

## **Appendix F. Identified Problems**

## **IDENTIFIED PROBLEMS:**

The **Identified Problems** below emerged from an analysis of *Funding Inadequacies* for Corps programs in the Great Lakes basin. The analysis reviewed four elements: i) reauthorized Corps projects; ii) Great Lakes basin projects submitted for deauthorization; iii) authorities that were never funded; and, iv) underfunded authorities. The factors for *Program Limitations* were determined through: i) a review of limiting factors based on program managers in the Corps Great Lakes district offices; and, ii) a comparison of these limiting factors and stakeholder results. Finally, the **Opportunities** to address future water resources needs were identified from the future trend scenarios discussed in Appendix D.

### **1. Identified Problems**

#### *a. Funding Inadequacies*

##### **Deauthorized Projects**

Projects are deauthorized when they have not received any funding for construction for an extended period of time after their authorization. The criteria for deauthorizing water resources projects are specified in Section 1101 of WRDA 1986, as amended by Section 228 of WRDA 1996 (see Box 6.1).

Deauthorized projects can sometimes indicate unmet needs. By the same token, the lack of a real need may be the reason that a project is deauthorized. In any case, it is safe to assume that there was a need for a project, or at least a perceived need, at the time of its authorization. Project deauthorization then implies that this need has not been met at all, has not been met by use of Corps resources, or has become obsolete. The present analysis reviewed project deauthorizations in the Great Lakes basin since 1992. Since then, a total of 16 projects in the basin were deauthorized. These include seven commercial navigation projects, seven recreational navigation projects and two flood control projects (see Box 6.2. and Figure 6.1). Based on the available information, there is no indication that deauthorized navigation projects correspond to unmet regional needs.

### **Box .1. Criteria for Project Deauthorization**

The criteria for deauthorizing water resources projects are specified in Section 1101 of WRDA 1986, as amended by Section 228 of WRDA 1996. According to this legislation, projects are deauthorized if

- ❑ They are not funded within the five-year period beginning on the enactment of WRDA 1986; or
- ❑ They are on a list of unconstructed projects, submitted to Congress every two years, and have not received any funding during the seven fiscal years (previously 10 fiscal years) preceding the transmittal of the list.

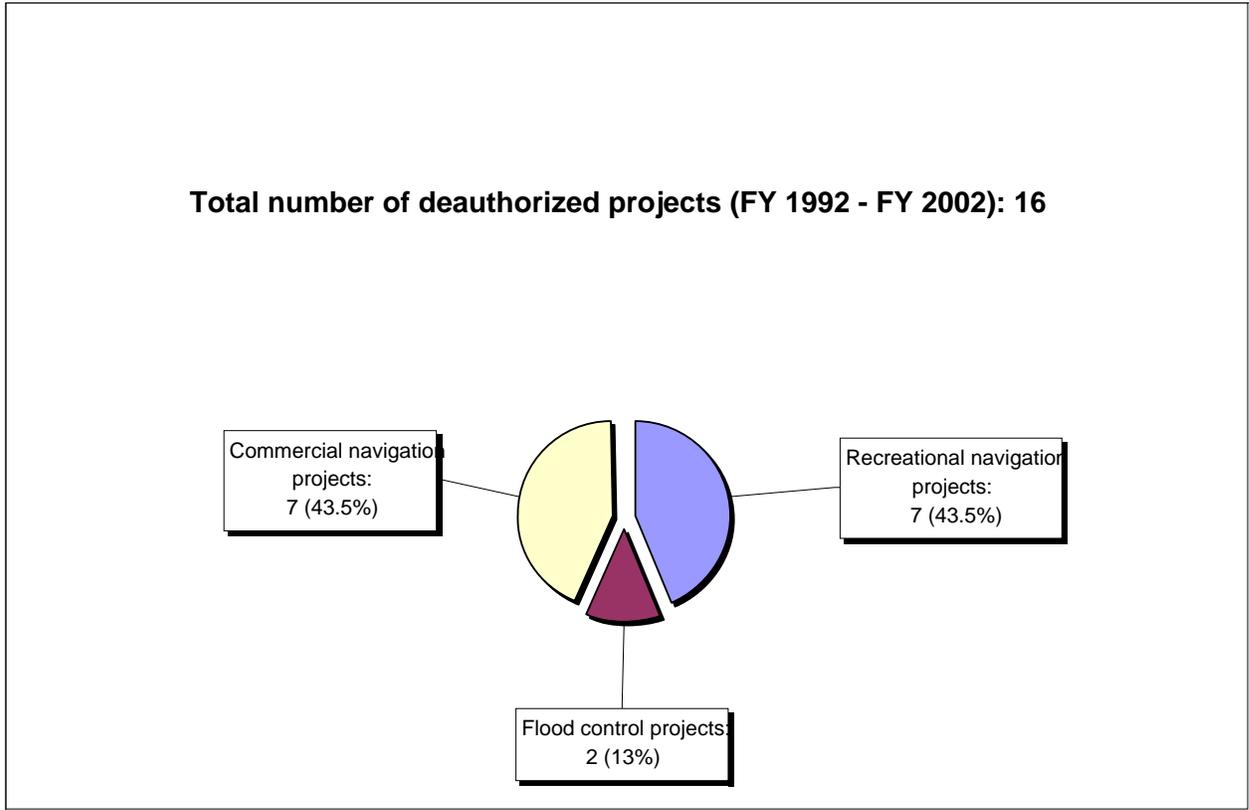
There are a number of possible reasons why projects went unfunded. These include:

- ❑ Limited federal funds and competing priorities;
- ❑ A project is outside of or ranks low on the federal budget priorities list;
- ❑ Insufficient economic or environmental justification for a project;
- ❑ The project is uneconomic or not environmentally sound;
- ❑ A project is unfeasible; and
- ❑ Certain project features are too extensive to meet a need (deauthorization of specific project elements).

### **Box .2 Deauthorized water resources projects in the Great Lakes basin (1992 – present)**

- Total number of deauthorized projects: 16
- By project category:
  - ❑ Deep-draft (commercial harbor) projects deauthorized: 7
    - Three obsolete commercial navigation lanes (Buffalo Ship Canal, Green Bay Harbor, and Ogdensburg Harbor);
    - One deferred (Fairport Harbor) and one decommissioned navigation structure (Conneaut Harbor); and
    - Two expired maintenance needs (Buffalo Harbor Drift Removal, Fairport Harbor).
  - ❑ Small boat harbor projects deauthorized: 7
    - Three construction proposals for small boat harbors (Beaver Bay, Elk Creek Harbor, and Lutsen Harbor);
    - One O&M authority for small boat harbor structures (Lorain Harbor); and
    - Three dredging and maintenance authorities for shallow-draft navigation channels (Conneaut Harbor, Dunkirk Harbor, and Morristown Harbor).
  - ❑ Flood control projects deauthorized: 2
    - Two proposals for flood control structures in the Cuyahoga River basin and the Finger Lakes area near Dansville, NY.

**Figure .1 Deauthorized projects in the Great Lakes basin (FY 1992 - FY 2002)**



**Authorized Projects Submitted to Congress for Deauthorization**

When projects have not received funding during seven consecutive fiscal years, they are put on a list of projects submitted to Congress for deauthorization by WRDA legislation. Before the list is submitted to Congress, the Corps' Great Lakes and Ohio River Division informs representatives of the congressional districts where these projects are located about the proposed deauthorization. Occasionally, these letters motivate a legislator to try to secure funding for a project through a congressional add-on. Presently, three projects are submitted for deauthorization in WRDA 2004 (see Box 6.3): two projects for commercial navigation and one for shoreline erosion. Again, based on the available information, there is no indication that these projects correspond to unmet needs.

**Box .3. Water resources projects in the Great Lakes basin submitted for deauthorization in WRDA 2004 (legislation pending)**

- Total number of projects proposed for deauthorization: 3
  - Commercial harbor projects: 2
    - Buffalo Outer Harbor, NY- Section 110, WRDA 1992: bulkheads related to navigation activities but primarily intended for shoreline protection and pollution prevention were never constructed.
    - Grand Haven Harbor, MI -Section 202, WRDA 1986: an obsolete turning basin.
  - Shoreline protection: 1
    - Maumee Bay, Lake Erie, OH - Section 501(a), WRDA 1986: protection of the shoreline at Maumee State Park.

