

## **Policy Position of the Great Lakes Panel on Aquatic Nuisance Species**

### **Guidance for Information and Education Efforts for the Prevention and Control of Aquatic Nuisance Species in the Great Lakes\***

#### **BACKGROUND**

In late 1990, Congress passed the Nonindigenous Aquatic Nuisance Prevention and Control Act (P.L. 101-646) for the purpose of preventing unintentional introductions; coordinating research, control and information dissemination; developing and carrying out environmentally sound control methods; minimizing economic and ecological impacts; and establishing a research and technology program to benefit state governments. The Act specifically recognized the Great Lakes as a valuable resource and, in Section 1203, called upon the Great Lakes Commission, an interstate compact agency, to convene a Great Lakes Panel on Aquatic Nuisance Species to assist a national Aquatic Nuisance Species (ANS) Task Force in Great Lakes-related prevention and control efforts. The 1990 legislation was reauthorized and its provisions and scope strengthened and expanded by the National Invasive Species Act, passed by Congress in October 1996.

The Great Lakes Panel is comprised of 35 individuals drawn from U.S. and Canadian federal agencies; the eight Great Lakes states and province of Ontario; regional agencies; concerned citizen groups; municipal representatives; tribal authorities; commercial interests; and the university/research community. The Panel is responsible for identifying Great Lakes priorities; making recommendations to the ANS Task Force; assisting the Task Force in coordinating federal programs; coordinating non-federal programs in the region; advising on control efforts; and reporting on prevention, research and control activities in the Great Lakes region.

In 1993 the Panel developed an *Information/Education Strategy for Aquatic Nuisance Prevention and Control* which recommended, among other initiatives, that a systematic inventory and evaluation of ANS information/education (I/E) materials be conducted to enhance coordination among various stakeholders with regard to I/E products and activities. Initiated in 1995, the inventory project methodology involved five primary components: survey development and distribution; database development and categorizing of I/E products; quality control; inventory assessment and evaluation; and production and distribution of a guide listing I/E products and presenting the Panel's findings and recommendations.

The inventory survey form was distributed in March 1996 to more than 100 U.S. and Canadian agencies, organizations, universities and related stakeholders involved in ANS work. The list included both Great Lakes stakeholders as well as parties affected by aquatic nuisance species in other parts of the U.S. and Canada. More than 60 responses were received. Additional I/E products were collected based on catalogues, lists, and products made available by Panel members. The I/E products were entered into a database and categorized by topic, target audience, format, and geographic coverage. Products from outside of the Great Lakes Basin were included if they addressed a species relevant to the region. The final inventory included approximately 265 separate I/E products from 64 different sources.

The primary assessment and evaluation of the inventory was conducted by the Panel members and selected ANS experts at a December 5, 1996 I/E symposium titled *Enhancing ANS Prevention and Control Through Effective Information and Education*. The draft I/E inventory and a briefing paper summarizing the project methodology and results were used as a primary resource at the symposium. Panels of experts from key sectors addressed the adequacy of I/E materials, highlighted success stories, identified unmet needs and inconsistent messages, and established priorities for the collective ANS I/E effort. The following findings and recommendations reflect the outcome of the symposium and the overall inventory effort. They have been reviewed by the symposium attendees and approved by the Great Lakes Panel.

*\* Adopted by the Great Lakes Panel at its June 18, 1997 meeting.*

## **POLICY POSITION**

The following recommendations have been reviewed and approved by the Great Lakes Panel to be used as general guidance for the Panel membership, the national ANS Task Force, and other public and private sector entities that fund, conduct, manage or apply ANS information and education outreach and associated resources. These recommendations will be broadly disseminated among the research, management and policy communities to guide future ANS I/E efforts.

### Development and Use of Internet-Based Resources on Aquatic Nuisance Species

**Findings:** Electronic communications technology has proven to be a highly successful and efficient means of publicizing and distributing information on aquatic nuisance species. The ANS community has been well served, among others, by the Internet-based Great Lakes Information Network (GLIN), operated by the Great Lakes Commission, and the Sea Grant Nonindigenous Species (SGNIS) web site, operated by the Great Lakes Sea Grant Network. Every effort should be made to exploit the full potential of such technology for the benefit of students, educators, representatives from government agencies, researchers, consultants, and industry and businesses who are involved in and/or affected by ANS prevention and control efforts.

### **Recommendations**

- 1) The ANS community should place a high priority on the development and population of web sites that, either singly or collectively, offer a comprehensive array of information that can advance prevention and control efforts. Forums such as GLIN, SGNIS and the Great Lakes Panel on Aquatic Nuisance Species should be used to ensure that the development and population of such web sites is pursued in an efficient, cost-effective way that assures consistency and comprehensiveness.
- 2) To maximize the value of web sites for information/education purposes, each site must be regularly updated, linked extensively to other relevant sites, and aggressively marketed.
- 3) Web sites must be developed with a sensitivity toward the information needs of educators. For example, sites should present and/or provide links to online curriculum materials, information on specific species, and contacts for further information. CD ROMs with ANS information are also valuable resources, and should be developed and marketed as a complement to online resources.
- 4) Internet access and training for both educators and students must be enhanced in order to maximize the use of online ANS information. Training sessions should be organized and conducted at both ANS-specific meetings as well as educators' meetings where ANS topics might be raised. Such opportunities should be pursued at the many regularly scheduled state, regional and national conferences sponsored by different teachers associations (e.g., science teachers, environmental educators).

