INTERNATIONAL YEAR OF THE OCEAN

Fact Sheets
Guide to Additional Resources

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Public & Constituent Affairs

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YEAR OF THE OCEAN

Did You Know....

- ◊ More than 70 percent of the Earth's surface is covered by water.
- ◊ The United States has more than 95,000 miles of coastline and more than 3.4 million square miles of ocean within its exclusive economic zone.
- ◊ More than one-half of the U.S. population now live and work within 50 miles of the coastline.
- ◊ U.S. residents ate an average of 15 pounds of fish and shellfish last year. Globally, seafood represents one-fifth of animal protein and 5 percent of the total protein in the human diet.
- ◊ The United Nations has declared 1998 International Year of the Ocean in recognition of the importance of the marine environment and its resources.

NOAA's Role

The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) is the federal ocean science and management agency dedicated to predicting and protecting our environment. Its mission — to be the eyes and ears of science in our atmosphere, in the sky and under the sea — is accomplished through five offices:

National Environmental Satellite, Data, and Information Service
National Marine Fisheries Service
National Ocean Service
National Weather Service
Office of Oceanic and Atmospheric Research

NOAA carries out its mission to protect public safety and the nation's economic and environmental security through these offices and through programs created to promote safe navigation, build sustainable fisheries, recover protected species, and sustain healthy coasts.

How It Affects YOU

The Year of the Ocean provides governments, organizations and individuals an opportunity to raise public awareness of the role the ocean plays in our lives, and to initiate changes needed to sustain the marine resources on which we depend.

One of every six U.S. jobs is marine-related, and one-third of the nation's gross domestic product is produced in coastal areas through fishing, transportation, recreation and other industries dependent on healthy waters and marine habitats. More than one-half of the U.S. population lives in coastal areas.

People enjoy the beauty of the ocean and the bounty of its waters but may not understand that their everyday actions — boating, construction, improper waste disposal, ignoring protected areas, etc. — can impact the ocean and its resources. Long-term planning for growth, development and use of coastal areas is key to the continued productivity of the ocean.

WHAT YOU CAN DO

Get educated and share your knowledge! Read, surf the web and experience the ocean directly.

Learning all you can is one of the **"Top 10 Things You Can Do To Help Our Ocean."** The other nine are:

2) Be a smart shopper. Know the source and quality of your seafood.
3) Conserve water. Be careful when washing your car or watering your lawn. Use a broom instead of a hose to clean your driveway and sidewalk.
4) Reduce household pollutants. Cut down and properly dispose of herbicides, pesticides and cleaning products.
5) Reduce waste. Dispose of trash properly. Where possible, recycle, re-use and compost.
6) Reduce automobile pollution. Use fuel efficient vehicles or carpool. Recycle motor oil and repair oil and air conditioning leaks.
7) Protect ocean wildlife. Don't dispose of fishing lines, nets or plastic items in or near the water.
8) Be considerate of sea life habitats. Don't feed sea birds, mammals and turtles or disturb their nesting grounds. Support marine protected areas.
9) Get involved. Take part in a beach cleanup or other ocean-oriented activities.
10) Care! Pass on your knowledge!

WHERE TO GET MORE INFORMATION.....

On the Internet: *www.yoto98.noaa.gov*

Year of the Ocean Information Line: 1-888-4YOTO98

OCEAN SCIENCE CAREERS

Did You Know....

- ◊ Approximately 95 percent of all U.S. foreign trade is waterborne and passes through U.S. ports.
- ◊ Fishing and ocean science are not the only maritime professions. Other ocean-related careers can include the military, engineering, medicine, underwater archaeology, marine policy and law, education, film making, zoology, advocacy work, lifeguarding, tourism and more.
- ◊ The ocean is responsible for the world's climate and weather patterns. Meteorologists also study the ocean.
- ◊ Coastal states earn 85 percent of all U.S. tourism dollars, and beaches are the leading tourist destination.

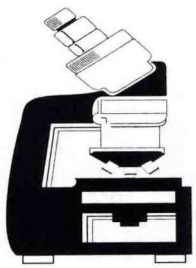
NOAA's Role

The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) sponsors the National Sea Grant College Program, a federal/state partnership that supports marine-related research, education and advisory activities. These activities help us learn more about marine resources and improve usage of them.

Sea Grant operates through a network of academic and research institutions located in coastal and Great Lakes states and in Puerto Rico. The 29 state and regional Sea Grant programs are a good source of marine career-related information.

How It Affects YOU

Physical, chemical and geological oceanographers study the ocean floor, its properties and currents. These scientists unlock the many questions critical to safe marine use for both commercial and recreational mariners. They also help us understand how we can use the ocean as food, transportation and defense resources.



Marine biologists, sometimes called biological oceanographers, study marine plants, animals and organisms within man-made and natural environments. The late ocean explorer Jacques Cousteau spent much of his time in or on the ocean, while others, such as marine biologists, might be found working at an aquarium. These scientists help us understand the impact of the ocean on weather patterns, global warming, pollution control, food supplies, medicine, and much more.

Two hundred million years of geologic and biologic history of the Earth are recorded in the ocean's floor. Life on Earth is so profoundly affected by the oceans, almost any discipline can be applied to an ocean career.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ Learn about ocean-related careers by contacting the National Sea Grant College Program.
- ◊ Visit universities or aquariums to see first-hand how scientists work.
- ◊ Volunteer with the National Marine Sanctuary Program or other marine-focused groups, such as SeaWeb, to experience marine-related careers.
- ◊ You don't have to be an ocean science professional to understand, appreciate and protect the world's ocean.

WHERE TO GET MORE INFORMATION.....

National Sea Grant College Program Website:
www.mdsg.umd.edu/NSGO/

On the Internet: *www.yoto98.noaa.gov*
Year of the Ocean Information Line: 1-888-4YOTO98

WEATHER & CLIMATE

Did You Know....

