

# GLRC



# AQUATIC INVASIVE SPECIES RAPID RESPONSE EXERCISE

## Erie, Pennsylvania

**After Action Report**  
December 2008



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### Thank You to Our Participants



TETRA TECH



**AFTER-ACTION REPORT**

**AQUATIC INVASIVE SPECIES  
RAPID RESPONSE EXERCISE  
JULY 29-31, 2008**

**Prepared for**

U.S. Environmental Protection Agency  
Great Lakes National Program Office

**Submitted by**

Tetra Tech EM, Inc.  
1 South Wacker, 37<sup>th</sup> Floor  
Chicago, IL 60606

December 2008

Prepared by



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Michelle Cullerton  
Tetra Tech EM, Inc.

Approved by



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Bill Bolen  
U.S. EPA, GLNPO

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# AQUATIC INVASIVE SPECIES RAPID RESPONSE EXERCISE

## After-Action Report

### EXECUTIVE SUMMARY

The Aquatic Invasive Species (AIS) Rapid Response Exercise gave participating agencies the opportunity to evaluate current internal and multi-agency communication protocols, as well as assessment and response capabilities for a multi-agency AIS response event. Through exercise play and analysis of the exercise results, major strengths and potential areas for further improvement were identified.

The exercise was sponsored by the Pennsylvania Department of Environmental Protection (PADEP) with support from the U.S. EPA, Great Lakes National Program Office (GLNPO), the Pennsylvania Sea Grant, and Save Our Native Species (SONS). Duration of the Rapid Response Exercise was three days. The first day was a facilitated, open discussion broken into several topic modules; the second day was a media event with on-the-water sampling activities; and the third day was a Hotwash summarizing the exercise activities.

The primary goals of the AIS Rapid Response Exercise were to allow participants to:

1. Test the effectiveness of an organized, multi-agency operational framework.
2. Establish local and state points of contact, effectively coordinate internally and across multiple agencies, and determine locally available resources.
3. Gain an understanding of the importance of jurisdictional authority based on agencies' missions/mandates and species by location.
4. Organize and conduct a small-scale, on-the-water AIS assessment.

The AIS Rapid Response Exercise scenario involved the discovery of an unidentifiable fish species in Presque Isle Bay by a long-time fisherman who belongs to Save Our Native Species (SONS) of Lake Erie. The unidentifiable fish was presented to a representative at the PADEP. This triggered the activation of an AIS Rapid Response Communication Protocol. The fish was confirmed as a Northern Snakehead - an AIS. Through cooperation with other local, state, and federal agencies, PADEP conducted a rapid assessment in Presque Isle Bay and evaluated potential AIS control options.

The above activities and discussion points are documented in this report with the intent to help local, regional, and state agencies enhance their assessment and response capabilities by analyzing exercise results. Ultimately, the exercise findings will provide a foundation for the State to establish and implement a viable continuity program that addresses all phases of AIS discovery, assessment, and response.

Through the exercise, the participants identified several major strengths:

- Coordination of public information fact sheets and press releases between the Communication Officer and the media (news stations and newspapers)
- Inclusion of public feedback in all aspects of assessment and response actions
- Implementation of health and safety objectives during all levels of AIS assessment and response activities.

Through the exercise, the participants identified several opportunities for improvement:

- Establishment of formalized reporting protocols
- Clarification of agency roles, responsibilities, and jurisdictional authority
- Development of an organized, multi-agency operational framework.

## **AQUATIC INVASIVE SPECIES RAPID RESPONSE EXERCISE**

### **After-Action Report**

Planners and representatives of the various agencies should use the results of this exercise to resolve indicated issues and strengthen capabilities for future potential incidents. The following initiatives may be considered:

- Leadership/upper management training
- Funding for early detection monitoring and response
- Appointment of a state AIS Task Force or Coordinator
- Additional practice and improvement through exercise and panel discussions.
- Development of a statewide AIS Science Advisory Committee

The AIS Rapid Response Exercise demonstrated that PADEP, EPA GLNPO, and the other participating partners are taking proactive measures to enhance communication, assessment, and response capabilities by challenging existing policies, procedures, and resources positively and constructively. Encouragingly, implementation of all phases of the exercise improvement cycle continues, including: improvement of current plans and procedures; testing, training, and exercising; incorporation of lessons learned; and development of corrective actions.

