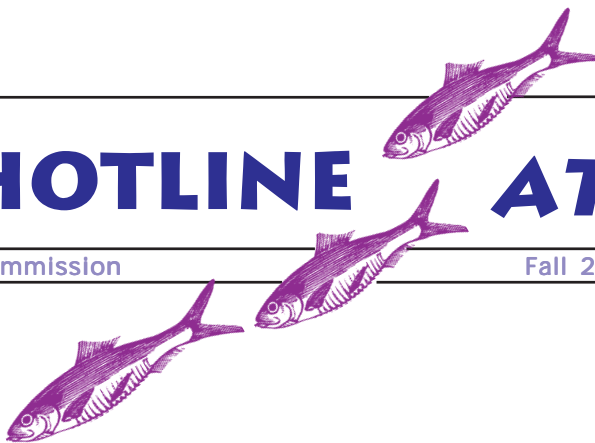

HABITAT HOTLINE ATLANTIC

Atlantic States Marine Fisheries Commission

Fall 2006, Volume XIII, Number 4



Partnerships Part 2: Taking Time for Trash

Awareness of Marine Debris Finally Forcing Action

Imagine a beautiful day- warm with a nice breeze- and you are out sailing across the crisp blue ocean water. You close your eyes and let the wind rush through your hair and the sun kiss your skin. When you open your eyes, your heart sinks. You stare as miles upon miles of debris consumes your vessel. Everywhere you look you see cigarette filters, food baggies, plastic caps, drink bottles, lighters, diapers, cups, fishing line, socks, milk cartons, shoes, balloons, and more. You think... Am I dreaming? Could I possibly have floated onto a garbage dump? No. You are witnessing one of the world's most pervasive pollution problems affecting our waterways... trash.

How did all of this trash end up out in the middle of the ocean? Well, it is the result of carelessness on the part of billions of people across the globe- all the way down to your backyard. It comes from storm water discharges, combined sewer overflows, beach littering, solid waste disposal and landfills, industrial activities, commercial and recreational fishing, offshore oil and gas platforms and exploration, and various boats and ships. It travels down pipes and rivers, and across millions of miles of open ocean.



Source: Ocean Conservancy

Sources of Debris

Litter in our oceans and waterways is harmful to the marine environment, but most of it comes from activities on land. This means if we change our behavior, we can keep marine debris out of the water. Here are the sources of debris found during The Ocean Conservancy's International Coastal Cleanup, begun in 1986.

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This marine debris has been found to harm at least 267 different species of aquatic creatures, from seabirds to sea snails, by way of entanglement, ingestion, or invasive species transport. It is aesthetically akin to viewing a garbage dump, and can also pose human health and safety concerns. A syringe on the beach, or a derelict net in a propeller is not an exciting prospect for anyone. Therefore, people need to be aware of their impact, and strive to prevent pollution from taking over their waterways.

Over the past 35 years or so, plastic and synthetic materials have come to replace natural fibers in a vast variety of uses. As a result, the characteristics of trash produced throughout the world have changed drastically towards materials that are slow to decompose. Unfortunately for marine animals, a great deal of that material is moving into the oceans causing a formidable life threat.

(continued on page 2)



Sad but true...

- ◆ Nearly 90% of floating marine litter is plastic
- ◆ Over 46,000 pieces of plastic litter are believed to be floating on every square mile of ocean
- ◆ About 70% of that floating plastic will eventually sink
- ◆ It is estimated that 80% of marine debris comes from land-based sources
- ◆ 50 to 80% of sea turtles found dead have ingested marine debris
- ◆ Approximately 1 million seabirds and 100,000 seals, sea lions, whales, dolphins, and other marine mammals and sea turtles choke or get tangled in plastic nets or other debris each year
- ◆ Every piece of trash floating in the ocean or washing up on the beach has someone's face behind it



Source: Pacific States Marine Fisheries Commission

Some plastics break into smaller and smaller pieces over time, eventually becoming a plastic confetti that absorbs toxic chemicals. These little poison pills are mistaken by marine life to be food and are ingested. These plastics not only cause digestive blockages, but also slow poisoning if the animal eats enough particles.

Marine debris can also cause a hazard for human health. Items such as condoms, tampons, applicators, and syringes may wash into storm drains or land runoff. These materials can make it unsafe to walk on beaches, and pathogens and bacteria can cause unsafe swimming conditions. Pollutants can also contaminate edible fish and shellfish.

Whether directly or indirectly, many of the everyday activities in which we partake ultimately impact and negatively affect the oceans. Reusing and recycling materials can help, but that is only the beginning.

International Attack

To address this problem of marine debris, a number of conventions and agreements have been introduced. In 1988, the International Convention for the Prevention of Pollution from Ships (MARPOL) produced legislation with the aim of preventing ships from disposing of waste overboard. While many countries have ratified this agreement, it remains to be enforced in many areas. Some countries lack ports with the ability to receive the refuse. Consequently, there are mixed opinions about its efficacy in the reduction of ship dumping in the oceans.