### Marketing and Distribution of Information/Education Resources and Activities

**Findings:** An array of information/education materials on aquatic nuisance species is presently available, and development of additional materials is an ongoing process. To ensure that such materials and associated activities are of greatest possible benefit to target audiences, they must be easily accessible, broadly distributed and actively provided. Towards that end, Panel and staff will be responsible for developing and implementing, as appropriate, the marketing strategy for each I/E product and activity, and identifying other partners to do so as well.

### **Recommendations**

- 1) The commercial media (print and electronic) has proved to be a highly effective and cost efficient means of communicating information to the public. Press releases, briefings, site visits and informational materials should be designed to accommodate, wherever possible, the specific needs of each media outlet. To enhance coverage, any marketing strategy should feature succinct and factual materials with compelling visual content (i.e., photos, video); articulate and knowledgeable spokespersons; and a local “angle” on the issue that will appeal to readers/viewers.
- 2) Special efforts should be made to introduce journalists and journalism students to ANS issues and implications. Presentations at association meetings, briefings and journalism workshops should be pursued whenever possible. Further, “media tours” — ANS-specific events organized for the expressed purpose of highlighting current issues — are recommended. Such tours should be a collaborative effort of the larger ANS community to ensure that individual as well as collective I/E materials and initiatives are featured.
- 3) The preparation and distribution of curriculum materials for K-12 students should be viewed as an integral part of the overall I/E strategy. To maximize usage, such materials should be well publicized, readily available, inexpensive or without cost, and “teacher-ready” to facilitate infusion into the existing curriculum. As with the media, state/local issues and implications should be highlighted in the interest of maximizing usage and relevance to educators and their students.
- 4) ANS information providers should make materials available, to the extent possible, at little or no cost to target audiences. Briefings and other special events should follow this policy as well to maximize public interest and participation in such events.
- 5) A clearinghouse for ANS information should be established that offers 1) a comprehensive inventory of Great Lakes Region-related I/E materials; 2) a reference service to respond to general inquires and requests for materials; 3) a speakers’ bureau; and 4) Internet services that provide extensive linkages to relevant web sites within and beyond the Great Lakes region. The Great Lakes Information Network, the Sea Grant Nonindigenous Species web site, and the New York Sea Grant Zebra Mussel Clearinghouse are all valuable, existing services that might accommodate—either singly or collectively—these various recommended features.
- 6) The Great Lakes Panel, staff, and membership will ensure that the I/E inventory is periodically updated and published in hard-copy and /or electronic versions to ensure its broad and continued usage.

#### Coordinating Information/Education Efforts

**Findings:** Successful prevention and control efforts are fundamentally dependent upon information/education programs that are comprehensive, carefully targeted and, importantly, offer a consistent message from one audience to the next. Given limited resources and the magnitude of the task, cooperation and coordination among the many information providers must be extensive. Efficiency and cost effectiveness in the collective effort is essential.

#### **Recommendations**

- 1) Coordination of information/education efforts in the Great Lakes region should remain a priority for the Great Lakes Panel on Aquatic Nuisance Species. Initiatives such as the Great Lakes Research Inventory and Information/Education Inventory (and related symposia) should be pursued as needed. Further, the Panel’s Information/Education Strategy should continue to provide the framework for the collective information/education program in the Great Lakes region.
- 2) An evaluation component should be incorporated into individual information/education programs and projects as well as the collective Great Lakes effort. Pre-project surveys, post-audits and or other evaluation tools are essential in accessing effectiveness, identifying gaps and needs and, in general, ensuring that limited resources

are being used in an efficient and cost effective manner. These outreach programs should utilize the most effective methods of evaluation for each target audience.

- 3) The lines of communication between the research community and resource managers must be strengthened to ensure that research outcomes advance the “state of the art” in prevention and control in a substantive and timely manner. Forums, publications and institutions—both existing and prospective—should be dedicated to full and aggressive interpretation and application of research to ANS prevention and control needs. Strengthening this communication must be a shared responsibility between researchers and resource managers.
- 4) Much of the information/education material produced in the Great Lakes region is transferable and adoptable to other regions confronted by aquatic nuisance species problems. Toward this end, the Great Lakes Panel (as well as others involved in ANS information/education) should regularly share resources, technical expertise and success stories with other panels and similar groups that have or may be established in other regions.
- 5) State/provincial legislation should be regarded as an effective information/education tool in its own right. Each Great Lakes state/province should develop and implement comprehensive legislation that responds to its own unique needs and resources while providing adequate safeguards from a regional standpoint. Inter-jurisdictional consistency must be a priority, both to avoid confusion among public officials and the general public, and to ensure a minimum standard of protection against the introduction and spread of aquatic nuisance species. As such, developing model state legislation should be a priority for the Great Lakes Panel on Aquatic Nuisance Species.
- 6) Comprehensive state management plans should be regarded as a primary vehicle for developing, promoting and maintaining state-led information/education programs. States within—and beyond—the Great Lakes region should use the Great Lakes Panel’s model plan for guidance. Information/education activity should be among the state’s priorities when allocating funds and establishing implementation priorities.
- 7) A successful information/education program for the Great Lakes region must be viewed as a collaborative effort between public agencies, academia, resource users, and citizen non-governmental organizations. In particular, coordination and cooperation between state agencies and Sea Grant programs has been a strength that should be nurtured and expanded with regard to joint projects, sharing of technical expertise, etc.