## PART 1: EXERCISE OVERVIEW

**Exercise Name:**

Aquatic Invasive Species Rapid Response Exercise

**Exercise Location:**

Tom Ridge Environmental Center  
301 Peninsula Drive  
Erie, Pennsylvania

**Type of Exercise:**

Rapid Response Exercise and On-the-Water Field Exercise

**Exercise Date:**

July 29-31, 2008

**Participating Organizations:**

STATE	
Pennsylvania Department of Environmental Protection (PADEP)	New York State Department of Environmental Conservation (NYSDEC)
Pennsylvania Fish and Boat Commission (PAFBC)	Iowa Department of Natural Resources (IA DNR)
Pennsylvania Department of Conservation and Natural Resources (PADCNR)	Michigan Department of Environmental Quality (MDEQ)
Ohio Department of Natural Resources (ODNR)	
FEDERAL	
U.S. Environmental Protection Agency Great Lakes National Program Office (EPA GLNPO)	U.S. Forest Service (USFS)
U.S. Fish and Wildlife Service (USFWS)	U.S. National Oceanic and Atmospheric Administration (NOAA)
U.S. Coast Guard (USCG)	
NON-GOVERNMENT	
Pennsylvania Sea Grant	Great Lakes and St. Lawrence Cities Initiative (GLSLCI)
Council of Great Lakes Governors (CGLG)	Save Our Native Species (SONS) of Lake Erie
The Nature Conservancy	Great Lakes Indian Fish and Wildlife Commission (GLIFWC)

**Funding Source:**

U.S. Environmental Protection Agency, Great Lakes National Program Office  
Pennsylvania Department of Environmental Protection  
Pennsylvania Sea Grant

**Exercise Points of Contact (POC):**

Name: James Grazio  
Agency: Pennsylvania Department of Environmental Protection, Office of the Great Lakes  
Phone: 814-217-9636  
Email: [jagrazio@state.pa.us](mailto:jagrazio@state.pa.us)

Name: Bill Bolen  
Agency: U.S. Environmental Protection Agency, Great Lakes National Program Office  
Phone: 312-353-6316  
Email: [bolen.bill@epa.gov](mailto:bolen.bill@epa.gov)

Name: Jamie Schardt  
Agency: U.S. Environmental Protection Agency, Great Lakes National Program Office  
Phone: 312-353-5085  
Email: [schardt.james@epa.gov](mailto:schardt.james@epa.gov)

**Exercise Support Team POC:**

Name: Michelle Cullerton  
Title: Project Manager  
Company: Tetra Tech, EM Inc.  
Phone: 312-201-7442  
Email: [michelle.cullerton@ttemi.com](mailto:michelle.cullerton@ttemi.com)



## **PART 2: EXERCISE DESIGN SUMMARY**

The exercise design group established the following goals and corresponding participant objectives for this exercise:

### **EXERCISE GOALS:**

1. Test the responsiveness and effectiveness of each phase of the Rapid Response Communication Protocol.
2. Establish local and state points of contact, effectively coordinate internally and across multiple agencies, and determine locally available resources.
3. Gain an understanding of the importance of jurisdictional authority based on agencies' missions/mandates and species by location.
4. Organize and conduct a small-scale, on-the-water aquatic invasive species assessment.

### **PARTICIPANT OBJECTIVES:**

#### *CAPABILITY: INTERNAL AND CROSS AGENCY NOTIFICATION, COMMUNICATION, AND ORGANIZATION*

- Notify Invasive Species Response Coordinators (ISRC).
- Receive and disseminate information and updates.
- Identify other agency participants.
- Identify overall jurisdictional authority and operational leads.
- Form a Scientific Assessment Committee.
- Identify locally available assets and resources.

#### *CAPABILITY: PUBLIC INFORMATION*

- Define who has authority to communicate with media personnel.
- Define scope, scale, and audience for public information.
- Develop a consistent and controlled message.
- Issue emergency public alerts.