**Box .4 Water resources programs that have never been funded in the Great Lakes basin**

- Aquatic Plant Control  
(Section 104, RHA 1958, as amended)
  - The authority has never been appropriated for use in the Great Lakes basin.
- Beneficial Use of Dredged Material  
(Section 204, WRDA 1992)
  - The program has never been used to support the planning, design, or construction of projects in the Great Lakes basin. Between FY 1997 and FY 2002, two project feasibility studies were initiated at \$80,800. Federal appropriations: \$4 million in FY 2001, \$1.5 million in FY 2002, \$1.5 million in FY 2003, and \$1 million in FY 2004 (estimated).
- Environmental Dredging  
(Section 312, WRDA 1990)
  - The program has not yet been used to support environmental dredging operations in the Great Lakes basin. Funding for feasibility studies began in FY 1998, eight years after the program was authorized. Since then, six feasibility studies were conducted at a total cost of \$716,100.
- Riverine Ecosystem Restoration and Flood Hazard Mitigation  
(Section 212, WRDA 1999)
  - This new program has not been used for projects in the Great Lakes basin. One project is currently under consideration for this type of funding.
- Tribal Partnership Program  
(Section 203, WRDA 2000)

**Unfunded Authorities**

The Corps has five programs that have the potential to meet water resources needs in the Great Lakes basin but have never been funded (see Box 6.4). Two of these, Riverine Ecosystem Restoration and Flood Hazard Mitigation and the Tribal Partnership Program, are recently authorized programs and have never received funding. Beneficial Use of Dredged Material and Environmental Dredging have received funding for feasibility studies but not for the implementation of projects. The Aquatic Plant Control program has been used in other parts of the country for more than forty years but never funded for the Great Lakes basin.

### **Underfunded Authorities**

More often than not, federal programs for restoring and enhancing the Great Lakes have faced significant funding challenges. While some programs are authorized and never funded, others receive funding well below the levels that would be required to achieve program objectives. A typical example is the *Great Lakes Fish and Wildlife Restoration Act* of 1998. The act sets restoration goals for FWS programs in the Great Lakes and authorizes \$8 million annually for FWS' cooperative Great Lakes restoration efforts. However, the appropriated funding level has been consistently low, approaching a total of \$7 million (which is less than the amount authorized annually) by the end of FY 2002 for the entire five-year period. While the program has begun to make progress toward some of its goals, it continues to be severely underfunded in light of the many restoration challenges facing the Great Lakes ecosystem.

Not surprisingly, stakeholders identified a critical lack of funding as the major impediment to meeting water resources needs in the Great Lakes basin.

For the purposes of this analysis, programs are considered to be inadequately funded if their funding capabilities are not fully used and if they met at least one of the two following criteria: 1) the number of requested, feasible, or approved projects exceeds the limits of the current funding level; and/or, 2) the current funding level prevents a potentially useful program from being applied to address any of the unmet priority needs identified by the stakeholders (see Sections 6.C and 6.D). The findings are based on information obtained from program managers in the Great Lakes districts; Corps annual reports and supplemented budget information, and previous analyses, such as *The Great Lakes at the Millennium: Priorities for Fiscal 2001*.

In addition to the five unfunded authorities discussed above, five authorities were identified that do not meet perceived project needs at the current level (see Box 6.5). These are: Great Lakes RAPs and Sediment Remediation (Section 401, WRDA 1990); Aquatic Ecosystem Restoration (Section 206, WRDA 1996); Environmental Improvements (Section 1135 WRDA 1986); Emergency Streambank and Shoreline Protection (Section 14, FCA 1946); and, Flood Plain Management Services (Section 206, FCA 1946). For Aquatic Ecosystem Restoration and Environmental Improvement, the funding requirements to implement all projects that are approved for construction exceeds the current funding level of these programs. Great Lakes RAPs and Sediment Remediation is funded at a level that permits RAP planning assistance under Section 401(a) but is inadequate to implement RAPs. The number of requested and feasible projects under Emergency Streambank and Shoreline Erosion and

Floodplain Management Services may exceed the capabilities of these programs at the current funding level.

