

ETPS

TRAINING

Eastern Tropical Pacific Seascape Training

Module 10: EDUCATION



<http://coastal.er.usgs.gov/cocos/movie.html> - Cocos Movie

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Today's Outline

- Educating Local Communities
- Educating Visitors
- Training Naturalist Guides

Afternoon Each One Teach One Activity

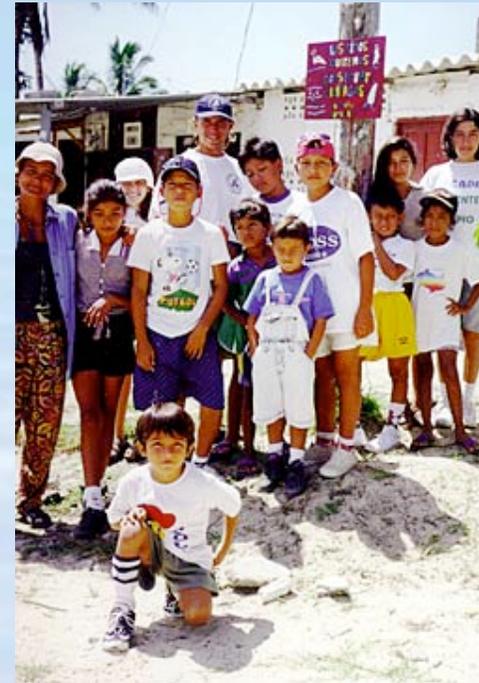
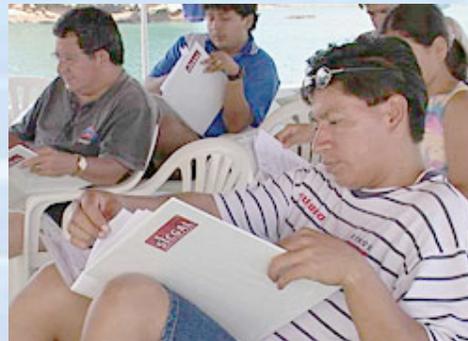


10.1 EDUCATING LOCAL COMMUNITIES

The importance of engaging the local community cannot be overstated.

Who?

How?



Identifying the Audience

Potential audiences:

- General Public / Local Community
- Fisher people
- Tour operators
- Tourists & Casual Visitors
- Universities
- Local Schools



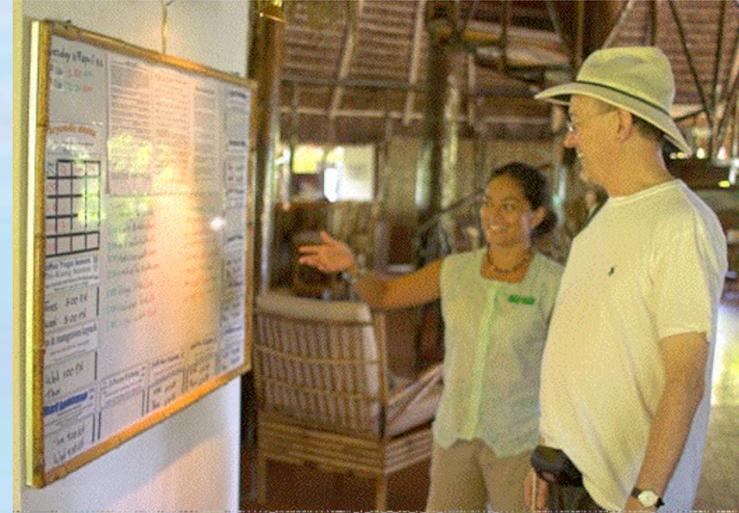
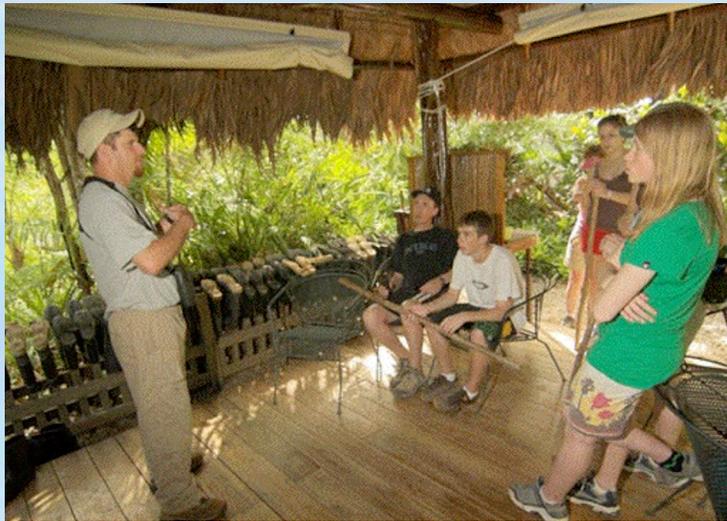
UNIVERSIDAD
NACIONAL
DE COLOMBIA

Each group will have different knowledge, attitudes, and educational needs.

