Appendix A. Strategic Plans for the Great Lakes

Appendix A. Strategic Plans for the Great Lakes

More than thirty agencies, organizations, and alliances have already developed strategies or principles guiding their water resources management activities in the basin (see Tables 5.1 and 5.2). Appendix A provides an overview of these strategic guidelines.

A-1. Multilateral alliances/partnerships

- **Ecosystem Charter for the Great Lakes-St.Lawrence Basin**
  - **Coordinating Agency**
    Great Lakes Commission
  - **Signatories**
    As of today, more than 160 agencies, organizations, and jurisdictions have endorsed the *Charter*, including local, state, regional, and federal agencies; tribal authorities; citizen-based environmental and conservation groups; business and industry interests; universities; research institutions and others.
  - **Purpose**
    The *Ecosystem Charter* summarizes commonly held principles for an ecosystems approach drawn from existing laws, treaties, agreements and policies. It has three primary uses: 1) as a tool for promoting and periodically assessing public and private sector efforts to implement an ecosystem approach; 2) as a tool for information and education, offering a vision for the Great Lakes-St. Lawrence Basin Ecosystem and a means to achieve it; and 3) as a tool for advocating the interests of the basin ecosystem and its inhabitants; a statement of unity acknowledging that all partners in the collective management effort -- despite their differences -- subscribe to a single set of fundamental principles.
  - **Vision for the Great Lakes basin**
    The vision of the *Ecosystem Charter* consists of twelve statements to guide an ecosystems approach for natural resources management in the Great Lakes. In condensed form, the vision of the *Ecosystem Charter* is reflected in the vision for the Great Lakes Program of the GLC (see below).
  - **Goals and Priorities**
    To foster an ecosystems management approach, the *Charter* offers a series of principles in four categories: 1) rights and responsibilities; 2) ecological integrity and diversity; 3) sustainable communities; 4) institutional relations; and 5) public information, education, and participation.
  - **Summary**
    The *Charter* sets forth a shared vision for the Great Lakes-St. Lawrence Basin and a series of 17 commonly held principles, findings, and related action items to guide ecosystem management in the Great Lakes-St. Lawrence Basin. Publicly released on October 25, 1994, the *Charter* ties a common thread through the many policies, laws

and agreements in the basin, and explicitly defines objectives for an ecosystem approach to management.

♦ **Great Lakes Strategy 2002**

- **Organization**
  U.S. Policy Committee for the Great Lakes
- **Represented Agencies**
  U.S. EPA, U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Department of Agriculture (USDA), NOAA, FWS, USGS, Agency for Toxic Substances and Disease Registry, U.S. Forest Service, Great Lakes Fishery Commission, the Great Lakes states, as well as Great Lakes tribal governments.
- **Purpose**
  Great Lakes Strategy 2002 is a strategic plan for the Great Lakes ecosystem that was developed by a multi-agency forum called the U.S. Policy Committee for the Great Lakes. Created under the lead of the U.S. EPA, *Strategy 2002* focuses on environmental protection and natural resources management activities that relate to fulfilling the goals of the GLWQA.
- **Vision for the Great Lakes basin**
  A healthy environment in the Great Lakes basin for wildlife and people, with beaches open for swimming, fish safe to eat, and safe drinking water.
- **Goals and Priorities**
  The goals of *Great Lakes Strategy 2002* are identical to those of the 1972 GWLQA: Chemical, physical, and biological integrity for the Great Lakes Ecosystem. In addition, the strategy identifies a fourth goal as working together across agencies to effectively coordinate programs and authorities.
- **Summary**
  Great Lakes Strategy 2002 is a comprehensive summary of current and planned Great Lakes protection and restoration activities on the U.S. side of the lakes to fulfill the goals of GLWQA. The strategy adds an overarching framework to these activities and identifies key objectives and actions for each of the GLWQA goals. Key objectives include dates and measurable outcomes, such as "Beginning in 2004, complete three sediment remedial actions per year until all known sites in the basin are addressed". In some cases, key actions refer to specific programs of the individual USPC members. However, most of the key actions are very broadly phrased, such as "restoring beneficial uses impaired by sediment contamination in AOCs". *Great Lakes Strategy 2002* stops short of specifying projects, required funds, or the role of each partner. It also does not specifically address the integration of U.S. and Canadian ecosystem restoration efforts to meet the common goals of GLWQA.

♦ **A Joint Strategic Plan for Management of Great Lakes Fisheries (1997 Revision)**

- **Coordinating Agency**
  Great Lakes Fishery Commission

- **Parties**
  Canadian Department of Fisheries and Oceans. Chippewa-Ottawa Treaty Fishery Management Authority, Great Lakes Indian Fish and Wildlife Commission, Illinois Department of Conservation, Indiana Department of Natural Resources (DNR), Michigan DNR, Minnesota DNR, NMFS, New York State Department of Environmental Conservation (NYSDEC), Ohio DNR, Ontario Ministry of Natural Resources, Pennsylvania Fish and Boat Commission, FWS, Wisconsin DNR.

- **Purpose**
  The purpose of the *Joint Strategic Plan* is to express a commitment of the parties to interjurisdictional coordinated fishery management based upon an ecosystem management approach.

- **Vision for the Great Lakes basin**
  None specified.