#### *CAPABILITY: IMPLEMENTATION OF ASSESSMENT SAMPLING ACTIONS*

- Discuss objectives of an AIS assessment
- Discuss equipment and personnel required for an AIS assessment

### **PART 3: EXERCISE EVENTS SYNOPSIS**

This Exercise Events Synopsis provides an overview of the scenario and questions used to facilitate exercise play actions in the simulated event. The AIS Rapid Response Exercise was presented to the participants with an Introduction and a series of Modules describing the general sequence of events. Each Module began with a scenario synopsis and then followed with a series of questions which prompted discussion. The following scenario and questions were selected by the Exercise Design Team for inclusion in this AIS exercise:

#### **INTRODUCTION:**

Members of the Save Our Native Species (SONS) Club often fish in Presque Isle Bay, which includes several ponds connected via small channels. The channels are slow flowing and some are low-lying and grassy. Presque Isle Bay is ultimately connected to Lake Erie through its entrance channel.

On July 9, 2008, Jimmy Prescott, a well-known local fisherman, catches a fish that, for the first time in 15 years, he is unable to confidently identify. The unidentifiable fish is quite long (approximately 18 inches), cylindrical, and has some pretty nasty teeth. Thinking that it is probably a North American Bowfin, which is common throughout PA, he tosses it back into the water.

Back at the marina, Jimmy meets with other local fisherman and discusses the day's unusual find. Everyone agrees that it was most likely a Bowfin; however, one fisherman mentions that he has been fishing Presque Isle Bay for 20 years and the description of Jimmy's Bowfin does not sound like any Bowfin he's ever caught. Marty Bowlin, another SONS Club fisherman, asks Jimmy if he noticed a bunch of dead juveniles along the shore in the same general area. A few days previously, Marty's boat had gotten stuck, and when he looked down in the grassy, weedy area, he noticed several juvenile fish on the shore slithering around! He figured they had just washed up due to the recent flooding and were probably dead.

Curious about the recent discussions, Marty heads back to the area to catch the mystery fish. Surprisingly, he catches what looks to be the same fish that Jimmy caught. It is not quite as long as what Jimmy described, but it certainly looks like a Bowfin. Marty keeps the fish and brings it back to the marina to show the others. The other fishermen note that the fish has large scales on its head. Bowfins are not known to have these scales. Marty decides to keep the fish until Saturday, July 12th—the Clean Boat Initiative event. Maybe someone at the event will identify the fish.

- 1. What type of information is available to fishermen about what to do when finding an unidentified species? Do any current outreach activities describe the procedure?*
- 2. What should a fisherman do with an unidentified fish and who should he contact to report the fish?*
- 3. What is the first action taken by that agency contact person if a fish cannot be easily identified?*
- 4. Who contacts the taxonomic experts?*
- 5. What actions are taken once the unknown species is identified by taxonomic experts as an AIS?*

## **MODULE 1:**

On July 12, 2008, the annual Clean Boats Initiative was hosted at Presque Isle Bay—a day full of activities meant to educate boaters and fishermen on ways to protect the Bay. At this event, Marty and Jimmy talk with a representative from the PADEP and they show him the fish.

The PA DEP representative recognizes the fish as a Snakehead and suggests that he takes the fish and talks with other experts to confirm the fish species. After all, Snakeheads do look very similar to Bowfins. The PA DEP representative, who is the primary invasive species point of contact for the PA DEP, searches the National Aquatic Nuisance Species Task Force (ANSTF) Expert Taxonomic Database to find a local taxonomist. After some discussion with the taxonomist, the fish is indeed confirmed as a Northern Snakehead, an AIS.

The PA DEP representative initiates the Rapid Response Communication Protocol.

- 1. What factors determine jurisdictional authority (Authority)? Who has Authority during this incident?*
- 2. Who has the Authority to designate a Central Communication Officer and a Public Communication Officer, and what are their roles and responsibilities for this incident? What information will be included in the public statement?*
- 3. Who initiates notifications to Invasive Species Response Coordinators (ISRC) or backup personnel if the primary point of contact is not available or has changed? Update call-down sheet with current information.*
- 4. What are the roles and responsibilities of each participating agency and how does each agency fit into the multijurisdictional team? Determine this Snakehead incident's agency organizational structure and draw a flow diagram on a flip chart.*
- 5. By what means will information be shared between the Central Communication Officer, the Public Communication Officer, and the ISRCs? Set up a communication sharing approach for this incident.*
- 6. Who has jurisdictional authority and discuss why authority may be different for the following types of AIS incidents: viral Hemorrhagic Septicemia (VHS); zooplankton (hemimysis); plant species (hydrilla); fish species (goldfish or piranha); and mammal (tiger). Diagram the lead and supporting agencies on a flip chart.*

## **MODULE 2:**

The PA DEP representative initiates the Rapid Response Communication Protocol, and the Pennsylvania Fish and Boat Commission is designated as the Authority for this Snakehead incident. A Central Communication Officer is identified and will serve as liaison between the Authority and the ISRCs. Multiple agency representatives are requested to support the next phase of this incident.

