United States
Environmental Protection
Agency

Office of Water
(WF-556)

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EPA

The Global Oceans Directory

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

United States
Environmental Protection
Agency

Office of Water
(WF-556)

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August 1992

EPA

The Global Oceans Directory

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THE GLOBAL OCEANS DIRECTORY

A Compendium of Organizations Dedicated to Marine Conservation

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

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EPA • Office of Water
Office of Wetlands, Oceans and Watersheds
August 1992

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INTRODUCTION

Background

The Global Oceans Directory contains organizations involved in ocean conservation and resource management. The directory was prepared for the U.S. EPA Office of Wetlands, Oceans and Watersheds (OWOW) to serve as a quick reference to answer questions such as:

- What organizations are involved with marine law?
- What marine related activities does the U.S. Department of State engage in?

The research for the directory was conducted by the Marine Policy Center of Woods Hole Oceanographic Institution (WHOI) with support from the U.S. EPA. Each organization profiled in this directory has had the opportunity to review its particular profile and to correct any inaccuracies. However, over time organizational information does change. If you would like to help us keep this directory current, please send any updates to information contained here to the U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds, Oceans and Coastal Protection Division, 401 M Street, SW, WH-556F, Washington, DC 20460.

Using the Directory

The directory has the following parts:

1. Profiles

   The directory is composed of profiles of organizations involved with marine issues. The profiles are grouped into three categories:

   - United States Government Agencies
   - United Nations Agencies
   - Non-Governmental Organizations

   Within each category, the profiles are numbered sequentially. The number at the bottom of each page therefore indicate the profile number within the category. For example, U.S. - 12 indicates that the profile is the twelfth profile in the United States' Government Agencies category.

   In addition, a listing of Marine Policy Centers is included as an appendix. These do not have individual profiles, but do have an accompanying matrix that identifies their areas of concentration, by keyword.

2. Table of Contents

The table of contents lists the profiles in the directory by category.

3. Keyword Matrix

In developing the directory, EPA identified a set of broad keywords that would be useful in identifying the kinds of activities that the profiled organizations are involved with. These keywords are:

- ***Advocacy*** - The organization is active in advocating particular agendas using a variety of methods.
- ***Assessment*** - The organization is involved with assessing various parameters related to the marine environment and its protection.
- ***Conservation*** - The organization is active in conserving marine resources.
- ***Coordination*** - The organization coordinates activities among other entities.
- ***Development*** - The organization aids developing countries.
- ***Education*** - The organization's activities focus on transferring information to a particular audience.
- ***Enforcement*** - The organization enforces laws promulgated by individual countries or treaties signed by two or more countries.
- ***Law*** - The organization is concerned with developing, studying, or influencing legislation.
- ***Monitoring/research*** - The organization focuses on monitoring and/or researching the marine environment.
- ***Policy*** - The organization is concerned with developing, studying, or influencing marine policies of organizations or countries.
- ***Regulatory*** - The organization is responsible for developing regulations.

A keyword matrix (beginning on page 5) relates these keywords to each of the organizations profiled in the directory. This provides a quick way to identify organizations involved with certain general activities or areas.

Each profile in the directory has the same structure. Each profile begins with a large header in a box that gives the name of the profiled organization. Down the left margin of each profile are headers for the major kinds of information in each profile:

KEYWORDS These are the same keywords used in the keyword matrix.

OVERVIEW A general discussion of the organization's goals, history, structure, and programs.

COORD If the organization engages in any significant coordination with other organizations, these relationships are indicated next to this header. If an organization is involved in more than one program, any coordination activities related to a particular program are discussed separately in the "programs" section of the profile.

PROGRAMS Detailed discussions of the organization's marine related programs. If the organization is involved in more than one program, the program names are placed in the left margin to help you locate the beginning and end of each description.

CONTACT Usually a title, address, and telephone number that can be called to provide further information. If an organization participates in several programs, the contacts are listed after the relevant program; the word contact is written in lower case in the left margin.

Within each profile, organizations that are profiled elsewhere in the directory are indicated with an asterisk, e.g., WMO*.

Depending on the question you are asking, you will use the directory differently. If you wish to identify organizations involved in particular activities, you should consult the matrix beginning on page 5 to quickly identify the organizations involved in the activity you are interested in. If you already know the name of the organization you are interested in, you should consult the Table of Contents to identify the Directory Section and Profile Number for the organization.

KEYWORD MATRIX

United States' Government Agencies

Organization \ Keywords	ADVOCACY	ASSESSMENT	CONSERVATION	COORDINATION	DEVELOPMENT	EDUCATION	ENFORCEMENT	LAW	MONITORING/ RESEARCH	POLICY	REGULATORY
Agency for International Development (AID)		✓	✓	✓	✓	✓			✓		
Bureau for Latin America and the Caribbean			✓		✓	✓			✓		
Bureau of Science and Technology		✓		✓	✓						
Council on Environmental Quality (CEQ)				✓					✓	✓	
National Oceanic and Atmospheric Administration (NOAA)		✓							✓	✓	
Office of the Chief Scientist (OCS)		✓							✓	✓	
National Ocean Service (NOS)		✓	✓						✓		
Office of Ocean Resource Conservation and Assessment (ORCA)		✓							✓		
Office of Coast and Geodetic Survey (C&GS)									✓		
Office of Ocean and Coastal Resource Management (OCRM)			✓						✓		
Office of Ocean and Earth Sciences (OES)			✓						✓		
National Marine Fisheries Service (NMFS)			✓	✓					✓	✓	
Office of Fisheries Conservation and Management (OFCM)				✓						✓	
Office of International Affairs (OIA)				✓					✓	✓	
Office of Enforcement							✓	✓			
Office of Protected Resources (OPR)			✓						✓	✓	
Oceanic and Atmospheric Research (OAR)		✓				✓			✓		
Environmental Research Laboratories (ERLs)		✓							✓		
Office of Oceanic Research Programs						✓			✓		

United States' Government Agencies, continued

Organization \ Keywords	ADVOCACY	ASSESSMENT	CONSERVATION	COORDINATION	DEVELOPMENT	EDUCATION	ENFORCEMENT	LAW	MONITORING/ RESEARCH	POLICY	REGULATORY
Department of Defense (DOD)											
U.S. Army Corps of Engineers		✓					✓		✓	✓	
Office of Naval Research (ONR)						✓			✓		
Department of Energy (DOE)		✓		✓					✓	✓	
Office of Health and Environmental Research		✓		✓					✓		
Office of International Research and Development Policy								✓	✓	✓	
Department of the Interior (DOI)			✓	✓	✓				✓		✓
Minerals Management Service (MMS)									✓		✓
National Park Service (NPS)			✓	✓	✓				✓		✓
Natural Resources Management									✓	✓	
Office of International Affairs (OIA)				✓	✓						
U.S. Fish and Wildlife Service (USFWS)			✓	✓					✓		✓
Office of International Affairs (OIA)				✓					✓		
U.S. Geological Survey (USGS) Office of Energy and Marine Geology		✓							✓		
Department of State - Bureau of Oceans, International Environmental and Scientific Affairs (OES)			✓	✓				✓		✓	
Oceans and Fisheries Affairs (OFA)			✓					✓		✓	
Environment, Health, and Natural Resources				✓						✓	

United States' Government Agencies, continued

Organization \ Keywords	ADVOCACY	ASSESSMENT	CONSERVATION	COORDINATION	DEVELOPMENT	EDUCATION	ENFORCEMENT	LAW	MONITORING/ RESEARCH	POLICY	REGULATORY
Department of Transportation (DOT) - U.S. Coast Guard											
Office of Merchant Marine Safety, Security and Environmental Protection				✓			✓		✓		✓
Environmental Protection Agency (EPA)		✓	✓	✓		✓	✓		✓	✓	✓
Office of Wetlands, Oceans and Watersheds (OWOW) Oceans and Coastal Protection Division (OCPD)			✓							✓	✓
Office of International Activities (OIA)				✓						✓	
Office of Radiation Programs (ORP)				✓					✓		
Office of Emergency and Remedial Response (OERR)							✓				
Office of Research and Development (ORD)		✓							✓		
Office of Modeling, Monitoring Systems and Quality Assurance									✓		
National Aeronautics & Space Administration (NASA)				✓					✓		
National Science Foundation (NSF)				✓					✓	✓	
Ocean Principals Group				✓						✓	
National Security Council Policy Coordinating Committee for Law of the Sea and Ocean Policy				✓				✓		✓	
Smithsonian Institution			✓	✓		✓			✓	✓	

United Nations Agencies

Organization / Keywords	ADVOCACY	ASSESSMENT	CONSERVATION	COORDINATION	DEVELOPMENT	EDUCATION	ENFORCEMENT	LAW	MONITORING/ RESEARCH	POLICY	REGULATORY
Food and Agriculture Organization (FAO)											
Fisheries Department				✓	✓						
Fishery Policy and Planning Division (FIP)				✓	✓				✓	✓	
Fishery Resources and Environment Division (FIR)					✓	✓					
International Atomic Energy Agency (IAEA)				✓	✓				✓		
International Marine Organization (IMO)				✓				✓		✓	
UN Educational, Scientific, and Cultural Organization (UNESCO)											
Man and Biosphere Program (MAB)											
Intergovernmental Oceanographic Commission (IOC)		✓							✓		
UN Environment Programme (UNEP)				✓	✓						
UN Law of the Sea and Ocean Affairs					✓	✓		✓	✓		
World Bank Environment Department					✓				✓	✓	
World Meterological Organization (WMO)				✓		✓			✓	✓	

Non-Governmental Organizations

Organization \ Keywords	ADVOCACY	ASSESSMENT	CONSERVATION	COORDINATION	DEVELOPMENT	EDUCATION	ENFORCEMENT	LAW	MONITORING/ RESEARCH	POLICY	REGULATORY
American Oceans Campaign (AOC)	✓					✓			✓	✓	
Caribbean Conservation Corporation (CCC)						✓		✓			
Center for Marine Conservation (CMC)			✓			✓		✓	✓	✓	
Conservation International (CI)			✓		✓						
Council on Ocean Law (COL)						✓		✓		✓	
The Cousteau Society, Inc.						✓			✓		
Environmental Defense Fund (EDF)	✓										
Friends of the Earth (FOE) /The Ocean Society (OS)	✓							✓			
Greenpeace	✓										
International Game Fish Association (IGFA)						✓		✓		✓	
Island Resources Foundation (IRF)						✓			✓	✓	
National Academy of Sciences (NAS)									✓	✓	
National Audubon Society			✓			✓			✓		
The Nature Conservancy (TNC)			✓						✓		
Natural Resources Defense Council (NRDC)	✓		✓					✓		✓	
National Wildlife Federation (NWF)	✓		✓			✓					
The Sierra Club	✓		✓								
Wildlife Conservation International (WCI)			✓								
World Resources Institute (WRI)				✓					✓	✓	
World Wildlife Fund (WWF)			✓	✓						✓	
International Union for the Conservation of Nature and Natural Resources (IUCN)			✓	✓							
International Council for the Exploration of the Sea (ICES)				✓		✓			✓		

Marine Policy Centers

Organization \ Keywords	ADVOCACY	ASSESSMENT	CONSERVATION	COORDINATION	DEVELOPMENT	EDUCATION	ENFORCEMENT	LAW	MONITORING/ RESEARCH	POLICY	REGULATORY
Center for Oceans Law and Policy University of Virginia						✓		✓		✓	
Center for the Study of Marine Policy University of Delaware	✓	✓				✓				✓	
The East-West Center		✓		✓	✓	✓				✓	
Graduate Program in Marine Affairs University of Rhode Island					✓	✓		✓	✓	✓	
Institute for Coastal and Marine Resources East Carolina University		✓	✓			✓			✓	✓	
Marine Law Institute University of Maine School of Law						✓		✓		✓	
Marine Option Program University of Hawaii at Manoa						✓		✓		✓	
Marine Policy Center Woods Hole Oceanographic Institution		✓	✓	✓		✓		✓		✓	
Marine Resource Management Graduate Program Oregon State University						✓		✓		✓	
Ocean and Coastal Law Center School of Law, University of Oregon						✓		✓		✓	
Ocean Systems Management Program Massachusetts Institute of Technology				✓		✓				✓	
School of Marine Affairs University of Washington			✓	✓	✓	✓		✓		✓	
Oceans Institute of Canada			✓	✓	✓	✓		✓		✓	

Canadian Agencies

Organization \ Keywords	ADVOCACY	ASSESSMENT	CONSERVATION	COORDINATION	DEVELOPMENT	EDUCATION	ENFORCEMENT	LAW	MONITORING/ RESEARCH	POLICY	REGULATORY
Environment Canada		✓	✓	✓			✓	✓	✓	✓	✓

UNITED STATES' GOVERNMENT ORGANIZATIONS

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Bureau for Latin America and the Caribbean	U.S. - 2
Bureau of Science and Technology	U.S. - 3
Council on Environmental Quality (CEQ)	U.S. - 4
Department of Commerce (DOC)	
National Oceanic and Atmospheric Administration	U.S. - 5
Office of the Chief Scientist (OCS)	U.S. - 6
National Ocean Service (NOS)	U.S. - 7
Office of Ocean Resources, Conservation and Assessment (ORCA)	U.S. - 8
Coast and Geodetic Survey (C & GS)	U.S. - 9
Office of Ocean and Coastal Resource Management (OCRM)	U.S. - 10
Office of Ocean and Earth Sciences (OES)	U.S. - 11
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Agency for International Development (AID)

KEYWORDS Development
Monitoring/Research
Assessment
Conservation
Coordination
Education

OVERVIEW AID was created by the Foreign Assistance Act of 1961 to carry out U.S. economic assistance programs in the developing world. AID operates through a worldwide network of country missions which administer development assistance programs funded by loans and grants.

AID's three development goals for its work in Less Developed Countries (LDCs) are:

- to promote and sustain economic growth;
- to develop human capacity, particularly health and education; and
- to encourage pluralism, e.g., democracy, freedom and competition.

PROGRAMS AID's structure includes six functional bureaus and four regional bureaus, which oversee missions and offices assigned to the regional bureaus. Of these, the Bureau for Latin America and the Caribbean* and the Bureau for Science and Technology* support marine related projects.

CONTACT U.S. Agency for International Development
320 21st St., NW
Washington, DC 20523-0061 202-647-9620

Agency for International Development
Bureau for Latin America and the Caribbean (LAC)
Office of Development Resources

KEYWORDS

Development
Conservation
Monitoring/Research
Education

OVERVIEW

One of the LAC Bureau's central objectives is to encourage preservation and sustainable use of the natural resource base. Coastal zone management is one of four major technical areas on which the majority of LAC environmental and natural resource management programs will be focused. Marine-related projects range from sea turtle conservation in Costa Rica, through promotion of shrimp mariculture, to contingency planning for oil spills in Jamaica. Other activities include establishing marine parks, monitoring coastal water quality, and managing the coastal zone of the eastern Caribbean.

An overview of the state of marine resources in the Caribbean, along with options for its improved management and conservation, can be found in *Caribbean Marine Resources: Opportunities for Economic Development and Management*. This document was commissioned by the LAC Bureau and produced by NOAA.

COORD

Interagency coordination is conducted with NOAA*, USCG*, NSF*, EPA*, and NMFS*.

PROGRAMS

Caribbean Conservation Corporation (CCC)

Since 1988, AID has supported the efforts of the CCC to implement a comprehensive set of activities that foster conservation and sustainable development of Tortuguero, Costa Rica. The area is world-renowned as the largest rookery for the endangered green sea turtle and emcompasses unspoiled tropical forest, wetland, and coastal habitat. Project objectives are:

- to develop a comprehensive zoning and development plan for Tortuguero, ensuring compatibility of future development and conservation goals;
- to provide for sustainable management of critical lowland forests, estuaries, wetlands, and sea turtle nesting beaches;
- to create a wildlife corridor between the Tortuguero National Park and Barra del Colorado Wildlife Refuge;

- to develop a long-term environmental education and training program that addresses local population needs and generates employment opportunities; and

- to expand the Green Turtle Research Station into a comprehensive international training center for biological research and conservation.

Environment/ Coastal Resources Program

ENCORE concentrates on developing coastal management strategies for countries in the eastern Caribbean region and on promoting integration of coastal zone management into development projects. Still in the design phase, the project is directed at preventive and remedial actions that demonstrate the validity of economic sustainability through long-term natural resource management.

ENCORE's objectives are to protect natural resources and overall environmental quality in order to realize economic and biological potential. ENCORE is proposed for six years and will involve community participation in planning and management of coastal resources. Initial pilot projects are planned for Dennery, St. Lucia; Scotts Head, Dominica; and Portsmouth, Dominica.

Although the Bureau can implement projects for development in LDCs, there is no method to ensure that the projects will continue to operate after AID terminates support.

CONTACT

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Room 2242
New State
320 21st Street, N.W.
Washington, DC 20523-0010 202-647-9486

Agency for International Development
Bureau of Science and Technology
Office of Forestry, Environment and Natural Resources (FENR)

KEYWORDS Development
Coordination
Assessment

OVERVIEW The Coastal Resources Management Project (CRMP) is FENR's only exclusively coastal/marine activity.

PROGRAMS CRMP was established in 1985 through a cooperative agreement between AID and the University of Rhode Island (URI). CRMP assists in-country counterparts in formulating and implementing national management strategies, offering technical assistance where needed. In-country teams from each participating nation collaborate with the project staff at URI's Coastal Resources Center.

The initial five-year project sought to launch three integrated coastal resource management programs (in Ecuador, Sri Lanka, and Thailand) to serve as models for developing countries worldwide.

The aims of each pilot program are:

- to develop procedures to assess the impacts of coastal development proposals;
- to undertake research to clarify trends affecting the condition and use of coastal resources;
- to improve the capabilities of in-country professionals to plan for and manage coastal development; and
- to develop institutional capabilities to address resource use conflicts effectively.

For the second five-year phase, CRMP is currently reviewing requests by other countries in Asia and Latin America to be included in the coastal management program.

CONTACT

URI/AID CRMP
University of Rhode Island
Coastal Resources Center
Marine Resources Building
Narragansett Bay Campus
Narragansett, RI 02882-1197 401-792-6224

Council on Environmental Quality (CEQ)

KEYWORDS Policy
Coordination
Research

OVERVIEW CEQ was established by the 1969 National Environmental Policy Act (NEPA) to formulate and recommend national policies to promote the improvement of the quality of the environment. CEQ is located within the Executive Office of the President and provides expert opinion and policy advice to the President on environmental matters. The Chairman participates in the Domestic Policy Council, Economic Policy Council, and other Cabinet-level meetings.

CEQ has three primary responsibilities:

1. to serve as the President's "in-house" environmental advisor;

2. to coordinate the positions of Cabinet Departments and independent agencies on environmental issues; and

3. to administer the provisions of NEPA.

Included within these responsibilities are:

- advising the President on national and international policies to foster and promote the improvement of environmental quality;

- assisting and advising the President in the preparation of the annual Environmental Quality Report;

- conducting studies and making recommendations on policy and legislation as requested by the President;

- providing general leadership and support to the coordination of activities of the federal departments and agencies which affect, promote and improve environmental quality;

- interpreting legal issues related to NEPA, assisting agencies in compliance with NEPA's requirements and resolving interagency disputes through NEPA referral process;

- issuing regulations binding on all federal agencies for the assessment of environmental impacts associated with proposals for federal actions;

- fostering cooperation between the federal and local government, the private sector and the environmental community;
- recognizing teachers who design and implement the most innovative and effective programs to teach students about the environment; and
- assessing and reporting on trends in environmental quality.

PROGRAMS CEQ does not directly operate an oceans program, but places a high priority on coastal and ocean issues as they arise in policy development. Other issues CEQ addresses include global change, recycling, pollution prevention, wetlands protection and energy conservation.

CEQ also administers a project under the US-USSR Cooperative Agreement in the Field of Environmental Protection entitled "Legal and Administrative Measures." The project falls under Area XI, "Legal and Administrative Measures for the Protection of Environmental Quality," of the Agreement. CEQ co-sponsored a project workshop (June 1990) with the State of Alaska which dealt with the legal aspects of the US-USSR initiative for a joint international park in the Bering Land Bridge region.

In addition, CEQ led U.S. efforts to involve non-governmental organizations in discussions leading to the 1992 United Nations Conference on Environment and Development (UNCED).

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Department of Commerce
National Oceanic and Atmospheric Administration (NOAA)

KEYWORDS Research
Monitoring/Research
Policy

OVERVIEW NOAA was established in 1970 by Reorganization Plan #4 to provide a federal government focus on the problems of the oceans and the atmosphere. NOAA gathers data, conducts research, and makes predictions about the environment. NOAA warns of dangerous weather, charts seas and skies, guides use and protection of ocean resources, and tries to enrich the understanding of oceans, atmospheres, space, and the sun.

NOAA marine pollution responsibilities are specifically addressed in the National Ocean Pollution Planning Act of 1978 (NOPPA). Additional responsibilities related to marine pollution were assigned to NOAA in response to Title II of the Marine Protection, Research and Sanctuaries Act (MPRSA), which directs the secretary to establish a comprehensive and continuing program of monitoring and research with respect to the possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems.

PROGRAMS NOAA's marine pollution-related research, development, monitoring, and management activities are conducted in three of NOAA's line organizations:

- National Ocean Service* (NOS);
- National Marine Fisheries Service* (NMFS); and
- Office of Oceanic & Atmospheric Research* (OAR).

The Office of the Chief Scientist* (OCS) also administers several marine focused programs.

CONTACT National Oceanic and Atmospheric Administration
5128 Herbert Clark Hoover Bldg.
Washington, DC 20230 202-377-3436

Department of Commerce
National Oceanic and Atmospheric Administration
Office of the Chief Scientist (OCS)

KEYWORDS Policy
Research
Assessment

OVERVIEW OCS rests within the office of the NOAA Administrator. The Chief Scientist is the principal scientific advisor to the Under Secretary and principal spokesperson for NOAA on scientific and technical issues. The Chief Scientist formulates and recommends scientific policy and provides guidance to NOAA managers on scientific issues.

OCS has three offices with marine components:

1. Ecology and Environmental Conservation;
2. National Ocean Pollution Program; and
3. Coastal Ocean Program.

PROGRAMS

Ecology and Environmental Conservation Office This Office is a focal point for the review of ecological and environmental conservation matters for NOAA. Office staff review NOAA activities to ensure full compliance with the National Recovery Policy Act and the Resource Conservation and Recovery Act (RCRA) and contribute to the development and implementation of NOAA policy on environmental issues. This Office is directly involved in many marine issues, including:

- coastal area management and habitat alteration;
- marine waste disposal;
- marine mining and oil and gas activities;
- fisheries management;
- traditional and recreational uses of ocean space;
- marine endangered species and habitat protection; and
- marine policy formulation (national and international).

National Ocean Pollution Program Office This program fulfills the responsibilities assigned to NOAA by Sections 4 and 8 of NOPPA. It prepares the five-year Federal Plan for Ocean Pollution Research, Development and Monitoring called for by the Act. It consults with federal, state, and local agencies, and private sector experts, and conducts studies to determine national activities, priority problem areas for action, areas of emphasis in the current Federal Program, and recommendations for improved efficiency and effectiveness.

The National Ocean Pollution Program Office exercises an overall interagency coordination role to ensure implementation of recommendations in the current Federal Plan and to develop staff support for the National Pollution Ocean Policy Board, chaired by the NOAA Chief Scientist.

The Office also prepares various information products, including the annual *Summary of Federal Programs and Projects*, a standard reference for information about Federal Marine Pollution activities. It prepares annual funding reviews and reports that describe the impacts of specific polluting activities on human health and living resources. It also manages the Ocean Pollution Data and Information Network (OPDIN), which responds to requests for data and information related to marine pollution.

Coastal Ocean Program Office This Office was established to address the problems threatening the vitality of U.S. coastal and estuarine waters. The program focuses NOAA's observational, research, assessment, and modeling capabilities on key problems in the coastal ocean and simultaneously directs the Agency's information management and delivery systems to assure that the findings of the program are accessible and communicated effectively to decision makers. The program goals are to improve prediction of:

- coastal ocean degradation;
- changes in living marine resources; and
- physical impacts on life and property.

CONTACT

Department of Commerce
Office of the Chief Scientist
National Oceanic and Atmospheric Administration
Room 5128
14th & Constitution Ave, NW
Washington, DC 20230 202-377-5181

Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service (NOS)

KEYWORDS Research
Monitoring
Assessment

OVERVIEW NOS was mandated by the Marine Protection, Research and Sanctuaries Act and National Ocean Pollution Planning Act. NOS seeks to provide comprehensive "strategic assessments" of national marine quality problems, conduct nationwide monitoring of marine environmental quality in coastal waters, and provide on-scene advice during emergency responses to spills of hazardous materials.

NOS houses four offices:

1. Office of Ocean Resources, Conservation and Assessment;

2. Coast and Geodetic Survey;

3. Office of Ocean and Coastal Resource Management; and

4. Office of Ocean and Earth Sciences.

NOAA was recently reorganized. No other line organization has current plans to transfer office responsibilities or create new offices.