- **Goals and Priorities**
  The common goal of the parties is to secure fish communities, based on foundations of stable, self-sustaining stocks, supplemented by judicious plantings of hatchery-reared fish, and provide from these communities an optimum contribution of fish, fishing opportunities, and associated benefits to meet needs identified by society for wholesome food, recreation, cultural heritage, employment and income, and a healthy aquatic ecosystem.

- **Summary**
  The plan is rooted in four strategies for fisheries management: 1) achieving consensus, 2) performance accountability for implementing the joint decisions made under the plan, 3) ecosystem approach to fisheries management, and 4) sharing information and establishing common standards for data access, collection, analysis, and sharing. For each of the four strategies, the plan identifies two to five strategic procedures to achieve the common goal and implement the strategies. For example, the five strategic procedures for ecosystem management are i) identification of environmental issues by lake committees, ii) coordination of activities with GLWQA and LaMPs, iii) environmental issue resolution, iv) maintenance of a habitat advisory board, and v) identification and promotion of procedures to protect Great Lakes resources from exotic species. The strategies are developed in the context of a Great Lakes fishery issues analysis. The issues analysis identifies eight major themes of issues impacting Great Lakes fisheries: 1) lost fishing opportunities, 2) instability of fish communities, 3) sea lamprey, 4) overharvest, 5) invasions and introductions, 6) inadequate environmental quality, 7) competition and conflicts among users of fishery resources, and 8) climate change.

♦ Other multilateral strategies for the Great Lakes

Several other multilateral strategies focus on fulfilling the goals of GLWQA. These include the *Canada-United States Strategy for the Virtual Elimination of Persistent Toxic Substances in the Great Lakes Basin*, known as the *Great Lakes Binational Toxics Strategy,* the LaMPs for Lakes Erie, Ontario, and Superior, and the *Joint Commitment to Achieve Shared Water Goals*. The GLWQA was first signed by President Nixon and Prime Minister Trudeau in 1972 to establish the binational commitment to restore and maintain the chemical, physical, and biological integrity of the Great Lakes basin ecosystem. The GLWQA was expanded in 1978 to call for the end of discharges of persistent toxic substances and amended in 1987 to call for the virtual elimination of toxic substances in the basin and for the cleanup of 42 local AOCs where beneficial uses of the lakes are impaired by environmental degradation.

The *Great Lakes Binational Toxics Strategy* provides a framework for actions to reduce or eliminate persistent toxic substances from the Great Lakes basin, as called for in the 1987 amendments to GLWQA. With the long-term goal of virtual elimination, the Strategy outlines quantifiable reduction "challenges" in the timeframe 1997 to 2006 for specific toxic substances, including PCBs, mercury, and several organochlorine pesticides. The primary emphasis is on pollution prevention. Another key element of the strategy is the development of baseline measurements for tracking progress toward reductions. The *BTS* also reaffirms the U.S. and Canadian commitment to the United Nations *Agenda 21: A Global Action Plan for the 21st Century*, which identifies the sound management of chemicals as a key objective for sustainable global development.

LaMPs are another offspring of strategic documents from the 1987 GLWQA amendments. LaMPs have two principal functions: they 1) identify critical pollutants that affect beneficial uses of the lakes and 2) present strategies, recommendations, as well as policy options to restore impaired beneficial uses. LaMPs are living documents that are updated and re-released every two years to incorporate new data and public input. The U.S. EPA and Environment Canada were put in charge for developing LaMPs with participation of government, tribal, and non-government partners. To date, LaMPs are in existence for Lakes Erie, Michigan, Ontario, and Superior. The U.S. EPA is more or less solely responsible for developing the LaMP for Lake Michigan, which is the only Great Lake wholly within U.S. borders (see Section 6.E.3). Described here are the LaMPs for Lakes Erie, Ontario, and Superior, which have been developed by multilateral partnerships of state, provincial, tribal, and local agencies and organizations, under the shared leadership of U.S. EPA and Environment Canada.

The *Lake Superior LaMP 2000* was prepared by the Lake Superior Binational Program's Superior Work Group. The Lake Superior Binational Program is a partnership of federal, tribal, provincial, and state agencies with jurisdiction over natural resources in the Lake Superior watershed. The main objective of the Binational Program is that of "zero discharge" to Lake Superior and its watershed. In addition, the *Lake Superior LaMP 2000* specifies a range of other ecosystem management principles and as well as program objectives. The Binational Program is also developing a list of indicators and targets for achieving ecosystem objectives for Lake Superior. The most salient issues of concern, according to the *Lake Superior LaMP 2000*, are 1) effects of critical pollutants on human health, 2) status of wildlife habitat in the Lake Superior

basin, 3) aquatic life and habitat, 3) developing sustainability in the Lake Superior basin, 4) aquatic nuisance species, and 5) atmospheric deposition of pollutants. The *Lake Superior LaMP 2000* also features a *TMDL Strategy for Lake Superior.* This strategic "plan within a plan" identifies the goals, objectives, processes, and key issues related to the development and use of TMDL for the open waters. Included are key actions for pollution prevention as well as restoration of degraded areas (i.e. AOCs), with an emphasis of the relationship of the TMDL strategy to other management programs and tools.

The four parties charged with the Lake Ontario LaMP—U.S. EPA, Environment Canada, NYSDEC, and Ontario Ministry of Environment and Energy (OMOE)—have wrapped up a three-year workplan with the publication of the *Lake Ontario Lakewide Management Plan Update 2001*. The update highlights the LaMP's ongoing progress to better define sources and loadings of critical pollutants, define a strategy to lead to action on sources (pollution prevention), and establish targets and measures to show environmental progress in the lake.

