



**May 3, 2011
Hilton Little Rock Metro Center
Little Rock, AR**

Decisions Points and Action Items

1. The Panel Coordinator was asked to post the MICRA Action Plan and brochure on the MRBP website.
2. MRBP members were encouraged to meet with their congressional members in their home offices to increase awareness about AIS issues in the Mississippi River Basin, and to contact MICRA for assistance developing briefing materials if needed.
3. MRBP members were asked to review the new MRBP website, provide comments on structure and content, and to provide materials.
4. The Outreach and Education Committee was asked to continue reviewing the ANS Boater Surveys and to provide a recommendation back to the full panel.
5. Committee Chairs were asked to send committee meeting notes (including decision items or recommendations) and updated 2011 work plans to the panel coordinator.
6. The MRBP will submit a recommendation to the ANS Task Force requesting that a draft of the snakehead management plan be expeditiously completed and submitted to the ANS Task Force for review and/or approval.
7. The panel will consider ANS Task Force follow-up actions to the Mid-Atlantic Panel's recommendation to develop an Ad-hoc committee to address vector management strategies and the need for the MRBP to develop guidelines (similar to the recreational guidelines) for additional high risk vectors.
8. Mike Hoff will report back to the MRBP on discussions at the spring ANS Task Force meeting and progress on the potential joint development of Best Management Practices for several ANS vectors with PIJAC and other volunteers.
9. Oklahoma agreed to host a 2-day MRBP meeting tentatively scheduled for the last week of November 2011.
10. Panel members were asked to submit potential agenda items for the next MRBP meeting to the panel coordinator.



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Meeting Agenda

Tuesday, May 3

Morning Session – Hilton Ballroom AD

- 7:30 Welcome and Introductions (Shults)
- 7:40 Review of Nashville Meeting Action Items (Shults)
- 8:00 ANSTF, Panel Principals, and MICRA Updates (Mangin, Shults)
- 8:20 MRBP Coordinator Report (Conover)
- 8:40 AFWA Invasive Species Committee Update (Bogenschutz)
- 9:00 Inter-basin Introductions of Crayfish (Dan Magoulick)
- 9:30 Break
- 9:45 Montana's AIS Outreach Program (Ryce)
- 10:15 Illinois ANS Boater Survey Results (Mae Davenport)
- 10:45 Compilation of MRBP Sponsored State AIS Boater Surveys (Schainost)
- 11:15 Update on Barges as AIS Vectors Work (Chapman)
- 11:45 Instructions for Afternoon Committee Breakout Sessions (Shults)
- 12:00 Lunch

Tuesday, May 3

Afternoon Session – Hilton Ballroom AD

- 1:00 Committee Breakouts (All)
- Review on-going projects and 2010 work plan
 - Develop 2011 work plan
 - Identify recommendations for the ANSTF
- 3:00 Break
- 3:30 Committee Reports (Committee Chairs)
- 4:30 Public Comment Period
- 4:45 Meeting Wrap-up (Shults / All)
- Recommendations and Decision Items for ANSTF
 - Set Date and Location for Next MRBP Meeting
- 5:00 Adjourn

ANSTF Evening Workshop at Witt Stephens, Jr. Central Arkansas Nature Center

- 5:00 – 7:00 Pros and Cons of Promoting the Commercial Harvest of AIS and
“Silverfin” Presentation by Chef Parola

* Bus departs hotel at 4:45 and 5:30; bus returns to hotel at 7:00 and 9:00

Meeting Attendees

Name	Affiliation
Steven Schainost	Nebraska Game and Parks Commission
Doug Keller	Indiana Department of Natural Resources
Sam Finney	U.S. Fish & Wildlife Service
Susan Mangin	U.S. Fish & Wildlife Service
Kim Bogenschutz	Iowa Department of Natural Resources
Craig Martin	U.S. Fish & Wildlife Service
Curtis Tackett	Oklahoma Department of Wildlife Conservation
Ted McNulty	Arkansas Department of Agriculture
Lindsay Chadderton	TNC
Dan Magoulick	Arkansas Coop Unit, University of Arkansas
Mark Oliver	Arkansas Game and Fish Commission
Brian Wagner	Arkansas Game and Fish Commission
Eileen Ryce	Montana Fish, Wildlife, and Parks
Bobby Reed	Louisiana Department of Wildlife and Fisheries
Nick Schmal	U.S. Forest Service
Nathan Stone	National Aquaculture Association
Pat Charlebois	Illinois-Indiana Sea Grant
Matt Cannister	U.S. Geological Survey
Duane Chapman	U.S. Geological Survey
Peter Sorensen	University of Minnesota
Larry Pugh	Mississippi Department of Wildlife, Fisheries, and Parks
Mike Hoff	U.S. Fish & Wildlife Service
Terrance Hubert	U.S. Geological Survey
Eugene Braig	Ohio Sea Grant
Tim Banek	Missouri Department of Conservation
Mae Davenport	University of Minnesota
Jason Goeckler	Kansas Wildlife and Parks
Ron Brooks	Kentucky Department of Fish and Wildlife
Luci Cook	Texas Parks and Wildlife
Jeffrey Herod	U.S. Fish & Wildlife Service
Don MacLean	U.S. Fish & Wildlife Service
Justin Stroman	Arkansas Game and Fish Commission
Kim Holzer	U.S. Fish & Wildlife Service
James Ballard	Gulf States Marine Fisheries Commission
Greg Conover	U.S. Fish & Wildlife Service - MRBP Coordinator



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Meeting Notes

1. Welcome and Introductions

Meeting attendees introduced themselves and were welcomed by 1st Year Co-Chair Eileen Ryce.