There are a number of more regional initiatives to reduce problems with marine debris. In fact, recently a bill (S. 362)

entitled the "Marine Debris Research, Prevention, and Reduction Act" passed both the United States Senate and House of Representatives. The Act currently is awaiting the approval of President George W. Bush. The purpose of the Act is, "to establish a program within the National Oceanic and Atmospheric Administration and the United States Coast Guard to help identify, determine sources of, assess, reduce, and prevent marine debris and its adverse impacts on the marine environment and navigation safety, in coordination with non-Federal entities, and for other purposes."

This Marine Debris Act comes as a result of needing to remove trash washing into the newly created Northwestern Hawaiian Islands Marine National Monument. Many people are hopeful that the Act will make strides towards cleaning up the extensive "eastern garbage patch" swirling out in the Pacific Ocean.

A Partnership For Everyone

One of the most publicized partnership efforts to clean up marine debris, the International Coastal Cleanup (ICC), is sponsored by the Ocean Conservancy. Each year, on the third Saturday in September, people around the world unite in a common goal to clean up the oceans. From 1986 through 2005, 6.2 million volunteers removed 109 million pounds of marine debris from



Source: EPA

179,000 miles of beaches and inland waterways in 127 different nations. This is the largest single-day volunteer event for the marine environment.

According to the Ocean Conservancy, in a span of 6 years the ICC collected 8.2 million cigarettes and filters, 3 million food wrappers, 1.9 million plastic bottles, 1.8 million glass bottles, and 1.7 million bags. The idea behind the initiative is to combine local efforts into a global effect.

Join the cleanup in your area! For information on how you can be involved, please contact Tom McCann at (202) 351-0465, or tmccann@oceanconservancy.org.

Debris Decomposition Timeline

| | |
|---------------------------|-----------------|
| Glass bottle | 1 million years |
| Monofilament fishing line | 600 years |
| Plastic beverage bottle | 450 years |
| Disposable diaper | 450 years |
| Foamed plastic bouy | 80 years |
| Aluminum can | 80 – 200 years |
| Nylon fabric | 50 years |
| Plastic bag | 10 – 20 years |
| Cigarette filter | 1 - 5 years |
| Orange peel | 2 – 5 weeks |

National Marine Debris Monitoring Program

You are busy in September? Don't worry! You can volunteer to help with a scientific study being conducted by the Ocean Conservancy in conjunction with the Environmental Protection Agency (EPA). Since 1996, this Program has taken the idea of beach cleanups a step further than the ICC by standardizing the data collection through the use of a scientifically valid protocol to determine the status and trends of marine debris pollution. Consequently, volunteer participants become real citizen scientists.

Every 28 days, debris is collected from each of the 180 sites along the coastline of the U.S. mainland, Alaska, and Hawaii to help determine the sources and changes in marine debris pollution.

If you are interested in this Program, please email mdm@oceanconservancy.org.



Source: State of California

A Trashy Grant Program

The National Fish and Wildlife Foundation has joined with the NOAA Marine Debris Program to create a grant opportunity for organizations working on projects to improve understanding of the impacts of debris on marine ecosystems, and to reduce and prevent debris in the marine environment. Support is provided to projects that will likely reduce marine debris caused by fishing gear or any other man-made or processed solid material discarded or disposed of, that enters the coastal or marine environment (not to include abandoned vessels or liquid waste).

The Program provides competitive grants to finance creative and innovative proposals that plan to work with marinas, ports, and the fishing industry to significantly reduce the occurrence of debris, or to proposals that address the biological, social, or economic impact of marine debris on species, habitat, and coastal businesses.

For more information about this Program, please contact Michelle Pico at (262) 567-0601, or pico@nfwf.org.

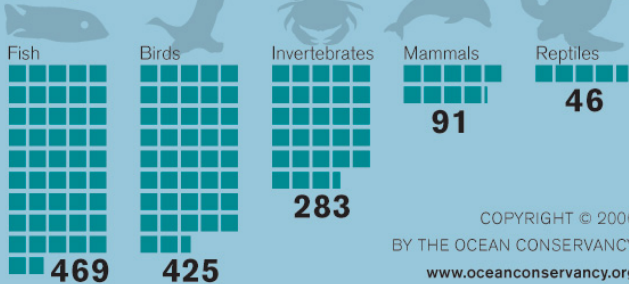


Source: NOAA

Entangled Wildlife

Marine debris can hurt or kill marine wildlife from entanglement or ingestion. Keeping litter off the beach will help keep wildlife safe. Below are the animals found entangled in debris during The Ocean Conservancy's International Coastal Cleanup.