The Office of Ocean and Earth Sciences encompasses all of NOS's hard science capabilities; it will dissolve the Office of Ocean Services and take on the hard science of the Office of Marine Assessment and the geodetic research center from the Office of Charting and Geodetic Services.

The Office of Marine Assessment changed its name to the Office of Ocean Resources, Conservation and Assessment (ORCA). The Office's basic responsibility will be all NOS assessment and planning. The Arctic Environmental Assessment Center and the Damage Assessment and Restoration Center is administered under ORCA. ORCA also manages divisions for strategic environmental assessment, coastal monitoring and bioeffects assessment, and hazardous materials response and assessment. These responsibilities, formerly programmed under OMA, expanded to full divisions.

The Office of Charting and Geodetic Services changed its name to Coast and Geodetic Survey. The office's responsibilities will remain unchanged, with the exception of the loss of the geodetic research center.

In addition to modified responsibilities, several offices will also experience staff adjustments. In many cases, new positions will be available.

The Office of Coastal Resource Management remains the central coastal management office for NOS. Plans for any changes within the office are unknown.

Please note that these plans are still subject to change. The reorganization must undergo the Federal review process before completion.

CONTACT

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National Ocean Service
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Washington, DC 20235 202-606-4140

Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Ocean Resources, Conservation and Assessment (ORCA)

KEYWORDS Monitoring/Research
Assessment

OVERVIEW ORCA seeks to determine the status of environmental quality in coastal and estuarine areas of the United States. In existence since 1984, the office's goals are:

- to provide leadership for federal interagency planning and coordination; and
- to furnish the best available scientific and technical information on marine and estuarine environmental quality to national policy makers in Congress, federal agencies and state and local governments, the private sector, and the public.

PROGRAMS

National Status and Trends Program The NS&T monitors concentrations of toxic chemicals and trace elements in bottom-feeding fish, shellfish, and sediments at 200 coastal and estuarine locations throughout the United States. The objective of this program is to determine the status and long-term trends of toxic contamination in important estuarine and coastal areas. This program is the first to use a uniform set of techniques to measure coastal and estuarine environmental quality.

Strategic Environmental Assessment Program The SEAP collects information on the resources of the coastal ocean to identify compatibilities and conflicts among multiple uses and to help determine research and management needs and priorities. Since 1980, it has published a series of thematic atlases of major regions of the Exclusive Economic Zone (EEZ), including the east coast, the Gulf of Mexico, the Bering, Chukchi, and Beaufort Seas, and the west coast of North America. SEAP maintains large databases on:

- the characteristics of coastal and estuarine areas (National Estuarine inventory);
- the distribution of biological resources and habitats within these areas (Living Marine Resources Program and the National Coastal Wetlands Inventory); and

- economic activities and their pollutant discharges (National Coastal Pollutant Discharge Inventory).

Hazardous Materials Response Program

This program provides critical information on consequences of oil spills on the marine and estuarine environment as well as support to EPA's Superfund during emergency responses at, and for cleanup of, abandoned hazardous waste sites in coastal areas.

Other ORCA programs include:

- Damage Assessment Program;
- National Water Levels Program;
- Outer Continental Shelf Environmental Assessment Program (OCSEAP);
- Coastal Circulation Program; and
- Global Absolute Sea Level Monitoring Program.

One of ORCA's recent projects has been to assess damages to the marine and estuarine environment due to the *Exxon Valdez* spill.

CONTACT

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Office of Ocean Resources, Conservation and Assessment
N/ORCA, Room 212
6001 Executive Boulevard
Rockville, MD 20852 301-443-8487

Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service
Coast and Geodetic Survey

KEYWORDS Monitoring/Research

OVERVIEW C&GS is responsible for NOAA's mapping, charting, and geodesy programs, as mandated by the 1807 Navigation Act. C&GS performs geodetic, hydrographic and photogrammetric surveys, and field investigations. It processes air and marine mapping and charting data to produce nautical charts, Coast Pilot publications, bathymetric maps -- including high-resolution maps of the U.S. Economic Zone (EEZ) -- and aeronautical charts. The results of data analyses and geodetic research investigations are available to users in a variety of formats.

C&GS also provides guidance in mapping and charting procedures and the development of geodetic standards. C&GS assists national, state, and local organizations through a variety of cooperative programs.

COORD C&GS cooperates with the U.S. Geological Survey in carrying out the national EEZ program and various coastal mapping programs. In addition, it works with the U.S. Coast Guard, U.S. Army Corps of Engineers, Defense Mapping Agency, and the Federal Aviation Administration to ensure navigational safety in U.S. waters and in national airspace. As U.S. representatives, C&GS, along with the Defense Mapping Agency, share responsibilities associated with International Hydrographic Organization (IHO) membership.

Cooperative efforts with the Canadian Hydrographic Service are handled under the auspices of the U.S.-Canada Hydrographic Commission.

PROGRAMS

Mapping and Charting The mapping and charting program provides accurate and timely nautical and aeronautical charts, maps, and related products for the coastal and adjacent Mapping and ocean areas of the United States (including possessions and territories), the Great Lakes, other inland navigable waters, and the National Airspace System for the safety and efficiency of marine and air transportation, offshore engineering projects, defense operations, and recreational activities.

Geodetic Program The geodetic program develops and maintains the National Geodetic Reference System as defined by the nation's three geodetic control networks. Points defined by these networks are the basic geographic location and elevation starting positions for land surveys, cartography, engineering, construction,

environmental control measures, and Earth science studies. In addition, geodetic advisors are assigned to those states participating in the Geodetic State Advisor Program.

CONTACT

National Ocean Service
Coast and Geodetic Survey
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Rockville, MD 20852 301-443-8204

Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Ocean and Coastal Resource Management (OCRM)

KEYWORDS Monitoring/Research
Conservation

OVERVIEW Established in 1972, OCRM is responsible for programs that protect and manage U.S. coastal resources.

The Coastal Zone Management Act (CZMA) established the Coastal Zone Management Program (CZMP) to provide financial and technical assistance and policy guidance to states and territorial governments to prepare and implement programs which balance the use and conservation of coastal and marine resources. OCRM seeks to ensure that the state programs remain in compliance with national standards by providing oversight and evaluation of state performance. Currently, 29 of the 35 eligible coastal states and territories, covering 93% of the nation's shoreline, have federally approved coastal zone management programs. Two other states -- Ohio and Minnesota -- have expressed interest in developing CZM programs.

PROGRAMS OCRM administers the National Coastal Zone Management Program (CZMP) and the National Estuarine Research Reserve Program (NERRP), both mandated by the Coastal Zone Management Act of 1972. In addition, OCRM manages the National Marine Sanctuary Program (NMSP) and the Ocean Minerals and Energy Program.

National Estuarine Research Reserve Program Authorized by CZMA Section 315, the NERRP consists of reserves owned and managed by states with OCRM providing oversight and national program guidance and support. The reserves focus on the protection and management of estuarine land and water resources, including wetlands and watersheds, environmental education and interpretation, and monitoring and research. Presently, there are 18 designated reserves in 16 states. These reserves protect more than 300,000 acres of estuarine lands and waters.

The NERRP was also bolstered by the 1990 CZMA Amendments, which increased the amount of Federal financial assistance for land or water acquisition of individual National Estuarine Research Reserves. In addition, the maximum Federal share of costs for managing reserves and supporting educational activities was increased. These new provisions provide added

incentive for the designation of new reserves at a time when states are increasing their interest in the program.

Coastal Zone Management Program

The 1990 CZMA Amendments, reauthorized the coastal zone management and estuarine research reserve programs for five years. Designed to modernize and strengthen the CZMA to address new and emerging coastal issues, the 1990 Amendments modify the Act in a number of ways. A new Coastal Nonpoint Pollution Control Program was established which requires coastal states to develop a program to protect coastal waters from nonpoint source pollution from adjacent coastal land uses. In addition, a new enhancement grants program encourages each coastal state to improve its CZM program in one or more of eight identified national priority areas. Other changes to CZMA include:

- the addition of Outer Continental Shelf oil and gas lease sales to the Federal consistency provisions;
- new requirements for expanded public participation opportunities in the program evaluation process;
- new authority to impose interim sanctions for up to three years if the state is failing to adhere to its federally approved program or estuarine reserve management plan; and
- a new requirement for the Secretary of Commerce to provide technical assistance and management-oriented research to support the development and implementation of state CZM programs.

National Marine Sanctuary Program (NMSP)

The NMSP designates and manages offshore marine areas for the purpose of preserving or restoring their ecological, historical, recreational, or aesthetic values. National marine sanctuaries may be designated in coastal and ocean waters, in submerged lands, and in the Great Lakes and their connecting waters. Research and educational programs have important roles in the management of sanctuaries. OCRM administers eight marine sanctuaries; six additional sites are now being evaluated for possible designation. In 1990, President Bush signed the Florida Keys Marine Sanctuary and Protection Act, which created a new 2,600 square nautical mile sanctuary in the coastal waters off the Florida Keys.

Ocean Minerals and Energy Program

This program administers the Ocean and Thermal Energy Conversion (OTEC) Act and the Deep Seabed Hard Mineral Resources Act. The OTEC Act provides for licensing of OTEC facilities within U.S. waters. The Deep Seabed Hard Mineral Resources Act provides for licensing deep seabed mining exploration and commercial recovery operations and for the establishment of bilateral and multilateral agreements to provide a stable international legal

framework for deep seabed mining activities. Regulations are in place for both programs, but world energy and metal prices to date have not been sufficient to trigger license applications. Work is now focused on joint seabed mining environmental studies with other countries to determine the impacts of deep seabed mining and on international mineral activities including enforcement of the Antarctic Treaty provision. In addition, there is renewed interest in reconsidering the seabed mining provisions in the Law of the Sea Treaty.

CONTACT

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Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Ocean and Earth Sciences (OES)

KEYWORDS Monitoring/Research
Conservation

OVERVIEW OES operates several programs dealing with marine conservation and resource management. OES is not mandated, but, among others, the Magnuson Fishery Conservation and Management Act, the National Weather Service Organic Act, and the Coast and Geodetic Survey Act all provide enabling legislation to carry out office activities.

OES organizes its data primarily through access to raw and processed data and information, in addition to technical and scientific papers, newsletters, and general press articles.

PROGRAMS OES's four programs/divisions are:

1. Joint Ice Center (JIC);
2. Center for Ocean Analysis and Prediction (COAP);
3. Ocean Products Center (OPC); and
4. Ocean Observations Division (OOD).

Joint Ice Center In existence since 1975, JIC seeks to provide general and tailored support of ice analysis and guidance products which relate to life and property. It seeks to notify of hazards of navigation (i.e. icing) and to provide information useful to the climate change program. The Center is currently the only one of its kind in the world.

JIC goals are to render support for arctic, antarctic, and Great Lakes research and to supply accurate forecasts and efficient guidance products. The JIC also works on ice climatology issues and designs ice observation arrays.

JIC holds two major meetings a year in addition to one with Canadian officials at least once a year. JIC frequently performs liaison activities with the NSF* and ONR*.

Center for Ocean Analysis and Prediction

COAP, established in 1989 and composed of all the NOAA line organizations, was designed to be a national NOAA center for the development, exchange, integration, and dissemination of biological, chemical, and physical oceanographic products and services for effective management of living marine resources.

COAP conducts scientific research and monitoring and is involved with public outreach, policy making and environmental law enforcement. COAP provides support for the collection, processing, analysis and production of ocean information in support of living marine resources and NOAA's climate change and coastal ocean programs. It focuses on operational ocean modelling, information display and analysis workstations, and providing access to environmental data.

COAP interagency coordination is administered with EPA*, MMS*, ONR*, the Oceanographer of the Navy, DOE*, NSF*, and the Army Corps of Engineers*, in addition to participation with many university research activities.

Ocean Products Center

OPC was established in 1985 to provide operational support for marine weather activities and for NOAA's coastal ocean programs. It performs applied scientific research and monitoring, and engages in environmental law enforcement and policy making.

OPC seeks to provide product guidance of marine flux events such as wind, waves, circulation, and thermal structures. OPC is in primary support of NOAA's National Weather Service. OPC program coordination is frequently conducted with ONR*, the Oceanographer of the Navy, NSF*, and the U.S. Coast Guard*.

Ocean Observations Division

OOD, designed in 1984, develops and implements a routine, global ocean observing network. OOD is involved with many aspects of marine management including issues of fisheries, marine waste disposal, and coastal observations. Through design, monitoring, policy making and enforcement assistance, OOD seeks to coordinate routine global ocean observing array design and operation with coordination from almost all of the federal agencies and many universities.

CONTACT

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Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service (NMFS)

KEYWORDS Monitoring/Research
Conservation

OVERVIEW NMFS has responsibility by Congressional mandate for conserving and managing marine, estuarine, and anadromous fishery resources throughout its range. The Magnuson Fishery Conservation and Management Act of 1976, among other legislative measures, requires the Secretary of Commerce to initiate comprehensive programs of fishery research on issues such as the impacts of pollution on the abundance and availability of fishery resources.

NMFS goals are:

- to understand the effects of pollutant loadings and habitat alterations on living marine resources;
- to develop methods for assessing the viability of fishery stocks and habitats;
- to develop methods for predicting the effect of man's activities on marine ecosystems and their components;
- to understand effects of physical perturbations on coastal ecosystems; and
- to develop efficient systems for transfer and dissemination of habitat and marine pollution information.

All NMFS offices seek effective implementation of the NMFS mission. The Headquarter offices are policy orientated and act as liaisons between the NMFS Administrator and the regional offices. The regional offices are separately funded, and develop their own individual programs. However, as the NMFS headquarter offices must review all regional activity for agency coordination, headquarters is considered to be the primary contact.

PROGRAMS

National Fishery Ecology Program

NMFS conducts research directed toward understanding the effects of man-induced and natural changes on the abundance, distribution, and health of living marine resources of commercial and recreational importance. The goal of the program is to provide high quality research information for resource managers in NMFS and other Federal agencies in order to conserve living marine resources and their habitats.

CONTACT

National Marine Fisheries Service
1335 East-West Highway
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Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Fisheries Conservation and Management (OFCM)

KEYWORDS Coordination
Policy

OVERVIEW OFCM operates three divisions which provide the management oversight and coordination for NMFS' five regional branches. Although all program activity is managed at a regional level, the NMFS Headquarters office is responsible for reviewing regional fisheries management strategies for consistency with national policy.

COORD NMFS frequently coordinates with the U.S. Coast Guard* as NMFS has no "at sea" enforcement capabilities.

Plans and Regulation Division The Plans and Regulation Division receives management plans from eight fishery councils nationwide and makes appropriate recommendations. Plans must fully comport with federal laws and standards of the Magnuson Act. If adjustments are needed, the Division is responsible for providing policy advice and technical assistance so that compliance is reached. The Division also facilitates the processing of regulatory actions for other NMFS offices and serves as liaison with the Office of Federal Register for publication of all notices and rulemakings.

Recreational & Interjurisdictional Fisheries Division This Division serves as the principal agency focus for marine recreational and and interjurisdictional policy and program coordination. It identifies the research and management needs of recreational and interjurisdictional fisheries and monitors and coordinates fishery management interactions between the states and federal government. The Division investigates, develops, and recommends policies to strengthen federal and state involvement in recreational and interjurisdictional fisheries conservation and management. It administers grant-in-aid programs to improve the capabilitity of the states and other non-federal interests to coordinate fishery research, development, and enhancement to provide improved biological, social, and economic information required for conservation and management of fishery resources.

Operations Support and Analysis Division

This Division provides oversight and advice on national fishery management policies. The Division interprets the fisheries management implications of new and existing legislation, assesses the need for new or revised policy, and develops new legislative initiatives, policy and associated guidance as necessary to achieve effective fisheries management. The Division coordinates with the councils, DOC/NOAA/NMFS directorate, NMFS regional offices, other federal agencies, states, and the private sector in the development and interpretation of applicable legislation and policies. Oversight and advice is also provided concerning the economic and social aspects of fishery management, including review of all specific regulations. The Division issues permits and fees to foreign vessels wishing to fish in U.S. waters. International contact is minimal with respect to policy issues, but joint ventures are routinely reviewed and approved between U.S. fishermen and foreign counterparts. Under the Governing International Fisheries Agreements (GIFAS), specified countries are allowed to fish in the U.S. zone, assuming that there are adequate resources to allow foreign fishing. Current ventures exist between the U.S. and Japan, Soviet Union, Korea, Poland, and some European nations.

CONTACT

National Marine Fisheries Service
Office of Fisheries Conservation and Management
1335 East-West Highway
Silver Spring, MD 20910 301-713-2334

Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of International Affairs (OIA)

KEYWORDS Policy
Coordination
Monitoring/Research

OVERVIEW OIA is responsible for coordinating departmental and NOAA international fishery policies with other U.S. government departments and with international organizations. OIA seeks to effectively carry out the NMFS mission in the international arena, and provide analysis of current international policy.

OIA's goals are:

- to develop policy positions for the Department of State and NOAA;
- to provide analysis of foreign fisheries and policies regarding international or transboundary resources;
- to participate in international forums and decision-making processes;
- to monitor and coordinate support from the international commissions addressing living marine resources;
- to conduct analytical economic research on foreign fisheries; and
- to monitor international science activities.

COORD OIA is involved with many international groups, both on a multilateral and bilateral basis. NMFS interacts with the International Whaling Commission (IWC), Commission on Conservation of Antarctic Marine Living Resources (CCAMLR), and seven other marine resource commissions. NMFS is also involved with bilateral agreements with the People's Republic of China, Canada, and Mexico.

NMFS and the Department of State's Bureau of Oceans and International Environmental Science collaborate frequently on matters of international policy.

CONTACT National Marine Fisheries Service
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1335 East-West Highway
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Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Enforcement

KEYWORDS Enforcement
Law

OVERVIEW The Office of Enforcement is one of the only NOAA offices that transcends the organizational boundaries of the separate services. Since 1970, the office has been responsible for enforcing U.S. law and regulations and international treaties with respect to U.S. living and non-living resources.

The office operates under several mandates, including the Magnuson Act, the Marine Mammal Protection Act, and the Endangered Species Act. Although nearly all of the enforcement activities are related to fisheries, the office is also responsible for monitoring compliance for coastal zone management and other NOAA efforts.

COORD International cooperative efforts are undertaken with Canada, Japan and Mexico on issues of anadromous and other species management. Special interest is focused now on the Drift Net Act of 1987 which required the United States to enter into agreements with the governments of Taiwan, Japan, and Korea regarding their drift net fisheries. Under these agreements, NMFS has 100 percent satellite transmitter coverage of all vessels from these countries using driftnets in the North Pacific and is gathering information on incidental catch and impacts on the marine ecosystem.

Primary interagency coordination is with U.S. Coast Guard, Customs, Fish and Wildlife Service, and coastal state marine enforcement agencies.

PROGRAMS Primary involvement also continues with the enforcement of regulatory protection for whales, porpoises, and other protected species. Enforcement methods, performed through 44 field offices, include criminal investigations of regulatory breaches and the employment of aboard-ship observers nationwide.

CONTACT National Marine Fisheries Service
Office of Enforcement
1335 East-West Highway
Silver Spring, MD 20910 301-427-2300

Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Protected Resources (OPR)

KEYWORDS Monitoring/Research
Conservation
Policy

OVERVIEW OPR provides advice and guidance on the conservation and protection of those marine mammals and endangered species under the jurisdiction of the Marine Mammal Protection Act. The office:

- works toward the conservation, restoration, and enhancement of living resources and habitats;
- develops national guidelines and policies for relevant research programs;
- provides oversight and advice on the scientific aspects of managing species and habitats; and
- manages specific projects as assigned by the Assistant Administrator.

In general, OPR works in coastal area management and habitat alteration, marine waste disposal, marine mining, oil and gas and other energy development, non-point source pollution, fisheries, traditional and recreational uses of ocean areas, marine policy, marine protected area planning, endangered species management, and international coordination of marine programs.

OPR is divided into four divisions:

1. Permits and Documentation;
2. Protected Species Management;
3. Habitat Policy and Conservation; and
4. Conservation Science.

PROGRAMS In its protected species work, the office:

Protected Species

- prepares public hearings and meetings;
- prepares and reviews management and recovery plans and environmental impact statements (EIS);
- processes ESA Section 7 consultations (federal project impacts on endangered species);
- coordinates national level projects;
- issues permits, provides technical support for international programs; and
- acts as a liaison with NOAA's Office of Enforcement, the Marine Mammal Commission, national environmental organizations, industry, and other federal agencies.

Habitat Conservation In its habitat conservation work, OPR:

- develops national program priorities, plans, and budget justifications;
- initiates national efforts to conserve habitats;
- reviews and advances NMFS positions on proposed federal projects;
- reviews the adequacy of NMFS comments on EISs and federal proposals to develop outer continental shelf resources;
- develops NMFS positions on proposed policies, programs, and regulations of other agencies; and
- serves as principal liaison with other federal agencies and organizations on habitat issues.

OPR organizes scientific and policy conferences and symposia on endangered species and habitat conservation, and has recently started a newsletter describing its activities.

CONTACT

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Department of Commerce
National Oceanic and Atmospheric Administration
Oceanic and Atmospheric Research (OAR)

KEYWORDS Monitoring/Research
Assessment

OVERVIEW OAR endeavors to strengthen the scientific basis for national policy in the areas of climate change, ocean and Great Lakes resources, and atmospheric research. OAR identifies strategies that will enhance U.S. strength and provide the knowledge base upon which to pursue these strategies. Within OAR, there are several environmental research laboratories (ERL) and the Office of Oceanic Research Programs (ORP). ORP operates both the National Sea Grant College Program* and the National Undersea Research Program.

With respect to ocean science, OAR seeks to understand the natural ocean system to a degree at which they can begin to develop predictive capabilities.

COORD OAR is involved, through both the ERLs and the Sea Grant program, in NOAA's Coastal Oceans Program, which crosses over several of the line organizations. OAR's focus is on nutrient enhanced productivity, habitat production, and habitat structure and function studies.

CONTACT National Oceanic and Atmospheric Administration
Ocean and Atmospheric Research
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Department of Commerce
National Oceanic and Atmospheric Administration
Ocean and Atmospheric Research
Environmental Research Laboratories (ERLs)

KEYWORDS Monitoring/Research
Assessment

OVERVIEW Four of the environmental research laboratories within OAR are prominent in ocean research:

- Great Lakes Environmental Research Laboratory (GLERL);
- Atlantic Oceanographic and Meteorological Laboratory (AOML);
- Pacific Marine Environmental Research Laboratory (PMEL); and
- Geophysical Fluid Dynamics Laboratory.

COORD OAR conducts research with several other agencies, institutions, and nations and funds collaborative studies. ERLs also conduct research through cooperative agreements or arrangements with academia. Interagency efforts include arctic research, hurricane research with the Navy, and the research conducted under the Climate and Global Change and Coastal Ocean Programs. Internationally, the climate program is coordinated with several other nations. Examples of other international efforts include a joint study by PMEL and the (former) Soviet Union's Arctic/Antarctic Institute (Leningrad) that will concentrate on physical oceanography properties, circulation processes, and nutrients in the Bering/Chukchi Seas. AOML and the NOAA Undersea Research Program (NURP) have worked with Japanese scientists on deep-sea vents in the Izu-Bonin back-arc basin. GLERL conducts Great Lakes research in coordination with Canadian efforts.

PROGRAMS OAR conducts research in the international program to understand, monitor, and predict climate and global changes in the atmosphere and oceans, which is coordinated by OAR's Office of Global Programs. Studies include a diverse suite of measurements over a wide range of time and space scales extending from the equator to the poles. OAR maintains a large network of in situ measuring devices.

El Nino

Examples of ongoing research include El Nino Southern Oscillation and the ocean circulation of heat from low to high latitudes, which is believed to be a critical process affecting the earth's climate. The effect of climatic change on sea level and ecosystems is being studied. Exchange of several chemicals between the ocean and atmosphere, including greenhouse gasses, is another important focus of OAR climate research.

Coastal Ocean Environment Fluctuation

Research on fluctuations in the coastal ocean environment is conducted by scientists at GLERL, AOML, and PMEL. Individual projects are coordinated and funded with studies conducted by other parts of NOAA and at non-NOAA institutions by NOAA's Coastal Ocean Program. Areas of study include fisheries; ecosystems; toxic chemical contaminants; productivity; and the impact of severe weather, tides, and waves.

ERLs are involved in marine environmental assessment with studies on estuarine circulation, contaminant transport, and transport modeling.

Arctic

Research is conducted in the Arctic on oceanic and atmospheric circulation; air-sea-ice interaction; ventilation; vessel icing; and ice formation, deformation, and motion.

Hydrothermal Vents

ERL operated a project on sea-floor hydrothermal vents that studies chemical and thermal effects of deep-sea venting including heat flux and plume composition.

Fishery Recruitment

An important new area of multi-disciplinary research is the study of processes that determine fishery recruitment. There are presently cooperative projects underway in the Gulf of Alaska and Florida with NOAA's National Marine Fisheries Service and several universities. OAR is extending the program to the Bering Sea, Great Lakes, and the South Atlantic Bight. Fisheries-oceanography requires collaborative support from other NOAA elements and other agencies.

