



FHWA



USDA NRCS



US Army Corps of Engineers



USGS

Midwest Natural Resources Group

Focus Area Executive Summaries

Bureau of Indian Affairs; Bureau of Land Management; Department of Energy; Federal Highway Administration; National Oceanic and Atmospheric Administration; National Park Service; Natural Resources Conservation Service; Office of Surface Mining; U.S. Army Corps of Engineers; U.S. Coast Guard; U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service; U.S. Forest Service; U.S. Geological Survey



November 1999

**Midwest Natural Resources Group
Focus Area Executive Summaries
November 1999**

	Page
Introduction	2
 Big Rivers Basin Focus Areas, Lead Agencies and Contacts:	
Illinois River	4
<i>U.S. Fish and Wildlife Service; Ross Adams</i>	
Minnesota River	6
<i>U.S. Fish and Wildlife Service; Lance Kuester</i>	
Missouri River	10
<i>National Park Service; John Sowl</i>	
Ohio River	15
<i>U.S. Army Corps of Engineers; John Furry</i>	
Ozark Plateau	19
<i>Bureau of Land Management; Vince Vogt</i>	
St. Croix River	22
<i>National Park Service; Tony Anderson</i>	
Upper Mississippi Watershed	25
<i>Natural Resources Conservation Service; Dave Carvey</i>	
<i>U.S. Environmental Protection Agency; Bill Franz</i>	
 Great Lakes Basin Focus Areas, Lead Agencies and Contacts:	
Detroit River/St. Clair River	28
<i>U.S. Environmental Protection Agency; Laura Lodisio</i>	
Fox River/Green Bay	33
<i>U.S. Fish and Wildlife Service; Janet Smith</i>	
Great Lakes	39
<i>U.S. Environmental Protection Agency; Vicki Thomas</i>	
<i>U.S. Army Corps of Engineers; Jan Miller</i>	
Saginaw River and Bay	44
<i>U.S. Fish and Wildlife Service; Jerry McClain</i>	
Southern Lake Erie	49
<i>U.S. Geological Survey; Donna Myers</i>	
Southern Lake Michigan	52
<i>U.S. Environmental Protection Agency; Judy Beck</i>	

Introduction

The Midwest Natural Resources Group (Group) is leading a comprehensive, ongoing partnership effort to bring focus and excellence to federal activities in support of the vitality and sustainability related to the health of natural resources and the environment. It is the overarching goal of the Group to develop processes, marshal resources among agencies and partners, seek opportunities for collaboration and communication, and provide timely assistance where it is needed. Working together, the agencies represented by this Group, are committed to bringing results to the American public in the communities, towns, and farms of the Midwest.

In 1998, the Group agreed on the need for federal agencies to attain proactive coordination, eliminate duplication, and clearly establish the proper role for each federal bureau or agency within 13 geographic areas which the Group identified as critical priority areas of the Midwest. These focus areas can be divided into the Big Rivers basin and the Great Lakes basin.

The 13 focus areas and lead agencies are:

Big Rivers Basin Focus Areas and Lead Agencies:

Illinois River, *U.S. Fish and Wildlife Service*
Minnesota River, *U.S. Fish and Wildlife Service*
Missouri River, *National Park Service*
Ohio River, *U.S. Army Corps of Engineers*
Ozark Plateau, *Bureau of Land Management*
St. Croix River, *National Park Service*
Upper Mississippi Watershed, *Natural Resources Conservation Service*
U.S. Environmental Protection Agency

Great Lakes Basin Focus Areas and Lead Agencies:

Detroit River/St. Clair River, *U.S. Environmental Protection Agency*
Fox River/Green Bay, *U.S. Fish and Wildlife Service*
Great Lakes, *U.S. Environmental Protection Agency*
U.S. Army Corps of Engineers
Saginaw River and Bay, *U.S. Fish and Wildlife Service*
Southern Lake Erie, *U.S. Geological Survey*
Southern Lake Michigan Crescent, *U.S. Environmental Protection Agency*

Working shoulder to shoulder for the benefit of the American people of the Midwest, the Group has agreed to analyze federal and partnership activities in the focus areas in terms of:

- Coordination, identification and enhancement of the accomplishments of existing efforts being undertaken by federal and non-federal partners;
- Exploration of, and commitment toward, new opportunities for cooperation and collaboration; and
- Better reporting to Congress and the public regarding federal progress and results within the Government Performance and Results Act as required by Congress

This report presents a summary of the initial findings and action plans of the federal partnership. Teams of agency representatives have analyzed the environmental and natural resource values of the focus areas by looking at each area's (1) reason for being a priority focus area, including background and description of the area; (2) natural resource and environmental benefits, including economic benefits; (3) challenges to environmental health and well-being; (4) actions needing to be accomplished toward environmental health and natural resource goals; (5) federal role toward meeting environmental and natural resource goals; (6) partners, stakeholders and their role(s) in these efforts; and, (7) focus area team accomplishments to date. While some of the issues identified are specific and relate to only one project, others are more general and have broad implications and impacts. This report will be circulated to all state, tribal, nonprofit, and citizen partners for their input and constructive criticism.

The Group is committed toward applying the findings and developing the plans, outlined in this report, into solid, goal-based action that achieves the health of natural resources and the environment for the benefit of all. The Group and its agencies are wholly dedicated to this effort.

The Midwest Natural Resources Group is comprised of senior executives and regional directors of the following agencies:

Bureau of Indian Affairs	Office of Surface Mining
Bureau of Land Management	U.S. Army Corps of Engineers
Department of Energy	U.S. Coast Guard
Federal Highway Administration	U.S. Environmental Protection Agency
National Oceanic and Atmospheric Administration	U.S. Fish and Wildlife Service
National Park Service	U.S. Forest Service
Natural Resources Conservation Service	U.S. Geological Survey

Focus Area: **Illinois River**

Lead Agency: U.S. Fish and Wildlife Service

Contact: Ross Adams

Background

The Illinois River begins at the confluence of the Des Plaines and Kankakee rivers near Chicago and flows 237 miles to the Mississippi River at Grafton, Ill. The natural resources of the river supported the lives and culture of Native Americans into the early 1800's. Early explorers and settlers depended on the river for fish, waterfowl, and fur to meet their needs. Although the river still provides important habitat for aquatic communities and migratory birds, the pristine nature and biological diversity of the Illinois River and its 28,000 square mile watershed have undergone dramatic changes. Streams were channelized, dammed, dredged and leveed. Nearly all tallgrass prairie and savanna, and 90 percent of wetlands were carelessly converted to other uses to support an exploding human population. Important natural resources were exploited and badly depleted without regard for the needs of future generations. Pollution and sediments choked the life out of the river and associated backwaters. Opportunities for enjoyment and use of natural resources of the Illinois River were reduced substantially (to extinction in the case of the passenger pigeon).

Natural Resource Goals:

The Illinois River Strategy Team developed a vision of “*a naturally diverse and productive Illinois River Valley that is sustained by natural ecological processes and provides for compatible social and economic activities.*”

The Illinois River Focus Area Team goals are to:

- # Protect, restore, and enhance populations of native and trust species and their habitats.
- # Restore natural ecosystem processes, including hydrology and sediment transport to maintain species and habitat diversity.
- # Promote environmental awareness of the ecosystem and its needs with emphasis on sustainable land use management.
- # Improve water quality.
- # Promote balanced and compatible socio-economic uses of the ecosystem's resources.

Challenges:

A roadblock to achieving the vision and goals is the lack of organization among the many and varied partners and stakeholders, the lack of information exchange needed to move forward on a unified front, and the lack of fiscal resources.

Actions

In the spirit of the Government Performance and Results Act, a coalition of federal agencies responsible for management, protection, and restoration of the Illinois River is needed to coordinate and facilitate government actions to improve efficiency and effectiveness in achieving ecosystem goals. Working with state agencies, local governments, watershed groups, nongovernmental organizations, private land owners and individuals, the coalition will identify and prioritize projects within the watershed that, when complete, will contribute towards achieving ecosystem goals. The coalition will develop strategies for generating and mobilizing the resources needed to complete priority projects within a 15 year time frame, implement strategies, and evaluate progress and results.

Results

We will achieve success when erosion and sedimentation are within acceptable limits, fish and wildlife communities are healthy and sustainable, river water is swimmable and a source of safe drinking water, wetlands and other habitats are restored and are sustainable, and citizens can enjoy these resources without being concerned for their health and well being.

Accomplishments

The Illinois River Focus Area Team of the Midwest Natural Resources Group identified Weis Lake and the Crow Creek watershed area as a site specific habitat restoration project. The U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, the U.S. Geological Survey, the Illinois Department of Natural Resources, and Ducks Unlimited are initial partners in this project. A meeting was held in Henry, Illinois, to gauge public concern about the deteriorated condition of the natural resources in the Crow Creek watershed. The meeting results indicated there is strong public support for restoring Crow Creek watershed and associated wetlands. Much of a Comprehensive Management Planning workshop on Chautauqua Refuge focused on restoration needs in the Crow Creek watershed, including Weis Lake and the Marshall County Conservation Area. Numerous informal meetings and discussions among various partners suggest that this is a much needed, achievable project.

- # It is proposed that the Illinois River Focus Area Team develop a strategic plan for the restoration project at the Midwest Natural Resources Group Meeting, November 3 - 4, 1999, as well as identifying other priority needs for the restoration of the Illinois River and its watershed.

Focus Area: **Minnesota River**

Lead Agency: U.S. Fish and Wildlife Service

Contact: Lance Kuester

Background

The Minnesota River drainage basin represents 19 percent of the land mass of Minnesota, and includes small portions of South Dakota and Iowa. It begins near the South Dakota/Minnesota border and flows 333 miles through the riverbed of Glacial River Warren to join the Mississippi River in St. Paul. Three dams in the upper river, managed by the U.S. Army Corps of Engineers, create extensive headwater lakes, important wildlife management and public hunting areas, and a productive sport fishery. The lower 238 miles of river are free flowing and without significant modifications. The U.S. Army Corps of Engineers maintains a nine foot channel in the lower 15 miles of the river for navigational purposes.

Most of the watershed is converted to farmland. Row crops, primarily corn and soybeans, cover about 82 percent of the watershed; eight percent is pasture and three percent is forested. The basin is a key component of the Prairie Pothole Region which produces 20 percent of the continental population of waterfowl. Much of the basin was tallgrass prairie and remnants of the once vast tallgrass prairie ecosystem still harbor a great diversity of plants and animals. However, since the arrival of European settlers, this unique habitat has declined by 99.6 percent in Minnesota. As a result of the conversion to row crops and the related problems of predation, populations of many grassland nesting birds are declining, some precipitously. The northern tallgrass prairie is home to 40 percent of Minnesota's 287 state-listed rare plant and animal species and includes several species of plants and animals that are federally listed as endangered, threatened, or as species of concern.

The Minnesota is one of the state's most polluted rivers. Four categories of pollutants are of greatest concern including: pathogens, sediments, nutrients and substances that reduce the oxygen level of the water. Urban sprawl increasingly converts fragile woodland and grassland bluffs to residential lots, parking lots and city streets. Untreated storm water enters the river and adjacent riverine wetlands.

