

COASTAL DECISION - MAKERS TRAINING

A Summary Document of Workshops sponsored
by the National Estuarine Research Reserve System
and the Coastal Management Programs 1994-1996

Funded by:
National Oceanic and Atmospheric Administration
Office of Ocean and Coastal Resource Management

Executive Summary

The growing number of people living in and using the coastal areas of the U.S. are having a tremendous impact on our coastal resources. We are very much in danger of "loving our coasts to death". Research and education are the long-term solutions which will enable us to make informed decisions regarding coastal management. It is critical that we disseminate information to people who are responsible for making decisions about our coastal resources.

The National Estuarine Research Reserve System (NERRS), authorized through the Coastal Zone Management Act, is addressing the challenge of educating coastal decision-makers. First modeled in Florida, a series of Coastal Decision-Makers Training Workshops have been implemented in 11 NERRS sites around the country to provide decision-makers with accurate, up-to-date information, and insight into available, effective management options.

Between 1994 and 1996, NERRS sites working with their state coastal management programs, implemented 44 workshops that reached over 1000 managers, regulatory staff, planners, and public officials with technical information regarding coastal issues. Addressed were current and emerging local and national level issues including: non-point source pollution, wetlands permitting, shoreline protection, coastal restoration, and watershed management. The format of the training included technical presentations, discussions, and field training.

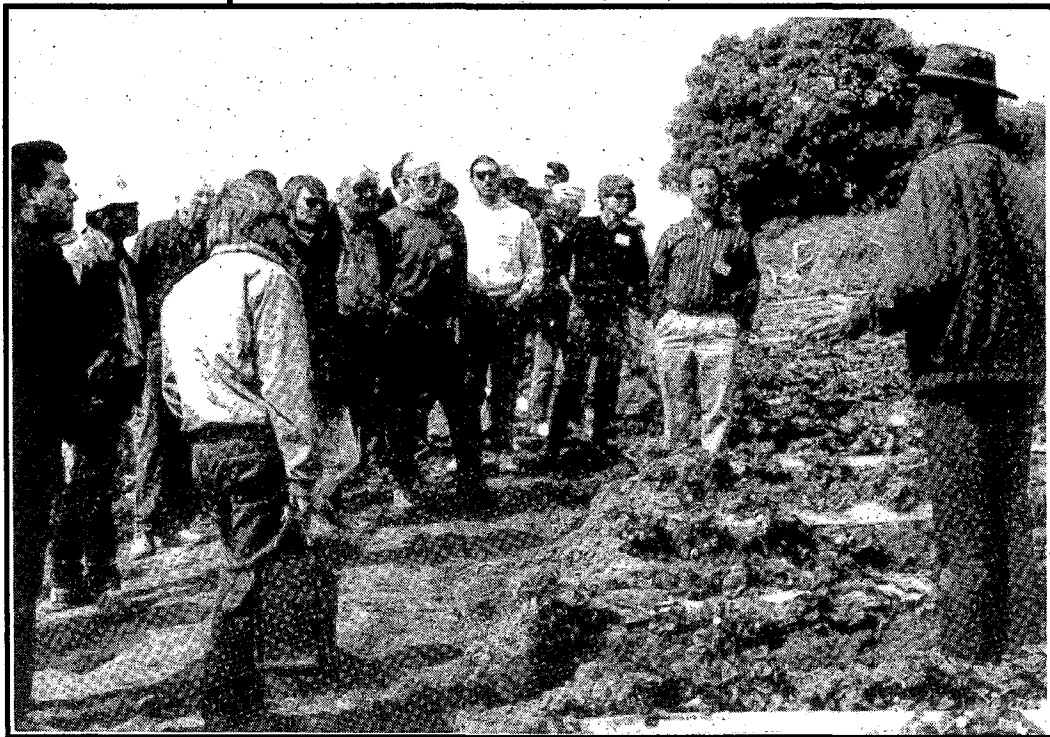
The benefits of the training were clearly identified by the participants. They listed both short and long-term actions they could implement based on the training. Some participants received professional recertification credits for the training. Indirect benefits included local decision-makers becoming more familiar with activities, facilities, and services of the NERRS sites and Coastal Management Programs. Many of the participants cited the networking opportunities during the training as a significant benefit. In numerous cases, the training generated discussion and ideas that resulted in policy changes or the impetus to enact changes in practices to better coastal management.