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Types of educational activities for schoolchildren



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Educational Activities for Schools

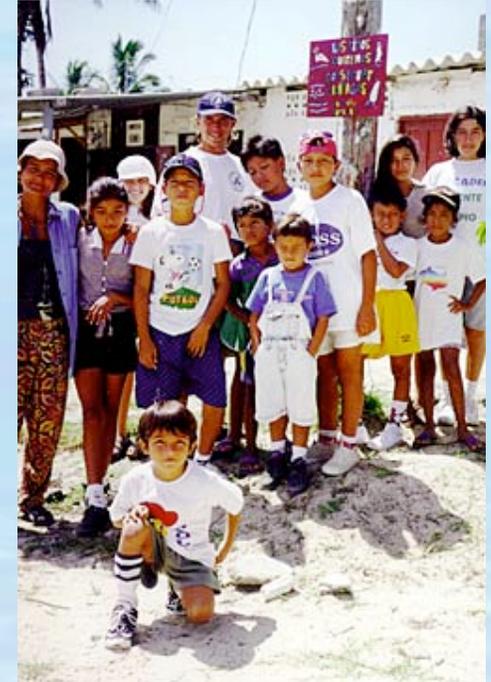
Non-field based activities may be cheaper & easier to organize, but field activities make a greater impact.



Educational Activities for Schools

Students are more likely to learn and change from outdoor experiences that include:

- project-based activities, especially addressing local environmental issues
- inquiry-based learning, especially when the questions come from the students
- skills development related to issue investigation
- conservation action practice, such as planting trees, restoring habitats, etc.
- learning basic concepts and principles that underlie projects, inquiry or skills
- providing a community service
- repeated exposure through multiple visits to the same site.



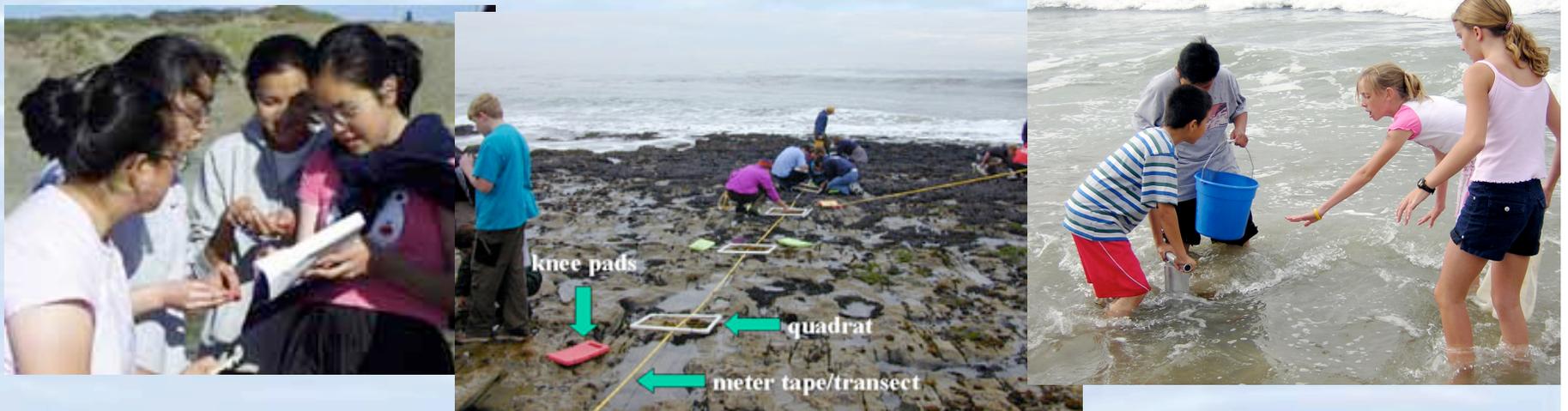
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Field-Based Activities Example

Long-Term Monitoring and Experiential Training for Students (LiMPETs)

