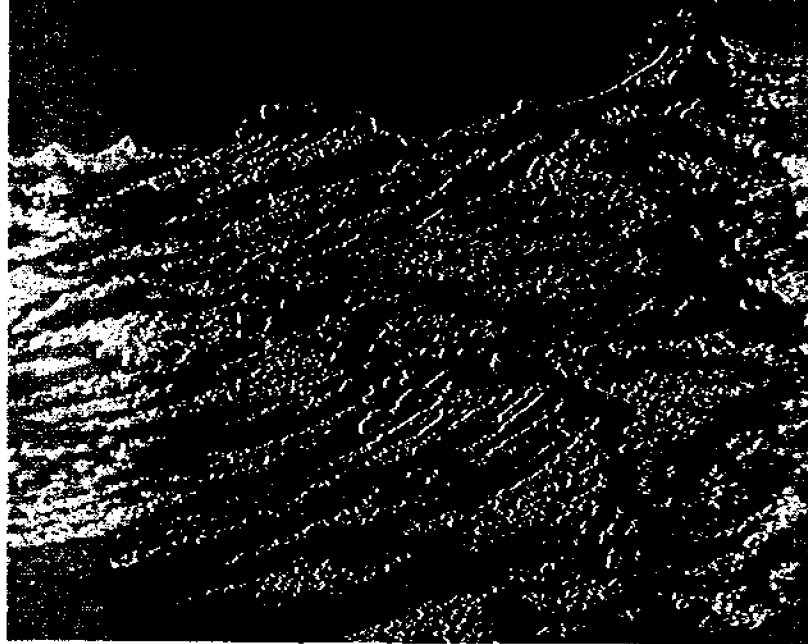


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A MEDIA RESOURCE GUIDE OF EXPERTS & SPOKESPEAKERS

# coastal & marine issues



Produced by the National Sea Grant College Program in conjunction with  
The Society of Environmental Journalists Conference - October 1993

# introduction

*Coastal and Marine Issues: A Media Resource Guide of Selected Experts and Spokespeople* is designed to provide members of the news media with access to scientists, researchers, academicians and marine advisory agents who have expertise on a wide range of marine and coastal issues. These experts are qualified to provide the kind of information frequently needed by reporters, writers and editors.

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Because coastal and marine issues are often interrelated, this book is organized so that you can research topics in several ways. The first section is organized in alphabetical order by broad subject areas. The Table of Contents will provide you with a quick overview of these subjects. Within each broad subject area, there can be many more narrowly defined topics. The Index section of this publication allows you to search for more specifically focused topics.

Likewise, many topics may be relevant to more than one subject area. For example, if you are looking for information on fisheries management, you can find the same experts listed in the Resource Policy section as in the Fisheries section; both sections have subheadings called "Fisheries Management."

And finally, experts are listed alphabetically by name under their subject heading. They are not broken out by state. You'll want to read all the names under a subject heading to find one in the state that's most relevant to your needs. This is a first edition of this publication; your comments and suggestions for improvement are encouraged.

If you need more information on other marine- or coastal-related topics, the Sea Grant public information officers listed on the next page are available to assist you.

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The National Sea Grant College Program was created by Congress in 1966 to advance the knowledge and sustainable use of our coastal, ocean and Great Lakes resources.

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The Sea Grant network draws upon the expertise of more than 3,000 scientists, engineers, educators and outreach specialists in more than 300 academic institutions. Sea Grant supports marine research and education programs, as well as the transfer of information and technology to those who use and manage these resources.

In accord with its mission to promote sustainable coastal development, Sea Grant also serves to create new jobs and businesses. A 1987 study (the last year for which this information is available) found Sea Grant initiatives had an \$843 million impact on the national economy, stimulating new business opportunities or helping implement cost-saving improvements.

Sea Grant is administered by the National Oceanic and Atmospheric Administration (NOAA), which is a part of the U.S. Department of Commerce.

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# aquaculture

## Background

Sea Grant has supported aquaculture for 25 years, creating a wealth of information useful to the industry, researchers and agencies. Sea Grant supports both aquaculture research and outreach, thereby addressing a broad range of issues, from maintaining genetic diversity of broodstock to solving specific problems such as disease control.

