

Executive Summary

Desired State

The desired state is a Great Lakes where human activities support a strong and vibrant economy, meeting societal and cultural needs in balance with a diverse and resilient ecosystem. This balancing of economic, societal and ecological needs is the practice of sustainable development. For purposes of this discussion, the definition of sustainable development from the United Nations' Brundtland Commission (UN 19XX) is used for general reference: "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*" This definition is generally consistent with the tribal perspective of the seventh generation ideal.

Problem Statement

Borrowing from the recently released, United Nations sponsored Millennium Assessment (UN, 2005), human reliance on the services provided by an ecosystem requires that we ensure the ecosystem's ability to recover and restore itself from that use. The report states that human changes to global ecosystems have resulted in substantial and largely irreversible losses to diversity and diminished the benefits that future generations obtain from ecosystems. Within the Great Lakes Basin, this legacy is evidenced by the priority issues addressed by other Strategy Teams: invasive species; beach closings; toxic contaminants; Areas of Concern; nonpoint source pollutants, and; threatened habitat and species.

The sustainable development issue was examined with respect to six categories of services provided by the region's ecosystems: land use and development; agriculture and forestry; transportation; industrial activities; water infrastructure, and; recreation, tourism and fishery. The full report of the Team (Appendix X) provides information on the status and trends of existing uses, alternatives for sustainable practices with an evaluation of their potential impacts from economic, ecological and societal perspectives, and recommendations for actions to promote key sustainable practices in the Great Lakes Basin.

An evaluation of current and future human activities in the Great Lakes Basin highlights trends that continue to draw on ecosystem services and economic competitiveness, including:

- decline of agricultural lands from low-density, suburban residential use at rates exceeding population growth and the leveling or decline in conservation tillage practices;
- reduced size and fragmentation of privately owned forest lands;
- increased demands on ecosystem for recreation;
- aging transportation infrastructure that suboptimizes efficiency opportunities such as intermodal applications;
- an aged water and wastewater infrastructure unable to handle current demands;
- disconnected planning practices and policy disincentives that deter sustainability, and;
- the absence of a focused and coordinated outreach and marketing program to promote sustainable development.

Recommendations

This Team identified XX actions to promote sustainable development practices aligned with six categories of services provided by Great Lakes ecosystems. The complete set of these actions is

provided in the full report of the Sustainable Development Team (Appendix X). The results of the Team report has been distilled to the following three major recommendations:

- create and maintain programs that promote sustainability across all sectors;
- align governance to enhance sustainable planning and management of resources, and;
- build outreach that brands the Great Lakes as a competitive place to live, work, invest and play.

In the following sections, each of these recommendations will be discussed and a subset of actions presented, with emphasis on near-term actions that can deliver measurable results. The final section will describe overarching issues, including research and indicator needs.

Create and maintain programs to promote sustainability across all sectors

The most important decisions impacting sustainability are made by individuals, whether as consumers of goods and services, owners of lands and businesses, and users of infrastructure. The sustainability of decisions made by consumers and users of ecosystem services may be influenced by a variety of factors, the most long-lasting of which are market-based. However, the costs for ecosystem services provided to consumers rarely reflect their true value. For instance, the price of an item may include its materials, production and delivery costs, but not the costs of its disposal after use nor all ecological or societal costs associated with its creation or disposal. To compensate for this, programs to support sustainability across all sectors must include a combination of incentives (credits) for sustainable practices or disincentives (taxes) for non-sustainable practices to reflect their true costs. Programs are also needed to develop more efficient technologies or strategies to conserve resources, minimize adverse impacts, and maximize the services they provide. Examples of actions to create and maintain programs to promote sustainability across all sectors include:

Action	Lead
Modify current agricultural price support systems to encourage sustainable practices such as conservation tillage and buffer strips	Federal
Revise policies that result in public investments (i.e., tax policy, real estate policy, public infrastructure and services, economic development, land use and environmental protection) to give preference or additional funding attention to those projects and communities that encourage and practice sustainable.	Federal, State, and Local
Promote manufacturing and management practices that use resources more efficiently and increase recycling, including life cycle assessment and product stewardship.	Industry
Provide monetary incentives to reduce water demand pressure on existing infrastructure through practices, including sanitary reuse systems, storm water harvesting, multi-purpose piping systems and low-flow or dual flow flush toilets	Local
Link EPA funding programs to local conservation planning requirements that impact all water sources (groundwater or surface water) by expanding legislation for Clean Water State Revolving Loan Fund program, Drinking Water State Revolving program and the Source Water Assessment Program	Federal
Return a greater portion of fuel taxes paid by recreational boaters to support projects that restore ecosystem services	State
Develop additional technologies and strategies to eliminate the introduction and spread of invasive species via maritime commerce and other transportation modes	Federal
Establish a certification task force to develop core standards in sustainable forestry	Federal, State & Industry

Provide incentives (e.g., tax increment financing, real estate tax assessment freezes) to encourage clean-up and redevelopment of brownfield sites, blighted properties, and historic structures around the Great Lakes, with priority given to those sites adjoining the Great Lakes waterways.	State and Local
Provide incentives (e.g., grants, low-interest loans, or tax incentives) to develop renewable energy technologies, energy efficiency, and pollution prevention in the business sector	Federal
Require all new public buildings and major renovations over 50,000 square feet for state or municipal agencies, universities, community colleges and schools be LEED (Leadership in Energy and Environmental Design) certified	State, Tribal and Local

Among the most critical actions to promote sustainability is the elimination or modification of existing programs that are encouraging non-sustainable practices. For example, some tax laws and ordinances encourage urban sprawl and agricultural subsidies tend to discourage conservation tillage practices. Another group of actions represent existing incentive programs that have greater potential to promote sustainability, but are underfunded or need to be modified for greater effect.

There are numerous examples of sustainable practices that have been successfully applied by a municipality or a private company. The challenge is to scale-up these practices into programs at a regional or business-sector level. One approach is to develop specific goals for sustainability with ecosystem services, like the development of a standard for a “green” marina or for sustainable forestry.

Sustainable development is a cross-cutting issue, and several of the recommended actions are similar to those of other priority Issue Teams. Notably, the actions for sustainable land use, agriculture and forestry track closely with the recommendations for the Nonpoint Source Pollution issue. The actions for sustainable transportation are similar with those of the Invasive Species issue and those for water infrastructure are similar to those of the Coastal Health issue.

Governance to enhance sustainable resource planning and management

As a practice of balancing economic, societal and ecosystem needs, sustainable development faces a number of handicaps related to societal conditions. While the Great Lakes ecosystems are not aligned by political boundaries, human management of ecosystem services is. Our ability to balance the three legs of the sustainable development stool is challenged by the disconnection between planning and management of ecosystem services and the absence of a common metric or currency to value these services. To address these handicaps, it is necessary to realign governance institutions to value ecosystem services and integrate the planning and management of these services. Examples of actions to realign governance to enhance sustainability are:

Action	Lead
Create a high-level, multi-agency, governmental steering body with the authority to provide leadership; develop strategy; establish goals; propose, coordinate, fund and assess progress on actions and projects relating to sustainable development	Federal, State, Tribal and Local
Create a three-year Great Lakes Sustainable Development Demonstration to innovate and integrate regional land use plans with regional transportation plans in order to advance sustainable development principles. Demonstration to be supported with existing federal and state program funds.	Federal, State and Local

Establish regional partnerships of Great Lakes promoters and preservers emphasizing local stakeholdership (e.g., consider Adirondack Park as a model)	Locals, Business and NGOs
Develop a comprehensive intermodal transportation plan for the Great Lakes transportation corridor	Federal
Create a regional Bio-Energy Task Force to identify barriers to biomass energy production, and recommend regulations and incentives for improved energy cleanliness and efficiency	Federal, State, Industry and Academia
Require reporting of ecosystem services at the watershed level to better track and prioritize funding decisions	Federal and State
Link EPA funding programs to local conservation planning requirements that impact all water sources (groundwater or surface water) by expanding legislation for Clean Water State Revolving Loan Fund program, Drinking Water State Revolving program and the Source Water Assessment Program	Federal

It is recommended that the Great Lakes Regional Collaboration redefine its framework to become the prototype regional advocate for sustainable development. This represents a significant shift in focus, and may necessitate specific federal legislation and dedicated funding. The potential payback is a Regional Collaboration that is future-oriented and actively engaged in promoting sustainable economic development in the region.

