Aquatic Nuisance Species Rapid Response Project
Advisory Team Conference Call
February 7th, 2003

Participant List

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Introductions

Kathe Glassner-Shwayder, Senior Project Manager of the Great Lakes Commission (GLC), welcomed all participants and thanked them for their interest in the rapid response project. Kevin Walters, Program specialist (GLC) acknowledged the participants on the call. Recognition was also given to EPA-Great Lakes National Program Office for funding the project. Glassner-Shwayder then reviewed the agenda and highlighted the purpose of the meeting: a) provide a progress report on the framework components being developed for the Aquatic Nuisance Species Rapid Response Model Plan for the Great Lakes; b) begin organization and development of the mid-project workshop supporting further development of the plan.

Project Summary
Program priorities regarding the aquatic nuisance species (ANS) issue in the past number of years have focused on prevention of ANS introductions. The ANS rapid response project represents a shift in focus to taking action, in terms of containment and eradication of ANS that are newly introduced. This model rapid response plan, when applied on a state or regional basis, will provide increased ability to anticipate, prevent and respond to new aquatic invasions in the Great Lakes-St. Lawrence region.

Glassner-Shwayder posed the following questions that will need to be addressed in the development of the model ANS rapid response plan for the Great Lakes:

- How should the decision making process be designed and implemented to identify invasions and communicate and mobilize appropriate entities?
- How can rapid response plans be structured to technically deal with ANS in a time frame that will allow for control or eradication?
- How do we maximize the possibility for eradication and control?
- How do we decide whether eradication or control is appropriate and feasible?
- What control mechanisms are applicable that are technically and economically feasible?
- Where does the pre-approval process come into play in terms of mobilizing rapid response plans?
- How can rapid response plans be politically positioned to avoid institutional and jurisdictional obstacles that might impede actions to prevent the spread and establishment of ANS?

Project staff are looking for expertise from the advisory team and ask that the team examine where their individual expertise will best support development of this model plan for the Great Lakes. Furthermore, staff hope that involvement in this project will be a good use of each team member's time that will help advance their respective agency agendas.

Action Item: Advisory team members are asked to select 1-2 components of the model rapid response plan framework (refer to Attachment A) where individual expertise can be applied to further develop the components. The working sub-groups that are formed for each component will be used in expanding the plan.

The advisory team recognized that the development of the model rapid response plan for the Great Lakes would benefit from adding a representative with policy experience. Glassner-Shwayder mentioned that staff will seek other participants, such as staff from Northeast Midwest Institute based on their knowledge and work developing language on rapid response planning as presented in the federal legislation, the National Invasive Species Act (NAISA).

Model Outline/Framework
Glassner-Shwayder provided a status report for the project advisory team on each of the model components of the rapid response plan.

Goals and Objectives
The following questions were posed as examples aimed at developing goals and objectives for the model rapid response plan:

- How can rapid response plans be structured to technically deal with ANS introductions and spread in a time frame that can maximize the possibility for eradication/control?
- How should a decisions making process be designed and implemented to communicate and mobilize the appropriate entities that should participate in rapid response efforts?

- What/how should control mechanisms should be preapproved to facilitate rapid response efforts?

- How can rapid response plans be politically positioned to avoid institutional/jurisdictional obstacles that might impede action within a reasonable time frame?
- How can rapid response most effectively protect the Great Lakes-St. Lawrence ecosystem?
- What is feasible and/or realistic in terms of ecological restoration in the wake of an ANS infestation? What are the possibilities?
- How can economic interests be protected and economic loss be prevented from ANS invasions?

Phil Moy (Wisconsin Sea Grant) asked if this project will create a general framework for agencies to follow, or will it provide specific details and describe exactly how to carry out a rapid response. Glassner-Shwayder responded that the model rapid response plan developed from this project will be a tool to help agencies initiate planning/implementation efforts. This plan will be a general guidance, not step by step, leaving room for states to add in specific details. The final product should be similar to model plans that the GLC and Great Lakes Panel on ANS have produced in the past, such as the model state ANS management plan and the model guidance on ANS legislation, policy and regulation. The plan will be made as robust as possible while leaving room for widespread application within the Great Lakes-St. Lawrence region. The Western Regional Panel rapid response plan was mentioned as a useful model in developing a similar plan for the Great Lakes region. Although the Western Regional Panel's rapid response plan will used as guidance in this process, it is expected that the Great Lakes model plan will provide a higher level of specificity applicable to rapid response for the Great Lakes-St. Lawrence ecosystem.

Specific goals and objectives for the rapid response plan will be developed with guidance from the project advisory team to provide overall direction for the upcoming workshop on plan development.