Great Lakes

In the Great Lakes, research focuses on water quality and quantity, ecology, geochemistry, hydrology, sediment transport, toxicity studies, and nutrient fluxes (GLERL). GLERL is also beginning an exotic species research program in response to the accidental introduction of several new species to the Great Lakes Region. The new species are competing for existing food supply and could cause great imbalances in the food web. The Zebra Mussel is one of the exotic species of great concern at the present time.

Ocean Circulation

In addition to modeling efforts at AOML, PMEL and GLERL, ocean circulation modeling is conducted at ERL's Geophysical Fluid Dynamics Laboratory. Models are used to examine processes, trends, and anomalies in several areas of oceanic research including: circulation, coupled ocean and atmospheric interaction, the Gulf Stream, response to changing CO_2 concentrations, ice-ocean interaction, heat content of the turbulent surface layer, and coastal zone response to storms.

CONTACTS

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Pacific Marine Environmental Lab
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Atlantic Oceanographic and Meteorological Lab
4301 Rickenbacker Causeway
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Geophysical Fluids Dynamics Lab
Princeton University
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Princeton, NJ 08542 609-452-6502

Department of Commerce
National Oceanic and Atmospheric Administration
Office of Oceanic Research Programs

KEYWORDS Monitoring/Research
Education

OVERVIEW The National Sea Grant Program was established under the National Sea Grant College and Program Act of 1966. Transferred to NOAA from the NSF in 1970, the program presently operates under the Sea Grant Program Improvement Act of 1976.

The program's mission is to enhance coastal ocean research in the nation's interest. The basic goal of the National Sea Grant College Program is to foster the wise use of the nation's estuarine, coastal, and oceanic resources through the application of academic expertise in directed and coordinated research, education, and advisory service efforts.

PROGRAMS The Sea Grant Program manages five divisions:

Sea Grant Program

1. Environmental Studies;
2. Technology and Commercial Studies;
3. Living Resources;
4. Non-Living Resources; and
5. Human Resources.

Virtually every marine issue is covered under one of the five divisions.

There are currently 29 Sea Grant Colleges operating on 300 campuses which perform research on various issues of national interest. One of the Sea Grant program's primary responsibilities is to disseminate research findings effectively among the federal government agencies for enhancement of inter/intra-agency coordination.

Written research proposals are submitted to the Sea Grant program and subjected to a peer-review selection process. Quarterly abstract reports on research findings are published and circulated among the agencies for program use.

Since 1970, Sea Grant's charter has allowed for international involvement, but lack of resources has prohibited any active participation.

CONTACT

Oceanic Research Programs
NOAA/Sea Grant
MS R-OR
1335 East-West Highway
Silver Spring, MD 20910 301-447-2431

Department of Defense
Department of the Army
U.S. Army Corps of Engineers

KEYWORDS Monitoring/Research
Assessment
Policy
Enforcement

OVERVIEW The Corps of Engineers is assigned by many Public Laws, dating as far back as the 1875 Rivers and Harbors Act. Since then, many public laws have affected Corps activities, including:

- 1970 Rivers and Harbors and Flood Control Act;
- 1972 Marine Protection, Research and Sanctuaries Act;
- 1975 Water Resources Development Act; and
- 1986 Water Resources Development Act.

In the 1986 Act, Congress comprehensively reestablished and redefined the federal interest in water resources development. The 1986 Act also instituted requirements for proportionately greater non-federal cost sharing in Corps projects.

The Corps is to assume responsibility for management, research and development efforts of U.S. inland waters, nearshore area, and ocean environments. Through the Directorate of Civil Works, the Directorate of Research and Development, and their divisions, the Corps:

- regulates 99 percent of all dredged material disposal;
- conducts research on contaminant sediment management;
- develops management strategies for ocean disposal;
- manages programs in the reconstruction of wetlands;

- designates sites for future disposal; and
- evaluates environmental effects of dredged material disposal.

In essence, the Corps seeks to maintain a safe, reliable and economical federal interstate navigational system.

COORD

International cooperation through technical exchange has been undertaken with Japan and the Netherlands on contaminated sediment management, but primary international focus is the London Dumping Convention of which the Corps is a U.S. participant.

Interagency cooperation is maintained with EPA, FWS, NMFS, and state and local officials.

CONTACT

Department of Defense
Department of the Army
U.S. Army Corps of Engineers
20 Massachusetts Ave, NW
Casimir Pulaski Building
Washington, DC 20314 202-272-0001

Operations, Construction and Readiness Division

The Operations, Construction and Readiness Division is responsible for program execution and issuance of permits. Projects include habitat construction, shoreline erosion prevention (e.g., offshore berm development), island creation, and experiments in thin-layer disposal exposure to ocean surface waters. Many of the Corps' marine constructions are built with environmentally safe dredged material.

CONTACT

Department of Defense
Department of the Army
U.S. Army Corps of Engineers (CECW-O)
Operations, Construction, and Readiness Division
20 Massachusetts Ave, NW
Washington, DC 20314 202-272-0196

Policy and Planning Division

The Policy and Planning Division assesses ocean disposal sites and produces pollution reports for policy review. This division makes long-term decisions regarding site designation and controls policy issues of ocean disposal.

CONTACT

Department of Defense
Department of the Army
U.S. Army Corps of Engineers (CECW-P)
Policy and Planning Division
20 Massachusetts Ave, NW
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Ocean Disposal Program

Since the early 1980's, both of the above divisions have collaborated on an ocean disposal program under the guidance of EPA (Office of Wetlands, Oceans and Watersheds, Oceans and Coastal Protection Division). EPA provides the oversight on site designation and works with the Corps to regulate safe ocean dumping.

There are essentially three steps in ocean disposal planning:

1) EPA designates appropriate sites for ocean dumping;

2) the Corps issues permits to potential users of the site, and EPA decides if the material needs to be managed after dumping; and

3) either the Corps or the industry users operate management and monitoring programs within specific sites. There are presently about 103 interim designated sites. About 65 of these are permanent.

Both divisions are now working on a regulatory manual with EPA* that will identify the types of bioassays needed to determine if material is suitable for dumping and what management techniques may be necessary.

Research and Development Division

The R&D Division performs research on the environmental effects of ocean disposed dredged material. Examination of beach erosion and coastal processes is prominent among studies performed currently. R&D also performs wetland testing and growth rate studies in dredged material.

Waterways Experimental Station

The Waterways Experimental Station conducts studies through the operation of a complex of laboratories including the fields of nearshore oceanography, hydraulics, engineering geology, rock mechanics and environmental relationships. The lab provides specialized consulting services and training in coastal engineering.

Coastal Engineering Research Center

CERC offers alternative engineering strategies for ocean disposal. Current research is performed on productive uses of clean dredged materials. It also represents the Corps in the London Dumping Convention.

CONTACT

Department of Defense
Department of the Army
U.S. Army Corps of Engineers (CEWES-EP-D)
Waterways Experiment Station
3909 Halls Ferry Road
Vicksburg, MI 39180 601-634-3624

Department of Defense
U.S. Department of the Navy
Office of Naval Research (ONR)

KEYWORDS Monitoring/Research
Education

OVERVIEW ONR, established in 1946 by Public Law No. 588, was the first U.S. government agency created to fund basic research. ONR's mission is "to plan, foster and encourage scientific research (in ocean sciences). ONR looks toward the future in assessing the Navy's ability to meet its mission, in recognition of its paramount importance as related to the maintenance of future naval power, and the preservation of national security..." and provides the basic research needed for applicable environmental protection techniques.

ONR supports the scientific community by funding basic science research deemed to be of Navy interest. Areas of involvement for the ocean component include:

- marine meteorology;
- marine geophysics and geology;
- oceanic chemistry, biology, optics and acoustics;
- physical oceanography, arctic sciences;
- marine engineering;
- remote sensing;
- coastal sciences; and
- meso/large small scale research facilities necessary for conducting research.

COORD Most times, ONR will award grants independently. On occasion, interagency coordination is performed through group funding for a project of common interest. Interagency interaction most often occurs at the grass-roots level. ONR participates in interagency panel reviews and invites others to do the same. Principle interaction is with NASA* and NSF*, but there is also minor involvement with NOAA*, USGS*, and the U.S. Army Corps of Engineers*.

International contacts are numerous, but are actually a small part of ONR's activities. A foreign group must provide a unique aspect to the Navy program in order to receive ONR support. Foreign groups currently receiving ONR funding are from Norway, Great Britain, Germany, Spain, India, and Japan, among others.

PROGRAMS There are 30 major accelerated research efforts in ocean sciences, including:

1. mixed layer marine light, which seeks to understand aspects of biological/physical coupling important in bioluminescence, optical properties and ecological dynamics;

2. ocean subduction, which studies thermocline formation and advection;

3. marine stratocumulus cloud formation and dissipation; and

4. ocean bottom and subbottom acoustic reverberation.

ONR recently received authorization to conduct limited, focused projects involved in global change topics. Several of the projects listed above are included in this new direction.

ONR is closely linked to the research community to assess the state of the art and to encourage proposals in various areas. Projects are accepted according to scientific merit, programmatic needs, Navy interests, and costs.

Success is measured through published material in peer reviewed journals and technical publications, the involvement of new students and post-doctoral investigators in the field, and greater understanding of the issue at hand.

CONTACT

Department of Defense
Department of the Navy
Ocean Sciences
Code 112
Office of Naval Research
Arlington, VA 22217-5000 703-696-4398

Department of Energy (DOE)

KEYWORDS Monitoring/Research
Coordination

OVERVIEW DOE plans and manages federal energy programs. Since 1977, under the Department of Energy's Organizational Act, one of DOE's objectives is to carry out these programs in compliance with national environmental goals and policies. The Act provided for the incorporation of national environmental protection goals in formulation of energy programs and to advance the goals of restoring, protecting, and enhancing environmental quality in the pursuit of energy development. In addition, DOE is responsible for following legislation which mandates that DOE perform research on the environmental effects of energy development. The Atomic Energy Act of 1954 and the Federal Non-Nuclear Energy Research and Development Act of 1974 also provide authoritative legislation.

PROGRAMS DOE's marine conservation interests are peripheral in comparison to more energy related concerns.

Although not conservation oriented, another division program monitors the ocean content of PCO2 in relation to climate change.

DOE's program on subseabed disposal no longer exists.

DOE ocean research is also performed at the energy development level, but it does not focus on environmental concerns. The Wind, Hydrological and Oceans Technology Division examines the concept of ocean thermal energy and its future as an electrical source.

CONTACT Department of Energy
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Washington, DC 20585 202-586-6210

Department of Energy
Office of Energy Research
Office of Health and Environmental Research

KEYWORDS Monitoring/Research

OVERVIEW Ocean research is supported by the Atmospheric and Climate Research Division (ACRD) to assist in 1) predicting future climate change resulting from energy use and 2) predicting future atmospheric concentration of carbon dioxide. These objectives support the primary goal to develop the knowledge needed to factor climate change into energy policies and strategies. DOE sponsored ocean research is part of the agency's contribution to the U.S. Global Climate Change Research Program coordinated by the Committee of Earth and Environmental Sciences.

Marine research seeks to provide scientific information on major environmental issues facing development and expansion of most energy technologies and energy policy. These issues include waste disposal, siting/operations, and possible long-term effects on global systems.

COORD DOE coordinates its marine program with other agencies such as NSF* in connection with the Global Oceans Flux Study and NOAA Federal Plan for Ocean Pollution. Program managers from NSF*, NOAA*, ONR* and NASA have participated in panel reviews of regional DOE* studies.

PROGRAMS The Ocean Research Program at ACRD is comprised of three elements:

Ocean Research Program

- a global survey of the spatial and temporal distribution of carbon dioxide in the ocean;
- development of advanced models of the carbon cycle; and
- process studies to improve the predictive capability of ocean circulation models used for climate research.

Together these three elements are aimed at generating sound scientific understanding about oceanic mechanisms that are rate-limiting during climatic changes or which may control climate stability, and oceanic sources and sinks of greenhouse gases, primarily carbon dioxide.

The objective of the first element is to predict the future net exchange of carbon between the ocean atmosphere and to provide an essential component of a larger model of carbon exchanges among the principal carbon reservoirs -- the ocean, atmosphere and terrestrial biosphere. The global survey of ocean carbon chemistry is coordinated with the World Ocean Circulation Experiment (WOCE) to provide a comprehensive data set for the calibration and verification of ocean carbon cycles models. Research on deep convection, surface mixed-layer dynamics, and physical processes controlling gas exchange are being carried out to improve the representation of these processes in ocean models.

Interagency coordination is a strong foundation of the ACRD research program. The global survey of ocean carbon chemistry is a collaborative effort with the National Science Foundation and the National Oceanic and Atmospheric Administration and includes activities in parallel with WOCE and the Joint Global Ocean Flux Study. Research on gas exchange involves collaboration with NASA and NOAA. DOE is an interagency partner with ONR, NSF, and NOAA in the Heard Island Experiment to demonstrate the feasibility of detecting secular changes in upper ocean temperature by monitoring variation in the propagation speeds of low frequency sound in the oceanic sound channel.

Coastal Ocean Margins Program

The Coastal Ocean Margins Program operates out of the Ecological Research Division. With the assistance of regional University and research institutions, the program seeks to identify the impact of both present and future energy development on three major marine coastal systems: the continental shelves in the Northeast, the Southeast, and the Southwest. Program objectives are to determine the movement of water masses and modification of movement patterns by natural factors in order to explain how nutrients, energy-related chemicals, and living and non-living particles will be transported, distributed and deposited. Studies include watermass movements, currents and upwelling dynamics; flux and formation of organic and mineral particles in water column and sediment; and biologic productivity including nutrients and lower level food chains.

Spain, France, and Israel have invited collaboration and exchange with scientists in DOE's Coastal Ocean Margins Program. To determine cross-shelf transport in the Eastern Atlantic Ocean, the Western Mediterranean Sea, and off the coast of Mauritania underlying the Sahara Dust Plume.

CONTACT

Office of Energy Research (ER-74)
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Department of Energy, ER-75
Office of Energy Research
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Department of Energy
Office of International Research and Development Policy

KEYWORDS Monitoring/Research
Policy
Law

OVERVIEW The Office of International Research and Development Policy does not have an extensive marine portfolio, but does act as the DOE representative to the London Dumping Convention (LDC), and represents DOE in other areas of ocean policy and law. DOE is most concerned with the future possibilities of nuclear waste ocean disposal. Although not ready to perceive it as a viable alternative to land-based disposal, DOE seeks to keep the options open within the LDC should on-shore disposal prove not viable for political or technical reasons.

PROGRAMS DOE's Subseabed Disposal Program conducted research into disposal of high-level radioactive waste in stable ocean sediment in conjunction with other country members of the Nuclear Energy Agency (NEA). The program has been recently dropped as a result of funding cutbacks.

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Department of the Interior (DOI)

KEYWORDS
Conservation
Regulatory
Monitoring/Research
Policy
Coordination

OVERVIEW

DOI is the federal agency mandated to protect wildlands and manage terrestrial resource use.

Divisions within DOI with jurisdiction over coastal or marine resources include MMS*, NPS*, and FWS*.

In addition, DOI personnel work in regional or local offices throughout the country. For instance, FWS has programmatic activities which are administered through specific offices in Washington, but also has independent programs which are managed by the Southeast, Southwest, Northeast, or Northwest Regional Office Directors. A similar situation exists for the Minerals Management Service. NPS, in addition to its national programs administered by the Washington Headquarters, also has independent research and monitoring programs in each of its national parks and Park Service Offices located in the major cities of the United States. Field and regional office personnel thus have some autonomy, and may be undertaking marine or coastal programs not described in this document.

CONTACT

Department of the Interior
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Department of the Interior
Minerals Management Service (MMS)

KEYWORDS Monitoring/Research
Regulatory

OVERVIEW MMS is a regulatory agency dealing with mining activities of all types, including exploration and recovery of terrestrial ores, oil and gas fields, and outer continental shelf oil and gas deposits.

MMS is programmatically divided into two major offices: Offshore Minerals Management and Royalty Management.

The Offshore Minerals Management Office oversees all minerals mining activities, including oil and gas, sand and gravel, sulfur, etc. on the Outer Continental Shelf. The Royalty Management Office handles oil and gas, coal, and other mineral receipts from leasing operations on all federal lands, onshore and offshore.

The Offshore Minerals Management Office is divided up into several divisions and offices. At its headquarters, these units overview environmental, geologic, petroleum and mining engineering sciences, leasing activities, and inspections of industry operations. In addition, MMS has regional offices for Outer Continental Shelf regions in Alaska, Atlantic, Gulf of Mexico, and Pacific.

PROGRAMS

Environmental Studies Program

This program began in 1973 to support DOI's offshore oil and gas leasing program. The Environmental Assessment Division is the primary office dealing with marine environmental protection issues. Under the Outer Continental Lands Act and through the development of regulatory mechanisms, the program seeks to minimize the effects on marine life from offshore drilling and mining activities. The Division works to protect marine mammals, endangered species, fisheries, marine sanctuaries, coastal zones and any marine element that could possibly be affected by oil, gas and mineral deposits.

In its studies of the Outer Continental Shelf, MMS studies circulation patterns and the mechanisms creating those patterns. An understanding of the general dynamics allows for the support of diagnostic and predictive modeling efforts.

MMS also performs biological research to describe the distribution and interactions of benthic and pelagic communities and populations. The studies describe the biological aspects of fisheries, birds, turtles and non-endangered species, as well as the dynamics of population changes. Monitoring is long-term and reflects population and community response to changing climatic and marine conditions.

The Headquarters office provides oversight for regional activities nationwide. Through information from the Environmental Studies Program, the MMS prepares Environmental Impact Statements (EIS) and reviews and monitors industry offshore activities.

MMS monitors activities in all U.S. coastal areas. Development activity occurs in the Gulf of Mexico, and Pacific Regions, and exploration continues in the Arctic.

CONTACT

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Minerals Management Service
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Room 4212
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Department of the Interior
Environmental Assessment Division
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Department of the Interior
National Park Service (NPS)

KEYWORDS Regulatory
Monitoring/Research
Conservation
Coordination

OVERVIEW In the National Park Service Organic Act of 1916, Congress created NPS within DOI to promote, regulate, and conserve the use of national parks, monuments, and reservations.

Research of the NPS is primarily directed at providing needed information to support the management and conservation of resources at the individual national park units. Research and studies are undertaken to:

- provide a sound basis for park management policy;
- develop effective strategies to avoid or minimize adverse impacts to park resources;
- determine the causes of resource management problems; and
- increase understanding of park ecosystems.

NPS undertakes three major initiatives, among a host of projects: visibility resources, fire ecology, and coastal barrier dynamics. The Coastal Barrier Dynamics Program is administered by Natural Resource Management* (NRM) in the Wildlife and Vegetation Division; research activities are carried out in the NPS' ten regional field stations.

CONTACT Department of the Interior
National Park Service
1849 C Street, NW
Washington, DC 20240 202-208-4621

Department of the Interior
National Park Service
Natural Resources Management

KEYWORDS Monitoring/Research
Policy

OVERVIEW The Associate Director, Natural Resources (ADNR) is responsible for implementing and coordinating research in the biological, physical, and social sciences relating to understanding, assessment and management of the natural resources of the national parks, and the development of national policy. The ADNR directly administers a national research program on issues of Servicewide concern regarding air, water, and biological resources, and a program to develop geographic information systems. Additional research on issues of primarily regional or local concern is coordinated and implemented through regional offices and individual parks. These national, regional and local programs together involve substantial research that includes marine ecosystems, shorelines, and coastal ecological communities influenced by oceanic processes.

PROGRAMS

Wildlife and Vegetation Division

The Wildlife and Vegetation Division coordinates the National Park Service research relating to national biological and ecological resources issues, and to the formulation of NPS policies for the conservation, management, and restoration of ecosystems, ecological communities, and plant and animal populations in units of the National Park System. Important program components include global change, biological diversity, integrated pest management, and threatened and endangered species.

The Division is responsible for developing a framework to obtain baseline data for assessing the status of park biological resources and detecting ecological and biological changes.

The Division also coordinates NPS participation in the interagency U.S. Man and Biosphere Program, with emphasis on cooperative research and demonstration projects involving NPS units of the International Network of Biosphere Reserves. Nine of the 46 U.S. biosphere reserves contain one or more NPS coastal marine units.

The Division coordinates NPS participation in the U.S. Global Change Research Program. Research to be initiated in FY91 in coastal and marine ecosystems emphasizes experimental studies on potentially sensitive species of coral and research on the potential effects of sea level rise and changes in the frequency and intensity of coastal storms on the dynamics of coastal barriers. These initiatives are coordinated with FWS, U.S. Geological Survey, NOAA, U.S. Army Corps of Engineers, and cooperating universities.

In cooperation with the NMFS, the Division coordinates NPS participation in a national program for monitoring types and amounts of marine debris on ocean beaches. Eight national parks units on the Atlantic, Gulf, and Pacific coasts are participating.

Geographic Information Systems Division

The GIS Division provides technical support for developing, testing, and implementing remote sensing and GIS technologies, and coordinating the the management of spatially referenced resource data. The Division is providing technical assistance on remote sensing techniques in data analysis for detecting and modeling change in several coastal barrier parks.

The national programs supplement field observation and research coordinated through regional offices and individual parks to collect baseline resource data on park resources and conduct research to address regional or local management issues. These programs include numerous projects involving coastal and marine ecosystems. Major projects include:

- a long-term integrated ecological monitoring program for terrestrial and marine ecosystems at Channel Islands National Park;
- cooperative research on the effects of channel dredging (Cumberland Island National Seashore), beach nourishment (Gulf Islands National Seashore), and structural shoreline modification (Cape Hatteras National Seashore) on coastal barriers;
- dynamics of coral reef and sea grass ecosystems (Virgin Islands National Park and Florida Keys);
- management and restoration of sea turtle populations (Padre Island National Seashore and areas in Mexico); and
- population dynamics and prey interaction of the endangered humpback whale (Glacier Bay National Park).

CONTACT

Department of the Interior
National Park Service (470)
Natural Resources
P.O. Box 37127
Washington, DC 20013-7127 202-208-5193

National Park Service
Wildlife and Vegetation Division
800 N. Capitol Street, NW
Suite 500
Washington, DC 20002 202-343-8100

Department of the Interior
National Park Service
Office of International Affairs (OIA)

KEYWORDS Coordination
Development

OVERVIEW OIA, in existence since 1960, coordinates all NPS international efforts and effectively transcends the boundaries of other Park Service areas and activities. OIA is instrumental in planning and designing national parks in other countries, coordinates training for the scientific and management staffs, and implements several U.S. treaties and statutory commitments for international conservation assistance.

COORD OIA coordinates its efforts with the U.S. State Department Information Agency, AID, private conservation foundations, state programs, and interested universities. OIA works with the EPA's Office of International Activities* in support of its project under the former US-USSR Environmental Agreement.

OIA goals include expanded coordination with U.S. neighboring countries on shared resources and migratory species, for more effective management of the U.S. natural and cultural heritage. NPS also wants to continue to respond to foreign requests for assistance in developing World Heritage resources, in keeping with the purposes of UNESCO's World Heritage Convention and foreign and domestic parks and reserves. NPS goals are consistent with and directly supportive of those of the World Heritage Convention.

PROGRAMS Although there is no separate marine program within the NPS, the international office operates several marine related activities. OIA recently helped initiate a marine park in Madhurai, India on the Gulf of Manar. OIA is also partner to a joint project under the former US-USSR Cooperative Agreement in the Field of Environmental Protection (Area V, "Protection of Nature and the Organization of Preserves") on Beringia and the proposal for an international park in the Bering Land Bridge region. Under the Cartegena Convention, OIA is participating in developing a Protocol on Specially Protected Areas and Wildlife in the wider Caribbean. Most international projects are funded by the participant country, with AID and multilateral (governmental and non-governmental) sources playing an increasing role.

NPS is involved in resource management and protection and visitor services in respect to their own management areas, and its parks house research centers in which ecosystem monitoring is performed.

CONTACT

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Department of the Interior
Fish and Wildlife Service (FWS)

KEYWORDS Regulatory
Monitoring/Research
Conservation

OVERVIEW The Marine Mammal Protection Act (MMPA) of 1972 gave DOI responsibility for marine mammals (manatees, polar bears, walruses, sea and marine otters, and dugongs). Within DOI, FWS is responsible for managing these marine mammals and for enforcing the moratorium on taking and importing marine mammals and marine mammal parts. FWS has general responsibility for perpetuating and providing public use and enjoyment of fish and wildlife of the United States.

FWS operates in the entire coastal zone, the contiguous lands, and the waters that flow into the zone. Through the Assistant Secretary for Fish and Wildlife and Parks, the Service acts as principal environmental protection advisor in reviewing various departmental policy and option documents for energy development programs including those in the coastal zone.

FWS issues permits, conducts research programs, enforces provisions of the MMPA, publishes rules and regulations to manage marine mammals, cooperates with the states, and participates in international activities and agreements. In addition, FWS lists and delists species as endangered or threatened and undertakes other Endangered Species Act-related responsibilities and maintains a close working relationship with the Marine Mammal Commission and its Committee of Scientific Advisors.