More than 90 percent of prairie wetlands in Minnesota have been drained by installing drain tiles and ditches; many streams have been channelized and dammed. This speeds the removal of water and sediments from the land; which, in turn, destroys fish spawning sites and eggs, and limits oxygen available to aquatic life. Cultivation up to the river's edge causes slumping and erosion of the river banks. The disturbance of bottom sediments by carp and suckers results in turbidity, decreased transparency and low productivity. Runoff from livestock feedlots and inadequately treated sewage from septic systems and cities often contains disease-associated bacteria that pose health risks for swimmers.

Oxygen levels in the river may also reach critically low concentrations as oxygen is used in the breakdown of organic matter. Phosphorus and nitrogen are the two most important nutrients causing problems. Both enhance production of aquatic plants and algae, which cause nuisance blooms. Nitrogen in the form of ammonia may accumulate in sediment and become toxic to aquatic organisms. High nitrate levels in drinking water may be dangerous to human health.

Natural Resource Goals:

- # Cooperatively identify conditions, needs, constraints, and opportunities in resource management.
- # The previous Governor of Minnesota declared reclamation of the Minnesota River as the state's number one resource priority and set the goal of a "fishable and swimmable" river by the year 2002.
- # Conduct research on recreational impacts to river corridor resources.

Current Efforts to Meet Goals:

U.S. Fish and Wildlife Service -

- # Manages two National Wildlife Refuges and numerous Waterfowl Production Areas within the basin.
- # Implements the Partners for Fish and Wildlife Program which works with willing land owners to restore wetlands and other important habitats.
- # Is moving forward to establish the Northern Tallgrass Prairie Habitat Preservation Area.
- # Provides environmental education regarding the river's restoration and long term protection.

Environmental Protection Agency -

- # Administers Section 319 grants to the Minnesota Pollution Control Agency to implement Best Management Practices and conduct water quality monitoring.

National Park Service -

- # Works in partnership with state, regional, and local governments and private and nonprofit organizations to preserve, protect and monitor historical, recreational, scenic, cultural, economic, and scientific resources within the four miles of the mouth of the Minnesota River that are a part of the Mississippi National River and Recreation Area.
- # Participates in Big Rivers Partnership to inventory biological resources in the Mississippi and Minnesota river corridors in the Twin Cities metropolitan area.

Natural Resources Conservation Service -

- # Provides technical assistance to land owners to retire environmentally sensitive lands from crop production through the Conservation Reserve Program, the Conservation Reserve Enhancement Program and the Wetlands Reserve Program.
- # Funds establishment of various conservation practices utilizing the Environmental Quality Incentives Program.

U.S. Geological Survey -

- # Utilizes the National Water Quality Assessment Program to describe water quality conditions, and changes in water quality over time.

U.S. Army Corps of Engineers -

- # Conducts an Instream Flow Needs Assessment downstream of the Lac Qui Parle Reservoir and studies watershed management under Section 303 of the Clean Water Act related to Total Maximum Daily Load.

Challenges:

- # Almost entire land ownership is private.
- # Fragmented management among local, state, and federal agencies.
- # Multiple use demands.
- # Inadequate fiscal and human resources to significantly increase involvement in Minnesota River issues to work on watershed-by-watershed basis.
- # Lack of regulatory authority to control pollutants.
- # Lack of consistency in monitoring and reporting accomplishments.

Actions

- # Improve communication, participation and education among all partners, especially government agencies and the public.
- # Develop and implement a shared vision and strategies for desired future state of the basin.
- # Complement existing partnerships.
- # Share existing project funding and personnel resources.
- # Leverage funding available through the Clean Water Action Plan.
- # Support regulatory actions by the U. S. Environmental Protection Agency.
- # Participate in the River Resources Forum to promote timely and effective interagency and public communication so that realistic expectations are established and activities are conducted with full awareness.

Major Responsibilities:

The legal authorities for federal agency involvement in the Minnesota River Watershed encompass responsibilities such as:

U.S. Fish and Wildlife Service -

- # Recovery of grassland dependent bird species which have declined more over the last 25 years than any other group of North American birds (neotropical bird conservation).
- # Preservation and restoration of additional wetlands in the most important area of the U.S. for production of migratory waterfowl (wetlands).
- # Restoration of riparian habitats to provide a buffer and reduce the influx of sediments and nutrients from agricultural lands into the river (wildlife and habitat).
- # Assisting the state in the restoration and monitoring of fish populations and contaminant levels.
- # Environmental education opportunities explaining the river and associated tallgrass prairie.

U.S. Department of Agriculture-

- # Highly erodible land and wetland conservation provisions of 1985 Farm Bill, as amended.

U.S. Army Corps of Engineers -

- # Provide Section 22 planning assistance to states and tribes.
- # Use Section 1135 of the Water Resources Development Act to help plan, design, and construct fish and wildlife habitat restoration measures.
- # Use Section 206 for planning, design, and construction of ecosystem restoration projects, if authorized, and aquatic ecosystem restoration and protection projects.

Timing of actions:

Three to five years

Results

Measurable improvements in water quality parameters. Net increase in quantity and quality of restored fish and wildlife habitats. Determination of a measure of success attributable to “fishable and swimmable” standards by the year 2002.

Accomplishments

None Reported

Focus Area: **Missouri River**

Lead Agency: National Park Service

Contact: John Sowl

Background

The Missouri River is 2,315 miles long. Its basin covers 529,300 square miles and drains one-sixth of the United States (including 74 percent of the upper Mississippi River Basin). It includes all of Nebraska and portions of Montana, Wyoming, North and South Dakota, Minnesota, Iowa, Colorado, Kansas and Missouri. The Missouri River contributes 42 percent of the long-term average flow of the Mississippi River.

The basin is physiographically, ecologically, and climatologically diverse. Geographic, terrestrial and aquatic species, habitats, and climatic characteristics are commensurate with habitats ranging from the Rocky Mountains to the Interior Plains (comprised of the Great Plains in the west to the Central Lowlands in the southeast).

Many of the most unique or outstanding large natural areas in the Missouri River Basin have been designated by, or are managed by, the federal government. These areas include: scenic badlands, high mountain ranges, mountain streams and canyons, alpine lakes, extensive coniferous forests, lakes and marshes in the glacial drift and sandhill prairies and other unique landmarks and geological formations. There are several outstanding wilderness areas within National Forests along with a number of grassland wilderness areas. Several National Parks, including Glacier, Yellowstone, Rocky Mountain, and Badlands, along with designated wild and scenic rivers, occur in this area and provide extensive outdoor recreation opportunities.

The basin is an extremely important producer of the nation's, and the world's, food supply. The basin possesses significant hardwood and softwood timber resources. Metallic and non-metallic minerals and energy fuel resources are important factors in the basin's economic growth. Energy fuels constitute the largest and most valuable share of all non-renewable resources produced in the basin. Manufacturing activities are varied, but largely reflect the economic predominance of agriculture in the basin.

In general, the basin is well endowed with surface and ground water resources. However, the occurrence and availability of water is highly variable, subjecting portions to recurrent local and seasonal shortages. A number of major reservoirs with multi-purpose functions including irrigation, water supply, flood control, hydroelectric power generation, navigation, recreation, and fish and wildlife enhancement exist within the basin.

Overall, 35 percent of the Missouri is impounded, 32 percent has been channelized, and 33 percent is unchannelized. Navigation exists between Sioux City, Iowa, to the river's mouth at St. Louis, Missouri.

Natural Resource Goals:

A "Future Vision" for the Missouri River Basin must first be defined by each agency individually, and collectively for all federal agencies within the area.

Current Efforts to Meet Goals:

Agencies are currently collecting information on wildlife, recreation, air quality and cultural resources. Studies are being conducted on fisheries and benthic fish, pallid sturgeons and paddlefish (their conservation and reintroduction), least terns and piping plovers (and other appropriate endangered or threatened species), riparian vegetation, topography, geology and paleontology, hydrology, stream morphology, soils, and abandoned mining lands restoration. Actions are also being taken to build "consensus groups" and to create Memorandums of Understanding in order to foster effective resource management.

Challenges:

- To recognize that federal agencies exist to serve the American people, as well as this nation's natural resources, in our singularly focused effort to successfully achieve our individual Congressionally-authorized missions. (Agencies should work to make communities and individual citizens our primary partners and customers. Agencies must encourage these groups to accept more local responsibility and to become part of the decision-making process regarding natural resource stewardship.)
- To accurately define a desired, yet appropriate and achievable, future vision for the area.
- To set appropriate and achievable natural resource goals to help agencies meet the defined "future vision" for the area.
- To get beyond small-scale thinking (e.g., "But we've never done it this way before!").
- To allow enough time to execute the identified task(s) at hand in order to achieve set goals.
- To honestly and effectively coordinate agency efforts into an interdisciplinary partnership of federal agencies and other appropriate partners.
- To admit when "we just don't know" something.
- To step outside of the historical interpretation of government. It will be necessary for each agency to undertake some risk to its *status quo* in order to accomplish this.
- To establish effective monitoring and feedback loops with any action or project undertaken. This information is necessary to let us know (1) if our actions are indeed improving the natural resource condition in question; and, (2) what adjustments or additional actions we must take to improve the situation.

Actions

Federal agencies must commit themselves to promoting an interagency, interdisciplinary approach to program coordination and problem-solving within the Missouri River Basin. Agencies should work to foster effective communication among themselves and other basin interests. This is particularly emphasized where mutually beneficial objectives can be realized, or when agency coordination could facilitate more comprehensive interagency efforts that would normally be beyond the scope of single agencies.

These objectives include: the elimination of duplicated efforts wherever possible, the consolidation of existing data, the sharing of resource inventories and mapping, environmental rehabilitation, water quality and water resource management issues, interagency consensus-building on major issues, and resolution of overlapping Government Performance and Results Act goals with other agencies. Agencies must also actively work to reverse the challenges, or "roadblocks" to success (listed above) with positive alternative actions.

Major Responsibilities:

Major responsibilities should be commensurate with (1) Congressionally-designated mission and responsibilities of each agency; (2) ability of each agency (its available personnel, expertise and resources) to address any given responsibility; and, (3) ability and extent of each agency to form an interagency, or interorganizational, partnership to address any given responsibility.

Timing of Actions:

Timing requirements depend upon:

- The nature, difficulty and scope of the action.
- The defined purpose for undertaking the action.
- The order in which any given action must be executed to enable the project to arrive at the desired natural resource goal.
- Funding requirements of the proposed action and availability of funding.
- Availability and expertise of necessary agency personnel.
- Long-term political and fiscal commitment to the action and toward achieving the desired goals or resource conditions.

Results

- Successfully define a future vision for the natural resources of the basin.
- Successfully resolve any existing overlap between the agency's Government Performance and Results Act goals.
- Overcome the roadblocks to meeting the mutually defined natural resource goals for the basin using the broad strategies.
- Implement the necessary actions for achieving these goals as partners in a timely way according to each agencies' abilities and responsibilities.
- Fully and continuously utilize feedback from the project's monitoring program to make necessary and ongoing adjustments to actions.
- Realize sustained funding for efforts.
- The American people realize agencies are working together in an efficient and responsible interagency, interdisciplinary, coordinated and cost-effective way to promote high-quality stewardship of the Missouri River Basin's resources.

Accomplishments

The Missouri River Focus Area Team is making notable progress in bringing together largely disparate agencies to discuss our common linkage of the Missouri River and its diverse resources. Many aspects of this federal “coming together” may, in fact, be firsts for these agencies. More time and interaction between these partners will undoubtedly result in significant movement forward to enhance the communication, coordination, and collaboration of the different interests and missions involved. But the important fact is that the “ice has been broken” and progress toward that end is taking place.