The binational Lake Erie LaMP Management Committee coordinates the Lake Erie LaMP. The Committee consists of members of all the federal, state, and provincial agencies with jurisdiction over Lake Erie. *Lake Erie LaMP 2000: Lake Erie Lakewide Management Plan* highlights connections to existing programs such as the RAPs for Lake Erie AOCs, the BTS, or the North American Waterfowl Management Plan. Within this framework, *Lake Erie LaMP 2000* entails action plans for habitat protection and restoration and for the reduction of PCBs and mercury (Lake Erie LaMP critical pollutants) in the Lake Erie ecosystem. *Lake Erie LaMP 2000* proposes a process for developing a comprehensive habitat protection and restoration plan. Preliminary screening criteria were created against which to compare existing and proposed habitat projects to the goals and objectives of the Lake Erie LaMP. Additionally, eight different types of projects were determined to be necessary to adequately address habitat restoration in the Lake Erie basin. Thirty-seven existing and 19 proposed habitat projects are presented and categorized as to type. The action plan for mercury describes many ongoing activities being implemented by many of the LaMP agencies to reduce mercury in the environment through education, pollution prevention, and implementation and enforcement of regulatory standards and programs. For PCBs, the action plan focuses on cleanup and removal of PCBs from the ecosystem, particularly in regard to remediation of contaminated sediments.

Lake Huron does not have a LaMP process due to a lack of available resources. The State of Michigan has an initiative for this lake, which partly fills in the gap (see Section 6.E.3).

With the *Joint Commitment to Achieve Shared Water Goals*, U.S. EPA Region 5 and the six Region 5 Great Lakes states (Indiana, Illinois, Michigan, Minnesota, Ohio, and Wisconsin) identify five shared water goals, define the roles and responsibilities of each partner, and commit to refine the goals and to develop, test, and agree on targets and indicators. The five shared Region 5 water goals are declared as 1) healthy aquatic communities, 2) fish populations with safe levels of contaminants, 3) designated swimming waters are swimmable, 4) public water supplies are consistently safe to drink, and 5) the quantity and quality of critical aquatic habitat, including wetlands, will be maintained or improved. According to the *Commitment*, the states take the part of designing strategies and activities and direct and invest resources to deliver environmental results, i.e. achieve the shared goals. The U.S. EPA Region 5 will have the lead in reporting on the shared goals as well as targets and indicators.

The Great Lakes Charter, signed by the governors and premiers of the states and provinces in the Great Lakes-St.Lawrence basin, declares five principles for the management of Great Lakes water resources. The purposes of this Charter are to conserve Great Lakes water levels and flows; to protect and conserve the environmental balance of the Great Lakes ecosystem; to provide for cooperative programs and management of Great Lakes water resources; to make secure and protect present developments within the region; and to provide a secure foundation for future investment and development within the region. The five principles are I) integrity of the Great Lakes basin, II) cooperation among jurisdictions, III) protection of Great Lakes water resources, IV) notice and consultation of all Great Lakes governors and premiers prior to any new major use and consumption of Great Lakes water, and V) cooperative programs and practices. The Great Lakes-St.Lawrence basin governors and premiers also signed *A Great Lakes Action Plan for the Prevention and Control of Nonindigenous Aquatic Nuisance Species (ANS)*, which aims at three goals: 1) prevent the unauthorized introduction of nonindigenous aquatic species; 2) limit the spread of established ANS within the region; and 3) minimize the harmful ecological, economic, social and public health impacts resulting from ANS already present. The *Plan* spells out a number of principles drawn from existing laws, policies, and programs to guide ANS prevention and control plans in each of the states and provinces and to build a basis for communication and cooperation.

The *National Strategy to Restore Coastal and Estuarine Habitat* was developed by Restore America's Estuaries and the National Oceanic and Atmospheric Administration in cooperation with federal state, and non-governmental partners. It emphasizes the need for formal restoration or management planning for those coastal wetland areas of the Great Lakes region that have been targeted for protection or restoration.

A-2. Regional/binational agencies

- **Strategic Plan for the International Joint Commission**
  - **Organization**
    IJC
  - **Role/Mission**
    The IJC prevents and resolves disputes between the U.S. and Canada under the 1909 Boundary Waters Treaty and pursues the common good of both countries as an independent and objective advisor to the two governments.
  - In particular, the IJC rules upon applications for approval of projects affecting boundary and transboundary waters and may regulate the operation of these projects; it assists the two countries in the protection of the transboundary environment, including the implementation of the GLWQA and the improvement of transboundary air quality; and it alerts the governments to emerging issues along the boundary that may give rise to bilateral disputes.
  - **Vision for the Great Lakes basin**
    None specified.

- **Goals and Priorities**
  The *Strategic Plan for the IJC* aims at sustaining and enhancing the IJC effectiveness and relevance in the following areas: 1) preventing disputes and resolving issues concerning transboundary water levels and flows, 2) IJC boards; 3) assistance to both nations in the implementation of the GLWQA; 4) protection of the transboundary environment; 5) protection of transboundary air quality; 6) strengthen the decision support capability of the Great Lakes community; and 7) IJC operations and institutional capacity.

