Toxics Reduction

Sediments can both remove toxics from the water and release them back into the food web when sediments are stirred up by waves, currents or organisms that live in the sediments. Consequently, cleaning up contaminated bottom sediments is a key element in restoring the Great Lakes. Working with our partners, we have developed effective methods and tools to assess sediment contamination. We operate the *R/V Mudpuppy,* a specially-outfitted sediment sampling vessel, to take samples of the sediment surface and deep sediment layers. And we share the *Mudpuppy* with our partners, States, Tribes and local communities to help them test sediments and plan cleanup efforts.

U.S. and Canadian governments, industry and citizens are working in partnership to reach the reduction goals of the Great Lakes Binational Toxics Strategy. The strategy set specific reduction targets for the most troublesome, persistent toxic chemicals affecting the Great Lakes, like mercury, PCBs, dioxins, and DDT. The Binational Toxics Strategy focuses on pollution prevention, using both voluntary and regulatory tools to achieve reductions.

Habitat Protection and Restoration

GLNPO works with partners to identify, protect and restore important habitats, emphasizing habitats important for biodiversity and ecological integrity (such as those necessary for endangered and threatened species). GLNPO encourages stewardship of public and private property to preserve biodiversity and stimulate economic sustainability. We also encourage the use of native plants for landscaping to promote restoration of valuable ecosystems.

Supporting Innovation

Each year, GLNPO helps initiate innovative projects that address Great Lakes priorities. In recent years, through our competitive grants process, we have funded projects for Contaminated Sediments, Habitat Protection and Restoration, Pollution Prevention, Emerging or Strategic Issues and Invasive Species. Support includes:

- Funding partners' sediment assessment and cleanup efforts.
- Helping partners demonstrate ways to restore and protect near shore aquatic, terrestrial and wetland habitats.
- Helping to fund agricultural and household hazardous waste collections to safely dispose of old stores of toxic chemicals.
- Preventing introductions of new invasive species.
- Screening for new chemicals of concern.

Sharing Information

GLNPO collects data on air and water pollution, biology, chemicals in fish, sediment contamination, invasive species, and habitat. We are working hard to increase the availability of this information to you. Our Internet site at **http://www.epa.gov/glnpo** has links to all of the information we collect. We also provide a directory of experts on various Great Lakes issues. Please visit our Web site soon. Or give one of us a call (312-353-2117) to learn more.

We are eager to hear from you!

Printed on Recycled Paper, August 2001

United States
Environmental Protection
Agency

Great Lakes National
Program Office
77 West Jackson Boulevard
Chicago, Illinois 60604

August 2001

905F01003

EPA

The Great Lakes National Program Office

Visit us on the Web at:
https://www.epa.gov/glnpo

Great Lakes National Program Office
EPA

The Great Lakes National Program Office (GLNPO) is an office of the U.S. Environmental Protection Agency. Our mission is to coordinate efforts by the United States and to work with Canada to protect and restore Lake Erie, Lake Huron, Lake Michigan, Lake Ontario and Lake Superior. We measure and report on the health of these priceless international treasures and help identify problems. We also recommend and demonstrate ways to correct the problems. Simply stated, we try to answer questions like: "How are the Great Lakes doing?" "Are the fish healthy?" "Can I eat the fish?" "Can I swim in the water?" "If not, why not?" "What will it take to fix it?" "How do we know if we are succeeding?" "Who needs to do what?"

Protecting Vast Resources

The Great Lakes are the largest system of fresh surface water on earth, containing roughly 20 percent of the world supply and 95% of the United States supply. Millions of people rely on them for water, food and recreation. The Great Lakes are among the largest and most complex freshwater ecosystems in the world, and are home or refuge for countless populations and species of fish, wildlife and plants. Industry uses the Great Lakes for manufacturing and for economical transportation. Their size truly makes these lakes "sweetwater seas" where ocean-going ships are right at home.