A statement is released to the public by the designated Public Communication Officer indicating that a Northern Snakehead was identified in Presque Isle Bay. The press release provides information about what to do if another Snakehead is found.

Authority begins to establish a scientific assessment committee to assess the potential impacts of a Snakehead in Presque Isle Bay. This committee is to come up with an assessment and sampling plan to determine the extent of the Snakehead invasion.

1. *Who will participate on the ad hoc scientific assessment committee for this Snakehead incident? What type of issues will the scientific assessment committee address?*
2. *How will input from public stakeholders be integrated into the assessment/sampling efforts?*
3. *What is the operational organization structure for this event? On a flip chart, diagram a structure that shows the support agencies that will: (1) develop the assessment/ sampling plan (planning section); (2) conduct on-the-water assessment/sampling operations (operation section); (3) coordinate resources (logistics section); and (4) monitor costs (financial section)?*
4. *Break out into operating sections:*
  - *Planning: What are the points to consider in a preliminary assessment/sampling plan?*
  - *Operations: What are the points to consider when implementing the assessment/sampling activities?*
  - *Logistics: What are the locally available assets and resources for the effort?*
  - *Finance: Who has the authority to make resource requests?*
  - *Health and Safety (H&S): What H&S issues should be addressed?*
  - *Public Information: What will be provided in a press release?*

## **MODULE 3: (Open Discussion)**

1. *What are the decision criteria for moving forward with an AIS response effort?*
2. *What options are feasible for a Snakehead eradication and control given existing technologies, resources, and known biological and ecological constraints?*
3. *What are the short- and long-term impacts of the selected control method? Are any risks posed to humans who work or live on the water body?*
4. *How would the response actions differ for the following types of AIS: VHS; zooplankton (hemimysis); plant species (hydrilla); fish species (goldfish or piranha); and mammal (tiger)?*
5. *Given the need to disseminate public information, how much sensitive information should the public receive regarding controversial decisions to control or eradicate the AIS? Develop a controlled message to disseminate to the public.*

## PART 4 – ANALYSIS OF ASSESSMENT AND RESPONSE ACTIVITIES

This section of the report reviews the facilitated discussion, AIS assessment, and response actions conducted during the AIS Rapid Response Exercise. This section is organized by key topics discussed by the participants. Identification of the key topic is followed by a brief explanation and what was discussed during the exercise. Suggested recommendations for improvement are also provided and participants should define the actions to be taken to address the recommendations.

**Issue #1:** *Establishment of formalized reporting protocols.*

**Discussion:** During the AIS Rapid Response Exercise discussion, participants suggested that formalized reporting protocols should be developed or established, if not already in place. Limited information is available regarding the steps to take when an unidentifiable fish species is discovered by a fisherman. According to the participants, fisherman either keep the unidentified fish species to show other fisherman at a later time; conduct an on-line search to identify the species; or just throw the fish back into the water without reporting it.

Also, it is not clear who a fisherman should contact to report an unidentifiable species. Fishermen typically are unaware of what agency is responsible for species identification, or who specifically to contact at that agency. Instead, fisherman may (1) report the unidentifiable species to the first uniformed person they see (park ranger); (2) go to the park office and report the unidentifiable species before they leave the area; (3) call a regional office; or (4) contact the local media.