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Introduction

This document summarizes the results of the Coastal Decision-makers Training workshops that were co-sponsored by the National Estuarine Research Reserve (NERRS) sites and the State Coastal Zone Management Programs during FY 95 and FY 96. These two programs share a common goal: **"To enhance informed decision-making on coastal issues by facilitating the exchange of technical information (basic and applied sciences) to audiences that have the resources and ability to**

influence the management of coastal resources". While there are many other efforts to educate decision-makers through these programs, this document specifically addresses the workshop series funded through section 308 of the Coastal Zone Management Act during these two years.



Training Needs

More than half of the 280 million people living in the U.S. reside in coastal communities which encompass less than 10% of the continental U.S. The growing number of people living in and using the coastal areas of the U.S. are having a tremendous impact on our coastal resources.

Demands for infrastructure such as increased housing, transportation, energy, and freshwater, are coupled with increasing community services of waste disposal and sewage treatment. Growing populations also increase pressures on agricultural lands and recreational facilities. Collectively, these pressures are overwhelming the resource. We are in danger of "loving our coastal areas to death".

In the past two decades, we have begun to recognize the value (economic, aesthetic, ecologic, and recreational) of clean, healthy coastal resources. Coastal communities are going to great expense to restore coastal resources in an attempt to recover their original values. **However, as the population continues to increase, the balancing act gets more difficult.**

Community leaders, resource users, planners, regulators, consultants, and resource managers are making decisions every day that affect the balance. These difficult decisions are routinely made based on incomplete knowledge of long-term impacts and limited funding. Clearly, basic research is needed to answer questions as to how the ecosystems and individual species function, but acquiring scientific data will never be fully adequate in addressing these issues.

The challenge lies in educating decision-makers not only with the most accurate, up-to-date information available, but also offering them insight into available, effective and affordable management options.

We are in danger of "loving our coastal areas to death".

Development of Training Workshops: An emerging model

In 1988, Rookery Bay NERR (RBNERR) implemented its first Coastal Decision-Makers Workshop, targeting environmental professionals. This workshop would later serve as the national model. The target audience included permittees, regulators, planners and managers at the federal, state, and local levels.



The training workshop was designed to provide technical information on current research findings and best management practices. The workshop was also designed to encourage discussion, presenting more than one perspective with time allowed for questioning.

Based on the success of the first workshop, others were implemented as a series at RBNERR on a bi-monthly basis. Offered at no charge to the participant, the workshops drew agency personnel and private sector environmental professionals.

The Florida Coastal Management Program (FCMP) first participated in a Rookery Bay NERR (RBNERR) training workshop in 1993. Recognizing the value of the training and the inability of RBNERR to accommodate everyone wanting to participate, FCMP partnered with RBNERR to establish coastal decision-maker training statewide including one at Apalachicola NERR in the Florida panhandle.

The strength of the NERRS system is that a project successfully piloted at one site can easily serve as a model and be implemented nationwide. The training model was presented in 1993 to all the NERRS sites. From response and interest generated, Florida developed a packet of materials to assist other programs in the implementation of the training workshops. (See appendix.) Funding became available in FY 1995 for NERRS sites to partner with their Coastal Zone Management Programs and conduct similar training workshops.

Nationwide Implementation of Training Workshops

Goal:

To enhance informed decision-making on coastal issues by facilitating the exchange of technical information (basic and applied sciences) to audiences that have the resources and ability to influence the management of coastal resources.

Target Audiences:

Depending upon the particular issue being addressed at the training workshop, individual reserves selected their target audiences based on who has the resources and ability to affect change and provide solutions. Many of the workshops targeted environmental professionals such as regulators, managers, planners, designers, and compliance personnel. Other workshops targeted resource users, adjacent land owners, local businesses, elected officials, and land managers such as farmers and foresters.

Audiences were selected because they are the people who are making daily decisions that affect the coastal resources.

Training is needed due to:

- * the lack of professional training available to agency staff at affordable costs;
- * the specialized training required for specific habitats and local issues; and
- * the growing body of knowledge about how coastal ecosystems function and their response to human impacts.

Workshop Format:

The format of the training workshops included technical presentations and a field study component. The training was offered at no cost to the participant. Most of the workshops were one-day events, although some reserves opted for a two-day format. Each workshop was designed to encourage discussion, allowing enough time for participants to consider perspectives presented by two to five speakers. The discussion time also allowed the participants to generate ideas on potential solutions to the issues and gain insight into which agencies are responsible for specific aspects of the issue.

