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U.S. Environmental Protection Agency
Great Lakes National Program Office
Significant Activities Report

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INTERNATIONAL ACTIVITIES

Group Proposes Ecosystem Objectives for Lake Erie



Ecosystem objectives were proposed for inclusion in the Lake Erie Lakewide Management Plan (LaMP) at the meeting of the Lake Erie LaMP Technical Work Group in Dunkirk, New York on December 6th and 7th, 2001. The process for developing the objectives has been protracted because it included the development and running of a “fuzzy cognitive map” model to evaluate alternative, stable ecosystem conditions that could exist for Lake Erie. The LaMP Work Group selected a “preferred alternative,” and objectives were developed in support of that alternative. The proposed objectives and sub-objectives are oriented toward management interventions needed, particularly in the areas of creating or restoring natural landscapes in the Lake Erie watersheds and nutrient loading reductions. (*Paul Bertram, 312-353-0153, bertram.paul@epa.gov; Dan O’Riordan, 312-312-886-7981, oriordan.daniel@epa.gov*)

Lake Erie Scientists Discuss Disturbing Lake Erie Trend



Scientists currently active in studying the Lake Erie basin met in Chicago, Illinois, on December 13th, 2001 to present information on the lake and its processes. The meeting was hosted by USEPA’s Great Lakes National Program Office (GLNPO). Monitoring data from the GLNPO open lake monitoring program and from the Canadian government (Murray Charlton) indicate a trend in the 1990’s and beyond of increasing total phosphorus, and decreasing dissolved oxygen in Lake Erie’s central basin. These changes raise concern about the state of the Lake Erie ecosystem within the Great Lakes community and USEPA. Approximately twenty researchers and USEPA scientists attended the meeting, and exchanged information on their research, as well as on the current state of Lake Erie. GLNPO will follow this meeting with support of research and monitoring relevant to phosphorus and dissolved oxygen issues, including additional time available on the Great Lakes National Program Office’s 180-foot research vessel, the *R/V Lake Guardian*, to support this research. GLNPO has issued a request for proposals (RFP) to support additional research into the mechanisms behind this disturbing trend. The RFP can be viewed at: <http://epa.gov/glnpo/fund/rfp/erietrophicstatus.html>. (*Glenn Warren, 312-886-2405, warren.glenn@epa.gov*)

Global Atmospheric Transport of Mercury Pollution Assessed



On December 13th and 14th, 2001, the North American Commission for Environmental Cooperation (CEC), the International Air Quality Advisory Board of the International Joint Commission (IJC), and Environment Canada sponsored a workshop on atmospheric mercury held in Research Triangle Park, North Carolina. Approximately 60 representatives from Canada, Mexico and the United States participated in the meeting. The purpose of the workshop was to review current developments in source and ambient monitoring and mercury transport and deposition and their implications for policy development. Some of the key mercury issues identified and discussed at the workshop includes dry deposition, the storage and transfer of mercury in watersheds, global and natural sources of mercury, the impact of climate change on

mercury fate and cycling in the environment, mercury depletion at polar sunrise, and the adequacy of mercury transport and deposition models. A record of discussions and findings along with the presentation materials is being prepared by the IJC and CEC. (*Todd Nettesheim, 312-353-9153, nettesheim.todd@epa.gov; Melissa Hulting, 312-886-2265, hulting.melissa@epa.gov*)

Task Force Charts North American Regional Action Plan for Toxics



In conjunction with the international workshop on atmospheric transport of mercury (see previous article), a Task Force for development of the North American Regional Action Plan (NARAP) on Environmental Monitoring and Assessment met in Research Triangle Park, North Carolina on December 12th, 2001.

Representatives from Environment Canada, USEPA, Mexico's Instituto Nacional de Ecologia, NOAA, the North American Commission for Environmental Cooperation (CEC), and the International Joint Commission (IJC), discussed progress in drafting and implementing the NARAP. Leads from the USEPA's Persistent Bioaccumulative Toxics (PBT) Program participated to ensure that the two efforts complemented each other.

