and feeding in coastal waters. May be found foraging in pelagic waters.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Guadalupe fur seal	<i>Arctocephalus townsendi</i>	ESA Threatened; MMPA Depleted	Seasonal, Very Rare	Haulout sites include sandy beaches or rocky coves. Found transiting and feeding in coastal waters. May be found foraging in pelagic waters.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Harbor porpoise	<i>Phocoena phocoena</i>	MMPA	Year-round, Common	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Risso's dolphin	<i>Grampus griseus</i>	MMPA	Year-round, Occasional	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Common dolphin – long-beaked	<i>Delphinus capensis</i>	MMPA	Year-round, Common	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Common dolphin – short-beaked	<i>Delphinus delphis</i>	MMPA	Year-round, Rare	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Dall's porpoise	<i>Phocoenoides dalli</i>	MMPA	Year-round, Rare	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Bottlenose dolphin	<i>Tursiops Truncatus</i>	MMPA Depleted	Year-round, Common	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	MMPA	Year-round, Common	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Blue whale	<i>Balaenoptera musculus</i>	ESA Endangered; MMPA Depleted	Seasonal, Common	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Humpback whale	<i>Megaptera novaeangliae</i>	ESA Endangered (Central America DPS), ESA Threatened (Mexico DPS); MMPA Depleted	Seasonal, Common	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Sperm whale	<i>Physeter macrocephalus</i>	ESA Endangered; MMPA Depleted	Year-round, Occasional	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	MMPA	Year-round, Very Rare	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Baird's beaked whale	<i>Berardius bairdii</i>	MMPA	Seasonal, Rare	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	MMPA	Seasonality unknown, Very Rare	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Killer whale	<i>Orcinus orca</i>	MMPA	Seasonal, occasional	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Sei whale	<i>Balaenoptera borealis</i>	ESA Endangered; MMPA	Seasonal, Rare	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Fin whale	<i>Balaenoptera physalus</i>	ESA Endangered; MMPA	Seasonal, Occasional	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Gray whale	<i>Eschrichtius robustus</i>	MMPA	Seasonal, Common	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Leatherback Turtle	<i>Dermochelys coriacea</i>	ESA Endangered	Seasonal, Rare	May be found transiting and foraging in coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Chinook salmon (Sacramento River winter-run ESU)	<i>Oncorhynchus tshawytscha</i>	ESA Endangered	Seasonal	Found foraging in open ocean and estuaries before returning to tributaries to spawn.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Chinook salmon (California Coastal ESU)	<i>Oncorhynchus tshawytscha</i>	ESA Threatened	Seasonal	Found foraging in open ocean and estuaries before returning to tributaries to spawn.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Coho Salmon (Central California coast ESU)	<i>Oncorhynchus kisutch</i>	ESA Endangered	Seasonal	Found foraging in open ocean and estuaries before returning to tributaries to spawn.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Steelhead (Central California Coast DPS)	<i>Oncorhynchus mykiss</i>	ESA Threatened	Seasonal	Found foraging in open ocean and estuaries before returning to tributaries to spawn.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Steelhead (South Central California Coast DPS)	<i>Oncorhynchus mykiss</i>	ESA Threatened	Seasonal	Found foraging in open ocean and estuaries before returning to tributaries to spawn.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Longfin smelt	<i>Spirinchus thaleichthys</i>	ESA Candidate for Listing	Seasonal	Mostly found in estuaries.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
Tidewater goby	<i>Eucyclogobius newberryi</i>	ESA Endangered	Year-round	Found in lagoons, estuaries, marshes, and freshwater tributaries.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
Black abalone	<i>Haliotis cracherodii</i>	ESA Endangered	Year-round, Common	Found on rocky substrates in intertidal and shallow subtidal reefs.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
White abalone	<i>Haliotis sorenseni</i>	ESA Endangered	Year-round, rare	Found at depths ranging from 50–180 ft. Prefer open rock habit interspersed with sand channels.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect
California condor	<i>Gymnogyps californianus</i>	ESA Endangered	Year-round, Occasional	May be found foraging on coastlines. Also may be found in transit over coastlines, and coastal and open waters.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
California least tern	<i>Sterna antillarum browni</i>	ESA Endangered	Seasonal (April–September), Rare	May be found nesting on beaches, mudflats, and sand dunes near shallow estuaries and lagoons. May be found transiting and foraging in coastal and open waters.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Short-tailed albatross	<i>Phoebastria albatrus</i>	ESA Endangered	Year-round, Very rare	Mostly found in transit or foraging over open ocean.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
California clapper rail	<i>Rallus obsoletus</i>	ESA Endangered	Year-round, Very rare	May be found in salt marshes and tidal sloughs.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect
Marbled murrelet	<i>Brachyramphus marmoratus</i>	ESA Threatened	Seasonal, occasional	May be found resting or feeding in near-shore marine waters. Nesting sites found on coastlines.	- Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities.	May affect, not likely to adversely affect