Hands-on program developed by the West Coast National Marine Sanctuaries and partners to train educators and students in scientific protocols for collecting data on sandy beach and rocky intertidal marine ecosystems. <http://limpets.noaa.gov>



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Capacity Building in the Local Community

Locals often say they wish they had more training in:

Hospitality

Language

Tourist expectations



High School students at Darwin Station, Galapagos

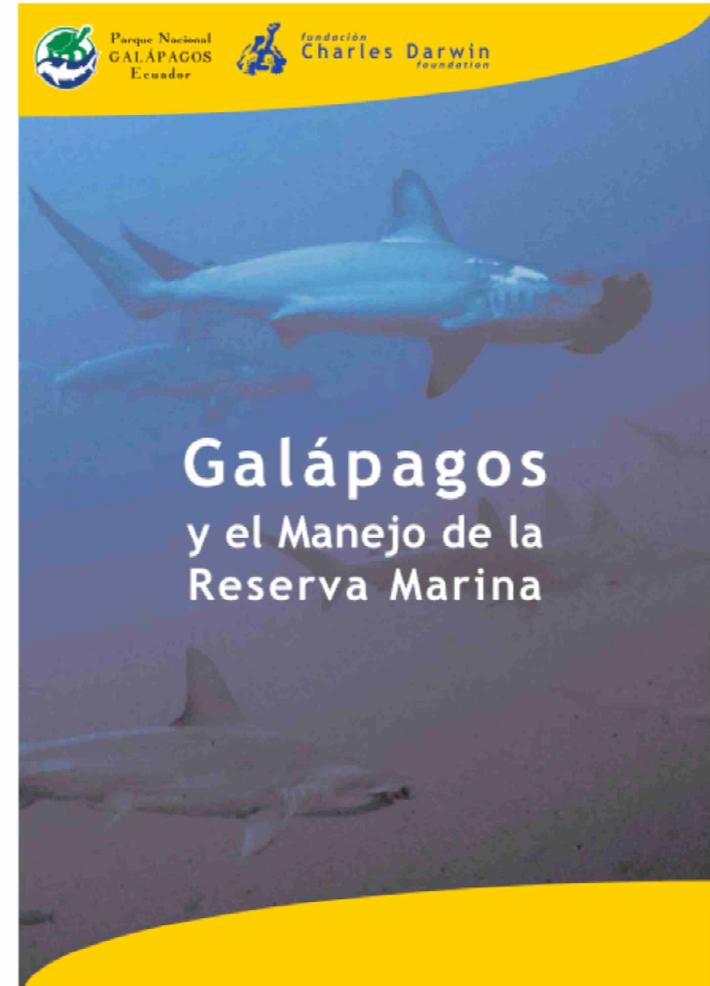


*Environmental Education Students
Costa Rica*

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Materials and Media



Materials and Media

Leaflets

Brochures & pamphlets

Newsletters

Calendars

T-shirts, caps, badges, key-rings, etc.

Display boards

Websites

Video

Traditional media:

- **TV**
- **Radio**
- **Newspapers**

Special events & exhibitions

Key points for developing materials

- Identify the message and the target audience
- Find out what the target audience needs to know
- Review everything for accuracy
- Review everything for alignment with policy
- Keep it simple
- Develop a consistent design style
- Keep records
- Seek feedback
- Develop a logo

Exercise: Define Target Audiences and Messages for ETPS sites

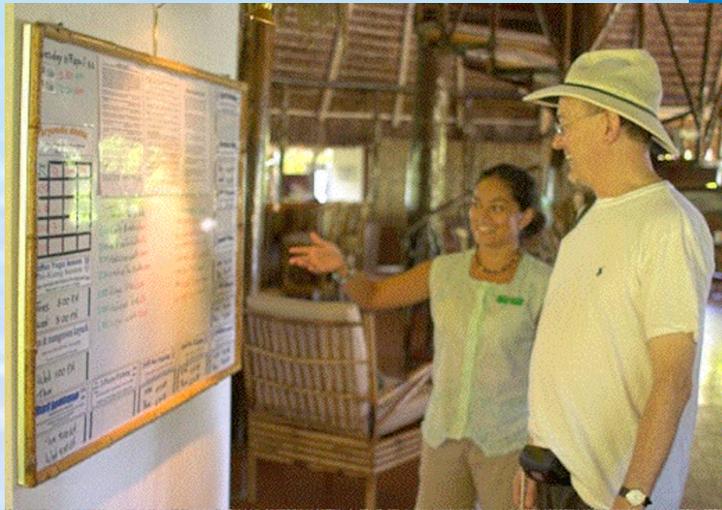
Example from Australia's Great Barrier Reef:

Target Group	Message
General Public	Nature of coral reef environment Need to protect reef areas
Fisher People	Economic benefit of proper management Provisions of plan regarding fishing
Tour Operators	Suggested tourist activity on reefs Provisions of plan regarding fishing
Govt Agencies	How plan interacts with their mandates

10.2 EDUCATING VISITORS

Methods

Information



Developing primary interpretive themes

Primary interpretive themes are those ideas about MPA resources that are so important that *every visitor should understand them*.