**Recommendations:** More public outreach should be provided to educate fisherman about reporting protocols and agency contact information. The following follow-up actions are recommended:

- Encourage fisherman to take high quality pictures (and Global Positioning System [GPS] locations) of an unidentifiable fish, rather than keeping the fish and submitting them to agency representatives for identification.
- Give educational guides, posters, and Sea Grant cards to bait shop owners, fisherman club members (such as SONS), and other fishing shop owners to display in their shops.
- Educational guides should provide descriptions and pictures of AISs. Give field guides to Conservation Officers and fisherman to keep in their boats.
- Develop state-specific AIS hotlines with links to the National Invasive Species Hotline (1-877-STOP-ANS). Calls to this national number will be distributed to the respective states.
- Utilize the U.S. Geological Survey (USGS) alert system—it provides alerts within two days of notification.
- Develop state-specific AIS websites that can be accessed without significant on-line searching. (Participants mentioned that the PA AIS webpage was not easily found via GOOGLE).
- Advertise information about which agency leads AIS investigation (PADEP, USFWS, PAFBC, USGS, etc.), and provide agency points of contact (local contact name, telephone number, and e-mail address). SONS provides cards with the phone numbers of all Waterways Conservation Officers for members.
- Provide information about the National Taxonomic Database (it lists primary agency contacts and secondary academia contacts).

- Offer AIS identification, educational classes, and taxonomic training to a variety of audiences including federal, state, tribal, and not-for-profit personnel.
- Coordinate with city and local governments, in addition to the Great Lakes and St. Lawrence Cities Initiative group. This group can contact cities and universities within the area.

**Issue #2:** *Clarification of agency roles and responsibilities and jurisdictional authority.*

**Discussion:** During the AIS Rapid Response Exercise, each agency described its anticipated role and responsibility during a rapid response effort. This provided other participants with an awareness of the type of resources (personnel and equipment) each agency maintained; some participants heard about these resources for the first time during this exercise. The following anticipated roles, responsibilities, and resources were discussed during the exercise:

- PAFBC has jurisdiction for any AIS in the water. The agency has limited resources and must rely on local resources, PADEP, and PADCNR for leadership.
- PA State Parks regulate all operations in the park, including within 500 feet of the water's edge.
- PADCNR (Presque Isle Bay) provides boats, a staging area, and docking facilities.
- USFWS provides boats, trawling gear, outreach materials, and personnel.
- USCG provides zone security, potentially provides transport, conducts water patrols, and monitors boat traffic.
- PADEP provides equipment and technical expertise and would be responsible, in part, for issuing permits for the application of any pesticides to the waters of the Commonwealth.
- Local universities provide sampling equipment, as well as students for support.
- Local biologists and taxonomists from various agencies provide consultation for determining the AIS threat level; however, the agency to assume the lead is not clear.
- Sea Grant provides assessment and sampling resources.
- USGS should be considered for support activities.
- The Mayor's Office is the main point of contact for public inquiries.

Although each participant was clear on his/her agency's roles and responsibilities, it was not clear who would have authority during this scenario or who would take the lead in specific tasks. Further, the snakehead falls under the Lacey Act, so it was unclear if this means federal or state jurisdictional authority. Previous discussions with the PA Invasive Species Council did not clarify lines of authority for a snakehead incident.

Ultimately, it was determined that PAFBC was the jurisdictional lead for a snakehead incident and would assume Command. However, this declaration of authority posed several problems. First, representatives are not local, but reside at a regional office in the middle of the State and would require several days to mobilize to Presque Isle Bay (or throughout the State). Second, a representative tasked to mobilize to Presque Isle Bay to serve as Incident Commander would be a biologist and not a lead decision maker with budget authority.

## **Recommendations:**

- During the exercise, the PAFBC indicated that its agency's AIS rapid responses infrastructure is not yet in place. PAFBC should continue to make AIS rapid response a priority and continue to develop its AIS protocols, strategies, and regulations.
- PAFBC (and other agencies) should continue exercising with a variety of participants to develop more experience with AIS assessment and response activities. Participating in these exercises develops relationships and builds local contacts across the State. The next exercise should also include the Regional Science Consortium, U.S. Department of Agriculture, Erie County Health Department, and USGS.
- Participants in future exercises should consist of a variety of management levels, including actual field responders (sampling crews), scientists, and high-level decision makers.
- Members of the PA Invasive Species Council should clearly define jurisdictional authority.
- Establishing local contacts will help the Incident Commander delegate roles and responsibilities during the first few days if the Incident Commander operates from a regional office.
- Species-specific and location-specific authority should be understood clearly.