**Box .5. Corps water resources programs that are underfunded in the Great Lakes basin**

Environmental Restoration

- Great Lakes RAPs and Sediment Remediation  
(Section 401, WRDA 1990)
  - In the ten years of its existence, the program has received base level funding (\$600,000 in FY 2001, \$2 million in FY 2002, \$1.5 million in FY 2003, and \$1 million in FY 2004). The current funding level allows for technical support for RAP development but not for RAP implementation and related sediment remediation activities in Areas of Concern.
- Aquatic Ecosystem Restoration  
(Section 206, WRDA 1996)
  - In FY 2002, program spending in the Great Lakes basin was \$6,677,600. The sum includes construction costs for three habitat restoration projects in the Chicago area (see Appendix C-1.1.4.). These are the first projects to be implemented in the Great Lakes basin under this authority. Many more are lined up for construction: more than 95 Section 206 projects are currently in the planning and design phase in the Great Lakes basin. At the current level of funding for this CAP, only a select few of these projects, if any, will proceed to the construction phase.
- Environmental Improvements  
(Section 1135, WRDA 1986)
  - The current level of funding (program spending in the Great Lakes basin was \$5,965,800 in FY 2002) will be insufficient to implement all projects that are currently in the planning and design phase. Planned projects include additional sea lamprey barriers, habitat restoration projects, and a water quality restoration project. In addition, the Corps is looking into the possibility to use Section 1135 funding for a second dispersal barrier in the Chicago Sanitary and Ship Canal.

**Box .5 (continued). Corps water resources programs that are underfunded in the Great Lakes basin**

Shoreline Erosion Prevention

- Emergency Streambank and Shoreline Protection (Section 14, FCA of 1946)
  - Current program funding (program spending in the Great Lakes basin was \$3,423,000 in FY 2002) is not sufficient to take all requested projects from planning and design to construction.

Technical Assistance and Planning/Flood Mitigation

- Floodplain Management Services (Section 206, FCA of 1946)
  - Current program funding (FY 2002 spending in the Great Lakes basin: \$460,700) is not sufficient to entirely meet the demand for this type of technical support in the basin.

***b. Program Limitations***

Program managers in the Great Lakes district offices were to identify potential program limitations and barriers. The purpose of this was to collect information to identify how these program limitations and barriers contribute to unmet water resources needs in the Great Lakes basin. The approach was to systematically compare limiting factors for program applications, as recognized by Corps program managers; with the most critical shortcomings in current Great Lakes management and restoration efforts, as identified by the stakeholders. Recognized limiting factors include

- 1) Corps policy;
- 2) Implementation;
- 3) Lack of funding;
- 4) Lack of matching funds;
- 5) Lack of nonfederal sponsors;
- 6) Limits to in-kind contributions;
- 7) Statutory limitations.

Eleven programs were identified that are affected by any or a combination of these factors. They include nine environmental authorities; one hazard mitigation authority; and two technical and planning assistance programs. They are as follows:

Environmental Restoration

- Aquatic Ecosystem Restoration  
(Section 206, WRDA 1996)
- Aquatic Plant Control  
(Sections 103, 105, and 712, WRDA 1986)
- Beneficial Use of Dredged Material  
(Section 204, WRDA 1992)
- Environmental Dredging  
(Section 312, WRDA 1990)
- Environmental Improvements  
(Section 1135, WRDA 1986)
- Great Lakes Fishery and Ecosystem Restoration  
(Section 506, WRDA 2000)
- Great Lakes RAPs and Sediment Remediation  
(Section 401, WRDA 1990)
- Riverine Ecosystem Restoration and Flood Hazard Mitigation  
(Section 212, WRDA 1990)

#### Shoreline Erosion Prevention

- Emergency Streambank and Shoreline Protection  
(Section 14, FCA 1946)

#### Technical Assistance and Planning

- Floodplain Management Services  
(Section 206, FCA 1946)
- Tribal Partnership Program  
(Section 203, WRDA 2000)

Additional detail is provided in Box .6. All findings of this element of the gap analysis are incorporated in the gap summary in Section 2 Opportunities.