- They are not the entire interpretive program - just the basic ideas.
- Primary interpretive themes are most useful when written as complete sentences.
- Focus on just a few themes (3-5 is good).

Visitor Centers

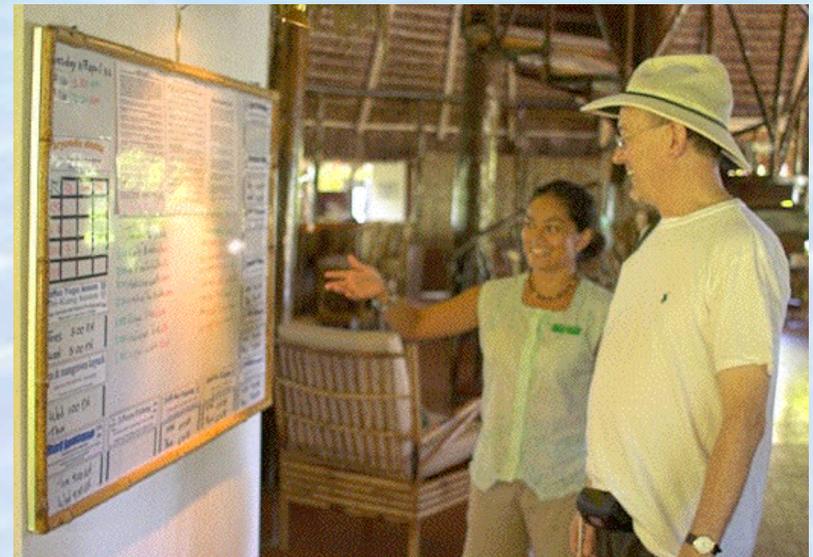
Can include displays, exhibits, areas for talks and slide shows, areas for children's activities, gift shops, food concessions, restrooms, etc.



Visitor Centers

Key points for design:

- Type of visitor
- Language of displays
- Weather-proofing
- Durability
- Portability
- Safety & security
- Location
- Quality & accuracy



