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Reversing The Tide

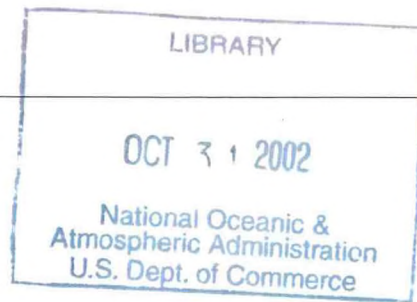
*Restoring the Nation's Coastal and
Marine Natural Resources*



Damage Assessment and Restoration Program
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

November 1995





A Legacy at Risk

For thousands of years, people have been drawn to the world's coastal areas. Today, coastal areas throughout the United States are hubs of commerce, recreation and tourism. More than half of the nation's population lives near the coast. As the coastal population continues to grow, the health of valuable natural resources—many of which sustain local, regional and national economies—is increasingly at risk.

Estuaries and coastal areas, both land and water, provide critical habitat for many species including waterfowl, wildlife, fish, and marine mammals. Yet, coastal areas are no longer the clean, abundant habitats they once were.

Vast areas of ecologically productive estuarine and wetland areas have been modified or lost to build roads, railways, seaports and other infrastructure to support residential, agricultural, industrial, and commercial growth. In addition, toxic chemicals and oil discharged by various activities and accidental spills have degraded coastal waters, sediments and soils.

Exposure of marine organisms to toxic organic chemicals and metals can cause disease and other harmful changes. The quality and quantity of fish and wildlife populations dependent on coastal and wetland habitat have declined significantly. Contaminated fish pose a threat to human health, and fish advisories and harvest area closures result in economic and recreational losses. In order to sustain healthy and productive ecosystems as a basis for continued economic growth and prosperity, the nation's coastal and marine resources must be protected and restored.

"If we're to be responsible, we must accept the fact that we owe a massive debt to our environment. It won't be settled in a matter of months, and it won't be forgiven us."

—Russell E. Train
1970

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NOAA's Role as a Public Trustee

With the passage of the 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, more commonly known as the Superfund Act), Congress directed the Secretary of Commerce to assess and recover damages for injuries to natural resources from releases of oil and other hazardous substances. The Commerce Secretary has delegated this important responsibility to the National Oceanic and Atmospheric Administration (NOAA). Natural resource "trustees" are authorized to



Coastal waters and estuaries provide essential habitats for over 75 percent of the total commercial fish catch and 80-90 percent of the recreational catch of fish and shellfish of the U.S. These species support commercial fisheries that annually produce \$2 billion in revenue to fishermen and generate \$25 billion in related economic activity. They also provide recreational fishing for 17 million Americans who generate an estimated \$18 billion in annual economic activity. The abundance of coastal-dependent species of fish has been reduced to historically low levels by overfishing, habitat loss, flow alterations and pollution.

Source: U.S. Dept. of Commerce, NOAA 1995-2005 Strategic Plan

act on behalf of the public to protect the resources of the nation's coastal and marine environment. It is necessary to take actions to maintain a healthy and productive coastal ecosystem to promote commercial as well as recreational uses of these resources. Stewardship of the nation's natural resources is shared among several federal agencies, states and tribal trustees.

NOAA's trust resources include:

- commercial and recreational fishery resources;
- anadromous species (fish, like salmon, that spawn in freshwater and then migrate to the sea);
- endangered and threatened marine species and their habitats (sea turtles, for example);
- marine mammals (such as whales, dolphins and seals);
- marshes, mangroves, seagrass beds, coral reefs, and other coastal habitats; and
- all resources associated with National Marine Sanctuaries and National Estuarine Research Reserves (e.g., coral reefs).

Congress passed early environmental laws, such as the Clean Water Act, in the 1970s to address the degradation of the nation's environment. These statutes initiated various programs to manage the nation's natural resources. With the more recent passage of the Superfund Act, the Oil Pollution Act of 1990 (OPA), and the National Marine Sanctuaries Act (NMSA), Congress explicitly expanded the authority of natural resource trustees to address injuries and restore the nation's coastal and marine resources. The Superfund Act and OPA made parties releasing hazardous materials and oil into the environment responsible not only for the cost of cleaning up those releases, but also for monetary compensation (damages) associated with any injury to natural resources caused by the releases. Recovered damages are used to restore injured resources through activities such as acquiring and improving degraded saltmarsh habitats.

What is the Damage Assessment and Restoration Program?

NOAA established the Damage Assessment and Restoration Program in 1990 to fulfill the natural resource trustee responsibilities assigned in the Clean Water Act (CWA), the Superfund Act, OPA, and the National Marine Sanctuaries Act (NMSA). The Program consists of an interdisciplinary team dedicated exclusively to conducting damage assessments and restoring marine resources. This unique approach to natural resource damage assessment was shaped by over a decade of assessing injuries to coastal and marine

resources that reached a peak following the *Exxon Valdez* oil spill in March 1989.