Communication/Organizational Structure
This component contains information about authority and leadership roles, coordination, cooperation, partnerships, and the structure of communication. The advisory team agrees that it is crucial that effective communication pathways are in place when new introductions occur so that information is passed to the proper sources in a timely manner.

At least two different communication structures were cited as being needed in the model. The first lays the ground work, gets buy-in from appropriate parties and ensures that the appropriate structure is in place should a new invasive species be detected. The second communication structure is needed during implementation of a response plan. This structure could describe how various stakeholders and authorities communicate and take action.

Many members of the advisory team feel that this component (Communication/Organizational Structure) is closely linked with the Implementation component and therefore either needs to be revised or combined. It was conveyed to the group that upon revising the outline, the interconnectedness between the components would be made very clear.

To expand on this idea further, it was suggested that groups providing scientific support and advice may be separate from those in an authority role. To address this need, it was noted that a structure needs to be in place so that when advice or support is given, it goes directly to the agencies that have the authority to respond. Furthermore, federal and state agencies must have "buy-in" long before the implementation

process is initiated so that they can take pressing issues to those higher in the chain of command (governors, etc.).

The advisory team agrees that public relations should also be a part of this section and should be interwoven throughout the entire framework of the plan.

Detection and Monitoring

This component of the plan may contain such items as a predictive model for potential invaders, a reporting system for ANS sightings, and a list of documented ANS species established in the Great Lakes-St. Lawrence region. Tom Johengen (CILER) noted that David Reid (NOAA-GLERL) is working on a list of documented invasive aquatic species to include information about life histories and habitat. Reid is working with other major databases across the country, such as those at the Smithsonian Environmental Research Center and the USGS lab in Gainesville, Florida. Don Schloesser (USGS) mentioned that Mills and McIsaac also both have published literature that list documented Great Lakes invasive species. Ron Martin, Wisconsin DNR, emphasized the need for a long term data set to be maintained by the appropriate authority.

A baseline survey of ANS infestations may also be an important section of this component. The survey would contain information such as species identification and associated ecological and economic impacts, life history characteristics, data on the spatial and temporal magnitude of the infestation, the vector of introduction (if known), and other species (native/exotic) that are facilitating new introductions. Again, this may be very similar to the project on which Reid is working. Schloesser made the suggestion that much of the data needed for such a database may be contained in the county records at museums. Also, the GLC, with support from the Michigan Great Lakes Protection Fund, is developing an online spatial database of priority species in Michigan waters. This database may serve as a model for a regional database. Sarah Whitney (GLC) is heading up this project.

Some advisory team members feel that keeping a long term database can take resources away from more urgent needs. Also, it is not clear if the data on the spread (and other attributes) of existing ANS infestations should be considered a rapid response issue. Another suggestion was to focus lists and databases on only those invasive species that are identified as a "nuisance" as this will make the list of species more manageable to maintain. There is also a higher likelihood of state and federal support if nuisances are specifically considered. It was noted that criteria would need to be developed to define which species merit the nuisance classification.

After introducing the Detection and Monitoring component, Glassner-Shwayder mentioned that the GLC and the Great Lakes Panel on ANS are working on an early detection and monitoring that will be feeding into the rapid response plan with findings. Sarah Whitney is heading up this project.

Roger Eberhardt (MI DEQ) suggested that the detection and monitoring component of the plan could benefit from a listing of experts to contact for information about aquatic nuisance species similar to the list used in the Western Regional Panel's rapid response plan. For example, the Western Regional Panel's plan lists specific individuals to contact for information about a particular invasive species within a taxonomic grouping. The list facilitates expeditious access to these experts who can potentially help to answer questions regarding the biology, ecology and possible control measures for aquatic nuisance species of concern.

Decision Support

Glassner-Shwayder pointed out that the decision support and rapid scientific assessment components of the model rapid response plan are likely to be the most complicated and integral elements to the success of the plan. Included in this component will be a protocol to determine if a rapid response is possible and/or feasible. It has been suggested that a flowchart may be a good way to organize such a protocol.

The following questions were recommended for use in gathering information regarding an invasion to determine if a response is possible and necessary:

- Which species merit a rapid response?
- What criteria are needed as guidance to determine which species "qualify" for rapid response?
- How can the vector for introductions and spread be interrupted for a particular species?
- What impacts would the species have if no action were taken?

In answering these questions, it was advised that the decision support protocol include a preliminary assessment of the extent of the infestation, the life history of the organism involved, the impacts if the invasion is left alone, and the limitations in terms of management posed by the infested area.