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Among Sea Grant's recent accomplishments are (1) helping the soft-shell crab industry improve production and expand into new markets; (2) developing faster-growing salmon strains for pen cultures; (3) producing fish vaccines and disease diagnostics techniques; (4) solving production problems for the crawfish industry, helping it grow from a random wild harvest to an industry worth more than \$70 million per year; (5) developing a superior strain of clams that matures early and reduces production costs; (6) isolating valuable byproducts from fish waste and developing techniques for waste management; and (7) developing the technology and training to support a new aquaculture industry in hybrid striped bass.

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# climate & hazards

## Background

Increasing population and development have left coastal areas more vulnerable than ever to a variety of hazards, including coastal storms, chronic erosion and potential sea-level rise. Nearly a quarter of the 95,000 miles of U.S. coastline is experiencing significant chronic erosion.

Development of coastal areas not only can create increased risk for human life, it also can create substantial financial risk. The federal government's flood insurance program poses inestimable tax liabilities in the future to compensate for land and property damages brought about by coastal hurricanes, storms, erosion, flooding or other hazards. <sup>1</sup>

Many researchers expect the U.S. East Coast to enter a 20- to 40- year cycle of intense hurricane activity within the next decade. This estimation is based on a strong correlation between cycles of rainfall in the Sahel region of east-central Africa and the frequency of intense hurricanes in the Atlantic Ocean. In the Sahel, droughts lasting 20 to 40 years alternate with 20 to 40 years of more abundant rainfall. During each wet cycle, the number of intense hurricanes that strike the East Coast increases dramatically. The Sahel has been in a drought cycle since the mid-1960s. Only three major hurricanes have struck the East Coast since 1966 (Gloria, 1985; Hugo, 1989; and Andrew, 1992). In contrast, from 1940 to 1966, during wet years in the Sahel, an intense hurricane struck the East Coast about once every two years. <sup>2</sup>

Sources: <sup>1</sup> *Covering the Coasts: A Reporter's Guide to Coastal and Marine Resources*, with permission from the Environmental Health Center of the National Safety Council.

<sup>2</sup> "Coastal Hazards: Preparing for the Big One." *Coastal Heritage*, Vol. 8, No. 1, Summer 1993. Courtesy of the S.C. Sea Grant Consortium.

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# coastal ocean

## Background

Coastal oceans are green and slender oases, fertile strips of water compared to the blue deserts of the open seas. In these narrow strips of salt water hugging the coastlines of the world, a rich diversity of plant life catches the sun and thrives. And where algae and other microorganisms grow in abundance, fish and other marine creatures come to feed.

For thousands of years, people along the coast have relied on these ocean margins, which produce nearly all of the world's catch of marine fish and shellfish and most of the sea's biological wealth. But today, this valuable resource is being threatened. The huge amounts of treated and untreated sewage, pesticides and toxic chemicals being dumped into the ocean margins are damaging fisheries and other marine life.

Estuaries and saltwater wetlands have received the brunt of marine pollution, so scientists have studied extensively how pollution and urban development affect marshes, bays and harbors. Now scientists are turning their attention to the open waters of the continental shelves.

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# fisheries

## Background

More than 90 million metric tons of fish and shellfish are harvested world-wide annually. Fisheries continue to grow in importance, both economically and as a food source. Many historically rich fisheries, however, have been virtually depleted. Though they consumed less seafood per capita than in most other industrialized countries, Americans are eating more seafood than in the past, and the Japanese are buying more tuna and other species from U.S. fishermen than ever before.

Overfishing, combined with other factors such as pollution, habitat degradation and bycatch waste, has left many fisheries on the verge of collapse. In the Chesapeake Bay, the once-thriving oyster fishery may disappear, striped bass fishing has been highly regulated and in some instances banned, and there are few of the once-abundant shad. Programs to bring back striped bass are meeting with some success.

*Source: Covering the Coasts: A Reporter's Guide to Coastal and Marine Resources, with permission from the Environmental Health Center of the National Safety Council.*

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# marine education

## Background

Once the global leader in scientific and engineering educational achievement, the United States is now seeing its level of scientific literacy imperiled. Little science is taught in elementary school, and enrollment in high school science classes is declining. Science teachers are in short supply, and many of those now teaching need opportunities to update their skills and knowledge.