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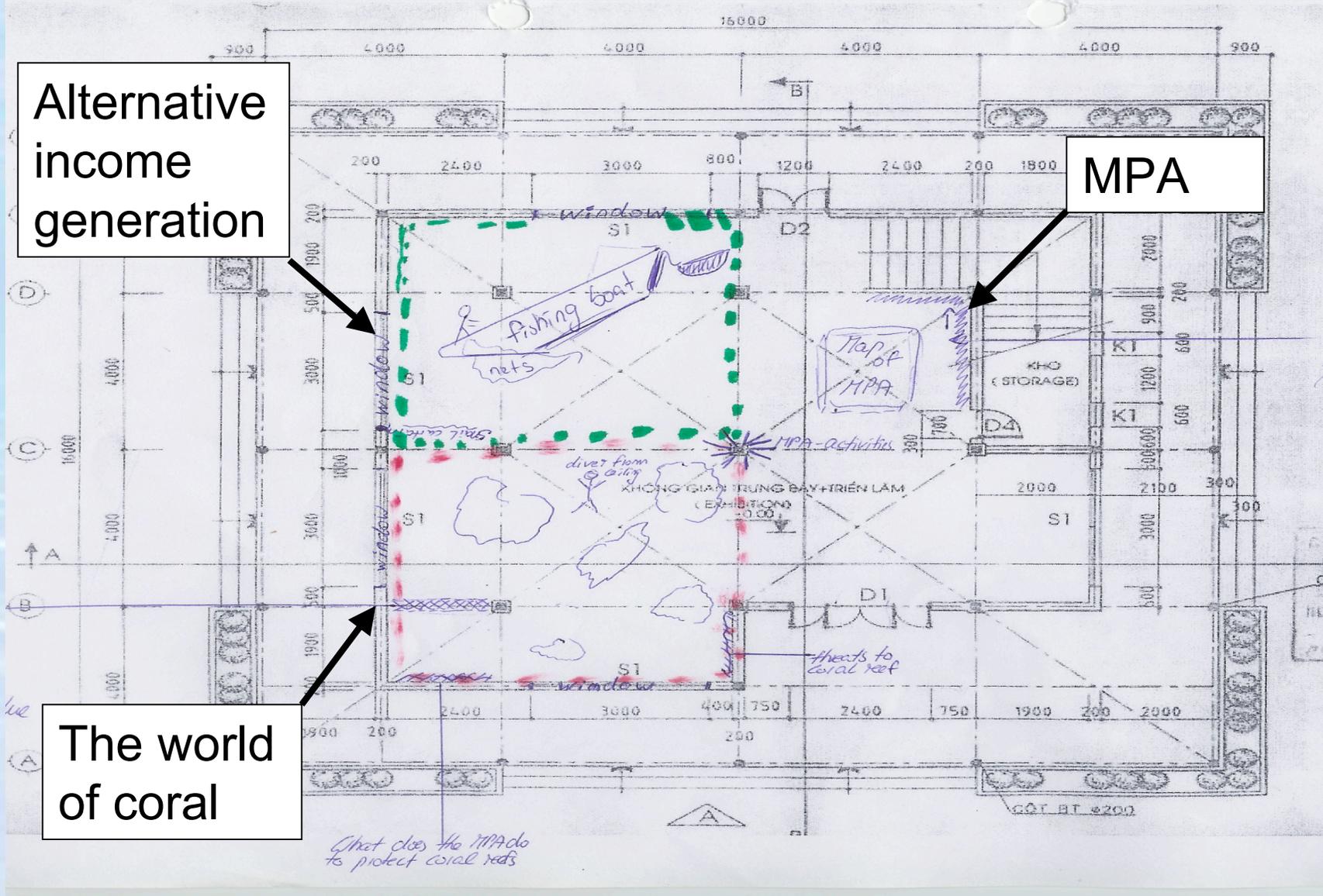
Visitor Centers - Examples Hon Mun

Hon Mun Visitor Center Vietnam - Low Tech



Visitor Centers - Examples

Hon Mun - Floor plan with 3 subject areas



Visitor Centers - Examples Hon Mun

Panel in front of a table coral



Visitor Centers - Examples

Hon Mun

What are we made of?

Have a guess: Am I a plant, a rock or an animal?

We might look like plants. In some parts of Vietnam, people call us 'hoa da' or flower rock. But if you look closely at us, you will see that we are made up of tiny animals. These are called coral polyps.

Visitor Centers - Examples Hon Mun



Visitor Centers - Examples Hon Mun

Touchy Feely Box –
Put your hand into the sea



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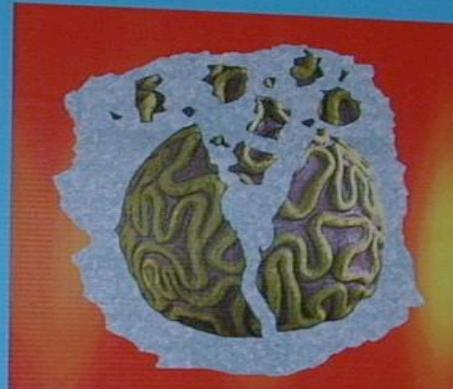
Visitor Centers - Examples Hon Mun



Visitor Centers - Examples Hon Mun

Kẻ thù nguy hiểm
nhất của san hô và
nghề cá là gì?

Hãy mở cửa ra và bạn sẽ biết!



Open the door and find out!

***What is the biggest
threat to coral and
fisheries?***

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Visitor Centers - Examples Hon Mun

...be realistic...



