

# Restoration Priorities for the Great Lakes

Workshop Proceedings

Erie, Pennsylvania  
February 25<sup>th</sup>, 2004



## Preface

This proceedings document presents the outcome of a workshop held in Erie, Pennsylvania on February 25, 2004. Titled, *Restoration Priorities for the Great Lakes*, the workshop was a cooperative effort of the Great Lakes Commission, Pennsylvania Sea Grant Program, and the Council of Great Lakes Governors. The workshop received considerable additional support from the Pennsylvania Department of Environmental Protection, the Lake Erie Region Conservancy, the Pennsylvania Lake Erie Watershed Association, the City of Erie's Mayor's Office, and Gannon University. The event brought together an array of participants representing various Great Lakes constituencies to provide feedback on the Great Lakes Governors' priorities for restoration of the Great Lakes ecosystem and on the coordinative processes needed to achieve a basin-wide restoration.

This workshop was one in a series of such events being conducted throughout the binational Great Lakes region. The Council of Great Lakes Governors has assembled a number of priorities for restoring and protecting the Great Lakes. The workshop series, supported by the National Sea Grant College Program, provides an opportunity for Great Lakes constituents to review these priorities and inform their further development and implementation. Workshop outcomes will be shared with the region's Governors, Premiers, other public officials, workshop participants and the larger Great Lakes community. A primary objective is to inform and advance the restoration efforts of the region's leadership.

## Acknowledgements

The Great Lakes Commission expresses its sincere thanks to Pennsylvania Sea Grant, the Council of Great Lakes Governors, City of Erie Mayor's Office, Pennsylvania Department of Environmental Protection (DEP), and DEP Coastal Zone Management. Supporting partners include the Lake Erie Region Conservancy, Pennsylvania Lake Erie Watershed Association, and Great Lakes United. These organizations played a key role in the development and facilitation of this conference.

Special thanks are in order for conference speakers: Tom Fuhrman (Lake Erie Region Conservancy); Kelly Burch (Pennsylvania Department of Environmental Protection (DEP), Northwest Region); Margaret Wooster (Great Lakes United); Sister Pat Lupo (Pennsylvania Lake Erie Watershed Association (PLEWA)); Jim Grazio (DEP, Northwest Region); Dave Skellie (Pennsylvania Sea Grant); Cathy Curran-Myers (DEP, Deputy Secretary for Water Management); Lori Boughton (DEP, Office of the Great Lakes); and Eric Obert (Pennsylvania Sea Grant).

The Great Lakes Commission also recognizes the efforts of Dave Naftzger (Council of Great Lakes Governors), Pennsylvania Sea Grant staff members (Anne Danielski, Sean Rafferty, Julie Heiser, John Cingolani and Marti Martz) and also the steering committee comprised of Lori Boughton; Sister Pat Lupo; Tom Fuhrman; Mark Kwitowski (Erie Mayor's Office); Freda Tarbell (DEP Northwest Region); Dr. Rick Diz (Gannon University); John Booser (DEP, Water Planning Office); and Dave Skellie and Eric Obert (Pennsylvania Sea Grant). Jon Dettling of the Great Lakes Commission staff assisted in compiling these proceedings.

Dr. Ron Baird, director of the National Sea Grant Program, warrants special recognition for his personal support of this initiative and for facilitating his office's financial support for the workshop series.

The Great Lakes Commission also extends its thanks to the host facility of Gannon University and its Waldron Center Conference staff for providing exceptional service and a beautiful setting for the conference.

Finally, and most importantly, thanks to all who joined us in Erie and shared their thoughts and recommendations with us.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Donahue". The signature is written in a cursive, flowing style.

Michael J. Donahue, Ph.D.  
President/CEO  
Great Lakes Commission

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## I. Background

This workshop was one in a series of similar events being held throughout the Great Lakes basin as part of a collaborative project between the Great Lakes Commission and the Sea Grant Programs in the Great Lakes region. The project, funded by the National Sea Grant Program, is directed at advancing Great Lakes ecosystem restoration efforts through the development of restoration priorities and ideas on how to implement them through a regional planning process.

Project collaborators recognize that development of a Great Lakes restoration plan must be based upon sound science, and proceed with a clear understanding of ecosystem conditions and objectives, relevant research activity, and the science/policy/management linkages needed to achieve the plan's vision. This workshop, along with workshops in other Great Lakes jurisdictions, is providing input from the broader Great Lakes community into this process.

The workshop was organized into three sessions (Appendix A). In the first session, a number of presenters offered background information on the state of the Great Lakes ecosystem, highlighting issues ranging from ecosystem health to socio-economic considerations. Following this, the workshop was divided into eight breakout groups. The basis for discussion in the breakout groups was the list of nine basin-wide Great Lakes restoration priorities announced by the Great Lakes Governors on October 1, 2003 (Appendix B). Each of the groups was tasked with discussing the following two questions:

- What is your input on the Great Lakes Governors' priorities and how are these priorities important to Pennsylvania?
- What advice do you have on the design and implementation of a large-scale restoration plan to advance the Governors' priorities for the Great Lakes ecosystem?

In addition, participants were asked to rank the nine priorities from the Governors' list according to their own opinion of relative importance.

At the conclusion of the breakout sessions, these groups were asked to identify the three priorities that ranked highest based on the consensus of their group. They were also asked to summarize additional items that arose from their discussion of each of the two questions. In the final session of the workshop, the groups reported back on the outcome of their discussions.

Participation in the workshop was excellent. Over 100 individuals attended, representing a diversity of disciplines and interests as detailed in Appendix C. The objective was not to reach consensus, but to capture the diversity of thoughts throughout the state on Great Lakes restoration needs and approaches. Section II of this document summarizes the presentations from the first portion of the workshop. Section III presents outcomes of the breakout group discussions. Section IV contains a summary of the ranking results for the nine priorities. A summary statement and conclusion are offered in Section V. In addition to the items identified above, the appendices contain a copy of the questionnaire issued to the participants (Appendix D); questionnaire outcomes (Appendix E); and the summary notes taken during the break out sessions (Appendix F.)

## II. Presentations

The morning began with a welcome and introduction from Tom Fuhrman, President of the Lake Erie Region Conservancy. Tom expressed appreciation for the efforts and contributions of the participants, sponsors, and supporters of the workshop.

Dr. Michael J. Donahue, President and CEO of the Great Lakes Commission, offered an overview of the current status of restoration programs and planning in the Great Lakes basin. Dr. Donahue explained that restoration initiatives have been ongoing in the basin for decades, but have been sporadic and piecemeal. There is a growing interest in the region for elevating and integrating these efforts into a single, inclusive initiative. The series of regional workshops, of which the current event is a part, is intended to advance ecosystem restoration and protection efforts by identifying priorities and associated implementation opportunities. In addition to the workshop series, a research component and a capstone region-wide event and report are being planned. As a whole, these components will have significant application for policy making. Dr. Donahue explained the format of the workshop and the intent to capture and pass on all ideas that are expressed. Sharing and integrating ideas from each jurisdiction is essential in having a balanced region-wide initiative.

Kelly Burch, the Northwest Regional Director for the Pennsylvania Department of Environmental Protection, presented an overview of the Council of Great Lakes Governors' priorities for ecosystem restoration (Appendix B). He challenged the workshop participants to consider what the important priorities are for Pennsylvania's Great Lakes community. Burch gave an overview of Presque Isle Bay's history and status as an Area of Concern (AOC). Presque Isle Bay, Pennsylvania's only AOC, was officially moved into the recovery stage in 2002 and activities currently consist of monitoring contamination levels, setting delisting targets, and public outreach. Burch outlined several challenges that will continue to face Presque Isle Bay, and the rest of the region, including invasive species and nonpoint source pollution.

Margaret Wooster, former executive director of Great Lakes United, shared thoughts on Great Lakes restoration. She discussed *A Citizen's Action Agenda*, a plan authored by multiple environmental organizations for improving the environmental quality of the Great Lakes basin. The recent past has seen a deterioration of several components of the Great Lakes environment, as evidenced by beach closings, fish advisories, and spread of aquatic invasive species. The *Action Agenda* presents a series of priority goals and targets that are intended to reverse such trends. Components of the *Action Agenda* include, among others, toxic cleanup; implementing clean production; green energy; water quantity; water quality; air quality; habitat protection; and invasive species. Wooster stressed the importance of broad involvement of all stakeholders in the process of Great Lakes restoration.

Sister Pat Lupo, President of the Pennsylvania Lake Erie Watershed Association, offered an overview and historical perspective on the Presque Isle Bay Area of Concern.

Jim Grazio, a water pollution biologist with the DEP, presented a summary of invasive species, habitat, pollution clean-up and prevention issues facing Lake Erie. Mr. Grazio identified the

loss, fragmentation and degradation of coastal wetlands as critical habitat issues. Such problems are compounded by pollution of coastal areas. Lake Erie was the first of the Great Lakes to have significant eutrophication problems. However, many pollution problems persist today, including the legacy of past pollution in the lake's sediments. These contaminants enter the food chain, where many of them accumulate and can ultimately be consumed by humans or piscivorous animals. Grazio outlined the importance of the Lake Erie Management Plan in continuing the improvements in Lake Erie's environment. Invasive species continue to be an issue of elevated concern. Grazio also outlined the challenges presented in managing zebra mussels and the round goby. There are several additional species of concern which may invade the system in the near future, including Asian carp.

David Skellie, land use and economic specialist at Pennsylvania Sea Grant, discussed the importance of land-use issues in addressing restoration. Urban sprawl, a rapidly increasing trend, has a number of adverse impacts including increasing costs, consuming land and habitat, concentrating poverty, and increasing pollution. There is a need for sustainable development of the Great Lakes basin to ensure that present needs are met without compromising the opportunities of future generations to meet their needs. Between 1980 and 2000, Erie County's population grew by less than one percent. However, the metropolitan urbanized area increased nearly 50 percent. Maintaining an urbanized environment costs the county substantially more money. Skellie discussed Pennsylvania Sea Grant's Nonpoint Education for Municipal Officials (NEMO) program, which educates local land-use officials on the linkage between land use and natural resource protection. A Brookings Institute report, *Back to Prosperity*, outlines a number of sustainable development goals that are essential for revitalizing Pennsylvania. Much of this is reflected in Governor Rendell's proposed 2004-2005 budget. Skellie discussed a survey of Erie County residents concerning the influences on their choice of home and the factors that affect their quality of life. It is clear from the responses that residents want a combination of urban amenities and a preserved environment. This desired combination is the hallmark of sustainable development.

Dr. Donahue gave another brief presentation on the sustainable use of Great Lakes resources. He reiterated the need for acknowledging and incorporating the many dimensions of ecosystem restoration as we establish our vision for the Great Lakes. The topics of sustainability and restoration are difficult enough to come to an agreed definition of, much less a detailed plan for implementation. Donahue offered the following working definitions for these terms for the purposes of this workshop. He offered a definition of sustainability as "a state of resource usage which meets the needs of the present without compromising the ability of future generations to meet their own needs." A working definition of restoration was given as "reinstatement of beneficial uses in an ecosystem through projects and activities that improve environmental quality and ensure environmentally sound and sustainable resource use." Donahue gave a brief overview of the economic dimensions of the Great Lakes region's water resources, including its role in transportation, industrial production, support of other resources (such as fisheries), and as a marketable amenity in its own right. Some essential underlying components of a successful regional restoration initiative are decision support systems; scientific and research infrastructure; and laws, policies, and programs that can be sustained over the long term. Some additional characteristics of a successful initiative include explicit recognition of a state and provincial stewardship role; a precise definition of "restoration"; true partnership among stakeholders;

use/exploitation of existing mechanisms; a clear set of priorities to allocate resources; benchmarking and monitoring; and long-term adequate funding that augments rather than replaces current funds.