Entangled Wildlife Found Since 2000



What Can You Do?

- ◆ Dispose of all trash properly, and don't throw garbage or derelict gear overboard
- ◆ Maintain designated disposal sites on board
- ◆ Retrieve trash that accidentally goes overboard
- ◆ Keep boat engines properly tuned for efficient fuel/oil consumption
- ◆ Use biodegradable products when possible
- ◆ Secure items that may be blown overboard
- ◆ Volunteer for coastal cleanup programs
- ◆ Encourage the use of biodegradable plastics and responsible disposal practices
- ◆ Educate others on the importance of proper waste management
- ◆ Reduce, Reuse, Recycle



SPOTLIGHT ON MUDFLATS

Mudflats are intertidal habitats created by sediment deposition in low energy coastal environments, such as estuaries and other sheltered areas. Generally, the sediments deposited are silts and clays high in organic content. Found between the subtidal zone and vegetated salt marshes or mangroves, mudflats play an important role in the reduction of erosion and flooding in the coastal zone through dissipation of wave energy. In addition, mudflats play an important role in nutrient cycling due to their high level of productivity.

Typically, mudflats support a high biomass but relatively low species diversity. The nature of the biota reflects the prevalent physico-chemical conditions. Although the surface of the mud may appear devoid of vegetation, it is often covered with dense mats of microalgae. These microalgae produce a sticky mucus substance that contributes significantly to the stability of the sediments.

The importance of mudflats extends beyond the ground to the birds and fish that are supported by these habitats. They provide foraging grounds for shorebirds, ducks, fish, and marine invertebrate predators, as well as spawning and nursery habitats for forage fish and juvenile crustaceans. Additionally, numerous species of clams, polychaete worms, amphipods, and other invertebrates can be found in mudflats. As a result, these habitats are critical for their specialized residents.

Unfortunately, as with many coastal habitats, mudflats worldwide are under threat from predicted sea level rises, land claims for development, dredging due to shipping purposes, and chemical pollution.

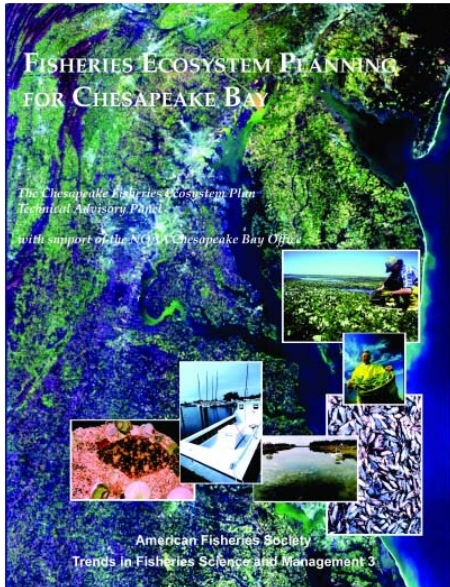
Your Organization is invited to join the Atlantic Coastal Fish Habitat Partnership (ACFHP)!!



The ACFHP is a partnership forming under the National Fish Habitat Action Plan (NFHAP). The NFHAP is a call for action to improve degraded fish habitat nationwide. Our primary interest is the protection and restoration of habitats in Atlantic coastal drainage basins. For further information on this initiative, or if you are interested in becoming a partner, please contact Jessie Thomas, ASMFC Habitat Coordinator, at (202) 289-6400, or JThomas@asmfc.org.