The group stressed that expectations of the monitoring group by the CEC's substance-specific task forces are high and may not be reasonable given current resource levels. This led to a discussion on how to increase awareness of CEC's function and goals at higher levels in government, including Congress and heads of environmental agencies. Such outreach will be pursued by CEC staff. The Environmental Monitoring and Assessment's NARAP should be treated and promoted as a structure through which long-term accountability to such agreements as the U.S.-Canada Great Lakes Binational Toxics Strategy and the United Nations Environment Programme (UNEP) Persistent Organic Pollutants (POPs) Treaty can be tracked. Also discussed was the importance of capacity building with regards to developing capabilities for the analysis of POPs and mercury in Mexico rather than shipping samples from monitoring sites in Mexico back to the U.S. or Canada. The Mexican representatives were enthusiastic about developing such a capacity. This would require an exchange of experts and reciprocal laboratory visits among the three countries.

Short-term actions for implementation of the Environmental Monitoring and Assessment NARAP include:

1. Compiling baseline information on POPs and mercury already available in the U.S. and Canada, and possibly collecting a small amount of initial data points to supplement available information for Mexico;
2. Extending the Mercury Deposition Network (wet deposition) into Mexico; and
3. Extending the USEPA's National Dioxin Monitoring Network into Mexico. GLNPO's future role will be to suggest how monitoring like that used in the U.S.-Canada Integrated Atmospheric Deposition Network could be implemented in Mexico at one or two sites, which could also involve capacity building with regards to POPs measurement.

It was noted that CEC has the lead for submitting information on POPs in North America to UNEP for a global assessment on the status of persistent toxic substances. (*Melissa Hulting, 312-886-2265, hulting.melissa@epa.gov*)

Indicators of Biological Integrity Sought



Approximately 40 invited experts gathered along with State of the Lakes Ecosystem Conference (SOLEC) organizers in Windsor, Ontario, on December 4th and 5th, 2001, to evaluate Great Lakes indicators for biological integrity. Separate working sessions were held for open and nearshore waters, coastal wetlands, and nearshore terrestrial environments. Case study papers were prepared prior to the workshop emphasizing the impacts on non-native, invasive species, and they included some suggestions for relevant indicators. The workshop participants debated appropriate indicators to be proposed, and they reviewed and integrated the new suggestions with existing SOLEC indicators. A summary of the workshop and its products is being prepared by the contract staff who facilitated the sessions. More information about SOLEC and the U.S. - Canada effort to develop a system of environmental indicators is available at: <http://www.epa.gov/glnpo/solec/>. (Paul Bertram, 312-353-0153, bertram.paul@epa.gov)

Areas of Concern On-Line Updated



In an effort to clean up the most polluted areas in the Great Lakes, the United States and Canada, in Annex 2 of the Great Lakes Water Quality Agreement, committed to cooperate with State and Provincial Governments to ensure that Remedial Action Plans (RAPs) are developed and implemented for all designated Areas of Concern (AOCs) in the Great Lakes basin. Forty-three AOCs have been identified: 26 located entirely within the United States; 12 located wholly within Canada; and five that are shared by both countries. RAPs are being developed for each of these AOCs to address impairments to any one of 14 beneficial uses (e.g., restrictions on fish and wildlife consumption, dredging activities, or drinking water consumption) associated with these areas. Updated information on the AOCs and RAPs is now available online for each of the 31 Great Lakes Areas of Concern that are located within the United States or shared with Canada at: <http://www.epa.gov/glnpo/aoc>. (Pranas Pranckevicius, 312-353-3437, pranckevicius.pranas@epa.gov)

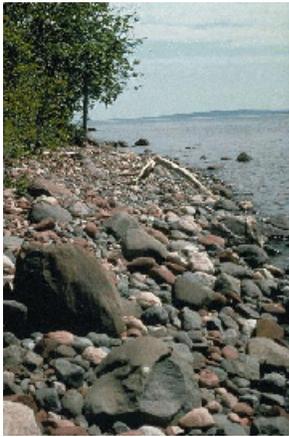
Binational.Net Launched



USEPA's Great Lakes National Program Office and Environment Canada have launched a new binational Web Site, <http://www.binational.net/>, to facilitate the rapid exchange of information on binational environmental programs, such as the Great Lakes Binational Toxics Strategy, the State of the Lakes Ecosystem Conference, etc. (Pranas Pranckevicius, 312-353-3437, pranckevicius.pranas@epa.gov)

SEDIMENTS

Chequamegon Bay Pollution Probed



On December 6th, 2001 Scott Cieniawski from the USEPA's Great Lakes National Program Office attended a public meeting to discuss the progress of cleanup and Superfund listing for the Ashland/Northern States Power Lakefront Site in Ashland, Wisconsin. The meeting was facilitated by the Ashland/Bayfield County League of Women Voters and the Sigurd Olson Environmental Institute. Representatives from the City of Ashland, the Wisconsin Department of Public Health, the Wisconsin Department of Natural Resources, USEPA, Northern States Power, and concerned citizens attended the meeting. The meeting provided a comprehensive update on the site that was proposed for addition to the Superfund National Priorities List (NPL) of hazardous waste sites due to a number of hazardous chemicals and volatile organic compounds that have contaminated soils and ground water and migrated to Chequamegon Bay.