Participants

Training participants identified themselves as the following:

Public Administrator
Land Planner
Coastal Manager
Permitting Staff
Public Official
Regulatory Staff
Resource Agency
Biologist
Elected Official
Consultant
Academic
Landscape Architect
Boater
Land Planner
Natural Resource Mgmt.
Code Enforcement
Garden Club
Private Sector
Environmentalist
Fisherman
Forester
Engineer
Landscape Architect
Municipal Employee
Geologist

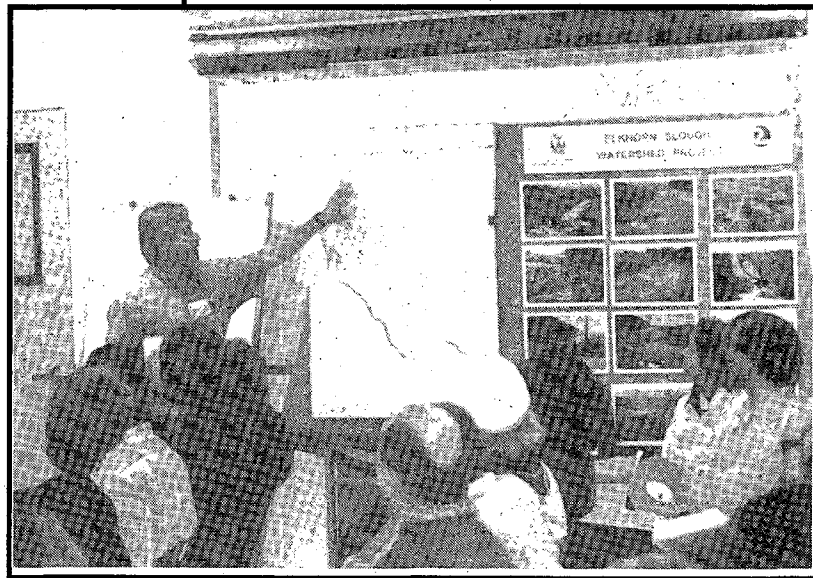
Afternoon field components of the workshops provided opportunities to observe how problems and issues are affecting local coastal resources and the application of best management practices.

Sites selected topics to be addressed at workshops based on:

- * a needs assessment survey of the target audience;
- * current and emerging issues;
- * availability of highly qualified speakers; and
- * ability to demonstrate field implications.

Resource Issues

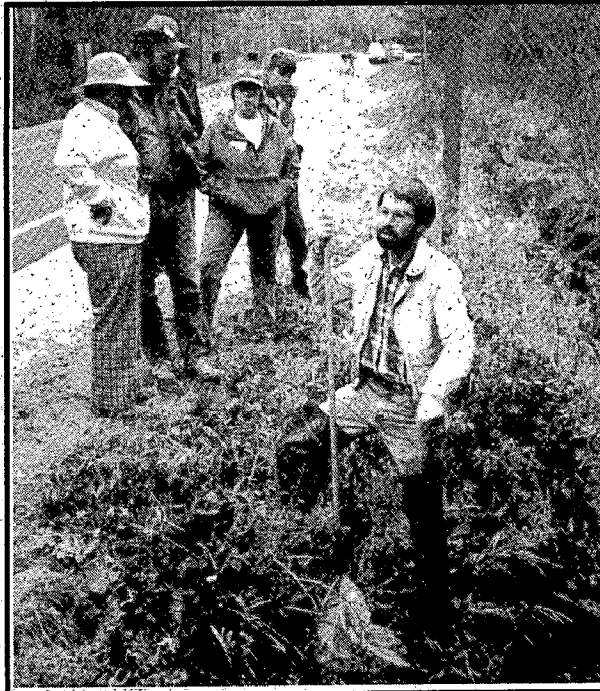
The issues addressed in these workshops focused on the challenges of managing our coastal resources for the long-term benefit of today's society and future generations. Due to the target audiences, the lectures and discussions were presented at a high technical level. Topics addressed were often broadbased but tailored to specific local issues at each site. See page 10 for examples of issues addressed through the training workshops.



Sponsorship:

The workshops were co-sponsored by State Coastal Zone Management (CZM) Programs and NERRS sites. Both of these programs are administered through the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management. State CZM Programs are generally responsible for coastal resource planning, policy making, permitting, and enforcement.