- ◊ Any big weather event, such as a hurricane, typhoon, flood or drought, is generated by ocean conditions.
- ◊ Major climate events, such as El Niño, result from ocean temperature changes. El Niño refers to abnormally warm ocean surface temperatures and changing wind patterns, which changes weather around the globe.
- ◊ Prices of fruits, vegetables and grains are influenced by the ocean's impact on weather.
- ◊ Local forecasts, warnings and current weather information are broadcast over more than 450 NOAA Weather Radio transmitters, nationwide.

NOAA's Role

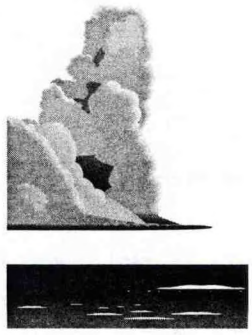
The National Weather Service, part of the Commerce Department's National Oceanic and Atmospheric Administration (NOAA), is the agency responsible for issuing weather forecasts, watches and warnings for the protection of life and property, and for monitoring and predicting the climate.

With 119 forecast offices nationwide, the National Weather Service uses state-of-the-art advanced satellite imagery from NOAA's National Environmental Satellite, Data, and Information Service to monitor changes in the ocean surface temperature and atmospheric responses.

The National Weather Service and NOAA's Office of Oceanic and Atmospheric Research employs a network of buoys placed in the ocean and along coastlines to measure temperature, currents and winds. Ships and aircraft also provide important oceanographic data.

How It Affects YOU

The ocean plays an important role in shaping our climate and weather patterns. Warm ocean waters provide the energy to fuel storm systems that provide fresh water vital to all living things.



Understanding and predicting precipitation is critical to farmers who decide which crops to plant, and how deep, based in part on soil moisture levels. Crop and food prices may increase when weather that is too wet or too dry adversely affects crops. Like precipitation, extreme heat and cold also affect livestock management.

Weather prediction can be a life-saving tool. Aside from helping people prepare for catastrophic storms, it can help citizens and governments anticipate extreme hot and cold temperatures, which may cause death among the elderly.

Water management experts study how much rainfall to anticipate so they can manage reservoir levels and water usage, to ensure everyone has abundant water supplies.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ Always heed NOAA's National Weather Service warnings and advisories.
- ◊ Know your risks and plan for them! Learn what to do when various weather systems affect your area.
- ◊ Learn about climate events, such as El Niño, and how they impact you and the products and services on which you rely.
- ◊ Purchase and use a NOAA Weather Radio, which gives 24-hour forecasts of weather in your area.
- ◊ Support research programs that help us learn more about the role of the ocean.

WHERE TO GET MORE INFORMATION.....

National Weather Service Toll-free Weather Radio Codes:
1-888-nwr-same (1-888-697-7263)
National Weather Service Website:
www.nws.noaa.gov
NOAA Climate Prediction Center Website:
www.nic.fb4.noaa.gov
NOAA Weather Radio Website:
www.nws.noaa.gov/nwr/
National Data Buoy Center Website:
www.ndbc.noaa.gov
NOAA El Niño Website:
www.elnino.noaa.gov
National Environmental Satellite, Data, and Information Service Website:
www.ns.noaa.gov/NESDIS/NESDIS_Home.html
NOAA Marine Prediction Center Website:
www.ncep.noaa.gov/mpc
NOAA Tsunami Warning System Website:
www.geophys.washington.edu/tsunami/general/warning/warning.html
Climate Modeling Website:
www.gfdl.gov/gfdl_research.html

On the Internet: ***www.yoto98.noaa.gov***
Year of the Ocean Information Line: **1-888-4YOTO98**

COASTAL DEVELOPMENT

Did You Know....

- ◊ More than one-half of the nation's population now lives and works within 50 miles of the coastline, but coastal areas account for only 11 percent of the nation's land area.

- ◊ In recent years, 40 percent of new commercial development and 46 percent of new residential development happened near the coast.

- ◊ An acre of coastal waters or wetlands can produce more food than the best mid-western farm land.

- ◊ Natural hazards, such as storms, along the coast can turn into natural disasters if people ignore the dangers or aren't prepared.

NOAA's Role

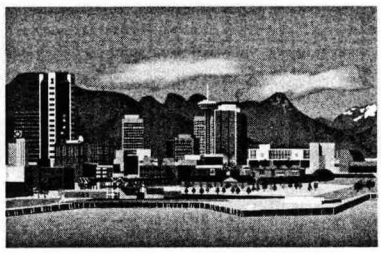
The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) oversees the Coastal Zone Management program, which helps state governments develop coordinated, comprehensive coastal management plans. These plans focus on issues and problems most important to the states, but are part of a national effort to keep all coastal areas safe, productive, clean and enjoyable.

NOAA manages 12 protected coastal National Marine Sanctuaries around the nation, and works with states to safeguard and study 22 estuarine research reserves where scientists, students and the public learn about sensitive coastal environments and wildlife.

NOAA's Tropical Prediction Center/National Hurricane Center issues warnings and forecasts for all tropical storms and hurricanes.

How It Affects YOU

Coastal development affects everyone, not just people living near or using the oceans. Most of the nation's seafood originates in or is harvested from coastal waters. Poorly planned development can hurt fishing and related industries, and ultimately, our economy. Careful coastal development helps fishing and shipping industries, and protects the environment for people and wildlife.



More than one-quarter million households are located in high-hazard coastal zones. To avoid harming to the environment or endangering people, structures such as houses, stores and hotels must be built in appropriate locations and of suitable construction to withstand harsh coastal weather. When coastal homes and businesses are lost to storms and erosion, insurance claims can increase, resulting in increased insurance costs and additional government aid.