### III. Group Discussions

The group breakout sessions saw productive discussion on a wide range of topics. The major discussion points, along with suggestions and recommendations that emerged from each of the sessions, were recorded by a volunteer. This section contains a summary of the group discussions organized according to the nine Great Lakes restoration and protection priorities adopted by the Great Lakes Governors. The following text reflects points that were made during the course of the discussions. It does not necessarily reflect consensus conclusions by any of the groups.

#### ***A. Ensure the sustainable use of our water resources while confirming that the states retain authority over water use and diversions of Great Lakes waters***

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There was substantial recognition among the workshop participants that water resource management is an issue of increasing importance. The opinion was expressed by many that diversions and major withdrawals from the Great Lakes system should be categorically disallowed. Many participants recognized the importance of establishing and maintaining the state's authority to govern withdrawals from the system and having this authority recognized at the federal level. However, a few participants voiced concern that centralizing such authority at the state level may diminish local control of water resources. A view was expressed that the current system does not go nearly far enough in protecting the system from prospective withdrawals.

Regional coordination was cited as extremely important for protecting water resources. In addition to agreements between the states, it was suggested that agreements would need to be reached between the United States and Canada. Examination of the success or failure of current binational water use and trade agreements, such as the North American Free Trade Agreement (NAFTA) and the Colorado River agreements, was recommended as guidance for creating any new binational agreement. Part of such a region-wide water use coordination would involve creating and sharing inventories for water resource availability and withdrawal rates. Pennsylvania Act 220 (Water Resources Planning Act) was mentioned as one example of how such inventories could be structured. New regional coordination should involve these pre-existing state-level actions. One option put forward was for the stringency of withdrawal permitting to vary with water levels, allowing for more withdrawals when levels are high.

In addition to addressing withdrawals and diversions, many comments reflected a desire for additional programs for water conservation to protect and improve the status of the region's water resources. Examples of such programs include promoting industrial water recycling, composting toilets, water conserving appliances, and educating homeowners on water conservation issues. Addressing groundwater recharge issues through land- cover programs was also mentioned as an option.

## ***B. Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem***

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Participants at the workshop voiced considerable support for programs to protect human health from adverse effects of pollution. The programs suggested to achieve this included a wide variety of research, monitoring, education and regulatory initiatives. Enforcement of current environmental regulations, including those on air quality, water quality, drinking water and waste disposal, was an identified need.

A frequently mentioned topic was the need to improve and expand fish consumption advisories. Increased support for the monitoring and research programs that underlie these efforts is needed. Some participants suggested expanding the consumption advisory programs to other wildlife, including turtles and piscivorous birds. Additionally, education and outreach programs are needed to ensure people are aware of the advisories and are aware of additional information, such as preparation and cooking methods that can reduce contaminants. Populations at increased risk should be especially targeted by such efforts. Improving the consistency of advisories between jurisdictions was mentioned as a needed action to reduce confusion.

In addition to monitoring of fish and wildlife, it was suggested that other monitoring programs are needed to protect human health in the Great Lakes basin. Increased funding for such monitoring programs was advocated. Improving the availability of testing for personal water supplies was also mentioned. In addition to monitoring, remediation programs need to be available when contamination problems are identified.

Education programs for the public on environmental health issues were mentioned as an important need. It was suggested that an educated public would be better able to reduce their exposure to chemicals, as well as becoming better stewards of the environment. The medical community and the media were two potential sources of improved information for the public on these topics.

Increasing research programs concerning the exposure and impacts of contaminants in the Great Lakes basin was suggested. Some particular areas of research mentioned include endocrine disrupting chemicals, emerging pollutants (including polybrominated diphenyl ethers and perfluorinated compounds), other persistent bioaccumulative toxics (PBTs) and exposures through the food web and other sources.

Coordination of research, monitoring, and management efforts across the region and sharing of data were also cited as priority issues to be addressed. In particular, better international cooperation on the Lakewide Management Plans was called for. Adding human health issues as a beneficial-use impairment under Remedial Action Plans was suggested as another way to integrate these issues with other programs.

### ***C. Control pollution from diffuse sources into water, land, and air***

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Preventing pollution from diffuse sources was a high priority among the workshop participants. Reducing sources of nonpoint pollution was described as requiring a combination of actions at the local and regional governmental level and at the individual landowner level. Priority actions at the governmental level included land-use planning and improving regulation of land-management practices. At the landowner level, education and outreach programs were called for to improve land-management practices. In addition to land-based nonpoint source pollution, several participants expressed concern over air emissions, especially from large sources such as coal-fired power plants. Tightening regulations on these sources and promoting alternate energy sources were recommended approaches for reducing emissions.

Workshop participants discussed the importance of improved educational programs on these topics. It was suggested that a given percentage of all funds going to remediation and cleanup programs should be devoted to educational programs to prevent pollution. A key target audience for educational programs is municipal officials. This group could be better informed on possible actions it can take to improve land-use practices and encourage the implementation of best management practices (BMP) concerning municipal infrastructure. A recommended program in this area is Nonpoint Education for Municipal Officials (NEMO). Improved coordination between officials at the local level with those at the state and regional level was also encouraged. Incentive programs for municipalities with good planning practices were mentioned as a way to make local officials more responsive to these needs. Targeting rural areas as well as urban municipalities was also identified as an unmet need.

Implementing sustainable land-use planning was advocated as being essential to controlling urban sprawl and associated problems. Support for brownfield redevelopment was similarly mentioned as a priority. In addition to encouraging sustainable planning practices at the local level, promotion of these activities at the state and regional level is also needed.

Educational programs are also needed that target landowners and encourage sustainable land-use practices. In particular, landowners should be better informed on practices to reduce their use of harmful pesticides and reduce nutrient runoff from their properties. It was suggested that homeowners should be required to take an educational course if they are to use pesticides. Support for education on these topics in the public school system, as well as public service programs for youth and adults, were additional suggestions.

Strengthened regulations and bans were discussed as potential methods to reduce pesticide use. Programs to encourage and facilitate disposal of pesticides and other chemicals were also mentioned. It was suggested that certain sensitive areas, such as riparian zones, might receive more stringent management regulations than other areas. Support for pesticide-free agriculture was another recommendation.

Lack of appropriate funding was a commonly cited barrier to successful implementation of many nonpoint source pollution reduction efforts. An area mentioned particularly often as lacking funding was the upgrade and maintenance of sewage and water treatment systems. Improved funding for these systems is a high priority. Other efforts mentioned as lacking funding include:

- grant programs to land-owners to improve storm water management and implement BMPs;
- pollution control programs at conservation districts;
- retro-fit programs to adopt new technologies;
- spill prevention;
- other municipal infrastructure and maintenance issues, such as permeable parking lots and salt-free road de-icing; and
- research programs, such as to determine the contaminant contributions of individual source types.

Tax incentives for industries to implement pollution controls were also discussed. Finally, it was noted that the public needs to be better informed of funding issues, both where funds are available and where unmet needs exist.

#### ***D. Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem***

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Reducing the loadings of persistent bioaccumulative toxics (PBTs) to the Great Lakes was a recurrent theme during the workshop. PBT issues were discussed on both a local and regional scale, with participants mentioning the importance of programs at both scales.

Among the most commonly discussed topics within this category were emissions from coal power plants, particularly of mercury. In addition to more stringent controls on these facilities, there were a large number of participants who suggested the importance of establishing alternate sources of energy for the region. One impediment to this is the historical and continued importance of coal to the Pennsylvania economy. Economic incentives were suggested as a method to improve mercury emission reductions, although pollution trading systems were discouraged.

“Clean industry” was cited as an important step in reducing toxic pollution in the region. The need to promote existing green technologies and develop new ones was a widely voiced priority. Audits to assess the energy efficiency of various industries and to identify opportunities for improvement in this area were recommended. Energy conservation programs were encouraged for all sectors, including residential.

Other pollutants that received specific mention were polychlorinated biphenyls (PCBs) and other organochlorines, organophosphates, polybrominated diphenyl ethers and perfluorinated compounds. It was suggested that effective control strategies vary widely for these compounds and might include banning production, restricting use, and improving recovery of products. It was noted that, for many contaminants of concern, sources have not yet been reliably identified.

Another recurrent theme was the importance of educating and enabling the public to undertake environmentally sound actions. Proper disposal of hazardous products was among the topics mentioned. The lack of available disposal sites and limited public knowledge of the issues were

identified as barriers. Other topics include reducing consumption of products, purchase of environmentally friendly products, and non-toxic yard management. Lack of high quality information on these topics for consumers was cited as a major impediment. Public education of toxic sources and impacts in general was mentioned as a priority. It was suggested that a better-educated public would be more supportive of stricter environmental legislation and regulations.

Strengthening regulation of toxic emissions was identified as an important component of toxic reduction efforts. In addition to air emission regulations under the Clean Air Act, the National Pollution Discharge Elimination System (NPDES) of the Clean Water Act was mentioned as not being stringent enough.

Monitoring and research activities were described as central to PBT programs within the region. Monitoring is needed to evaluate trends, identify sources, and support impact assessments. In particular, funding to improve fish consumption advisory programs was mentioned. Among research topics that the participants felt needed attention are causal determinations for toxic impacts (such as brown bullhead tumors), and impacts of newly recognized contaminants. Another research need is developing methodologies for remediating contaminated sites, as these remain a source of toxics to other areas.

### ***E. Stop the introduction and spread of non-native aquatic invasive species***

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A number of comments suggested that the issue of aquatic invasive species was of great concern to stakeholders. In addition to “natural” species, several attendees voiced concern over genetically modified organisms entering the Great Lakes. Programs for re-introduction of native species were also cited an important action in this category.

Participants had a range of suggestions for both stopping the spread of invasives currently in the system and preventing new introductions. Building physical barriers was mentioned as a method for preventing the spread of some species, as was eliminating warm-water discharges which can act as havens for some invasive species. Lack of funding for control of already introduced species was cited as an impediment to effective management. Ballast water controls were cited by many as an important measure for stopping new introductions. Elimination of other introduction routes, such as sale of live species, was also of high priority to participants. Legislative and regulatory actions were suggested in the area of aquatic invasives, including stricter regulation of ballast water discharges and prohibitions on the sale, purchase, and possession of some species.

## ***F. Enhance fish and wildlife by restoring and protecting coastal wetlands, fish and wildlife habitats***

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Workshop participants widely agreed that restoring and protecting habitat are high priority actions toward Great Lakes restoration. An important first step cited in many comments was the need to identify those environmental areas that are most critical for restoration and preservation. Establishing and protecting buffer zones along water bodies was mentioned as a high priority task, as was the enhancement of marginal wetlands. Connectivity of habitat areas was mentioned and development of “greenways” to link habitat was encouraged.