“Implementation” emerges as the most salient issue. According to the program manager responses, two programs are particularly affected by implementation (i.e., moving programs or projects from planning to construction) as a limiting factor: Environmental Dredging and the Tribal Partnership Program. Due to the salient nature of this issue, the following paragraphs provide a brief discussion on program/project implementation as well as the relevance of this limiting factor to regional water resources needs, with a focus on the Tribal Partnership Program authority. In addition, uncertainties concerning the use of the Great Lakes Fishery and Ecosystem Restoration program are discussed, because they were specifically identified as a limiting factor and because significant funding capability of this program (\$100 million) to address water resources priorities identified .



**Box .6. Factors limiting the application of Corps program authorities in the Great Lakes basin**

Environmental Restoration

- Great Lakes Fishery and Ecosystem Restoration  
(Section 506, WRDA 2000)
  - **Limits to in-kind contributions:** limited to 50 percent, whereas other environmental authorities allow higher contributions (Environmental Improvements: 80 percent, Aquatic Ecosystem Restoration: 100 percent).
  - **Limitations are possible but currently unknown** due to the newness of the program.
- Great Lakes RAPs and Sediment Remediation  
(Section 401, WRDA 1990)
  - **Lack of funding:** capabilities exceed allotment of funds available to the program.
  - **Lack of matching funds:** potential nonfederal/state agency sponsors have project proposals but no matching funds.
- Aquatic Ecosystem Restoration  
(Section 206, WRDA 1996)
  - **Lack of funding:** there will be a funding shortage when projects currently being planned or designed enter the construction phase.
  - **Lack of nonfederal sponsors**
- Aquatic Plant Control  
(Section 104, RHA 1958)
  - **Corps policy:** program is not being used in Great Lakes states
- Beneficial Use of Dredged Material  
(Section 204, WRDA 1992)
  - **Statutory limitations:** dredged material from outside of navigation channels cannot be used.

**Box .6. (continued). Factors limiting the application of Corps program authorities in the Great Lakes basin**

- Environmental Dredging  
(Section 312, WRDA 1990)
  - **Statutory limitations:** does not allow for ecosystem restoration components (e.g., planting, in-stream structures) in addition to sediment remediation.
  - **Implementation**
  - **Lack of nonfederal sponsors**
- Environmental Improvements  
(Section 1135, WRDA 1986)
  - **Lack of funding:** there will be a funding shortage when projects currently being planned or designed enter the construction phase.
  - **Lack of nonfederal sponsors**
- Riverine Ecosystem Restoration and Flood Hazard Mitigation  
(Section 212, WRDA 1999)
  - **Lack of funding:** authority has never been funded.

Shoreline Erosion Prevention
- Emergency Streambank and Shoreline Protection  
(Section 14, FCA 1946)
  - **Lack of funding**
  - **Statutory limitations**

Technical Assistance and Planning
- Floodplain Management Services  
(Section 206, FCA 1946)
  - **Lack of funding** Tribal Partnership Program  
(Section 203, WRDA 2000)
  - **Statutory limitations**
  - **Implementation**

## **Priority Issue: Timely Implementation of Needed Projects in the Great Lakes Basin**

The stakeholder identifies “lengthy planning process for projects” as a main limitation of Corps programs in the Great Lakes basin. This suggests that the main message to the Corps is to *more efficiently plan and manage programs and projects in the Great Lakes basin*. This seems to be a very general concern that applies to many programs. However, Corps program managers specifically identified “implementation”, (i.e., the ability to move projects from planning to construction) as a limiting factor for the following two programs:

### Technical Assistance and Planning

Tribal Partnership Program  
(Section 203, WRDA 2000)

### Environmental Restoration

Environmental Dredging  
(Section 312, WRDA 1990)

## **Critical Focus 1: Tribal Water Resources Needs**

Tribal authorities and organizations have participated in the preparation of several Great Lakes strategies. These include *Great Lakes 2002* (U.S. Policy Committee for the Great Lakes), *A Joint Strategic Plan for Management of Great Lakes Fisheries* (Great Lakes Fishery Commission), LaMPs and *A Citizen’s Action Agenda for the Great Lakes* (Great Lakes Fishery Commission). However, it appears that there are no strategies to consolidate and prioritize federal support for tribal water resources projects within a basinwide management framework.