A theme that runs through several recommended actions is the integration of planning and management of ecosystem services, including land use, transportation, and water infrastructure. Existing programs for planning future ecosystem services are disjointed from the management of existing infrastructure. Federal and state funding programs are aligned by single purposes and do not foster integration.

Outreach to brand the Great Lakes as a competitive place to live, work, invest, and play

Outreach is an established tool to promote sustainable behavior in consumers and users of ecosystem services. Marketing is tool that applies the same communication techniques to attract new development and users of these services. A combination of these tools is recommended to promote sustainable development in the Great Lakes Basin. Specific objectives of this outreach and marketing are to educate users and consumers on sustainable alternatives available and the consequences of decisions, build a sense of ownership and pride in regional ecosystems, and attract new residents and businesses to the region with abundant ecosystem services and a society where sustainability is practiced. Examples of outreach to brand the Great Lakes as a competitive place to live, work, invest and play include:

Action	Lead
Develop a brand identity and system-wide marketing strategy for the Great Lakes	GLRC
Evaluate and draw on existing programs and governance models across the region to better disseminate information (e.g., US/Canada Binational Toxics Strategy, SOLEC, SMOC, IJC)	GLRC
Renew federal and state commitment to Great Lakes Dredging Team to provide outreach for environmentally responsible dredging and dredged material management	Federal and State
Joint state, tribal and local marketing of nature-based tourism, recreational fishing, and related development (e.g., Great Lakes recreational pass, expansion of Great Lakes circle concept of scenic by-ways, etc.)	State, Tribal and Local

Outreach to promote manufacturing and management practices that use resources more efficiently and increase recycling, including life cycle assessment and product stewardship	Industry
Education for purchase and protection of open space to provide public access to watersheds	Locals and NGOs
Education and technical assistance to landowners on sustainable forestry practices	Federal
Education to promote conservation practices to reduce water demand pressure on existing infrastructure	Local

Marketing to promote growth of businesses and jobs in the Great Lakes region needs to be fully integrated with outreach that educates and promotes sustainable behavior. This represents a significant shift for some advocates for ecosystem restoration, but is critical to create a message that is progressive and focused. A Great Lakes Regional Collaboration, re-focused as described in the second recommendation, should take the lead in developing a marketing and outreach strategy for the region.

Overarching Issues

Sustainable development cuts across all other priority issues identified by the Governors and Mayors, it is future-oriented, and represents a sound platform for integrating efforts to protect and restore the ecosystem services provided by the Great Lakes. In order to promote sustainability and to integrate the efforts toward other issues, an overarching need is to develop indicators and metrics for sustainability and a corresponding database to track and evaluate sustainability trends and progress toward goals. The development of such metrics and indicators would be national in scope, such as the ongoing effort by the Sustainable Water Resources Roundtable. A regional database of sustainability should be established, building on the process initiated by SOLEC.

A related overarching issue is the need for resources to develop data on the economic, ecological and social costs and benefits of proposed actions to guide the analysis of their sustainability and prioritization for funding. This kind of data is critical to justifying immediate decisions as well as the development of a credible system of indicators and metrics.

A number of research needs were among the actions recommended by the Sustainable Development Team, including development of more efficient technologies for manufacturing, energy production from alternate materials, and controlling the spread of invasive species, to name just a few.

Finally, an overarching issue that needs to be addressed is that of leadership. It is recommended that the Great Lakes Regional Collaboration be reformed to lead an effort that blends the missions of ecological restoration and economic development in a forward-looking manner, using the principles of sustainable development as the guidepost.