The NERRS sites offer a resource-based location and direct link with the research community. Holding a workshop at a NERRS site provided participants the opportunity to observe firsthand how an issue is impacting the coastal ecosystem and how managing agencies might address the issue. Ideas generated at the workshops could subsequently be shared statewide through CZM program coordination.



Funding:

During FY-95 and FY 96, these workshops were supported by NOAA funds granted to the state CZM programs. These funds were specifically allocated to support training workshops at the NERRS sites.

Due to the success of the initial workshops, additional training workshops have been held utilizing federal, state, local and private funding. The NERRS sites contributed meeting facilities, speakers, laboratory space, scientific equipment and boat transportation to gain access to coastal waters and islands.

Workshop Results

Between 1994 and 1996, eleven NERRS sites working with their coastal management program, implemented 44 workshops that reached over 1000 coastal decision-makers with technical information regarding local and national issues.

Sites implementing training workshops use a standard evaluation form (see attachment) so that results could be compiled. Evaluations indicated that 98% of the workshop participants found them to meet or exceed their expectations. Comments included "really made attendees aware of species sensitive to their decisions" and "well organized, included a distinct segment dealing with the socio-economic aspects of the problem as well as the technical aspects of soil/water degradation".



Each workshop's format included two or more activity components such as lecture and field study. When questioned, participants enjoyed the group discussions, technical presentations, and the field study activities, often citing the "good balance" of

activities. When asked how the workshops could be improved, participants most often indicated more time for discussions or fieldwork would be beneficial. Participants also suggested that the workshops be held more often and supervisors or public officials participate. Ninety-nine percent of the participants indicated that they would attend future workshops if offered.

The benefits of the workshops were clearly identified by participants. When participants were asked what action they would be able to implement based on the information acquired at the workshop, the responses ranged from, "better able to evaluate projects submitted for review" to, "integrate information acquired at the workshop into long-range planning efforts." At some workshops, participants received professional recertification credits for the training. Indirect benefits of workshops included local decision-makers becoming familiar with the activities and services of the NERRS site and the Coastal Program. Many of the participants cited networking opportunities as an indirect benefit of the workshops. Comments such as "interacting with other agency personnel, was very helpful in learning what their roles in estuarine protection are" suggested the potential for future partnerships.

In California, participants were queried with regards to what kinds of information and resources they might find beneficial in their jobs. Responses included watershed maps, access to research findings, examples (in writing) of success stories, access to NERR's library, and the continuation of the workshops.

Success Stories

In numerous cases, the workshops generated discussion and ideas that resulted in policy changes or impetus to enact changes in practices to better coastal management.

Examples include:

* The South Slough NERR workshop in Oregon on Lower Columbian Bioregion Coastal Ecosystem Conservation targeted coastal planners and managers. It contributed to the evolution of a working group designed to develop a coordinated strategy that will address information gaps on prioritizing habitat acquisition of "unprotected" estuarine areas.

* A County Planning Commissioner, after participating in one of the Elkhorn Slough NERR training workshops in California, went on to

complete the 9-week reserve training course and became an Elkhorn Slough NERR volunteer.

Titles of Training Workshops

Watershed Issues
Land Acquisition
Bioengineering for Shoreline Protection
Coastal Ecosystem Conservation
Soil Erosion Processes
Mudflat Resource Management
Shoreline Protection
Protection of Shellfish Areas
Non-point Source Pollution
Water Quality
Alternative Wastewater Treatment
Ecological Landscaping
Public & Private Property Rights
Nitrogen Loading of Coastal Embayments
Eutrophication of Coastal Embayments
Groundwater & Hydrology
Coastal Shoreline Erosion
Wetlands Permitting
Marshes
Sea Turtles
Exotic Plant Control
Managing Forests to Protect Water Quality
Mitigation Banking; Pros & Cons
Stormwater Management
Coastal Restoration Ecology
Functional Wetlands Assessment
Mapping Technology as a Management Tool
Best Management Practices

* An international watershed workshop held for government officials and planners at Tijuana River NERR in California established working relationships which will help facilitate an upcoming bi-national water quality monitoring project.



* A local Hispanic farmer who served as a panel speaker at the Elkhorn Slough NERR's erosion control training workshop in California has continued to assist with subsequent workshops and outreach to other farmers through joint projects with the Natural Resources Conservation Service, the local Resource Conservation District and the Reserve.

* Apalachicola NERR worked with the Florida state agency responsible for health services to offer septic tank contractors six hours of continuing education credits required to maintain their license by participating in the Reserve's non-point source pollution workshop.