A number of suggestions focused on how habitat protection and restoration might best be achieved. Public ownership of sensitive areas was seen by some as an important step. Use of conservation easements was mentioned as a potential mechanism, where applicable, to secure development rights at a lower cost than purchase of full property rights. Establishment of development restrictions in sensitive areas was another suggested strategy. Implementation of new technologies, such as porous concrete, was suggested as important ways of improving hydrologic flow and, consequently, wetland habitat. Reducing runoff of harmful substances, such as oil, was also described as important to habitat protection.

## ***G. Restore to environmental health the Areas of Concern identified by the International Joint Commission as needing remediation***

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Several participants commented on the importance of restoring the Areas of Concern (AOCs) as a key to the overall ecosystem restoration effort. The contaminated sediments in the AOCs receive contamination from, and contribute contamination to, the lakes as a whole. AOC clean up was recognized as a high priority for improving human health in the basin, as many of them are near populated areas.

Among suggestions for achieving AOC restoration was the need to take advantage of local university and research facilities to participate in designing and implementing innovative remediation programs. Involvement of primary and secondary students was also suggested, as was the importance of involving industry stakeholders and resource-user groups, such as anglers. Efforts to link AOC programs more fully throughout the extent of the watershed were seen as important to mitigating problems that originate outside of the AOC itself.

## ***H. Standardize and enhance the methods by which information is collected, recorded and shared within the region***

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The coordination and communication of data and information across the basin were recognized as important priorities for Great Lakes restoration. Improved standardization and coordination are desired for information collection efforts as well as data storage and management. Having

data that is comparable and accessible across the geographical scope of the basin was mentioned as an important prerequisite for the ability to set and monitor progress toward benchmarks and restoration goals.

The need for improved data sharing and information dissemination was also mentioned as important to a regional restoration strategy. In addition to the research and regulatory communities, the general public is an important audience that needs access to information. The differing information needs of these separate audiences need to be accounted for to achieve effective communication. Centralizing data gathering and storage was mentioned as a high priority. The possibility of using or adapting established systems, such as the U.S. EPA's STORET, was suggested.

### ***I. Adopt sustainable-use practices that protect environmental resources and may enhance the recreational and commercial value of our Great Lakes***

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Implementing programs for sustainable use of the Great Lakes was a priority that received numerous comments. Several participants noted the interdependence of economic and environmental issues and the need to identify and implement programs that would benefit both. Recreation was commonly mentioned as a use that generated economic gains while being protective of the environment. Developing regional support for clean industries was also mentioned by numerous participants. It was suggested that taking environmentally protective actions now will contribute to considerable economic gains in the future.

### ***J. Presque Isle Bay***

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A large number of comments voiced during the workshop centered on restoration of Presque Isle Bay, Pennsylvania's only Area of Concern (AOC).

One topic mentioned was the need to restore habitat within the AOC, including the internal lagoons. Dredging of the lagoon channel and other parts of Presque Isle Bay may be needed to recover habitat. Structures for baitfish and game fish reproduction need to be constructed and maintained. Current habitat restoration efforts need additional support.

Removal of invasive species and promotion of native species are also needed within the bay. Expansion of educational and public involvement programs on this topic is needed, including a student intern program.

A number of participants argued that Scott's Run, part of the Presque Isle Bay drainage area, is also in need of significant restoration efforts. Nonpoint source pollution and sedimentation need to be addressed. Weather event-based flooding is a continuing problem. Bank stabilization and erosion control measures are needed in some of the bluff areas. Improving groundwater recharge in these areas is another concern to these participants.

Promoting research and educational opportunities, such as at the Tom Ridge Center, were suggested as important priorities for Presque Isle Bay restoration. Research topics needing to be addressed are aquaculture for food and game fish; aquaculture for endangered and threatened species; invasive species control; botulism; human health issues related to pollution; beach cleaning and restoration; and beneficial use of beach debris. The Tom Ridge Center was also suggested as needing an increased role in educational initiatives, including changeable exhibits and curricula, and possible development of a Presque Isle Bay documentary.

Implementing more sustainable practices at Presque Isle Bay State Park was also encouraged. Ideas included a shuttle system between the Tom Ridge Center and the park, a cleaner vehicle fleet, implementing solar power (where feasible), and a park-wide recycling program.

In addition to Presque Isle Bay, additional sites within Pennsylvania are in need of restoration, including Elk Creek, Erie Bluffs State Park and Duck Run. Dredging and sand-bar recycling projects are needed at Elk Creek. Duck Run requires monitoring of stream water quality. There were recommendations for updating Erie Bluffs State Park with “sustainable infrastructure,” including new sewage, drinking water, power generation, and transit systems. At each of these sites, improving access and environmentally friendly recreation opportunities were encouraged.

## ***K. General Comments***

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A number of comments of a general nature related to desired approaches in implementing a restoration strategy.

It was emphasized that a balance needs to be struck within a regional approach between initiatives that are region-wide and those that are locally based. Local programs need to fit within a regional framework to ensure that small-scale local projects received adequate attention. It was recognized that a successful restoration initiative cannot be exclusively local or region-wide, but must be a combination of the two. Lakewide programs should fit into this framework. It is clear that establishing an effective management system for basin-wide restoration that involves and enables all scales of activity will be one of the key challenges.

The need for restoration efforts to successfully engage Canada and its provinces was also mentioned.

It was recognized that funding for restoration is an item that underlies all the priorities being discussed. Similarly, lack of enforcement of existing environmental laws and regulations was cited as a concern that underlies the problems dealt with in each priority. Education of the public and decision makers was mentioned as being critical to achieving most, if not all of these priorities.

It was suggested that, during the implementation of a restoration strategy, additional prioritization will need to be made within the list of priorities in order to address those items that are most urgent.



In addition, it was indicated that the following items might be incorporated under the Governors' priorities in some manner: sand movement and migration; alternative energy; research to identify new problems; public access and public ownership of resources; security issues (including bio-security); and community and social issues.

Participants also highlighted the need for prompt action. Although the importance of planning was recognized, urgency was expressed for initiating restoration activities.

In addition to general comments concerning the process and approach to implementing a restoration strategy, participants offered additional ideas on how the Governors' priorities might best relate to needs in Pennsylvania. These include:

- Recognize the role and importance of energy and transportation in environmental quality, and the need to promote appropriate policies.
- Ensure that attention to water management needs addresses two dimensions. First, this involves ensuring that sustainable water use practices are adopted. Second, this involves ensuring that the states retain authority over the use of Great Lakes waters to provide for environmental and socio-economic needs.
- Adopt a pollution prevention (as opposed to reactive) stance, particularly with regard to human health.
- Ensure that attention to persistent bioaccumulative toxics includes a focus on evaluating (and responding to) the potential impact of newly introduced / recognized contaminants.
- Ensure that the focus on aquatic invasive species includes non-aquatic (i.e., terrestrial) species as well. Also, address the current/ prospective impacts of genetically altered species.

## IV. Ranking of Priorities

The workshop split into eight randomly selected groups of six to ten participants each for break-out discussions. The focus of these discussions was the priorities for restoration of the Great Lakes basin. Participants were given a questionnaire (Appendix D) to evaluate their opinions concerning the relative importance of the nine priorities proposed by the Council of Great Lakes Governors. Following this independent ranking, the groups discussed the importance of these priorities and potential methods of implementing them as part of a basin-wide strategy. The priority rankings are presented on a person-by-person basis for each group in Appendix E.

The table below presents the results of the questionnaire for each breakout group. It also presents a rank based on the sum of these group rankings (lower number indicates higher priority). For the reader's convenience, the top three priorities for each group are shaded dark grey, the middle three are lightly shaded, and the lowest three are not shaded.

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Individual Group Rankings</b>							
			<b>#1</b>	<b>#2</b>	<b>#3</b>	<b>#4</b>	<b>#5</b>	<b>#6</b>	<b>#7</b>	<b>#8</b>
Ensure the sustainable use of our water resources	3	34	1	6	9	2	6	2	3	5
Promote programs to protect human health against adverse effects of pollution	4	36	8	2	3	5	3	1	7	7
Control pollution from diffuse sources into water, land and air	1	15	3	1	1	4	1	3	1	1
Continue to reduce the introduction of persistent bioaccumulative toxics	2	26	2	3	2	8	2	5	2	2
Stop the introduction and spread of non-native aquatic species	6	46	9	5	6	6	5	4	5	6
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	7	51	7	8	7	7	7	6	6	3
Restore to environmental health the Areas of Concern	7	51	5	9	5	3	4	9	8	8
Standardize and enhance the methods by which information is collected and recorded	9	58	6	4	4	9	9	8	9	9
Adopt sustainable use practices that protect environmental resources	5	43	4	7	8	1	8	7	4	4

The following table presents the number of individuals from the entire workshop who gave a particular ranking to each priority. (Because several respondents ranked two priorities as tied in rank, the columns in this table do not all sum to 58, as they would otherwise.) Items that received the same ranking by more than 10 respondents are shaded in dark grey, items with six to 10 respondents are lightly shaded and items ranked the same by five or fewer respondents are unshaded.

<b>Priority</b>	<b>Number of individuals who gave a rank of :</b>								
	<b>1st</b>	<b>2nd</b>	<b>3rd</b>	<b>4th</b>	<b>5th</b>	<b>6th</b>	<b>7th</b>	<b>8th</b>	<b>9th</b>
Ensure the sustainable use of our water resources	8	8	3	8	5	6	9	2	9
Promote programs to protect human health against adverse effects of pollution	8	5	7	7	6	6	9	4	6
Control pollution from diffuse sources into water, land and air	18	9	13	8	6	1	1	2	0
Continue to reduce the introduction of persistent bioaccumulative toxics	2	17	10	9	10	4	0	5	1
Stop the introduction and spread of non-native aquatic species	2	2	9	3	12	15	5	7	3
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	1	6	7	3	4	12	15	5	5
Restore to environmental health the Areas of Concern	0	6	5	5	9	5	7	11	10
Standardize and enhance the methods by which information is collected and recorded	5	2	3	8	1	6	4	9	20
Adopt sustainable use practices that protect environmental resources	14	3	1	7	5	3	10	10	5

## V. Summary and Conclusions

Workshop participants were overwhelmingly supportive of the Governors' priorities and the prospect of a region-wide Great Lakes restoration initiative. The comments received were constructive and evidenced the careful thought that Pennsylvanians have given and continue to give to these topics. Although enthusiasm and support was shown for all nine of the Governors' priorities, the ranking exercise allowed a valuable opportunity to gauge the comparative importance of each of these priorities in the minds of the workshop participants.

It is clear from the ranking results that chemical pollution issues are the most prominent concern in the minds of those attending the workshop. The third priority, concerning diffuse pollution sources, ranked first overall and was ranked as the top priority by five of the eight individual groups. Similarly, the fourth priority, involving persistent bioaccumulative toxics, was ranked second by five of the groups and placed second overall. Both of these priorities deal with stopping additional release of contaminants into the ecosystem, rather than dealing with historical pollution, evidencing the widespread support for pollution prevention programs.