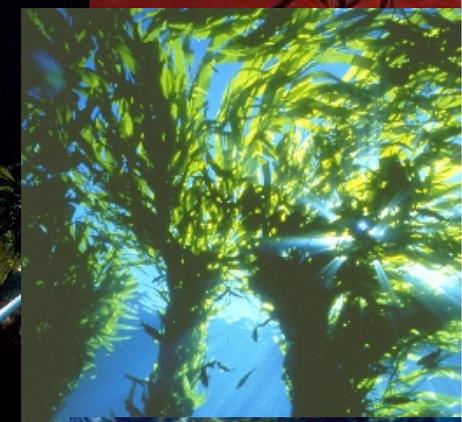
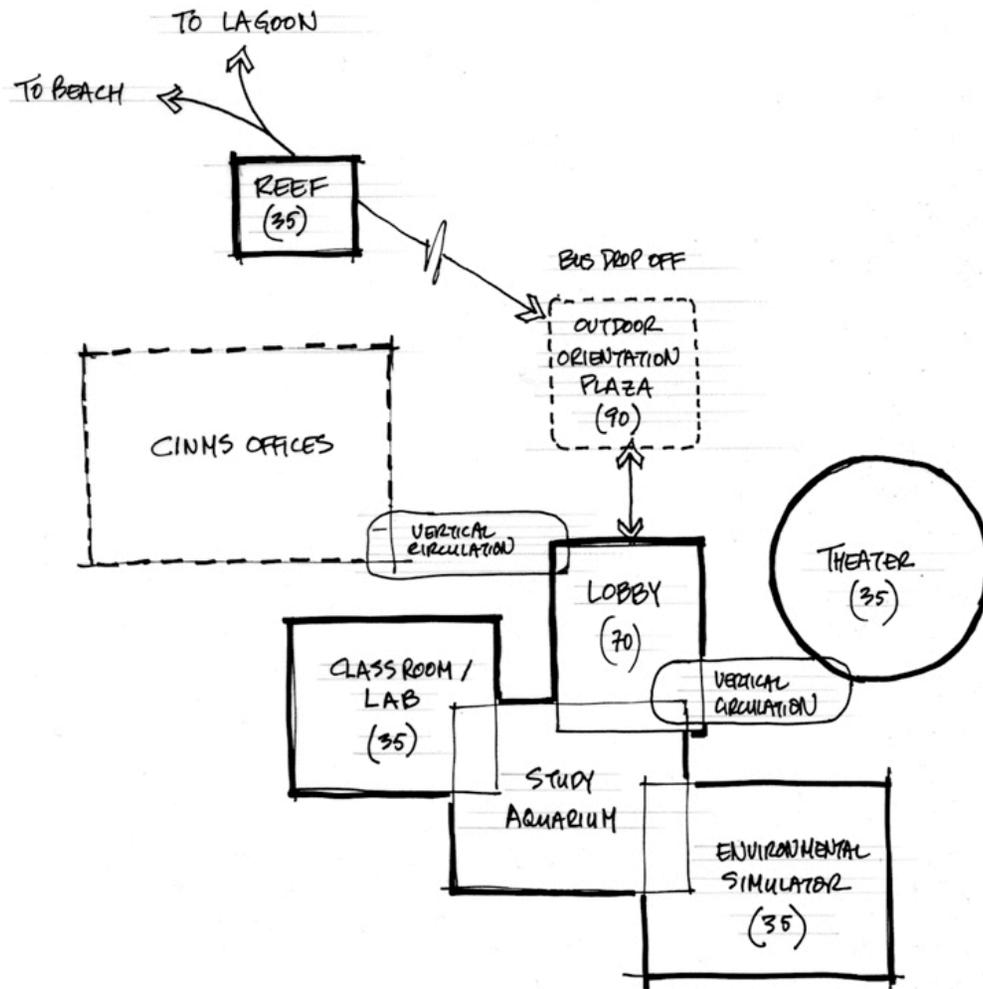
Visitor Centers - Examples

OCTOS High Tech

Outreach Center for Teaching Ocean Science (OCTOS) in Santa Barbara (University/Sanctuary Partnership)

- A unique learning center that brings together science process, policy, and the human connection by focusing on the special marine ecosystem of the Channel Islands
- Audience: primarily invited K-12 with some adult self-guided components, volunteer training, adult education and teacher professional development
- Will be able to accommodate up to 90 people at a time
- Rocky Intertidal field site set up at beach on campus
- Interpretive path along bluff top walk to existing marine aquarium
- Over 9,00 square feet of exhibit space