* After a workshop at Rookery Bay NERR where agency staff discussed the status of SW Florida's emergency oil spill response, hundreds of miles of previously excluded mangrove shoreline were included in the response plan.

* Based on a workshop at Weeks Bay NERR, the State of Alabama and U.S. Corp of Engineers developed and adopted criteria for the construction of piers in Weeks Bay.

* Following a workshop at Waquoit Bay NERR in Massachusetts for policy makers, mathematical models previously developed to estimate the contribution of different sources of nitrogen to coastal waters were re-evaluated.

* A workshop at Wells NERR in Maine on shoreline surveys as a tool for protecting shellfish areas provided the stimulus for opening coastal waters for clamming for the first time in 10 years.

The National Estuarine Research Reserve System

In 1972, the Coastal Zone Management Act (Section 315) authorized the creation of the National Estuarine Research Reserve System (NERRS) to protect representative estuaries for the purpose of providing opportunities for long-term estuarine research and education. These sites, representative of their biogeographical regions, serve as outdoor laboratories for scientists and students. Information, generated by research and applied through resource management practices, is disseminated via education programs to ensure informed decision-making concerning coastal areas.

The challenge of educating coastal decision-makers is being addressed by the NERRS. With 21 resource-based sites spanning the coastal U.S., the NERRS program is in the position of initiating and facilitating training that teaches decision-makers about both theoretical and applied coastal management issues. The facilities and the estuarine location of the NERRS sites allow for both classroom and

hands-on field experiences. The close connection between research and education ensures the dissemination of timely information.

Reserves implementing workshops include:

Pacific Coast

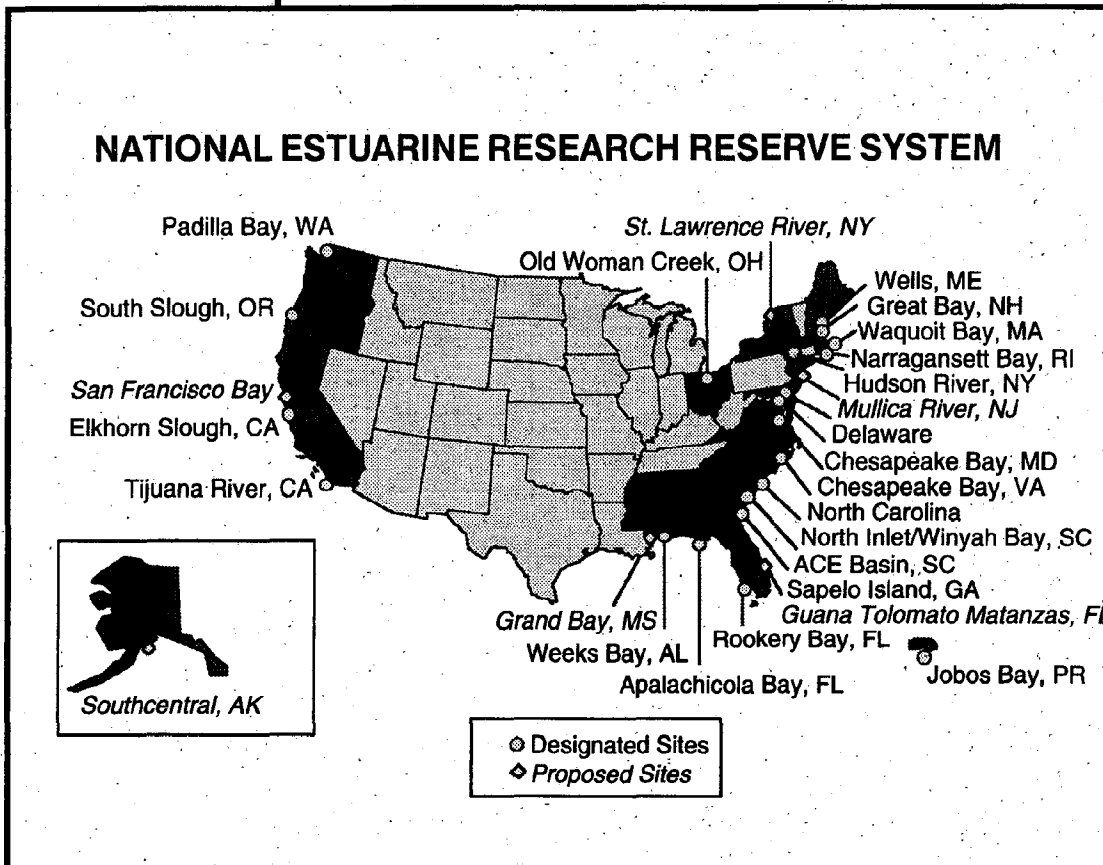
Tijuana River NERR
Elkhorn Sough NERR
South Slough NERR
Padilla Bay NERR