PROGRAMS FWS conducts major studies in wetland loss and biological diversity on preserves. FWS studies and documents the rate and location of loss of coastal wetlands in Louisiana, especially the Mississippi Delta. Although this loss has been the result of many factors, the Environmental Protection Agency has used these loss rates to project nationwide losses. FWS is now looking at changes in the rate of loss and attempting to quantify the contributions to the loss rate from various courses (channelization and subsequent erosional subsidence from oil and gas production; loss of sediments from construction of levees; sea level rise).

In its assessment of biological diversity on preserves, FWS has developed protocols and methodologies which use species richness and biological diversity to identify and map habitat for protection and management of wildlife, including endangered species.

CONTACT

Department of the Interior
U.S. Fish and Wildlife Service
1849 C Street, NW
Washington, DC 20240 202-208-4717

Department of the Interior
Fish and Wildlife Service
Office of International Affairs (OIA)

KEYWORDS Monitoring/Research
Coordination

OVERVIEW Most FWS offices operate species-specific programs, so to evaluate distinctive marine programs would be difficult because there is no centralized marine mammal program office. OIA is, however, organized on a country-specific basis and therefore crosses over several marine mammal issues within one office.

PROGRAMS OIA studies the biology and ecological dynamics of virtually all marine mammal species and their habitats. The Soviet/China desk currently operates marine programs under the Marine Mammal Protection Act. These programs focus on:

- protection and management of migratory birds, marine mammals, marine ecosystems, and fish husbandry;
- preservation of biological diversity; and
- management of wetlands.

As well as being mandated by the 1972 Marine Mammal Protection Act, OIA's Soviet/China desk also sponsors its programs under Area V of the 1972 former US-USSR Cooperative Agreement in the Field of Environmental Protection, "Protection of Nature and the Organization of Preserves". Some of these shared activities include monitoring studies of the fauna, flora and natural ecosystems of Sikhote-Alin (former USSR) and Olympic (US) Biosphere Reserves, the conservation of marine mammals and migratory birds, and ichthyology and aquaculture. Conservation priorities for the two countries in the coming decade was addressed in a Conference on Conservation Research and Management Strategies for the 1990's, convened in the United States in June 1990.

Other OIA activities include a new program to monitor the activities of walrus, seals and polar bears. Through the application of transmitter collars, species information will be communicated to both the U.S. and the former Soviet Union via satellite. Species monitoring studies involve surveys, counts and dynamics. OIA seeks in the future the ability to study populations virtually any time of the year to determine their annual cycles and geographical limits.

Documentation of former US-USSR activity has been produced in a section in the *Memorandum of the Twelfth US-USSR Joint Committee Meeting on Cooperation in the Field of Environmental Protection.* Other international contacts include China and India; interagency coordination exists with EPA (FWS/OIA coordinates with EPA's Office of International Activities* in administration of its joint Soviet project), NMFS*, and the State of Alaska Fish and Game Service.

CONTACT

Department of the Interior
Fish and Wildlife Service
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National Coastal Program

FWS is developing a National Coastal Program for intra- and interagency coordination of FWS' coastal and nearshore activities. FWS has trust resource responsibilities for migratory birds, anadromous fish, endangered species, marine mammals, and the Nation's National Wildlife Refuge. In fulfilling its trust resource responsibilities, FWS conducts many coastal activities including fish and wildlife resource management, monitoring, research and public education. Technical assistance, provided to other federal, state, and local agencies and private citizens, facilitates the protection, conservation and management of coastal resources.

CONTACT

Fish and Wildlife Service
Office of International Affairs
Room 860 - ARLSQ
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Department of the Interior
U.S. Geological Survey (USGS)
Office of Energy and Marine Geology

KEYWORDS Monitoring/Research
Assessment

OVERVIEW USGS's Office of Energy and Marine Geology seeks to understand offshore/coastal geology and geological processes in order to characterize the potential energy, mineral resources, and environmental geohazards.

COORD Some offshore activities are in collaboration with the former Soviet Union, Germany, Korea, United Kingdom, Canada, Spain and Italy. Regions of study include the Mid-Atlantic ridge, the Pacific Basin, Polar regions and Lake Baikal. No formal international agreements exist within the coastal program, but technical exchanges between U.S. and foreign scientists occur frequently.

Interagency coordination in both programs is maintained with EPA*, NOAA*, U.S. Army Corps of Engineers*, NSF* and the Navy*. The coastal program, in addition, has direct contact with state geological surveys.

PROGRAMS Authorized by law to map all Federal lands, USGS operates two programs within this office to do so: the Coastal Geology Program and the Program for Offshore Geological Framework.

The Coastal Geology Program concentrates on the geological composition and erosion of nearshore and wetlands regions while the offshore program studies U.S. waters with special attention to the EEZ. Both programs monitor the geology and geologic processes of sediment transport and sediment distribution.

Activities include sonar mapping of the U.S. Exclusive Economic Zone (EEZ), mineral and energy resource characterization, Boston Harbor restoration, mapping of the shelf and slope off San Francisco Bay, and the assessment of geohazards. The offshore program hopes to complete, within the next five years, a reconnaissance-scale survey of the entire EEZ sea floor. The coastal program has recently submitted to Congress a plan for a national coastal geology program which will entail a phased study approach on a regional scale.

The geophysical information obtained for both offshore and coastal regions is documented in digital format on compact disc and used to produce paper geological atlases and maps.

CONTACT

Department of the Interior
U.S. Geological Survey
Office of Energy and Marine Geology
915 National Center
12201 Sunrise Valley Drive
Reston, VA 22092 703-648-6472

Department of State
Bureau of Oceans, International Environmental and Scientific Affairs (OES)

KEYWORDS Policy
Conservation
Law

OVERVIEW The Department of State's mission is to support U.S. foreign policy abroad. OES is assigned to examine policy issues of international environmental importance and formulate policy in the best U.S. interest. Federal technical agencies such as NOAA, EPA, and U.S. Coast Guard support the Bureau with technical input that assists DOS draft U.S. policy. OES is sectioned into several divisions; the Oceans and Fisheries Affairs* and Environment, Health and Natural Resources* divisions deal with marine environmental policy issues.

CONTACT Department of State
Office of Public Affairs
2201 C St., NW
Washington, DC 20520 202-647-6575

Department of State
Bureau of Oceans, International Environmental and Scientific Affairs
Oceans and Fisheries Affairs (OFA)

KEYWORDS Conservation
Policy
Law

OVERVIEW OFA is responsible for achieving the statutory obligations of the Department of State over a range of fisheries issues. OFA activities include:

- negotiations with Japan, the former USSR, and Canada concerning Pacific Salmon and is the Department lead in negotiating and implementing agreements with Japan, Korea, and Taiwan regarding high seas driftnet fisheries.

- in response to recently passed legislation, efforts aimed at ensuring the conservation of threatened and endangered sea turtles.

- being the Department's focus for developing a workable fisheries relationship with Canada on the Atlantic coast, in the context of the Free Trade Agreement. This effort is complicated by the different approaches to management of fish stocks which the U.S. and Canada have chosen, by declining stocks of fish, and by fisheries law enforcement problems.

- negotiating access arrangements for U.S. fishermen in other nations' waters.

- negotiating and implementing the South Pacific Tuna Treaty, which involves 16 island nations.

- administering a key provision of the Fishermen's Protective Act, which indemnifies U.S. fishermen from enforcement actions by other states due to claims of jurisdiction not recognized by the United States.

- negotiating and implementing of governing international fishery agreements (GIFAs) for fisheries access in the U.S. 200-mile zone. Eight such agreements are now in force. A similar, but reciprocal agreement termed the Comprehensive Fisheries Agreement was negotiated with the former USSR in 1988. In addition to negotiating GIFA's, OFA plays a major role in their implementation through determination of allocations of surplus U.S. fishery resources to foreign states, processing foreign fishing permits and coordination of U.S. actions regarding vessels seizures for violations of U.S. law.

- supporting and participating in the work of six existing international fishery conservation and management commissions, the work of other international bodies such as FAO* and OECD and is as a non-voting member of the eight domestic Regional Fishery Management councils.

OFA is divided into three divisions, focusing on ocean law, marine science, and polar affairs. OFA is designed to ensure coordination of all three components. The divisions formulate U.S. foreign policy, with aid from other federal agencies, and represent U.S. interests in the international arena. Arrangements are both multilateral and bilateral in nature and effect both transboundary and global interests.

PROGRAMS

Division of Ocean Law and Policy

OLP develops international policy mechanisms to govern the open seas. OLP participates in many international organizations and conventions, including: the Marine Environment Protection Committee, the Legal Committee, MARPOL of the IMO*, and UNEP's Regional Seas Program. OFA represented the Department of State at the 1990 Bergen Conference and the 1990 Economic Summit; OLP will also be present at the 1992 United Nations Conference on the Environment and Development. Bilateral agreements are maintained with the former Soviet Union, Canada, and Mexico among others.

The division's responsibilities derive from problems in the framework of the international organizations in which the U.S. participates. For example, Annex V of MARPOL, which governs the disposal of trash and debris including plastics from ships, is not equipped to deal properly with compliance issues. Other areas of responsibility include freedom of navigation, review of worldwide maritime legislation, marine geographic and boundary issues, shipwrecks, offshore platforms, and ocean mining.

Division of Marine Science

This Division develops policy regarding the promotion of marine science. The division focuses on international organizations such as Intergovernmental Oceanic Commission of UNESCO, International Council on Exploration of the Seas, UN Law of the Sea, UNEP Regional Seas Program*, and virtually all other organizations with an international marine science component.

Division of Polar Affairs

This Division focuses on the arctic and antarctic regions as well as the conservation of whales and other marine mammals through such organizations as the Antarctic Treaty, Seal Convention, Commission on Conservation for Antarctic Marine Living Resources, and the pending Antarctic Minerals Convention.

CONTACT

Department of State
Office of Oceans and Fisheries Affairs
2201 C Street, NW
Washington, DC 20520 202-647-2335

Department of State
Bureau of Oceans, International Environmental and Scientific Affairs
Environment, Health and Natural Resources

KEYWORDS Policy
Coordination

OVERVIEW This Division is responsible for developing and implementing U.S. foreign policy on environmental issues and coordinating U.S. participation in international environmental organizations.

The Office of Environmental Protection, within this division, deals with air and sea pollution, bilateral environment agreements especially involving Canada and Mexico, and with hazardous substances and wastes. Its responsibilities on marine issues include the support for UNEP* programs, particularly regional seas programs affecting U.S. territory. The office is especially active in the Caribbean (Caribbean Action Plan and Cartagena Convention) and the South Pacific (South Pacific Regional Environment Program and SPREP Convention, signed but not yet ratified by the U.S.). The Office of Environmental Protection also handles the London Dumping Convention.

CONTACT Department of State
Office of Environmental Protection
OES/ENV Room 4325
2201 C Street, NW
Washington, DC 20520 202-647-9266

Department of Transportation
U.S. Coast Guard
Office of Merchant Marine Safety, Security, and Environmental Protection

KEYWORDS Coordination
Enforcement
Monitoring/Reserach
Regulatory

OVERVIEW The Marine Environmental Protection Division (MEP) is responsible for marine pollution prevention. Division goals include: establishing and maintaining a downward trend in accidents and spills caused by unsafe cargo transfer, handling or stowage practices; and reducing pollution in the offshore marine environment by:

- ensuring that all ocean dumping operations are conducted in approved dump sites at prescribed levels
- reducing the volume of oil released annually in the outer continental shelf region of the U.S. by commercial vessel operations
- reducing the amount of noxious liquid substances discharged annually from U.S. flag vessels
- maintaining pollution levels from offshore lightering at current level of 8 spills per 1000 transfer operations, and
- maintaining a spill rate at a loop no greater than 20 spills per 1000 transfers and spill incidence under .15 BBL spills per 100,000 BBL transferred per year.

PROGRAMS

Prevention, Enforcement and Standards Branch

This branch within MEP is responsible for the MPRSA mandates. The branch seeks to prevent pollution of the marine environment from discharges of oil, hazardous substances, dredged spoils, sewage, and wastes from vessels.

Activities include:

- enforcement monitoring of a 106 mile ocean dumpsite off of New Jersey;

- monitoring the transport of municipal and commercial waste in the U.S. and issuing identification numbers and permits to disposal vessels; and

- surveillance of U.S. Army Corps dredged disposal in the San Francisco Bay.

Liaison activities are primarily with EPA* and NOAA*. On ocean dumping and incineration issues, the branch works closely with EPA's Office of Wetlands, Oceans and Watersheds*. The branch coordinates with NOAA on its Coastal Zone Management Program and NMFS regarding issues of MARPOL's Annex V. The branch also collaborates with EPA's Region V and NOAA's Great Lakes Environmental Research Laboratory in their effort to prevent the increase in zebra mussels in the Great Lakes. The Division also acts as the Coast Guard representative to the London Dumping Convention.

Marine Environmental Coordination Branch

The Marine Environmental Response Division, via its Environmental Coordination Branch, performs liaison activities with many federal and international organizations such as NOAA*, EPA*, IMO*, UNEP*, the Canadian Coast Guard, and many others. Formal arrangements for coordinating program activities are made through a number of agreements. The U.S. Coast Guard has one or more bilateral agreements with the Mexico, Canada and Bermuda on issues of mutual interest.

Environmental Coordination Branch goals are:

- to assess spills and incidents to ensure appropriate response;

- to ensure that responsible parties clean up spills whenever possible;

- to mitigate the effects of spills that do occur;

- to reduce the potential for spills or operation discharges in outside waters from fouling U.S. waters or coastlines; and

- to ensure that foreign and domestic operators of vessels and offshore facilities in U.S. waters are financially able to compensate the U.S. and other parties damaged by spills to the full extent of the law.

The Division seeks to safeguard the nation's ports, waterways, waterfront facilities, vessels, personnel and property from damage, disruption, destruction and injury. The Division also enforces pollution regulations.

CONTACTS

U.S. Coast Guard, G-MEP
Marine Environmental Protection Division
2100 2nd St, SW
Washington, DC 20593 202-267-0518

U.S. Coast Guard
Commandant (G-MEP-1)
Prevention, Enforcement and Standards Branch
2100 2nd St, SW
Washington, DC 20593 202-267-6714

U.S. Coast Guard
Commandant (G-MEP-3)
Environmental Coordination Branch
2100 2nd St, SW
Washington, DC 20593 202-267-0419

U.S. Coast Guard, G-MPS-1
Port Operations Branch
Washington, DC 20593 202-267-0498

Environmental Protection Agency (EPA)

KEYWORDS
Regulatory
Policy
Monitoring/Research
Enforcement
Conservation
Coordination
Education

OVERVIEW

EPA has lead responsibility in the federal government for identifying, evaluating, and controlling environmental pollutants. In broad terms, priority elements of the EPA mission are:

- to reduce public exposure to harmful pollutants;
- to protect sensitive ecosystems; and
- to improve management of environmental regulatory programs.

The purview of EPA water programs includes groundwater, surface water, freshwater, estuarine, coastal, and oceanic pollution. EPA was created in July 1970 by Reorganization Plan Number 3, in response to the need exhibited nationally for a federal agency dedicated to environmental protection. Specific EPA mandates are derived from various laws, including the Federal Water Pollution Control Act; the Federal Insecticide, Fungicide, and Rodenticide Act; the Marine Protection, Research and Sanctuaries Act; Toxic Substances Control Act; Resource Conservation and Recovery Act; and the Comprehensive Environmental Response, Compensation, and Liability Act.

PROGRAMS

EPA headquarters in Washington, DC administers twelve program and policy offices, five of which operate major programs in ocean conservation and management issues. EPA also employs personnel at 10 regional offices and a number of research and development laboratories, many of which directly contribute to these ocean programs.

CONTACT

Environmental Protection Agency
401 M Street SW
Washington, DC 20460 202-260-2090

Environmental Protection Agency
Office of Water
Office of Wetlands, Oceans and Watersheds (OWOW)

KEYWORDS Policy
Regulatory
Conservation

OVERVIEW The U.S. Environmental Protection Agency's Office of Wetlands, Oceans and Watersheds (OWOW) is one of four offices within EPA's Office of Water. It was created in April 1991 to bring together agency programs that manage and protect the aquatic ecosystems of inland and coastal watersheds. OWOW combines EPA Headquarters' responsibilities for addressing nonpoint source pollution; restoring and protecting wetland, river, lake, coastal, and marine environments; and leading surface water monitoring and water quality assessment activities. OWOW assists EPA regional offices in implementing these programs by developing policies and regulations, providing technical support, and serving as an advocate for the programs with Congress and the public at large. OWOW is organized into three divisions and a Director's Office.

The three divisions of OWOW respond to a host of international, legislative, and regulatory directives, including the Clean Water Act, the Marine Protection, Research and Sanctuaries Act, the Shore Protection Act, the Coastal Zone Management Reauthorization Act of 1990, the Marine Plastics Pollution Research and Control Act, the London Dumping Convention, and MARPOL 73/78.

COORD OCPD serves as the coordination point for interagency activities to protect the coastal and marine environment, and it works closely with other federal agencies, including NOAA*, Army Corps of Engineers*, U.S. Coast Guard*, WWS*, and MMS*, that have marine protection and regulatory responsibilities to develop and implement cooperative strategies and programs. OCPD serves as a representative to the London Dumping Convention and MARPOL.

Oceans and Coastal Protection Division (OCPD) OCPD is responsible for:

- Developing regulations and criteria for ocean dumping, including sewage sludge and dredged material;
- Producing criteria for assessing the environmental impact of ocean discharges;

- Supporting international efforts to address ocean dumping under the London Dumping Convention;
- Supporting coastal protection efforts under the National Estuary Program and Near Coastal Waters Program;
- Identifying and assessing the sources and nature of marine debris to develop a national marine debris control strategy;
- Regulating transportation of waste in coastal areas and marine sanitation devices (boat toilets) with the U.S. Coast Guard;
- Developing enforcement guidance and training for marine programs;
- Providing technical and scientific support to local, State, and Federal activities for ocean and coastal protection; and
- Fostering public awareness of coastal and marine resources and problems.

Assessment and Watershed Protection Division (AWPD)

AWPD is responsible for:

- Directing and overseeing nonpoint source control programs;
- Designing and coordinating information systems on water quality;
- Designing and implementing surface water monitoring and assessment programs;
- Compiling data to produce a national water quality inventory;
- Providing technical support for water quality planning, including targeting priority watersheds and establishing Total Maximum Daily Loads (TMDLs); and
- Administering the Clean Lakes Program, which provides technical and financial support for lake restoration projects.

Wetlands Division (WD)

Wetlands Division responsibilities include:

- Developing strategies to assist State and local governments in wetlands protection efforts;
- Conducting public outreach activities and developing information materials on wetlands values, function, and protection;

- Supporting interagency and international wetlands protection activities;
- Acting as liaison to the Office of Research and Development on wetlands research issues;
- Generating regulations, policies, and guidance under Clean Water Act Section 404;
- Managing "elevated" Section 404 cases; and
- Mainstreaming wetlands protection into other EPA programs.

CONTACTS

Environmental Protection Agency
Office of Wetlands, Oceans and Watersheds
401 M Street SW
Washington, DC 20460

Oceans and Coastal Protection Division (WH-556F)
202-260-1952

Assessment and Watershed Protection Division (WH-553)
202-260-7040

Wetlands Division (A-104-F)
202-260-7791

Environmental Protection Agency
Office of International Activities (OIA)

KEYWORDS Policy
Coordination

OVERVIEW OIA is responsible for formulating and coordinating EPA's international policy. The office assumes lead responsibility for working with other U.S. agencies and international organizations in developing international environmental policy initiatives and defining U.S. positions. The office also invests limited funds in the evaluation of existing international agreements and other projects aimed at furthering international environmental policy.

EPA's involvement in international marine policy is undertaken through various international organizations, such as IMO*, UNEP*, and other global and regional multi-lateral organizations. In addition, selected programs and assistance are carried out through direct bi-lateral relations.

COORD OIA is involved in the coordination of international marine affairs through the relevant multi-lateral organizations, but also through bi-lateral relations with Canada and Mexico.

OIA, together with EPA's Oceans and Coastal Protection Division (OCPD)*, support U.S. participation in IMO* activities. EPA provides technical and policy advice to the Department of State* on formulating U.S. positions under the LDC. EPA also supports U.S. involvement in numerous other IMO activities, such as the Marine Environment Protection Committee and the Legal Committee. Technical and policy support is often provided to the U.S. Coast Guard* in the development of new maritime conventions that directly impact the health of the marine environment.

PROGRAMS OIA is involved in a wide variety of activities pertaining to marine pollution, particularly those issues discussed under the London Dumping Convention and other bodies of IMO*. OIA supports U.S. involvement in two Regional Seas Programs: the Caribbean and the South Pacific.

Caribbean Regional Seas Program

EPA, under the direction of OIA, is working to establish a comprehensive program for dealing with land-based sources of marine pollution in the region. This includes efforts to draft an LBS protocol under the Cartagena Convention, the development of appropriate water quality standards, various forms of technology transfer, and a variety of programs aimed at improved environmental quality in the Caribbean. This includes support of the Caribbean Environment Program in Pollution (CEPPOL), the Caribbean Environment Program Network for data management (CEPNET), and other related programs.

South Regional Seas Program

EPA, through OIA and the Regional Office of Pacific Islands and Native American Affairs, carries out a variety of environmental programs in the South Pacific. Assistance and grant programs are administered for American Samoa, Guam, the Northern Mariana Islands, and other American Territories as well as assistance to the Federated States of Micronesia, Marshall Islands, and Palau -- all of which retain special status with the United States.

CONTACTS

Environmental Protection Agency
Office of International Activities (A-106)
International Marine Policy
401 M Street, SW
Washington, DC 20460 202-260-6983

Environmental Protection Agency
Office of Air and Radiation (OAR)
Office of Radiation Programs (ORP)

KEYWORDS Monitoring/Research
Coordination

OVERVIEW OAR/ORP's Environmental Studies and Statistics Branch has been in existence since 1974 to manage and conduct monitoring, regulation development and international cooperation in assessment and remediation of contaminated radiation sites including marine disposal sites. The branch seeks to provide ecological assessments and environmental monitoring results for releases of radioactive materials into the marine environment.

PROGRAMS Major programmatic studies include the joint Black Sea study under the US-USSR Cooperative Agreement in the Field of Environmental Protection. Project 02.06-31, Transport, Partitioning, and Effects of Radioactivity Releases in a Marine Ecosystem, operates under Area VI of the Agreement, "Protection of the Marine Environment from Pollution". The project examines the movement and partitioning of radionuclides resulting from the Chernobyl nuclear incident in 1986, as they are carried from the Dnieper and Danube River Systems into the northern Black Sea. ORP is also revising regulations for ocean disposal of radioactive materials. ORP has also issued many technical reports documenting the results of studies at former U.S. deepsea radioactive waste disposal sites in the Atlantic and Pacific Oceans using both manned and unmanned submersibles and conventional survey ships. These research results can be obtained through the Department of Commerce's National Technical Information Service (NTIS).

COORD ORP coordinates with many international agencies such as IAEA*, IMO*, Commission of the European Communities, and the Ukranian Academy of Sciences Institute of Biology of Southern Seas (IBSS). Interagency cooperation is highlighted with NOAA*'s National Status and Trends (NS&T) program, the DOE*, and MMS*.

Although the program is involved in some revisions of regulations, it does not participate in any enforcement activities. ORP participates in several environmental monitoring programs which are described in published study reports.

ORP operates under the Marine Protection, Research and Sanctuaries Act, and Section 424 of the Surface Transportation and Assistance Act.

CONTACT

Environmental Protection Agency
Environmental Studies and Statistics Branch
Office of Radiation Programs (ANR-461)
401 M Street, SW
Washington, DC 20460 202-475-9630

Environmental Protection Agency
Office of Solid Waste and Emergency Response (OSWER)
Office of Emergency and Remedial Response (OERR)

KEYWORDS Enforcement

OVERVIEW OERR's Oil Spills Program was implemented under the Clean Water Act, Section 311, to implement a spill and response agenda. The program, responsible for devising action plans for oil and hazardous waste clean-up, operates in the CWA's jurisdictional waters (inland waters).

COORD Program representatives will participate in the Oil Spill Conference, the Hazardous Substance Spills Conference and in IMO related conferences. In addition, the program is partner to a joint contingency plan with Mexico and Canada.

Via the National Response Team, interagency cooperation is coordinated with NOAA, DOI, and the U.S. Coast Guard.

PROGRAMS The program monitors up to 1,000 cleanup inspections a year. The program also seeks to update oil dispersion regulations and update preventive regulations for above-ground storage tanks. Present data collected is found in program spill reports.

Problems focus on EPA's inability to delegate the program to the states due to Clean Water Act legislation. If allowed to do so, much pressure could be alleviated from Superfund.

CONTACT Environmental Protection Agency
Superfund (OS-210)
401 M Street, SW
Washington, DC 20460 202-382-4130

Environmental Protection Agency
Office of Research and Development (ORD)

KEYWORDS Assessment
Monitoring/Research

OVERVIEW ORD's mission is to promote research and technical support for issues of national and international importance. ORD studies a wide range of topics and operates in many EPA field offices and laboratories nationwide. In relation to marine issues, the office can be divided into five major programs.