- **Summary**
  The *Strategic Plan for the IJC* consists of a mission statement, a list of 13 guiding principles, and an outline of seven objectives including specific approaches to be followed. For example, approaches to pursue objective 3--assistance to both nations in the implementation of the GLWQA—include the affirmation of the IJC role under GLWQA and a resolution to establish and assign priorities to the various components of that role. Specific outcomes and performance measures are not specified.

♦ **The Great Lakes Program to Ensure Environmental and Economic Prosperity**

- **Organization**
  Great Lakes Commission

- **Role/Mission**
  The Great Lakes Commission is an interstate compact agency dedicated to the use, management, and protection of water, land, and other natural resources of the Great Lakes-St. Lawrence system. Its members include the eight Great Lakes states; the Canadian provinces of Ontario and Québec as associate members. The three principal functions of the Great Lakes Commission are communications services among the membership and the entire Great Lakes-St. Lawrence community; policy research, development and coordination on issues of regional interest; and advocacy of policy positions on which its members agree. The Commission applies sustainable development principles to a range of issues including environmental protection, natural resources management, and maritime transportation.

- **Purpose**
  The *Great Lakes Program* is a descriptive listing of the federal legislative and appropriations priorities of the Great Lakes Commission. The program is intended to form the basis for a consensus-based Great Lakes Restoration Plan to be developed under the leadership of the Council of Great Lakes Governors with input from the larger Great Lakes community.

- **Vision for the Great Lakes basin**
  A Great Lakes that offers a prosperous economy, a healthy environment, and a high quality of life for citizens by applying sustainable development principles in the use, management and protection of our water, land, and other natural resources.

- **Goals and Priorities**
  The Great Lakes Commission has seven priorities for the 108th Congress: 1) cleaning up toxic hot spots, 2) shutting the door on exotic species; 3) controlling nonpoint source pollution; 4) restoring and conserving wetlands and critical coastal habitat; 5) ensuring the sustainable use of Great Lakes water resources; 6) strengthen the decision support capability of the Great Lakes community; and 7) enhancing the commercial and recreational value of Great Lakes waterways.

- **Summary**
  The *Great Lakes Program* outlines the strategic goals, benefits and selected priority actions for each of its seven priorities. Selected priority actions are basically recommendations to Congress targeting specific programs, authorizations, and appropriations. The recommendations are based largely on federal programs that have been authorized, yet inadequately funded, as well as important "new start" initiatives. The Great Lakes Commission recommendations provide a blueprint for Great Lakes Commission advocacy efforts during the 108th Congress and have been developed as a possible foundation for a long-term Great Lakes Restoration Plan.

♦ Other binational strategies for the Great Lakes

The ISLRBC of the IJC is in charge of the *Lake Ontario Outflow Strategy*. The board continuously reviews, discusses, and adapts the short-term (month-to-month) and long-term (several months) outflow strategy to meet the IJC Orders of Approval for the St. Lawrence Seaway and a hydropower project at the controlled outflow of Lake Ontario. The IJC has also called on the ISLRBC to (a) review the current regulation of levels and flows in the Lake Ontario-St. Lawrence River System, taking into account the impact of regulation on affected interests, (b) develop an improved understanding of the system by all concerned, and (c) provide all the relevant technical and other information needed for the review. After the review, which began in 2000 and is expected to take five years, the ISLRBC may recommend that the IJC further amends its Orders of Approval.

Both the Great Lakes Commission and the Great Lakes Fishery Commission have strategic plans in place guiding their own operations. *A Strategic Plan for the Great Lakes Commission* identifies objectives and strategic actions for each of its five strategic goals. These are: 1) to enhance the Commission's leadership role in regional coordination, policy development, and advocacy; 2) to promote the informed use, management, and protection of the water, land, air, and related natural resources of the Great Lakes-St.Lawrence System; 3) to promote sustainable, water resource-based economic activity and the use, development, and maintenance of the Great Lakes-St.Lawrence transportation system; 4) to promote informed public policy; and 5) to strengthen the collective Great Lakes management effort.

The *Strategic Vision for the Great Lakes Fishery Commission for the First Decade of the New Millennium* highlights three vision statements concerning healthy Great Lakes ecosystems, integrated management of sea lamprey, and institutional/stakeholder partnership to deliver integrated management focused on healthy ecosystem and integrated sea lamprey management.

The Great Lakes Fishery Commission also identifies milestones and key strategic actions to achieve each part of its strategic vision. The five milestones for healthy ecosystems are 1) to conserve native biodiversity, 2) to prevent invasion of non-native fishes, 3) to increase natural recruitment of fish populations, 4) to improve habitat, and 5) to gain new information through research and data exchange. One of the key actions identified to improve habitat is an interagency effort to protect critical habitats and restore others. Milestones for integrated sea lamprey management are 1) to achieve economic injury levels, 2) to control the St. Marys River, 3) to use alternative technologies (such as increased use of current methods such as barrier development), and 4) to estimate recruitment. The milestones of partnerships include the increase of partnership funding for enhanced delivery of Great Lakes Fishery Commission programs.