Ranking third was the priority concerning sustainable use of water resources. This priority received both a first place and a last place ranking by two separate groups, signifying a wide divergence of opinion on this topic. Ranking fourth was the priority of protecting human health from pollution-related impacts. Again, a divergence of opinions was evidenced by four groups ranking this priority among the top three and three groups ranking it among the bottom three. The fifth-ranking priority was the adoption of sustainable-use practices, which received a top ranking by one group and a ranking within the bottom three by four other groups.

The priority concerning aquatic invasive species ranked sixth overall. Six out of the eight groups ranked this priority either fifth or sixth, indicating some consistency of opinion. Tied for seventh were the priorities involving restoring and protecting habitat and restoring Areas of Concern. The lowest ranked priority was that involving improvement and standardization of data collection and management. This priority received last place ranking by four of the eight groups and no rankings among the top three. The group suggesting inclusion of a tenth priority concerning sustainable transportation and energy policies included this in their questionnaires and ranked it fourth. It bears repeating that all of the priority topics were met with considerable support during the discussions; low rankings only indicate opinions relative to the other priorities, as opposed to a sense that any of them are unimportant.

Although valuable, the results of such a ranking are only a first step toward achieving a consensus within Pennsylvania, let alone the Great Lakes region, over which priorities are of most concern in implementing a regional restoration initiative. Each state and each locale is likely to have different views on the relative importance of these priorities based on the history and relationship each community has with the lakes, whether for recreation, transportation, sustenance, or the resource's existence value. Integrating these multiple views of the lakes and our relation to them will be one challenge in the organization of a regional strategy. Fortunately, as evidenced in this workshop and the others in this series, there is more similarity in viewpoint than disparity.

The priorities have been ranked here as though they are separate, but the issues involved are clearly linked among priorities. This fact was voiced during a number of the workshop discussions. Due to this, it is clear that any successful restoration strategy must approach these nine topics, and perhaps several more, simultaneously. This workshop series is a starting point toward integrating the thoughts, and ultimately the actions of the region toward a single goal of restoring and protecting Great Lakes.

## **Appendix A: Announcement and Agenda**

### ***Restoration Priorities for the Great Lakes***

Sponsored by Pennsylvania Sea Grant, the Great Lakes Commission, Council of Great Lakes Governors and Local Supporters: PADEP Northwest Region, Lake Erie Region Conservancy, Pennsylvania Lake Erie Watershed Association, City of Erie's Mayor's Office, and Gannon University

February 25, 2004  
Waldron Center, Gannon University  
Erie, Pennsylvania

It is our pleasure to invite you to a workshop dedicated to developing priorities to guide Great Lakes ecosystem restoration efforts. The workshop will be held from 9:00 a.m. to 4:30 p.m. on Wednesday, February 25, 2004 at the Waldron Center on Gannon University's campus in Erie, Pennsylvania. The workshop is being sponsored by Pennsylvania Sea Grant, Council of Great Lakes Governors, and the Great Lakes Commission. Local program supporters include Pennsylvania Department of Environmental Protection, Lake Erie Region Conservancy, Pennsylvania Lake Erie Watershed Association, and the city of Erie's Mayor's Office.

In recent years there has been an increased interest, from within and outside government, in the development of a large scale plan that would guide Great Lakes ecosystem restoration efforts. Federal legislation toward this effort has recently been introduced to the House (H.R. 2720) and Senate (S 1398), which is expected to result in billions of dollars for restoration efforts. Last October, the Great Lakes Governors developed a series of prospective Great Lakes restoration priorities that will provide a basis for our discussion.

The February 25 workshop aims to assist in this effort. Policy makers and opinion leaders representing diverse sectors of Pennsylvania's Great Lakes community are invited. Plenary and breakout sessions will provide opportunities for all voices to be heard. Workshop outcomes will be forwarded to our Great Lakes Governors, Congressional members, and the larger Great Lakes community for guidance as restoration planning efforts move forward.

There is no charge for this event, and lunch will be provided. However, you must register by contacting Pennsylvania Sea Grant's Lake Erie Coastal Outreach Specialist Sean Rafferty at (814) 898-6358 or via email at [sdr138@psu.edu](mailto:sdr138@psu.edu) by Wednesday, February 18. Attendance is limited due to facility capacity, and registrations will be accepted on a "first come, first served" basis. Please register early!

We do hope you can join us! Should you have any questions, please contact Sean Rafferty at the above number or Eric Obert at (814) 898 - 6453.

## ***Agenda***

9:00 Welcome and Introduction

Tom Fuhrman, President Lake Erie Region Conservancy

9:10 Regional Overview

Dr. Michael J. Donahue, President/CEO, Great Lakes Commission

9:20 Great Lakes Governors' Priorities and Pennsylvania's Role in the Great Lakes

Kelly Burch, Northwest Regional Director, PADEP

9:50 Restoring the Great Lakes - St. Lawrence River Ecosystem

Margaret Wooster, (Past) Executive Director, Great Lakes United

10:10 Coffee Break

10:30 A historical review of Presque Isle Bay and the Area of Concern

Pat Lupo, OSB, President, Pennsylvania Lake Erie Watershed Association

10:50: Invasive species, habitat, pollution, clean up and prevention issues facing Lake Erie

Jim Grazio, Water Pollution Biologist, PA DEP

11:10 Land-use issues and policies that concern restoration

David Skellie, Land Use and Economic Specialist, Pennsylvania Sea Grant

11:40 Ensuring the sustainable use of our resources

Dr. Michael J. Donahue, GLC

12:00 Lunch

1:00 Charge to Breakout Groups

Lori Boughton, Chief, PA DEP Office of the Great Lakes

1:15 Breakout Groups

- What is your input on the Great Lakes Governor's priorities and how are these priorities important to Pennsylvania?
- What advice do you have on the design and implementation of a large scale restoration plan to advance the Governor's priorities for the Great Lakes ecosystem?

3:00 Breakout Group Reports

Eric Obert, Extension Director, Pennsylvania Sea Grant

4:15 Wrap Up and next steps

Dr. Michael J. Donahue, GLC

Cathy Curran-Myers, Deputy Secretary for Water Management, PA DEP

4:30 Adjourn

## Appendix B: Governors' Restoration Priorities Press Release

### GREAT LAKES GOVERNORS RELEASE PRIORITIES FOR PROTECTION AND RESTORATION OF THE GREAT LAKES

October 1, 2003

Contact: David Naftzger or Peter Johnson  
312-407-0177

The Council of Great Lakes Governors today released nine priorities for the protection and restoration of the Great Lakes. The Great Lakes ecosystem is critically important to the quality of life for our citizens and to the economic vitality of region," said Ohio Governor Bob Taft, Council chairman. "In endorsing these priorities, the Great Lakes Governors affirm our commitment to protecting and restoring the natural habitat and water quality of the Great Lakes Basin, preserving diverse and thriving plant and animal communities, protecting the water supply, and safeguarding human health."

The priorities were included in a letter to the sponsors of S. 1398, the Great Lakes Environmental Restoration Act, and H.R. 2720, the Great Lakes Restoration Financing Act. The Great Lakes Governors praised Congressional sponsors and cosponsors for introducing legislation to address ongoing threats to the Great Lakes by providing substantial federal financial support to complement extensive state and local spending on protection and restoration projects.

"We applaud the strong bi-partisan commitment in Congress to restore and protect the Great Lakes," said Governor Taft. "The Great Lakes Governors look forward to partnering with Congress to secure the future of this irreplaceable national treasure."

The Council of Great Lakes Governors agreed that these priorities should guide Great Lakes restoration and protection efforts:

- Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters.
- Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem.
- Control pollution from diffuse sources into water, land and air.
- Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem.
- Stop the introduction and spread of non-native aquatic invasive species.



- Enhance fish and wildlife by restoring and protecting coastal wetlands, fish and wildlife habitats.
- Restore to environmental health the Areas of Concern identified by the International Joint Commission as needing remediation.
- Standardize and enhance the methods by which information is collected, recorded and shared within the region.
- Adopt sustainable use practices that protect environmental resources and may enhance the recreational and commercial value of our Great Lakes.

The Great Lakes Governors also committed to working with local governments, Canadian provinces, and other stakeholder organizations on a coordinated approach to safeguarding the Great Lakes, which are the largest source of fresh surface water in the world.

## Appendix C: Participants

<i>Last Name</i>	<i>First Name</i>	<i>Organization</i>	<i>E-mail</i>
Anderson	Pat	PA Game Commission	<a href="mailto:panderson@state.us.pa">panderson@state.us.pa</a>
Andraso	Greg	Gannon University	<a href="mailto:ANDRASO@gannon.edu">ANDRASO@gannon.edu</a>
Ballard	Erin	PennPIRG	
Benczkowski	Don	DEP	<a href="mailto:dbenczkows@state.pa.us">dbenczkows@state.pa.us</a>
Blackman	Julie	Asbury Woods Nature Center	<a href="mailto:blackman@troy.mtsd.org">blackman@troy.mtsd.org</a>
Booser	John	PA DEP	<a href="mailto:jbooser@state.pa.us">jbooser@state.pa.us</a>
Boughton	Lori	PA DEP	<a href="mailto:lboughton@state.pa.us">lboughton@state.pa.us</a>
Breniman	Ben	North East Borough	<a href="mailto:neboro.bbreniman@adelphia.net">neboro.bbreniman@adelphia.net</a>
Bugler	Alan	PA Futures	<a href="mailto:pafutures@earthlink.net">pafutures@earthlink.net</a>
Burch	Kelly	PA DEP	<a href="mailto:keburch@state.pa.us">keburch@state.pa.us</a>
Campbell	Mike	Mercyhurst College	<a href="mailto:jcampbell@mercyhurst.edu">jcampbell@mercyhurst.edu</a>
Cingolani	John	PA Sea Grant	<a href="mailto:jkc140@psu.edu">jkc140@psu.edu</a>
Covert	Jerry	CamTech	<a href="mailto:jcovert@gocamtech.com">jcovert@gocamtech.com</a>
Curran-Myers	Cathy	PA DEP	<a href="mailto:cathmyers@state.pa.us">cathmyers@state.pa.us</a>
Dangel	Margarita	Earth Force	<a href="mailto:leaearthforce@adelphia.net">leaearthforce@adelphia.net</a>
Danielski	Anne	PA Sea Grant	<a href="mailto:add118@psu.edu">add118@psu.edu</a>
DeSarro	Anne	PI State Park	<a href="mailto:presqueislesic@state.pa.us">presqueislesic@state.pa.us</a>
Diz	Rick	Gannon University	<a href="mailto:DIZ001@gannon.edu">DIZ001@gannon.edu</a>
Donahue	Michael J.	Great Lakes Commission	<a href="mailto:mdonahue@glc.org">mdonahue@glc.org</a>
Ebert	Doug	Health Department	<a href="mailto:c-debert@state.pa.us">c-debert@state.pa.us</a>
Eisenberg	Rich	BCMS	<a href="mailto:catketch@hotmail.com">catketch@hotmail.com</a>
Flanagan	Molly	Ohio Environmental Council	<a href="mailto:molly@theoec.org">molly@theoec.org</a>
Foust	Kyle	Mercyhurst College	<a href="mailto:kfoust@mercyhurst.edu">kfoust@mercyhurst.edu</a>
Freeman	Deborah	Army Corps of Engineers	<a href="mailto:Deborah.A.Freeman@LRB01.usace.army.mil">Deborah.A.Freeman@LRB01.usace.army.mil</a>
Frenzel	Kathleen	Carrie T. Watson Garden Club	
Fuhrman	Tom	LERC	<a href="mailto:lerc@ma.rr.com">lerc@ma.rr.com</a>
Gault	Jeff	Mayors Office	<a href="mailto:JGault@ci.erie.pa.us">JGault@ci.erie.pa.us</a>
Galloway	Sarah	Conservation District	<a href="mailto:eriecons@erie.net">eriecons@erie.net</a>
Gorniak	Julie	North East Township	
Grazio	Jim	DEP	<a href="mailto:jagrazio@state.pa.us">jagrazio@state.pa.us</a>
Griffin	Salley	Sierra Club	<a href="mailto:SALMMT@earthlink.net">SALMMT@earthlink.net</a>

