U.S. Fish & Wildlife Service

Chesapeake Bay Field Office

Environmental Contaminants Program

Contaminants are found in the air we breathe, the water we drink and the food we eat. The chemicals found in pesticides and other toxic substances can harm people, fish, wildlife and plants. Fortunately, many contaminant problems can be prevented or solved

In 1972, for example, the federal government banned the use of the pesticide, DDT, which had caused bald eagles and other birds to produce non-viable eggs with very thin shells.

Since the ban, bald eagle populations have increased throughout the country and around the Chesapeake Bay area in particular. In 1995, the bald eagle was reclassified from an endangered to a threatened species under the Endangered Species Act.

What is the Environmental Contaminants Program?

The mission of the Chesapeake Bay Field Office (CBFO) Environmental Contaminants Program is to identify and prevent the harmful effects of contaminants to fish and wildlife, and restore resources degraded by contamination.

Since 1984, Environmental Contaminants Program staff, based in Annapolis, Maryland, have worked to protect and restore natural resources in Maryland, Delaware and the District of Columbia.

Our role is to:

Prevent and eliminate contamination on National Wildlife Refuge (NWR) lands and other sensitive habitats;

Restore damaged areas into healthy and productive habitat for fish and wildlife;

Reduce the effects of oil and chemical spills on fish and wildlife; and

Advise other agencies on water quality standards and permits, dredging and disposal and hazardous waste site clean-ups to ensure these actions are protective of fish and wildlife and their habitats.

How do citizens and wildlife benefit from the Environmental Contaminants Program?

By reducing the effects of contaminants on the environment, Environmental Contaminants Program biologists protect the quality of life in the mid-Atlantic region.

This includes the Chesapeake Bay, one of the most dynamic estuaries in the United States. The Bay and its watershed supports thousands of fish and wildlife species and is home to 16 million people.

Excessive amounts of lead shot were deposited on Prime Hook National Wildlife Refuge in Sussex County, Delaware as a result of 37 years of recreational trap shooting.

Here are just a few of the ways the Environmental Contaminants Program contributes to the health of this region:

The Chesapeake Bay Regions of Concern

Three "Regions of Concern" (ROC) in the Chesapeake Bay - the Anacostia River (Washington, DC), Baltimore Harbor, and the Elizabeth River (Norfolk, VA) - have been identified due to contaminant-related problems. CBFO is currently working in all three areas, conducting field investigations, and working on cleanup and restoration projects. For example, CBFO biologists have documented extremely high tumor rates in brown bullhead catfish in the Anacostia River. They also participate in the Anacostia Watershed Toxics Alliance, a public/private group committed to cleaning up the river. Fish tumor rates can be used to measure the progress of the river restoration.

CBFO studied the effects contaminants have on the nesting success of osprey in the ROCs. They found that osprey are successfully reproducing and contaminants do not appear to be affecting their reproductive health. However, biologists did find that fishing line and hooks were entangling juvenile and adult birds. As a result, an outreach program was started to educate the public on the hazards to wildlife from improperly disposed fishing line to wildlife.

Brown bullhead from the Anacostia River with skin cancer on lower lip. Photo, Fred Pinkney, USFWS

Assessing Contaminant Problems on National Wildlife Refuges (NWR)

Lead Shot

CBFO has been working with Prime Hook NWR to cleanup lead contamination originating from trap and skeet shooting on an adjacent range. Lead is very toxic to birds that mistakenly ingest the pellets as grit to aid in the digestion of food. The most contaminated land has been excavated, removed and replanted. Monitoring of potential lead contamination in ground water and wetlands is ongoing.

Abnormal Frogs

Since 1997, CBFO biologists have collaborated with the New England Field Office in examining frogs at National Wildlife Refuges from Virginia to Maine for abnormalities. Laboratory tests are being run along with x-ray and parasite analyses to search for causes.

Water Quality Impacts of Animal Feeding Operations

In spring 2000, a two- year field study was initiated to evaluate the potential water quality impacts of poultry operations, on National Wildlife Refuges on the Delmarva peninsula. Results suggest that poultry litter contaminants, such as such as antibiotics and naturally-produced estrogens, are migrating into tributaries upstream of refuges.

Restoring Damaged Areas

Acting on behalf of the public, CBFO seeks to recover damages and restore natural resources injured as a result of the release of hazardous substances. In April, 2000, a pipeline at the Pepco Power Plant in southern Maryland ruptured and released 126,000 gallons of fuel oil into a tributary of the Patuxent River. The settlement of 2.7 million dollars will be used to create waterfowl nesting habitat, wetlands, and oyster reefs to benefit the affected area.

For more information, contact

Sherry Krest, Environmental Contaminants Program Manager
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral cochrane Drive
Annapolis, MD 21401
410/573 4525

www.fws.gov/r5cbfo/contaminants

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Prime Hook lead shot site following excavation and restoration. Photo, Beth McGee, USFWS