Sediments in the bay are heavily contaminated with polycyclic aromatic hydrocarbons (PAHs). As part of a GLNPO grant, Chris Marwood of Miami University provided a critical review of two conflicting ecological risk assessments for the sediment portion of the site and concluded that the site presented "likely impacts to the benthic community." Results of additional sediment sampling, and a final decision on NPL listing are anticipated in early 2002. (*Scott Cieniawski, 312-353-9184, cieniawski.scott@epa.gov*)

Sediment Contamination in Manistee Lake, Michigan Assessed



A grant was awarded in 1998 to Grand Valley State University, and a report titled "Preliminary Investigation of the Extent of Sediment Contamination in Manistee Lake" was produced as a final deliverable for this grant. The report outlines the preliminary extent of contamination in Manistee Lake, taking into account the triad approach with integrated assessments of chemistry, toxicity, and benthic macroinvertebrates. Sediment oil contamination and the detection of elevated levels of polynuclear aromatic hydrocarbon (PAH) compounds indicated extensive hydrocarbon pollution in the lake. Additionally, an influx of

contaminated groundwater and brines was evident by the presence of chemical stratification in the lower hypolimnion. The report was published by GLNPO in October 2001 and assigned report number EPA-905-R-01-004. For a copy of the report, please contact Lawrence Brail at 312-886-7474 or brail.lawrence@epa.gov. (*Demaree Collier, 312-886-0214, collier.demaree@epa.gov*)

ECOSYSTEM PROTECTION AND RESTORATION

Grand Calumet Area of Concern Biodiversity Education Project Wraps Up

The Grand Calumet Area of Concern (AOC) is in the heavily industrialized area of Northwest Indiana. It has endured decades of environmental abuse, yet still contains some of the best remaining examples of the dune-and-swale ecosystem in the Great Lakes basin. GLNPO funded the

Grand Calumet Task Force for an environmental education project. This project helped educate local government officials, school children, and the public about the meaning and value of biodiversity in this AOC. A number of education and outreach activities were undertaken: the Gary Region Environmental Action Team (GREAT), an environmental club comprised of students of all ages throughout the Gary public school system, was sponsored as a model for testing various environmental education programs; native vegetation was planted by a Gary middle school in a small degraded dune-and-swale on the school's property; a group of high school seniors from the Gifted and Talented Program were guided through the trails of the Ivanhoe Nature Preserve in Gary; a mural of a local high school art teacher's drawing of river wildlife was painted on the side of a park building facing the river; semi-monthly work days were organized at Clark and Pine East Nature Preserve in Gary; a winter bird identification workshop was held at Gibson Woods Nature Preserve in Gary; and 77 presentations were given on the biodiversity of the region. A presentation was given at the first meeting of the East Chicago open-space planning project, which was initiated in partnership with Chicago's Open Lands Project. A similar project is being started in Hammond. These open-space projects will be the focus of additional education efforts over the next year, along with discussions with the City of Gary regarding protecting critical dune-and-swale habitat. (Duane Heaton, 312-886-6399, heaton.duane@epa.gov)

Landscaping With Native Plants Featured



USEPA Great Lakes National Program Office's Natural Landscaping expert, Danielle Green participated in planning and attended the "Landscaping with Native Plants Symposium: Professional Designs for Sustainable Development" at the Chicago Botanical Garden in Chicago, Illinois. The November 7th, 2001 symposium challenged professional designers to create beautiful landscapes while working with nature (and native plants) to control stormwater and pollutant runoff. Speakers included John Rogner of the U.S. Fish and Wildlife Service, who addressed how using native plants in landscapes helps Chicago Wilderness fulfill its biodiversity goal, and representatives from landscape design firms, corporations, and native plant nurseries. This project is part of the Metropolitan Natural Landscaping Initiative (MNLI) funded by Chicago Wilderness. Other parts of the