A-3. Federal agencies

- **Saint Lawrence Seaway Development Corporation Fiscal Year 2003/2004 Strategic Plan**
  - **Agency**
    U.S. Department of Transportation, SLSDC
  - **Role/Mission**
    SLSDC operates and maintains U.S. infrastructure and waters of the St. Lawrence Seaway, with the goal of supporting trade development by enhancing the Great Lakes - St. Lawrence Seaway System. SLSDC operates in cooperation with the Canadian St. Lawrence Seaway Management Corporation.
  - **Vision for the Great Lakes basin**
    To lead the Great Lakes Seaway System as the safest and most efficient, competitive, technologically advanced, and environmentally responsible marine transportation system in the world.
  - **Goals/Priorities**
    The SLSDC Strategic Plan identifies four strategic goals: 1) Safety, security, and the environment; 2) reliability and availability; 3) trade development; 4) management accountability.
  - **Summary**
    The *SLSDC Strategic Plan* specifies outcome goals, key actions, as well as performance measures for each of its four strategic goals. A major point under trade development is the increasing of international tonnage through the Seaway system to and from U.S. ports. Actions to achieve this goal include the targeting of overseas trade development programs to high potential markets and regions, focusing of trade activities on specific commodity groups and vessel service, and working with the Great Lakes seaway community to contain costs and participate in trade development programs. Environmental protection goals are defined as the prevention of environmental incidents by adhering to standards. Key actions include risk assessment inspections and ballast water screenings, but there is no specific reference to preventing the introduction of ANS.

- **GLERL Strategic Plan 2000**
  - **Organization**
    NOAA
  - **Role/Mission**
    GLERL strives to provide research and scientific leadership on issues important to the Great Lakes ecosystem.
  - **Vision**
    To provide scientific understanding and the leadership necessary for the wise use and management of the Great Lakes.
  - **Goals and Priorities**
    1) Expand and improve scientific knowledge of aquatic ecosystems and processes within the Great Lakes; 2) develop new tools, approaches, and concepts for improved modeling, prediction, and management of issues within the Great Lakes and coastal environments; 3) deliver services and expert information to the scientific, regulatory, and coastal-user communities; 4) outreach activities to enhance public understanding and to improve public participation in decision making; 5) lead and coordinate multi-institutional scientific program development throughout the Great Lakes.
  - **Summary**
    GLERL's strategic plan is a very general statement of priorities and activities. GLERL describes its strategy as "to maintain and foster high productivity, scientific excellence, and societal relevance". GLERL lists six basic types of activities to achieve its goals: research, long-term monitoring, technology development, information synthesis and assessment, multi-institutional program development, and communication and education.

- **Strategic Vision for the U.S. Geological Survey in the Great Lakes-St. Lawrence Region, 2001-2010**
  - **Agency**
    USGS
  - **Role/Mission**
    USGS provides natural-science information to the broad community of policy makers, resource managers, regulators, scientists, and private citizens who contribute to informed decisions concerning natural resources management practices and ecosystem quality and integrity.
  - **Vision for the Great Lakes basin**
    A healthy ecosystem, whose ecological integrity and economic health are nurtured through sound resource management decisions based on reliable, timely, and objective scientific information and data.

- **Goals and Priorities**

  1) Ecological health and integrity; 2) sustainable development; 3) human health; 4) minimization of natural hazards and risks; 5) scientific information-transfer.

- **Summary**

  The *Strategic Vision* is a planning guideline rather than an actual strategic plan. It provides a framework for an integrated, regional science program to address the USGS priorities for the Great Lakes-St.Lawrence region. For each of the five broad societal issues specified above, the *Strategic Vision* lists specific issues to be addressed with an integrated science approach as well as the areas on which USGS work will focus on. The USGS science areas relevant to the Great Lakes region are mapping, water quality, water quantity, landscape and coastal assessments, geologic mapping, and biological resources research and assessments. The document outlines a strategy to implement the strategic vision by identifying three critical success factors and strategic objectives for each of these factors. The critical success factors are 1) internal end external program coordination; 2) a science program that focuses on the unique strengths of the USGS and meets the management and restoration needs of the region; and 3) the timely production and efficient distribution of relevant, unbiased data and information. The strategic objectives are to continually enhance coordination of USGS efforts with other organizations in the region, determine regional scientific needs and issues that the USGS can address, and identify the product needs and distribution issues of users of USGS data and information in the region.

♦ **Other federal strategies for the Great Lakes**

The *NRCS Strategic Plan 2000-2005* does not make specific references to the Great Lakes region, but its orientation on watershed-level, integrative approaches has many implications for *NRCS's* role in the Great Lakes basin and its approach to partnerships and cooperative arrangements. Major goals of the *NRCS Strategic Plan* include the reduction of unintended adverse effects of natural resource development and the reduction of risks from flooding. The NRCS has developed a core partnership with conservation districts, state agencies, and local resource conservation and development councils (RC&D). Following are some highlighted objectives and strategies from the *NRCS Strategic Plan* that are particularly relevant to the John Glenn Great Lakes Basin Program: (a) protection of water resources from agricultural non-point sources by (i) watershed-level planning assistance for nonfederal and tribal lands, (ii) promoting innovative watershed level approaches in areas with challenges created by the urban-rural interface, (iii) protecting rivers and streams from excess nutrient loadings and from the effects of hydrologic alterations and geomorphologic changes; (b) maintenance, restoration, and enhancement of wetland ecosystems and fish and wildlife habitat by (iv) identifying priority wetlands, (v) identifying community goals for wetland and fish and wildlife conservation, (vi) integrating multiple use planning in wetland and wildlife conservation approaches,(vii) technical assistance for delineation of wetland areas, (viii) and working with partners and private groups to enhance habitat for game species; and (c) protection of upstream watersheds from flood risks by (ix) helping watershed project sponsors to repair, upgrade, or decommission watershed structures

(such as small dams) and to implement watershed protection plans, (x) providing information and tools to communities to develop strategies to mitigate effects, (xi) addressing flood prevention in the context of comprehensive watershed planning, (xii) enhancing the Emergency Watershed Protection Program, and (xiii) educating communities about the importance of watershed planning to risks from flooding and protect future economic growth and resource health.