Atlantic Coast

North Inlet / Winyah Bay NERR
North Carolina NERR
Waquoit Bay NERR
Wells NERR

Gulf Coast

Rookery Bay NERR
Apalachicola Bay NERR
Weeks Bay NERR



The mission of NERRS as defined in the 1995 Strategic Plan is:

A federal, state and community partnership of protected areas promoting informed management of the nation's estuarine and coastal habitats through scientific understanding linked with public education.

The NERRS education goal as stated in this document is to:

Design and implement a comprehensive program of education and interpretation based on solid scientific principles to strengthen the understanding, appreciation, and stewardship of estuaries, coastal habitats, and associated watersheds.

Bibliography

Covering the Coasts: A Reporter's Guide to Coastal & Marine Resources National Safety Council, EPA, and Coastal America, 1994.

Conserving the Nation's Coasts and Estuaries / A Strategic Plan for the National Estuarine Research Reserve System: A State & Federal Partnership Jan 1995 Department of Commerce

National Estuarine Research Reserve System Education: A Field Perspective Aug. 1994 Florida Department of Environmental Protection & NOAA

National Estuarine Research Reserve System: Handbook for Educators May 1996, NOAA



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Copies of this document are available from the Rookery Bay National Estuarine Research Reserve, 300 Tower Road, Naples FL 34113.

Appendix

Checklist for Training Workshops

Sample Agenda for Workshops

Sample Evaluation for Training Workshops

Checklist for Coastal Decision-makers Training

- Calendar for workshops, identify the following for each workshop**
 - * Topics / Issues
 - * Speakers
 - * Dates
 - * Target audience and desired mailing list
- Draft agenda**
- Attend to physical arrangements**
 - * Reserve room and field study area
 - * Check capacity of room and field study area
 - * Materials the participants might need
 - * Audiovisual equipment and its placement in room
 - * Refreshments
 - * Information on location, directions, parking, restrooms, local restaurants
 - * Signs or notices to be posted in facility
 - * Arrangement of tables and chairs
- Final agenda**
- Send out announcement of training workshop**
- Facilitate meeting**
 - * Sign-in sheet & name tags
 - * Introduce speakers
 - * Encourage discussion
 - * Summarize
 - * Distribute and collect evaluation forms
 - * Announce up-coming training opportunities
- Compile evaluations**
- Update speakers list**

**Training
Workshop
Preparation**

Coastal Decision-makers Training Workshop

Topic

Sponsors: NERRS & CZM program

Agenda

Date & Meeting Location

Opening
9:00 A.M. Welcome & Introductions
Facilitator

Presentations
9:15 A.M. Topic
Speaker
Program speaker represents

10:00 A.M. Topic
Speaker
Program speaker represents

Break
10:45 A.M. Refreshments provided by.....

Presentation
11:00 A.M. Topic
Speaker
Program speaker represents

Lunch
12:00 Noon On your own

Field Study
1:00 P.M. Topic
Speaker
Program speaker represents

2:00 P.M. Topic
Speaker
Program speaker represents

Adjourn
3:00 P.M. Evaluations & Future Workshops

**Sample
Workshop
Agenda**

Coastal Decision-makers Training Workshop Evaluation

The training workshops are designed to provide technical information on coastal resources to professionals involved in environmental planning, regulation, and management. In order to implement effective workshops, we need to hear from you. Please take a few moments to answer the following questions.

Topic: _____ Date: _____

Which category best represents you? (Check all that Apply)

Administrator Enforcement Officer Coastal Manager
 Consultant Land Planner Researcher
 Field Biologist Permitting Officer Public Official
 Other _____

Did the training meet you expectations? Yes No Please Comment.

What activities did you feel were most effective and/or least effective during the training?

Do you have suggestions for improving the effectiveness of the program?

What actions can you implement based on today's training?

What types of products, based on the training, would assist you in implementing actions?

What topics and speakers would you recommend for future training? Please list.

*To be added to the training mailing list please attach card or list:
(Name, Organization, Address, Phone Number)*

**Example
of
Workshop
Evaluation**

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