

# SUSTAINABLE FISHERIES TRAINING PROGRAM

## Eastern Tropical Pacific Seascape

### SECTION I: FISH, FISHERIES AND FISH RELATED ACTIVITIES

#### Module 1: Introduction

- The Biology of Fish Populations
- Growth and Mortality of Stocks
- Tropical Fish Ecology: Species and Habitats Affect each Other
- Fishing Status and Decline
- Fish Catch and Fishing Effort: Do More Boats Catch More Fish?
- Use of Destructive Fishing Methods and Gear
- Ecology of Multispecies Fisheries
- External Issues Causing Fisheries Decline
- Case Studies: ETPS Site Presentations on Status of Fisheries (diversity of fisheries, level of effort, status and trends)
- Exercise: Tragedy of the Commons Game
- Exercise: Inventory of Fishing Effort, Methods and Gear Types
- Exercise: Site Evaluation on Issues Affecting Fisheries
- Exercise: Ranking of Bycatch and Habitat Damage by Gear Type

**Outcome:** To understand the factors that affect fish population size and fish catch; understand why fish stocks are particularly vulnerable to overfishing; use of severity ranking of collateral impacts

**Output:** Inventory fishing activities in around each MPA; preliminary assessment of site-specific impacts on biodiversity

#### Module 2: Fisheries From an Economic Perspective

- Economic Efficiencies and Rents
- Economic Causes of Overfishing
- Economics of Open Access Fishery
- Industry Costs, Revenues, and Fishing Effort
- Market Supply and Demand
- The Sole Owner Fishery
- Profit Margins
- Tax on Fish Landings
- Declining Fisher Incomes
- Changes to Fishing Communities
- Alternative Livelihoods and Credit Schemes
- Case Studies: Economic Drivers Behind Different Fisheries
- Exercise: Evaluation of economic drivers behind top 3 fisheries at each MPA
- Exercise: Designing an Economically Efficient and Environmentally Sound Fishery.

**Outcome:** To understand the economic drivers behind overfishing; to understand the pros and cons of alternative livelihoods (including tourism)

**Outputs:** Design an economically efficient and environmentally sound fishery.

#### Module 3: Other Fisheries-related Activities/Tools

- Use of Artificial Reefs
- Aquaculture Practices
- Fish Aggregating Devices

- Marine Organisms for Aquaria and Marine Curios
- Sport and Recreational Fisheries
- Case Studies: Examples of Aquaculture Operations and Potential Impacts on Biodiversity
- Exercises: Evaluation of alternative fisheries management tools within the context of the goals and objectives of each individual MPA

**Outcome: To understand the pros and cons of other tools to take the pressure off of fisheries; to understand the emerging impacts of sport and recreational fisheries**

## SECTION II: COMMUNITY INVOLVEMENT

### Module 4: Community Involvement

- Participatory Approach
- Understanding the Community
- Winning the Support of the Community
- Community Organization
- Fostering Partnerships
- Advisory Committees
- Use of Traditional Knowledge
- Co-management
- Micro-projects
- Credit Schemes
- Contribution to Development
- Contribution to Conservation
- Case Studies: Examples of Community-based Fisheries Management
- Case Studies: Examples of Use of Traditional Knowledge
- Exercise: Identify Components of MPA Community
- Exercise: Develop Plan for Winning Support of Community
- Exercise: Develop Plan for Engaging the Community
- Exercise: Develop Plan for Capturing and Using Local Knowledge for Management Planning

**Outcome: Understanding the local community and how to incorporate them in the management planning process**

**Output: Profile of local community and framework for engaging them in sustainable fisheries management**

## SECTION III: FUNDAMENTALS OF FISHERIES MANAGEMENT

### Module 5: Fundamentals of Fisheries Management

- Goals of Fisheries Management
- Fisheries Management Principles
- Ecosystem Principles, Goals and Policies
- Precautionary Principle
- Adaptive Management
- Reversing Downward Trends
- Optimal Sustainable Yield vs Maximum Sustainable Yield
- Local Government Involvement in Fisheries Management
- Local Government Partnerships with National Agencies