NOAA's program is effective because it provides an institutional focus for coordinated natural resource damage assessment and restoration. Protracted and costly litigation to recover damages often is avoided because NOAA, other co-trustees and the responsible parties are provided an opportunity to agree to a settlement that restores injured resources. This new approach of working cooperatively with responsible parties to collect data and conduct assessments minimizes costly duplication of effort.

The natural resource damage assessment process requires scientific, economic and legal expertise. To shorten the time between injury and the completion of restoration, NOAA develops and implements new methods for assessing damages and restoring injured resources.

Since 1990, NOAA has provided the scientific and economic basis for over \$140 million* in settlements with responsible parties. The Damage Assessment and Restoration Program is a critical, innovative component of NOAA's overall trustee responsibility. The program has allowed NOAA to leverage a small investment of public funds to recover substantial funding from polluters, thus working with



Skin tumor, in an English sole, often found in fish exposed to high sediment concentrations of polycyclic aromatic hydrocarbons.



A vessel hard aground on the corals of the Florida Keys National Marine Sanctuary.

* Exclusive of funds recovered from the *Exxon Valdez* settlement.

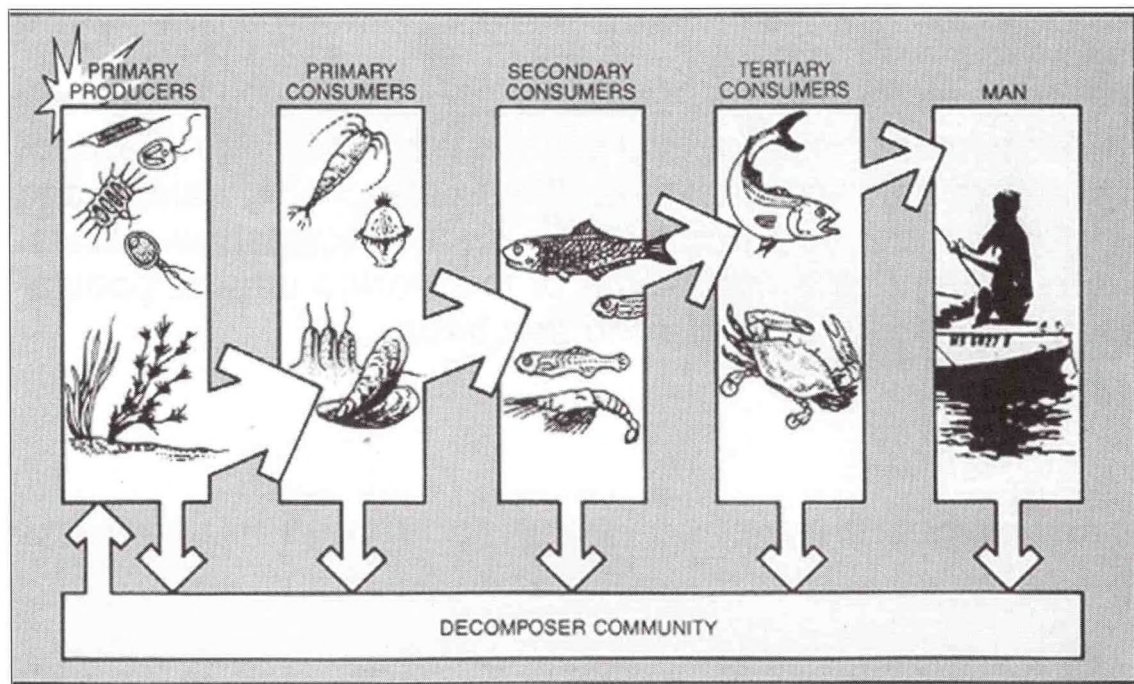
industry to restore the nation's coastal and marine natural resources and to reverse past trends. With the Damage Assessment and Restoration Program, NOAA is strengthening the institutional knowledge, expertise, and capacity for effective natural resource trusteeship necessary to protect and restore coastal and marine resources for use and enjoyment by future generations.

Goals and Activities

The Damage Assessment and Restoration Program has two primary objectives :

- to assess injury to NOAA trust resources caused by spills and chronic releases of hazardous materials or oil; and
- to compensate the public for injury or loss of natural resources through quick and efficient restoration.

NOAA's damage assessment and restoration activities fall into three categories: 1) those related to long-term releases of hazardous substances and oil spills; 2) those associated with catastrophic spills—primarily oil; and 3) those resulting from physical injury to resources of National Marine Sanctuaries (e.g., coral reef groundings). To deal with this array of circumstances, NOAA has



Potential pathways for transfer of contaminants through a marine ecosystem to humans.

assembled a multidisciplinary team of natural scientists, resource economists and lawyers qualified to:

- evaluate toxic releases;
- assess and quantify injuries;
- recover damages through negotiation or litigation;
- develop and evaluate restoration alternatives; and
- implement successful restoration strategies.