Students from kindergarten to 12th grade represent not only the nation's future citizens but also its future scientific professionals. Sea Grant programs play a prominent role in developing marine and aquatic science curricula and accompanying materials for use in schools throughout the country.

Whether formal or informal, Sea Grant educational efforts have provided the impetus for individuals from kindergarten to graduate school, as well as those outside of school to experience the excitement and reality of scientific study in a way that whets the appetite for more.<sup>1</sup>

*Source: <sup>1</sup>Sea Grant: Addressing Contemporary Marine and Coastal Issues, NOAA, U.S. Department of Commerce, January 1993.*

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# **maritime history, culture & sociology**

## **Background**

Earth is the only planet in our solar system that has vast oceans of liquid water. Indeed, water makes up nearly 70 percent of the Earth's surface area. It is our unique oceans that make Earth a uniquely life-bearing planet. Man's origins, like those of all living creatures, can be traced back to the ocean. And, like his past, mankind's future depends upon the oceans. For instance, microscopic plant cells in the top layer of the ocean produce four times as much oxygen and food as land plants do. If all land life should disappear, life in the ocean might be handicapped in some ways, but it would continue. If, however, all ocean life were to disappear, animal life on land could continue only in greatly reduced quantities and forms, if at all.

So it's easy to see how closely man's destiny has been, and continues to be, linked to things maritime. Our coastal heritage is one of richness and diversity--both in terms of the physical attributes and resources found along its shoreline, as well as in the lives and culture of the people who live and work along the coast. With such a wide variety of uses and users, these natural resources remain invaluable to the societies who have depended upon them for their lives and livelihoods since the dawn of man.

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# new technologies

## Background

The oceans have always been a source of food, minerals and other natural products. But as population and human needs continue to increase, so too do the pressures on these resources. To meet these growing needs, to take advantage of the bounty the oceans offer, and to protect the viability of our coastal environments, Sea Grant researchers seek to build on our current scientific achievements and develop national expertise for the future.<sup>1</sup>

<sup>1</sup> *Marine Biotechnology: Competing in the 21st Century. Courtesy of Maryland Sea Grant.*

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# recreation & tourism

## Background

Wherever there's a beach, it seems recreation and tourism are not far behind. Our coastal zones offer a range of tourism and recreational opportunities, including fishing, boating, sunbathing, snorkeling, scuba diving and swimming. According to Gallup polls, fishing has consistently been among the public's three leading sports since Gallup began collecting such data 30 years ago. A 1986 study estimated that public agencies spend about \$19,500 per square mile for outdoor recreation in coastal counties, compared with only about \$3,000 in noncoastal counties.<sup>1</sup>

In addition to the traditional recreational opportunities, nature-based tourism is playing an increasingly important role in the economic growth of many coastal communities. These experiences can include such diverse, educational experiences as those found on barrier islands, in maritime forests, fresh and saltwater marshes, and coastal blackwater rivers. Whether traditional or innovative, tourism and recreational opportunities will continue to play an important role in the economic base of our coastal regions.

*Source: <sup>1</sup>Excerpted from *Covering the Coasts: A Reporter's Guide to Coastal and Marine Resources*, with permission from the Environmental Health Center of the National Safety Council.*

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# resource policy & economics

## Background

Numerous federal laws and regulations protect the coastal and marine resources of the United States. These laws regulate activities such as dumping, dredging, fishing or extracting mineral resources. Others are specifically intended to preserve and protect wildlife, water quality and ecosystems. Others address conflicts over resource issues such as commercial vs. recreational uses, preservation vs. development, and state vs. federal authority.