Coastal areas are limited; their environmental and economic health must be balanced with human demands such as housing, shipping, recreation, fishing and tourism. Good planning and development helps protect marine life and wildlife, and helps ensure that residents, vacationers and other visitors will have access to beaches and safe, clean coastal recreation areas.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ Always use the proper walkways, boardwalks, or access paths to get to the beach. Don't cut through marshes, dunes, wildlife areas or private property.
- ◊ Get involved with your state or local coastal planning process, and help enforce coastal planning regulations.
- ◊ When living in or visiting coastal areas, be aware of severe weather warnings and evacuation routes, especially during hurricane season.
- ◊ If you own property near the ocean, make sure all structures meet building codes, and don't let your property be a source of pollution.

WHERE TO GET MORE INFORMATION.....

National Hurricane Center Website:
www.nhc.noaa.gov

NOAA Weather Radio Website:
www.nws.noaa.gov/nwr

NOAA Office of Coastal Resource Management
1305 East-West Highway
Silver Spring, MD 20910
Website: *www.nos.noaa.gov/ocrm/*

NOAA National Sea Grant College Program
1315 East-West Highway
Silver Spring, MD 20910
Website: *www.mdsg.umd.edu/NSGO/*

Contact your state department of parks, environment or natural resources and ask for the coastal management office.

On the Internet: *www.yoto98.noaa.gov*
Year of the Ocean Information Line: 1-888-4YOTO98

OCEAN EXPLORATION

Did You Know....

- ◊ Leading-edge anti-inflammatory drugs and potentially life-saving cancer treatments contain ingredients from fish and marine organisms.
- ◊ Many of the foods you eat contain compounds derived from marine life.
- ◊ Estimates suggest that 25 to 50 percent of all species on earth live in the ocean, yet these vast resources are largely unexplored. There could be as many as 15 million species in the ocean. So far, scientists have only described 250,000 species in the ocean.
- ◊ *Aquarius*, the world's only undersea laboratory, in late 1997 was reinstalled 63 feet deep in the ocean , off the Florida Keys. It allows aquanaut-scientists to live and work continuously underwater for 10 days, while conducting experiments.

NOAA's Role

The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) has two programs involved in ocean research and exploration — the National Sea Grant College Program and the National Undersea Research Program.

Twenty years ago, NOAA's National Sea Grant College Program organized the nation's first scientific systematic research to discover and develop new drugs from marine organisms. Sea Grant marine pharmacology programs have resulted in the discovery and description of more than 1,000 marine-derived compounds.

NOAA's National Undersea Research Program provides scientists access to equipment and facilities for underwater research. Available resources range from remotely operated underwater vehicles to the undersea research laboratory *Aquarius*.

How It Affects YOU

A compound derived from ocean sponges is currently being tested against prostate cancer cells; an element found on mangrove roots is a promising anti-tumor agent; and there are marine organisms with properties that have the potential to be used for treating breast and colon cancer, arthritis, and AIDS.

Scientific research leading to marine-based drugs is vital because many infectious organisms have developed strains resistant to soil- and plant-based drugs. Research efforts are also aimed at synthesizing artificial forms of marine compounds, to prevent the depletion of these important natural marine resources.

The ocean provides much more than seafood. Many of the foods and products found in the supermarket contain ingredients from the sea. Peanut butter and toothpaste both contain a compound called carrageenan, which comes from sugars found in red algae. Carrageenan makes peanut butter more spreadable and gives toothpaste its consistency.

Marine products are being used by cosmetic companies. Sea Grant scientists discovered a marine compound that is now being used in skin creams. Extracted from a soft coral called Caribbean sea whip, this compound reduces skin inflammation caused by sunburn or irritation, and reduces skin deterioration.

WHAT YOU CAN DO

Get educated and share your information!

- ◊ **Look but don't touch**, if you scuba dive or snorkel. In the water, your hands, fins and diving equipment can damage the delicate, tiny animals that build a reef. Take care that your fins don't stir up sediments that can smother the corals.

- ◊ **Don't pollute.** Plastic bottles and bags and fishing line can injure and kill a variety of marine life. Garbage and human wastes introduce chemicals and nutrient levels that harm the ocean.

- ◊ **Be a wastewater crusader.** Help monitor and prevent marine water pollution such as sewage and runoff. Use non-phosphate detergents and cut back on fertilizer to reduce the amount of nutrients entering water bodies. Control runoff and erosion on your property by planting trees, shrubs and grass.

- ◊ **Conserve freshwater.** Remember, the less you use means the less runoff and wastewater eventually dump into the ocean.

- ◊ **Promote responsible development.** Uncontrolled coastal development and increased population stress adjacent marine ecosystems. As we develop more and more of our undeveloped coastal and inland areas, we place greater pressures on the natural ecosystem to adapt. Over-development can lead to species extinction and ecosystem collapse.

WHERE TO GET MORE INFORMATION.....

To learn more about everyday products that come from the ocean environment, take a walk through the Smithsonian Institution, National Museum of Natural History's Ocean Planet "virtual exhibit" website:
www.seawifs.gsfc.nasa.gov/ocean_planet.html

To learn more about coral reefs, visit Hawaii Sea Grant's "1997 International Year of the Reef" website:
www.soest.hawaii.edu/SEAGRANT/coralreef.html

To learn more about Sea Grant biotechnology research, with links to other biotechnology-related sites, visit website:
www.mdsg.umd.edu/NSGO/research/biotech/BiotechSites.html#SG

NOAA's National Sea Grant College Program
Ben Sherman, Media Relations Coordinator
email: Sherman@nasw.org

NOAA's National Undersea Research Program
1315 East-West Highway, Room 11805
Silver Spring, MD 20910
Website: *www.ucc.uconn.edu/~wwwnurc/nurp.html*

On the Internet: ***www.yoto98.noaa.gov***
Year of the Ocean Information Line: **1-888-4YOTO98**

MARINE FISH HABITAT

Did You Know....

- ◊ Salt marshes, wetlands and coral reefs are nursery habitats for fish, shrimp, crab and other ocean shellfish.