In addition to our Focus Area Team conference call meeting during January 1999 (which was reported earlier), the Missouri River Focus Area Team has arranged to meet together at the National Park Service's Midwest Regional Office on October 19-20, 1999. After surveying the team members as to what business this meeting should cover, the following discussion topics were identified as the agenda:

- # Each agency representative will provide an update on their agency's current Missouri River activities.
- # Discuss possible interagency interest in working together to more efficiently and effectively address various environmental mandates that we all have to work under (e.g. Executive Orders on energy efficiency, affirmative procurement, environmental justice, etc.).
- # Team identification of possible new projects or opportunities within our geographic focus area that could benefit from an interagency approach.
- # Discussions on Sens. Kerrey, D-Neb., and Bond, R-Mo., Missouri River enhancement bills pending before Congress and their implications for the river and its resources.

Discussions on how the focus area agencies can work together more efficiently and effectively to implement the Clean Water Action Plan.

- # Each agency representative will provide an update on their agency's current Lewis and Clark Bicentennial plans and activities.

The results of, and recommendations from, this meeting and these discussions will be carried forward to the November 1999 Midwest Natural Resources Group meeting for possible further elaboration and feedback from the Midwest Natural Resources Group's Senior Managers.

Focus Area: **Ohio River**

Lead Agency: U.S. Army Corps of Engineers

Contact: John Furry

Background

The Ohio River watershed includes 204,000 square miles, including most of West Virginia, Kentucky, Tennessee, Indiana and Ohio, large segments of western Pennsylvania, Virginia, North Carolina and eastern Illinois, and parts of Mississippi, Alabama, Georgia, Maryland and New York. Physiographically the basin consists of three major landforms: the Appalachians line the eastern basin; glaciated plains and their till cover the northwest; and rolling, mostly karst, hills cover the southwest.

Agricultural uses dominate throughout most of the region. Only the Appalachian areas remain mostly forested. Along with urban expansion, agriculture and mineral extraction are dominant economic and ecological factors throughout most of the region. The ready availability of water, coal, natural gas, and other mineral resources made the river corridors very attractive to many industries. Bulk movement of agricultural and chemical products, coal, iron and steel was made efficient by the railroads associated with most flood plains and the canalizing of 2,582 miles of eight rivers by building locks and dams. Currently, 60 locks and dams are used commercially and dozens more are used only for recreation or to retain pools for local water supplies.

All, or parts of, 11 National Forests are within the region. Numerous reaches of rivers are designated National Wild and Scenic Rivers, while nearby reaches are listed among the nation's worst polluted streams. There are 102 major, and over 300 minor flood control lakes operated by the U.S. Army Corps of Engineers, the Tennessee Valley Authority and the Department of Agriculture. The Department of Interior operates four large national wildlife refuges, the Smoky Mountain and Cumberland Gap National Parks, and many smaller sites within the region.

Regional wildlife is rich and diverse. There are over 150 species of fish and 116 species and subspecies of mussels, of which 28 are endangered and 18 more are under agency review. Delicate cave ecosystems of the karst areas are likewise threatened. Waterfowl resources are depressed due to habitat loss, but they are steadily recovering after decades of habitat protection and restoration. Sedimentation and water quality problems are impacting wildlife habitats throughout the region. Although manifestation of the problem is beyond the Ohio River Focus Area, about 30 percent of the nutrients aggravating Gulf hypoxia come from the Ohio River drainage. Invading exotics are also diminishing native populations, and altering native ecosystems and habitats.

Natural Resource Goals:

Responses to an informal interagency poll consistently list improving water quality as a high priority for restoring natural diversity and healthy ecosystems. Remediation of mine drainage was the highest overall concern in improving water quality and aquatic ecosystems in tributaries. Restoring special habitats, such as shallow aquatic areas, islands, corridors of riparian forests, floodplain wetlands, and heritage biological communities were also frequently listed goals. Several specific goals were also listed related to specific taxa/groups; e.g., sturgeon, mussels, song-birds and herptiles. Control of invasive exotics was another commonly mentioned issue, as well as reducing the Ohio River region's nutrient contribution to the Gulf hypoxia problem.

Challenges:

The team has not yet developed a project of its own. The wetlands restoration and acid mine drainage projects in southern Ohio's Wayne National Forest area have fallen through due to the local sponsors' inability to secure cost share funding. This was a project with components for the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, U.S. Forest Service, Natural Resources Conservation Service, and the Office of Surface Mining. The U.S. Army Corps of Engineers' Huntington District is leading the partners in investigating ways to reduce flood damage in the area by developing watershed features, such as headwater retention basins and raising, or removing, structures from the floodway. These features will also have environmental benefits.

Actions

The Focus Area Team Member's focus remains on assisting established local groups with what they have initiated.

A meeting with the U.S. Coast Guard, U.S. Army Corps of Engineers, state conservation agencies, U.S. Fish and Wildlife Service, and industry partners is being planned. The goal of this meeting will be to identify ways to reduce impacts to fish and wildlife resources from Ohio River navigation operations. Topics that may be discussed include: minor modifications to channel marker alignment to avoid sensitive fish and wildlife resource areas, and the need for emergency/local mooring cells/buoys to minimize mooring in environmentally sensitive areas. The navigation industry has been involved and they are receptive to having biologists speak at their captains and pilots meetings about techniques to minimize damage during normal operations.

Focus Area team participants have discovered that current local cost sharing requirements are a major problem throughout much of the region. National economic prosperity has not found its way into the depressed Appalachian or farm regions along the lower river. The team continues to look for ways to assist local individuals, groups and governments with ways to resolve problems through technical assistance, grants, and programs requiring minimal investment. The team is also exploring which agency grants these local partners may use to match other federal agency cost share requirements. To date, only Office of Surface Mining grants have been determined clearly eligible for this purpose. However, various Natural Resources Conservation Service grants and U.S. Environmental Protection Agency Section 319 grants are being investigated.

Results

Representatives of industrial groups, special interest groups, and government agencies will have worked together to implement several small projects. Based on these partnering experiences, they will recognize a sufficient number of common interests, and goals, in order to work cooperatively on increasingly complex projects. Each group and agency will be willing to contribute from its resources to accomplish goals that no single entity can achieve by itself.

Accomplishments

The greatest value of the Focus Area Group has been to open interagency lines of communication. This is easing the potential for conflicts on some existing projects and facilitating resolution of some old problems. Examples include:

The Ohio River Mainstem Navigation Study is running much smoother as a result of interagency cooperation between the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and, to a lesser degree, the U.S. Environmental Protection Agency. The spin-off has been a combined effort to find authorities and funds to restore numerous backwater embayments and critical substrate areas in the channel to reestablish floodplain wetlands and riparian zones.

The long standing argument over who is causing the pool fluctuations between the Hannibal and Racine Lock and Dam is now being actively investigated. Hydraulics and fisheries experts from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, and the West Virginia Department of Natural Resources have held interagency meetings to determine the causes of the fluctuations and explore means to minimize them. They have also held informational meetings with local interest groups.

The U.S. Forest Service, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the Office of Surface Mining have partnered with the Monday Creek Restoration Project Watershed Group in southern Ohio. These agencies are investigating ways to pool their resources to help local partners with acid mine drainage remediation, ecosystem restoration, and flood damage reduction. Some specific parts of these efforts have not been completed due to local funding constraints, while other parts are moving forward as planned.

The National Park Service is partnering with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Natural Resources Conservation Service and numerous other agencies along the river to prepare for the upcoming Lewis and Clark celebration. These and other agencies have named individuals to coordinate interagency efforts.

The Midwest Natural Resources Group is having positive results in the Ohio River Focus Area. While developing Midwest Natural Resources Group driven activities is not the number one priority for many agencies involved, the Group's focus of looking for mutually supportable projects is dulling the potential for conflicts between agencies on specific projects. The team is putting faces with names and working on potential issues before they grow into interagency conflicts, this helps to accelerate progress without compromising quality. The Midwest Natural Resources Group is bringing agencies together, to work as proactive partners, that have never previously considered integrating their respective roles.

Focus Area: **Ozark Plateau**

Lead Agency: Bureau of Land Management

Contact: Vince Vogt

Background

The Ozark Plateau Focus Area encompasses approximately 48,000 square miles and includes parts of northern Arkansas, southern Missouri, southeastern Kansas, and northeastern Oklahoma. It is drained by seven major rivers: the Black, Gasconade, Meramec, Neosho-Illinois, Osage, St. Francis, and White. These rivers are either direct or indirect tributaries to the Mississippi River.

The extensive karst features of the Ozark Plateau create an intricate groundwater flow system. The vast network of solution channels and conduits in the mostly carbonate aquifers directly affects the fragile environment in the area. Contaminants entering recharge areas, usually sinkholes and losing streams, move quickly to discharge areas such as wells or springs.

Land use in the area is mainly forest and agriculture. Large concentrations of poultry operations are located in northeastern Oklahoma, northwestern Arkansas, and southwestern Missouri. Cropland dominates the extreme northwestern and southeastern part of the area. Forests and pastures are the major land uses in the eastern and southern part of the area. Lead/zinc mining historically occurred in the Tri-State Area, near the borders of Missouri, Kansas, and Oklahoma, in the Old Lead Belt Area of southeastern Missouri, and is currently ongoing in the Viburnum Trend Area of southeastern Missouri.

The population within the area was approximately 2.3 million in 1990, an increase of 28 percent from 1970. Most of this growth occurred in northwestern Arkansas and southwestern Missouri. Springfield, Missouri, with a population of about 140,000, is the largest city in the area. Joplin, Missouri; and Fayetteville, Rogers, and Springdale, Arkansas are the only other cities with populations exceeding 20,000.

Natural Resource Goals:

The people of the Ozarks have strong local traditions rooted in hunting, fishing and logging. Many residents who have moved to the cities periodically return to the Ozarks to retain part of their cultural heritage. An abundance of tourists also take advantage of the river's many recreational opportunities. Just as traditions are tied to the land, so, too, is the area's economy. The top industries of the area are timber, agriculture and tourism, all of which are dependent on stewardship and wise use of the land for continued profitability.

Current Efforts to Meet Goals:

Current efforts include projects and partnerships such as the Scenic Rivers Watershed Partnership, the Ozark Plateau's National Water Quality Assessment Program, Missouri Water Quality Coordinating Committee, Ozark Trail Council, Missouri Resource Assessment Project, Ozark/Ouachita Highlands Assessment, the Lead/Zinc Technical Team, Missouri Natural Area Program, and various state/private industry working groups.

Challenges

While the natural resources of the area have recovered over the last 50 years, there still are many challenges to conserving these resources. Forested areas, while currently covering most of the region, might again be over-exploited and converted to other uses. Streams, perhaps the most outstanding resource of the region, are threatened by water pollution and unstable riparian corridors. The tremendous habitat diversity of the region supports an impressive number of plant and animal species, including rare and endangered species. Many of these species occur in small, unique habitats, such as caves, springs, fens, sinkhole ponds or glades which can be easily destroyed by human activities.

Some specific challenges are managing confined animal feeding operations, past and present lead/zinc mining, clearing of steep slopes, logging of public and private lands, chip mills, and feral hogs.