As can be seen in Appendix D, the Tribal Partnership Program (Section 203, WRDA 2000) has the potential to meet various tribal needs:

- Integration of economic and environmental objectives
  - Example : “fishery restoration”
- Watershed planning and flood mitigation
  - Example: “flood plain remapping”
- Soil erosion control
  - Examples: “stream and wetland restoration,” “land-use planning and BMP development.”
- Water level control
  - Examples: none. Opportunity for strategic partnership.

A number of other federal agencies have programs that give Indian tribes access to water resources-related funding (see Appendix G, Table 3). The EPA issues grants to tribes for wastewater treatment systems and other water quality management needs. The DOI Bureau of Indian Affairs provides funding resources to tribes for the conservation, development and utilization of fish, wildlife and recreational resources. The Bureau also provides federal assistance for water resources planning, management, protection and

development. The FWS supports and cooperates with tribes to implement the Great Lakes Fish and Wildlife Restoration Act.

There are obvious authority overlaps between Section 203 and other federal programs. The Corps authority has an inherent risk to compete with the FWS authority for fishery restoration; with the DOI authority for watershed planning; and with the EPA authority for water quality-related land-use planning and BMP development. However, the Corps offers unique technical resources and engineering expertise and can fill unmet needs that may include green engineering for stream and wetland restoration; dam removal and hydrologic restoration of fish habitat; and floodplain mapping. To be useful, the program needs to complement existing programs and be very focused on needs that are not being met by other federal partners. Hence, coordination of the 203 program with other tribal assistance programs is essential. Clear strategic objectives are needed to guide this program's implementation in the Great Lakes basin. These objectives need to be tied to an overarching strategy for Great Lakes restoration and management.

In summary, this program could be an effective vehicle to address specific water resources needs on tribal lands. Further, the program could serve as a basis to build a stronger partnership between the tribes and the Corps. However, the Corps needs to respond to tribal requests for more participation in regional planning and decisionmaking for this relationship to succeed. Tribal concerns and needs extend beyond the boundaries of tribal jurisdictions and include issues of navigation development and other aspects of Corps activity, such as invasive species prevention and control; unsustainable land use; NPS pollution; loss of coastal wetlands; and water withdrawals, diversion and consumptive use.

### *Critical Focus 2: Great Lakes Fishery and Ecosystem Restoration*

At present, it is uncertain whether the Great Lakes Fishery and Ecosystem Restoration (Section 506, WRDA 2000) authority will receive the necessary funding to proceed from program planning to project implementation. The program authorizes \$100 million for coordinated fishery and ecosystem restoration projects of regional significance. These funds could go a long way toward meeting basinwide priority needs for fishery and habitat restoration. Failure to successfully implement the program at full capacity (\$100 million) will result in gaps concerning the following needs:

- Integration of economic and environmental objectives
  - Threat: Missing resources to restore Great Lakes fisheries ecologically and for beneficial uses
- Fish and wildlife habitat
  - Threat: Missing resources to restore ecologically important fish and wildlife habitat

## **OPPORTUNITIES:**

This element of the analysis provides an assessment of opportunities for the Corps to improve Great Lakes water resources in the foreseeable future. The assessment is based on the trend scenario analyses presented in Appendix D as well as the findings from preceding sections.