Common Name	Scientific Name	Listing or Protected Status	Regional Occurrence	Habitat within Study Area	Potential Effects	Conclusion
White sharks*	<i>Carcharodon carcharias</i>	CCR	Seasonal, Common	Nursery grounds found in nearshore waters. May be found foraging or in transit further off the coast as well.	<ul style="list-style-type: none"> - Actions would be mostly beneficial to reduce disturbance from commercial activities and protect water quality and critical habitat. - Minimal disturbance and risk of adverse impacts from management activities. 	May affect, not likely to adversely affect

* White sharks are not listed as an endangered or threatened species under the federal ESA. White sharks are listed under Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and listed on the International Union for Conservation of Nature (IUCN) Red List, as Vulnerable. White sharks are federally managed under the MSA; within the EEZ offshore California, Oregon, and Washington, white shark management requirements are specified in the Highly Migratory Species FMP, which prohibits the commercial fishing of white sharks. The Shark Conservation Act (SCA) of 2010 improved existing domestic and international shark conservation measures. White sharks have been protected in California waters since January 1994; Title 14, California Code of Regulations (CCR), Fish and Game Code Section 28.06 states that white sharks may not be taken. California Assembly Bill 2109 was signed into law in September 2022, providing new protections for white sharks in California waters.

Table G.3-2 provides a list of the ESA-listed species under NOAA Fisheries jurisdiction with critical habitat in the study area.

Table G.3-2. ESA-listed species under NOAA Fisheries jurisdiction with critical habitat in the study area.

Common Name	Species Name	Status	Habitat Description	Potential Impacts	Conclusion
Humpback whale	<i>Megaptera novaeangliae</i>	Designated critical habitat	Specific areas designated as critical habitat for the Central America DPS of humpback whales contain approximately 48,521 nmi ² of marine habitat in the North Pacific Ocean within the portions of the California Current Ecosystem off the coasts of Washington, Oregon, and California. Specific areas designated as critical habitat for the Mexico DPS of humpback whales contain approximately 116,098 nmi ² of marine habitat in the North Pacific Ocean, including areas within portions of the eastern Bering Sea, Gulf of Alaska, and California Current Ecosystem.	CHNMS actions would be mostly beneficial to protect habitat and water quality. There would be minimal disturbance from proposed management activities.	May affect, not likely to adversely affect
Black abalone	<i>Haliotis cracherodii</i>	Designated critical habitat	This designation includes rocky intertidal and subtidal habitats from the mean higher high water (MHHW) line to a depth of -6 meters (m) (relative to the mean lower low water (MLLW) line), as well as the coastal marine waters encompassed by these areas.	CHNMS actions would be mostly beneficial to protect habitat and water quality. There would be minimal disturbance from proposed management activities.	May affect, not likely to adversely affect
Leatherback turtle	<i>Dermochelys coriacea</i>	Designated critical habitat	This designation includes approximately 16,910 square miles (43,798 square km) stretching along the California coast from Point Arena to Point Arguello east of the 3,000-meter depth contour; and 25,004 square miles (64,760 square km) stretching from Cape Flattery, Washington to Cape Blanco, Oregon east of the 2,000 meter depth contour. The designated areas comprise approximately 41,914 square miles (108,558 square km) of marine habitat and include waters from the ocean surface down to a maximum depth of 262 feet (80 m).	CHNMS actions would be mostly beneficial to protect habitat and water quality. There would be minimal disturbance from proposed management activities.	May affect, not likely to adversely affect

G.4 Essential Fish Habitat and Habitat Areas of Particular Concern

Table G.4-1 provides a list of the EFH overlapping with the study area.