The host of issues and challenges confronting coastal program policy makers should be viewed not in isolation of each other, but rather as one continuous web. Progress in one area can be either enhanced or offset by what happens in another area. Furthermore, no single action can totally solve a unique set of challenges confronting a particular coastal environment. While "lessons learned" and "pitfalls to be avoided" can help in addressing coastal resource challenges generally, each situation can provide its own unique circumstances and its own set of priorities for local decision-makers.<sup>1</sup>

*Source: <sup>1</sup> Excerpted from *Covering the Coasts: A Reporter's Guide to Coastal and Marine Resources*, with permission from the Environmental Health Center of the National Safety Council.*

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# seafood

## Background

Americans are eating more and more seafood. The food supply available to U.S. consumers is not only abundant and varied, but also fundamentally safe. This basic food safety is the responsibility of the food industry and assured by the regulatory activities of the federal Food and Drug Administration and the Department of Agriculture at the federal level, as well as by state and local food regulatory agencies.

Consumers, too, have a responsibility to properly handle, store and prepare foods of all types to ensure continued safety. Sea Grant extension personnel are committed to educating the public about the proper storage and preparation of seafood. In addition, Sea Grant's research initiatives seek to provide better technology to ensure safety of both seafood and shellfishing waters.

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# sustainable development

## Background

The number of people living in coastal areas has a tremendous impact on coastal resources. In 1990, 5.3 billion people inhabited the Earth and that number is expected to increase to 10 billion by 2029. Nearly 280 million people live in the United States, and more than 50 percent live in coastal counties that encompass less than 10 percent of the contiguous states in the United States. The average population density is almost five times greater in coastal counties than in noncoastal counties.

Increasing populations in coastal areas affect coastal environments in a variety of ways. Increasing populations naturally demand more housing, transportation, commercial services, fresh water and energy. They inevitably generate large supplies of solid waste and pose growing demands on community services, such as waste disposal and sewage treatment. Each of these efforts, alone and combined, poses challenges for those managing coastal resources.<sup>1</sup>

Sea Grant bridges the gap between management and research, creating management approaches that will protect the environment while at the same time encouraging development of coastal resources. Whereas economic development only considers the dollar impact of growth, sustainable development takes into consideration the economic, environmental, cultural and social costs and benefits.

*Source: <sup>1</sup> Excerpted from *Covering the Coasts: A Reporter's Guide to Coastal and Marine Resources*, with permission from the Environmental Health Center of the National Safety Council.*

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# water quality, watersheds & wetlands

## Background

A watershed is defined by the U.S. Environmental Protection Agency as a geographic area in which water, sediments and dissolved materials drain to a common outlet. The impact of streams and rivers on the ocean environment can begin upstream, miles from the coast. Here, the rivers and streams begin to gather silt and sand that are carried downstream to build beaches. Any change in the course of the river, through dams, diversions or draining, can cause fluctuations in sand and water delivery to the ocean.

Here also, the quality of water that later feeds coastal wetlands can begin to deteriorate from pollutants. Today wetlands are recognized for a variety of important functions as part of a complex, integrated system that provides a range of benefits to society. Wetlands form an important transition zone between upland and aquatic ecosystems and are typically very productive because they contain elements common to both systems. Wetlands are among the world's most productive ecosystems, producing great volumes of organic matter which form the base of the aquatic food chain. Wetlands help maintain and improve the water quality of estuaries, rivers and other water bodies. They also provide protection by storing flood waters that overflow riverbanks and surface water that collects in isolated depressions.<sup>1</sup>

Still, controversy surrounds wetlands issues. Sea Grant researchers and extension personnel seek to provide a clearer understanding of water quality, watersheds and wetlands issues.

*Source: <sup>1</sup> Excerpted from Covering the Coasts: A Reporter's Guide to Coastal and Marine Resources, with permission from the Environmental Health Center of the National Safety Council.*

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# wildlife & food chains

## **Background**

Aquatic systems are highly diverse. Estimates of the number of species of ocean fish range from as many as 15,000 to 40,000 species.

Ecosystems and habitats in coastal and near-shore waters teem with life because of interactions between inland fish and oceanic systems. Critical habitat for a wide range of fish, shellfish, birds and other aquatic and terrestrial life can be found in coastal wetlands, estuaries and salt marshes.

Many marine mammals, such as seals, sea lions, manatees and sea otters live in or near coastal water habitats, and a variety of birds depend on wetlands and other coastal habitats for their food, breeding, migratory and resting areas.

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