The strategic plan NOAA, *New Priorities for the 21st Century*, contains specific strategic objectives for the Great Lakes. *New Priorities for the 21st Century* identifies four mission goals (Missions 1-4), of which Mission 1 is to protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management. One of the major objectives of Mission 1 is to protect, restore, and manage the use of Great Lakes resources. This objective falls within the scope of NOAA's ecosystem strategy, which is the overarching strategy to fulfill Mission 1. One of the key elements of the ecosystem strategy is an increased number of Great Lakes areas (including coastal watersheds) with federal, state, and local government or nongovernmental management plans using ecosystem best management practices and approaches. Specific strategies to protect, restore, and manage the use of Great Lakes resources include (a) monitoring and observing Great Lakes areas and associated communities to provide basic information on habitats, resources, human activities, and uses that may impact coastal ecosystems; (b) characterizing Great Lakes resources, research on resource components, processes and human impacts, and delivery of products to facilitate sound management decisions; (c) model development and data integration to assess the ecosystem and predict its future state; and (d) informing and advising decision makers about safe and wise uses of Great Lakes resources and about factors such as hazards that affect environmental health and safety. Measure for the success include an increased area covered and number of ecological conditions monitored by state-of-the-art observation systems; increased Great Lakes areas explored, mapped, characterized, and inventoried; an increased number of techniques and tools that can be used to restore and protect Great Lakes resources; an increased percentage of Great Lakes areas for which management plans have been successfully developed and implemented in conjunction with NOAA's international, federal, state, local, and tribal partners; and an increased percentage of habitat restored.

Sustaining America's Coastal Communities and Resources describes a strategic framework for the state-federal coastal zone management program (see Section 6.E.3) and organizes strategic goals around the three themes of the Coastal Zone Management Act, which are 1) to sustain coastal communities, 2) to sustain coastal ecosystems, and 3) to improve government efficiency. Each of the themes is divided into several goals which in turn are divided into seven general objectives. Examples for some of the goals are (1) to reduce threats from losses from coastal hazards; sustain, develop, and revitalize ports, harbors, marinas, and urban waterfronts; preserve historic, cultural, natural, and aesthetic coastal features; (2) to protect, restore, and enhance coastal land and water habitats and to sustain and improve coastal water quality; and (3) to simplify permit processes and provide for local government and public participation. Specific objectives for NOAA's Coastal Management Program address, among others, coordination among federal, state, and local officials in coastal hazard mitigation efforts; non-regulatory mechanisms for hazards mitigation; use of underused areas such as brownfields; maintaining the ecological and environmental health of ports, harbors, and marinas; enhancing federal and state cooperative efforts to protect and restore coastal habitat and water quality, both

in terms of program operations and policy; and restoring coastal habitats impacted by toxic pollution and other disturbances.

One of the main objectives of *Conserving America's Fisheries,* a vision for the FWS fisheries program, is the management of interjurisdictional fisheries such as in the Great Lakes. One of the key actions for this objective is to work with other federal agencies, states, and tribes to identify the biggest threats to maintaining self-sustaining, interjurisdictional fish populations. In its *Strategic Plan 2000-2005*, the FWS identifies as a long-tem goal the prevention and control of ANS invasions, such as the zebra mussel in the Great Lakes. The FWS also pursues the goal of strengthening tribal fisheries conservation efforts by providing technical assistance on invasive species and fish stocking issues. An example for the cooperation of the FWS with tribal governments is the agreement with the Keweenaw Bay Indian Community in Michigan on co-management of interjurisdictional fisheries resources and the exchange of stock trout classes from their respective hatcheries to restore trout in the Great Lakes.

According to *Strategic Directions for the USGS Ground-Water Resources Program*, geologic map information for groundwater modeling, aquifer delineation, and well-head protection was cited as the highest priority need by private and public-sector participants at the 1997 Great Lakes Geologic Mapping Forum in Indianapolis. Developing a better knowledge base for sustained development of groundwater resources is one of the key elements of the USGS *Strategic Plan FY 2000 – FY 2005*. Other strategic directions for scientific activities of the USGS include resolving conflicts over the management of rivers for multiple purposes, developing strategies for the control of invasive species, guiding protection and development of coastlines, and understanding ecological functions and assessing predicted change at varying temporal and spatial scales.

The Ninth Coast Guard District (D9), in its *Regional Strategic Assessment*, identifies four strategic goals for the Great Lakes: 1) Maritime Safety, 2) Protection of Natural Resources, 3) Maritime Mobility, and 4) Maritime Security. ANS prevention and enforcement of NISA (open ocean ballast water exchange) are a key element of D9's strategic goal 2. D9 identifies as important needs a regional/binational solution as opposed to state-by-state legislation as well as technological advances to tackle the problem. In its own *Ninth District FY2001 Strategic Plan*, it lists as some of the actions the raising of awareness among political and environmental entities of federal government actions to prevent ANS in the Great Lakes, increasing education of commercial and recreational vessel operators on oil spill and ANS prevention, and enforcing ballast water regulations.