Benefits

NOAA's successful damage assessment and restoration efforts have made responsible parties more aware of releases of hazardous materials and their significance to the nation's coastal and marine resources. In addition to restoring injured resources, the process:

- **provides incentives to the private sector to prevent injury;**
- **makes the polluter pay to restore public resources; and**
- **demonstrates that small investments in the damage assessment process yield big returns in restoration.**

Other benefits of the Damage Assessment and Restoration Program include:

- effective partnerships with state, federal and tribal trustees, and industry to protect and restore natural resources;
- advancement in the state of the art in environmental science and natural resource economics; and
- heightened awareness among the general public of natural resource health and hazards through public participation in the restoration planning process.

NOAA's damage assessment and restoration capabilities provide a model for state natural resource trustees that are establishing their own programs. The development of local expertise, in turn, enhances the effectiveness of partnerships among co-trustees engaged in damage assessments around the country and reduces costs through the use of consistent strategies and methodologies.

In addition to coordination with co-trustees, NOAA works with the public during the restoration planning process. Public participation is key to developing and implementing the most effective and appropriate restoration strategies. NOAA and its co-trustees actively solicit input through public hearings and other forums on the range of restoration activities for particular sites.

"This recovery breaks bold new legal ground because it is the first Superfund Natural Resources Damages case in the history of the Commonwealth. The settlement is the result of outstanding state and federal cooperation which should serve as a model for future efforts to restore environmental areas that have suffered harmful contamination."

—Scott Harshbarger,
Massachusetts
Attorney General
September 4, 1992,
New Bedford Harbor PCB
Superfund Settlement

Measures of Success

Working with co-trustees, NOAA has recovered more than \$140 million in restoration funds with an investment of just under \$10 million in appropriated moneys. This represents a return of more than \$10 for the restoration of injured coastal and marine habitats for every tax dollar spent. A number of cases have been settled and moved into the restoration phase since the creation of the program.

Defining criteria for success is a critical part of the restoration planning process. NOAA's damage assessment performance ultimately must be measured against its effectiveness in restoring injured resources. Restoration efforts are underway across the country. For example:

- Restoration planning has begun in Commencement Bay (Tacoma, Washington) that will contribute a bay-wide solution to one of the nation's most heavily polluted coastal areas.
- Twenty-two acres of marsh are being created in Timbalier Bay, Louisiana, to restore wildlife habitat injured by an oil-well blowout.
- Coral reef habitats in the Florida Keys National Marine Sanctuary are being restored following recent ship groundings.

Natural resource restoration is a complex and costly undertaking. Progress may be slow and involve substantial investments of financial and human resources to correct environmental modification and loss that have occurred over long periods of time. Nevertheless, progress is being made to revitalize coastlines and marine resources. Efficient and effective damage assessment is essential to ensuring that the pace of restoration is maintained, if not quickened, and that momentum builds to reverse the tide of coastal resource loss. ☺



Newly created marsh and monitoring platform at the Greenhill Well Blowout Restoration Site on East Timbalier Island, Louisiana.

Active NOAA Restoration Sites



#	Case Name / Location	Restoration Funds	Restoration Activities
1	Elliott Bay* / Elliott Bay, WA	\$24,400,000	Sediment remediation, source control, habitat development, acquisition of lands
2	Tenyo Maru / Olympic Peninsula, WA	\$5,160,000	Options to restore seabirds under development
3	Commencement Bay* / Commencement Bay, WA	\$12,700,000	Shallow water habitat development; Middle Waterway restoration underway
4	Blackbird Mine, Salmon, ID	\$7,200,000**	Anadromous fish habitat restoration
5	Apex Houston / San Francisco, CA	\$5,416,000	Common murre and murrelet habitat restoration
6	Southern California* / Palos Verdes Shelf, CA	\$54,200,000	Restoration options under development
7	Apex Galveston / Houston Ship Channel, TX	\$1,313,000	Restoration options under development
8	French Limited, Galveston, TX	In-kind services	Saltmarsh restoration completed, monitoring underway
9	Greenhill / Timbalier Bay, LA	\$1,878,000**	Creation of tidal marsh
19	Elpis / Florida Keys NMS, FL	\$1,660,000	Coral reef repair complete; restoration and monitoring underway
11	Maitland / Florida Keys NMS, FL	\$1,080,000	Coral reef repair complete; restoration and monitoring underway
12	Army Creek / New Castle Co., DE	\$600,000	Upland wetland and adromous fish habitat restoration
13	Presidente Rivera / Delaware River, PA	\$2,141,000	Acquisition and restoration of coastal habitat, shoreline stabilization
14	Santa Clara / Offshore Cape May, NJ	\$200,000	Restoration options under development
15	Exxon Bayway / Arthur Kill, NY/NJ	\$11,113,000	Regional restoration plan under development; marsh restoration and habitat acquisition underway
16	Nautilus / Kill Van Kull, NY/NJ	\$3,300,000	Regional restoration plan under development; shorebird restoration underway; Educational and Interpretive Center funded
17	RTC380 / Long Island Sound, NY/CT	\$200,000	Restoration options under development
18	World Prodigy / Narragansett Bay, RI	\$567,000	Restoration options under development
19	New Bedford Harbor / New Bedford Harbor, MA	\$20,212,000	Evaluation of restoration options pending EPA actions

* Partial settlements to date

** Estimated amount/in-kind services

For Further Information

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