MNLI initiative include a lecture at the Nature Museum targeting home owners, and a workshop by the Northeastern Illinois Planning Commission, scheduled for June 2002, which will target local governments. (Danielle Green 312-886-7594, green.danielle@epa.gov)

Livestock Impacts on Streams Curtailed



Under a grant from USEPA's Great Lakes National Program Office to the Penn Soil Resource Conservation and Development Charitable Trust, approximately 70 acres of riparian corridors were re-established and protected from livestock along nine streams and tributaries in the Pennsylvania part of the Lake Erie basin. Program activities included seeding and planting indigenous grasses and trees, fencing, establishing stream crossings and developing water supplies in pastures away from the streams. The

cost of the project was \$687 per acre. In-kind services by landowners included time and

equipment for the preparation and installation of best management practices. Newsletters and media capitalized on the restorations and published articles regarding the riparian buffer activities. Several of the landowners are part of the Environmental Quality Incentive Program. (*Karen Rodriguez, 312-353-2690, rodriguez.karen@epa.gov*)

INVASIVE SPECIES

Panel Addresses Great Lakes Aquatic Nuisance Species



On November 29th and 30th, 2001, the Great Lakes Panel on Aquatic Nuisance Species (ANS) held its biannual meeting in Ann Arbor, Michigan. Agenda items addressed by the Panel included: an update on Non-Indigenous Species Act (NISA) reauthorization; coordination of Regional ANS Panels; and a report from the Michigan Department of Environmental Quality on the status of their ballast water treatment technology project scheduled for 2002. USEPA GLNPO's Marc Tuchman gave a presentation to the Panel summarizing the findings of USEPA's draft ballast water report. Significant discussion was generated on a new project being undertaken by the Panel: the development of a rapid response plan for aquatic invasions. It is believed that such a plan, once adopted and implemented, could make it feasible to address and potentially eradicate a newly discovered aquatic invader while it is still relatively confined. This project is the result of a grant from GLNPO to the Great Lakes Commission and will be undertaken with Panel support. The tentative plan is to conduct a workshop this Spring to discuss what such a rapid response plan should entail and who should be involved in its development, with the development of the final plan scheduled for the Summer of 2003. (*Marc Tuchman, 312-353-1369, tuchman.marc@epa.gov*)

Midwest Resource Managers Tackle Invasive Species

A special session on "Aquatic Invasive Species versus Native Species" was held as part of the Environmental Round Table meeting on November 7th to 9th, 2001 in Delevan, Wisconsin. The Environmental Round Table is an annual forum for senior managers of the Midwest Natural Resources Group and their staffs to discuss natural resource and environmental issues of mutual interest. The session focused on the issues associated with the transfer of invasive species between the Great Lakes and Upper Mississippi River basins. Over 100 federal agency staff and managers heard GLNPO's Karen Rodriguez and the U.S. Fish and Wildlife Service's Pam Thiel address the invasive species issues in the Great Lakes and Mississippi River basins, respectively. Based upon a request from the City of Chicago to the U.S. Fish and Wildlife Service, the group brainstormed on how the Midwest Natural Resources Group could work with the City and other local groups to stop the inter-basin transfer of this biological pollution via the Chicago Sanitary and Ship Canal, which connects to the DesPlaines River, the Illinois River and eventually, the Mississippi River. GLNPO has the lead to work with the U.S. Fish and Wildlife Service, the City of Chicago and other entities. (*John Perrecone, 312/353-1149, perrecone.john@epa.gov*)

ENVIRONMENTAL INDICATORS

Progress on Estuarine and Great Lakes Indicators

USEPA's Office of Research and Development (ORD) has funded projects on all of the U.S. coasts, including the Great Lakes, to develop indicators that will be used to assess coastal ecosystem and watershed function, integrity, and water and habitat quality and change. This research has been funded by ORD's Science To Achieve Results (STAR) program. GLNPO's John Schneider attended the first annual meeting of all Estuarine and Great Lakes Indicators (EaGLE) funding recipients on December 3rd to 5th, 2001 in Morehead City, North Carolina. The particular focus of the meeting was the sharing of common methodologies and the integration of approaches for all coastal areas. Some of the awardees presented preliminary results from data collected during the Summer 2001 field season. The Great Lakes project is making excellent progress and has been integrated, since its inception, with the State of the Lakes Ecosystem Conference (SOLEC) proposed indicators, the Great Lakes Coastal Wetland Consortium monitoring plan development, and the monitoring program of the Great Lakes National Program Office. (*John Schneider, 312-886-0880, schneider.john@epa.gov*)