PROGRAMS

Office of Research and Development, Marine Methods

This program, developed under the 1987 NEP, seeks to evaluate and validate chemical methods and quality control materials for use in a salt water matrix. The program has been involved in validating methods for use in EPA's National Estuary Program andEnvironmental Monitoring Assessment Program. In-house validation studies of quality control materials will be utilized to develop performance standards and to update the validated analytical methods. These analytical methods are required for monitoring activities performed by other agency programs. Current plans exist to expand program activities and provide methods for toxic organic compounds and metals.

Interagency coordination lies mostly at the state level and the National Oceanic and Atmospheric Administration. There is no current international facet of this program.

Contact

Environmental Protection Agency
Inorganic Chemistry Branch
Environmental Monitoring Systems Laboratory - C
26 West Martin Luther King Drive
Cincinnati, Ohio 45268 513-569-7301

Ocean Disposal Program

Based out of EPA's Environmental Research Laboratory in Narragansett, this program has been in existence since 1984. Designed under the Marine Protection, Research and Sanctuaries Act (Section 103) and the Clean Water Act (Sections 301h and 403), the Ocean Disposal program seeks to support the Office of Water in providing scientific environmental criteria on waste disposal and environmental analysis on impact assessment methods. Areas of involvement include:

- risk assessment methods for ocean dumping;
- ocean outfall assessment methodologies;

- ocean outfall technical assistance; and
- assessment methods for dredged materials, bioaccumulation of contaminants, and disposal of hazardous drilling fluids.

Data is collected and analyzed in terms of effects and residue and documented through quarterly and final reports as well as peer review publications.

The program will develop predictive methodologies for assessing ecological impacts of ocean disposal and, in upcoming years, will provide an updated ecological risk assessment.

The Ocean Disposal Program coordinates with the U.S. Army Corps of Engineers, NOAA and FWS. Monitoring activities are implemented through EPA/EMAP. International cooperation does not currently exist, but program representatives participate in international symposia on related issues.

Contact

Environmental Protection Agency
Exposure Branch
ERL-N
27 Tarzwell Drive
Narragansett, RI 02882-1154 401-782-3000

National Estuary Program (NEP)

The NEP was established under the 1987 amendments to the Clean Water Act. The program's goals are protection and improvement of water quality, and enhancement of living resources. NEP shows how estuaries (and other ecosystems) can be protected through comprehensive management that:

- identifies probable causes of environmental problems in estuaries of national significance;
- promotes state and local coordination to solving the problems;
- advocates public participation;
- focuses existing regulatory measures to act on identified problems; and
- encourages innovative management approaches.

The types of environmental problems the program faces include habitat degradation, contamination of sediments by toxic materials, nutrient over-enrichment, and hypoxia. The NEP currently administers 17 estuary programs, nationwide.

The NEP is managed by EPA's Office of Water at headquarters. Technical and research support from ORD is based out of Narragansett. This program offers technical assistance to the NEP by devising water use designations, establishing criteria for marine and sediment technology transfer, providing technical and research support for remediation and making assessments for Superfund sites.

Areas of involvement are near coastal waters and estuarine resiliency/recovery as they relate to biomarker assessment methods, wasteload allocation, and biomonitoring processes. The program will undertake the review of present technical evaluation methods and aims to continue in its technical support of the National Estuary Program.

Interagency cooperation is largely with NOAA's NMFS.

Contact

Environmental Protection Agency
Ecosystem Branch
ERL-N
27 Tarzwell Drive
Narragansett, RI 02882-1154 401-782-3000

Oil Spills (Energy Related) Program

This program, designed in 1986 and part of the Hazardous Waste Biosystems Technology Development Program, is matrix managed. The present program manager, rotational among EPA laboratories every two years, acts as the representative to the U.S. Scientific Steering Committee.

The program seeks to assist and promote biodegradation of hazardous waste and is involved with bioremediation and drilling fluids. Activities include revealing proposition site programs to other EPA regional offices; providing regional assistance in accordance with the lab's expertise; and promoting the development of bioremediation treatment technology for hazardous waste. The program ultimately endeavors to replace costly ineffective technologies with techniques such as transforming and mineralizing hazardous waste to innocuous forms.

EPA labs included in the program are Research Triangle Park's Health and Effects Research Laboratory; Environmental Research Laboratories at Gulf Breeze, FL; Ada, OK; Cincinnati, OH; and Athens, GA. Each lab performs monitoring activities in correlation with individual case studies. These labs are responsible for informing state agencies of current program policy and monitoring activities.

The program is currently focused on the Alaska Bioremediation Project. Initiated in response to the 1989 Exxon Valdez oil spill, EPA sought to demonstrate the feasibility of augmenting, in an environmentally safe manner, shoreline cleanup through the acceleration of natural microbial oil degradation processes by the application of nitrogen and phosphorus. Concurrently, a monitoring program was instituted to check for any possible adverse environmental effects from nutrient addition. Based on these tests, bioremediation would be a possible candidate for further cleanup efforts in Prince William Sound and future oil spills.

This program faces high public expectancy for results. Education efforts need to alert the public that biodegradation is a new technology and no cure-all presently exists. Scientists are limited to contained usage and must still implement current technology case by case.

Another problem is that the engineering facet of bioremediation is far more sophisticated and well-funded than biodegradation. This program has difficulties in keeping up with engineering-related technology because of a lack of funds.

CONTACT

Environmental Protection Agency
Microbial Ecology and Biotechnology Branch
1 Sabine Island Drive
Gulf Breeze, FL 32561-5299 904-934-9378

Environmental Protection Agency
Chemistry Research Division
26 W. Martin Luther King Dr.
Cincinnati, OH 45268 516-569-7586

Environmental Protection Agency
Office of Research and Development
Office of Modeling, Monitoring Systems and Quality Assurance

KEYWORDS Monitoring/Research

OVERVIEW The Environmental Monitoring and Assessment Program (EMAP) was initiated in Summer 1990 in order to provide the Administration, Congress, and the public with annual statistical data summaries and periodic interpretive reports on ecological status and trends. EMAP monitors ecosystem exposure to pollutants and habitat loss and alteration that might account for poor ecosystem conditions. In addition, the program seeks to establish statistical associations among ecological conditions and stress indicators in order to identify factors most deserving of diagnostic research. Because EMAP is concerned with effects of multiple stressors, some of which may as yet be unidentified, the program focuses on biological structure and ecosystem function indicators to assess condition.

Relevant marine-related areas include wetlands, estuaries and near coastal waters and the Great Lakes. (Other areas include inland surface waters, forests, agro/ecology and arid lands.) Ultimately, EMAP seeks to respond to the question of whether these ecosystems are improving.

EMAP presently operates out of Headquarters and several EPA laboratories of which Narragansett, Las Vegas and Corvallis are most prominent. The Near Coastal Program is managed in Narragansett. The Gulf Breeze lab will take the lead for activities in the Gulf of Mexico.

EMAP has produced a schedule of program monitoring activity to be fully implemented by 1995. The Virginian Province was the first biogeographic region to be implemented. By 1995, the program seeks to monitor virtually every area nation-wide with programs implemented in the Louisianian Province, Carolinian Province, Acadian Province and the Pacific Coast.

EMAP is designed to look at ecosystem health on a regional scale rather than smaller systems like New York Harbor or Galveston Bay. Within each region, scientific measurements are made every year at randomly selected stations. All sampling is conducted during the summer months. Statistical data is published in yearly reports. Trend statements are produced every 3-4 years.

Frequent workshops are held in order to determine the current state of science. International symposia have been held on the development of ecological indicators. EMAP coordinates and is planning joint programs with the U.S. Geological Survey, National Oceanic and Atmospheric Administration and U.S. Department of Agriculture as its interests relate to components within each ecosystem.

CONTACT

Environmental Protection Agency
EMAP Headquarter Operations
ORD/OMMSQA (RD-680)
401 M Street, SW
Washington, DC 20460 202-260-7238

Environmental Protection Agency
Near Coastal Program
ERL-N
27 Tarzwell Drive
Narragansett, RI 02882-1154 401-782-3000

National Aeronautics and Space Administration (NASA)

KEYWORDS Monitoring/Research
Coordination

OVERVIEW NASA was established by the National Aeronautics and Space Administration Act of 1958 (P.L. 85-568). Since the mid-1970's, NASA has supported remote sensing technology in the study of oceans. Research involves the development of these techniques as well as methods for data analysis. Interagency coordination exists with NSF*, ONR* and NOAA*, and projects are initiated through proposals made by the scientific community.

NASA goals are to promote use of remote sensing information for basic research of physiological and biological ocean processes and the ocean's role in climate.

NASA is reorganizing its science program in the Division of Earth Sciences. Ocean related activities are focused on ocean circulation and air-sea interaction, ocean productivity and color, and polar research. These programs seek to advance technology in remote sensing as it relates to determining the ocean's relation to climate change.

PROGRAMS The program for Physical Oceanography and Air-Sea Interaction focuses on ocean circulation and air-sea fluxes by using analysis of satellite data and numerical modeling.

Physical Oceanography and Air-Sea Interaction The Physical Oceanography program is coordinated with foreign programs, World Ocean Circulation Experiment, and Tropical Ocean and Global Atmosphere. The program is also involved in internationally sponsored satellite programs such as the joint U.S.-French TOPEX/Poseidon, the NASA scatarometer on the Japanese ADEOS satellite, and analysis of data from the European ERS1 satellite.

Ocean Productivity and Color This program focuses on determining photosynthetic primary productivity of the oceans through the use of ocean color sensors. The next ocean color mission will be Sea Wide Field Sensors (SEA-WIFS) and is coordinated with the international Joint Global Ocean Flux Study.

Polar Program

This program focuses on the use of microwave sensors and the study of sea ice and air-sea interaction processes in ice covered regions as well as studies of continental ice sheets. The Alaska Synthetic Aperature Radar (SAR) facility acts as a ground station for internationally transmitted satellites. The SAR facility receives SAR data from Japanese, European and Canadian satellites which is shared among the country participants.

CONTACTS

National Aeronautics and Space Administration
Code SE
300 E Street, SW
Washington, DC 20546 202-358-1700

National Science Foundation (NSF)

KEYWORDS Monitoring/Research
Policy
Coordination

OVERVIEW NSF, an independent agency operating under authority of the National Science Foundation Act of 1950 (amended), supports scientific research to maintain and increase the nation's vital ability to advance in scientific and technological areas. NSF does not conduct research, but provides funding for scientists in the private sector, mostly in academic institutions. The objectives, methods, ultimate goals and pace of the research are all determined largely by the scientists proposing the research. Research projects are selected through a rigorous peer review process.

The Division of Polar Programs (DPP) and the Division of Ocean Sciences, two of the four divisions comprising the Geosciences Directorate (GEO), are responsible for supporting research in marine-related areas. Other Directorates in support of marine-related research are the Directorates of Biology Behavioral and Social Sciences (marine biology and social sciences) and Engineering (ocean engineering).

Compared to "mission agencies," NSF does not have a marine pollution effort, because there are no activities which are narrowly focused by internal mandates or policy. Most of the research supported can be categorized as basic research. However, NSF supported research findings contributes significantly as a basis for further investigation supported by the mission agencies.

COORD The Polar Oceans and Climate Systems Program participates in the Global Oceans Flux Study and World Oceans Circulation Experiment as well as bilateral activity with virtually every country interested in antarctic, arctic and polar research. Antarctic joint studies are performed with Germany, Australia, France, Chile and Argentina. DPP participates in an interagency committee chaired by the State Department for antarctic and arctic research. The other agency participants are USGS*, NASA*, NOAA*, and ONR*.

Agency cooperation is coordinated with agencies such as NASA*, DOE*, NOAA*, ONR*, and IOC*.

PROGRAMS

Division of Ocean Sciences

The Division of Ocean Sciences is composed of two sections: the Ocean Sciences Research Section (OSRS) and the Oceanographic Centers and Facilities Sections (OCFS).

OSRS supports research through its four programs in:

1. physical;
2. chemical;
3. geological and geophysical; and
4. biological oceanography

to improve understanding of, and interrelationships between, processes in the ocean.

OCFS supports the development, acquisition, and operation of the instrumentation and facilities needed to carry out these research programs. Within OCFS is the Ocean Drilling Program, which provides for the operation and maintenance of the ocean drilling ship *Joides Resolution*, and research funds.

In addition to the two sections within the Division of Ocean Sciences, major scientific initiatives provide additional new foci to scientific efforts. They may require intragency collaboration or require resources beyond the scope of individual investigators or institutions. The development of large programs involves government actions ranging from program-office decisions in the early planning phase, through agency level planning and budget decisions, to decisions at high political levels.

Most of the initiatives that are presently part of the Long Range Plan for the Division of Ocean Sciences are components of the NSF Global Geosciences Program, part of the national effort to contribute to the International Geosphere/Biosphere Program (IGBP). The six major initiatives are:

1. World Ocean Circulation Experiment (WOCE);
2. Tropical Ocean and Global Atmosphere (TOGA);
3. Global Ocean Flux Study (GOFS);
4. Ridge Interdisciplinary Global Experiments (RIDGE);

5. Global Ocean Ecosystems Dynamic (GLOBEC); and

6. Land Margin Ecosystems Research (LMER).

Division of Polar Programs

DPP administers the Polar Oceans and Climate Systems Program; it supports basic research in the antarctic and arctic regions, including their adjacent seas. The Arctic program coordinates and extends U.S. research under the Arctic Research and Policy Act of 1984 and directs the development, implementation, and coordination of national policies and research plans. NSF leads the Interagency Arctic Research Policy Committee that directs U.S. research efforts in the Arctic. Activities focus on the global impact of Arctic processes and include the effect of sea ice and seasonal snow cover on global radiation, the consequences of atmospheric carbon dioxide stored in Arctic land and waters, the effect of transferring heat from the ocean to the atmosphere, and how the shift in mass between regional glaciers and ice sheets might change global sea levels.

NSF also manages U.S. research activities in Antarctica through DPP. Programs emphasize several disciplines including marine biology, marine geology and geophysics, and physical and chemical oceanography.

CONTACT

National Science Foundation
Polar Oceans and Climate Systems
Division of Polar Programs
1800 G St, NW
Room 620
Washington, D.C. 20550 202-357-7894

National Science Foundation
Division of Ocean Sciences
1800 G St, NW
Room 609
Washington, DC 20550 202-357-9639

Ocean Principals Group

KEYWORDS Coordination
Policy

OVERVIEW The Ocean Principals Group, established in 1979, seeks to provide an informal forum to discuss current and emerging policy issues with multiple agency jurisdiction.

Several agencies within the Executive Branch of the Federal Government have significant responsibilities in the development and implementation of national ocean-related policies and programs. These interests include, but are not limited to:

- marine transportation;
- offshore mineral extraction;
- deep seabed mineral development;
- maritime safety;
- maritime law enforcement;
- fisheries management;
- environmental protection;
- national defense;
- Law of the Sea and other foreign policies;
- applied research and development; and
- overall basic scientific pursuits.

The Ocean Principals Group meets quarterly to discuss and exchange views on current marine issues. The regular members consist of the senior decision-making officials accountable for ocean-related programs from the following departments, agencies of Executive components:

- National Security Council
- Office of Science and Technology Policy
- National Science Foundation
- Chief of Naval Operations
- U.S. Navy General Counsel's Office (Law of the Sea)
- U.S. Navy Politico Military Policy and Current Plans Office
- Oceanographer of the Navy
- U.S. Army Corps of Engineers
- NOAA
- DOE
- Department of State
- U.S. Coast Guard
- U.S. Maritime Administration
- DOI
- (Office of Water and Science)
- U.S. Geological Survey
- MMS
- EPA
- NASA

By consensus, the group may designate other federal officials to be included as regular members.

CONTACT

U.S. Coast Guard
Commandant (G-CPP)
2100 2nd Street, SW
Washington, DC 20593-0001 202-267-1124

National Security Council
Policy Coordinating Committee
Inter-Agency Coordinating Committee

KEYWORDS Policy
Coordination
Law

OVERVIEW One of three inter-agency coordinating committees, the Policy Coordinating Committee for Law of the Sea and Ocean Policy, established in the early 1970s, is tasked by the National Security Council to review international oceans policy and provide background information for appropriate decision making. Chaired by the Oceans Policy Office at the Department of State*, this formal committee provides a forum for inter-agency coordination of international marine issues.

COORD Participating agencies are:

- Department of State;
- Environmental Protection Agency;
- Department of Commerce;
- National Science Foundation;
- Department of Energy;
- Department of the Interior;
- Office of Management and Budget;
- Department of Transportation;
- Department of Treasury; and
- White House National Security Council

PROGRAMS Any participating U.S. Department or Agency may raise a topic for committee review. The Committee focus includes issues of the Law of the Sea, Regional Seas Program, London Dumping Convention, and international oceans policy. Past considerations have included:

- background information for the implementation of the Exclusive Economic Zone;
- recommendations for the U.S. decision to deny passage of the Law of the Sea; and
- review process for the extension of the territorial sea.

CONTACT Department of State
Oceans Affairs
Oceans Policy Coordinating Committe
OES/OA Room 5801
Washington, DC 20520-7818 202-647-3262

Smithsonian Institution

KEYWORDS Monitoring/Research
Conservation
Education
Coordination

OVERVIEW The Smithsonian Institution was created by act of Congress in 1814 in accordance with the terms of the will of James Smithson of England, who in 1826 bequeathed his property to the United States "to found in Washington, under the name of the Smithsonian Institution, an establishment for an increase and diffusion of knowledge among men." After receiving the property and accepting the trust, Congress incorporated the Institution, whose statutory members are the President, the Vice President, the Chief Justice, and the heads of the executive departments, and vested responsibility for administering the trust in the Smithsonian Board of Regents.

Today, the Institution is a vast organization known for its research, public education programs, cultural events, museums and libraries, and a host of other activities. The Research Department is divided into ten different entities, four of which focus on marine related issues:

- International Center;
- National Zoological Park;
- Smithsonian Environmental Research Center; and
- Smithsonian Tropical Research Institute.

In addition, the Museum of Natural History conducts a significant portion of the Smithsonian's marine research.

International Center In 1983, the increasingly complex global activities of Smithsonian scholars and their collaborators were brought together under the aegis of the International Center.

The Center has five divisions, several of which directly or indirectly deal with marine issues. The divisions seek to support Smithsonian activities abroad and coordinate the Institution's international interests -- particularly those that do not fall within the scope of a single Smithsonian museum or office. The Center provides a meeting place and a channel to bring together the world's scholars, museum professionals, and decision-makers, as well as the general

public. Through the Center, the Institution seeks to encourage a broader understanding of the histories, cultures, and natural environments of regions throughout the world.

The Man and the Biosphere Biological Diversity Program promotes greater understanding of the cultural and biological diversity of developing countries. The program conducts training, both in the field and in museums, and in the areas of conservation biology, natural resource management, the management of species and habitats and research methodologies.

During 1989, a partnership was established among representatives in Bolivia, Peru, Ecuador, and Puerto Rico. An effort is under way to expand the program to ten countries by 1996.

The program has grown considerably, largely because of the support of international organizations such as the Smithsonian-UNESCO Man and Biosphere Program, AID, WWF, the World Heritage Program, and other organizations that have cosponsored its activities during the last three years.

Contact

Smithsonian Institution
1000 Jefferson Drive, SW
Washington, DC 20560 202-357-2700

National Zoological Park

NZP's mission includes:

- conservation of wildlife and living systems;
- research in the life sciences;
- education of the public, staff, and students; and
- recreation for visitors.

The research mission is pivotal to the success of other functions and provides the foundation for all other major programs.

NZP does not operate a formal marine program, but marine mammal research and conservation efforts have been carried out by individuals in the Department of Zoological Research since 1979. Focused in behavioral and physiological ecology, the goals of NZP marine research are to advance the understanding of ecological and social factors which contribute to the evolution of marine mammals and to provide a scientific basis for present and future conservation efforts.

NZP coordinates with FWS and the Department of Fisheries and Oceans, Canada.

Contact

Department of Zoological Research
National Zoological Park
3000 Connecticut Ave, NW
Washington, DC 20008 202-673-4826

Smithsonian Environmental Research Center

Scientists at SERC are on the cutting edge of studies contributing to a better understanding of complex environmental phenomena and problems.

Through regular seminars, center researchers and their counterparts from universities and governmental laboratories keep each other abreast of work and issues in areas of mutual interest. In addition, the center organizes and hosts scientific workshops on a variety of issues.

Currently under way are projects which study the greenhouse effect on tidal marshes, forest and water protection, and the ecology of the Rhode River estuary.

Contact

Smithsonian Environmental Research Center
P.O. Box 28
Edgewater, MD 21037 301-261-4190

Smithsonian Tropical Research Center

Located in Panama, STRI is devoted to promoting basic research in the tropics, training students for such research, and supporting efforts in conservation and public education to ensure the future existence of tropical environments for people to enjoy and for scientists to study. The Institute's scientific staff carries out basic research on the ecology, behavior and evolution of tropical plants and animals. The Institute is also concerned with man's past and continuing activities in the tropics and the way those activities affect biological processes.

STRI is custodian of the Barro Colorado Nature Monument, its centerpiece being the Barro Colorado Island, and operates a host of laboratories and field offices.

STRI scientists also conduct research elsewhere in the tropics and collaborate with colleagues at research institutions throughout the world. The Institute's reference library is one of the most extensive resources in the world on tropical biology and conservation. It is also connected to the Dialog periodical database and to the full bibliographic sources at the Smithsonian Institution libraries in Washington, D.C.

Current studies include the evolutionary consequences of dividing the ocean which looks at how the division of previously homogenous populations of marine organisms affected the evolution of populations involved. STRI also studies environmental effects of major oil spills in the Caribbean coastal waters.

Contact

Smithsonian Tropical Research Institute
APO Miami 34002-0011
Balboa, Panama (507) 62.32.15

Smithsonian Marine Station at Link Port

The Smithsonian Marine Station at Link Port acts as one of the primary marine research facilities for Smithsonian scientists. Under the administration of the National Museum of Natural History, the station facilitates in-house research projects of a diverse nature. The station is funded by a trust fund provided by Seward Johnson Sr. for the purposes of promoting marine science.

Serving the research needs of Smithsonian scientists, the station focuses on studies of biodiversity, systematics, life histories and ecology of marine organisms. In addition, occasional studies are carried out on geological and physical marine processes. The Smithsonian group numbers from 15-20 scientists, who submit proposals annually for use of the research facility and for limited funding.

Examples of projects are:

- ecology of foraminifera;
- systematics of certain gastropod mollusks;
- systematics and life history of smaller phyla;
- biology of oceanic larvae; and
- ecology of marine plants.

Contact

Smithsonian Marine Station at Link Port
5612 Old Dixie Highway
Fort Pierce, FL 34946 407-465-6630

United Nations

UNITED NATIONS AGENCIES

Food and Agriculture Organization (FAO)
Fisheries Department UN - 1
Fishery Policy and Planning Division (FIP) UN - 2
Fishery Resources and Environment Division (FIR) UN - 3

International Atomic Energy Administration (IAEA) UN - 4

International Maritime Organization (IMO) UN - 5

United Nations Educational, Scientific, and Cultural Organization (UNESCO)
Man and Biosphere Program (MAB) UN - 6
Intergovernmental Oceanographic Commission (IOC) UN - 7

United Nations Environment Programme (UNEP) UN - 8

United Nations Law of the Sea and Ocean Affairs UN - 9

World Bank
Environment Department UN - 10

World Meteorological Organization (WMO) UN - 11

Food and Agriculture Organization (FAO)
Fisheries Department

KEYWORDS Coordination
Development

OVERVIEW FAO, established in 1945, provides training and consultation to the world nations on natural resources development. It plays an especially active role in promoting economic and technical cooperation among developing countries.

The Fisheries Department is responsible for implementing FAO objectives stipulated in the preamble of its constitution. Activities include:

- promoting national and international action for the rational management and development of world fisheries;
- assisting member nations to formulate objectives, policies, and programs; and, where needed,
- establishing institutions which will enable them to make optimum use of their living aquatic resources.

The Fisheries Department is organized into three divisions, two of which focus on fisheries and management: Fishery Policy and Planning* and Fishery Resources and Environment*. Programs cover all aspects of the fisheries sector, economic and social as well as biological and technical; all types of fisheries - marine, freshwater and aquaculture; and all stages of operations, including resource surveys and stock assessments, allocation of access, catching, processing, reduction of post-harvest losses, distribution and marketing, and international trade.

PROGRAMS The priorities for fishery programs are designed to achieve FAO's overall objective of responding to external factors and implementing the outcomes of the FAO World Conference on Fisheries Management and Development held in Rome in 1984.

The FAO World Fisheries Conference Strategy has eight main elements:

1. the contribution of fisheries to national economic, social and nutritional goals;

2. improved national self-reliance in fishery management and development;

3. principles and practices for the rational management and optimum use of fishery resources;

4. the special role and needs of small-scale fisheries and rural fishing and fish-farming communities;

5. international trade in fish and fishery products;

6. investment in fishery management;

7. economic and technical cooperation in fishery management and development; and

8. international cooperation in fishery management and development.