Visitor Centers - Examples OCTOS



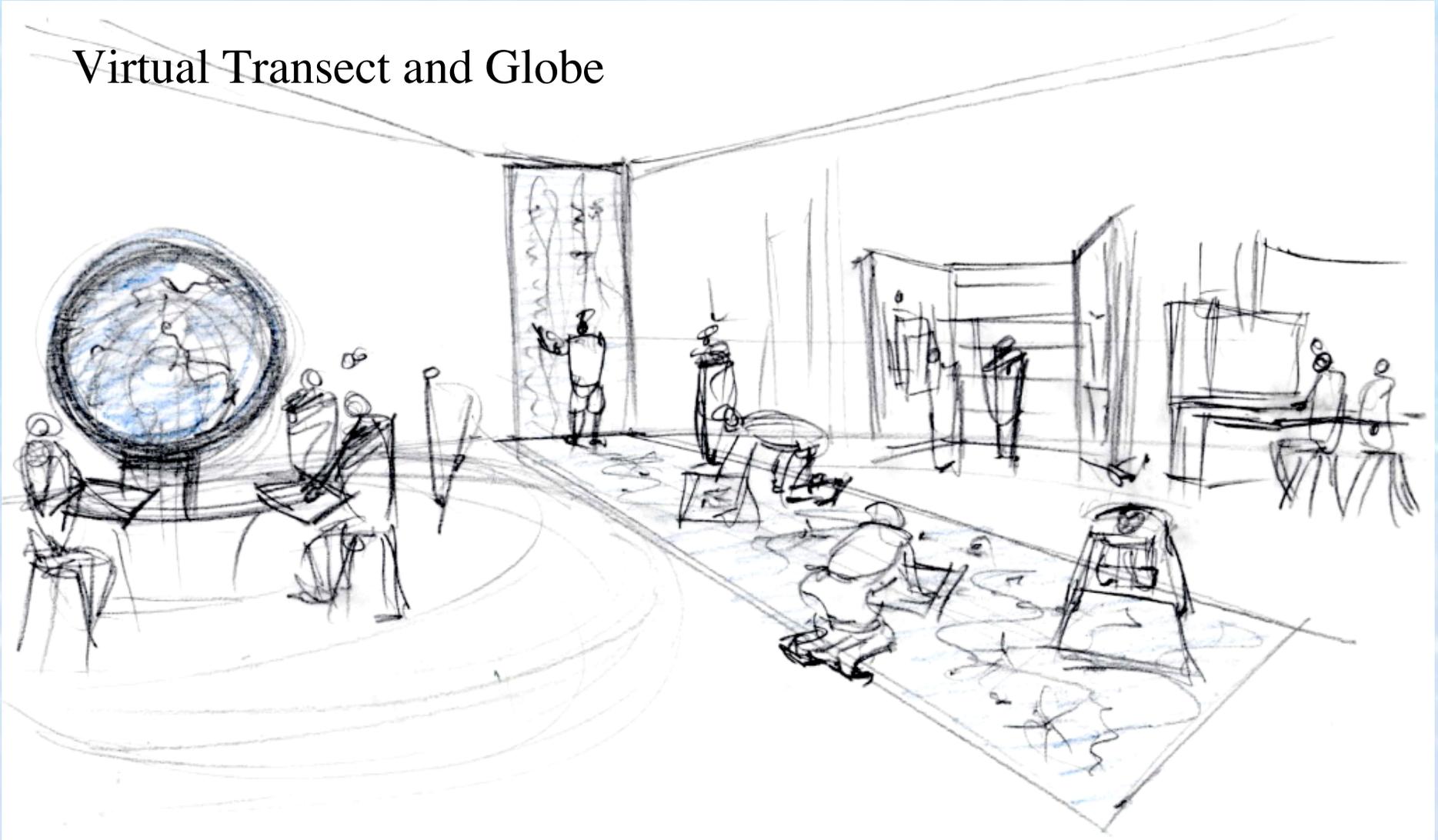
Visitor Centers - Examples

OCTOS

1. **Orientation** – Gathering, logistical commons, summative space for up to 90 students, teachers and chaperones.
2. **Lobby** –wayfinding, visitor overview of sanctuary and university marine science program
3. **Classroom** –hands-on exploration at the level of organisms, water-testing, microscopy, etc.; computer use, data assembly and presentation
4. **Environmental Simulator** – data-driven, realtime, interactive “virtual transect” of ocean (or terrain) explorable by class or individual visitors; augmented by whole-earth data projected on globe
5. **Study Aquarium** – resource area that connects both to the Environmental Simulator and the Classroom; includes living organisms, prepared specimens and a variety of capabilities for close examination.
6. **Virtual Submarine** – Immersive digital theater providing a whole class the ability to interactively explore the sanctuary ecosystem at any scale