The purpose und functions of LaMPs have been discussed in Section 6.E.3 U.S. EPA's update to the Lake Michigan LaMP, *Lake Michigan LaMP 2002*, identifies a number of unmet needs and recommends a number of actions including clean-up of legacy sites, habitat protection, collaboration on fish projects, control of combined and sanitary sewer overflows (CSOs and SSOs), development of an agriculture pollution prevention strategy, and the implementation of RAPs.

A-4. State-level initiatives

Directed by New York's former Governor Mario M. Cuomo, NYSDEC prepared a *25 Year Plan for the Great Lakes* in 1991. While focusing on an area that matches approximately

the watershed of Lakes Erie and Ontario within the boundaries of New York, the plan calls for a shared vision for the ecosystem and for the integrated and coordinated management of the Great Lakes-St. Lawrence River Basin according to the principles of the Great Lakes Charter (see Section 6.E.3). Further goals are to restore the integrity of the Great Lakes (fulfilling the goals of GLWQA), integrated management to meet current and future human and ecosystem needs, preservation and improvement of natural resources, as well as sustainable economic development. The plan identifies specific objectives as well as short-term (1-5 years) recommendations that are now outdated as well as long-term (5-25 years) recommendations for government actions. The plan summarizes and categorizes existing state, federal, and cooperative program and assesses needs for expanded statutory and regulatory authorities. The identified program needs and priorities do not entirely reflect the present, since they are based on assessments previous to 1991 and have not been updated since. However, New York's *25 Year Plan* may serve as a blueprint for state-level strategies that are tied into a basinwide, comprehensive ecosystem restoration plan.

Lake Huron is the only Great Lake without a lakewide management planning process. At this time, the U.S. EPA and Environment Canada are lacking the resources to initiate a LaMP process for this lake. In lieu, the Michigan Department of Environmental Quality has taken the initiative on Lake Huron and developed, in cooperation with the U.S. EPA and Environment Canada, Lake Huron Initiative Action Plan – 2002. The action plan specifies ecosystem objectives, which focus on fisheries, wildlife, and biodiversity within the Lake Huron watershed. It further proposes a set of environmental indicators specific to the lake as well as the proposed next steps to be taken. These are to involve additional stakeholders and to develop additional components of an overall Lake Huron ecosystem management plan including human health perspectives and agreeing on a set of environmental indicators to measure progress of the restoration effort.

The *CZMs* of Great Lakes states are discussed in Section 5.D. Section 309, CZARA of 1990, gives states incentives to enhance their CZMs by giving grants to projects in any of eight areas of national significance. These include, for example, wetlands protection, public access to the coast, and special area management planning. To more efficiently utilize this resource, Pennsylvania's CZM has prepared a *Section 309 Strategy and Assessment for Pennsylvania's Coastal Zone Management Program*. In the assessment, the CZM identifies gaps in its participation in Great Lakes water quality and quantity monitoring. To address this need, Pennsylvania's CZM enhancement strategy includes full participation in existing monitoring programs. Other components of the enhancement strategy are to ensure full state participation in existing planning and management programs for the Great Lakes. Specific objectives are the promotion of interstate cooperation in ports management and water-dependent economic development, to develop an ANS management plan in coordination with the Great Lakes Commission and the Council of Great Lakes Governors, and cooperation in interstate efforts related to dredging and sand management. Programmatic objectives to improve public access to Lake Erie concentrate on Presque Isle, where plans exist to develop ferry docks, handicap-accessible fishing piers, and a Great Lakes research center.

The *Strategic Plan for Water Resource Management* by the Northeastern Illinois Planning Committee is intended to guide the region, which includes Illinois' part of Lake Michigan's watershed, in responding to its water resources issues. For each of the three areas of water quality, flooding, and water supply, the plan recommends a series of strategies and

identifies entities to implement them. Suggested strategies include: 1) for water quality: establishing more protective water quality standards, increasing funding for wastewater treatment plant construction, and educating local officials, engineers, and the public on best management practices; 2) for flooding: improving watershed planning and coordination, increasing funding for floodplain mapping, and educating the public and officials on stormwater and flooding issues; and 3) for water supply: educating the public on the availability/non-availability of Lake Michigan water, increasing funding for research on the region's groundwater and surface water supplies, and protecting groundwater recharge areas. With regard to the Corps' role in the region, the recommended strategies involve coordination with the Corps of Engineers and other federal agencies to address flood remediation needs, consideration of non-structural over structural flood controls, method development to incorporate non-structural and non-flood reduction benefits into the cost-benefit analyses for flood control projects, identification of flood control projects with multiple benefits (including ecosystem restoration), implementation of channel maintenance agreements as a condition for communities benefiting from regional flood control projects, and a maximum federal costshare for flood control projects at 75 percent.

Illinois DNR's *Strategic Plan 2003-2008* identifies as a goal to protect the public interest in rivers, lakes, and streams through the management of water resources, and asserts its lead role in controlling and regulating Lake Michigan water diversion and use in northeastern Illinois.