### **Issue #3:** *Development of an organized, multi-agency operational framework.*

**Discussion:** One of the most discussed topics during this exercise was the concept of a multi-agency operational framework. Currently, there are a variety of different site-specific and species-specific approaches for an AIS rapid response. At the basinwide level, the Great Lakes Regional Collaboration (GLRC) has a communication protocol which will help coordinate Federal, State, Tribal, and local activities; however, it does not eliminate the need for designing an event-specific response action. When considering Federal agency involvement, it is important to understand that, while not specific to AISs, Incident Command System (ICS) and Unified Command are mandated as an operational framework for federal multi-agency incidents. No particular framework is mandated at the state level. Developing a "one size fits all" framework for the Great Lakes States is difficult because the level of specificity varies from state to state and from region to region—especially in Pennsylvania with its many municipalities and agencies.

For this AIS Rapid Response Exercise, the ICS structure was used as an example framework to plan for the on-the-water AIS assessment activities. Some participants were assigned into Section Chief roles, and others were placed in various Sections based on their anticipated roles in a real AIS assessment. Specifically, participants were placed into either the Planning, Operations, Logistics, or Finance/Health and Safety Sections. It was recognized that not enough time was available during this exercise to talk through all the necessary issues; however, the following considerations were identified during each Section breakout:

**Planning Section.** The Planning Staff is responsible for developing an AIS sampling and assessment plan. Examples of the issues discussed during the Section breakouts include:

- What are the water boundaries for the assessment and how will the presence and extent of invasion be confirmed?
- What are the sampling objectives? Where will sample collection occur? How will samples be collected? What sampling equipment will be used? How many sampling teams will be required?
- How many samples will be necessary and what are the sample ID procedures?

- What type of sample preservation will be required? How long can the samples be held? Where will the samples be sent for analysis, if required?
- What documentation of sampling activities is required?
- How will input and feedback from scientific groups be incorporated in the planning and assessment process?

**Operations Section.** The Operations Staff is responsible for all operations directly applicable to implementing the sampling and assessment plan. Examples of the issues discussed during the Section breakouts include:

- Operations Staff must coordinate with the Planning Section (through ICS scheduled planning meetings) in order to effectively and efficiently implement the sampling and assessment objectives.
- Communications are very important for operations and safety reasons. Cell phones and radios should be provided to all operation teams, and periodic radio and phone checks should be implemented.
- GPS resources are required to document sample collection locations (who will provide these resources?).
- Where will sample collection occur and how will sample teams gain access to these locations? Will access be by boat or shore entry?
- Are any sampling locations on private property and are permits or consent required for access?
- What types of sampling equipment and resources (boats, equipment, etc.) will be required and what agencies will provide these resources?
- How will sampling teams consisting of multiple agency representatives be coordinated?
- Where will boats and equipment be staged, stored, and secured?

**Logistics Section.** The Logistics Staff is responsible for providing facilities, services, and materials to support the sampling and assessment activities. Examples of the issues discussed during the Section breakouts include:

- What will be the source of the equipment for the sampling and assessment activities, and how will the equipment get here (sampling nets, boats, coolers, fishing poles, etc.)?
- What personnel resources will be used and how will the teams be formed (agency support, contract support, local fisherman club support, etc.)?
- What will be the source of support resources such as fuel for boats, radios for communication, supplies from the stores, and protective equipment for crew such as life preservers, waders, insect repellent, etc.?
- How will the equipment be maintained for each sampling team?
- Where will support personnel stay (hotels) and where will support equipment be rented (rental vehicles)?
- Will food and stress drinks be provided?



**Finance Section.** The Finance Staff is responsible for all financial, administrative, and cost analysis related to sampling and assessment activities. Examples of the issues discussed during the Section breakouts include:

- What are the funding sources and what is the budget for all AIS assessment and response activities?
- What funding has been authorized, and can operations continue?
- How are activity expenditures tracked?
- How are personnel hours for multiple agencies and support personnel tracked?
- How are vendor contracts negotiated?
- How are funding sources from various agencies combined?

**Health and Safety.** The Health and Safety Officer's role is to develop and recommend measures to assure personnel health and safety, and to assess and/or anticipate hazardous and unsafe situations. Examples of the issues discussed during the Section breakouts include:

- Who is the scene Health and Safety Officer?
- What are the boat and shore entry precautions?
- What are the AIS sampling technique precautions (electrofishing, trolls, netting)?
- What are the communication protocols (e.g., safety signal is three sounds of the boat horn)? Does each person have a copy of the phone list?
- Where is the nearest hospital? What is the route? What are the hospital phone numbers?
- Are there any biological concerns (e.g., insects, animal bites, etc.)?
- What are the safety protocols during inclement weather?