Table G.4-1. Essential Fish Habitat in the study area.

Species: Common name	Lifestage	EFH Description
Groundfish (90+ species)	ALL	Depths less than or equal to 3,500 m (1,914 fm) to mean higher high water level (MHHW) or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 ppt during the period of average annual low flow. Pacific Coast Groundfish FMP 101 August 2020 Seamounts in depths greater than 3,500 m as mapped in the EFH assessment geographic information system (GIS). Areas designated as HAPCs not already identified by the above criteria.
Coastal Pelagic Species (CPS) (Pacific sardine, Pacific [chub] mackerel, northern anchovy, jack mackerel, market squid, and all euphausiid (krill) species)	ALL	The east-west geographic boundary of EFH for CPS is defined to be all marine and estuarine waters from the shoreline along the coasts of California, Oregon, and Washington offshore to the limits of the EEZ and above the thermocline where sea surface temperatures range between 10°C to 26°C.

Table G.4-2 provides a list of the HAPCs overlapping with the study area.

Table G.4-2. Habitat Areas of Particular Concern in the study area.

HAPC Type	Fishery Management Plan	Defining Characteristics
Rocky Reefs	Amendment 19 of the Pacific Coast Groundfish Fishery Management Plan	The rocky reefs HAPC includes those waters, substrates and other biogenic features associated with hard substrate (bedrock, boulders, cobble, gravel, etc.) to MHHW. A first approximation of its extent is provided by the substrate data in the groundfish EFH assessment GIS. However, at finer scales, through direct observation, it may be possible to further distinguish between hard and soft substrate in order to define the extent of this HAPC.
Canopy Kelp	Amendment 19 of the Pacific Coast Groundfish Fishery Management Plan	The canopy kelp HAPC includes those waters, substrate, and other biogenic habitat associated with canopy-forming kelp species (e.g., <i>Macrocystis</i> spp. and <i>Nereocystis</i> sp.).
Area of Interest: Rodriguez Seamount	Amendment 19 of the Pacific Coast Groundfish Fishery Management Plan	Areas of interest are discrete areas that are of special interest due to their unique geological and ecological characteristics. All seamounts off the coast of California have been designated as areas of interest, and are therefore considered HAPC.

Areas of Interest:

Areas of interest are discrete areas that are of special interest due to their unique geological and ecological characteristics. The following areas of interest are designated HAPC:

- Off of Washington: All waters and sea bottom in state waters from the 3 nautical mile boundary of the territorial sea shoreward to MHHW;
- Off of Oregon: Daisy Bank/Nelson Island, Thompson Seamount, President Jackson Seamount; and
- Off of California: All seamounts, including Gumdrop Seamount, Pioneer Seamount, Guide Seamount, Taney Seamount, Davidson Seamount, and San Juan Seamount; Mendocino Ridge; Cordell Bank; Monterey Canyon; specific areas in the federal waters of Channel Islands National Marine Sanctuary; specific areas of the Cowcod Conservation Area.

Appendix H:

Known Permitted Infrastructure and Activities in Study Area

NOAA has identified 51 active permitted activities and three permit applications in the area of the proposed sanctuary (see Table H-1). These activities include pipelines, piers, storm drain outfalls, fiber optic cables, and other industrial uses. A description of socioeconomic resources, including these activities, and potential impacts of the proposed action on these activities is discussed in Section 4.6 of the EIS.

Table H-1. Known permitted infrastructure and activities in the study area from north to south (source: CSLC, 2022).