- ◊ Wetlands naturally filter and cleanse the water flowing from rivers and streams into the ocean. Estuaries — where the ocean tide meets a river current — depend on wetlands to maintain water quality.

- ◊ Commercial and recreational fisheries support more than 1.3 million jobs, and in 1995 added more than $20 billion to the gross domestic product.

- ◊ Fish and marine wildlife habitats are harmed by long-term releases of pollution, short-term oil and chemical spills, and physical destruction, such as ship groundings.

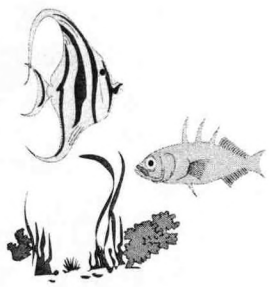
NOAA's Role

The National Oceanic and Atmospheric Administration (NOAA), part of the Department of Commerce, is responsible for managing and sustaining most living marine resources and their habitats in U.S. waters, including endangered marine and coastal mammals.

NOAA's Damage Assessment and Restoration Program restores coastal areas and marine resources harmed by oil or hazardous substances, spills and ship groundings. This program also obtains compensation from responsible parties for the public's lost use and enjoyment of these resources.

How It Affects YOU

Reefs and estuaries sustain 75 percent of all commercial fish and shellfish during some point in their life cycles. When these marine habitats are destroyed or injured, fish and other sea creatures cannot spawn, hatch and mature. The result is depleted or contaminated seafood meant for consumption by both humans and marine life.



Long-term releases of pollution into our watersheds, rivers, streams and estuaries can cause harmful algal blooms or low oxygen conditions that degrade or kill fish and marine habitat. The direct effect is that fish may be diseased, damaged or depleted; seafood prices may fluctuate; and recreational and commercial fishing — a large part of our nation's economy — may be threatened.

Injured or destroyed marine habitat may indirectly upset the ecological balance and the world's food chain. For example, species of birds and marine mammals that feed on contaminated fish and shellfish may become ill or diseased and continue to spread the problem throughout the food chain. Other marine habitats, such as reefs, that are damaged or destroyed would also attract fewer tourists, influencing the nation's $54 billion annual tourism trade.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ **Follow regulations** that limit the type, size and amount of fish you can catch.
- ◊ **Don't pollute.** Never throw trash, human waste, or plastic bags into the ocean. Fish, sea turtles and marine mammals mistake plastic for food sources, with lethal consequences. Don't misuse chemicals and fertilizers.
- ◊ **Don't disturb or remove sea life.** Unauthorized taking of coral reef, shells and other marine plants and organisms upsets the balance and health of the ecosystem.
- ◊ **Limit the use of boats and vehicles to approved areas**, and obey speed limits. Swim where it is safe for you and the environment.
- ◊ **Volunteer** for beach clean-ups and wetland restorations.
- ◊ **Participate** in community natural resources planning efforts. Get involved in protecting essential fish habitat.

WHERE TO GET MORE INFORMATION.....

National Marine Fisheries Service
Office of Habitat Conservation
1315 East-West Highway
Silver Spring, MD 20910-3226
Website: www.nmfs.gov/rschreib/habitat.html

National Ocean Service
Damage Assessment and Restoration Program
1305 East West Highway
Silver Spring, MD 20910
Website: www.orca.nos.noaa.gov/darp/index.html

On the Internet: *www.yoto98.noaa.gov*
Year of the Ocean Information Line: 1-888-4YOTO98

MARINE MAMMALS

Did You Know....

- ◊ Some of the ocean's most skilled divers are marine mammals. Sperm whales and elephant seals can stay underwater for almost two hours. Sperm whales have been recorded at depths of more than 9,000 feet and elephant seals at depths greater than 3,000 feet.

- ◊ Hearing is the most important sense to many marine mammals. In fact, most whales and dolphins rely on clicks, whistles or songs to communicate with each other.

- ◊ Two of the world's most endangered species of marine mammals live in U.S. waters. There are as few as 300 northern right whales remaining off the U.S. East Coast, and only 1,300 Hawaiian monk seals live and breed at a few locations in the Hawaiian Islands.

- ◊ In 1994, the gray whale became the only marine mammal species to be removed from the Endangered Species Act list. Almost driven to extinction by commercial whaling in the late 1800's, the gray whale's recovery is a true environmental success story.

NOAA's Role

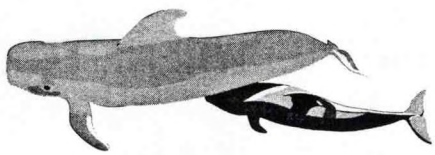
The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) is dedicated to protecting marine mammals through research, education, management and enforcement. Proper stewardship of marine species requires that we protect not just the animals, but the entire ecosystem. Habitat protection and species survival go hand in hand. NOAA carries out the missions of important environmental legislation, including the ones listed below.

Marine Mammal Protection Act
Endangered Species Act
National Marine Sanctuaries Act
Coastal Zone Management Act

NOAA works in cooperation with other federal agencies, local governments and conservation groups, to administer these laws. These partnerships help to develop and implement programs that protect marine mammals and their habitats. The primary objective of marine mammal management should be to maintain the health and stability of the marine ecosystem.

How It Affects YOU

Marine mammals are valued by the public for their great aesthetic, recreational and economic significance. For example, towns that historically relied on whaling to sustain their livelihoods now have tourist activities dedicated to whale watching, which has proven to be both educational and profitable. As we discover more about marine mammals, we learn to respect their value to our lives and their role as a vital link in the marine ecosystem.



The loss of marine mammals and their habitat affects everyone. Since our marine resources are in the public trust, they belong to everyone, and we should all work together to preserve marine life for future generations. Without the help of conservation laws and the hard work of numerous people and organizations, this might not be possible.