**Public Information (Command Staff):** The Public Information Officer is responsible for providing fact sheets and announcements to the public. Examples of the issues discussed during the Section breakouts include:

- What type of consistent and accurate public information messages will be developed?
- Who will be the main public information officer point of contact for all agencies?
- How will incident information be disseminated in a timely matter?
- What various communications media (such as handouts, newspapers, local news, etc.) will be used?
- How will impacts of the activities affect human health and the environment?
- How much does the incident cost the public and what effects will it have on the local economy?
- Will there be a forum for public feedback?

Considering the above questions, the participants then discussed whether ICS was the appropriate operational framework for this type of incident. Comments offered during the exercise both supported and opposed ICS as an organized, multi-agency framework.

Comments that supported ICS as a multi-agency operational framework include:

- All higher level managers at PADCNR have already taken ICS and can operate under this framework during an AIS event.
- ICS can be used for organization during large-scale events (not just emergencies). Using it on the ground when multiple agencies are involved, especially federal agencies, seems to make sense.
- During the exercise, the Operations Section Chief's phone rang continuously while he conducted water operations. The ICS structure would be critical for allowing overall incident management decision making to continue without interruption.
- Under an ICS structure, a Public Information Officer will be designated to address reporters; a typical biologist is not ideally the individual for leading media events.
- ICS implements a common structure to track resources, personnel, and costs.
- ICS provides a common language when multiple agencies work together.

Comments that did not support ICS as a multi-agency operational framework include:

- ICS system does not lend itself perfectly for this type of response, especially if the response is in the assessment and/or study phase.
- Biologists are heavily involved in some portion of the response, but biologists are engaged in scientific work. Adding another level of bureaucracy would encumber the scientific work and bog it down. ICS needs to be tailored to the biological process and scientific activity.
- A biologist is necessary during sampling activities, but their role should be in the field and not in a command post as ICS requires. Input from biologists is necessary in this type of incident.
- ICS is well known in law enforcement, but most biologists are not familiar with it.

**Recommendations:**

- Consider the formation of a Science Advisory Group. This will allow scientists to study the abundance, distribution, and recruitment of an AIS (and, in general, other invasive species) without having to maintain a decision-making role (e.g., Incident Commander or Section Chief).
- Continue to participate in mock exercises to gain a better understanding of specific roles and responsibilities for each Section and how to coordinate across Sections.
- Continue to develop an AIS operational and communication framework, either through the Invasive Species Council or adoption of ICS.
- Encourage all levels of management, including scientists, to take the free ICS on-line training. The modules provide common terminology and common level of knowledge of the ICS structure.

- Include all levels of management, including decision makers and biologists, in future exercises so that everyone who participates in a rapid response is familiar with how a response operates.
- Clarify agency roles, responsibilities, and sources of resources before an actual event occurs.
- Encourage the PA Invasive Species Council to identify an AIS Coordinator who participates in discussions and meetings at the local level.
- Recognize that a common organizational structure is required because representatives will be working beyond the local level and may have to interact with other agency representatives coming from areas throughout the State.

## **PART 5 – CONCLUSIONS**

The AIS Rapid Response Exercise gave participating agencies the opportunity to evaluate current internal and multi-agency communication protocols, as well as assessment and response capabilities for a multi-agency AIS response event. The primary goals of the AIS Rapid Response Exercise were to allow participants to:

1. Test the effectiveness of an organized, multi-agency operational framework.
2. Establish local and state points of contact, effectively coordinate internally and across multiple agencies, and determine locally available resources.
3. Gain an understanding of the importance of jurisdictional authority based on agencies' missions/mandates and species by location.
4. Organize and conduct a small-scale, on-the-water AIS assessment.

Overall, the exercise designed by the Exercise Design Team was well received, and the exercise goals and objectives were accomplished. Regarding exercise objectives, more work must be done to: (1) establish formal reporting protocols; (2) clarify agency roles and responsibilities and jurisdictional authority; and (3) develop an organized, multi-agency operational framework. Implementation of the recommendations in this report will ensure continued momentum toward a viable agency-coordinated AIS rapid response system.