A-5. NGOs

- **Strategic Direction of NACD Great Lakes Committee**
  - **Organization**
    NACD Great Lakes Committee
  - **Role/Mission**
    The NACD Great Lakes Committee serves as the liaison in the Great Lakes basin between conservation districts, NACD, and various federal, regional, and international agencies on issues relating to soil and water conservation and water quality issues.
  - **Vision for the Great Lakes basin**
    None specified.
  - **Priorities**
    Non-point water quality issues; erosion and sediment control; strengthening the district role in resource issues; implementing water quality plans; providing a coordinating and information mechanism for conservation district in the basin.
  - **Summary**
    The *Strategic Direction* is the NACD Great Lakes Committee's guidance on how to address identified priority issues. The document is neither a strategic plan nor does it entail specific objectives for certain activities or programs. Nevertheless, the document identifies key actions that are categorized into five general areas of activity: regional coordination, advisory services, communications/information sharing, planning, and funding/advocacy. Advisory services to federal, state,

regional, and international agencies on water quality, erosion control, and nonpoint source pollution issues are identified as a primary function of the Committee. Other identified main actions include exploring and defining of the relationship between conservation districts and RAP development in Great Lakes AOCs and the continuation of work with the Corps on its Great Lakes Tributary Sediment Transport Modeling program (regional coordination). The *Strategic Direction* also emphasizes support by the NACD Great Lakes Committee of funding and programmatic efforts of agencies involved in Great Lakes water quality issues.

- **Other non-governmental strategies for the Great Lakes**

The Coastal States Organization, Inc., a lobbyist for the coastal states including the Great Lakes states, defines its mission as to support a shared vision of the coastal states for the protection, conservation, responsible use and sustainable economic development of coastal resources. *A Strategic Plan for the Coastal States Organization, Inc 2003 – 2005* defines the vision for the Great Lakes as "healthy and thriving lakes". The vision extends to functioning, vital coastal ecosystems as well as to prosperous, vibrant coastal communities. It includes strong championship for coastal issues, shared goals and integrated coordinated coastal programs, and science-based, adaptive coastal management. The Coastal States Organization specifies its continued participation as observer to the Great Lakes Commission as a key action for its objective to support collaboration with organizations pursuing shared interests.

Toward a New Conservation Vision for the Great Lakes presents the Great Lakes Ecoregional Plan of The Nature Conservancy. The Great Lakes Ecoregional Plan has the purpose of identifying high priority sites in the region that need to be protected in order to preserve native biodiversity. The plan is an iterative process. Now in its second iteration, the plan identifies 271 sites across the region for which actions for conservation should be taken. The selection of these sites is based on conservation targets and goals developed during the planning initiative. Conservation targets are globally rare species and all natural community and aquatic system types found in the Great Lakes ecoregion. Conservation goals were developed based on how many examples of each conservation target need to be protected to maintain the full range of native biodiversity of the Great Lakes ecoregion. The Ecoregional Plan further specifies how urgently conservation attention is needed for sites without adequate protection, e.g. whether action must be taken immediately to protect conservation targets or within the next five years.

A Citizen's Action Agenda for Restoring the Great Lakes-St.Lawrence River Ecosystem, coordinated by Great Lakes United, summarizes the recommendations of a large coalition of local citizen groups and watershed councils, tribal organizations, as well as major non-governmental organizations, such as the Sierra Club, the National Wildlife Federation, and the Lake Michigan Federation (see complete list of affiliated organizations below). The grassroots agenda appeals to both U.S. and Canadian governments to use current political momentum for developing a broad-based, sufficiently funded, and effective restoration plan for the Great Lakes. The action agenda contains specific recommendations on how to address challenges facing the lakes, such as toxic clean-up, sustaining and restoring water quantities and flows, air and water quality standards, and protecting and restoring species and habitat. Some of the key points of the agenda are recommendations (a) to fully restore the 43 Great Lakes AOCs by 2015; (b) to phase

out unsustainable navigation practices such as dumping ballast water and halt expansion plans until the problems such as invasive species introduction, lower water levels from deeper channels, and habitat damage from dredging are resolved; (c) adopting a binding agreement for regulating the withdrawal of water from the Great Lakes system based on sound science for protecting the ecosystem; and to (d) reverse the ongoing loss of wetlands and increase the amount of protected Great Lakes wetlands by one million acres by 2025.

A Citizen's Action Agenda for Restoring the Great Lakes-St.Lawrence River Ecosystem, contributing organizations:

Bay of Quinte RAP Team
Canadian Auto Workers
Canadian Environmental Law Association
Canadian Parks and Wilderness Society
Citizens Environmental Coalition
Citizens for Renewable Energy
Clean Production Action
Clean Wisconsin
Coalition for a Nuclear-free Great Lakes
Ecology Center
Environmental Advocates of New York
Environment Hamilton
Federation of Ontario Naturalists
Friends of the Buffalo and Niagara Rivers
Friends of the Cuyahoga River
Grand Traverse Band of Ottawa and Chippewa
Lake Michigan Federation
Michigan Environmental Council
Michigan Land Use Institute
National Wildlife Federation
Northwatch
Northwoods Wilderness Recovery
Preservation of Agricultural Lands Society
Québec Environmental Network
Sierra Club
Sierra Club of Canada
Tip of the Mitt Watershed Council
Toronto Environmental Alliance
Trout Unlimited
Western New York Sustainable Energy
Workers Health and Safety Center