The major problem in program execution lies in convincing governments to implement fishery management and provide adequate compensation/protection for inland fisheries resulting from expanded agricultural and forestry practices.

CONTACT

Food and Agriculture Organization
Via delle Terme di Caracalla
00100 Rome, Italy 57.97.1, ext. 66423

Food and Agriculture Organization
Fisheries Department
Fishery Policy and Planning Division (FIP)

KEYWORDS Policy
Development
Research
Coordination

OVERVIEW FIP provides advice and assistance to member governments on policies, plans, and programs for fishery management and development. As a basis for this advice, the Division undertakes studies of the major economic, social, technical and institutional issues involved in fishery management and development. Special attention is given to key issues such as:

- monitoring, control, and surveillance of fisheries;
- training fishery administrators and others in the concepts and methodologies of planning fishery development;
- investment and management; and
- the socio-economic aspects of small-scale fishery development.

Technical backstopping and guidance in economic planning, analysis, and research is provided to field projects. The Division is also responsible for providing secretariat support to, and the development of policies and programs for, FAO regional fishery bodies and for ensuring liaison with international, inter-governmental, and non-governmental organizations concerned with fisheries. In collaboration with the Department of General Affairs and Information, it organizes the sessions of the Committee on Fisheries.

The Division has three components: the Office of the Director (FIPD), the Development Planning Service (FIPP) and the International Institutions and Liaison Service (FIPL). It coordinates the planning and execution of the Programme of Action No.1 (Planning, Management and Development of Fisheries) approved by the 1984 World Fisheries Conference. It is also responsible for coordinating the Fisheries Department's review of progress achieved in implementing the Strategy for Fisheries Management and Development advised by that Conference.

COORD Through FIP, FAO maintains close liaison and collaboration with UNEP*, IOC*, IMO*, and WHO*, as well as some regional economic groups which have shown interest in fishery development programs (EEC, ECOWAS, WAEC, CARICOM). Contacts are also pursued with other international organizations through participation in their meetings as well as regular consultations and general liaison designed to promote joint programming and appropriate division of responsibilities.

PROGRAMS FIP also administers the FAO umbrella for inter-country collaboration in fishery development and management through nine regional fishery bodies. These bodies and their subsidiary committees and working parties not only provide a regular forum for exchanging views and for joint actions regarding fishery management and development, but also have important functions as advisory bodies to the associated network of FAO-executed inter-regional, regional, and sub-regional technical assistance programs. The regional fishery bodies and their associated technical assistance units are thus a vital channel for the delivery of international assistance to the fisheries of the developing world.

CONTACT Food and Agriculture Organization
Fishery Policy and Planning
Via delle Terme di Caracalla
00100 Rome, Italy 57.97.1, ext. 6421

Food and Agriculture Organization
Fisheries Department
Fishery Resources and Environment Division (FIR)

KEYWORDS Development
Education

OVERVIEW FIR provides advice and assistance to member governments on fishery resource and environmental concerns. It promotes the effective appraisal, management, and development of marine and inland living resources as well as for aquaculture; it is also concerned with setting and maintaining appropriate standards for protecting the environment of fish. FIR provides technical backstopping to the field program by assisting in project formulation and evaluation and in direct assistance to project activities. It also supports the technical secretariat for the resources-oriented activities of the FAO regional fishery bodies and collaboration with other UN organizations' fishery resources and environmental matters. In addition, FIR is responsible for developing and disseminating technical and scientific knowledge on fishery resources and environment.

PROGRAMS FIR administers the Marine Resources Service (FIRM) and Inland Water Resources and Aquaculture Service (FIRI).

Marine Resources Service FIRM aims to improve knowledge of the magnitude, distribution and potential harvest of marine fish stocks and the use of this knowledge to optimize exploitation of the world's fishery resources, either by developing fisheries on under-utilized stocks or by better management of heavily fished stocks.

FIRM focuses on the effective dissemination of information and provision of technical advice to the member nations in order to promote better methods of resources identification, evaluation and management. This service is responsible for monitoring the state of the resources on a worldwide basis. Regional reviews are regularly produced. A bi-annual review of the state of the world's fish resources is presented to FAO's Committee on Fisheries and is regularly revised in FAO Fisheries Circular No. 710; Revision 7 is scheduled to be issued in March 1991. Information on distribution of marine resources is available in the Atlas of the Living Resources of the Seas. The latest edition was published in 1982. The Service is also preparing a Geographical Information System for Marine Living Resources, Fisheries and their Environment.

Inland Water Resources and Aquaculture Service

The Inland Water Resources and Aquaculture Service reviews and evaluates the use of inland water resources for fisheries, and promotes: better management; use of improved techniques and systems for the culture of fish and other aquatic organisms in fresh, brackish and marine waters; and sound environmental conservation practices in lakes, rivers, and coastal areas.

FIRI is interested in increasing understanding of environmental and/or ecological changes caused by pollution. In particular, FIRI seeks understanding of pollution effects on aquatic living resources, strengthened national institutions for monitoring and control of aquatic pollution and related research and improved communication and cooperation among such institutions at both regional and global levels.

In carrying out its activities, FIRI arranges formal and informal consultations with experts in relevant fields, writes and/or edits technical papers, training manuals, and reports for publication by FAO or in technical journals.

CONTACT

Food and Agriculture Organization
Fishery Resources and Environment
Via delle Terme di Caracalla
00100 Rome, Italy 57.97.1, ext. 6467

International Atomic Energy Agency (IAEA)

KEYWORDS Development
Coordination
Research

OVERVIEW Though primarily interested in promoting nuclear energy, IAEA also seeks to protect human health, enforce proper waste disposal, and ensure sound environmental management. As more countries become involved in international shipping and their need increases for strategic waste disposal, the IAEA offers technical support for the development of sophisticated environmental management strategies. IAEA also assists in creating better frameworks within which to evaluate options of waste disposal management. With respect to marine issues, IAEA is involved with ocean dumping and radioactive waste contamination.

The Division of Nuclear Fuel Cycle and Waste Management is responsible for marine-related issues. The Division of Research and Laboratories is a Monaco-based technical lab which engages in marine contaminant research for IAEA (as well as UNEP*).

The IAEA Assembly, comprised of member state representatives, is directed by a board of governors which is seated by competitively selected countries.

PROGRAMS Current efforts include the servicing of the IMO's* secretariat London Dumping Convention. Engaged in LDC negotiations since its initiation, IAEA acts as the technical expert body for ocean dumping of radioactive and non-radioactive materials. IAEA seeks to ensure environmental safety from radioactive contamination for both animal and human populations.

The focal issue of debate is whether the LDC should altogether prohibit the ocean dumping of radioactive waste. Many questions have been raised about the differences between radioactive and non-radioactive materials.

In addition, IAEA participates in other UN agency operations, such as UNEP's* GEMS and Regional Seas Programs and through the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), sponsored by various UN agencies.

CONTACT

International Atomic Energy Agency
Division of Nuclear Fuel Cycle and Waste Management
Post Office Box 100
Wagramerstrasse 5
A-1400 Vienna Austria (43)(1) 23.60.26.67

International Maritime Organization (IMO)

KEYWORDS Coordination
Policy
Law

OVERVIEW Created under the United Nations in 1959, IMO provides the machinery for cooperation among governments in the field of governmental regulation in regards to technical matters affecting shipping in international trade. IMO seeks to initiate standards for maritime safety, efficiency of navigation, and prevention and control of maritime pollution from ships.

Cleaner oceans is the goal for the 1990s and the assurance of implementation and compliance with IMO standards. In order to achieve its objectives IMO promotes the adoption of over 600 codes and recommendations concerning maritime safety, the prevention of pollution, and related matters.

The fundamental components of IMO's strategy for the protection of the marine environment are:

- to provide an effective machinery for technical, legal, and scientific cooperation among governments in the field of protection of the marine environment from pollution by ships and related activities and the mitigation of the environmental effects of such pollution and compensation;
- to adopt the highest practicable international standards in matters concerning maritime safety and prevention and control of marine pollution from ships and related activities;
- to encourage the widest possible acceptance and effective implementation of these standards;
- to strengthen the capacity for national and regional action to prevent, control, combat, and mitigate marine pollution and to promote technical cooperation to this end; and
- to cooperate fully with other organizations within the United Nations family and relevant international, regional, and non-governmental organizations (NGOs) to ensure a coordinated approach and avoid duplication of efforts.

IMO also has consultative mechanisms with which to coordinate environmental endeavors with other regional groups and NGOs, e.g., South Pacific Regional Environment Program, Friends of the Earth International, International Union for the Conservation of Nature, and the Oslo, Paris and Helsinki Commissions.

IMO is organized by a General Secretariat and several different committees. There are 132 member states and one associate member in the Assembly, supervised by the council. Two committees and several conventions/protocols will be discussed in further detail.

Marine Environment Committee

MEPC, established by the IMO Assembly in 1973, is the main IMO body dealing with environmental protection. MEPC is concerned with prevention and control of pollution from ships and the adoption of conventions and other regulations to ensure their enforcement. MEPC's chief concern is with the development and implementation of the International Convention for the Prevention of Pollution from Ships (MARPOL). MARPOL, adopted in 1973, deals with pollution by oil, as well as pollution from chemicals and other harmful substances, garbage, and sewage. MARPOL regulates the amount of oil which can be discharged into the sea by ships and bans such discharges completely in certain areas. Other main elements of MARPOL include:

- establishment of shore-based reception facilities for oil and chemical residues, garbage, and sewage;
- strict ship construction and equipment standards which minimize to the extent practical, the release of oil and chemicals in case of an accident;
- mandatory provision for ship inspections and surveys to ensure compliance with international standards;
- rapid "tacit amendment" procedures to take account of changes in technology and international seaborne trade; and
- promotion of technical cooperation.

Technical problems made ratification by many states difficult. The Protocol of 1978 includes modifications and absorbs the parent Convention. Thus, this combined measure is commonly referred to as MARPOL 73/78.

A typical agenda for this expert body would include:

- uniform interpretation of rules and standards;
- prevention of pollution by noxious solid and liquid substances;

- arrangements for combating major incidents of marine pollution;
- identification of the source of discharged oil;
- technical assistance and shipboard and shore-based management for maritime safety and prevention of marine pollution;
- reporting oil spills;
- violation of conventions and penalties imposed; and
- manuals on oil and chemical pollution.

Technical Cooperation Committee

Organized in 1977, the Committee implements technical cooperation projects for which the Organization acts as executing or cooperating agency. This committee was designed to help governments implement the requirements of IMO conventions and other measures. Each year, the Organization arranges seminars and workshops designed to assist the member states in implementation.

Key elements of IMO technical assistance are:

- preparation of national legislation, rules, and regulations;
- technical and legal advisory services and establishment of regional marine pollution advisers;
- training offered at the World Maritime University, IMO International Maritime Academy, and several other centers and regional facilities;
- promotion of regional anti-pollution arrangements in combating marine pollution emergencies and establishment and management of regional combating/training centers and specialized anti-pollution equipment stockpiles; and
- special studies dealing with such matters as evaluation of the level of risk from marine pollution in specific sea areas and the actions necessary to mitigate the effects of marine pollution in such areas, and regional overview studies of the status of marine pollution and its control.

IMO, through this committee, actively participates with UNEP's* Regional Seas Program to offer technical assistance to those states in need. IMO supports special technical assistance projects worldwide and coordinates training workshops so that local specialists can develop contingency planning on their own.

IMO's Global Programme for the Protection of the Marine Environment was launched in January 1990, bringing IMO environmental technical assistance activities under a single entity.

London Dumping Convention

The LDC, formally named the Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matters, entered into force in 1975. IMO was designated for secretariat duties in relation to the Convention. Sixty-five States have ratified or acceded to the Convention as of 1 October 1990. The Convention controls and regulates the disposal at sea of harmful waste and other materials. Certain substances known to be harmful to the ocean are prohibited and regulations exist to prevent the dumping of other materials which may present a risk to the marine environment and human health. In addition, the Convention controls the incinerations of wastes on board ships and sets out criteria for the selection of dumping and incineration sites at sea.

Current activity within the LDC centers around two main issues. The first involves a re-evaluation of incineration at sea as an effective waste disposal option. Phase-out of incineration by 1994 is possible if it can be demonstrated that environmentally preferable land-based alternatives are available worldwide. The second issue involves a review of radioactive waste disposal that is concerning scientific, technical, political, legal, economic and social aspects of the issue. The dumping of radioactive wastes and incineration at sea are likely to remain the focus of attention in the short term.

In the longer term, issues such as export of hazardous wastes, monitoring and surveillance of disposal operations, sub-seabed emplacement of wastes, disposal of offshore platforms and development of a liability regime are likely to require increased attention.

The contracting parties to the Convention have recently begun discussion on the future role of the Convention. These discussions are the result of the possible elimination of certain disposal practices (i.e. incineration at sea and radioactive waste dumping), the development of broad interest regarding the health of the global ocean, and the desire to protect the marine environment from all sources of pollution.

The Convention and its permanent advisory board, the Scientific Group on Dumping, meet every year. Several ad hoc meetings also occur throughout the year. All meetings are attended by many United States officials.

CONTACT

International Maritime Organization
Technical Cooperation Committee
4 Albert Embankment
London SE1 7SR (44) 71 735 7611

International Maritime Organization
Marine Environment Committee
4 Albert Embankment
London SE1 7SR (44) 71 735 7611

International Maritime Organization
Office of London Dumping Convention
4 Albert Embankment
London SE1 7SR (44) 71 735 7611

United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and the Biosphere Program (MAB)

KEYWORDS Research

OVERVIEW MAB grew out of the 1968 International Biosphere Conference. The program was officially launched by UNESCO in 1971 and was strongly endorsed by the 1972 UN conference on the Human Environment.

MAB's outputs include new scientific knowledge, guidelines for sustained land management, quantitative and qualitative improvement in trained manpower, and syntheses of information.

COORD MAB regularly cooperates with international organizations such as UNEP*, FAO*, WHO*, World Meteorological Organization, International Council on the Exploration of the Seas, and International Union for the Conservation of Nature and Natural Resources*.

PROGRAMS There are MAB National Committees in more than one hundred countries. The International Coordinating Council identifies program priorities. MAB's fourteen international themes or project areas cover the spectrum of terrestrial, freshwater, and coastal ecosystems from the tropics to the polar zones. Some themes deal with man's interactions with ecosystems or physiographic units, while others are concerned with processes or impacts of anthropogenic activity on the natural world.

New research orientations adopted by MAB in 1986 include:

- ecosystem functioning under different intensities of human impact;
- management and restoration of human-impacted resources;
- human investment and resources use; and
- human response to environmental stress.

MAB currently oversees some 285 Biosphere Reserves in 72 countries, some of which are coastal.

CONTACT UNESCO
Man and Biosphere Program
7 Rue du Fontenoy
Paris 75015 France (33)(1)45.68.10.00

United Nations Educational, Scientific and Cultural Organization (UNESCO) Intergovernmental Oceanographic Commission (IOC)

KEYWORDS Research
Assessment

OVERVIEW Founded in 1961, IOC's purpose is to promote scientific investigation with the intent of learning more about the nature and resources of the oceans. IOC carries out numerous activities in the field of ocean science (e.g., ocean mapping in the Atlantic and Pacific Oceans (GAPA), the Black and Mediterranean Seas (IBCM), the Caribbean (IBCCA), the Western Indian Ocean (IBCWIO), the Central Eastern Atlantic (IBCEA)), as well as ocean services (e.g. the International Tsunami Warning System (ITSU)).

Strengthening of the regional subsidiary bodies, integrated implementation of global programs, and inter-regional cooperation are continuously important elements of IOC activities. Essential to the realization of those elements is an accelerated implementation and consolidation of the UNESCO-IOC "Comprehensive Plan for a Major Assistance Program to Enhance the Marine Science Capabilities of Developing Countries" to ensure that coastal states will attain sufficient capability in marine research and ocean services.

IOC's subsidiary bodies include:

- Subcommission for the Caribbean and Adjacent Regions (IOCARIBE)*;
- Regional Committee for the Central Indian Ocean (IOCINDIO);
- Regional Committee for the Cooperative Investigations in the North and Central Western Indian Ocean (IOCINCWIO);
- Program Group for the Central Eastern Atlantic (IOCEA);
- Joint IOC-WMO-CPPS Working Group on the Investigations of El Nino;
- Joint CCOP (SOPAC)-IOC Working Group on South Pacific Tectonics and Resources (STAR); and
- Joint CCOP-IOC Working Group on Studies of East Asian Tectonics and Resources (SEATAR).

PROGRAMS

Global Investigation in the Marine Environment

GIPME was established in 1972 in response to Recommendation 90 of the 1972 UN Conference on the Human Environment. GIPME's objective is to provide a scientifically sound basis for the assessment and regulation of marine contamination and pollution. Areas of involvement include:

- coastal area management;
- marine waste disposal;
- non-point source pollution;
- accidental substance release;
- risk assessment;
- recreational uses of ocean space;
- alteration of coastal habitats;
- monitoring;
- protected areas and species; and
- international coordination of marine programs.

A Joint IOC-UNEP Intergovernmental Panel for GIPME was established recently. The first session of the panel is being planned for the second quarter of 1991.

Marine Pollution Monitoring System

MARPOLMON operates in several IOC regions and collaborates with other bodies and networks. Data is collected from the South-East Pacific, Caribbean, West and Central Africa, and the Mediterranean and delivered regularly to regional data banks and to the IOC. These data are used for regional assessments and reviews on the state of the marine environment. The data cover petroleum hydrocarbon contamination and in some cases, trace metals and physical oceanography parameters.

Marine Debris Monitoring

In the Mediterranean, a pilot project on monitoring marine debris (litter) on beaches and in the coastal zone has been carried out as a joint activity between the IOC, FAO*, and MAP/UNEP.

Sub-Commission for the Caribbean and Adjacent Regions

The IOCARIBE Secretariat is in the process of consolidating the GIPME /MARPOLMON-CARIPOL Institutional Network for Marine Pollution Research and Monitoring in the Caribbean. IOC, jointly with UNEP, initiated a major Marine Pollution Assessment and Control Programme for the Wider Caribbean Region (CEPPOL) in early 1990. For further information see IOC Workshop Report No. 59 "IOC-UNEP Regional Workshop to Review Priorities for Marine Pollution Monitoring, Research, Control and Abatement in the Wider Caribbean," (San Jose, Costa Rica, 24-30 August 1989). The IOCARIBE Region has been selected to implement the first training course in remote sensing for adequate training of future users of remotely sensed marine data in connection with the development of a global integrated ocean observing system (University of Simon Bolivar, Caracas, Venezuela, 24028 September 1990).

CONTACT

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United Nations Environment Programme (UNEP)

KEYWORDS Coordination
Development
Policy

OVERVIEW The 1972 UN Conference on the Human Environment adopted the Action Plan for the Human Environment, including the General Principles for Assessment and Control of Marine Pollution. In light of the results of the Conference, the UN General Assembly decided to establish UNEP to serve as a focal point for environmental action and coordination within the UN system. Subsequently, the governing council of UNEP chose oceans as one of the priority areas in which it would focus efforts to fulfill its catalytic and coordinating role.

PROGRAMS The Ocean and Coastal Areas Program focuses on the global marine environment, regional marine environments, and living marine resources. Special attention is given to the control of pollution in regional seas and proper management of their coastal areas within that concentration area.

Global Marine Problems A globally coordinated marine pollution monitoring system is presently being elaborated, as a contribution to GEMS and Earthwatch. In addition, the launching of a project on global monitoring of climate-related changes relevant to the marine and coastal environment is being negotiated with IOC* and WMO*.

Regional Seas Program This program will remain the centerpiece of the oceans program. It is an action-orientated program addressing both the consequences and the causes of environmental degradation. The program encompasses a comprehensive approach to combating environmental problems through marine and coastal areas management based on the needs and concerns of the regional governments. In all regional action plans greater emphasis will be placed on:

- integrated coastal zone management;
- formulation, adoption, and implementation of pollution control measures;
- analysis of problems which may be associated with the expected impact of climatic change on marine and coastal ecosystems and on socio-economic structures and activities;
- direct assistance to governments in defining and implementing policies and measures which may mitigate or eliminate problems caused by

pollution and by the negative impact of climatic change;

- development and testing of procedures for environmental impact assessment;
- training policy-makers, environmental managers, scientists and technicians in subjects relevant to the protection of coastal and marine areas;
- raising public awareness about the environmental problems facing the marine and coastal areas; and
- strengthening linkages between existing action plans through inter-regional activities, exchange of information and transfer of experiences.

Consolidation of the existing action plans for the Eastern Africa and East Asian Seas and adoption of the action plan for the South Asian Seas will be seen as first priority. The possible development of action plans for the South-West Atlantic, the North-West Pacific, and the Black Sea will be further explored.

UNEP is the only UN organization of the four principal groups involved in marine affairs that has an integrated, trans-sectoral approach to regional cooperation. Through its Oceans and Coastal Areas Program, UNEP brings together existing marine resource management. The Regional Seas Program is the primary component of the Oceans and Coastal Areas Program (OCA) and is coordinated under the OCA Program Activity Center.

The Regional Seas Program, launched in 1974, and conceived as a global program implemented through regional components, at present includes ten regional action plans and has over 120 coastal states participating in it.

Each regional action plan is formulated to the needs of the region as perceived by the governments concerned. It is designed to link assessment of the quality of the marine environment and the cases of its deterioration with activities for the management and development of the marine and coastal environment. The action plans promote the parallel development of regional legal agreements and of action-oriented program activities.

All action plans are designed in a similar way, although the specific activities for any region are dependent on the needs and priorities of that region. An action plan usually includes: environmental assessment; environmental management; environmental legislation; institutional arrangements; and financial arrangements.

The Regional Seas Program Action Plans span:

1. Mediterranean;
2. Kuwait;
3. West and Central Africa;
4. Caribbean;
5. East Asian Sea;
6. South-East Pacific;
7. Red Sea and Gulf of Aden;
8. South Pacific;
9. Eastern Africa; and
10. South Asian Seas.

The vastness of the program and the number of organizations participating in various capacities in its implementation requires efficient coordination mechanisms well adapted to the specific needs of each regional component.

Although the program is under general coordination of OCA/PAC, the program's success depends on the work of specialized organizations and centers dealing either with specific regions covered by the program or with specific subjects common to most or all of the regions.

All of the Regional Seas Program instruments install policy-making bodies known as Conferences of Contracting Parties and assign secretariat functions to either outposted UNEP units to already existing local organization. UNEP Regional Coordinating Units operate in the Mediterranean, Caribbean, West/Central African, and Eastern African regions.

Organizations which are or have been involved in the Regional Seas Program are: UNDP, ECE, FAO, UNESCO, IOC*, WHO*, WMO*, IMO*, UNIDO, IAEA*, IUCN*, EEC, ICES.

CONTACT

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Program Activity Center
Oceans and Coastal Areas
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Mediterranean Action Plan

MAP, adopted in 1975, provided the foundation for the Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution. A five-member bureau, elected by MAP's contracting parties meet semi-annually.

The Coordinating Unit is located in Athens and a Regional Oil Combatting Center (ROCC) in Malta provides emergency response assistance for oil spills and other harmful substances and contingency planning aid. The Specially

Protected Areas Regional Activity Center, in Tunis, identifies preservation sites and produces guidelines for these areas.

MAP's priorities have included cooperation on coastal management topics such as land-based pollution control, historic site preservation, and planning for environmentally sound economic growth. Environmental monitoring and data quality assurance programs are established through the coordination of station networks and new marine research laboratories. MAP has recently been involved in the monitoring of atmospheric source pollutants reaching the Mediterranean.

CONTACT

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United Nations Law of the Sea and Ocean Affairs

KEYWORDS Education
Law
Development
Research

OVERVIEW General Assembly resolution 38/227 of December 1983 adopted a major program on marine affairs, which included, within a single chapter, activities on the law of the sea and ocean affairs, consistent with the comprehensive nature of the UN Convention on the Law of the Sea.

Until now, the activities under the program have been directed primarily at the provision on information, advice, and assistance to states in order to facilitate a better understanding by states of the Convention, assisting them in ratifying or acceding to it, and promoting its wider acceptance and rational implementation, as well as ensuring that the application of its provision by states is uniform and consistent with the Convention.

The program has also provided methodological approaches to and formulated guidelines for integrated ocean management, marine policy making, and program development and has assessed the modalities of their application in specific instances at the regional and national levels. Technical studies and training courses covering general issues and broad implication pertaining to sea-use planning, development of the marine areas under national jurisdiction, marine scientific research and the assessment of offshore non-fuel mineral resources were also implemented at the regional level.

The thrust of the program during the period 1992-97 will be to continue to advise and assist states in:

- their acceptance of the Convention;
- applying it uniformly and consistently;
- implementing the Convention rationally;
- focusing national ocean policy and management appropriately; and
- developing their marine capabilities for the purposes of the fuller attainment of their benefits under the Convention.