<i>Last Name</i>	<i>First Name</i>	<i>Organization</i>	<i>E-mail</i>
Gross	Leroy	Conservation District	<a href="mailto:eriecons@adelphia.net">eriecons@adelphia.net</a>
Hall	Jennifer	PA DEP	<a href="mailto:jehall@state.pa.us">jehall@state.pa.us</a>
Heiser	Julie	PA Sea Grant	<a href="mailto:jah351@psu.edu">jah351@psu.edu</a>
Higby	Dave	Environmental New York	-
Hill	Brian	French Creek Watershed Assoc.	<a href="mailto:Frenchcrik@aol.com">Frenchcrik@aol.com</a>
Hoachlander	Shane	PA Game Commission	<a href="mailto:shoachlander@state.pa.us">shoachlander@state.pa.us</a>
Hoskin	Bob	Army Corps of Engineers	<a href="mailto:Robert.Hoskin@lrp.usace.army.mil">Robert.Hoskin@lrp.usace.army.mil</a>
Howze	Ron	Coastal Zone Management	<a href="mailto:rhowze@gecac.org">rhowze@gecac.org</a>
Hultgren	Phil	LECOM	<a href="mailto:phultgren@lecom.edu">phultgren@lecom.edu</a>
Jacobs	Kevin	PA Game Commission	<a href="mailto:kjacobs@state.pa.us">kjacobs@state.pa.us</a>
Kennedy	Sister Mary Claire	Benedictines	<a href="mailto:s.mckennedy@ssjerie.org">s.mckennedy@ssjerie.org</a>
Kissell	Ed	S.O.N.S.	<a href="mailto:sonslakerie@aol.com">sonslakerie@aol.com</a>
Koon	Teresa	Representative John Evans Office (Chief of Staff)	<a href="mailto:tkoon@pahousegop.com">tkoon@pahousegop.com</a>
Kugler	Alan	PA Futures	<a href="mailto:pafutures@earthlink.net">pafutures@earthlink.net</a>
Kukla	Mark	City of Erie	<a href="mailto:mkukla@ci.erie.pa.us">mkukla@ci.erie.pa.us</a>
Kulich	Mark	DCNR	<a href="mailto:mkulich@state.pa.us">mkulich@state.pa.us</a>
Kwitowski	Mark	City of Erie	<a href="mailto:mkwitowski@ci.erie.pa.us">mkwitowski@ci.erie.pa.us</a>
Larson	Geri	Army Corps of Engineers	<a href="mailto:geraldine.l.larson@usace.army.mil">geraldine.l.larson@usace.army.mil</a>
Leslie	Harry	PI State Park	<a href="mailto:hleslie@state.pa.us">hleslie@state.pa.us</a>
Lupo	Pat	Earth Force	<a href="mailto:leaearthforce@adelphia.net">leaearthforce@adelphia.net</a>
Macaluso	Kathy	Best of All Tours Unlimited	<a href="mailto:CAPBESTBOAT@aol.com">CAPBESTBOAT@aol.com</a>
Macaluso	Tom	Best of All Tours Unlimited	<a href="mailto:CAPBESTBOAT@aol.com">CAPBESTBOAT@aol.com</a>
Maggio	Tom	Erie Port Authority	<a href="mailto:tmaggio@porterie.org">tmaggio@porterie.org</a>
Mangoni	Anthony	Ninth Coast Guard District	<a href="mailto:Amangoni@d9.uscg.mil">Amangoni@d9.uscg.mil</a>
Martz	Marti	PA Sea Grant	-
Marks	Tom	Southtowns Walleye Association	<a href="mailto:tommarkf@verizon.net">tommarkf@verizon.net</a>
Marshall	Annette	Earth Force	<a href="mailto:annettemarshall@adelphia.net">annettemarshall@adelphia.net</a>
McCartney	Anna	Erie Times News	
McConnell	Lucas	Allegheny Earthforce	
McSkimming	Michael	Gannon University	<a href="mailto:meskimming@gannon.edu">meskimming@gannon.edu</a>
McDonough	Erin	National Wildlife Federation	<a href="mailto:McDonough@nwf.org">McDonough@nwf.org</a>
Mosbacher	Eric	PADEP	<a href="mailto:emosbacher@state.pa.us">emosbacher@state.pa.us</a>
Mindex	Donna	Harborcreek Township	

<i>Last Name</i>	<i>First Name</i>	<i>Organization</i>	<i>E-mail</i>
Mulvihill	Dave	City of Erie, Public Works	
Mumau	Mike	PI State Park	<a href="mailto:mmumau@state.pa.us">mmumau@state.pa.us</a>
Neiswonger	Frances	Strong Vincent H.S. - student	
Obert	Eric	PA Sea Grant	<a href="mailto:eco1@psu.edu">eco1@psu.edu</a>
Peden	Joe	Gannon University	<a href="mailto:PEDEN001@MAIL1.GANNON.EDU">PEDEN001@MAIL1.GANNON.EDU</a>
Pedler	Cathy	LERC	<a href="mailto:cpedler@mercyhurst.edu">cpedler@mercyhurst.edu</a>
Perry	Dale & Andrianna	Stakeholder	<a href="mailto:ATP5030@AOL.COM">ATP5030@AOL.COM</a>
Phillips	Christine	Fairview Evergreen Nurseries, Inc.	<a href="mailto:christine@velocity.net">christine@velocity.net</a>
Pingel	Pat	PA DEP	<a href="mailto:ppingel@state.pa.us">ppingel@state.pa.us</a>
Prazer	Stan	Harbor Improvement Council	
Rafferty	Sean	PA Sea Grant	<a href="mailto:sdr138@psu.edu">sdr138@psu.edu</a>
Randall	Eric	Edinboro University	<a href="mailto:erandall@edinboro.edu">erandall@edinboro.edu</a>
Rectenwald	Dave	U.S. EPA	<a href="mailto:Rectenwald.Dave@epa.gov">Rectenwald.Dave@epa.gov</a>
Reese	Bill	Girard Township	
Ritz	Matt	Strong Vincent H.S. - student	<a href="mailto:jerry753@webtv.net">jerry753@webtv.net</a>
Rouch	Jake	Erie Regional Chamber & Growth Partnership	<a href="mailto:jrouch@eriepa.com">jrouch@eriepa.com</a>
Rutkowski	Jim	Strong Vincent H.S.	<a href="mailto:jk.touch@verizon.net">jk.touch@verizon.net</a>
Sabol	Becky	Girard Township	<a href="mailto:bsgrdtwp@adelphia.net">bsgrdtwp@adelphia.net</a>
Sampsell	Tod	Western PA Conservancy	<a href="mailto:TSampsell@paconserve.org">TSampsell@paconserve.org</a>
Sayers	Jason	City of Erie	
Sceiford	Mary	Lake Front Property owner	
Sisson	Jim	Citizens Coalition	
Skellie	Dave	PA Sea Grant	<a href="mailto:dus18@psu.edu">dus18@psu.edu</a>
Smith	Regina	Congressman English	<a href="mailto:regina.smith@mail.house.gov">regina.smith@mail.house.gov</a>
Smith	Larry	PA Game Commission	<a href="mailto:lmsmith3@earthlink.net">lmsmith3@earthlink.net</a>
Stark	Norman	Lake Front Property owner - Lawyer	
Sterret	David J.	Herbert, Rowland & Grubic, Inc.	<a href="mailto:dsterrett@hrg-inc.com">dsterrett@hrg-inc.com</a>
Stumpf	Curt	Western PA Conservancy	<a href="mailto:cstumpf@paconserve.org">cstumpf@paconserve.org</a>
Taylor	Judy	PADEP	<a href="mailto:jutaylor@state.pa.us">jutaylor@state.pa.us</a>
Tucker	Eva	Erie City School Board	
Ullrich	Dave	Great Lakes Cities Initiative	
Welsh	Bill	Erie County Environmental Coalition	<a href="mailto:america@velocity.net">america@velocity.net</a>
Wasiesky	Steve	Asbury Woods Nature Center	<a href="mailto:wasesky@troy.mtsd.org">wasesky@troy.mtsd.org</a>

<i>Last Name</i>	<i>First Name</i>	<i>Organization</i>	<i>E-mail</i>
Weinheimer	Jerry	North East Borough	
Wellington	Bob	Health Department	<a href="mailto:c-rwelling@state.pa.us">c-rwelling@state.pa.us</a>
Wheeler	Victor	Citizens Coalition	
Wilcox	Sister Carole	Benedictines	<a href="mailto:ssjnn@svhs.org">ssjnn@svhs.org</a>
Wilkinson	Danielle	Strong Vincent H.S. - student	<a href="mailto:ranytime@juno.com">ranytime@juno.com</a>
Williams	Melanie	Waste Management	<a href="mailto:Mwilliams7@wm.com">Mwilliams7@wm.com</a>
Wilmoth	Luke	Strong Vincent H.S. - student	
Wolford	Matt	Wolford Law firm	
Wooster	Margaret	Great Lakes United	<a href="mailto:mwooster@adelphia.net">mwooster@adelphia.net</a>
Zimmerman	Ephraim	Western PA Conservancy	<a href="mailto:EZimmerman@paconserv.org">EZimmerman@paconserv.org</a>
Hines	Micheal	stakeholder	<a href="mailto:striper@zoominternet.net">striper@zoominternet.net</a>
Visnosky	Marty	PLEWA	
Earll	Jane	State Senator	<a href="mailto:jearl@pasen.gov">jearl@pasen.gov</a>

## Appendix D: Questionnaire

The following questionnaire was provided to all workshop participants. Their responses were used to evaluate the overall priorities of the workshop participants.

<b>Great Lakes Restoration Priorities Ratings</b>	
	Group Number: _____
	Rate the following priorities 1 through 9. One being the most important and nine being the least.
_____	Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters.
_____	Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem.
_____	Control pollution from diffuse sources into water, land and air.
_____	Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem.
_____	Stop the introduction and spread of non-native aquatic invasive species.
_____	Enhance fish and wildlife by restoring and protecting coastal wetlands, fish and wildlife habitats.
_____	Restore to environmental health the Areas of Concern identified by the International Joint Commission as needing remediation.
_____	Standardized and enhance the methods by which information is collected, recorded and shared within the region.
_____	Adopt sustainable use practices that protect environmental resources and may enhance the recreational and commercial value of our Great Lakes.