Marine mammals have become symbols of our changing attitudes toward protecting the environment. Threats to marine mammals have inspired people to take action in their own communities to preserve the oceans, which in turn, helps to protect related ecosystems within the global environment.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ **Volunteer your time** to non-profit organizations, marine mammal stranding networks, or the National Marine Sanctuary in your area. It's a great way to learn more about marine-related issues.

- ◊ **Conserve resources.** Consume less, recycle, compost, properly dispose of non-recyclable trash, and encourage your school and/or workplace to do the same. Thrown away does not mean gone away. Waste products poured down the drain, put in the garbage or left on the ground can become marine debris. Plastic products and other refuse contribute to numerous marine mammal injuries and deaths each year.

- ◊ **Follow all laws and guidelines** established to protect marine mammals and their habitat. When choosing recreational activities in the marine environment, remember these helpful suggestions:

- ◊ **Do not feed marine mammals** or any other wild animals. It's dangerous for both you and the animals. It is also illegal.

- ◊ **Admire marine mammals from a distance**. Use binoculars or a telephoto lens to observe their natural behavior. Marine mammals, like all wild animals, need their space.

- ◊ **Treat marine mammals with caution**. Marine mammals are wild, unpredictable animals and should be treated with respect. For their sake, and yours, do not chase, closely approach, or attempt to touch wild marine mammals.

WHERE TO GET MORE INFORMATION.....

NOAA's National Marine Fisheries Service
Office of Protected Resources
1315 East-West Highway, 13th Floor
Silver Spring, MD 20910
(301) 713-2289, FAX: (301) 713-0376
Website: *www.kingfish.ssp.nmfs.gov/*

NOAA's National Ocean Service
Office of Ocean and Coastal Resource Management
National Marine Sanctuaries Division
1305 East-West Highway, 11th Floor
Silver Spring, MD 20910
Website: *www.nos.noaa.gov*

On the Internet: *www.yoto98.noaa.gov*
Year of the Ocean Information Line: 1-888-4YOTO98

OCEAN MINERALS

Did You Know....

- ◊ Natural gas and oil from the federal Outer Continental Shelf play a major role in meeting U.S. energy needs. In fact, in 1996, about 25 percent of U.S. natural gas production and about 17 percent of U.S. oil production came from the Outer Continental Shelf.

- ◊ The Outer Continental Shelf is estimated to contain more than 50 percent of the nation's remaining undiscovered natural gas and oil resources.

- ◊ Natural gas and oil, along with other ingredients, are used to make plastic, paint, fertilizer for crops, antifreeze for cars, paper, building materials, fabrics and many other products.

- ◊ The Minerals Management Service (MMS) collects and distributes $3 billion per year, on average, in bonuses, rents, and royalties from Outer Continental Shelf mineral leases. Most of these revenues help pay for federal programs and reduce the deficit.

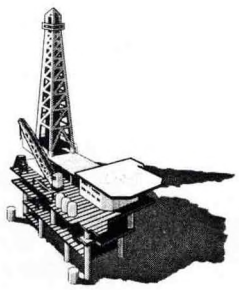
The MMS Role

The Department of the Interior's Minerals Management Service is responsible for assessment and prudent environmental management of ocean resources, and collection and distribution of revenues derived from those resources.

MMS oversees the leasing of resources for exploration and development activities, and monitors them for safe, environmentally sound operations. MMS activities provide major economic benefits to taxpayers, states, Native Americans, and to the federal government.

How It Affects YOU

Outer Continental Shelf natural gas production in 1996 was enough to meet the needs of all residential natural gas users in the United States. Six out of 10 U.S. homes — some 58 million — currently have natural gas service.



There is a 97 percent chance that whenever you drive your car, fly in an airplane, ride a train or take a boat, you are using an oil-based fuel. Oil is the fuel that keeps our nation on the move.

If you vacation in Yellowstone, canoe in the Everglades, hike in the Santa Monica mountains, or visit the Statue of Liberty, you will reap some of the benefits of Outer Continental Shelf natural gas and oil resources. Every year money from these resources helps fund park lands, community recreation areas, and historic sites. Through fiscal year 1996, almost $9 billion, primarily from Outer Continental Shelf revenues, has been appropriated from the Land and Water Conservation Fund to purchase federal park and recreation lands.

Outer Continental Shelf sand and gravel resources are made available for federal, state and local public works projects, such as beach restoration and wetlands protection.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ **Conserve energy.** Set home thermostats at moderate temperatures; turn thermostats down when away or sleeping. Join local energy company programs for diverting home energy for business usage during peak usage times.

- ◊ **Guard against waste and pollution.** If you use home heating oil, ensure that tanks are leak free so that oil does not end up in the waterways. Dispose of used motor oil properly at recycling centers. Take the "Boaters' Pledge," and bring back all of your trash whenever you fish or sail.

- ◊ **Reduce air pollution.** Check and service furnaces and other energy-using appliances to ensure optimal operation with minimal emissions. Clean or replace furnace filters annually. Keep your car tuned-up to improve gas mileage and control air emissions.

WHERE TO GET MORE INFORMATION.....

MMS Website: *www.mms.gov*

MMS Communications Offices:

Washington, DC, National Office:
202-208-3985

Alaska Outer Continental Shelf Region:
1-800-764-2627

Gulf of Mexico Outer Continental Shelf Region:
504-736-2595

Pacific Outer Continental Shelf Region:
805-389-7520

Royalty Management: 303-231-3162

On the Internet: ***www.yoto98.noaa.gov***
Year of the Ocean Information Line: **1-888-4YOTO98**

OCEAN NAVIGATION

Did You Know....

- ◊ Commercial ships have doubled in size, waterborne commerce has tripled, and the number of small boats and recreational water craft has increased during the last 50 years.

- ◊ More than 95 percent of U.S. foreign trade (by weight) passes through U.S. ports and harbors.

- ◊ Half of all materials shipped through U.S. waters are hazardous.