Exploring Indicators for Forest Ecosystems



USEPA's Great Lakes National Program Office hosted the U.S. Forest Service on December 12th, 2001 to discuss the utility of the Forest Inventory and Analysis (FIA) as a potential source of terrestrial indicators for the assessment of forest ecosystems in the Great Lakes basin. The FIA data may be useful for the addition of forest indicators to the State of the Lakes Ecosystem Conference (SOLEC) list. The U.S. Forest Service and GLNPO's Paul Bertram will be collaborating on this potential "new" source of data that could help describe the condition of the Great Lakes basin. (*Paul Bertram,*

312-353-0153, bertram.paul@epa.gov; John Schneider, 312-886-0880, schneider.john@epa.gov)

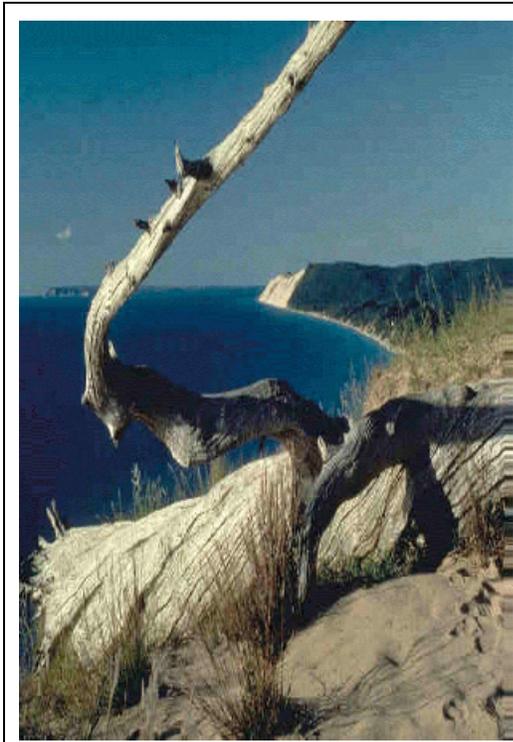
OUTREACH

Golden Treasure: Lake Michigan Sand Dunes

The dunes on Lake Michigan's eastern coast are the largest assemblage of freshwater dunes in the world. To increase public knowledge of the value of the dunes, with funding from USEPA's Great Lakes National Program Office, the Lake Michigan Federation created a comprehensive sand dune education packet, including fact sheets, web resources, dune ecology brochure, and a "tools booklet" including case studies for use by local coastal governments interested in increasing protection for dune ecosystems. The Federation worked with a Muskegon, Michigan area school district and shoreline schools in West Michigan to create a classroom unit to teach sand dune ecology and stewardship. A spiral-bound daily journal was printed, which included some of the 180 pieces of student artwork and poetry about sand dunes. Seventeen artworks were framed for a traveling exhibit, with 200 people attending the exhibit's opening reception at the Muskegon Museum of Art, before it moved on for display in nine shoreline communities. The traveling exhibit also created front-page stories in many of these shoreline communities. State legislators from West Michigan held a reception for the students, and recognized the individual artists for

their contributions on the floor of the House and Senate. The Federation also contracted with a college theater group to develop and perform a skit related to sand dune protection. (*Duane Heaton, 312-886-6399, heaton.duane@epa.gov*)

Here are three examples of poetry from the students' daily journal:

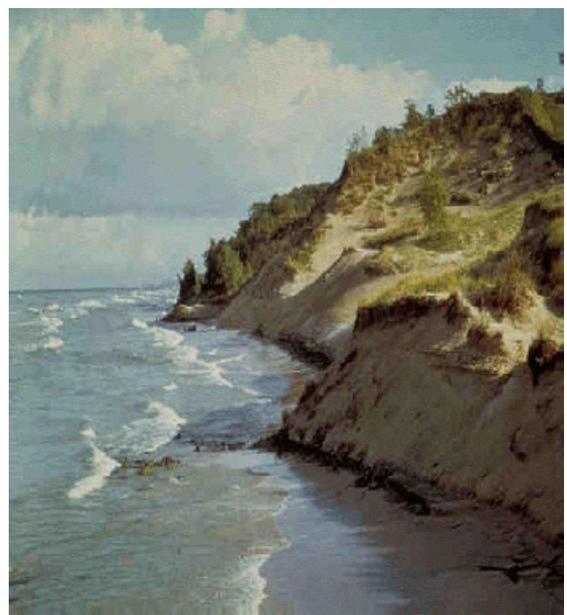


I walked up the dunes.
The branches of the beech trees blew in the blustery
breeze.
The wind whispered as I walked through the soft sand.
Birds talked to their friends in the distant trees of the
forest.
I walked even further.
The snow crunched under my shoes.
A squirrel crossed the path
And ran up the brambly tree bark.
I walked towards the lake.
The unwrought wind whipped by face.
I looked back at the camel humps of sand in the
distance
Remembering the peaceful sounds I had passed.
The waves crashed up on the beach like cymbals in a
band
Bringing small stones and sand to the shore.

- Katie, Grade 10

The dunes are so wonderful like a beautiful dove.
Dunes calm us like newborn kittens.
The sand is smooth like a soft puppy.
The wind is calm like a sleeping bear.
Grass grows like a beautiful flower.
People swim in the water like nice fish.
I like to climb the dunes because it reminds me of
finding treasures.
We sometimes get suntans like a black bear.
The sun gets us hot like bread that just got out of
the toaster.
Air is just as fresh as fresh water.
Sometimes we find clam shells when we dive
into the water.
The breeze is nice and cool like ice cream.

- Quayshaun and Samantha, Grade 3





The dune is made of sand and plants,
With creatures such as little ants.
Mounds of dune grass and sand,
Where the sun made the sand tanned.
The dunes here are o' so pretty,
Even when you just go for sitting,
I love the dunes,
AND SO SHOULD YOU!

- Joshua, Grade 4

GRANTS

GLNPO Solicits Proposals for Grants

On December 20th, 2001, GLNPO announced its Funding Guidance for projects to be awarded from Fiscal Year 2002 funding. The " FY2001-2002 USEPA Great Lakes National Program Office Request for Proposals/Funding Guidance " (Funding Guidance) requests that Proposals be developed in the areas of:

- Contaminated Sediments,
- Pollution Prevention and Reduction (Great Lakes Binational Toxics Strategy),
- Ecological (Habitat) Protection and Restoration,
- Invasive Species,
- Habitat Indicator Development, and
- Strategic or Emerging Issues.

A total of \$2.9 million is targeted for awards in the Summer and Fall of 2002. The deadline for Proposals is February 15, 2002. Funding categories are similar to those in previous years, although some funding targets have been reduced so that GLNPO could fund an initiative addressing unexplained changes in Lake Erie (see related story above). Specific amounts have again been targeted for projects supporting the Lakewide Management Plans.

Proposals will once again be submitted electronically. The Request for Proposals (RFP) is available on the Internet at <http://www.epa.gov/glnpo/fund/2002guid>. To publicize the RFP, more than 1,500 postcards were mailed, an announcement was made to the GLIN-Announce and NACD listservs, and notice was published in the *Federal Register*. Information describing the Funding Guidance, its history, 2001 results, and changes is also available on the Web Site. (Mike Russ, 312-886-4013, russ.michael@epa.gov)

Roadmap to Great Lakes Funding Available

In conjunction with the Funding Guidance, GLNPO published the “Great Lakes FY2002 Roadmap to Federal Funding Opportunities.” This document is intended to assist organizations and programs as they target their Great Lakes activities during program planning processes, and as an aide to applicants seeking funding from USEPA’s Great Lakes National Program Office. The GLNPO FY2002 Request for Proposals/Funding Guidance notes that “Projects for which funding could reasonably be expected from other sources will receive less consideration [in the GLNPO funding process].” The Roadmap summarizes information about the Great Lakes missions and funding of USEPA, the National Oceanic and Atmospheric Administration, the U.S. Army Corps of Engineers, the U.S. Department of Agriculture, the U.S. Fish and Wildlife Service, the Agency for Toxic Substances and Disease Registry, the U.S. Coast Guard, the U.S. Forest Service, the National Park Service, and the U.S. Geological Survey. (*Mike Russ, 312-886-4013, russ.michael@epa.gov*)

The Funding Roadmap is an Adobe Acrobat file that can be found at:
<http://www.epa.gov/glnpo/fund/2002guid/Roadmap2002b.pdf>.