Actions

Balancing conservation and sustainable development is a complex task. Stakeholders with very divergent values will have to come together and reach consensus on the best use of the region's resources. The greatest hindrance to the success of such an effort is the lack of opportunities for communication and the development of common goals. By fostering programs which increase opportunities for communications and consensus building, a greater possibility for success will emerge.

Results

The ultimate success of the efforts to manage the natural resources of the Ozark Plateau will depend on the ability of stakeholders in the region to truly balance conservation of natural resources with human use and enjoyment.

Accomplishments

The Ozark Plateaus Focus Group did not formally meet during the last year, however, the member agencies met together in other groups, such as the Lead-Zinc “Technical Team,” the U.S. Fish and Wildlife Service’s Ozark Ecosystem Team, and the Scenic Rivers Watershed Partnership.

The Group has prepared a letter to the USGS Chief Hydrologist voicing support for the continuation of the Ozark Plateaus National Water-Quality Assessment Program. This letter is currently being routed to regional agency representatives for signing.

Focus Area: **St. Croix River**

Lead Agency: National Park Service

Contact: Tony Anderson

Closeout Report

Background

The St. Croix begins in northwest Wisconsin and flows over 150 miles to its confluence with the Mississippi River below St. Paul, Minnesota. It is part of the St. Croix National Scenic Riverway, which includes the entire St. Croix River and its major tributary, the Namekagon River. The St. Croix River upstream of St. Croix Falls and the Namekagon River were among the eight original components of the National Wild and Scenic River System (NWSRS) when the Wild and Scenic Rivers Act was passed in 1968. The downstream portion of the St. Croix River was established as a “study river” in 1968 and was subsequently added to the System in a 1972 amendment to the Act. The purpose of designating a river under the Wild and Scenic Rivers Act is to protect its free-flowing character, water quality and outstanding resource values for present and future generations.

Management:

Rivers do not follow ownership or administrative boundaries. Furthermore, all land ownership within the Riverway boundary is limited. Therefore, the St. Croix National Scenic Riverway, like all components of the National Wild and Scenic River System, must be managed by partnerships. Federal agencies, state agencies, local governments, landowners and citizens are all involved.

Partnerships:

Because of its location between Minnesota and Wisconsin; proximity to the Twin Cities Metropolitan area; its scenic, historic, and ecological significance; its status as a National Scenic Riverway; and the passion adored on it by residents of the region, the Riverway claims many stakeholders and partnerships.

Our partnerships are many, but some of the more notable groups and efforts include:

The Lower St. Croix Management Commission (LSCMC)

The Lower St. Croix Management Commission manages the lower 25 miles of the Riverway. It consists of the Wisconsin Department of Natural Resources, the Minnesota Department of Natural Resources, the National Park Service and the Boundary Area Commission. The Lower St. Croix Management Commission works cooperatively in the development of management plans for the lower river and to resolve controversial issues.

The Lower St. Croix Management Commission is nearing completion of a Cooperative Management Plan for the lower 52 miles of Riverway. Public review is expected in October.

Interagency Zebra Mussel Task Force

The Interagency Zebra Mussel Task Force includes the National Park Service, U.S. Fish and Wildlife Service, U.S. Coast Guard, U.S. Army Corps of Engineers, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, and Northern States Power Company. The task force works cooperatively to prevent the spread of zebra mussels into the St. Croix River.

Recovery Team – Winged Mapleleaf Mussel

The Recovery Team for the federally-endangered winged mapleleaf mussel, whose only known population exists on the St. Croix River, includes the National Park Service, U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, the University of Minnesota and Macalaster College. The Recovery Team works cooperatively on studies and actions aimed at preserving the winged mapleleaf mussel. One of the most notable study efforts taking place is the search for the host fish for the larval stage of winged mapleleaf mussel.

Native Mussel Conservation

The National Park Service has several cooperative studies underway with the U.S. Geological Survey – Biological Resources Division and others aimed at preserving the diverse native mussel fauna of the St. Croix. They include the “Effects of Ammonia on Mussels” and studies related to the establishment of native mussel refugia.

St. Croix River Interagency Water Resources Planning Team / Basin Planning Team

Members of the Basin Planning Team include the National Park Service, U.S. Geological Survey – Water Resources Division, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, and the Boundary Area Commission. It functions as an advocacy group for protecting the water quality in the St. Croix watershed.

Protecting Water Quality

The National Park Service, U.S. Geological Survey – Water Resources Division, Minnesota Pollution Control Agency, Wisconsin Department of Natural Resources and the Metropolitan Council are cooperating to monitor phosphorous on the Riverway, particularly in the Indianhead Flowage and Lake St. Croix.

Interagency Fisheries Management Team

The National Park Service, U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources, and the Wisconsin Department of Natural Resources are working cooperatively to manage the fishery resource of the Riverway. A Fisheries Management Plan for the Riverway is currently on agency review.

Transportation Planning

The Lower St. Croix Management Commission is working cooperatively with the Federal Highway Administration, Minnesota Department of Natural Resources, Wisconsin Department of Natural Resources, Minnesota Department of Transportation, and the Wisconsin Department of Transportation to resolve the controversy regarding the proposed new bridge crossing near Stillwater, Minnesota. The National Park Service has developed a policy to integrate the requirements of Section 7(a) of the Wild and Scenic Rivers Act with the Federal Highway Administration's National Environmental Policy Act (NEPA) process for the proposed bridge. The mitigation package for the proposed bridge includes the development of a regional transportation, infrastructure and land use plan to protect the Riverway from future crossings and the effects of population growth in the watershed.

Conclusion

Congress established the St. Croix National Scenic Riverway as an area to be managed by partnerships. Since its establishment, strong federal and non-federal partnerships have been forged. We meet with our partners on a frequent and regular basis. It is difficult to imagine an action the National Park Service could take to protect the Riverway without the cooperation of our many partners. Because the Riverway enjoys strong partnerships, the objectives of including it as one of the 13 Focus Areas for the Midwest Natural Resources Group have already been met. Therefore, the St. Croix River no longer needs to be included as a Focus Area.

Focus Area: **Upper Mississippi Watershed**

Lead Agencies: Natural Resources Conservation Service
U.S. Environmental Protection Agency

Contacts: Dave Carvey, Natural Resources Conservation Service
Bill Franz, U.S. Environmental Protection Agency

Background

The Upper Mississippi River Basin is a nationally significant resource, principally contained within the five Midwestern states of Illinois, Iowa, Minnesota, Missouri and Wisconsin. The basin encompasses the headwaters of the Mississippi River and its vast amount of natural resources support a wide variety of industrial and commercial activities, provide habitat for many fish and wildlife species, offer unlimited recreational opportunities, and has the proper soils and climate to support agricultural production in such quantities to be of global significance. Forests within the basin provide a variety of products which add to its importance, and the river itself supports a transportation system of national significance.

Natural Resource Goals:

- # Conservation, enhancement and protection of fish and wildlife habitats.
- # Safe and environmentally sound transportation systems.
- # Sustainable soils for agricultural production.
- # Reduced sedimentation and enhanced water quality.
- # Sustainable forests.
- # Sustained and enhanced recreational resources and opportunities.

Current Efforts to Meet Goals:

- # The Natural Resources Conservation Service and U.S. Environmental Protection Agency are working on selecting three or more watersheds for pilot programs which will provide all partners the opportunity to work closely together on environmental quality improvement activities.
- # The Natural Resources Conservation Service is working with several partners in the Upper Mississippi River Basin Summit to help develop and assist with a basin-wide study of nutrient and sediment management with the intent of improving environmental conditions, such as water quality, in the Mississippi River and throughout its basin.
- # The U.S. Environmental Protection Agency and Natural Resources Conservation Service are looking at alternatives for prairie restoration of marginal agricultural and other lands which may be contributing nutrients and sediment through excessive runoff.

Challenges

- Finding willing sellers of habitat and recreational land.
- Loss of wetland and forest habitats.
- Adverse impacts on fish and wildlife habitats from navigational structures.
- Funding for habitat restoration.
- Ineffective floodplain management.
- Developing effective nonpoint treatment strategies.
- Developing and funding appropriate sediment and nutrient management strategies.
- Developing appropriate partnerships with all stakeholders.
- Increased stress placed on fish and wildlife resources from invasive species.
- Length and limited value of project reviews by federal agencies.
- Single issue projects.
- Implementing environmental education which demonstrates the importance of the basin.
- Multiple agency authorities, missions and goals which are not linked to health of basin.
- Lack of agreement on goals.
- Conflicting interests among federal agencies.
- Lack of respect and trust of federal agencies' expertise.
- Federal agencies do not have good understanding of local needs and issues.
- Federal field and regional offices do not provide a unified and consistent agency position.
- Federal agencies not willing to commit in the early project development stage.
- Inadequate funding for programs, projects and staff.
- Lack of public understanding of agency requirements to meet appropriate public, private and tribal goals.

Actions

- Develop a partnering agreement at top management and working levels.
- Develop an operational process for continuing partnership communication, cooperation and collaboration.
- Develop a strategy and process for involving stakeholders at all levels in identifying issues, problems, goals and action strategies.
- Develop a conflict resolution process.
- Develop mutual respect for agencies' technical expertise.
- Develop improved means for working with private land owners.
- Develop a comprehensive approach to basin resource management in partnership with stakeholders.
- Be informed of, and involved in, local planning process and related requirements.
- Participate early and add value to projects.
- Agree to a timely and efficient timetable for projects and goals.
- Develop agency and partnership performance criteria, monitoring strategies and plans.

- Develop strategies for identifying and measuring results of agency and partners accomplishments.
- Develop plans for identifying and reporting the value of our work to federal and state legislators, partners and the public.

Major Responsibilities:

US. Fish and Wildlife Service-

- Continue to manage fish and wildlife habitat in conjunction with partners and stakeholders.

National Park Service-

- Management of national park and recreation resources.

U.S. Forest Service-

- Management of public forest resources.

All Agencies-

- Provide technical and financial assistance to reach common agency, public, private and tribal goals.
- Demonstrate appropriate, innovative practices and resource management strategies.
- Comply with federal laws and regulations.
- Jointly work with partners and stakeholders, at all levels, to assist each other as appropriate.
- Collaborate on joint performance criteria and reporting procedures to relate success stories to stakeholders, the public, and federal and state legislatures.
- Support a partnership organizational structure and operational process.
- Support partners' and joint partnership funding to achieve goals.

Results

None Reported

Accomplishments

None Reported

Focus Area: **Detroit River/St.Clair River Corridor**
Lead Agency: U.S. Environmental Protection Agency
Contact: Laura Lodisio

Background

The Detroit River/St.Clair River corridor is the part of the connecting channel system in the Great Lakes-St. Lawrence Seaway which includes the St. Clair River, the Detroit River, Lake St. Clair, and a large land mass in Michigan and Canada within the affected watersheds. The Detroit metropolitan area supports a population of 5.1 million people representing a diverse mix of cultures and socio-economic status. Due to its close proximity to the metropolitan area, the river system and Lake St. Clair are highly utilized for fishing, recreation, and as an international shipping corridor. On July 30, 1998, President Clinton designated the Detroit River one of 14 American Heritage Rivers, recognizing it as an economic, cultural and natural resource, and pledged the support of all federal agencies.