NOAA's Role

The Commerce Department's National Atmospheric and Oceanic Administration (NOAA) makes all official navigation charts for U.S. waters, as well as other maritime publications. Boaters and ship captains use these charts and publications to navigate safely.

High-tech navigation aids, like the U.S. Coast Guard's Differential Global Positioning System (DGPS), depend on NOAA's National Spatial Reference System to ensure accuracy.

The combination of accurate ocean bottom surveys, new electronic chart systems, satellite technology and, in some areas, real-time tide and weather monitors, help keep our ports and coastal waterways safe, clean and efficient for all types of boaters.

NOAA Weather Radio broadcasts storm warnings, watches and other information important to sailors 24-hours a day.

How It Affects YOU

There are approximately 12 million registered recreational water vessels, an estimated 50 percent increase in the last 20 years. Although recreational boating deaths have decreased during the last 30 years, the number of accidents and injuries have steadily climbed. Not knowing the "rules of the road," or how to read navigational charts, can be just as dangerous as not using life jackets.

There are designated "traffic lanes" shown on nautical charts for some waterways and coastal ocean areas. Large ships use these lanes to avoid collisions. A large freighter or tanker traveling at full speed can take miles to stop. Even at slower speeds, large ships take a long time to stop or turn.

A boating or shipping accident doesn't hurt only the people directly involved. A seaside vacation, swimming, water sports — even a walk on the beach — could be ruined by oil or chemical spills. Harm to fish and wildlife could be immeasurable. Seafood could become more expensive or more difficult to find due to spills, collisions or ships running aground. The price of goods carried on large ships can increase, along with everyone's insurance rates, as a result of costly accidents.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ **Use up-to-date NOAA nautical charts** and related products when boating. Safe navigation is no accident.
- ◊ **Subscribe to the U.S. Coast Guard Local Notices to mariners**, and update nautical charts weekly.
- ◊ **Monitor weather conditions**; use a NOAA Weather Radio, an inexpensive receiver that can provide instant access to weather forecasts and emergency weather information.
- ◊ **Recreational boaters should take courses** in chart use, seamanship and navigation. Contact the United States Power Squadrons and the United States Coast Guard Auxiliary to enroll.
- ◊ **Participate in the volunteer Cooperative Charting Program** through the Power Squadron.
- ◊ **Whenever possible, smaller boats should avoid using deep-draft channels**, which are the only place large ships can travel. Small recreational boats in front of a ship's bow are often not visible from the ship's bridge. Be aware and considerate of large commercial vessels.

WHERE TO GET MORE INFORMATION.....

Office of Coast Survey:
www.*chartmaker.ncd.noaa.gov/*
PORTS real-time data systems:
www.opsd.nos.noaa.gov/d_ports.html
Educational information about tides, tide predictions, water levels and water currents:
www.opsd.nos.noaa.gov/about2.html
NOAA Weather Radio: *www.nws.noaa.gov/nwr*
United States Power Squadrons: *www.usps.org*
National Data Buoy Center: *www.ndbc.noaa.gov*
NOAA's Marine Prediction Center:
www.ncep.noaa.gov/mpc

U.S. Coast Guard Websites

Office of Boating Safety:
www.USCGBoating.org

U. S. Coast Guard Auxiliary: *www.cgaux.org*

Boating License Information:
www.cglalb.com/license.htm

Local Notices to Mariners:
www.navcen.uscg.mil/lnm/lnm.htm

On the Internet: ***www.yoto98.noaa.gov***
Year of the Ocean Information Line: **1-888-4YOTO98**

RUNOFF POLLUTION

Did You Know....

- ◊ 80 percent of pollution to the marine environment comes from land-based sources, such as runoff pollution. Runoff pollution includes many small sources, like septic tanks, cars, trucks and boats, plus larger sources, such as farms, ranches and forest areas.
- ◊ Millions of motor vehicle engines make daily, one-drop-at-a-time "oil spills" onto roads and parking lots, which add significantly to runoff pollution.
- ◊ Some water pollution actually starts as air pollution, which settles into waterways and oceans.
- ◊ Dirt can be a pollutant. Top soil or silt from fields or construction sites can run off into waterways, harming fish and wildlife habitats.

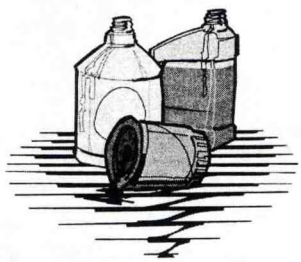
NOAA's Role

The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) works with the Environmental Protection Agency, Department of Agriculture and other federal and state agencies to develop ways to control runoff pollution. These agencies work together to monitor, assess and limit runoff pollution that may result naturally and by human actions.

NOAA's Coastal Zone Management Program is helping to create special non-point source pollution control plans for each participating coastal state. When runoff pollution does cause problems, NOAA scientists help track down the exact causes and find solutions.

How It Affects YOU

Non-point source pollution, commonly called runoff pollution, can make river and ocean water unsafe for humans and wildlife. In some areas, runoff pollution is so bad that it causes beaches to be closed after rainstorms. In 1992, for example, some beaches were closed or advisories were issued against swimming about 3,000 times.



Drinking water supplies can be contaminated by polluted runoff, as can coastal waters containing valuable fish stocks. Experts think there is a link between agricultural runoff and waterborne organisms that cause lesions and death in fish. Humans who come in contact with these polluted waters and affected fish can also experience harmful symptoms.

More than one-third of the shellfish-growing waters of the United States are adversely affected by coastal pollution.

Correcting the harmful effects of runoff pollution is costly. Each year millions of dollars are spent to restore and protect areas damaged or endangered by non-point source pollutants.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ Don't pour oil, engine fluids, cleaners, or household chemicals down storm drains or sinks.
- ◊ Find approved motor oil and household chemical recycling or disposal facilities near your home, and make sure your family and friends use them.
- ◊ Use lawn, garden and farm chemicals sparingly and wisely. Before spreading chemicals or fertilizer, check the weather forecast for rain so they don't wash away.
- ◊ Repair automobile or boat engine leaks immediately.