Restoring Valuable Ecosystems

By the late 1960s, the Great Lakes were in deep decline. Discolored, foamy water flowed into the lakes, and dead fish and algal mats rotted along their shores. People demanded action. The governments of the United States and Canada responded, focusing on the problems of nutrient over-enrichment and toxic chemicals like DDT. Pollution control efforts intensified, including regulating pollutant discharges and building and upgrading sewage treatment plants. In 1972, the U.S. and Canada signed the first Great Lakes Water Quality Agreement, the cornerstone of the Great Lakes binational program to protect and restore the Lakes. The U.S. Congress enacted the Clean Water Act that same year. In 1978, EPA established the Great Lakes National Program Office to lead and coordinate the nation's activities.

Managing New Approaches

GLNPO is the knowledge center for the Great Lakes watershed. We work with a wide variety of government and non-government partners in the U.S. and Canada with a shared goal of protecting and restoring the Great Lakes.

The Great Lakes program has pioneered new approaches to environmental protection:

- Recognizing that "everything affects everything else," we take an ecosystem approach. The ecosystem includes water; air; sediments and the land along the lakes; as well as fishes, wildlife and other organisms (including us) that live in or depend on the lakes.
- We tackle environmental problems on a geographic basis, one area or lake at a time.

Working on Tomorrow Today

To protect and restore the Great Lakes, GLNPO performs five major functions: U.S. Coordination, Measurement and Investigation, Toxics Reduction, Habitat Protection and Restoration, and Supporting Innovation. In each area, GLNPO seeks to build partnerships, recognizing that Great Lakes environmental problems are too big for any one organization to solve alone. State and local agencies, Tribes, communities, businesses, and private citizens in the U.S. and Canada all have a stake in the Great Lakes for this and future generations.

U.S. Coordination

As required by Section 118 of the Clean Water Act, GLNPO, brings together Federal, State, Tribal, local and international partners and actions in an integrated, ecosystem approach to protect, maintain, and restore the chemical, biological, and physical integrity of the Great Lakes. GLNPO reports to Congress and the International Joint Commission on progress made under the Great Lakes Water Quality Agreement. GLNPO is leading and/or coordinating efforts through the Great Lakes Strategy, the State of the Lakes Ecosystem Conference, the Great Lakes Wetlands Consortium, and the Great Lakes Binational Toxics Strategy.

Measurement and Investigation

GLNPO samples the water, aquatic life, sediments and the air to assess the health of the Great Lakes ecosystem.

On the open waters of the Great Lakes, we operate the 180-foot research vessel *R/V Lake Guardian*. Our ship is specially outfitted for use on the lakes and to do its part to keep the waters clean. It is the only self-contained, non-polluting research vessel operating on the Great Lakes. We measure the physical and chemical quality of the water and sediments, the organisms that live in the water and bottom sediments, and the air quality over the Great Lakes. What we learn about the Great Lakes using this ship also helps efforts in fresh waters throughout the world. We also share the *R/V Lake Guardian* with our research partners to help them carry out their scientific studies.

In the Great Lakes Fish Monitoring Program, we measure the chemicals that contaminate fish. This program is a joint effort of GLNPO, the U.S. Geological Survey's Great Lakes Science Center, and the eight states surrounding the Great Lakes. We do open-lake trend monitoring and game fish monitoring. Open-lake trend monitoring uses whole Great Lakes fish as an indicator of trends in chemical pollutants in the lakes and their effects on the fisheries. Game fish monitoring uses fillets of popular sport fish to assess the safety of eating Great Lakes fish.

Wind brings toxic chemicals into the Great Lakes from around the world. This pollution comes in rainfall, dust particles, and gases. The joint GLNPO/Canadian Integrated Atmospheric Deposition Network, in operation since 1992, measures these toxic chemicals.

We conducted the Lake Michigan Mass Balance Study to provide tools to environmental managers for determining the most effective ways to reduce levels of toxics, so that Lake Michigan fish will eventually be safe to eat. The lessons we learned from the Lake Michigan Mass Balance Study can be applied to the other lakes, too.