Record Status	Lease Number	General Location	Type of Lease	Lease Start Date	Latitude	Longitude	Alternative*
Active	7326	Pacific Ocean, near Cayucos	Right of Way Use	10/01/2019	35.46022	-120.98095	IBA, 1
Active	7623	Cayucos Bay	Protective Structure Use	05/05/1992	35.44823	-120.91157	IBA, 1
Active	5589	Pacific Ocean, Cayucos State Beach, Cayucos	Public Agency Use	08/07/2019	35.44781	-120.90701	IBA, 1
Active	9576	Pacific Ocean, at Estero Bay, near the city of Morro Bay	Public Agency Use	08/23/2019	35.41112	-120.87473	IBA, 1
Active	8168	135,000 linear feet, more or less, in the Pacific Ocean, from Morro Bay in San Luis Obispo County to Santa Barbara in Santa Barbara County	Right of Way Use	12/18/2015	35.41052	-120.93165	IBA, 1
Active	8100	Pacific Ocean at Estero Bay, near the city of Morro Bay	Industrial Use	06/01/2015	35.41044	-120.88045	IBA, 1
Active	8100	Pacific Ocean at Estero Bay, near the city of Morro Bay	Industrial Use	06/01/2015	35.40726	-120.87837	IBA, 1
Active	8168	135,000 linear feet, more or less, in the Pacific Ocean, from Morro Bay in San Luis Obispo County, to Santa Barbara in Santa Barbara County	Right of Way Use	12/18/2015	35.40340	-120.91783	IBA, 1
Active	5971	Seaward of Atascadero State Beach, Morro Bay	Public Agency Use	04/01/1981	35.38343	-120.86990	IBA, 1
Active	8204	Pacific Ocean, offshore of Montana de Oro State Park	Right of Way Use	07/01/2010	35.34189	-120.89886	IBA, 1
Active	8140	Offshore Montana De Oro State Park, west-southwest of the community of Los Osos (Parcel 2)	Right of Way Use	02/08/2000	35.32649	-120.88893	IBA, 1
Active	8141	Pacific Ocean, offshore of Montana De Oro State Park	Right of Way Use	02/08/2010	35.32461	-120.89088	IBA, 1
Active	7603	Pacific Ocean, south of Morro Bay	Right of Way Use	01/10/1992	35.31249	-120.90458	IBA, 1
Active	8142	Pacific Ocean, offshore of Montana De Oro State Park	Right of Way Use	02/08/2010	35.30296	-120.87688	IBA, 1

Record Status	Lease Number	General Location	Type of Lease	Lease Start Date	Latitude	Longitude	Alternative*
Active	8141	Pacific Ocean, offshore of Montana De Oro State Park	Right of Way Use	02/08/2010	35.30263	-120.87702	IBA, 1
Active	8144	Pacific Ocean, near Los Osos	Right of Way Use	03/02/2019	35.30250	-120.87840	IBA, 1
Active	3135	Estero Bay, just south of Baywood Park and two miles south of Morro Bay, in Section 27, T30S R10E, MDM	Right of Way Use	05/28/1964	35.29483	-120.91598	IBA, 1
Active	4892	South of Cuesta by the Sea	Right of Way Use	04/04/1974	35.29386	-120.88021	IBA, 1
Active	9347	In and adjacent to the Pacific Ocean, Avila Beach	Industrial Use	06/28/2016	35.21110	-120.85653	IBA, 1, 2
Active	9347	In and adjacent to the Pacific Ocean, Avila Beach	Industrial Use	06/28/2016	35.21110	-120.85653	IBA, 1, 2
Active	6694	Pacific Ocean between San Luis Obispo and Morro Bay	Public Agency Use	06/12/1984	35.19028	-120.83196	IBA, 1, 2, 3, 4
Active	814	Pacific Ocean, one mile north of Shell Beach	Public Agency Use	06/26/1953	35.15938	-120.68617	IBA, 1, 2, 3, 4
Active	7665	Ocean Boulevard across from 1624, 1654, and 1680 Montecito in Pismo Beach	Public Agency Use	12/01/1992	35.15454	-120.67620	IBA, 1, 2, 3, 4
Active	5131	Pacific Ocean, vicinity of Shell Beach	Protective Structure Use	07/01/1976	35.15388	-120.67499	IBA, 1, 2, 3, 4
Active	4698	Pacific Ocean adjacent to 2411, 2555, 2575, and 2651 Price Street, city of Pismo Beach	Protective Structure Use	08/01/2015	35.14931	-120.65382	IBA, 1, 2, 3, 4
Active	402/ 31-53	Pacific Ocean at Pismo Beach, Oceano	Protective Structure Use	01/23/1940	35.11970	-120.63845	IBA, 1, 2, 3, 4
Active	8152	In the Pacific Ocean, offshore of the city of Grover Beach	Right of Way Use	04/20/2010	35.11479	-120.67436	IBA, 1, 2, 3, 4
Active	8152	In the Pacific Ocean, offshore of the city of Grover Beach	Right of Way Use	04/20/2010	35.11387	-120.67228	IBA, 1, 2, 3, 4
Active	8151	In the Pacific Ocean, offshore of the city of Grover Beach	Right of Way Use	04/20/2010	35.11312	-120.67049	IBA, 1, 2, 3, 4
Active	3875	Pacific Ocean at Oceano near Arroyo Grande Creek	Right of Way Use	03/01/1979	35.10008	-120.63749	IBA, 1, 2, 3, 4
Active	1449	Pacific Ocean, adjacent to Oceano Dunes State Vehicular Recreation Area	Right of Way Use	10/25/2003	35.04352	-120.63921	IBA, 1, 2, 3, 4