WHERE TO GET MORE INFORMATION.....

NOAA's National Ocean Service
Office of Coastal Resource Management
ATTN: Non-point Pollution
1305 East-West Highway
Silver Spring, MD 20910
Website: *www.nos.noaa.gov/ocrm/*

Call your state environmental or conservation department.

U.S. Environmental Protection Agency
Non-point Source Control Branch
Washington, DC 20460
Website: *www.epa.gov/owow/nps/index.html*

Check your phone directory, or call your city or county environmental quality or sanitation department, for oil and chemical waste recycling/disposal.

On the Internet: *www.yoto98.noaa.gov*
Year of the Ocean Information Line: 1-888-4YOTO98

MARINE PROTECTED AREAS

Did You Know....

◊ More than 18,000 square miles of ocean and coastal waters, from Cape Cod to American Samoa, are protected by NOAA's National Marine Sanctuaries.

◊ About 180 million people visit U.S. coastlines each year; beaches are the leading tourist destination.

◊ The remains of the *USS Monitor*, a U.S. Civil War ironclad warship resting 230 feet at the bottom of the ocean, is the site of the first national marine sanctuary.

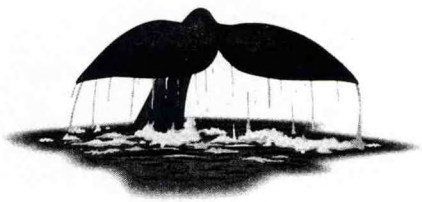
NOAA's Role

The National Oceanic and Atmospheric Administration (NOAA) is part of the Commerce Department. NOAA's National Marine Sanctuary and National Estuarine Research Reserve Programs bring new approaches to natural resource management. Sanctuaries balance recreational and commercial use of our ocean and coastlines with long-term protection of their natural bounty. Reserves serve as natural laboratories and classrooms for increased understanding and protection of coastal habitats. Both programs partner with local citizens and governments to manage our nation's waters and shorelines, and their inhabitants.

These partnerships also advocate for conservation of our natural and cultural heritage; aid in the recovery of endangered marine mammals; and lessen the threat of oil spills and ship groundings.

How It Affects YOU

Human activities, such as fishing, boating, nearshore construction and commercial underwater ventures, may impact marine wildlife if caution is not taken. Habitat and survival go hand in hand. Some animals and plants can survive only in one specific type of habitat, and when their habitat disappears, so do they.



Preservation of marine species is important for economic, biological, educational and aesthetic reasons. The U.S. fishing economy, which in 1995 added more than $20 billion to the gross domestic product, depends on continuous replenishment. Tourism, which annually generates $54 billion in goods and services, also depends on healthy marine life and habitats.

Sustainable use, which is the ongoing availability of renewable marine resources, requires us to consider and manage the many biological and technological factors that affect the ecological well-being of our oceans and shorelines.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ **Volunteer** with a sanctuary, reserve or nonprofit group that works to protect coastal and marine habitats.
- ◊ **Be mindful** of your own environment. Keep litter, used oil, antifreeze, toxic chemicals, pesticides and debris out of drains, and conserve water.
- ◊ **Work individually** and with others to help keep the ocean clean, and protect vital habitats like wetlands.
- ◊ **Treat the ocean with care.** Enjoy your ocean, waterways and shorelines, but remember that this recreation area is a fragile homeland to many plants and animals.
- ◊ **Don't feed the fish** or other marine wildlife! It destroys natural feeding habits.

WHERE TO GET MORE INFORMATION.....

NOAA's National Ocean Service
Office of Ocean and Coastal Resource Management
National Marine Sanctuaries Division
1305 East-West Highway, 11th Floor
Silver Spring, MD 20910

NOAA's National Ocean Service
Office of Ocean and Coastal Resource Management
National Estuarine Research Reserve Division
1305 East-West Highway, 11th Floor
Silver Spring, MD 20910

NOAA's National Marine Sanctuary Program
Website: *www.nos.noaa.gov/ocrm/nmsp*

On the Internet: ***www.yoto98.noaa.gov***
Year of the Ocean Information Line: **1-888-4YOTO98**

SUSTAINING MARINE RESOURCES

Did You Know....

- ◊ In 1996, commercial landings by U.S. fishermen were 9.6 billion pounds, valued at $3.5 billion, making the U.S. the world's fifth largest seafood harvester.
- ◊ In 1996, approximately 17 million recreational fishers spent more than $9 billion on fishing and related activities.
- ◊ U.S. consumers spent an estimated $41 billion for seafood and fish products in 1996.
- ◊ Many of our important fish species in the United States are overfished and in need of rebuilding, including cod, haddock and red snapper.
- ◊ If all overfished fish stocks were rebuilt to healthy levels and then harvested at the maximum sustainable yield, the fishing industry would have the potential of contributing another $4 billion to the nation's annual economy.

NOAA's Role

The National Oceanic and Atmospheric Administration (NOAA) is part of the Department of Commerce. NOAA's National Marine Fisheries Service and National Sea Grant College Program manage the conservation of our oceans' fish, turtles, whales, seals, dolphins and other marine mammals, and is responsible for ensuring that the best scientific information is used in these management decisions.

The National Marine Fisheries advocates the sustainable use of living marine resources and works to balance competing needs and interests in the use and enjoyment of ocean resources. These uses include commercial, recreational and subsistence fishing, aquaculture, observation and research.

Our nation's living marine resources belong to all U.S. citizens and the Fisheries Service works on behalf of citizens to manage and sustain the nation's marine life and habitats.

How It Affects YOU

U.S. residents ate an average of 15 pounds of fish and shellfish last year. Estimates suggest that seafood production from wild fish stocks will not meet growing U.S. and global demand for seafood products into the next century. Demand for seafood will need to be met through a variety of sources, including rebuilding wild fish stocks, imported seafood products, and an increasing reliance on aquaculture, or fish farming.