The program will also respond to the need for support of marine related activities of organizations within the UN system and will cooperate with them in order to ensure that the specialized sectoral activities system-wide are consistent with the Convention regime and to promote a concerted approach by the UN and its organization, agencies and bodies for the full achievement of benefits by state under the Convention.

The program provides a wide range of legal and informational materials and their analysis in order to provide:

- a series of studies offering legal analysis of the materials used in or resulting from the 14-year negotiating process that led to the adoption of the Convention;
- a series of studies covering legal and political aspects of state practice relevant to the Convention;
- charts and geographical coordinates demarcating maritime zones of national jurisdiction and sovereignty following the recording of such information according to established mechanisms; and
- advisory services on a subregional or national basis to assist states in aligning their national legislation incorporating extended areas of maritime jurisdiction in a manner consistent with the new legal regime. Papers can be found in the specialized law and sea library.

CONTACT

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World Bank
Environment Department

KEYWORDS Development
Policy
Research

OVERVIEW The International Bank for Reconstruction and Development (IBRD), or World Bank's main activity since its inception in 1946 is to lend for specific projects, carefully selected and prepared, thoroughly appraised, closely supervised, and systematically evaluated. The concentration of project lending is directed at ensuring that Bank funds are invested in sound, productive projects that contribute to the development of a borrowing country's economy as well as to its capacity to repay the loan. The Bank is both a developmental and financial institution and each project for which it lends must satisfy both features of the institution.

Bank projects and amounts loaned have increased over the years, and the character of projects has changed to become increasingly development oriented. Lending is directed more toward poor and less developed countries in Asia, Africa, and Latin America. Program emphases are aimed at growth, provision of basic services, and improvement of income distribution.

The 1987 World Commission on Environment and Development (the Brundtland Commission) report emphasized the need for an international organization involved in the process of environmental management. The World Bank has developed a more comprehensive strategy in which to play that role. The Environment Department expanded and environmental issues are now addressed as part of an overall economic policy rather than project by project. The Bank aims at addressing the environmental consequences of individual projects and identifying projects specifically aimed at environmental problems. In addition, the Bank stresses the development of policy interventions to influence environmental-related behavior on a large scale. Special attention is paid to the severe environmental problems in Sub-Saharan Africa, to the threat of deforestation, and to regional problems such as the pollution of the Mediterranean.

The Environment Department consists of three divisions and contains about thirty staff members and consultants. Its functions are to conduct policy and research activities in a range of technical, economic, and social areas, to support regional staff with conceptual guidance or specialized expertise, and to establish and maintain information systems and data bases. The department

also participates in training and informing Bank staff on environmental issues through seminars, workshops, and briefings.

As the Bank addresses broad environmental issues ranging from deforestation to global warming and improving project design and implementation, it is making a special effort to reconcile different views on important scientific and technological issues that cut across sectors and to better integrate these considerations into its work.

COORD

In recognition of the importance of non-governmental organizations in the development process, the Bank is developing operational collaboration with NGOs, particularly those in developing countries. The Bank also works in conjunction with AID* activities.

PROGRAMS

The Environment Department produces papers to introduce new methods for environmental management strategy and engages in country-studies, in response to government requests, to evaluate the critical environmental problems in that country. The Bank also joins forces with other governments and organizations to address issues common to an entire region. For example, the Environmental Program for the Mediterranean is being undertaken by the World Bank in partnership with the European Investment Bank as well as other agencies (including UNEP) and with the Mediterranean countries.

The Bank is now addressing a number of primary environmental problems, of which efforts for conservation of biological diversity are most related to marine issues. In this respect, the Bank is concerned particularly in tropical rainforests, wetlands, and marine environments.

The Bank seeks to reduce pressures on these ecosystems through its lending policies in transport, agriculture, energy, industry, and other sectors. Research will concentrate on developing better knowledge of the location of the ecosystems and the economic reasons for protecting them.

Again in support of biological diversity, the Bank is engaged with efforts to preserve and manage wildlands, especially those of rare or endangered ecosystems such as wetlands, coastal marshes and estuaries, coral reefs, small oceanic islands, and mangrove swamps.

Wildland management components have two principal objectives: to prevent, minimize, or partially compensate for wildland elimination, thereby conserving biological diversity; and to preserve or improve the environmental services provided by wildlands, thereby enhancing the project's economic or social benefits.

As a result of in-house studies, it has been recommended that the following will increase wildland project effectiveness:

- Wildland management components should be routinely and systematically incorporated into certain types of Bank projects. Up to now, this has not always been done, and some projects which would have benefitted from wildland components have not included them.

- Wildland components should be incorporated as early as possible within the project cycle to minimize costs and facilitate implementation.

- Meeting wildland management goals requires effective management "on the ground," not simply on paper. The wildland management objectives have to be translated into specific measures with a budget for their implementation to reduce the risk of the establishment of "paper parks."

- The multiple objectives of wildland management are most successfully attained if the wildland management area (WMA) is carefully designed.

- The success of a WMA, as of other project components, is contingent upon government commitment. By taking measures to ensure counterpart financing, or by providing the financing itself, the Bank can help ensure the availability of the relatively modest sums necessary for WMA establishment and continuation.

Wildland areas of special marine concern are: Amazon River and associated wetlands (including Varzea Forest); Orinoc River and Delta (Venezuela and Columbia); Lake Atitlan (Guatemala); and several others.

CONTACT

World Bank
Environment Department
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World Meteorological Organization (WMO)

KEYWORDS

Coordination
Research
Education
Policy

OVERVIEW

WMO has three Regional Offices for Africa, the Americas, and for Asia and the South-West Pacific and Six Regional Associations which coordinate meteorological activity in the respective regions. Each region is covered by activities of the WMO Regional Meteorological Training Centers.

WMO operates two marine research related programs (with the exception of its World Climate Research Program).

PROGRAMS

Marine Meterology Program

Originating in 1907, this program seeks to provide marine meteorological and oceanographic data and services in support of the safety of life and property at sea and the efficient monitoring and management of marine resources and the marine environment.

Via this program, WMO manages public outreach and education programs, performs policy analysis, participates in policy making negotiations, prepares and disseminates regulatory materials, and is involved in international coordination of data collection, services and research.

Program data collected is produced in technical and white paper, review articles, general press articles, newsletters, regulatory and guidance material, and meeting reports.

Program goals are:

- to provide effective meteorological and oceanographic services for the marine user community;
- to develop and maintain a composite global marine meteorological and oceanographic observing system; and
- to facilitate the incorporation of scientific and technological advances; and to assist member states in their development of WMO services.

Upcoming workshops for this program are the Oceanographic Products Seminar, Tokyo, April 1991, and the Seminar on Remote Sensing of Sea Ice, Ottawa, September 1991.

The program frequently coordinates with other United Nations Agencies such as IOC*, IMO*, WHO*, FAO*, and the UN's Office of Ocean Affairs and Law of the Sea* via the Intersecretariat Committee on Scientific Programs Relating to Oceanography (ICSPRO).

The program is related to the existing legislation through meteorological services for shipping provided under the International Conventions for Safety of Life at Sea (SOLAS) of IMO and through marine observations and research undertaken in the context of the UN Convention on the Law of the Sea (UNCLOS).

Environmental Pollution Monitoring and Research Program

The "Interchange Pollutants Between the Atmosphere and the Oceans" project was initiated in 1975. The project seeks to study processes governing the air-sea exchange of pollutants, to assess the atmospheric transport and input of pollutants into the marine environment and to study the effects of climate and atmospheric composition changes on air-sea exchange of chemicals.

The project collects data through scientific research and environmental monitoring, and chronicles information in technical and scientific papers.

Project goals are to improve understanding of air-sea exchange mechanisms for pollutants, effects of climate and atmospheric composition changes on air-sea exchange of chemicals, and pollutant modification of physical and chemical processes at the air-sea interface. In addition, it endeavors to quantitatively assess the atmospheric transport and deposition of pollutants into the seas.

Upcoming project workshops are the Expert Meeting on Global Change and Sea/Air Exchange of Chemicals, Rhode Island, December 1990, and the Workshop on Airborne Pollution of the Mediterranean Sea, France, April 1991.

The project is coordinated with efforts from UNEP* and IOC* via the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP). Another international forum in which the project participates is ICSPRO.

Project information is provided for implementation of the Convention for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources.

CONTACT

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NON-GOVERNMENTAL ORGANIZATIONS

American Oceans Campaign (AOC)	NGO - 1
Caribbean Conservation Corporation (CCC)	NGO - 2
Center for Marine Conservation (CMC)	NGO - 3
Conservation International (CI)	NGO - 4
Council on Ocean Law (COL)	NGO - 5
The Cousteau Society, Inc.	NGO - 6
Environmental Defense Fund (EDF)	NGO - 7
Friends of the Earth / Ocean Society (FOE/OS)	NGO - 8
Greenpeace	NGO - 9
International Game Fish Association (IGFA)	NGO - 10
Island Resources Foundation (IRF)	NGO - 11
National Academy of Sciences (NAS)	NGO - 12
National Audubon Society	NGO - 13
The Nature Conservancy (TNC)	NGO - 14
Natural Resources Defense Council (NRDC)	NGO - 15
National Wildlife Federation (NWF)	NGO - 16
The Sierra Club	NGO - 17
Wildlife Conservation International (WCI)	NGO - 18
World Resources Institute (WRI)	NGO - 19
World Wildlife Fund (WWF)	NGO - 20

International Union for the Conservation of Nature and Natural Resources (IUCN) NGO - 21

International Council for the Exploration of the Sea (ICES) NGO - 22

American Oceans Campaign (AOC)

KEYWORDS Advocacy
Education
Policy
Research

OVERVIEW AOC has been an advocacy group promoting wise use of the oceans since 1987. AOC's mission is to focus attention on the growing threats to the 100,000 miles of ocean, bays, harbors, and estuaries that border our continental states, Hawaii, Guam, Puerto Rico, the Trust Territories, the Virgin Islands, and the Great Lakes. AOC feels that the United States lacks policies to deal with this growing environmental problem; it is dedicated to promulgating policies through a national coalition of environmental organizations, businesses, community groups, and the entertainment industry.

COORD AOC has sponsored several conferences on the protection of the marine environment, and intends to take a lead role in NGO involvement in the 1992 UN Meeting on Global Change and the Environment.

PROGRAMS AOC's primary activities include public education and outreach, lobbying and advocacy work, supporting scientific research on environmental degradation, and helping formulate effective marine policy.

General areas of AOC involvement have included:

- coastal zone management;
- endangered species protection;
- fisheries management;
- global climate change (an increasingly important focus of interest);
- general marine policy;
- marine protected area planning;
- non-point source pollution monitoring;
- ocean dumping issues;
- ocean energy development;

- oil and gas exploration and recovery impacts on coastal ecosystems; and
- recreational use of ocean space.

Specific AOC objectives include:

- funding for coastal and oceans research;
- enactment of a national oceans and coastal protection policy;
- seeking to enact new comprehensive legislation to designate and protect ecologically sensitive areas; and
- promoting the Clean Water, Endangered Species, Toxic Substances Control, Resource Conservation Recovery, Coastal Zone Management, and other Acts.

CONTACT

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Caribbean Conservation Corporation (CCC)

KEYWORDS Law
Education

OVERVIEW CCC is a Florida-based, non-profit organization founded in 1959 in response to the alarm sounded in Dr. Archie Carr's book, *The Windward Road*. The initial focus of the organization's activities was to remedy the plight of sea turtles.

PROGRAMS CCC's activities are worldwide but concentrate on the Caribbean and Atlantic. Activities include:

- studies of sea turtle life history and population monitoring;
- marine conservation;
- watershed-wide ecological studies;
- public education about the importance of a healthy coastal system; and
- promotion of adoption and compliance with conservation laws and international treaties.

The CCC operates the Green Turtle Research Station at Tortuguero, Costa Rica, the site of the 35-year ongoing green turtle tagging program. It also manages a four square-mile marine impoundment on Great Iguana Island, Bahamas, used in long term marine turtle growth and nutrition studies.

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Center for Marine Conservation (CMC)

KEYWORDS
Policy
Research
Education
Law
Conservation

OVERVIEW

CMC, formerly the Center for Environmental Education, was established in 1972 as a nonprofit membership organization dedicated to protecting marine wildlife and habitats and to conserving coastal and ocean resources. CMC conducts policy-oriented research, promotes public education and citizen involvement, and supports domestic and international laws and programs for marine conservation.

CMC works from its headquarters in Washington, DC and regional offices in VA, FL, TX, and CA. With more than 100,000 members worldwide, CMC works with private industry, conservation groups, government, and private citizens, and supports international efforts to protect all wildlife species threatened by international trade.

PROGRAMS

CMC is organized according to programs, which currently include the Sea Turtle Program, Marine Debris and Entanglement Program, Marine Protected Areas Program, and Marine Mammal Program. These programs focus on the following themes:

- conserving marine habitats (reauthorization of the Marine Sanctuary Act, new sanctuaries, Caribbean conservation);
- preventing marine pollution (national marine debris database, sponsoring beach cleanups, environmental quality in the Gulf of Mexico, and education);
- managing fisheries for conservation (Marine Mammal Protection Act, driftnets in the North Pacific, sea turtles and shrimp trawls);
- protecting endangered marine species (Endangered Species Act, the International Whaling Commission, whalewatching, fur seals, sea turtle conservation);
- controlling international wildlife trade; and
- educating the public and encouraging citizen participation.

Recent activities include:

- worked with local conservationists and government leaders in California and Florida to establish marine sanctuaries in Monterey Bay, CA, and the Florida Keys;
- coordinated the 1989 and 1990 national beach cleanups, providing materials and guidance to tens of thousands of volunteers nationwide;
- led efforts to promote regulations requiring Turtle Excluder Devices on shrimp nets;
- worked to prevent the deaths of dolphins in tuna nets;
- worked with many Florida counties and cities to control artificial lighting on sea turtle nesting beaches to prevent disorientation of hatchlings;
- helped establish and maintain a moratorium on commercial whaling adopted by the International Whaling Commission; and
- forced Exxon to establish sea otter rescue and rehabilitation efforts in the wake of the Prince William Sound Spill.

CMC publishes two quarterly newsletters, *Marine Conservation News*, and *Sanctuary Currents*, a biannual newsletter called *Coastal Connection*, and numerous public education brochures, reports, and books on specific marine environmental issues.

CONTACT

Center for Marine Conservation
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Washington, DC 20036 202-429-5609

Conservation International (CI)

KEYWORDS Development
Conservation

OVERVIEW CI was founded in 1987 by a group of prominent international conservation scientists. CI's general mission is to help protect biological diversity by combining scientific information and political leverage to solve conservation problems. CI helps to foster local capacity to design and implement community-based ecosystem conservation and sustainable development.

PROGRAMS Early projects conducted or supported by CI were restricted to sustainable-use planning in Latin America. CI's sphere of influence is spreading and new areas of involvement include Malagasy Republic, other parts of Africa, and parts of Asia.

CI does not have a formal marine program. Current projects with a marine component include:

- a survey of the condition of the Sea of Cortes ecosystem and plans to promote conservation in the area;
- a sustainable development strategy for Clayoqout Sound, British Columbia;
- joint activities with the Coastal Coalition and the Prince William Sound Science Center in Cordova, Alaska; and
- mariculture and ecological restoration in Willapa Bay, Washington.

Other marine conservation activities are planned in Madagascar, Papua New Guinea, and the South Pacific.

CI has approximately 75 full-time staff working in the main offices and the field. Headquarters are in Washington, DC, and Portland, Oregon.

CONTACT

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Council on Ocean Law (COL)

KEYWORDS Law
Policy
Education

OVERVIEW COL was founded in 1980 to promote the development of widely accepted international law for the world's oceans. To advance its mission, COL's goals are:

- to overcome the obstacles preventing universal participation in the 1982 Third United Nations Convention on the Law of the Sea (UNCLOS III);
- to support the further evolution of oceans laws based on the framework of UNCLOS III; and
- to provide accurate and timely information on international law developments to government officials, marine policy specialists, and interested members of the public.

PROGRAMS Specific areas of interest include:

- national law and policy implementing UNCLOS III;
- the role of ocean policy institutions in addressing large-scale environmental change;
- development of UNEP programs;
- elaboration of ocean pollution control treaties and regulations under the auspices of IMO;
- evolution of policies governing marine scientific research; and
- development of fisheries agreements.

COL also sponsors The Panel on the Law of the Ocean, composed of distinguished ocean law and policy experts. The Panel produces statements on leading ocean law topics.

The COL newsletter, *Ocean Policy News*, is distributed to more than one thousand subscribers in the United States and abroad. Occasional papers and reports of international meetings are also disseminated by COL.

CONTACT

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Washington, DC 20006 202-347-3766

The Cousteau Society, Inc.

KEYWORDS Education
Research

OVERVIEW The Cousteau Society is a non-profit, membership-supported organization dedicated to the protection and improvement of the quality of life. The Society was created in 1973 by Captain Jacques-Yves Cousteau and his son Jean-Michel Cousteau and became fully operational in 1974.

The Society believes that only an informed and alerted public can best make the choices to provide a healthier and more productive way of life for itself and for future generations. To this end, the Society conducts an array of investigative programs documenting the fragility of the world's oceans.

The Society increases awareness of the planet's natural resources through public outreach programs, film production, books and articles, syndicated columns, and lecture series. The *Calypso Log*, for adults, and the *Dolphin Log*, for children, are two Society periodicals which explain scientific and environmental issues while also covering news of Cousteau expeditions. The Society also offers Project Ocean Search, which enables the public to participate in summer field study and provides on-the-scene educational experiences.

COORD Research is conducted by in-house teams in collaboration with local scientists and agencies, as well as with independent scientists from institutions and universities. Cousteau crews have worked on specific projects with NASA, the International Commission for the Scientific Exploration of the Mediterranean (ICSEM), and NOAA*. Society staff have also participated in UNEP* meetings to formulate international standards for Mediterranean water quality, and in the NMFS's* establishment of a Marine Mammal Stranding Program.

PROGRAMS The Society collaborates in international scientific studies to gauge the health of the marine environment and the nature of the water system both locally and globally. Results of these research programs are published in scientific journals and are made available to governments as a means of promoting wise management policies. The Society performs two kinds of research. The first is fundamental studies that help the scientific community to better understand the nature of a particular region or phenomenon. The second kind of research is application analyses designed to provide local resource managers and policy makers with guidelines for creating programs to protect the environment while promoting reasonable development.

Currently, Cousteau teams are engaged in a new series called "Rediscovery of the World," running from 1985-1991. Both RV *Calypso* and RV *Alcyone* are circling the globe while their crews document a rapidly changing planet. Their goal is to provide a fresh look at a world most people believe they already know. Scientific teams will attempt to make a variety of measurements of:

- ocean productivity;
- the contributions of rivers to ocean vitality;
- the health of marine and freshwater habitats; and
- the broad global connections between such major components of the biosphere as tropical forests, rivers, the atmosphere, oceans, and humankind.

Production teams are filming the research process to help others understand more about oceanography and the importance of the oceans' resources. Film production is the Society's primary public outreach activity.

The Society's current membership is approximately 252,000 persons worldwide.

CONTACT

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Environmental Defense Fund (EDF)

KEYWORDS Advocacy

OVERVIEW EDF was established in 1967 in response to scientists' concern about the use of DDT in Long Island, New York. Since then EDF has grown to support the public and scientific community through advocacy of various environmental issues. EDF operates seven offices nationwide and has its headquarters in New York.

Today, EDF is comprised of lawyers, scientists, and economists who seek to identify scientifically and economically sound solutions with which to propel the advancement and implementation of environmental legislation.

COORD EDF does not maintain bilateral international contacts on oceanic issues, but is involved with multilateral organizations such as UNEP*. In addition, EDF is concerned with the negotiation of several international agreements on the Antarctic region.

PROGRAMS Although EDF does not operate a direct marine program, four of its existing programs manage marine related projects.

Wildlife The wildlife program has a substantial interest in the implementation of the Endangered Species Act and Clean Water Act. EDF lobbies for the mandatory inclusion of turtle excluder devices in shrimp nets and has been a major contributor to the listing of the northern steller sea lion as a threatened species. As part of a broader effort for the protection of coastal wetlands, EDF seeks to protect fisheries on the west coast and, in Louisiana, to redistribute Mississippi River sediment.

Eastern Water The eastern water program advocates the designation of a Florida Keys marine sanctuary.

Atmospheric The atmospheric program has examined how atmospheric deposition contributes to the problem of nutrification of the Chesapeake.

Initiatives are staff-generated and considered according to funding availability. If possible, some proposals are undertaken even without appropriate funding.

CONTACT

Environmental Defense Fund
Wildlife Program
1875 Connecticut Ave, NW
Suite 1016
Washington, DC 20009 202-387-3500

Friends of the Earth (FOE)
The Ocean Society (OS)

KEYWORDS Advocacy
Law

OVERVIEW FOE acts as an advocacy group to influence legislation on environmental issues. FOE recently merged with the Ocean Society to strengthen its Oceans Program, which manages projects on virtually all marine environmental issues worldwide.

FOE is affiliated with governmental agencies and non-governmental organizations in 38 countries and houses its secretariat in London. FOE produces status reports on current project activities and submits proposals to Congress for new project initiation.

COORD Cooperation is common with NOAA*, EPA*, and FWS*.

PROGRAMS The areas of interest for the marine-related advocacy work include:

- entanglement of marine organisms in debris;
- estuarine and wetland protection;
- non-point source pollution impacts;
- ocean dumping; and
- ocean incineration and disposal of hazardous materials at sea.

CONTACT Friends of the Earth
218 D St., SE
Washington, DC 20003 202-544-2600

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- ocean dumping; and
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CONTACT Friends of the Earth
218 D St., SE
Washington, DC 20003 202-544-2600

Greenpeace

KEYWORDS Advocacy

OVERVIEW Greenpeace is an international advocacy group for environmental protection. Started in 1971, Greenpeace is now the largest environmental action group in the world. Greenpeace has regional offices in Washington, London, Sydney, Amsterdam, Japan, and other locations, with 24 field offices worldwide.

Greenpeace lobbies the U.S. Congress for better environmental regulations and initiates positive, non-violent action to save the planet from environmental misuse. Areas of concern range from toxic pollution to the slaughter of whales. Protests and confrontations led by Greenpeace bring threats to the environment to the public's attention.

PROGRAMS Marine activities fall under the Ocean Ecology branch. Five campaigns have direct bearing on marine conservation:

- Sea Turtle Campaign;
- Tuna/Dolphin Campaign;
- Japanese Whaling Campaign;
- Outer Continental Shelf Drilling Campaign; and
- Antarctica Campaign.

The focus of each campaign is to build advocacy for the protection of the particular resource and to facilitate collection of scientific information critical to its conservation.

Other areas of interest are:

- coastal area management;
- marine waste disposal (international campaign);
- oil and gas exploration;
- fisheries management;
- marine endangered species and habitats;

- marine policy;
- marine parks planning; and
- international coordination of marine programs.

CONTACT Greenpeace U.S.
Ocean Ecology Campaign
1436 U St., NW
Washington, DC 20009 202-462-1177

International Game Fish Association (IGFA)

KEYWORDS Law
Education
Policy

OVERVIEW IGFA was founded in 1939 to establish ethical international angling regulations and to serve as a central processing center for world record catch data. In 1972, IGFA expanded its goals to bring anglers into closer organization and better awareness of problems facing sport fishing and game fishes.

The major objectives of IGFA are:

- to encourage and further the study of angling, species, and species requirements;
- to work at all levels of government and industry for the preservation of species and the protection of their natural habitat;
- to compile and distribute game fish information to IGFA members, the public, and scientific and legislative government bodies for the wise use and conservation of fish species;
- to ensure that the recreational angler is adequately represented at all management meetings;
- to assist and participate in domestic and international game fish seminars;
- to develop and support game fish tagging programs and other data collection efforts, and to aid scientific institutions which provide vital instruction and research;
- to maintain and promote fair angling regulations;
- to develop an international museum and reference library on game fish species, angling, and related subjects; and
- to accumulate a global history of the sport of game fishing for the use and benefit of the public.

PROGRAMS Although the IGFA's activities include both marine and freshwater fishing and fish management, most of its conservation focus is on marine fish, especially tuna and billfish.

CONTACT International Game Fish Association
1301 East Atlantic Blvd.
Pompano Beach, FL 333060 305-941-3474

Island Resources Foundation (IRF)

KEYWORDS Policy
Research
Education

OVERVIEW IRF, established in the early 1970s, is based in St. Thomas, U.S. Virgin Islands, with an additional office in Washington, DC. IRF's mission is to assist tropical island nations in planning for sustainable and ecologically sound use. IRF achieves this through:

- sponsoring and undertaking research on environmentally sensitive areas and commercially important natural resources;
- developing policy guidelines for planning;
- producing country-wide and regional profiles on resources and their uses; and
- training and apprenticeships.

PROGRAMS Although many of its findings and guidelines have universal application, IRF's work has centered on the Antilles Islands of the Caribbean.