Since the settlement of Detroit in 1701, the area has been a prominent industrial center, placing high stress on the natural environment. The Michigan portion of the corridor has five major rivers designated as Areas of Concern under the Great Lakes Water Quality Agreement, two of which are binational. Numerous impaired uses have been identified on these rivers and the environment of the entire area continues to suffer. Based on a survey that was conducted by involved federal agencies, the problems include: high levels of toxic industrial releases to the land, air and water; over development and poor land use planning; loss of fish and wildlife habitat; contaminated sediments; invasive exotic species; lack of greenways and public access; contaminated Brownfield sites; and cumulative impacts of shoreline development.

Challenges

One of the major challenges agencies face is addressing the competing values of the many groups and interests involved. Coordination of efforts and resources, as well as prioritizing the many issues, will be extremely difficult. Many groups in the area believe that environmental improvement and economic revitalization are mutually exclusive. The agencies and partners involved in this area must change that way of thinking by documenting and showcasing success.

Another critical challenge is the collection and sharing of data and information. In order to do the type of coordinated planning necessary to be successful, agencies need to record data in a manner that makes it comparable to other data bases, share the information in a user-friendly manner, and identify data gaps that need to be filled.

Other issues that must be addressed include: the strong socio-economic factors and disparities between urban and suburban areas (environmental justice issues), strong home rule and resistance to regional governance, limited communication among parties, lack of adequate public involvement, resistance to change, and a perceived negative image of the area.

Actions

Lake St. Clair: Lake St. Clair straddles the United States and Canadian border between Michigan and Ontario. A highly utilized recreational lake with high quality wetlands and a viable fishery, it has recently been negatively impacted by numerous environmental threats. These have included high levels of bacteria due to combined sewer overflows and failing septic systems that have led to beach closures and human health issues, chemical contamination of water and sediments, loss of habitat, fish and wildlife and a decrease in the overall recreational quality of the lake.

The Blue Ribbon Commission Report on Lake St. Clair that was released by Macomb County called on the U.S. federal government to play a role in bringing the local parties and international partners together. The U.S. Environmental Protection Agency-Region 5, has taken the initial lead to develop a binational conference that will provide an overview of the state of the lake and promote information sharing while identifying opportunities for future collaboration. Numerous stakeholders, including other federal agencies, are involved in the development of this conference to be held in early December 1999.

Detroit River Remedial Action Plan: A revitalized structure for the Detroit River Remedial Action Plan (RAP) has recently been established as the implementation phase of the process is beginning. Conceived as a network of teams created by an ad-hoc committee, the structure was established to identify major challenges facing the river. Designed to be self-directed, autonomous, locally driven, and flexible, the new structure provides a framework for the leveraging and coordination of existing programs and initiatives with available resources and knowledge.

The locally led Action Teams are vehicles through which the RAP will be implemented to address the following issues: land use; nonpoint source pollution; contaminated sediments; combined sewer overflows/point source pollution; habitat; pollution prevention; outreach, education and environmental justice; and monitoring and evaluation. Members from other federal agencies are crucial to the success of the RAP.

There are several projects which are proposed for U.S. Environmental Protection Agency funding in FY 2000 including a "Soft Engineering" project that will concentrate on redesigning portions of the Detroit River shoreline with natural vegetation and wetlands, as opposed to the steel wall of concrete structures now dominating 90 percent of the shoreline.

Lower River Ecosystem Workshop: This conference, lead by the Grosse Ile Nature Conservancy has been scheduled for October 21, 1999. This will be an opportunity for all interested stakeholders, including involved federal agencies to share information and collaborate on habitat issues on the lower Detroit River. The American Heritage River Committee and Canadian Governments will participate.

Water Resource Development Act of 1999: Some critical language was included in this authority regarding the St. Clair/Detroit River focus area. Specifically, it provides funding and requires the U.S. Army Corps of Engineers and other government agencies of both the United States and Canada to develop a comprehensive management plan for the St. Clair River and Lake St. Clair, to include identification of causes of environmental degradation, resource monitoring, and dissemination of information to the public. Regarding the Detroit River, there has been a change to the U.S. Army Corps of Engineers' dredging authority which provides for a greater share of dredging and disposal costs be provided by the federal government.

Results

Today, the river corridors and the communities they support are in transition from industry to a blend of uses focused on reclaiming resources; improving the environment; and balancing local desires to live, work and play on international waterways. The City of Detroit is undergoing a major revitalization as it strives to regain its status as a thriving and sustainable city. This revitalization must include protection of the natural resource features that remain. Much of the corridor provides critical habitats supporting many diverse ecosystems and various recreational uses. However, uses of the riverfront for housing, industry and urban development reduced the once extensive and contiguous coastal marshes and wetlands on the Michigan riverfront to less than 3% of their original extent. The efforts of the federal agencies will provide a needed perspective to remediation/restoration efforts implemented in the corridor. Collaborative efforts of the agencies to address these land use issues are needed for meaningful planning by the local stakeholders and will ultimately result in improvements to the quality of the environment, economics and social aspects of the corridor.

Accomplishments

American Heritage River: Since receiving its designation as an American Heritage River (AHR), the Detroit River AHR Committee has selected the River Navigator, Dr. John Hartig, formerly of the International Joint Commission in Windsor, Ontario. Dr. Hartig's five year position is funded by the U.S. Department of Transportation and he will be located at the U.S. Coast Guard Marine Safety Office in Detroit. Dr. Hartig has been involved in Detroit River issues for many years and is very committed and dedicated to actions that will serve to improve the environmental, cultural and economic aspects of the river. The

federal agencies are continuing to coordinate with Dr. Hartig and his committee and to focus efforts on the Detroit AHR Initiative.

Four Agency Letter of Commitment: In April 17, 1998 the governments of Canada, the United States, Ontario and Michigan (the Four Agencies) signed a Letter of Commitment to re-energize the restoration and cleanup of the Detroit, St. Clair and St. Mary's rivers. The Letter specifies the roles and responsibilities of the Four Agencies in implementing recommendations of the Remedial Action Plans (RAPs) in the three Areas of Concern (AOCs) shared between the two countries.

Since the signing of the Letter, the Four Agencies have collaborated on modeling efforts, sediment studies, state of the river tours, data collection and the development of a binational Geographic Information Systems (GIS) framework for storing binational AOC data. The Four Agencies have also developed a series of formal position papers which list general roles and responsibilities, including administrative commitments, development of a binational de-listing process, public involvement and outreach, and reporting progress to the International Joint Commission and the public.

Waterways for Wildlife: A private nonprofit organization, Wildlife Habitat Council (WHC), has for the past two years remediated and created habitat for fish and wildlife along the St. Clair River Corridor, increasing the overall acreage of wetlands in the river basin. A major source of funding has been provided by private corporations and other private partners. In addition, many federal agencies provide support--including funding from the U.S. Environmental Protection Agency and a technical chairperson from the U.S. Geological Survey.

Detroit River Candidate Site for Habitat Protection and Remediation: This project, recently funded by the U.S. Environmental Protection Agency through an Interagency Agreement with the U.S. Geological Survey, will determine the number, location and extent of remaining functional and impaired candidate sites of fish and wildlife habitats, and summarize available information about the fish and wildlife resource values and function of each site. This is the starting point for balancing sustainable uses of the river for recreation, aesthetic enjoyment and economic development. The results of the project will be applied in the execution of numerous riverfront remediation initiatives to increase public access, protect and enhance natural resources, and spur the economy of the city of Detroit and downriver communities. This project will also complement a U.S. Geological Survey Urban Dynamics project which is concurrently being implemented.

Humbog Marsh: The U.S. Army Corps of Engineers, Detroit District, issued its decision on September 1, 1999, denying the permit for the proposed development of the Humbog Marsh area to the permit applicant. This area in the lower Detroit River is the last undeveloped Great Lakes coastal wetland on the Michigan mainland shore of the Detroit River. The denial is being appealed. Should the decision be upheld there may be an

opportunity for natural resource agencies and partners to purchase the 409 acres of natural uplands, oak-prairie savannah and wetlands adjacent to the marsh.

Hennepin Marsh: A citizen driven initiative, led by the Grosse Ile Nature Conservancy, has emerged to restore the 115-acre Hennepin Marsh near Point Hennepin on the north end of Grosse Ile in the Detroit River. The project is part of a larger plan to conserve Point Hennepin and surrounding shoals as an addition to the Wyandotte National Wildlife Refuge operated by the U.S. Fish and Wildlife Service.

Focus Area: **Fox River/Green Bay**

Lead Agency: U.S. Fish and Wildlife Service

Contact: Janet Smith

Background

This focus area includes the watershed of the Fox River from Lake Winnebago to its mouth and the southern portion of Green Bay which covers approximately 6,640 square miles. Waters from the Upper Fox River, Wolf River, and Winnebago Pool lakes empty into the Fox River at the outlet of Lake Winnebago and flow 39 miles northeast to Green Bay. This segment of the river is impounded by 12 dams and has 17 navigation locks that provide primarily recreational navigation on either side of the Rapide Croche Lock. The Rapide Croche Lock has been permanently closed to prevent the migration of sea lamprey into the Upper Fox River and Wolf River watersheds.

The basin includes portions of five counties in northeastern Wisconsin and supports a population of over 300,000 people. The economic base includes diverse industrial, commercial and agricultural operations. Industry is dominated by the greatest concentration of pulp and paper mills in the world--20 mills line the 39 miles of the lower Fox River. Agricultural production is focused primarily on dairy, cash grain and vegetable farming.

Few segments of undeveloped shoreline, with natural vegetation, remain along the lower Fox River and southern Green Bay. Most of the area is occupied by urban developments, industry, agricultural production, and rapidly increasing numbers of rural housing developments. More than 90 percent of the coastal and riparian wetlands along the lower bay and river have been lost, or degraded, due to land filling, development, and high lake levels. Although improvements have occurred since the 1970s, water quality and clarity remain impaired by large amounts of phosphorus from land runoff and wastewater discharges; sediment loading resulting from agricultural, urban, and construction-induced soil erosion; and toxic substances released in association with industrial processes.

The fish community includes stable populations of 33 species, including a nationally-recognized walleye fishery in the Fox River below the De Pere Dam. However, there are fewer species and numbers of top predator fish than considered desirable for fish community structure, there is also a predominance of a few species of forage and rough fish. Exotic species, including the white perch and zebra mussel, are complicating factors. PCB (polychlorinated biphenyl) and mercury contamination of the river and its sediments have resulted in fish consumption advisories for certain fish species in the Fox River and Green Bay.

Habitat loss and degradation, as well as water quality problems and aquatic community imbalance, have reduced the numbers and diversity of wildlife species found in the focus area. Waterfowl use, particularly during spring and fall migration periods, has declined from historic levels due to a decline in preferred invertebrate, snail and submerged aquatic vegetation food species. Waterfowl consumption advisories also are in effect for mallard ducks using the southern bay and portions of the lower Fox River due to PCB contamination. Several waterfowl and colonial nesting waterbird species nest in the area, as do pairs of bald eagles and a pair of peregrine falcons. The number of eagles wintering along the Fox River has increased in recent years. Historically, the southern bay has been very important to migrating bird species including waterfowl, raptors, shorebirds, waterbirds, and songbirds. Patterns of use continue, although habitat available for roosting, loafing, and feeding during migration stopover continues to decline.