If a response is possible, the next step is to evaluate the risks and benefits of a response. This evaluation should address the following questions:

- Do the risks posed by the implementation of a control measure outweigh the costs/impacts of the damage the species will do if left unchecked?
- Are the impacts of the species known?
- Are there ways to significantly reduce the risk of ANS impacts while still implementing an effective response?

The risk assessment could contain a set of threshold criteria that drive the decision to respond. For example, if a predetermined degree of economic loss is incurred and/or projected, then the response action is put into place. Other criteria to examine besides economic costs are biological and sociological impacts. There also needs to be an assessment of the risk of reintroduction so that steps can be taken to lower it and prevent jeopardizing an initial response.

Post response implications will also have to be considered and evaluated in the process of deciding on a response action. For example, the need for mitigation from response actions and the risk of reintroduction after a response should be assessed.

Another source of information and support for decisions about making a response will stem from past experiences and case studies. The advisory team emphasized the importance of building upon the successes and failures of past responses and the absence of responses to invasive species. The following examples of both success and failure should be studied in this project: *Caulerpa taxifolia* in California, the snakehead (Channidae) in Maryland, and a *Mytilopsis* mussel in Australia. Some examples of rapid responses that did not work or were never undertaken are the ruffe (*Gymnocephalus cernuus*) in the Great Lakes and the round goby (*Neogobius melanostomus*) in the Chicago Sanitary and Ship Canal. Another set of examples to draw upon are agricultural pest models, as suggested by Joe Svirbely (U.S. Army Corps of Engineers, Great Lakes and Ohio River). The above examples and others will be included in an appendix to the model rapid response plan.

Svirbely also mentioned that research scientists at the U.S. Army Corps of Engineers waterways station

are interested in supporting this model rapid response plan development effort. The Corps may be able to provide some of the scientific support that is necessary for the decision making process.

Management Options
Discussion of the advisory committee indicated that permitting and preapproval for control measures would be critical to the success of the rapid response process. If a response to an invasive species is to be truly rapid, then it is extremely important that state and federal agencies have a toolbox of pre-approved control options from which to choose.

Quarantine establishment and enforcement are also two important management measures when trying to implement a rapid response to an invasive species. A quarantine is necessary to prevent spread of the unwanted species to other areas before responders have had a chance to act. Enforcement measures ensure that a quarantine is effective and may also be used to interrupt the introduction vector, if known.

Management tools should be assessed based on the species, location, and extent of the infestation. The tools for response include mechanical methods (trapnets, trawling, etc), chemical methods (rotenone, Bayluscide, TFM), and biological control (increasing predators, introducing pathogens, etc). It may be useful to create a list of undesirable species and associated pre-approved control/eradication options that can be immediately be put into place if a particular species is found.

It was noted by the group that education and public outreach also qualify as management tools to control the spread and introduction of invasive species and should be added as part of the management component. Educating the public about the impacts of ANS and the steps they can take to limit the spread can buy time while the decision making process is underway.

Whatever the chosen management option, it was recognized that there is a definite need for strong technical expertise and scientific support that can be provided from the U.S. EPA, NOAA, and the U.S. Army Corps of Engineers. Without this support, upper level managers and the public will likely not endorse the management option.

Public Outreach
There was clear agreement that the public needs to be involved in the decision making process. In the absence of public buy-in, a response can be stalled or backfire. In the Regional Response Team's experience in responding to abiotic emergencies (oil spills, chemicals, etc), it has been found valuable to have the public involved in longterm responses, but public involvement in short-term, immediate need responses can defeat the purpose of a 'rapid' response. Concern was expressed as to how to keep the process timely. Preapproval of appropriate control strategies will be key to facilitating response to ANS infestations within a reasonable timeframe.

Ross Powers (EPA, Emergency & Enforcement Response Branch) mentioned that to facilitate rapid response to ANS invasions, upper level management and the public need to become fully aware of the risks associated with ANS invasions.

Implementation
Group discussion suggested that successful implementation is dependent upon the rapid response plan being operational on an institutional, agency, state and regional level. Without the ability to smoothly and quickly implement the response, preliminary work invested on the plan is jeopardized. It was noted

that implementation efforts need to be coordinated to limit redundancy and to ensure the appropriate stakeholders are informed of actions. It was also suggested that rapid response planning needs to be incorporated into the state ANS management plans.

Several members of the advisory team agreed that there was a need to integrate the implementation with the component involving communication/organizational structure to ensure that authority and leadership role considerations are appropriately taken into account. Implementation of a response would most likely be conducted by the agency with the authority to respond or the agency with jurisdiction over the invasion area.