The Corps of Engineers has an opportunity to contribute to the Great Lakes basin strategy through the following:

- Address navigation and ecosystem restoration needs in an integrated fashion;
- Coordinate programs with Federal, state and tribal agencies with regards to restoration;

- Improve Corps performance regarding RAP implementation;

- Improve the strategy to prevent invasive species;

- Coordinate coastal restoration;

- Reduce wetland loss; and

- Improve outreach with regards to shoreline erosion, coastal wetlands; and

### **Integrating Economic and Ecological Objectives in the Great Lakes Basin**

The Corps of Engineers may contribute by developing a Great Lakes basin strategy that addresses commercial navigation needs and Great Lakes ecosystem restoration needs in an integrated fashion. For example, the John Glenn Great Lakes Basin Program (Section 455, WRDA 1999) and the Great Lakes Navigation Study (Section 456, WRDA 1999) are entirely separate studies.

### **Planning for Great Lakes Restoration**

There is no comprehensive and integrated Great Lakes Restoration Strategy among federal agencies that represents a broad shared vision for the basin; sets forth specific restoration goals, objectives and performance measures; and, specifies projects, funds and responsibilities. The Corps could contribute by having a basinwide strategy and mechanism to coordinate programs with other federal, state and tribal agencies and organizations.

### **Delisting Great Lakes Areas of Concern**

There is inadequate funding to implement RAPs and other necessary activities to fully restore AOCs. The Corps of Engineers could contribute by budgeting and implementing the fully authorized \$10 million annual funding for Great Lakes RAPs and Sediment Remediation (Section 401, WRDA 1990). Current limitations are due to inadequate federal funding of the program as well as the inability of project sponsors to meet the 35 percent costshare requirement and thus not maximizing the \$20 million annual funding capability for Environmental Dredging (Section 312, WRDA 1990).

In addition, statutory limitations restrict the use of this program to the dredging of sediments adjacent to but outside of navigation channels. The narrowly defined authority

is likely to contribute to a jurisdictional maze when it comes to implementing RAPs. The authority does not allow for other activities that might be part of remediation strategies and go beyond the actual harbor dredging, such as capping or replanting of wetlands and shores. The slow program and project development process make the efficiency of this authority questionable: since 1998, ten projects were studied for feasibility and none has yet been implemented. Amendments to the current program authority would enable the Corps to improve program performance.

### **Shutting the Door on Invasive Species**

The current federal and state strategies and methods for prevention and control of ANS are lagging behind the initial occurrence and subsequent spread of invasive aquatic species. The Corps of Engineers could contribute by adequately considering this issue in the Great Lakes Navigation Study (Section 456, WRDA 1999). The Corps also could make full use of the Aquatic Plant Control (Section 104, RHA 1958) and Aquatic Plant Control Research authorities to address Great Lakes issues.

### **Coordinating Programs to Restore Coastal Habitat**

There is no basinwide coordination of existing federal programs for fish and wildlife habitat restoration. The Corps could contribute by strategically coordinating environmental restoration programs with other agencies and organizations on a basinwide level. A model for this opportunity is the Great Lakes Fishery and Ecosystem Restoration Program (Section 506, WRDA 2000) which requires a basinwide program management plan and coordination with other agencies and organizations involved in Great Lakes fishery restoration.

### **Collecting Baseline Data to Assess the State of the Great Lakes Ecosystem**

The lack of comprehensive data and comparable data collection efforts prevents a thorough evaluation of coastal wetland losses in the Great Lakes. The Corps could contribute by developing specified program mandates and strategic objectives with which to apply its technical resources and expertise, and in coordination with other agencies and organizations.

### **Increasing the Acreage of Wetlands and Other Critical Coastal Habitat in the Great Lakes Ecosystem**

To prevent further loss of coastal wetlands and their ecosystem functions, the Corps could contribute by vigorously exerting its regulatory authority for dredge and fill permits (Section 404, CWA amendments of 1977). The Corps could also fully use its ecosystem restoration authorities which include: Aquatic Ecosystem Restoration (Section 206, WRDA 1996); Beneficial Use of Dredged Material (Section 204, WRDA 1992); Environmental Improvements (Section 1135, WRDA 1986); Great Lakes Fishery and Ecosystem Restoration (Section 506, WRDA 2000); and, Great Lakes RAPs and Sediment Remediation (Section 401, WRDA 1990). In order for the Corps to be successful with these improvements it must receive the fully authorized appropriations for its programs.