AROUND THE COAST: ECOSYSTEM-BASED MANAGEMENT IN CHESAPEAKE BAY

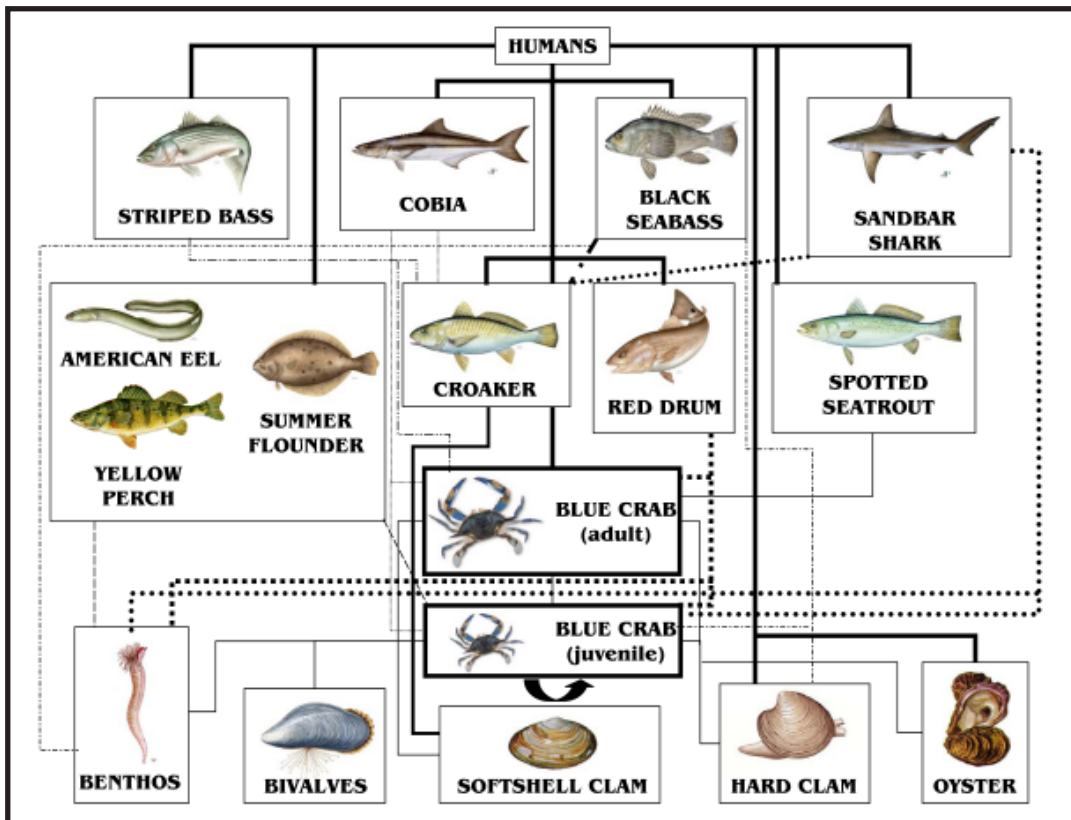


In an attempt to address some of these issues, "Fisheries Ecosystem Planning for Chesapeake Bay" was published this past month by the American Fisheries Society. This work describes the structure and function of the bay's ecosystem, including key habitats and species interactions. Recommendations to implement ecosystem-based approaches to fisheries management for bay resident and coastal species are included, as well as recommendations for research to enhance knowledge of the ecosystem and its fisheries.

This report offers a new strategy to improve and coordinate management of fish and their habitats in the Bay. It encompasses habitat from the headwater streams to the mouth of the Bay, and possibly beyond. The emphasis is switched from traditional single-species regulation of fisheries to a full system that must be maintained in order to sustain fisheries.

According to the report, if the health of the ecosystem is improved, the abundance of fish species- and ultimately the level of sustainable catches- should increase. As fisheries throughout the world have collapsed, managers are increasingly looking toward these types of ecosystem-based management approaches to take fisheries management in a new, and hopefully improved, direction.

Since European settlement, the Chesapeake Bay's estuarine system has supported major fisheries and the livelihoods of residents. Over recent decades, however, many of the fish and shellfish that supported these fisheries have declined.



This foodweb of blue crab (adapted from the book), showing the interrelatedness of species, gives an idea of just how complex one small part of the ecosystem can be.

IN THE NEWS

Comment on Framework for System of MPAs

On September 22, 2006, the National Oceanic and Atmospheric Administration and the U.S. Fish and Wildlife Service released their Draft Framework for Developing the National System of Marine Protected Areas for public comment (www.mpa.gov). The first effort of its kind in the nation, the framework describes a national system of MPAs built in partnership with federal, state, tribal, and local governments as well as other stakeholders. The national goal is to increase efficient protection of U.S. marine resources by enhancing government agency cooperation, helping to sustain fisheries and maintain healthy marine ecosystems for tourism and recreation businesses, and improving public access to scientific information about the nation's marine resources.

Public comments can be submitted in writing and sent via email, fax, or regular mail to: Mr. Jonathan Kelsey, NOAA's Office of Ocean and Coastal Resource Management, 1305 East West Hwy, N/ORM, Silver Spring, MD 20910; ph: (301) 713-3100, ext. 130; fax: (301) 713-3110; email: mpa.comments@noaa.gov.

Symposium Announcement: Challenges for Diadromous Fishes in a Dynamic Global Environment

This international symposium will review the current state of scientific knowledge with respect to the biology, ecology, and conservation of diadromous fishes. The symposium theme will build upon the very successful 1986 American Fisheries Society symposium, Common Strategies of Anadromous and Catadromous Fishes (Dadswell et al. 1987. Am. Fish. Soc. Symp. 1). However, emphasis will be expanded to address how recent alterations to the environment have affected diadromous fishes and their role in aquatic ecosystems. Participation from social scientists and fisheries managers with perspectives on approaches to diadromous species conservation and management is also encouraged. The symposium will be held in Halifax, Nova Scotia (Canada) from June 18-21, 2007.

For more information on sessions, speakers, and abstract submission, please see the conference website - www.anacat.ca.

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Jessie Thomas
Editor

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