It was noted that if managers are aware of the risks involved, it may be possible to pattern ANS responses after other hazardous emergency situations. One legislative authority model is how the Federal Emergency Management Agency (FEMA) responds to emergencies by authorizing the governor of a state to declare an emergency. The anthrax incident after 9/11 is another example of rapid response and emergency declaration. Another alternative may be to treat ANS invasions like unknown chemicals. In this scenario, a rapid response is merited because of the unknown risks associated with not responding at all.

During discussion, it was pointed out that in preparation for contingency planning for ANS invasions, there is a need for a list of undesirable species and associated impacts. This process is analogous to a list of dangerous materials/chemicals as determined for area contingency planning for toxic spills. It was noted that attorneys will need to look at invasive species in terms of what makes them "harmful" determined by a set of criteria. The question was raised as to whether an ANS rapid response would require an environmental impact statement to comply with the National Environmental Policy Act.

There was general agreement that securing and appropriating adequate funding is potentially the biggest obstacle to implementation of rapid response involving ANS. Many of the Great Lakes states already have ANS management plans in place. Passage of the National Aquatic Invasive Species Act (NAISA) will require the integration of a rapid response element within those plans. Language introduced in the NAISA bill includes authorizations for contingency strategies and their implementation as well as a rapid response emergency fund. To help overcome potential funding obstacles, the advisory team agrees that it would be beneficial to produce a list of funding sources at both state and federal levels.

Development of an Adaptive Management Plan

Discussion focused on the need for adaptive management planning to allow for changes in the implementation of ANS rapid responses based on an evaluation of effectiveness of initial management and new information. If the preferred management option is not producing the desired goal, there needs to be a mechanism in place to quickly make the decision to move to another option. Adaptive management plans allow for the assessment of what strategies worked and what did not and then application of this experience to the problem.

The need for mitigation and/or restoration of the treatment areas needs to be evaluated during and after implementation of control measures. The U.S. Dept. of the Interior currently conducts natural resource damage assessments (NRDAs) of critical habitat in the event of an oil or hazardous material spill. These assessments are used to place a dollar figure on damages from oil spills and other hazardous materials so that a claim can be made against identified polluters.

During the adaptive management phase of the rapid response plan, education and outreach should continue. Because of the high-profile nature of many ANS invasions, this may be the most effective time to educate the public.

Action Item: Advisory team members are asked to send Kathe Glassner-Shwayder any resources or literature regarding adaptive management.

Appendices
The group was informed that the appendices section will contain case studies of both successful and unsuccessful responses to invasive species. In addition, this section will also contain a list of definitions critical to the rapid response plan.

Workshop Planning
The product of the workshop will include a detailed and developed model ANS rapid response plan for use in the Great Lakes/St. Lawrence region. The workshop is expected run 1.5 days and will be held in conjunction with the spring meeting of the Great Lakes Panel on Aquatic Nuisance Species.

- *Workshop Structure*
  - A plenary session will introduce the need for a rapid response plan and give an overview of the plan and the components
  - There will be two breakout sessions allowing dedicated discussion on the components for the rapid response plan. The intent is to enable participants to focus on two components during the breakout period.
  - A closing session will allow for discussion by state and federal agencies on how to make the model plan operational.

- *Workshop Timing*
  The advisory team agrees that May is a realistic time period for holding the workshop. If the workshop takes place after May, there is concern that it would interfere with the International ANS conference, the IAGLR conference, and the summer field season. Please note the cover memo for specific dates under consideration.

- *Workshop Participants*
  A wide range of agencies, organizations and individuals will be invited to participate in the workshop, including representatives from Canada. Invitations will be drawn from, but are not limited to, the following groups:
  - Great Lakes Panel on ANS
  - U.S. Army Corps of Engineers
  - U.S. Coast Guard
  - State natural resources agencies, including fisheries divisions
  - U.S. EPA
  - Regional Response Team Region 5
  - Great Lakes Fishery Commission

- *Location*
  The location of the workshop will be as centralized in the Great Lakes region as possible. Costs and travel logistics will also be a primary consideration, realizing that several agencies and

organizations have very tight travel budgets. Locations being considered are listed below.

- Detroit metro area (Crowne Plaza Hotel)
- Sandusky/Pt. Clinton area
- Toledo (Lake Erie Center - University of Toledo)
- Chicago (U.S. EPA office)
- Ann Arbor (Crowne Plaza Hotel or Sheraton Hotel)

Action Item: Please note the cover memo for these summary notes. As staff moves ahead on making arrangements for the upcoming Rapid Response Project Workshop, advisory team members are asked to take a moment to review the items listed on the memo feedback to Kevin Walters by email at: kwalters@glc.org by Friday, March 7th.