

U.S. Fish & Wildlife Service

Environmental Contaminants Program

2005 Accomplishments

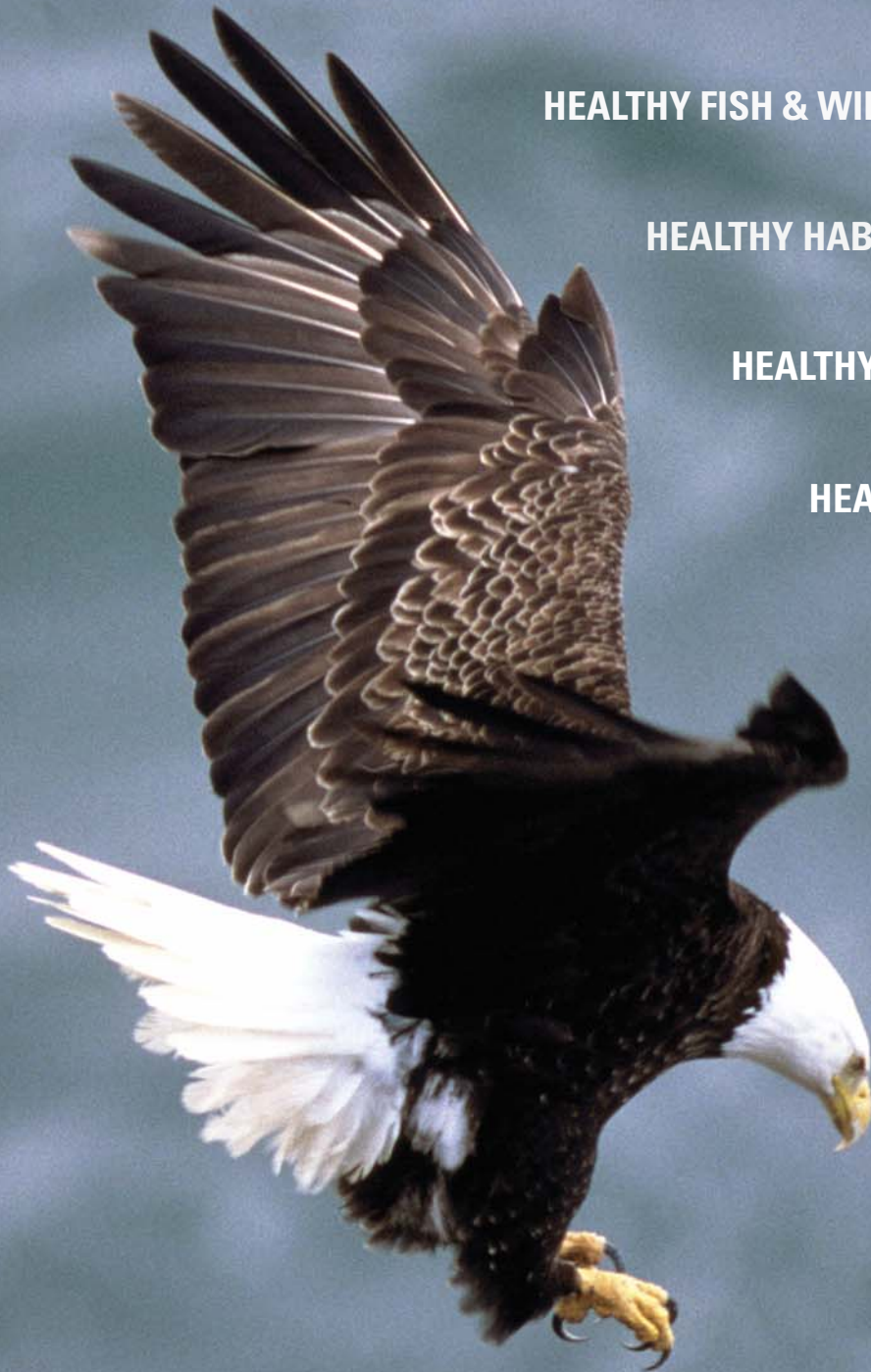
*Investigation, Prevention, and
Restoration of Contaminant Problems*