Natural Resource Goals:

Goals for the focus area include those of the Lower Green Bay Remedial Action Plan: (1) a healthy river and bay environment providing water quality and habitat for balanced and productive wildlife and plant communities; including a well-balanced, sustainable, and edible sport and commercial fishery; (2) water-based recreation opportunities including accessible local swimming beaches on the bay and adequate boating areas and boating facilities; (3) water quality in the river and bay that protects human health and wildlife from effects of contaminants; (4) balanced public and private shoreline usage including park, agricultural, commercial, residential and industrial lands; (5) an economical transportation network including both water and land-based systems, which minimize adverse environmental effects; and, (6) point and nonpoint discharges and runoff consistent with maintenance of the desired water quality.

Current Efforts to Meet Goals:

Lower Green Bay Remedial Action Plan

In 1986, the last seven miles of the Fox River from the De Pere Dam to the mouth, and approximately 21 square miles of southern Green Bay, were identified as an Area of Concern by the International Joint Commission, the U.S. Environmental Protection Agency and the Wisconsin Department of Natural Resources. The Wisconsin Department of Natural Resources, with extensive involvement and input from other federal, state and local agencies; scientists, citizens, industries, and environmental groups, identified impaired uses and water resource problems in the Area Of Concern. In 1988, a Remedial Action Plan (RAP) was finalized with recommended corrective actions to restore beneficial uses. In 1993, the RAP was updated, and recognized that the upper watershed also needed to be addressed in order to achieve restored beneficial uses in the Area Of Concern. Accordingly, actions to implement the Remedial Action Plan were expanded to include the area covered by this focus area.

Since 1988, the Wisconsin Department of Natural Resources along with partners and other stakeholders including representatives of the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, involved county governments and agencies, University of Wisconsin-Sea Grant, University of Wisconsin-Green Bay, local governments, regional planning commissions, wastewater treatment facilities, conservation and environmental organizations, and industries have been working together in an ongoing effort to implement Remedial Action Plan recommendations. A great deal of education and outreach has been carried out or sponsored by this group and some progress has been made in cooperative actions to reduce sediment and nutrient loading and to protect and restore fish and wildlife habitat in the watershed. Efforts also have been ongoing to achieve cleanup of contaminated sediment.

Lower Fox River/Green Bay Natural Resources Damage Assessment

In 1994, the U.S. Fish and Wildlife Service initiated a Natural Resource Damage Assessment (NRDA) of the lower Fox River and Green Bay pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, the Menominee Indian Tribe of Wisconsin and the Oneida Tribe of Indians of Wisconsin joined together as Trustees of natural resources in the affected area and are assessing injury that has occurred to those resources as a result of the release of hazardous substances to the lower Fox River as well as determining the associated compensable damages and appropriate restoration plan.

Contaminated Sediment Remediation

The U.S. Environmental Protection Agency previously deferred responsibility of the Fox River Natural Resource Damage Assessment site cleanup to the state of Wisconsin, authorizing the state's process to allow the potentially responsible parties an opportunity to voluntarily conduct a comprehensive site cleanup of contaminated sediments. Although the potentially responsible parties are planning a pilot-scale dredging project to be completed in 1999, there is no commitment by them for a complete river remediation. The state also has planned a pilot-scale project, primarily with state funding and some additional U.S. Environmental Protection Agency funds.

Considering the lack of progress by the potentially responsible parties to commit to a complete site cleanup, the U.S. Environmental Protection Agency indicated its intention, in May 1997, to propose the site for placement on the Superfund National Priorities List. In July 1998, the U.S. Environmental Protection Agency formally proposed the site for placement on the National Priorities List and is currently reviewing comments received during the public comment period. It is expected that by fall 1999, the U.S. Environmental Protection Agency will make a final determination. The U.S. Environmental Protection Agency has indicated that it will not put the site on the list if the potentially responsible parties agree to implement a comprehensive and protective cleanup plan.

On a parallel track, the state of Wisconsin is developing a Remedial Investigation/Feasibility Study, with funding provided by the U.S. Environmental Protection Agency. This evaluation is expected to be completed by early 1999 and a final comprehensive cleanup decision is expected by late summer 1999. As part of the aforementioned activities, the U.S. Environmental Protection Agency also has been coordinating with the Trustees working cooperatively on the Natural Resources Damage Assessment. This has included the U.S. Environmental Protection Agency's participation in seeking remediation of contaminated river sediments with the Intergovernmental partnership of all the Trustees.

Lower Fox River Basin Partners Group

The Wisconsin Department of Natural Resources initiated a basin partner team effort in 1998 to address land and water quality problems in the Lower Fox River Basin. Similar partner teams are being formed in each of the water basins in the state. The Wisconsin Department of Natural Resources believes that working with the parties who may have an impact on, or who are impacted by, the water quality in a basin, is the best way to address the problems of that basin which is in concert with the federal agencies of the focus area. Partners include many of the same agencies, interest groups and citizens who have been active in previous ecosystem-based, problem-solving initiatives. Federal agencies presently participating include the U.S. Fish and Wildlife Service and the Natural Resources Conservation Service. The group is in organizational stages, but has established work groups in the issue areas of nonpoint source pollution, biota and habitat, and land use and growth to develop action strategies.

Challenges:

Habitat Protection and Restoration

- Need for county-level zoning control, rather than local, town levels.
- Need for more resource conservation and sustainability-oriented approaches to land use planning and zoning.
- The introduction of exotic species and loss of native species.

Nonpoint Source Nutrient and Sediment Loading to Focus Area Waters

- Need for additional rural and urban landowners to implement "best management practices."

Transportation, Commercial Navigation and Recreational Boating

- Interest in continued operation of the Fox River lock system for recreational boating; the U.S. Army Corps of Engineers proposes to fill in the locks as there is no longer a commercial navigation need, for which the project was authorized, and the lock system needs costly rehabilitation.
- Balancing demand for increased marina and access facilities by recreational boaters with the need to protect and restore fish and wildlife habitat along the river and bay.
- Need for federal reviewing agencies to be more timely in project review and avoid delays of major project development.
- Resolving conflicting interests that exist among federal agencies regarding transportation projects.

Contaminated Sediment Cleanup

- Potentially responsible parties unwillingness to implement a protective cleanup and/or provide compensation for lost uses.
- Issues that could cause unwillingness to cooperate by potentially responsible parties include the possible high cost of settlement for cleanup and compensation.
- Determining a location of a disposal site if dredging and disposal is part of a selected cleanup remedy.
- Intergovernmental partnership inability to agree on a cleanup remedy, restoration activities or an appropriate settlement with potentially responsible parties.

Actions

- Develop better communication among parties.
- Develop conflict resolution processes and agreements.
- Increase mutual respect for technical expertise and agency missions.
- Work interactively among federal, state, county and local level agencies to address problems.
- Seek innovative solutions to conflicts.
- Identify and communicate cost-share opportunities among agencies.

Results

- Cooperation and consensus among diverse agencies/parties on contentious issues such as contaminated sediment cleanup, environmental protection and development projects.
- Improved water quality sustaining an edible fishery and balanced fish and wildlife communities.
- Improved water clarity in the bay with increased aquatic vegetation; increase in protected and restored fish and wildlife habitat.

Accomplishments

Contaminated Sediment Remediation

With funding assistance from the U.S. Environmental Protection Agency, the Wisconsin Department of Natural Resources initiated a sediment remediation demonstration project in 1998 at a contaminated sediment deposit identified as "Deposit N" and completed dredging at that site in the fall of 1999. Approximately 7,500 cubic yards of contaminated sediment were removed from the riverbed. An additional 1,000 cubic yards of contaminated sediment is being dredged from nearby "Deposit O" in 1999.

Lower Fox River/Green Bay Natural Resource Damage Assessment

The Federal Trustees released a number of reports in 1999 on results obtained from the Natural Resource Damage Assessment. Reports covered PCB injury to walleye and other fish species, PCB injury to birds, lost resource uses related to recreational fishing and fish consumption advisories, as well as pathways of injury due to PCB releases into Fox River sediment. An estimated 20 outreach meetings were held by the Federal Trustees or State/Federal/Tribal Intergovernmental Parties group during 1999 regarding information from the Natural Resource Damage Assessment reports and aspects of the contaminated sediment remediation issues in the focus area.

Lower Green Bay Remedial Action Plan

The Biota and Habitat Work Group (representation: US. Fish and Wildlife Service, U.S. Army Corps of Engineers-St. Paul District, Wisconsin Department of Natural Resources, University of Wisconsin-Sea Grant, University of Wisconsin-Green Bay, St. Norbert's College) is working with Brown County offices and the U.S. Army Corps of Engineers-Detroit District to restore the Cat Island Chain of barrier islands and shoals in lower Green Bay through Section 204 of the Water Resources Development Act of 1992. Section 204 authorizes ecological restoration projects using dredged material from Army Corps of Engineers navigation projects. The restoration would result in a series of three to four islands extending approximately 2.5 miles across the lower bay from its west shore. The islands will provide habitat for colonial nesting birds and other wildlife and serve as wind and wave barriers to reduce near shore erosion and allow re-establishment of submergent and emergent wetland vegetation. Aquatic habitat for fish and other aquatic organisms also will be enhanced.

Focus Area: **Great Lakes**

Lead Agencies: U.S. Environmental Protection Agency
U.S. Army Corps of Engineers

Contacts: Vicki Thomas, U.S. Environmental Protection Agency
Jan Miller, U.S. Army Corps of Engineers

Background

The Great Lakes are the largest system of surface freshwater on the Earth, containing roughly 20 percent of the world's freshwater supply (5,500 cubic miles). The Great Lakes basin is home to more than one tenth of the U.S. population and one quarter of the Canadian population (a total of over 33 million people). In the U.S., the Great Lakes are considered a fourth seacoast, and the Great Lakes region is a dominant factor in both the Canadian and U.S. industrial economy. Economic activity exceeds \$200 billion per year.

The Great Lakes provide recreational boating and swimming for millions of people. National forests, national and state parks, wildlife preserves, and other environmental sites cover over 7 million acres of the Great Lakes basin.

The Great Lakes ecosystem contains many diverse elements, including major urban, suburban, industrial, and agricultural areas, deciduous and northern forests, dunes, wetlands, globally rare plant and animal species, and critical habitats.

Natural Resource Goals:

- Reduce toxic substances in the Great Lakes and surrounding habitat; with an emphasis on persistent, bio-accumulative, toxic substances, so that all organisms are adequately protected, and, over time, these substances are virtually eliminated from the Great Lakes ecosystem.
- Reduce nonpoint source releases in the Great Lakes, including eroded soils and nutrients.
- Protect human health.
- Protect and restore habitats vital for the support of healthy and diverse communities of plants, fish, and wildlife; with an emphasis on aquatic, wetland, near-shore, and terrestrial habitats needed by endangered and threatened species.
- Restore and maintain stable, diverse, and self-sustaining populations of fish and other aquatic life, wildlife, and plants in the Great Lakes ecosystem.
- Swimmable, fishable, drinkable water.

Current Efforts to Meet Goals:

- Implementation of existing key environmental and natural resource laws.
- Implementation of Clean Water Action Plan.
- Monitoring programs underway at multiple federal and state agencies.
- Lakewide Area Management Plans underway on four of five lakes; efforts on Lake Huron are beginning.
- State of the Lakes Ecosystem Conference process bringing together key partners to determine “state of the lakes.”
- Developing public and private partnerships, as well as inter-governmental partnerships with federal, state and local jurisdictions to clean up and protect the Great Lakes.
- Assessing and cleaning up sites, particularly federal and state Superfund sites and contaminated sediments, with a focus on Areas of Concern.
- Areas of Concern being cleaned up via the Remedial Action Plan process.
- Toxic reduction/virtual elimination, with an emphasis on working with stakeholders in pollution prevention via the Binational Toxic Strategy.
- Habitat protection/restoration initiatives exist at multiple levels of the government.
- Biodiversity Investment Areas have been proposed.
- Sediment and nutrient management on private farmland and other contributing lands to reduce nonpoint source pollution.