## Appendix E: Priority Rankings

### Breakout Group #1

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>							
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Ensure the sustainable use of our water resources	<b>1</b>	<b>26</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>9</b>	<b>1</b>	<b>1</b>
Promote programs to protect human health against adverse effects of pollution	<b>8</b>	<b>49</b>	<b>2</b>	<b>7</b>	<b>9</b>	<b>1</b>	<b>9</b>	<b>7</b>	<b>9</b>	<b>5</b>
Control pollution from diffuse sources into water, land and air	<b>3</b>	<b>30</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>3</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>2</b>	<b>28</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>2</b>
Stop the introduction and spread of non-native aquatic species	<b>9</b>	<b>51</b>	<b>7</b>	<b>6</b>	<b>3</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>8</b>	<b>9</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>7</b>	<b>47</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>9</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>7</b>
Restore to environmental health the Areas of Concern	<b>5</b>	<b>43</b>	<b>4</b>	<b>9</b>	<b>2</b>	<b>6</b>	<b>8</b>	<b>3</b>	<b>7</b>	<b>4</b>
Standardize and enhance the methods by which information is collected and recorded	<b>6</b>	<b>46</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>6</b>
Adopt sustainable use practices that protect environmental resources	<b>4</b>	<b>39</b>	<b>8</b>	<b>2</b>	<b>8</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>7</b>

#### ***Top Three Priorities:***

1. Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters.
2. Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem.
3. Control Pollution from diffuse sources into water, land, and air.

## Break Out Group #2

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>					
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Ensure the sustainable use of our water resources	<b>6</b>	<b>39</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>2</b>	<b>8</b>	<b>5</b>
Promote programs to protect human health against adverse effects of pollution	<b>2</b>	<b>20</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>2</b>	<b>2</b>
Control pollution from diffuse sources into water, land and air	<b>1</b>	<b>19</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>3</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>3</b>	<b>22</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>3</b>	<b>6</b>
Stop the introduction and spread of non-native aquatic species	<b>5</b>	<b>33</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>7</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>8</b>	<b>44</b>	<b>6</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>8</b>
Restore to environmental health the Areas of Concern	<b>9</b>	<b>57</b>	<b>10</b>	<b>10</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>10</b>
Standardize and enhance the methods by which information is collected and recorded	<b>4</b>	<b>30</b>	<b>7</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>10</b>	<b>4</b>
Adopt sustainable use practices that protect environmental resources	<b>7</b>	<b>41</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>8</b>	<b>5</b>	<b>1</b>
Reduce Pollution through better energy use and transportation		<b>25</b>	<b>4</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>9</b>

### *Top Three Priorities:*

1. Control Pollution from diffuse sources into water, land, and air.
2. Promote programs to protect human health against diverse effects of pollution.
3. Continue to reduce the introduction of persistent bioaccumulative toxics.



### Breakout Group #3

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>					
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Ensure the sustainable use of our water resources	<b>9</b>	<b>46</b>	<b>9</b>	<b>2</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>
Promote programs to protect human health against adverse effects of pollution	<b>3</b>	<b>27</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>1</b>
Control pollution from diffuse sources into water, land and air	<b>1</b>	<b>15</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>3</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>2</b>	<b>18</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>2</b>
Stop the introduction and spread of non-native aquatic species	<b>6</b>	<b>32</b>	<b>7</b>	<b>8</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>6</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>7</b>	<b>36</b>	<b>2</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>3</b>	<b>7</b>
Restore to environmental health the Areas of Concern	<b>5</b>	<b>29</b>	<b>5</b>	<b>3</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>5</b>
Standardize and enhance the methods by which information is collected and recorded	<b>4</b>	<b>29</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>8</b>	<b>8</b>	<b>4</b>
Adopt sustainable use practices that protect environmental resources	<b>8</b>	<b>36</b>	<b>6</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>

#### *Top Three Priorities:*

1. Control pollution from diffuses sources into water, land, and air.
2. Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem.
3. Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem.

## Breakout Group #4

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>					
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Ensure the sustainable use of our water resources	<b>2</b>	<b>27</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>7</b>	<b>5</b>
Promote programs to protect human health against adverse effects of pollution	<b>5</b>	<b>30</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>8</b>	<b>6</b>
Control pollution from diffuse sources into water, land and air	<b>4</b>	<b>30</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>4</b>	<b>8</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>8</b>	<b>36</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>2</b>	<b>5</b>	<b>9</b>
Stop the introduction and spread of non-native aquatic species	<b>6</b>	<b>32</b>	<b>5</b>	<b>6</b>	<b>9</b>	<b>3</b>	<b>6</b>	<b>3</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>7</b>	<b>32</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>3</b>	<b>4</b>
Restore to environmental health the Areas of Concern	<b>3</b>	<b>29</b>	<b>7</b>	<b>7</b>	<b>2</b>	<b>9</b>	<b>2</b>	<b>2</b>
Standardize and enhance the methods by which information is collected and recorded	<b>9</b>	<b>40</b>	<b>8</b>	<b>9</b>	<b>1</b>	<b>6</b>	<b>9</b>	<b>7</b>
Adopt sustainable use practices that protect environmental resources	<b>1</b>	<b>14</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>1</b>

### *Top Three Priorities:*

1. Adopt sustainable land use practices that protect environmental resources and may enhance the recreational and commercial value of our Great Lakes.
2. Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters.
3. Restore to environmental health the Areas of Concern identified by the International Joint Commission as needing remediation.

## Breakout Group #5

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>						
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Ensure the sustainable use of our water resources	<b>6</b>	<b>40</b>	<b>8</b>	<b>1</b>	<b>7</b>	<b>4</b>	<b>7</b>	<b>9</b>	<b>4</b>
Promote programs to protect human health against adverse effects of pollution	<b>3</b>	<b>30</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>7</b>
Control pollution from diffuse sources into water, land and air	<b>1</b>	<b>15</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>2</b>	<b>29</b>	<b>2</b>	<b>8</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>6</b>
Stop the introduction and spread of non-native aquatic species	<b>5</b>	<b>34</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>8</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>7</b>	<b>41</b>	<b>9</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>4</b>	<b>6</b>	<b>2</b>
Restore to environmental health the Areas of Concern	<b>4</b>	<b>32</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>8</b>	<b>8</b>	<b>3</b>
Standardize and enhance the methods by which information is collected and recorded	<b>9</b>	<b>51</b>	<b>5</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>3</b>	<b>7</b>	<b>9</b>
Adopt sustainable use practices that protect environmental resources	<b>8</b>	<b>44</b>	<b>7</b>	<b>4</b>	<b>9</b>	<b>8</b>	<b>9</b>	<b>2</b>	<b>5</b>

### *Top Three Priorities:*

1. Control pollution from diffuse sources into water, land, and air.
2. Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem.
3. Promote programs to protect human health against the adverse effects of pollutants on the Great Lakes ecosystem.

## Breakout Group #6

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>							
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Ensure the sustainable use of our water resources	<b>3</b>	<b>34</b>	<b>1</b>	<b>6</b>	<b>9</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>5</b>
Promote programs to protect human health against adverse effects of pollution	<b>4</b>	<b>36</b>	<b>8</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>7</b>	<b>7</b>
Control pollution from diffuse sources into water, land and air	<b>1</b>	<b>15</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>1</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>2</b>	<b>26</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>8</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>2</b>
Stop the introduction and spread of non-native aquatic species	<b>6</b>	<b>46</b>	<b>9</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>6</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>7*</b>	<b>51</b>	<b>7</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>3</b>
Restore to environmental health the Areas of Concern	<b>7*</b>	<b>51</b>	<b>5</b>	<b>9</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>9</b>	<b>8</b>	<b>8</b>
Standardize and enhance the methods by which information is collected and recorded	<b>9</b>	<b>58</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>9</b>	<b>9</b>	<b>8</b>	<b>9</b>	<b>9</b>
Adopt sustainable use practices that protect environmental resources	<b>5</b>	<b>43</b>	<b>4</b>	<b>7</b>	<b>8</b>	<b>1</b>	<b>8</b>	<b>7</b>	<b>4</b>	<b>4</b>

### ***Top Three Priorities:***

1. Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem.
2. Ensure the sustainable use of our water resources while confirming that the states retain authority over water use and diversions of Great Lakes waters.
3. Control pollution from diffuse sources into water, land, and air.

## Breakout Group #7

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>						
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Ensure the sustainable use of our water resources	<b>3</b>	<b>29</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>7</b>	<b>6</b>	<b>7</b>
Promote programs to protect human health against adverse effects of pollution	<b>7</b>	<b>37</b>	<b>6</b>	<b>8</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>9</b>	<b>4</b>
Control pollution from diffuse sources into water, land and air	<b>1</b>	<b>20</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>3</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>2</b>	<b>27</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>5</b>
Stop the introduction and spread of non-native aquatic species	<b>5</b>	<b>34</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>8</b>	<b>7</b>	<b>6</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>6</b>	<b>36</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>3</b>	<b>3</b>	<b>2</b>
Restore to environmental health the Areas of Concern	<b>8</b>	<b>47</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>9</b>
Standardize and enhance the methods by which information is collected and recorded	<b>9</b>	<b>54</b>	<b>2</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>8</b>	<b>8</b>
Adopt sustainable use practices that protect environmental resources	<b>4</b>	<b>31</b>	<b>9</b>	<b>4</b>	<b>8</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>1</b>

### *Top Three Priorities:*

1. Control pollution from diffuse sources into water, land, and air.
2. Continue to reduce the introduction persistent bioaccumulative toxics into the Great Lakes ecosystem.
3. Ensure the sustainable use of our water resources while confirming that the states retain authority over water use and diversions of Great Lakes waters.

## Breakout Group #8

<b>Priority</b>	<b>Overall Rank</b>	<b>Overall Score</b>	<b>Group Tally (Person #)</b>									
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
Ensure the sustainable use of our water resources	<b>5</b>	<b>49</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>6</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>9</b>	<b>6</b>
Promote programs to protect human health against adverse effects of pollution	<b>7</b>	<b>56</b>	<b>7</b>	<b>3</b>	<b>7</b>	<b>5</b>	<b>8</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>7</b>	<b>9</b>
Control pollution from diffuse sources into water, land and air	<b>1</b>	<b>25</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>8</b>
Continue to reduce the introduction of persistent bioaccumulative toxics	<b>2</b>	<b>41</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>5</b>	<b>5</b>
Stop the introduction and spread of non-native aquatic species	<b>6</b>	<b>54</b>	<b>8</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>8</b>	<b>8</b>	<b>4</b>
Enhance fish and wildlife by restoring and protecting fish and wildlife habitats	<b>3</b>	<b>45</b>	<b>9</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>7</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>2</b>
Restore to environmental health the Areas of Concern	<b>8</b>	<b>67</b>	<b>5</b>	<b>5</b>	<b>8</b>	<b>3</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>9</b>	<b>6</b>	<b>7</b>
Standardize and enhance the methods by which information is collected and recorded	<b>9</b>	<b>67</b>	<b>6</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>4</b>	<b>9</b>	<b>9</b>	<b>6</b>	<b>4</b>	<b>3</b>
Adopt sustainable use practices that protect environmental resources	<b>4</b>	<b>46</b>	<b>1</b>	<b>9</b>	<b>6</b>	<b>8</b>	<b>5</b>	<b>7</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>1</b>

### ***Top Three Priorities:***

1. Control pollution from diffuse sources into water, land, and air.
2. Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem.
3. Enhance fish and wildlife by restoring and protecting coastal wetlands, fish, and wildlife habitats.