HEALTHY FISH & WILDLIFE

HEALTHY HABITATS

HEALTHY PEOPLE

HEALTHY ECONOMY



Environmental Contaminants Program Who We Are and What We Do

Environmental Contaminant Biologists at Work

Pollution may be one of America's greatest environmental issues, with concerns relating to human health and natural resource impacts. Many people are not aware that fish and wildlife populations often feel pollution's impacts much earlier, and signal pollution problems that may affect people and their quality of life. ***As the primary federal agency dedicated to protecting fish, wildlife, and their habitats from pollution's harmful effects, the U.S. Fish and Wildlife Service (Service) has a specialized program consisting of approximately 100 Environmental Contaminant (EC) Biologists who focus solely on pollution impacts to fish and wildlife and their habitats, helping to create a healthier world for all living things.*** Other federal agencies have responsibilities for human health, such as the U.S. Environmental Protection Agency (EPA), or provide scientific research support, such as the U.S. Geological Survey (USGS). Frequent and ongoing communication with these and other partners is essential to ensure we achieve our mission to work with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

Most EC Biologists have advanced degrees in biology, chemistry, or toxicology, and make significant contributions to scientific knowledge via professional scientific publications. EC Biologists have expertise in a wide variety of pollutants, such as oil and hazardous materials, pesticides, and metals. The EC Program uses a cooperative and collaborative approach with other federal agencies, states, tribes, local governments, foreign governments, and private citizens to identify and minimize contaminant related risks in the environment and to restore resources injured by contamination. The EC Program focuses in four priority areas.

Priority Areas:

- ◆ *Identifying contaminant sources and appropriate management measures to avoid impacts to trust resources,*
- ◆ *Prevention and pre-planning to minimize contaminant sources and to provide accelerated responses to contaminant releases,*
- ◆ *Restoring habitats and communities impacted by contaminants, and*
- ◆ *Technical assistance to cooperating agencies in order to prevent or minimize contaminant impacts.*

Original fish drawing at bottom of pages used with permission from the artist, Veronica Shelford.



Environmental Contaminants Program Strategic Planning

As the linchpin of the Department of Interior's (DOI) Strategic Plan's Resource Protection Goal of *Improving the Health of Watersheds and Landscapes Under DOI Management or Influence*, the EC Program implements strategies to restore and maintain the proper function of watersheds and landscapes. Currently, the EC Program is undergoing a comprehensive planning process to define long term goals which will clearly describe the breadth and integration of EC Program activities within the DOI and Service and establish its future direction. This strategic plan will be completed in fiscal year 2006.

Department of the Interior
Mission Components
Supported by the U.S. Fish and Wildlife Environmental Contaminants Program

Resource Protection

- ◆ Improve health of watersheds and landscapes
- ◆ Sustain biological communities
- ◆ Protect cultural and heritage resources

Resource Use

- ◆ Manage resources to enhance public benefit
- ◆ Promote responsible use and ensure optimal value

PARTNERSHIPS



USFWS Photos

Recreation

- ◆ Improve access to recreation
- ◆ Ensure quality of recreation
- ◆ Receive and provide fair value to recreation

Serving Communities

- ◆ Protect lives, resources, and property
- ◆ Advance knowledge through scientific leadership
- ◆ Fulfill Indian Trust responsibilities
- ◆ Advance quality communities for Tribes
- ◆ Increase economic self-sufficiency for insular areas

MANAGEMENT

SCIENCE



Environmental Contaminants Program Investigation

The U.S. Fish and Wildlife Service's trust resources include many fisheries resources, threatened and endangered species, migratory birds, some marine mammals, and National Wildlife Refuges.

The EC Program responded to 94 oil spills, some of which had significant environmental impacts.

In Fiscal Year 2005 Environmental Contaminants Biologists Completed:

- ◆18 clean up projects on National Wildlife Refuges,
- ◆30 contaminant investigations on refuges, and
- ◆31 contaminant investigations off refuges.

EC Biologists initiate investigations to address problems, but often contribute to a national and international scientific dialog. EC Biologists have conducted more than 20 investigations on contaminant impacts to eagles, which are contributing to the ongoing process to de-list our national symbol.

Oil Spills

Each year the Service receives thousands of oil spill reports. In fiscal year 2005:

- ◆The Service received 15,297 total oil spill notifications, of which, over 9,000 received further evaluation.
- ◆The Service received notice of 188 oil spills on and/or affecting National Wildlife Refuges.
- ◆The EC Program responded to 94 oil spills. Some required national involvement from Service responders, including spills related to Hurricanes Katrina and Rita, the *Selendang Ayu* in Alaska, and the *Athos I* on the Delaware River.



Unified Command

EC Biologist, Catherine Berg, holds a deceased auklet on an impacted beach near the wrecked Selendang Ayu.