Record Status	Lease Number	General Location	Type of Lease	Lease Start Date	Latitude	Longitude	Alternative*
Active	6542	Pacific Ocean, adjacent to the Oceano Dunes Off-Highway Vehicle Park, near Oso Flaco Creek, Pismo Beach	Public Agency Use	10/01/2003	35.02996	-120.63470	IBA, 1, 2, 3, 4
Active	6911	Pacific Ocean near Point Pedernales, offshore of the city of Lompoc	Right of Way Use	11/01/2009	34.67651	-120.64684	IBA, 1, 2, 3, 4
Active	7944	State tide and submerged land (at the 3-mile limit) off Point Pedernales and Point Arguello	Oil & Gas Lease	02/21/1997	34.61834	-120.70592	IBA, 1, 2, 3, 4
Active	7944	State tide and submerged land (at the 3-mile limit) off Point Pedernales and Point Arguello	Oil & Gas Lease	02/21/1997	34.57386	-120.71245	IBA, 1, 2, 3, 4
Active	402/ 31-52	Pacific Ocean at Point Arguello	Protective Structure Use	05/15/1940	34.55432	-120.60919	IBA, 1, 2, 3, 4
Active	4300	Pacific Ocean, adjacent to Gaviota State Park, near Goleta	Public Agency Use	03/01/2018	34.47005	-120.22857	IBA, 1, 2, 3, 4
Active	6943	Pacific Ocean, near Point Conception	Right of Way Use	02/01/2011	34.46639	-120.51274	IBA, 1, 2, 3, 4
Active	6942	Pacific Ocean, near Point Conception	Right of Way Use	02/01/2011	34.46611	-120.51263	IBA, 1, 2, 3, 4
Application	A0000002181				34.59082	-120.78770	IBA, 1, 2, 3, 4
Application	A0000002222				34.51338	-120.63350	IBA, 1, 2, 3, 4
Application	A0000003284				34.43512	-120.06727	5b
Active	6995	Pacific Ocean near Gaviota	Industrial Use	06/01/2011			5b
Active	4977	Pacific Ocean near Los Flores Canyon	Industrial Use	01/01/1989			5b
Active	5515	Pacific Ocean, near the city of Goleta	Industrial Use	06/20/2015			NA
Active	3120	Ellwood, Parcel 18A	Oil & Gas Lease	04/29/1964			NA
Active	7629	central Morro Bay	Public Agency Use	05/01/2017			5a
Active	8010	Pacific Ocean, adjacent to Refugio State Beach, near Goleta	Public Agency Use	02/01/2018			5b

Record Status	Lease Number	General Location	Type of Lease	Lease Start Date	Latitude	Longitude	Alternative*
Active	8045	Morro Bay, unincorporated community of Los Osos at Elfin Forest	Public Agency Use	01/01/1999			5a
Active	7644	Morro Bay, adjacent to 1147 9th Street, Los Osos	Recreational Use	03/01/2018			5a
Active	9568	Morro Bay, adjacent to 1135 5th Street, Los Osos	Recreational Use	06/28/2019			5a
Active	9532	Morro Bay adjacent to 1134 5th Street, Los Osos	Recreational Use	02/04/2019			5a
Active	7456	Pacific Ocean near the city of Goleta	Right of Way Use	10/19/2012			5b
Active	7163	Pacific Ocean, offshore of El Capitán State Beach, near the city of Goleta	Right of Way Use	02/01/1988			5b

* IBA = Initial Boundary Alternative; 1 = Alternative 1; 2 = Alternative 2; 3 = Alternative 3; 4 = Alternative 4; 5a = Sub-Alternative 5a; 5b = Sub-Alternative 5b.