The bulk of IRF's work focuses on coastal planning and marine resource use, although visiting scientists often do research on other topics and then publish under IRF auspices. Areas of involvement include:

- fisheries management;
- traditional and recreational uses of marine resources;
- marine mining and oil and gas exploration, recovery, refining, and shipping;
- marine policy and international cooperation; and
- marine endangered species management and biodiversity protection.

IRF publishes research reports, books, pamphlets, and scientific articles and operates its own publications series. Lists of publications made available by IRF are sent to the several hundred people who are on IRF's mailing list.

CONTACT Island Resources Foundation
Red Hook Box 33, St. Thomas
Charlotte Amalie, VI 00802 809-775-6225

National Academy of Sciences (NAS)

KEYWORDS Research
Policy

OVERVIEW NAS is a private, self-perpetuating society of distinguished scholars in scientific and engineering research, dedicated to furthering science in the United States. NAS was established by President Lincoln in 1863 via Congressional Charter to act as a national body for scientific consultation, guidance, and funding of special projects.

In 1916, The National Research Council was created to act as the operational arm of the Academy. In 1964, a separate National Academy of Engineering (NAE) was established under charter of NAS to act as a parallel organization. NAS and NAE share responsibility for advising the federal government on science policy. Most of the activities undertaken by the two Academies are carried out through Commissions, Offices, and Boards of the National Research Council, which draws upon a wide cross-section of the nation's leading scientists and engineers.

NAS membership is divided into 25 sections: mathematics; astronomy; physics; chemistry; geology; geophysics; biochemistry; cellular and developmental biology; physiology and pharmacology; neurobiology; botany; genetics; population biology, evolution, and ecology; engineering; applied mathematics, computer sciences and statistics; applied physical sciences; medical genetics, hematology, and oncology; medical physiology and metabolism; microbiology and immunology; anthropology; psychology; social and political sciences; economics; applied biological sciences; and agricultural sciences.

PROGRAMS Three permanent NAS boards have direct involvement with ocean conservation and marine management issues.

Marine Board The Marine Board has a technological focus and concentrates on marine instrumentation and research operations. The Marine Board, customarily comprised of 18 members, analyzes technical and policy issues in order to:

- improve the technical basis for ocean and coastal developments and uses;
- ensure safety, environmental protection, and competitive engineering and operation of marine structures and systems; and

- advance the marine engineering and technology base as a resource in policy formulation, program planning, and management.

The Board also appraises the feasibility of proposals to use the oceans and its resources, reviews government policy alternatives, and evaluates the influence of technical advances on public policy. It often reviews the status of research, engineering, and technology in relevant fields, and projects future needs, including long-range research programs.

Environmental Studies and Toxicology Board

The Environmental Studies and Toxicology Board occasionally touches on marine issues, as during its recent investigation into the status and management of sea turtles.

Ocean Studies Board

Formed in July, 1985, the Ocean Studies Board focuses on marine ecology and marine species. The Board's mission is to:

- contribute to the advancement of scientific understanding of oceans by maintaining continuous oversight of the health of ocean sciences;
- foster the application of scientific knowledge to the wise use of the ocean and its resources;
- provide leadership for the formulation of national and international policy and to clarify scientific issues that affect ocean policy; and
- address scientific issues in cooperative international oceanographic research.

The Ocean Studies Board performed six major activities in 1989, including:

- the Navy Panel's advice to the Navy on long-range planning for ocean sciences;
- the CO_2 Panel's work on the investigation of the role of oceanic carbon in maintaining the earth's climatic stability;
- the Committee on the Ocean's Role in Global Climate Change's oversight activities;
- the Committee on the Coastal Ocean's work on identifying gaps in coastal research;

- the Continental Margins Workshop investigating the long term dynamic interaction between oceanic and continental lithosphere; and
- a Workshop on Issues of U.S. Fisheries.

Future areas of study include:

- tactical oceanography;
- molecular biology's applications in ocean studies;
- further work on continental margins;
- ocean acoustics;
- ocean flux studies; and
- interpretation of satellite information for studies of global change.

CONTACT National Academy of Sciences
2101 Constitution Avenue, NW
Washington, DC 20418 202-334-2000

National Audubon Society

KEYWORDS Conservation
Education
Research

OVERVIEW The Audubon Society has been in existence since 1886, making it one of the oldest and most established conservation groups in the world. The Society is dedicated to the long term protection of natural resources by promoting rational strategies for energy use and development, protecting nature from pollutants, and solving the problems caused by global overpopulation.

With the support of over 500,000 members, the Society manages wildlife sanctuaries, maintains strong ties to government agencies involved in managing natural resources, provides educational materials on environmental issues and wildlife, performs ecosystem research, and produces numerous publications, including *Audubon* magazine.

PROGRAMS The Audubon Society is involved in a vast number of environmental issues, but has streamlined its participation into five high priority campaigns:

- Ancient Forests of the Northwest;
- Arctic National Wildlife Refuge;
- Clean Air;
- Platte River; and
- Wetlands.

Nearly all of the Audubon Society's coastal and marine related work falls under the high-priority Wetlands campaign. The Society is working actively in the protection of salt marshes and barrier beaches. Other marine-related projects include work in the Gulf of Mexico, the Intercoastal Waterway, Long Island, and sea turtle conservation.

CONTACT National Audubon Society
2525 Wallingwood
Suite 1505
Austin, TX 78746 512-327-1943

The Nature Conservancy (TNC)

KEYWORDS Research
Conservation

OVERVIEW TNC's mission is to identify rare and endangered species and habitats and attempt to protect them through acquisition of critical lands. TNC has acquired land for conservation and sponsored research on wildlife and its ecology since its inception in 1951. TNC distributes a monthly magazine to keep its members apprised of acquisitions and conservation projects in all U.S. regions.

PROGRAMS Marine activities are restricted to conservation in coastal and insular areas. TNC has purchased and maintains several important coastal islands in the northeastern United States, in the barrier beach area of the mid-Atlantic States, in Florida, and on the West Coast. TNC also has programs in Latin America, the Caribbean, and fledgling programs in the South Pacific.

Through its conservation work, TNC:

- practices coastal area management;
- ensures the continued recreational use of natural areas;
- studies risk and benefit/cost assessment;
- determines environmental monitoring needs; and
- works to establish larger scale, multiple-use coastal protected areas.

CONTACT The Nature Conservancy
1815 North Lynn St.
Arlington, VA 22209 703-841-5300

Natural Resources Defense Council (NRDC)

KEYWORDS Advocacy
Conservation
Policy
Law

OVERVIEW NRDC has actively worked to defend the environment since 1970 by using a combination of law, science, and people in their efforts to protect nature. Most of NRDC's activity centers on environmental litigation complemented by conservation, lobbying, and advocacy, although policy analyses and assessments are also undertaken.

COORD NRDC works closely with federal agencies, including EPA*, NOAA*, DOI*, DOE*, Department of Agriculture, and Department of State*.

PROGRAMS Three NRDC projects have direct involvement with marine and coastal environmental protection and management:

- The Water Project focuses on non-point source pollution in near shore and estuarine environments. Litigation is an important component.
- The Coastal Project, involving NRDC's New York, San Francisco, and Los Angeles offices, works in coastal management and oil and gas issues through policy analysis, advocacy, and litigation.
- The Energy Project focuses on alternative energy sources and involves both research and advocacy.

General areas of interest for NRDC include:

- coastal area management;
- economic analyses;
- fisheries management;
- global climate change;
- marine waste disposal;
- marine mining;

- non-point source pollution;
- oil and gas exploration;
- recreational uses of ocean space;
- risk assessment and accidental substance releases; and
- most importantly, enforcement and environmental monitoring.

CONTACT

Natural Resource Defense Council
1350 New York Ave, NW
Suite 300
Washington, DC 20005 202-783-7800

National Wildlife Federation (NWF)

KEYWORDS
Advocacy
Conservation
Education

OVERVIEW
NWF has been one of the United States' most prominent wildlife conservation and public education organizations since its inception in the 1930s. Through its magazines *National Wildlife* and *Ranger Rick*, the organization informs its members of conservation and research activities across the country.

PROGRAMS
Since NWF focuses on terrestrial issues, no formal program exists for marine conservation activities. Wetlands issues are also addressed through the fish and wildlife division.

Coastal Barrier Project
NWF has been involved with this project since 1987. A recurring difficulty in carrying out the project's goals is opposition from a strong real estate industry. NWF is working to guide development away from environmentally sensitive areas through lobbying and grass roots education. Special grass roots workshops are occasionally organized by NWF and news from the Coastal Project is made available through the free *Barrier Island Newsletter*, published approximately four times a year.

NWF also lobbies Congress for better legislative initiatives to protect coastal areas, as in recent work toward reformation of the National Flood Insurance Program and ongoing work to strengthen the Coastal Zone Management Act.

CONTACT
National Wildlife Federation
Coastal Project
1400 16th Street, NW
Washington, DC 20036 202-797-6839

The Sierra Club

KEYWORDS Advocacy
Conservation

OVERVIEW The Sierra Club is a conservation organization that was founded in 1892 by John Muir. The mission of the organization is to protect, preserve, and promote the enjoyment of the natural environment. Lobbying for stronger environmental legislation accounts for approximately twenty to thirty percent of the organization's activities. Project activities include:

- lobbying for better legislation;
- constituency-building;
- encouraging state conservation land purchases;
- coordinating environmental strategies; and
- boosting legislative support for important coastal issues.

The Sierra Club's geographical area of interest includes all of the United States, including the territories, and the wider Caribbean area. Some international work is done by the International Committee, which involves itself in U.N. issues such as adherence to MARPOL.

PROGRAMS The Club's National Coastal and Continental Shelf Committee focuses on marine and coastal environmental issues. Topics include:

- coastal and estuarine pollution;
- coastal zone management;
- coastal barriers;
- marine mining;
- marine sanctuaries; and
- offshore oil and gas activity.

CONTACT

Sierra Club
Coastal Committee
11194 Douglas Avenue
Marriotsville, MD 21104 410-442-5639

Wildlife Conservation International (WCI)

KEYWORDS Conservation

OVERVIEW WCI is the field research and conservation branch of the New York Zoological Society. Its nineteenth century genesis, marked by an 1897 survey of the condition of Alaskan wildlife, makes it the world's senior conservation organization. Since its inception, WCI scientists and conservationists have helped:

- to establish parks and reserves;
- to train park administrators and scientists;
- to study the status and requirements of vanishing species;
- to plan for conservation in concert with economic development; and
- to create special conservation and education programs.

WCI headquarters are in the Bronx Zoo facility in New York City. Grant proposal reviews and program directives are decided by the headquarters office, with input from resident staff.

PROGRAMS With over ten full-time zoologists, WCI sponsors some 70 projects a year in 35 countries. No official marine program exists, but it is notable that one of the most significant projects supported by WCI in the last several years, and which won the prestigious Crawford prize in environmentalism in 1990, was the program to help save Belize's barrier reef ecosystem. Approximately 20 percent of WCI's field projects have links to marine and coastal ecosystem study and conservation.

CONTACT Wildlife Conservation International
NY Zoological Society
Bronx Zoo
185th Street & Southern Blvd.
Bronx, NY 10460 212-220-5155

World Resources Institute (WRI)

KEYWORDS Research
Policy
Coordination

OVERVIEW WRI is a multidisciplinary, issue-oriented research organization and think tank that was established in 1985 through a $25 million grant from the John D. and Catherine T. MacArthur Foundation of Chicago. Policy analysis and research on resource use and management is WRI's primary activity. WRI develops position papers and hosts conferences on legal mechanisms and decision making for science and environmental policy.

COORD With regard to marine issues, WRI works directly with IMO* and UNEP*. In addition to studying their policy-setting mechanisms, WRI provides education programs and assistance to member states in local implementation of UN conventions and protocols. WRI also gives assistance to less developed countries in the formulation of law and policy which will enable them to lead more effective, independent environmental management strategies.

PROGRAMS WRI does not currently direct specific policy activities, but instead operates within the existing general framework of international organizations that have resource management authority. Special emphasis is placed on working within the United Nations structure. WRI makes recommendations to these international organizations on a variety of issues, including pollution control compliance and verification, education, program implementation, and environmental decision-making. The bulk of WRI's work concentrates on international agreements and developing ways in which to improve their effectiveness.

New projects will focus on mechanisms to coordinate agency priorities in order to develop more effective implementation of common goals and interests. Organizations will be analyzed to develop more effective structures for policy-making.

WRI has no formal marine program, although marine issues are often addressed on a case-by-case basis. Projects which are not solely marine related but have marine components include analyses of biodiversity priorities and assessments of global warming and global change.

CONTACT World Resources Institute
1709 New York Avenue, NW
Washington, DC 20006 202-638-6300

World Wildlife Fund (WWF)

KEYWORDS Conservation
Policy
Coordination

OVERVIEW The U.S. WWF is a member of the worldwide WWF family, headquartered in Gland, Switzerland. WWF has more than one million members.

WWF's mission is the conservation of nature. Using the best available scientific knowledge and advancing that knowledge wherever possible, WWF works to preserve biological diversity and the health of ecological systems. WWF:

- helps to protect natural areas and wild population of plants and animals;
- fosters sustainable approaches to the use of renewable natural resources; and
- promotes more efficient use of resources and energy, with the maximum reduction of pollution.

The World Wildlife Fund and Conservation Foundation affiliated in 1985 and merged in 1990. WWF/CF also makes recommendations to marine policy decision-makers and works with government agencies and non-governmental organizations to create and implement marine projects. These agencies include UNEP*, U.S. AID*, and numerous South American and African organizations.

PROGRAMS WWF is in the process of developing a formal marine program. The organization's marine interests relate primarily to the protection of marine biological diversity from both pollution and overexploitation. Areas of involvement include:

- protecting living marine resources, (e.g., marine mammals and fisheries);
- preventing and mitigating pollution in the marine environment, with special emphasis on U.S. estuarine resources; and
- protecting special marine areas (e.g., marine parks, sanctuaries, coral reefs, and mangroves).

WWF participates in a joint venture with The Nature Conservancy (TNC)* and the World Resources Institute's* Center for International Development and Environment.

Biodiversity Support Program

As the lead organization, WWF houses the USAID-funded Biodiversity Support Program (BSP). BSP facilitates conservation activities in USAID -assisted countries and has active marine interests. BSP has five major components:

- technical assistance;
- small grants for biodiversity research;
- training to improve countries capacities to conserve biological resources;
- information collection and dissemination network; and
- pilot demonstration projects.

CONTACT

World Wildlife Fund
Science
1250 24th St, NW
Washington, DC 20037 202-778-9600

Conservation Foundation
Environmental Quality
1250 24th St., NW
Washington DC, 20037 202-778-9645

International Union for the Conservation of Nature and Natural Resources (IUCN) World Conservation Union

KEYWORDS Conservation
Coordination

OVERVIEW IUCN is a non-governmental, non-profit membership organization representing all major conservation agencies and groups worldwide. IUCN's current membership stands at approximately 380 organizations. IUCN members meet at three year intervals to define priorities for action under IUCN general assembly recommendations.

IUCN is also responsible for drafting the highly acclaimed World Conservation Strategy. The document summarizes the priorities and recommends effective means to combat global environmental problems.

PROGRAMS The activities carried out by the IUCN Secretariat and its members in support of conservation comprise the IUCN Program. IUCN has an extensive network of physical and natural scientists, resource managers, planners, lawyers and other specialists who work with the IUCN Commissions, specialized centers, programs, and field projects. Many of them deal with marine and coastal planning, marine conservation, and marine resource management issues.

Coastal and Marine Programme This program's mission is to develop and apply the principles and methods needed for the sustainable use and management of critical ocean and coastal ecosystems and species. The Coastal and Marine Programme was established in the IUCN Secretariat to facilitate the application of the wide-ranging expertise in formulating the marine components of national, regional, and international conservation strategies and action plans. Once these strategies and plans are formulated, the Marine Programme office promotes their implementation in collaboration with the IUCN network and other organizations. The program's goal is to achieve significant improvements in the conservation and sustainable use of marine living resources worldwide.

CONTACT International Union for the
Conservation of Nature and Natural Resources
Coastal and Marine Programme
IUCN
Ave. du Mont Blanc
Gland, Switzerland CH 1196 41.22.649.114

International Council for the Exploration of the Sea (ICES)

KEYWORDS Coordination
Education
Research

OVERVIEW ICES is the oldest inter-governmental organization in the world concerned with marine and fishery sciences. Since its inception in 1902, ICES has been a scientific forum for exchanging information and ideas on the seas and marine living resources.

ICES works on the premise that international cooperation in research is vital if marine resources are to be conserved and exploited rationally. In keeping with this belief, it works to promote and coordinate research undertaken by experts within its seventeen member countries.

Present members of ICES include Belgium, Canada, Denmark, Germany, Finland, France, Iceland, Ireland, Netherlands, Norway, Poland, Portugal, Spain, Sweden, United Kingdom, and the United States. The ICES Secretariat is based in Copenhagen, and oversees the administration of ICES activities.

COORD The scientific staff of member country laboratories have a long tradition of working together at ICES. The council also works closely with fisheries regulatory commissions in the North Sea, Baltic Sea, and North Atlantic.

PROGRAMS ICES is involved with all aspects of oceanographic and marine biological research, including:

- physical and chemical properties of the sea;
- biology, ecology, and population dynamics of exploited fish and shellfish stocks;
- contamination and quality of the marine environment;
- fishing techniques;
- marine mammal studies; and
- mariculture.

ICES publishes extensive literature on all of the above subjects. In addition, ICES organizes standing committees, working groups, ad hoc teams, special meetings, and symposia on special issues. Annual Statutory Meetings allow member states to stay informed on new research findings and current topics of interest.

The programmatic work of ICES is divided into twelve overseeing committees:

- Anadromous and Catadromous Fish;
- Baltic Fish;
- Biological Oceanography;
- Demersal Fish;
- Fish Capture;
- Hydrography;
- Mariculture;
- Marine Environmental Quality;
- Marine Mammals;
- Pelagic Fish;
- Shellfish; and
- Statistics.

CONTACT

U.S. Delegate to International Council
for the Exploration of the Sea
Woods Hole Oceanographic Institution
Woods Hole, MA 02543 508-548-1400

General Secretary
International Council for the
Exploration of the Sea
Palaegade 2-4
DK-1261 Copenhagen K Denmark

CANADIAN AGENCIES

Environment Canada

CAN - 1

Environment Canada

KEYWORDS

Assessment
Conservation
Coordination
Enforcement
Law
Regulatory
Monitoring/Research
Policy

OVERVIEW

The federal Minister of Environment's responsibilities are defined by such policies as Canada Water Act, Canada Wildlife Act, Candian Environmental Protection Act, Migratory Birds Convention Act, and National Parks Act.

Activities carried out through departmental programs, include:

- promotion of objectives or standards relating to environmental quality or to controlling pollution;
- wise management and use of renewable resources;
- environmental impact assessments of new federal projects; and
- preservation of nationally significant natural and cultural heritage.

Environment Canada is active in the preservation of biological diversity and promotion of international consensus for global action.

The department is also involved with international partners in identifying ways to assist developing countries to meet international environmental standards.

Environment Canada participates in a growing number of international meetings, summits, conferences, and other environmental fora and complies with numerous conventions, protocols, and international agreements. The department is active in technical exchange with organizations such as UNEP*, Economic Commission for Europe, Organization for Economic Cooperation and Development, and WMO*.

PROGRAMS

Environment Canada's marine-focused activities are conducted under two of its central line organizations: Conservation and Protection Service (C&P) and Canadian Parks Service. Management is carried out at the headquarters level, with implementation organized at each of the five regional centers.

The centers are located in the Atlantic region, Ontario, Quebec, the Western & Northern region, and the Pacific & Yukon territory.

Conservation and Protection Service

The Conservation and Protection Service is responsibile for the conservation, enhancement and management of Canada's renewable resources of water, land, and wildlife. This responsibility includes water quantity and quality monitoring, aquatic research, management of migratory birds and the protection of threatened or endangered species.

In addition, the Conservation and Protection Service is responsible for protecting environmental quality. This includes preventing, reducing, or eliminating adverse environmental effects for new developments, releases of pollutants, and the use of hazardous chemicals. It also involves cleaning up harmful substances that have been spilled.

Three directorates under C&P implement marine activities:

- Environmental Protection
- Inland Waters Directorate
- Canadian Wildlife Service

Environmental Protection - Office of Waste Management

The Marine Environmental Protection (MEP) Branch of the Office of Waste Management implements national regulatory policy for land-based marine pollution, shellfish harvesting, ocean dumping, and marine environmental quality standards.

Ocean Dumping

The MEP implements a permit system for safe ocean disposal of industrial wastes and dredged materials.

Shellfish Sanitation

The Canadian Shellfish Sanitation Program (CSSP) is jointly administered by Environment Canada, Department of Fisheries and Oceans, and the Department of Energy. The objective of the program is to protect public health from contaminated molluscan shellfish by controlling recreational and commercial shellfish harvesting. CSSP is conducted according to procedures jointly agreed to by Canada and U.S. in a 1948 Bilateral Agreement.

Land Based Sources of Marine Pollution

As part of the Federal Green plan, Canadian initiatives include remedial action plans for at least 11 Atlantic harbours and coastal areas and Canada's National Waste Reduction Plan seeking to cut the amount of waste produced by 50% by the year 2000.

London Dumping Convention

MEP representatives participate in the London Dumping Convention and are also actively involved in the global control of land based sources of marine pollution.

Inland Waters Directorate

The Inland Waters Directorates (IWD) marine programs are focused in estuary and near coastal regions. Also mandated by the Canadian Environmental Protection Act, primary marine related responsiblity lies in the development of marine quality guidelines and will soon be involved in research and monitoring programs as well.

Environmental Emergency Branch

The Environmental Emergency Branch, administered under IWD is responsible for environmental mitigation of oil and contaminated waste spills. Specific programs include crisis management, spill preparedness, and prevention of spills. The National Environmental Emergency Center is involved directly in spill clean up activities.

Canadian Wildlife Service

The Canadian Wildlife Service (CWS) is committed to the management and conservation of migratory and waterfowl stocks. With the aid of research and monitoring programs administered in regional centers around Canada, CWS protects endangered seabirds and develops management plans for the controlled take of waterfowl.

Priorities for wildlife conservation include:

- identification and protection of habitat critical to wildlife;
- research on biology and dynamics of wildlife populations and on habitat, as the basis for effective management;
- development and enforcement of appropriate regulations for wildlife protection; and
- partnerships with other levels of government, non-government organizations, and the private sector in cooperative protection and conservation efforts.

In addition, research continues on the levels and effects of contaminants in seabirds, birds of prey and other wildlife. Data is also used as an indicator for environmental quality.

Canada Parks Service - National Parks Directorate

Parks Canada's marine programs are primarily terrestrial. However, in 1986 Canada adopted a policy governing national marine parks. Parks Canada intends to represent each of the 29 marine natural regions which characterize the diversity of Canada's coastal zone and surrounding oceans within a system of national marine parks.

Parks Canada is very active in the St. Lawrence and Sagueney regions. The St. Lawrence Centre is the primary instrument created to support the St. Lawrence Action Plan. The centre seeks to act as both a catalyst and integrator for collective action for the development of expertise in the management of large river systems.

CONTACTS

Minister of Environment
Environment Canada
Place Vincent Massey
351 St. Joseph Blvd.
Hull, Quebec K1A 0H3

Assistant Deputy Minister
Conservation and Protection
819-997-1575

Chief, Marine Environment Division
Office of Waste Management
Conservation and Protection
819-953-1699

Director General
Ecosystem Science and Evaluation Directorate
Conservation and Protection
819-997-2019

Director, Migratory Birds & Wildlife Conservation
Canadian Wildlife Service
Conservation and Protection
819-947-2957

Director General
National Parks Directorate
Parks Canada
7th Floor
7425 Eddy Street
Hull, Quebec K1A 0H3
819-994-2657

APPENDIX A - MARINE POLICY CENTERS - North America

Center for Oceans Law & Policy
University of Virginia
School of Law
Charlottesville, Virginia 22901
Telephone: (804)924-7441
FAX: (804) 924-7362

Center for the Study of Marine Policy
College of Marine Studies
University of Delaware
Newark, Delaware 19716-3501
Telephone: (302)831-8086
FAX: (302)831-3668

The East West Center (EWC)
1777 East-West Road
Honolulu, Hawaii 96848
Telephone: (808) 944-7111
FAX: (808)944-7376

Graduate Program in Marine Affairs
The Marine Affairs Program
The University of Rhode Island, Washburn Hall
Kingston, Rhode Island 02881-0817
Telephone: (401)792-2596
FAX: (401)792-2156

Institute for Coastal and Marine Resources
East Carolina University
Mamie Jenkins Building
Greenville, NC 27858-4353
Telephone: (919)757-6779
FAX: (919)757-4265

Marine Law Institute
University of Maine School of Law
246 Deering Ave
Portland, ME 04102
Telephone: (207)780-4474
FAX: (207)780-4913

Marine Option Program
University of Hawaii at Manoa
Marine Sciences Building Room 229
1000 Pope Road
Honolulu, HI 96822-9987
Telephone: (808) 956-8433
FAX: (808)956-2417

Marine Policy Center
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
Telephone: (508)457-2000, ext. 2774
FAX: (508)457-2184

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