Environmental Contaminants Program Investigation



Hurricanes Katrina and Rita

On August 29, 2005, Hurricane Katrina made landfall near the Mississippi-Louisiana border. Less than a month later, on September 24, 2005, Hurricane Rita made landfall in Florida, Texas, and Louisiana. High winds and storm surges caused extensive damage in Louisiana, Mississippi, Alabama, and Texas. These catastrophes caused the release of a wide variety of hazardous materials from the thousands of industrial, commercial, and residential facilities damaged or destroyed by the storms. EC Biologists aided stranded victims and then turned their attention to identifying and assessing oil and hazardous releases to protect human health and the environment.



Oil and hazardous material spills resulting from the hurricanes have impacted trust resources in southeast Louisiana. Over 8 million gallons of released oil from refineries, storage tank batteries, pipelines, and off-shore platforms were released. Spill response by EC Biologists is continuing and assessments are being initiated.

Accomplishments of EC Biologists in Hurricane Response Include Assisting a Multi-Agency Task Force to:

- ◆ Evaluate injuries to natural resources along approximately 140,000 square miles of waterways and coastal zones and nearly 6,400 miles of shoreline in Alabama and Mississippi,
- ◆ Assess 504 vessels grounded or deposited inland along coastal areas for potential oil discharges and to prioritize cleanup,
- ◆ Aid in identifying and marking more than 10,000 hazardous material containers, such as drums, tanks, cylinders, containers and batteries, which led to the recovery of 43,000 gallons of fuel, and
- ◆ Assess more than 200 facilities for hazardous materials.



Hurricane Katrina response as part of the multi-agency Task Force. Top to Bottom: Assessing shoreline for hazardous materials; marking drum for later removal; Katrina damage. Roxanna Hinzman/USFWS.

Because response work is ongoing, these numbers are conservative estimates of the work performed by EC Biologists in response to this natural disaster.



Environmental Contaminants Program Investigation



USFWS

Rescued long-tailed duck oiled as a result of the *M/V Selendang Ayu* spill.

Unalaska Island, Alaska: M/V Selendang Ayu

In December 2004, Environmental Contaminants Biologists aided in response to the grounded freighter *M/V Selendang Ayu*, which spilled an estimated 335,732 gallons of heavy Intermediate Fuel Oil, marine diesel, and 132 million pounds of soybeans in the waters off Unalaska Island, Alaska. This was the largest spill in Alaska since the 1989 *T/V Exxon Valdez* oil spill. **Over 1,600 bird carcasses were recovered.**

Delaware River, New Jersey: M/V Athos I

The New Jersey Field Office was the lead field response office to the *M/V Athos I* oil spill that began in November 2004 and spilled approximately 267,000 gallons of crude oil, impacting about 70 miles of the Delaware River. More than 80 Service personnel from around the country responded to the incident. **Federal trust resources at risk included migratory birds, such as nesting pairs of bald eagles and their foraging habitats, and five National Wildlife Refuges.**

In addition to oil spills, EC Biologists received 9,782 hazardous spill reports, which required 252 follow-up investigations and 42 spill site visits, 34 of which were on or impacted National Wildlife Refuges.



Kansas Department of Wildlife and Parks

EC Biologists responded to a fish kill which occurred on approximately 13 miles of a stream in Kansas due to a 120,000 gallon anhydrous ammonia leak. Approximately 22,000 Arkansas Darters (state listed/federal candidate) were killed by the leak, as were many other fish species.



Environmental Contaminants Program Prevention

Over 550 of the over 1,200 federally listed threatened and endangered species rely directly on aquatic habitats, and many more rely on them indirectly.



Phyllis Cooper/USFWS

The Environmental Contaminants Program works to ensure clean water and healthy habitats throughout the United States. Father and son fishing at Eufaula National Wildlife Refuge.

Pre-Spill Contingency Planning

EC Biologists play a major role in planning for and responding to oil spills, primarily to prevent or reduce impacts of spilled oil on fish and wildlife and their habitats, oversee collection and rehabilitation of oiled birds and other wildlife, and conduct natural resource damage assessments to facilitate restoration of fish and wildlife resources injured by oil. The Service's guidance for this work is contained in the *Fish and Wildlife Service National Oil Spill Contingency Plan*, which was updated in June 2005. To ensure preparedness in case of a spill, 298 oil spill drills were held across the nation.

Working Across our Border

The Carlsbad, California Field Office, working with the DOI, the Regional Response Team, and the Joint Response Team, conducted a 3-day spill response exercise in September 2005, with the Mexican Navy in Ensenada. This was a follow-up to the 2004 Spill of National Significance. Wildlife rehabilitation was one component of the exercise. EC Biologists are also coordinating with the Service's Division of Management Authority, Homeland Security, U.S. Coast Guard, State of California, Mexican Navy, Port of San Diego, other local government agencies, and California Oiled Wildlife Care Network to address cross border transportation of oiled wildlife.