#### Outreach to User Groups and Other Stakeholders

**Findings:** Preventing and controlling the spread of aquatic nuisance species is the individual and collective responsibility of relevant public agencies, business and industry, a range of resource user groups, and citizens in general. Each of these entities must initially be considered a target audience for information/education programs and, eventually, as a vehicle (and partner) in reaching larger sectors of the Great Lakes citizenry.

#### **Recommendations**

- 1) While much progress has been made in forging partnerships, priority must be placed on engaging several additional stakeholder groups with an important perspective role in ANS prevention and control. These groups include commercial bait harvesters, the aquarium industry, open pen aquaculture, sport fishing associations, sport/commercial fishery managers, waterfowl hunters, and the weed harvest industry. Information/education programs should be targeted at such groups via state management plan implementation and other outreach programs. Further, such groups should be recruited as partners in prevention and control and as a vehicle for informing and educating their own members/clients.
- 2) Prevention and control programs should be developed with an awareness/sensitivity to the interests and capabilities of various affected business and user groups. Representation and active participation of such

interests in regional activities (e.g., Great Lakes Panel initiatives) should be sought. This will also assist with program and project evaluation, given that feedback from such interests will provide insight into the relative effectiveness of outreach initiatives.

- 3) A variety of techniques should be considered when designing an outreach program. Among others, the following have met with success in various settings: “traveling trunks” of educational materials; Internet-based sites for posting information and graphics; ballast water guidance for shipping agents; boat owner manuals; informational signs at boat launch sites; and exhibits/displays in high-traffic public areas such as zoos, nature centers, marinas, etc. An equally diverse array of arenas for disseminating such materials should be considered as well. These include, among others, boater safety classes, lake association meetings, and related forums.

### Critical Themes to Promote in Aquatic Nuisance Species Information and Education Materials

**Findings:** Experience has found that there is no single formula or template that can be successfully applied in all settings and to all target audiences. An array of creative approaches, based upon case study experiences, is advisable. However, experience has also found that there are certain critical themes (i.e., primary messages) that can and should be incorporated in all information/education materials and programs.

### **Recommendations**

- 1) Information/education materials should establish and emphasize the economic and environmental impact of aquatic nuisance species in the context of the entire Great Lakes ecosystem. This will facilitate infusion of aquatic nuisance species-related information into broader Great Lakes-related materials and information/education programs. ANS materials should also include discussion of native species.
- 2) Whenever possible, outreach efforts should provide a local perspective on aquatic nuisance species and their impacts. The public and other stakeholders are more likely to participate in prevention and control efforts if they sense that they are directly affected by the problem and can play a meaningful role in its solution. Thus, actions that can be taken at the individual/community level (e.g., cleaning aquatic plants from boats, posting notices and boat launch sites) should be emphasized.
- 3) The economic implications of ANS infestations should be emphasized, particularly in outreach efforts to elected officials and business and industry. Ecosystem impacts may not be as powerful a message to these groups as a bottom-line, “dollars and cents” discussion of the financial burden aquatic nuisance species place on utilities, commercial anglers and others. Case studies illustrating the economic costs of ANS mitigation on a specific facility may be particularly compelling. This approach may also be appropriate when reliable data is not available documenting ANS control costs for an entire industry or region.
- 4) To avoid a sense of “futility” with regard to ANS invasions, it is important to highlight solutions and successful efforts to control aquatic nuisance species. The Great Lakes Fishery Commission sea lamprey control program is an example of an ANS “success story.” Additionally, while results are preliminary, early indications are that use of the galerucella beetle to control purple loosestrife may be another success story.
- 5) Effective inter-regional cooperation (both domestic and binational) is a critical part of ANS prevention and control and should be emphasized in information and education efforts. Cooperative U.S.-Canadian initiatives in both the public and private sector, should be highlighted whenever possible.
- 6) Emphasize the national and binational implications and scope of the ANS issue by illustrating how regional ANS problems can—and do—expand to the nation as a whole. Aquatic nuisance species do not respect political boundaries and ultimately cannot be effectively addressed on a state or even regional basis.

- 7) ANS material should include discussion of the intentional introduction of exotic species. These issues need to be clarified so the public and key stakeholder groups fully understand the ANS issue and the potential implications of introduced species.