In 1996, 18 percent of the U.S. population over 16 years of age spent an average of 17.7 days fishing. Recreational fishing opportunities increase and enhance appreciation of our nation's aquatic resources while advancing the benefits of conservation and responsible use.

Congressional action to renew the Magnuson-Stevens Fishery Conservation and Management Act in 1996 was an essential first step in requiring a timely rebuilding of overfished stocks. NOAA's National Marine Fisheries Service is now in the process of implementing those mandates to improve its marine fisheries management and rebuild U.S. fish stocks.

The world's leading fishing nations face many of the same challenges in rebuilding overfished marine resources. As a result, they have adopted a Code of Conduct for Responsible Fishing that follows the U.S. example of the precautionary approach in marine conservation and management.

The United States is a world leader in the effort to create sustainable fisheries, so that these resources will be here for generations to come. The National Marine Fisheries Service is busy following a strategic plan to rebuild and maintain marine fisheries.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ **Follow regulations** that limit the type, size, and amount of fish you can catch.
- ◊ **Get involved** in the fishery management process; attend a regional fishery management council meeting near you.
- ◊ **Understand** the important role that sound, high quality science plays in understanding our living marine resources, and support efforts to improve the quality and quantity of research.
- ◊ **Protect and conserve** coastal marine habitats, and reduce your use of pollutants that may end up in coastal watersheds.

WHERE TO GET MORE INFORMATION.....

NOAA Fisheries Headquarters
1315 East-West highway
Silver Spring, MD 20910-3226
301-713-2239
Website: *www.kingfish.ssp.nmfs.gov*

NOAA National Sea Grant College Program
1315 East-West Highway
Silver Spring, MD 20910
Website: *www.mdsg.umd.edu/NSGO/*

Fisheries Science Centers

Alaska Fisheries Science Center
206-526-4000
Northeast Fisheries Science Center
978-495-2000
Northwest Fisheries Science Center
206-860-3200
Southeast Fisheries Science Center
305-361-4284
Southwest Fisheries Science Center
619-546-7000

NOAA Fisheries Regional Offices

Alaska Region
907-586-7221
Northeast Region
978-281-9300
Northwest Region
206-526-6150
Southeast Region
813-570-5301
Southwest Region
562-980-4000

On the Internet: *www.yoto98.noaa.gov*
Year of the Ocean Information Line: 1-888-4YOTO98

COASTAL TOURISM

Did You Know....

- ◊ Travel and tourism is the largest industry, employer, and foreign-revenue earner in the United States; and beaches are the leading tourist destination.
- ◊ Coastal states earn 85 percent of all U.S. tourism revenues. Miami Beach has more tourists annually than the Yellowstone, Grand Canyon, and Yosemite National Parks combined.
- ◊ Travel and tourism is the largest and fastest growing segment of the U.S. service-industry.
- ◊ About 180 million people visit our coastlines each year, and most Americans spend at least 10 days a year near a coast.

NOAA's Role

The National Oceanic and Atmospheric Administration (NOAA) is part of the Department of Commerce. NOAA's Coastal Zone Management Program works with other federal agencies and coastal states to balance the many ways people and industries use coastal areas for living, work and play. NOAA also provides services and products that support the conservation and management of coastal wildlife and living marine resources.

NOAA is the only official producer of nautical charts for U.S. waters. Recreational boaters and fishermen rely on NOAA's information to ensure their nautical activities are safe and pleasant. NOAA also issues critical weather and flood warnings and forecasts to protect us during visits to the coasts. NOAA Weather Radio broadcasts weather warnings, watches, forecasts and other hazard information 24 hours a day.

How It Affects YOU

Coastal tourism is vital to the U.S. economy. Millions of people involved in recreational fishing, snorkeling and scuba diving, and other aquatic and beach activities, provide 28.3 million jobs and annually generate $54 billion in goods and services. More than 90 percent of foreign visitors to the United States visit our coasts. Coastal counties, which produce 32 percent of America's gross domestic product, have a profound impact on the economic health of the entire nation.

However, where this influx of visitors significantly adds to the nation's economy, it can also strain our nation's beaches and related natural resources. Without long-term planning for growth, development and overuse can permanently harm these important natural resources.

Government, industry, and individual citizens can support sustainable coastal development and use by ensuring that environmental integrity is maintained as coastal communities are allowed to expand physically and prosper economically.

WHAT YOU CAN DO

Get educated and share your knowledge!

- ◊ **Don't drive on the beach.** Beaches are fragile, and the shells, grasses and animals that beaches contain can be crushed and destroyed under the weight of vehicles.

- ◊ **Clean up the beach.** Pick up trash, even if it's not yours, and dispose of it in trash receptacles. Recycle the containers you use at the beach. Pick up after your dog.

- ◊ **Don't throw plastic on the beach or in the water.** Birds, marine animals and fish can die by swallowing or becoming entangled in plastic.

- ◊ **Never leave fishing line or hooks on the beach**. Fishing line can strangle marine animals. Hooks can injure other mammals, as well as humans walking near the shoreline.

- ◊ **Take a vacation *from* the beach!** If your favorite beach or coastal recreation area is always overcrowded, have fun exploring new vacation spots.

WHERE TO GET MORE INFORMATION.....

NOAA's National Ocean Service
Office of Ocean and Coastal Resource Management
1305 East-West Highway, 11th Floor
Silver Spring, MD 20910
Website: *www.nos.noaa.gov/ocrm*

NOAA's National Sea Grant College Program
SSMC3 Room 11606
1315 East-West Highway
Silver Spring, MD 20910
301-713-2431
Webste: *www.mdsg.umd.edu/NSGO/*

On the Internet: **www.yoto98.noaa.gov**
Year of the Ocean Information Line: **1-888-4YOTO98**