Water Quality Criteria Development

What are water quality criteria?

- ◆ The EPA develops national water quality criteria for the protection of human health and the environment. Then, states use these criteria to develop state water quality standards.
- ◆ Water quality criteria specifically developed for protecting aquatic organisms are called aquatic life criteria. Aquatic life criteria are intended to represent the level of pollutants in water that should protect fish and other aquatic organisms from unacceptable adverse effects.



Environmental Contaminants Program Prevention



USFWS

Fish consumption advisory at Arthur R. Marshall Loxahatchee National Wildlife Refuge.

Typically, there are no set water standards for protecting water dependent wildlife.



Julie Thompson/USFWS

*Phragmites (*Phragmites australis*) management at Horsehead Wetland Center, Maryland using glyphosate.*

◆With the technical expertise of EC Biologists, the Service helps to ensure that measures to prevent water pollution are sufficient to protect trust resources, which live in or rely on the nation's waters.

◆In fiscal year 2005, the Service conducted 5,424 Clean Water Act (CWA) reviews, 918 Endangered Species Act Section 7 consultations on the CWA, and fulfilled 51 requests from tribes for technical assistance with the CWA. These actions typically involve coordination with local municipalities, state agencies, and other federal partners. EC Program involvement in Clean Water Act implementation includes national input on EPA's water quality criteria, consultation on state water quality standards and national aquatic life criteria, review of pollutant discharge permits, and technical assistance.

◆**EPA and the states typically have no set standards for protecting aquatic dependent wildlife.** Therefore, EC Program involvement in CWA activities is important for ensuring wildlife protection.

Pesticide Use

EC Biologists provided technical expertise on 1,029 pesticide use proposals (PUP) and 483 integrated pest management actions for the National Wildlife Refuge System. A PUP is information required by the Service before application of a pesticide on Service property to ensure pesticides are low risk, effective, and used appropriately. Most of the pesticides the Service uses are on National Wildlife Refuges for the management of non-native invasive species.

EC Biologists provided technical support on pesticide use by federal and state agencies in their efforts to improve habitat for federally listed species. EC Biologists consulted on 231 pesticide use and registrations packages. Early consultations, such as these, help prevent adverse effects to wildlife by identifying potential problems before use. EC Biologists are collaborating on a Service-wide pesticide guidance document, which will aid the Service in assessing pesticide risks.



Environmental Contaminants Program Restoration

In fiscal year 2005, the Service's Environmental Contaminant Program completed 25 natural resource damage assessments.

In fiscal year 2005, the Service's Environmental Contaminants Program completed 25 natural resource damage assessments (NRDARs). Throughout the country 63 other NRDARs are currently in progress. Below are examples of how the Service's EC Program worked with the states and private sector to restore trust resources impacted by contaminant releases.

Restoration of Lavaca Bay, Texas

Historical industrial activities by Alcoa Inc. at Lavaca Bay, Texas resulted in the release of mercury and other contaminants into the marine environment. In 1988, a portion of Lavaca Bay was closed to fishing and crabbing due to high mercury levels.

Mercury is a highly toxic element that is both a natural and an introduced contaminant in the environment. It can cause a reduction in offspring production and can impair other normal bodily functions.

In December 2004, settlements were reached between state and federal government natural resource trustees and Alcoa Inc. over the contamination. The Corpus Christi, Texas Field Office Environmental Contaminants Biologists have been actively working on this case; one of largest cases in Texas. Under the agreement, Alcoa will implement several restoration projects for sediments and sediment dwelling organisms, fish and other organisms, as well as recreational fishing in Lavaca Bay.

Freshwater Mussel Restoration in the Clinch River, Virginia

In August 1998, a tanker truck overturned and released approximately 1,350 gallons of a rubber accelerant into an unnamed tributary of the Clinch River, Virginia. **This spill killed most aquatic life for about seven miles downstream. Three of the mussel species impacted by the spill are federally listed endangered mussel species. This spill destroyed one of the only two known remaining populations of the tan riffleshell mussel.** The Service's EC Biologists conducted a natural resource damage assessment and developed restoration options for the river system.



Dolores Savignano/USFWS

In 2005, Cedar Bluff, Virginia, the Service, the Virginia Department of Game and Inland Fisheries, and Virginia Polytechnic Institute released freshwater mussels into the Clinch River in hopes of re-establishing populations heavily impacted by the chemical spill.