Appendix I: DoD Activities

The following list provided by the Department of Defense describes existing activities carried out or approved by the Department of Defense (“DoD activities”) that are conducted prior to the effective date of sanctuary designation. DoD has informed NOAA that all activities listed below are carried out or approved by DoD. With respect to commercial and civil launches from VSF and associated activities, DoD has informed NOAA that:

- DoD conducts NEPA reviews for these activities. Other federal agencies, such as the Federal Aviation Administration and/or the U.S. Coast Guard, may be cooperating agencies for purposes of these NEPA reviews.
- DoD also conducts all required natural and cultural resource consultations for these activities.
- Civil partners and commercial providers conducting these activities are required to comply with DoD best management practices.

These activities are subject to the exemption identified in 15 C.F.R. § 922.232(c). The existing activities provided here include all activities associated with the listed activities, but existing activities do not include new activities as described in the preamble to the CHNMS proposed rule.

- 1) Operational activities supporting DoD, civil, national security, and commercial space and ballistic launch, that originate from, are supported by, or are sanctioned by VSF to further national strategic goals.
- 2) Weapons systems testing and training supported by the Point Mugu Sea Range and Naval Base Ventura County, including installations at Port Hueneme and San Nicolas Island, in support of national defense.
- 3) All aeronautical programs, including fixed wing, rotary wing, powered lift, gliders, lighter than air operations and amphibious landing craft.
- 4) Amphibious landing exercises including use of amphibious craft and beach landing vessels.
- 5) All launch and return operations, including ballistic missiles, supporting DoD, civil, national security, and commercial.
- 6) Space lift operations, including discharge of missile or launch components into the ocean necessary and incidental to launches.
- 7) Test and experimental activities hosted, supported, or conducted at VSF that support DoD, civil, national security, and commercial space, ballistic launch, or surface vessels.
- 8) Missile exercises including air-to-air, surface-to-air, air-to-surface, surface-to-surface, and subsurface-to-surface.
- 9) Long-range weapons delivery and hypersonic vehicle testing.
- 10) Gunnery exercises including surface-to-air, surface-to-surface, air-to-surface, and ship, utilizing small, medium, and large calibers.
- 11) Bombing exercises against maritime targets, both explosive and non-explosive.
- 12) Rocket exercises.
- 13) Directed energy – laser targeting exercises.

- 14) Directed energy – high energy laser weapon exercises.
- 15) High powered microwave test exercises.
- 16) Electronic warfare operations.
- 17) Routine transits and military training and readiness activities, including manned and unmanned surface and subsurface vessels, aircraft, vehicle overflight, targets, and use of live and inert weapons.
- 18) Anti-submarine and mine warfare training including the use of submarines, surface vessels, and aircraft, and their associated weapon and sensor systems, including active sonar.
- 19) Maritime security training events including mine-warfare systems, and use of small arms.
- 20) Use, including repair and maintenance, of seafloor devices such as mine training shapes, cables, and un-crewed systems.
- 21) Harbor and boat dock use including dredging, for inbound/outbound boat traffic, shipping, anchoring or mooring of vessels, loading/unloading, port, and pier needs; training activities in or near the boat dock including use of motorized personal watercraft.
- 22) Existing communications, energy resiliency, monitoring, and range infrastructure systems activities, including repair and maintenance of existing communication or data cables, mooring lines, boring, directional drilling, trenching, anchors, pipelines on/below/above the seabed, submarine power cables on/below/above the seabed, risers, and ocean pilings associated with such systems.
- 23) Planned and unplanned debris and noise pollution related to VSFB operations, tests, and experimental activities.
- 24) All emitted signals at frequencies and strengths related to VSFB operations, tests, and experimental activities that are conducted in the air, on, in and under the water surface.
- 25) Natural resources intertidal monitoring and research projects.
- 26) Storm water discharges from storm water management systems along the coast of VSFB.

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