# Appendix F: Breakout Session Summary Notes

(As recorded by volunteers in each group)

## Group 1

### General Comments

- A lot of the decision depends on where we have been, where are we going, and how we get there
- Need to develop a system to disseminate valid information so we know the facts
- Standardize the methods of study (research) and information gathering
- Freshwater is becoming a very important commodity
- Focus on local Pennsylvanian Lake Erie problems as opposed to the Great Lakes system
- Approach the restoration from an individual perspective and see how it fits into the broader picture
- Global perspective or local?
- Exodus of manufacturing facilities, causing pressure to divert water to the southwest
- Identifying critical environmental areas is the most important thing
- Water diversion out of the Great Lakes: out how are water levels maintained?
- Fish consumption is not a local issue, rather it is a lake-wide issue
- Presque Isle Bay problem or Great Lakes problem
- Funding issues, need to benefit local issues
- Issues should be looked at lake-wide
- Sand movement, migration
- States retain authority or local citizens would not have input?
- Would the Governors in basin have the authority to regulate?
- What about developers?
- What is the safeguard to prevent the federal government from insisting on water diversion?
- There is no absolute assurance guarding against federal government interference
- Agreement between states and provinces
- Colorado River example – we have not lived up to the agreement with Mexico
- Cause and Effect between priorities; priorities are linked
- Standardization of data and methods is important
- Communicate easily to the public what the risks are
- Nobody knows for sure what causes the brown bullhead tumors

### Specific Priority Comments

*Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters*

- Keep water from being transferred out of the system
- Water quality
- Governors must develop a water use plan for the Great Lakes
- Continue to support the system of Governors' authority
- Make the system more binding

*Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem*

- Identify the sources of toxics
- Place the emphasis on research
- Mercury – coal fired power plants / PCBs no longer manufactured
- Local mercury and hazardous chemical collections
- Move away from coal combustion
- Develop alternate energy sources, beneficial not harmful to the environment
- Control pollution still coming from coal fired power plants
- Establish stricter pollution control
- Offer incentives opposed to penalties

- Coal is a big industry in Pennsylvania
- Must look at this regionally
- Clean Air Act – strengthen or revise
- Fund and promote local pollution prevention programs
- There is a need for public education to support legislation (general public and academic populations)
- Improve local mechanisms to set pollution control procedures and make it easy for local people to comply
- Tire disposal problem, changing oil
- People would comply if they could dispose

*Control pollution from diffuse sources into water, land, and air*

- Non-point source pollution
- Make funding available to improve water treatment systems to local areas
- Old properties are not required to retro -fit
- City of Erie has water control measures in place. However, there are no measures outside the city
- City of Erie has no power to regulate existing land owners to do anything to control water
- Provide funding for local property owners to upgrade storm water management
- Increase public awareness on grant availability
- Offer funding to address problems
- Offer funding to retro-fit existing land use to BMPs

*Specific actions to address priorities*

- Promote green technology and develop new technology
- Reclaim old asphalt areas (i.e. parking lots and abandoned stores)
- Use old buildings for new uses
- Do not allow localities to give up their green space – money incentives
- Urban sprawl must be controlled
- State must require regional planning
- Look at systems for planning based on larger regions instead of small municipalities

**Group Summary**

*Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters*

- Public should support a compact among the Governors that shores up their authority to control Great Lakes waters
- Develop a system that is binding and recognized at the federal level

*Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem*

Big Picture:

- Clean Air Act – strengthen rather than weaken
- Public education to develop the potential will to have stiff regulations
- Fund an incentive program for voluntary “above/beyond” emissions control

Local Picture:

- Develop a comprehensive plan for collections of toxics, make it easy to participate
- Public education – what are sources of toxics – proper disposal methods

*Control Pollution from diffuse sources into water, land, and air*

- Funding available to improve water treatment, sewer systems, etc.
- Address already developed properties not regulated by new construction regulations; perhaps set up a fund to create incentives for retro-fitting (e.g., East Erie Plaza)
- Control pollution still coming from coal fired power plants – long term national program for alternate sources of energy.
- Emphasis on public education in BMPs such as use of permeable parking lots



## **Group 2**

### Specific Priority Comments

*Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters*

- Be open minded about export of water, especially during extreme excess

*Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem*

- Develop/maintain open-eyes approach to monitoring potential pathways of contaminant transfer from the environment to the people.
- Share health data between EPA, states, etc.
- Have consistent advisories.
- Address existing issues (e.g., turtles contain high levels of PCBs, but there are no consumption advisories)

*Control pollution from diffuse sources into water, land and air*

- Develop laws prohibiting pesticides/herbicides for cosmetic purposes

*Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem*

- Proactively evaluate potential negative impacts of newly recognized contaminants
- Look at PBDEs, PFCs, etc.
- We are not reducing the introduction so how are we going to continue?
- Explore “green energy”

*Stop the introduction and spread of non-native aquatic invasive species*

- Consider a policy to prevent introduction and spread of genetically altered organisms
- Remove aquatic from the definition

*Standardize and enhance the methods by which information is collected, recorded and shared within the region*

- Establish benchmarks and goals for restoration
- Needs stronger suggestive language

### General Comments

- Changes in national policy are needed to reduce pollution from energy use and transportation.
- Emphasis on risk assessment of emerging contaminants is needed to reduce and eliminate the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem and proactively evaluate the potential impacts of new recognized contaminants.
- The introduction and spread of both non-native invasive species and genetically altered species should be addressed.
- In addition to *promoting* existing programs to protect human health, the *development* of additional programs may also be needed.
- Priority setting and implementation should be proactive, not reactive.

### Priority Implementation Suggestions

*Control pollution from diffuse sources into water, land, and air*

- Public education is key
- Phase out cosmetic pesticide use
- Determine what you are controlling (e.g., coal fired power plants, air deposition, etc.)
- Collect data on the percent contribution of contaminants (i.e. water, air, etc.)
- Broaden horizons

- Coordinate all existing local, state, and federal programs to address the issue
- BMPs
- Allocate monies for infrastructure changes – stop “band-aiding” problems

*Develop programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem*

- Get the medical community involved with environmental health issues
- Public education
- Coordinate efforts with multiple regulatory agencies
- Develop consumption advisories for other game animals
- Increase funds for testing and monitoring potential sources for human health degradation
- Make environmental testing more affordable (e.g., for well water testing) by developing large scale regional testing centers
- Have remedial plans in place if problems arise during testing
- Put more regulations on ingredients used in products
- Educate at risk populations

*Reduce and eliminate the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem and proactively evaluate the potential impacts of new recognized contaminants*

- Promote smart growth
- Introduce stronger ordinance language into development rights
- Provide evidence for why more environmentally friendly practices are worth the effort
- Educate municipal officials on pollution issues (NEMO) and require them to involve the public
- Purchase conservation easements

*Group Summary:*

- Public education and education of municipal officials is critical
- Coordinate local, state, and federal programs
- Broaden horizons – “think outside the box”
- Identify problems

**Group 3**

Specific Priority Comments

*Control pollution from diffuse sources into water, land, and air*

- Less political control over government environmental agencies (allow free communication to the public through the media)
- Better education and outreach (NEMO)
- More tax breaks to industries that implement pollution control

*Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem*

- More research (grants for universities)
- Education by: Government/Environmental Agencies, and Doctors/Public speakers
- Alternative energy sources (Hg-Mercury)
- Conservation

*Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem*

- Between the Great Lakes States and Canada
- Coordination between environmental groups (must do this to implement strategies of priorities)
- Better coordination in LaMP implementation between United States and Canada

## **Group 4**

### General Comments

#### *Sustainable Use Practices*

- Follow goal and reach it – everything will fall in line
- Need to watch the present for the future – may enhance value (win – win situation)
- Promoting recreation can have a tremendous turn around on the Great Lakes
- Blue pike disappearance – over-fishing, sewage disposal, and chemicals from Cleveland
- In order for sustainable use to work there has to be quantifiable standards change
  - Need presets to measure as years go by
  - Historical information and surveys
  - Integrate decision makers to develop standards
- Environment vs. Economics
  - Can they survive at the same time?
  - Stopping non-natives has a huge cost associated with it
  - Hard to gauge
  - Need compromise
  - Aging population – the government is burdened by expenses
  - No tax base to rely on
  - Water resources are a huge selling point – need recreation to support
  - Need to keep jobs
  - Increased water clarity due to zebra mussels (Is the cost of water treatment because of zebra mussels?)
  - Quality of life issues
  - Recreation issues
  - Land use planning issues
- Water diversion – small portion of Pennsylvania could be severely affected

### Priority Implementation Strategies

- Educate youth about the effects non-natural items thrown out the window have on the environment
- Water conservation
- Check out conservation practices – are they really energy efficient?
- Legislation and treatment
- How important is it for states to retain authority over water diversion?
  - Are Lake Erie water levels fluctuating because of economics (Lake Erie is not regulated)?
- Fish advisories as well as waterfowl consumption advisories
  - Do not eat fish eating birds
  - Do not eat skin and fat tissue
- Programs are being promoted through Fish and Boat Commission advisories and Game Commission advisories
- There is a need for sharing data
- Some pollutants are not able to be controlled because of emissions
- We are not only dealing with the states, but also provinces whose regulations do not always satisfy what we need and think
- As a contractor there are dealings with Areas of Concern
  - Local areas vs. large areas
  - Clean up the whole thing
  - AOCs are especially important to populated areas
- We need to stop “talking” and start “doing”

## **Group 5**

### General Comments

- The first and final priorities on the Governor's list are closely related. In implementation, it is important that they 1) ensure sustainable use of our water resources and adopt sustainable use practices that protect environmental resources; and 2) confirm that states retain authority over water use and diversion of Great Lakes waters that may enhance recreational, commercial, and socioeconomic value of our Great Lakes.
- Because you cannot ensure sustainable use of water resources without adopting sustainable practices; there is separation between the issue of sustainability and the issues of recreation, economics, etc.
- Identify, restore, and protect sensitive environmental areas and construct wetlands (that can be self-sustaining) through the public ownership, easements, or development restrictions
- Public policy issue – needs to be addressed through PA water law
- Use STORET (EPA system) as a starting point for data gathering and input from the Great Lakes region. Have assigned authors for data entry

### Specific Priority Comments

#### *Control pollution from diffuse sources into water, land, and air*

- Recommend that legislations be re-visited and perhaps strengthened on the following topics:
  - Sewage, water supply, coal fired power plants (to reduce mercury), vehicular emissions, industrial pre-treatment, land use in riparian areas, and education
  - Education – mandate through use of the Pennsylvania public school system using the PA standards for environment, ecology/science, and technology
- Recommend implementation of rural education programs utilizing schools and watershed organizations, etc.
- Riparian areas should be clearly defined for public vision and knowledge. Riparian management should be a mandatory education requirement for all persons using fertilizers, pesticides, etc. This should/must involve private individuals, not just high volume farmers.
- Land use and planning should be done using smart growth technology and concepts. We should make use of natural heritage inventory to determine a starting point for our resources. Create planning incentives for smaller municipalities (anything under county level) to do a plan in conjunction with the county's resource plans. An inventory of water use in all commonwealth municipalities needs to be kept, and Pennsylvania water laws need to be addressed and clarified (more directly) – this will require work and revision of the PA constitution.