- Stakeholder Involvement in Fisheries Management
- Case Studies: Comparison of Different Sustainable Fisheries Models
- Case Studies: Gear Innovations
- Case Studies: Examples of Precautionary Approach and Adaptive Management Integrated into Management Planning
- Exercise: Match Appropriate Management Strategy to Each Specific Fishing Issue
- Exercise: Diagram Current and Future Desired Involvement of all Levels of Society and Government on Fisheries Management

**Outcome: Understanding of how to incorporate up-front management principles that link to site-specific goals and objectives**

**Output: List of possible site-appropriate management principles to incorporate into sustainable management planning framework**

### **Module 6: Fisheries Management Tools**

- Issue Identification and Baseline Assessment
- Assessing Bycatch and Habitat Damage
- Fisher, Vessel, Company Licensing
- Limiting Entry into the Fishery
- Total Allowable Catch
- Seasonal Restrictions
- Technology and Gear Restrictions
- Individual Fishing Quotas
- Individual Transferable Quotas
- Vessel Catch Limits
- Gear Restrictions
- Gear Modifications
- Rotational Closures
- Time Limited Closures
- Case Studies: Contrasting and Comparison of Examples of Application of Fisheries Management Tools
- Exercise: Match the Appropriate Management Tool to Real-Life Situations

**Outcome: Understanding of the pros and cons of different fisheries management tools**

**Output: Identification of appropriate sustainable fisheries management tools for each MPA**

## **SECTION IV: SUSTAINABLE FISHERIES PLANNING**

### **Module 7: Marine Reserves and Zonal Management**

- Fisheries Refugia, Size, Location and Design
- Spill-Over Effects, Replenishment Effects
- Zonal Management Schemes to Address User Conflicts
- Single Species Management vs Ecosystem Management
- Adaptive Management
- Case Studies: Different Processes for Implementing Marine Reserves
- Case Studies: Examples of the Role of the Community in Implementing Marine Reserves
- Case Studies: The Science, Politics and Economics of Reserve Design
- Exercise: Design a Zonal Plan for Sustainable Fisheries that Complements Your Sustainable Tourism Plan

**Outcome: To understand the appropriate use and process for developing MPA zones**

**Output: Zonal plan for each MPA**

### **Module 8: Sustainable Fisheries Management Planning**

- Making Good Coastal Resource and Fisheries Management Plans
- Goals and Objectives of Sustainable Fisheries Plans
- Resource Co-Management
- Promoting Gear Innovation
- Changing Fishing Practices
- Promoting Gear Innovations
- Behavioral incentives
- Specific Management Considerations for Different Habitat Types
- Establishing Area-Based and Time-Based Restrictions
- Integrated Zonal Methodology Planning
- Interconnecting Issues in Fisheries Management
- Fisheries-Related Enforcement
- Importance of Monitoring and Evaluation
- Information Management, Education and Outreach

**Outcome: Understanding of the steps to develop a sustainable fisheries plan**  
**Output: Framework for sustainable fisheries plan**

### **Module 9: Developing a Demonstration Project**

- Identify Three Activities to Move Towards a Sustainable Tourism Plan to Implement as Part of the Demonstration Project
- Identify All Participating Parties in This Activity
- Identify Individual Who Will Have Oversight and Reporting Responsibility for This Activity
- Identify Advisory Body
- Develop Timeline, Milestones and Performance Measures for Each Activity
- Developing Reporting and Communication System for Demonstration Project

**Output: Small number of successful activities to build the sustainable fisheries program on, while building partnerships**

## **SECTION V: COMMUNICATIONS**

### **Module 10: Developing Effective Communication Skills (3 days)**

- Understanding the Uses of Effective Communication
- Understanding the Target Audience
- Understanding Components of Communication
- Lecturing vs Interactive Communication
- Effective Oral Presentations
- Effective Visual Presentations
- Getting Your Message Across to the Media
- Responding Effectively to the Media While on Your Feet
- Exercise: Radio Interviews
- Exercise: Television Interviews
- Exercise: Live Press Conference on the ETPS
- Exercise: Develop Communications Plan for Communication Amongst the MPAs within the ETPS

**Outcome: Improved communication and presentation skills; ability to effectively communicate specific messages to target audiences; ability to get the media to tell your story**

**Output: Coordinated communications plan developed amongst all MPAs in the ETPS**