Challenges

- The sheer geographic size and the heterogeneity of the five Great Lakes, combined with the scope of the lakes’ environmental influences, makes it difficult to coordinate efforts with many and diverse partners.
- Conflicts among users of Great Lakes resources (environment, riparian land owners, industry, hydro-power, shipping, recreation).
- Increasing human population and development near lakes.
- Lack of consistency in regulations and enforcement among Great Lakes states (and Ontario) regarding contaminants.
- Need for improved coordination, commitment, and communication among partners at all levels.
- Impacts from previous and continued invasion by exotic species.
- Lack of knowledge and experience in habitat restoration.
- Lack of technical and financial resources to carry out mandates and initiatives, especially the management of large-scale problems, such as exotic species and contaminated sediments, which do not appear to have immediate, cost-effective solutions.
- Limited sharing of environmental data among agencies and groups.
- Lack of, or limited, political and agency senior staff support.
- Advocacy support for sufficient resources to address challenges.

Actions

- Participate in the development of a renewed five-year strategy and reinvigorate agencies' commitment to carrying out identified goals and strategic priorities.
- Participate in processes and improved understanding and communication among partners, including involvement in Lakewide Area Management Plans, Remedial Action Plans, Clean Water Action Plans, the Binational Executive Committee, as well as the State of the Lakes Ecosystem Conference process.
- Development of additional site, or project specific, actions of an environmental or natural resource nature, as well as partnerships that support meeting the goals to clean up and protect the Great Lakes.
- Implement an integrated approach for fish community objectives of the Great Lakes Fishery Commission.
- Develop uniform monitoring protocols and an indicator program to monitor status and trends.
- Share facilities and vessels among agencies and organizations to provide greater cost efficiency.
- Increase data sharing, as well as submission of joint proposals for research/restoration projects.
- Active commitment to carry out follow-up actions.
- Assist in future delisting of Areas of Concern.
- Continue strong soil and water conservation programs in all states.

Major Responsibilities:

- Carry out federal mandates, mission, and meeting Government Performance and Results Act requirements.
- Participate in Great Lakes processes described above.
- Develop strategic partnerships and initiatives for innovative solutions to environmental and natural resource problems.
- Assist in improving communication with other agencies at the federal and state levels.

Timing of Actions:

Short term: one to five years-

- Complete and continue implementation of actions called for under Remedial Action Plans and Lakewide Area Management Plans.
- Participate in other Great Lakes processes.
- Continue implementation of ongoing projects to protect and restore the environment and natural resources.
- Participate in developing system of indicators (State of the Lakes Environmental Conference follow-up).

- Participate in “Great Lakes Regional Partnership for Air Quality Concerns in Protected Areas.”
- Better coordination on SF 106 Orders regarding natural resources (especially National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service and U.S. Environmental Protection Agency).

Medium term: five to 10 years-

- Tangible progress on reaching toxic reduction/virtual elimination goals and challenges.
- Continue implementation of federal mandates and mission related activities that support the overall goals.
- Clean up contaminated sites, including reducing toxic levels, restoring habitat, fostering economic viability, and land use.
- Foster self-sustaining and reproducing native species.
- Protect and restore vital habitat and natural areas.
- Investigate effects of climate change on basin.
- Assess progress, make mid-course corrections.

Long Term: 10-20 years-

- Achieve virtual elimination of key toxins in Great Lakes basin and the prevention of new chemicals of concern.
- Develop and successfully implement mitigation/prevention strategies on exotic species.
- Achieve ecosystem objectives for each lake.
- Lift fish advisories.
- Natural resources and habitats are well protected and native species are healthy and self reproducing.
- Full recreational uses of lakes are restored.
- Develop and implement strategies to manage impacts of climate change on basin.
- Meet full intent of Great Lakes Water Quality Agreement of 1978, including the removal of beneficial use impairments.

Results

- Completion and implementation of five-year Great Lakes Strategic Plan which outlines the responsibilities of each partner.
- Completion and implementation of Lakewide Area Management Plans and Remedial Action Plans.
- Development of cost-effective, widely accessible, and scientifically supported monitoring and indicator system.
- Elimination of the 14 beneficial use impairments of the Great Lakes, including: no restrictions on fish and wildlife consumption; no fish tumors, wildlife deformities or reproductive problems; no restrictions on drinking water; and no beach closings.
- Increased number of proposals to enhance the environment and ecosystems when urban projects, such as highways, are planned and constructed.
- Viable, sustainable Great Lakes regional economy, wherein the land use is compatible with the environment.

Accomplishments

None Reported

Focus Area: **Saginaw River and Bay**

Lead Agency: U.S. Fish and Wildlife Service

Contact: Jerry McClain

Background

The Saginaw Bay watershed includes all or part of 22 Michigan counties and the aquatic resources of the second largest bay in the Great Lakes system. Saginaw Bay has a surface area of over 1,100 square miles and is divided equally into a shallow inner bay (15 feet average depth), and a deeper outer bay (51 feet average depth). Saginaw River and the associated watershed, as well as the inner Saginaw Bay have been significantly impacted by contaminants, eutrophication, habitat destruction and fragmentation. As a result, the area has been listed by the International Joint Commission as an Area of Concern.

The quantity and concentrations of the released hazardous substances are sufficient to potentially cause injury to natural resources and people. Human consumption advisories for some fish species have been placed for dioxins and PCBs (polychlorinated biphenyl) for over a decade. Sediment contamination is believed to be a point of significant accumulation of these releases/discharges, and is thought to be an important source of continuing contamination.

Coastal and riparian wetland habitats, which are essential for self-sustaining populations of several species of Great Lakes fish and wildlife, have been significantly depleted and impaired as a result of anthropogenic activities.

The invasion of non-indigenous aquatic species such as the zebra mussel are being shown to be causing major changes in the ecosystem and the food chain.

A strip of land approximately 20 miles wide along the Saginaw Bay is in intensive cash crop agricultural use, with 80 percent or more of the land devoted to crop production. The northwest part of the watershed is less than 50 percent agriculture with the majority of the land in forest or forested wetland cover. These land use activities have contributed to the nonpoint source contamination of the bay and watershed.

Natural Resource Goals:

The Saginaw Bay/River Remedial Action Plan identifies three main goals for the Area Of Concern: (1) lower the levels of toxic materials in fish so there are no limits for human consumption; (2) drop the level of toxic materials, in and around the water, to meet Michigan's State Water Quality Standards; and (3) reduce, to a point that is close to a natural balance, the amount of chemical runoff and storm sewage discharges that find their way into the water and act as fertilizer causing an overgrowth of algae and aquatic macrophytes.

Current Efforts to Meet Challenges:

U.S. Environmental Protection Agency (EPA) has the role of providing technical support and resources. In addition, the U.S. Environmental Protection Agency is involved in specific enforcement actions in the Saginaw Bay watershed.

U.S.D.A. Natural Resources Conservation Service (NRCS) is working directly with agri-business to improve farming practices that impact the watershed. Examples of this effort include working with the industry to prove that farming systems which reduce sedimentation are as profitable as conventional clean tillage systems. The agency's role and participation will be essential for large scale watershed restoration and/or enhancement activities.

The U.S. Fish and Wildlife Service (USFWS) is studying the effects of habitat changes and contaminants on colonial waterbirds and native Great Lakes fish species in Saginaw Bay. Shiawassee National Wildlife Refuge is strategically located within the Saginaw Bay watershed near the confluence of three of the major tributaries. Habitat protection, enhancement and restoration within the refuge has significant potential for overall improvement of the watershed and the biological diversity within the system.

National Oceanic and Atmospheric Administration (NOAA), through its Great Lakes Environmental Research Laboratory, is involved in monitoring and research activities that document and define changes in the bay's ecosystem. Their work has focused on changes resulting from the filtering activities of the zebra mussel and, as a result, has provided a new paradigm for eutrophication.

The U. S. Geological Survey's Great Lakes Science Center (GLSC) conducts a yearly assessment of dynamics of prey fish populations in the U.S. waters of Lake Huron and in conjunction with Michigan Department of Natural Resources, the Center is also carrying out a fisheries survey of Saginaw Bay to examine how the invasion of zebra mussels has altered the fish community of the inner Bay, and how yellow perch and prey fish have responded to apparent changes in food availability.

U.S. Army Corps of Engineers (USACOE) personnel, in addition to environmental and maintenance dredging in the Saginaw Bay and River, are becoming more involved in watershed rehabilitation efforts with state, city and local governments and are building partnerships to assist in funding efforts within the watershed.

National Park Service (NPS) is working with local partnerships for development and implementation of greenway systems within the watershed to enhance public education and use.

The Michigan Department of Environmental Quality is tasked with taking the lead on Remedial Actions Plan development and implementation, and is working with federal, state, tribal, provincial and local governments for development of the Lake Huron Initiative, an effort to identify and seek to correct basinwide environmental concerns.

Challenges

The challenges, or roadblocks, to attaining the goals of this focus area include: limited funding and resources, regulatory complexity, limited corporate involvement, and limited public and local support. The presence of contaminated sediments and the loss or degradation of critical fish and wildlife habitat are large and complex issues with costly “repair” bills and will take time to resolve.

Improving water quality from agricultural land will necessitate a change in the way the industry operates. The idea that nonpoint pollution is no one individual’s fault makes it difficult for anyone to take responsibility. This is especially evident in agricultural operations where 60 - 70 percent of the land is rented. Neither the owner, nor the operator, want to take responsibility.

From an ecological perspective, research has shown that primary production in the bay has shifted from the pelagic region to the benthic region since zebra mussels became established; that is, algal populations in the water column have declined, but aquatic plants and macroalgae associated with the bottom have increased. Filtering activities of the mussels have been linked to late summer blooms of the toxic, blue-green algae *Microcystis*. These blooms have led to taste and odor problems in drinking water drawn from the bay, as well as fish and wildlife kills as a result of toxicity. It is no longer valid to expect or assume links between phosphorus loads and water quality. New pathways for nutrients have been established.

Actions

In late 1999, the U.S. Fish and Wildlife Service, along with the state of Michigan and the Saginaw Chippewa Tribe, settled a claim for natural resource damages in the Saginaw River and Bay. The consent judgment settles claims against General Motors and the cities of Saginaw and Bay City for injuries to natural resources as a result of PCB (polychlorinated biphenyl) releases over many years. The parties have begun implementing the settlement with activities that include planning and overseeing dredging and habitat restoration projects, monitoring the results of dredging and habitat restoration, and using those monitoring results to make decisions on seeking additional source control measures or conducting additional restoration projects.

The U.S. Army Corps of Engineers, through their Support for Others program, is managing the dredging project for the U.S. Fish and Wildlife Service and the state of Michigan.

Investigations are being conducted by the National Oceanic and Atmospheric Administration, the U.S. Geological Survey, and the U.S. Fish and Wildlife Service to monitor ecosystem changes within Saginaw Bay and its watershed. Results of these studies can be used to evaluate remedial actions and the overall health of the system.