#### *Restore to environmental health the Areas of Concern identified by the International Joint Commission as needing remediation*

- This can be accomplished by taking advantage of nearby university and research facilities and programs to do innovative clean-ups as part of research projects for degree programs (i.e., thesis work, doctorate work) and using public primary and secondary schools to do clean-up and restoration projects. Rely on fisherman and local industries to take an active role in both physical and technical aspects of clean-up and restoration projects – this creates a sense of community and responsibility surrounding the Great Lakes region.

#### *Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem*

- Eliminate or heavily legislate coal fire plants (lower mercury emissions). Provide incentives to comply with lower levels. Regulate pesticide use.

#### *Promote programs to protect human health against the adverse effects of pollutants on the Great Lakes ecosystem*

- Continue to use fish advisories, but use media vigilance to promote public awareness on other environmental and public health problems (e.g., “expose” industries in non-compliance on TV just like they do for restaurants who do not meet health standards).

#### *Stop the introduction and spread of non-native aquatic nuisance species*

- Set up physical barriers, treatment, and inspections to reduce invasions through ballast and transport. Physical barriers will reduce larger invaders from traveling. Make it illegal to buy, grow, or sell known exotic invasives. Utilize knowledge centers like universities to do elimination programs/projects. Use public schools to do projects for service hour graduation requirements. Students can learn while they do something good for the environment. It is a win-win, “communal”/symbiotic system.

### Presque Isle State Park and Bay Related Projects (priority implementation strategies)

#### *Restoration of Presque Isle internal lagoons*

- Current conditions – slowly filling in, invasive aquatics throughout, and reduced habitats for fish and wildlife
- Solutions
  - Develop environmental friendly sustainable plans to dredge lagoon channel
  - Incorporate invasive control practices to reduce aquatic invasives or promote the introduction of native species for better fish and wildlife habitat

#### *Restoration of Scott Run (Presque Isle Bay drainage)*

- Sedimentation burden at the mouth
- Erosion and bank stabilization issues from 6<sup>th</sup> street to the Bay
- Non-point source pollution due to storm water runoff
- Stream corridor extensively tubed – no area of groundwater re-charge
- Slope stabilization needed for sustainable development on bluff areas above from 6<sup>th</sup> street to the Bay
- Need to reduce stream flow rates during storm events – causing flooding downstream

#### *Continuation/Expansion of Presque Isle State Parks invasive species control program through student intern program*

- Aquatic and terrestrial invasive species control
- Re-introduce native species
- Improve fish/wildlife habitat
- Educational opportunities – demonstration site

#### *Funding to promote research opportunities at Tom Ridge Center*

- Aquaculture exploration for food and game fish species
- Aquaculture project for restoration/re-introduction of endangered/threatened native fish and aquatic plants
- Invasive species remediation control research
- Botulism research
- Human health issues associated with pollution issues in Presque Isle Bay and Lake Erie watersheds
- Research work for issues concerning management of resources at Presque Isle Bay and State Park, and Lake Erie
  - Specialized equipment to clean *cladophora* from swimming beaches
  - Beneficial use of organic beach debris other than burning
  - Specialized equipment to clean non-developed shoreline of non-organic litter and debris

#### *Funding for educational initiatives at Tom Ridge Center*

- Develop changeable exhibits and curriculum (can also be loaned out as traveling exhibits)
- Development of a Presque Isle Bay/Lake Erie documentary to be shown at the center

#### *Fish habitat improvement project in Presque Isle Bay*

- Expand current efforts by Presque Isle State Park, PA Fish and Boat Commissions, and S.O.N.S of Lake Erie
- Install structures
- Promote baitfish structures/habitat

#### *Presque Isle State Park sustainable operations project*

- Implement a clean air shuttle system – to operate between the Tom Ridge Center and park
- Convert vehicle fleet to clean-air vehicles
- Promote/implement, full scale park-wide recycling project for visitors and personnel
- Research and implement, where feasible, solar power alternatives

### Erie Bluffs State Park and Elk Creek projects

#### *Planning and development of Erie Bluffs State Park*

- Create using sustainable design and meeting all restoration fund initiatives

#### *Duck Run restoration*

- Heal scars of ATV usage along drainage and bluffs
- Monitor stream quality

#### *Reforestation and native species restoration of agriculture lands*

#### *Elk Creek access restoration project*

- Design and develop sustainable dredging/sand bar recycling play at mouth to maintain deep water access to the area from Lake Erie
- Design and develop sustainable access, trails, and paths that connect the area to Erie Bluffs State Park

#### *Erie Bluffs State Park utilities infrastructure development*

- Sustainable design and “state of the art” facilities for sewage, drinking water sources, power generation/use, and transit

## **Group 6**

### Specific Priority Comments

#### *Stop the introduction and spread of non-native aquatic invasive species*

- Adopt a zero tolerance policy for exotic species introduction (pass a strong NAISA with immediate eliminations of ballast water discharge)
- Include non-aquatic invasive species
- Adopt a stiff penalty system for careless or intentional import/export of invasive species
- Maximize controls for already introduced invasive species (provide funding/Asian carp sharpshooters)
- Support programs to re-introduce native species
- Eliminate warm water discharges (act as havens for AIS)
- Genetically modified species (e.g., glo-fish) and commercially introduced species (e.g., pond species)

#### *Control pollution from diffuse sources into water, land, and air*

- Create pesticide and herbicide ordinances (support organic programs)
- Subsidize green energy alternatives to fossil fuels
- More restrictive nutrient management laws
- Phase out coal and nuclear power plants
- Mandatory 100 feet riparian buffers on all Great Lakes waters, tributaries, and wetlands
- Percentage of any remedial action dedicated to education
- Invest in sewage treatment plant upgrades to eliminate CSOs and SSOs

#### *Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem*

- Local organic small family farms
- Promote education – need to understand link between human health and the environment
- Include human health as a beneficial use in RAP
- Create uniform fish consumption advisories

- Fund environmental health research (i.e. endocrine disruptors)
- Eliminate persistent bioaccumulative toxins (production, use, impact) and ban PBDEs
- Create a multi-stakeholder coalition
- Implement international food labeling laws
- Eliminate sewage overflows

*Ensure the sustainable use of our water resources while confirming that the states retain authority over water use and diversions of Great Lakes waters*

- Implement conservation practices – industrial water recycling, composting toilets, fire insurance breaks for sprinkler systems in buildings, tax breaks for water “energy star” appliances, and methane digesters.
- Craft and adopt a strong basin-wide water use and diversion policy
- Water should not be considered a commodity
- Reconsider foreign trade policies (NAFTA, WTO, etc.)

## **Group 7**

### Clarification of Priorities

- “Sustainable use of water resources” includes land cover (e.g., trees)
- Programs protecting human health from pollution include clean air and water programs, NPDES, drinking water, and mercury in pristine lakes
- Diffuse pollution stoppage – nonpoint sources
- Bioaccumulative toxins – PCBs, organochlorines, organophosphates, etc.

### Additions/Changes to Priorities

- Invasive species should apply to all invasive exotics, including terrestrial (e.g., Japanese knotweed)
- Existing laws are not being enforced – enforce them
- Stop pollution credits/pollution trading

### High Priority

- Alternative Energy
- Need funding and resources to enforce existing laws

### General Comments

- The first priority on the list addresses two important dimensions that require attention: water use and state control.
- Alternative energy promotion is a means to help cut pollution.
- Programs to protect public health are contingent upon existing pollution (no pollution, no need).

### Specific Priority Comments

*Control pollution from diffuse sources into water, land, and air*

#### Programs

- Education
- Preventing spills from entering lakes (oil-water separation)

#### Policies

- Control home pesticide use through ordinances
- Funding for agencies doing MS4 and E&S control work
- Promote alternative forms of road de-icing

#### Strategies

- Educating the general public
- Look at cumulative effects of NPS pollutants
- Develop additional funding to support existing NPS programs (conservation districts, etc.) MS4 programs
- Enforce buffer zones along streams for pesticide/herbicide spraying (agriculture)

*Continue to reduce the introduction persistent bioaccumulative toxics into the Great Lakes ecosystem*

Programs

- Dedicated funding for the Fisheries Advisory Programs
- Monitoring

Policies

- Pursue more stringent NPDES limits

Strategies

- Promote non-toxic alternatives to land/yard management
- “Clean” production (closed-loop “Natural step” approach) for industries
- Education for homeowners, consumers on what it takes to manufacture products (e.g., waste produced)

*Ensure the sustainable use of our water resources while confirming that the states retain authority over water use and diversions of Great Lakes waters*

Policies

- Work on ground water inventories, legislation regarding ground water use
- Address riparian rights use
- Protect head waters

Strategies

- Make sure there is coordination with Act 220 process
- Educate on water conservation, water reuse

## **Group 8**

### Specific Priority Comments

*Control pollution from diffuse sources into water, land, and air*

- Public education (e.g., coastal clean-up)
- BMPs – industry, agriculture, construction, and landscaping
- Stronger emissions standards
- Regular pickup of household hazardous waste (e.g., pesticides, etc.)
- Maintain EPA standards (or increase) for coal fired power plants
- NEMO

*Continue to reduce the introduction of persistent bioaccumulative toxins into the Great Lakes ecosystem*

- Reduce or eliminate dependence on items that use toxics through legislation, if possible
- Extend boundaries of AOC into watersheds
- Do more research on how to detoxify or remediate already contaminated sites (e.g., dumps, and industrial brownfields)

*Enhance fish and wildlife by restoring and protecting coastal wetlands, fish, and wildlife habitats*



- Establishment of greenways should be a priority
- Conservation easements
- Wetland restoration of shallow water impoundments – CREP – in an ongoing manner rather than yearly
- Enhance marginal wetlands
- Porous parking lots
- Oil grit separators
- Restoration of riparian buffer zones

### Additional Comments

#### ***In the context of the Governor’s nine priorities, what is important to Pennsylvania’s Great Lakes community?***

- We need Health Departments to aggressively look at environmental contaminants (e.g., PBDEs, PFCs, PCBs, cadmium). Understand the food web; if you protect human health, including mental and aesthetic issues, you will go a long way in improving the environment in general.
- Need an environmental ethics committee – “Department of Morality and Common Sense”
  - Fire employees (public employees) who go out of their ways to avoid doing their job
  - Get people to work together to solve problems rather than not accept some responsibility to try to solve problems
- Public trust doctrine and public access
- Water quality, sustainable community and environment, and bio-security
- Develop energy and transportation policies that help reduce pollution sources and promote conservation

#### ***What strategies and projects do you recommend to address Pennsylvania’s restoration priorities?***

- Use sustainable energy on Great Lakes (e.g., wind, solar, wave energy) to replace oil and gas
- Need for energy audits and assessments
- Institute energy conservation
- Identification of critical environmental components to prioritize investment strategies in protection and restoration
- Enhanced movement of sand along the shoreline
- Pollution prevention and site remediation and reuse
- Environmentally compatible design regardless of land use classification
- Develop an effective water management process