Visitor Centers - Examples OCTOS

Virtual Transect and Globe

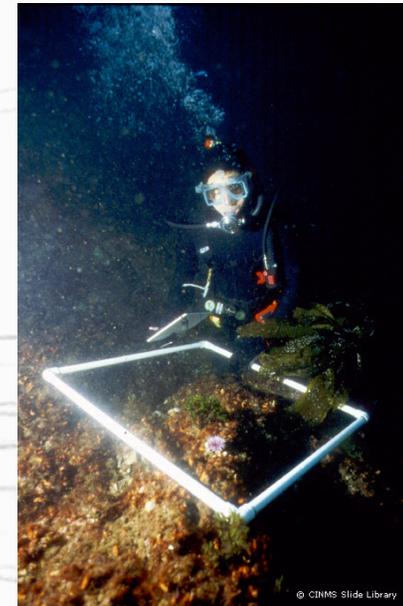


Visitor Centers - Examples

OCTOS

Virtual Transect:

- Scenario-based student activity includes observation, hypothesis, measurement, conclusion, presentation and discussion
- Floor screen reproduces dynamic, down-looking, real-scale view of habitat; manipulated by touch or wand
- Wall screen reproduces dynamic, forward look into habitat
- Distribution of organisms reflects real monitoring data
- Students conduct surveys and other projects



Visitor Centers - Examples

OCTOS



The Globe:

- Connects local phenomena with global conditions (for example global sea surface temperature related to El Nino conditions)
- Whole-earth data visualization and presentation supports scenario-based activity
- Off-the-shelf presentation device with internal projection driven by docent or students
- Gathering space for exploration, discussion and reflection

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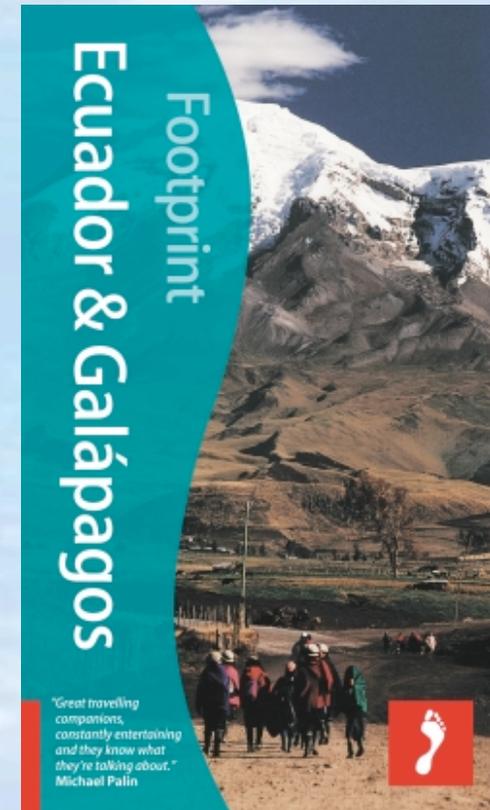
Written Materials

Brochures

Leaflets

Field Guides

Games!



Exercise: Compare brochures & guides

Set out all available brochures and guides from the MPAs of the ETPS, as well as any other materials from other areas.

Which are the most attractive and informative? Why? Is the main message clear? Are they interesting?

Are you satisfied with the materials available to visitors at your MPA, or would you like to re-design them or design new ones?

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Benefits of Education



The reasons tourists visit - the natural environment and its inhabitants, the local culture and its historical roots - are valued and cared for into the future.

Everyone benefits.



Key education points for MPAs

Developing an environmental education program is important... worth time & staff.

You will need an *evaluation program* to measure whether your education program is working.

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Nature trails



Designing terrestrial trails & boardwalks

- Survey the area & note important features on a map
- Walk the potential route
- Disturb the scene as little as possible
- Build the trail in a *one-way loop* with *curves*
- Clear obstacles (but don't cut all vegetation)
- Provide benches, trash cans at rest stops
- Provide a trail entrance sign with map & length
- Interpret 12-30 features with signs or a leaflet
- Walk your trail in both directions
- Provide a map

Underwater trails

- Concentrates snorkelers/divers in smaller area
- Signs must be maintained
- Can point out natural and historic sites (e.g. shipwrecks)



Shipwreck plaque



*Cleaning signs
(Buck Island)*

Exercise: Evaluate & design nature trails at your MPA

Using the attractions map developed earlier, evaluate any existing trails. Are the trails effective, interesting, and well-maintained? How could they be improved, or where else could they be placed?

Using an acetate overlay on your main MPA map, design a terrestrial or underwater trail, identifying natural, historic & cultural resources visible from the trail.

Botanical gardens, aquaria, zoos, wildlife rehabilitation centers

These are educational sites where visitors can get a closer view of some of the plants and animals in the reserve.

A small botanical garden, or aquarium is may be easy to maintain; “touch pools” are always popular & educational.