## **Reversing and Mitigating Environmental Damage Caused by Past Water Resources Development**

Water resources projects of the Corps have left a legacy of degraded coastal habitat. The Corps could improve on this legacy through use of its Environmental Improvements (Section 1135, WRDA 1986) authority. Full funding as projects enter the implementation phase and finding local project sponsors are also essential to this improvement.

### **Adapting Coastal Development to Natural Erosion Processes**

Natural erosion processes are complex and require efforts on multiple fronts. The Corps could improve on these efforts by: developing a strategic objective to use for the Planning Assistance to States (Section 22, WRDA 1974) which supports state level coastal wetlands restoration efforts; increasing its outreach efforts for shoreline erosion prevention; and, taking a proactive approach to sustainable solutions instead of relying on traditional structural protection methods.

### **Turning Urban Sprawl into Smart Growth**

In general, there are no consistent rules across the Great Lakes region requiring sustainable land-use planning and zoning. The Corps could contribute by increasing its outreach efforts to educate local planners and the public how urban sprawl and other unsustainable practices exacerbate water-related problems such as flooding and pollution. Improvement would also come through an integrated watershed-based approach to program priority setting and project planning.

### **Waterfront Rehabilitation**

Rehabilitating abandoned or underutilized urban waterfront areas requires coordination between remedial action and redevelopment programs at the federal and state levels. The Corps could contribute if it were authorized to have a program for urban waterfront restoration and brownfield remediation, which would include collaborating with states and local authorities to connect existing authorities to redevelopment programs. The Corps could also improve stigmatized waterfront property and prevent further disinvestment in them, or degradation of vacant or idle properties due to real or perceived contamination by fully using its technical capabilities and engineering expertise to conduct the required cleanups. Requisite appropriations for the cleanups are assumed to be forthcoming.

### **Revitalizing Urban Centers**

Revitalizing degraded waterfront areas along the Great Lakes Coast require coordinated efforts among federal and state agencies. The Corps could improve on this effort by collaborating more with NOAA, state agencies and coastal management programs, and local authorities to address this challenge. For example, it could develop a strategic objective under the Planning Assistance to States authority (Section 22, WRDA 1974) to support efforts by the states and their local units.

### **Cleaning Up Superfund Sites**

To eliminate the backlog of the Superfund program the Corps could fully deploy its technical capabilities and engineering expertise to conduct the required cleanups

assuming it has adequate funding. Expansion of Corps activities beyond its' current support role for other federal agencies will require new authorities from Congress.

### **Preventing Soil Erosion to Reduce Dredging Costs and Needs**

There is a regional need to replace unsustainable landuse planning with best management practices. The Corps could help improve this situation through: proactive watershed planning; putting more programmatic focus on sediment reduction in upland areas that drain through navigational channels; continuing to be involved in gathering and coordinating baseline data about sediment sources and transport; and, improving its program coordination with the EPA, NRCS and relevant state agencies.

### **Preventing Water Withdrawals from the Great Lakes Basin**

There is currently no binding, international agreement to effectively prevent draining the groundwater of Great Lakes aquifers from either outside or within the Great Lakes basin. The Corps could improve on this vulnerability through more outreach to educate regional officials on the Great Lakes hydrologic system.

### **Mitigating Water Level-Related Hazards**

There is a regional lack of a proactive approach to prevent or mitigate water-level related crises or conflicts. The Corps of Engineers could improve mitigation of these crises and conflicts by maintaining a continuous, effective outreach program that explains lake level issues and what role people's decisions and actions have in either exacerbating or alleviating emerging problems.

### **Balancing Great Lakes Water Management**

The ability to calculate the Great Lakes water balance is limited by a lack of knowledge of the principal factors which impact this balance. Through existing and new authorities the Corps could improve on this knowledge gap by: improved protocols for reporting Lake Michigan water diversion data; coordinating more effectively in interagency investigations; developing a programmatic focus on water use accounting; and, supporting a programmatic focus on developing multi-agency data collection and information sharing systems.

### **Implementing Needed Projects**

The Great Lakes experiences many failures to implement planned projects. The Corps could improve on this record by implementing a less complicated and confusing project planning and decision-making process.