Specific studies include assessing reproduction of Forster's terns in the coastal cattail stands around the Bay and the reproduction of Caspian terns, common terns and herring gulls on islands in the Bay. Fishery studies include lake sturgeon status and trend surveys to aid in determining abundance, seasonal movement, and to locate and quantify remaining critical habitat for this important native fish. Surveillance for exotic species, such as ruffe and goby, is on-going in the inner Saginaw Bay and lower reaches of the Saginaw River.

Partnerships are being developed and expanded to facilitate efforts to overcome the obstacles to meeting the ecosystem goals within this focus area.

Results

Success will be achieved when contaminants within the system have been reduced to levels that no longer impair the reproductive potential of native fish and wildlife species, fish consumption advisories are removed from all common fish species, and habitat improvements result in a stable self-sustaining fish and wildlife community. Progress in achieving this ultimate goal can best be monitored by a fully engaged partnership consisting of federal, state, tribal and local governments, as well as nongovernmental organizations and private citizens.

Accomplishments

Numerous agency specific accomplishments have been achieved through various levels of interagency collaboration and partnership development that benefit this ecosystem focus area. Examples include: (1) the creation of nearly 1,275 miles of riparian filter strips and the development of 610,000 acres of nutrient management practices within the watershed (NRCS); (2) work on a Cass River Planning Study utilizing GIS capabilities (USACOE); (3) continued growth and implementation of wetland restoration efforts through the Private Lands Program (USFWS); (4) assistance in planning greenway implementation and development of a trail system that includes the Bay City River Walk system (NPS); (5) and plans for a second round of research to examine continuing ecological changes resulting from establishment of exotic species (NOAA); (6) as well as examination of food web dynamics in the fish community (GLSC).

Although this focus group has not become active as early as others, a meeting was held on September 15, 1999 to begin identifying areas for future collaboration and partnership development. Many areas for future cooperation have been identified and will be discussed in more detail in subsequent meetings.

Focus Area: **Southern Lake Erie**

Lead Agency: U.S. Geological Survey

Contact: Donna Myers

Background

The Southern Lake Erie Region includes the 11th largest freshwater lake in the world and a drainage basin of 20,122 square miles. The region extends from the mouth of the Detroit River in southeastern Michigan to the outflow of Lake Erie at the Niagara River in western New York. Land use is predominantly agricultural (70 percent) and urban (11 percent). With a population of about 5.5 million, population density and growth in the Lake Erie Basin is among the highest in the Great Lakes Basin. The region is a center for commerce, industry, and agriculture in the Midwest. The Lake Erie Region leads the Great Lakes Region in water withdrawals for manufacturing, power production, and other consumptive uses, as well as in the value of its sport and commercial fisheries harvest. In addition, Lake Erie is a vital shipping link for major commodities including coal, iron ore, limestone, metal products, sand and gravel, grains and soybeans.

Natural Resource Goals:

Sustainable development has been identified as a major natural resource goal for the Southern Lake Erie Region by a variety of organizations. An example of this goal can be found in a vision statement developed by the Lake Erie Public Forum. It states, "*... the future Lake Erie basin is a place where diverse life forms exist in harmony; social and economic benefits at maximum sustainable levels co-exist, citizens and governments are committed to binational cooperation, and a philosophy of stewardship ensures a clean, safe environment.*"

Challenges:

Natural resource issues facing the region are urbanization, loss of farmlands, wetlands, and biological diversity; invasions by exotic species; declines in the Lake Erie commercial and sport fisheries; and the contamination of streams, lakes, and fish by a variety of pollutants. The resource challenges are to conserve, and, where possible, preserve the natural resources in the Lake Erie area to support the beneficial use by people and wildlife living in the basin. Other challenges include the need to better understand and provide solutions for complex environmental issues and problems.

Actions

Because of the large population and history of the region, ownership of land is mainly private. Consequently, land and water are managed predominantly for human use by the private sector. A very small percentage of land is in public ownership (about 4 percent). An even smaller percentage of land is owned or managed by federal agencies. Federal agencies play key roles in natural resources research, natural resources management, and environmental protection. Other governmental agencies, stakeholders, and the public are actively involved in decision making about natural resources in the Southern Lake Erie region through a variety of public forums in which federal agencies play a major role.

Major responsibilities:

- # *The U.S. Environmental Protection Agency* is mainly responsible for providing leadership in environmental protection, regulation, and remediation.
- # *The Natural Resources Conservation Service* is mainly responsible for promoting conservation and preservation of land and water resources.
- # *The U.S. Fish and Wildlife Service* plays a key role in preservation of biological diversity through management of critical habitats such as coastal wetlands, protection of migratory species, and the protection of endangered species.
- # *The U.S. Army Corps of Engineers* is mainly responsible for management of water resources for flood control and navigation.
- # *The U.S. Geological Survey* is responsible for gathering natural resource data and information to support decision making about natural resources.
- # *Federal Highway Administration* is responsible for providing a safe and efficient transportation infrastructure in an environmentally responsible manner.
- # *The National Park Service* manages almost 33,000 acres in the Lake Erie Region that contain nationally significant natural and cultural resources. The largest is the Cuyahoga Valley National Recreation Area in northeastern Ohio. A significant and recent event is the designation of the Cuyahoga River as one of 14 American Heritage Rivers.

Results

Sustainable development and conservation of natural resources are key issues for the Southern Lake Erie focus group. State and local initiatives are being undertaken to promote natural resource conservation. Basinwide initiatives include urban smart-growth planning and broad-scale use of agricultural best management practices. Federal agencies in the region are working with state and local partners on several projects where federal agency cooperation has been critical to project success. Short descriptions of these projects are provided.

Accomplishments

Activities of the U.S. Geological Survey's National Water-Quality Assessment Program in the Lake Erie Basin in collaboration with partners at Environment Canada and the Ohio Environmental Protection Agency have completed a draft report on Sources and Loads of Pollutants of Concern to Lake Erie for the Lakewide Management Plan (LaMP). The Natural Resources Conservation Service and state agencies have formed a group to assist the LaMP in identifying successful habitat restoration projects and programs in the Lake Erie Basin. The purpose of the activity, to be completed by April 2000, is to recognize and celebrate successful habitat restoration projects and programs and to promote and support proposed or partially funded projects and programs. Such activities enhance LaMP goals for ecosystem objectives.

A Clean Water Action Plan grant was awarded to the U.S. Geological Survey and Cuyahoga Valley National Recreation Area. The U.S. Geological Survey and National Park Service-Cuyahoga Valley National Recreation Area cooperatively developed a proposal and work plan to collect water quality information for the purpose of developing recreational water quality contact advisories for the Cuyahoga River within Cuyahoga Valley National Recreation Area. The project will be funded in fiscal years 2000-2002. State and local agencies are part of the consultation and outreach elements of the project.

A draft report by the U.S. Geological Survey and Natural Resources Conservation Service evaluates the water quality benefits of conservation tillage in the Maumee River Basin. The report was developed by the U.S. Geological Survey's National Water-Quality Monitoring Program in the Lake Erie-Lake St. Clair Basin with partial funding from the U.S. Army Corps of Engineers for additional sediment sampling. The report provides critical information on the success of conservation farming practices for sediment runoff reduction to the Toledo Harbor. Improvements in water quality as a result of conservation tillage will be communicated to farmers, conservation agents, and local governments through the development of a fact sheet.

The Southern Lake Erie group has been tracking the progress of hiring the Cuyahoga River Navigator. The Forest Service Morgantown, W.Va., Office will fund the position. An Acting River Navigator was assigned temporarily until the position can be filled permanently. The National Park Service-Cuyahoga Valley National Recreation Area will provide an office for the River Navigator and administrative support.

Focus Area: **Southern Lake Michigan**

Lead Agency: U.S. Environmental Protection Agency

Contact: Judy Beck

Background

Southern Lake Michigan is characterized by the wealth and diversity of its resources, people, habitats and environmental challenges. Because the region lies in the Lake Michigan lakeplain, it represents a globally significant ecosystem. Almost 10 million people rely on Lake Michigan for drinking water. The basin contains 40 percent of the Great Lakes coastal wetlands, as well as large forested areas and a number of national wildlife refuges; most of these are contained in the northern portion of the basin. Approximately 12 percent of the rivers, lakes, dunes and swales and five percent of the wetlands are contained within the forested lands of the basin, mainly located in Indiana. About 37 percent of the southern basin is agricultural. The largest agricultural area is in the St. Joseph River basin of Michigan and Indiana; this is a major stopover for migratory birds and holds the greatest concentration of migratory land and waterbirds in the Midwest. A portion of the world's largest freshwater lakeshore dune system is also found in the area. The Indiana Dunes National Lakeshore is third in total number of plant species of all national parks and a portion of the southern coastal basin has been designated a "Shoreline Biodiversity Investment Area" by the U.S. Environmental Protection Agency and Canada.

Natural Resource Goals:

Southern Lake Michigan falls within the area addressed under the Great Lakes Water Quality Agreement of 1978 which set a goal to "*restore and maintain the chemical, physical and biological integrity of the Great Lakes basin ecosystem.*" In addition, the Lake Michigan Lakewide Area Management Plan, Northwest Area of Concern Remedial Action Plan, numerous federal and state statutes and projects also have developed goals.

Current Efforts to Meet Goals:

Due to the large number of actions underway in the area, the attached matrix was developed and should be expanded. It is recommended that a workshop be held to present these actions in more detail and explore expansion and strengthening of partnerships and communication.

Challenges

While this area is significant in terms of biodiversity, it is fragile and under pressure from pollution, fragmentation of habitat and urban development. Two of the top 20 most productive agricultural lands in the United States are located in the southern Lake Michigan basin. Forty-three percent of all Great Lakes fishing, with an economic value of \$11 million annually, occurs in Lake Michigan. Developmental pressure is also extremely high; the southern shore had a gain of 1,000 new boat slips per year in the late 1980s and early 1990s. Forty percent of the nation's steel-making capacity, power generation and other heavy industries contribute to the air deposition of pollutants into the lake environment. Beach closings due to biological factors remain an episodic problem and many exotic nuisance species have found a new home in the ecosystem.

A specific definition of the area's geographic boundaries must be developed, as the challenges outlined above are not unique to the Illinois and Indiana crescent; they include the area north to Milwaukee, Wisconsin on the west and Muskegon on the east. This is the area that the committee suggests to define "southern Lake Michigan." This definition would promote a holistic approach to the many "sprawl"- and development-related pressures common in the area. Since sprawl is not a traditional federal topic, institutional challenges will provide the opportunity to reinvent how we look at issues.

The final challenge is to better coordinate and communicate within and between agencies. Many agencies have staff participating in partnership efforts who are not aware that others from their own agency are working on similar or related projects.

Actions

In the spring of 1997, the Lake Michigan Lakewide Area Management Plan Committee held a meeting to discuss Lake Michigan data needs and issues. It was determined that there is a need to coordinate and communicate around the lake on data requirements.

- Should we have a U.S. Geological Survey National Water-Quality Assessment Program study for Michigan to match the data for the Wisconsin side?
- What other studies and/or resources are necessary to have a coordinated picture of southern Lake Michigan?

Results

- Short-term (one to five years) will be a workshop and development of opportunities for communication.
- Long-term (10 - 20 years) will be the Lakewide Area Management Plan and Remedial Action Plan environmental outcome indicators.

Accomplishments

None Reported