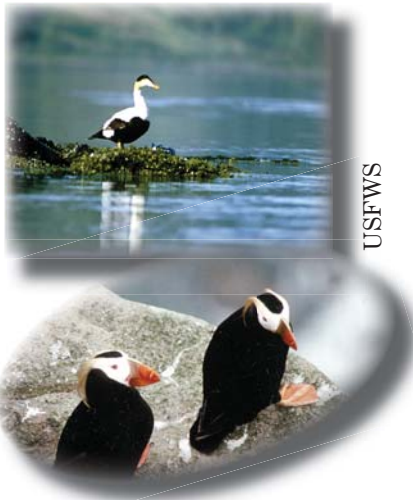
Environmental Contaminants Program Restoration

EC Biologists coordinate and partner with many people when addressing contaminant impacts.

With significant community input, the Fish and Wildlife Service and the Commonwealth of Virginia published the *Restoration Plan and Environmental Assessment for the Certus Chemical Spill Natural Resource Damage Assessment*. Implementation of the plan, which includes restoration of mussels and mussel habitat, is currently ongoing with the involvement of multiple partners including: Virginia Department of Conservation and Recreation, Tazewell County 4-H, Tazewell Soil and Water Conservation District, Tazewell County Public Schools, Town of Richlands, Richlands Chamber of Commerce, Town of Cedar Bluff, County of Tazewell, Clinch River Headwaters Association, Virginia Department of Game and Inland Fisheries, Virginia Polytechnic Institute and State University, United States Geological Survey, The Nature Conservancy, Tennessee Valley Authority, and the Upper Tennessee River Roundtable.

Restoration of Avatanak Island and Summer's Bay, Unalaska, AK

In November 1997, the 368-foot seafood freighter *M/V Kuroshima* broke free from its anchorage in a violent storm and grounded in Summer's Bay on Unalaska Island, Alaska. During the incident, 39,000 gallons of heavy fuel oil were spilled, oiling the shoreline and many birds in the area. **Following the spill, several bird carcasses were collected.**



Common eiders (top) and tufted puffins (bottom) are two of the bird species that will benefit from the fox removal project.

The Service, National Oceanic and Atmospheric Administration, and the State of Alaska, in consultation with the Qawalagin Tribe, conducted a natural resource damage assessment and developed a restoration plan. This restoration plan involved eradication of non-native arctic and red foxes which preyed on nesting birds and bird eggs, such as the cormorant, common eider, glaucous-winged gull, rock ptarmigan, black oystercatcher, rock sandpiper, pigeon guillemot, and tufted puffin. The Service conducted a re-check of Avatanak Island confirming that all foxes were eradicated during the previous season's efforts. The bird populations will be monitored to confirm that they are recovering. Projects to compensate for fisheries' injuries and the loss of recreational opportunities are ongoing.



Environmental Contaminants Program Technical Expertise



Sherry Krest/USFWS

EC Biologists and volunteers sample for frogs for the abnormal amphibian project.

EC Biologists received nearly 2,000 requests for technical assistance from other Service programs.



USFWS

Atlantic salmon.

The EC Program Provides Technical Expertise on a Variety of Topics, Including:

- ◆ Ecological risk assessments,
- ◆ Water quality,
- ◆ Superfund sites,
- ◆ Natural resource damage assessments,
- ◆ Restoration of fish, wildlife, and their habitats,
- ◆ Pesticide use and registration,
- ◆ Endangered species issues, and
- ◆ Refuge assessments and cleanups.

In Fiscal Year 2005, EC Biologists:

- ◆ Responded to 317 EPA sites where technical assistance was needed,
- ◆ Received 2,554 requests for technical expertise from federal, state, and local entities,
- ◆ Received 1,857 requests for technical expertise from other Service programs, and
- ◆ Provided technical assistance on 539 partnership activities.

National Initiative with the National Fish Hatchery System

Working with its sister program, EC Biologists are participating in an ongoing National Initiative with the National Fish Hatchery System to address contaminant issues in hatcheries. These two key Service programs held a Hatchery Contaminant Workshop, which brought together scientists from Environmental Contaminants, Service Fisheries, USGS, and EPA to discuss hatchery contaminant issues and develop recommendations.



The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. The work of Environmental Contaminant Biologists is essential to this important mission.

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*“Those who contemplate
the beauty of the earth
find reserves of strength
that will endure as long
as life lasts.”*

- Rachel Carson