No Action Items.

2. Review of Nashville Meeting Action Items

Action items from the MRBP's April 2010 meeting in Nashville, TN, were provided and reviewed. Most action items are either complete or on-going. Many action items need to be reviewed by the committees during the breakout sessions.

No Action Items.

3. ANSTF, Panel Principals, and MICRA Updates

ANSTF

Susan Mangin thanked the MRBP for hosting the ANSTF Spring 2011 meeting and provided an update on the ANSTF.

The last ANSTF meeting was held November 3-4, 2010, in Arlington, VA.

- Updates were provided on a number of management and control plans: mitten crab, snakehead, Quagga - Zebra Mussel Action Plan for Western U.S. waters (QZAP).
- The Mid-Atlantic Panel discussed an AIS Vector Management Workshop hosted by the panel last year and provided proceedings of the workshop.
- The ANSTF discussed the Pathways Workgroup, a sub-group of the ANSTF Prevention Committee. There was interest in revitalizing that group. Stas Burgiel with the National Invasive Species Committee (NISC) is chair of the joint NISC and ANSTF Prevention Committee, which includes the Pathways Workgroup. Stas will be giving an update on the Prevention Committee during the ANSTF meeting later this week.

- The ANSTF supported the establishment of a QZAP ad-hoc coordination committee for implementation of the QZAP. The coordination group decided that one of its priorities was to establish a standard position description for a QZAP coordinator. Similar to what John Goss is for Asian carp. The ANSTF was asked if they would support the refinement of that position description in the hopes that someday there would be funding for that position. The current draft expands the role of the position to include responsibilities for coordinating the Western Regional Panel in addition to QZAP. No funding has been received to fill the position.
- The ANSTF decided to get rid of the 'Control' and 'Detection and Monitoring' standing committees. Two Ad-Hoc Committees were established and more will be discussed during this week's meeting. Updated copies of the ANSTF organizational structure that reflect these changes were provided during the MRBP meeting.
- Three state ANS management plans were approved: Wyoming, Nebraska, and Alabama. Alabama still has a few changes that they need to make. Thirty-nine plans are currently approved. Thirty-six requested FY2011 funding for implementation. Funding letters still have not been sent out to the states because the FWS budget is not yet finalized.

Topics to be discussed during the ANSTF meeting over the next few days include:

- Asian carp issues presented by the MRBP.
- A pilot ANSTF award, possibly a joint award with NISC.
- ANSTF co-chairs Bryan Arroyo (FWS) and Peg Brady (NOAA) are each in charge of plan development teams for implementation of the National Ocean Policy. They will be speaking about their efforts to integrate ANS into each of these plans.
- Incident Command System (ICS) training will be discussed as a follow-up item to discussions held during the ANSTF meeting last fall.
- At the request of the State Department, there will be discussion on international ANS issues.
- Considering establishing a committee to work with the pet industry on BMP's.
- The ANSTF charter has to be renewed every 2 years. The newly revised charter will allow Ex-Officio members to vote, rather than only the federal agencies. The charter will also require that new ANSTF members be vetted through the White House.

Panel Principals

Jason Goeckler provided an update on the Regional Panel Principals. No Panel Principals meeting was held in conjunction with the last fall ANSTF meeting. One thing that the Panels are trying to do is to be united on projects and to find topics that relate across the country. The MRBP made an effort a few years ago to include all of the Regional Panels in the development of a project to review the FWS's Triploid Grass Carp Inspection and Certification Program. The MRBP has also been working collaboratively to address the exchange of ANS between the Mississippi and Great Lakes basins.

MICRA

Greg Conover provided an update on MICRA's AIS related activities over the last year. MRBP members have reviewed the draft *Action Plan to Minimize Ecological Impacts of Aquatic Invasive Species in the Mississippi River Basin* and provided comments back to MICRA. The Action Plan has been finalized and an outreach brochure was developed, printed, and posted on the new MICRA website. The MRBP paid for printing of 2,000 copies of the brochure.

A small group of MICRA delegates visited Washington, DC, during National Invasive Species Awareness Week in early March. Fish Chiefs from four states, ANS Coordinators from two additional states, and the MICRA Chairman participated in the visits. The group visited with CEQ's Asian Carp Director John Goss, the USFWS, and 16 senators and representatives to inform them of AIS issues in Mississippi River Basin.

The MICRA delegation focused on three main issues during their briefings: 1) funding for state ANS management plans and ANSTF Regional Panels, 2) funding for the MICRA AIS Action Plan, and 3) funding for the national Asian carp management and control plan. In addition to these three funding needs, the delegation discussed the states' immediate need for assistance in preventing the further spread of Asian carp within the basin, and to control existing populations that are impacting the resource and resource users. There was also an effort to raise awareness of the need to control the abundant populations of Asian carp in the Mississippi River Basin as part of the on-going efforts to keep Asian carp out of the Great Lakes.

A briefing packet was circulated and will be provided by MICRA to each of the states.

Discussion:

Jason Goeckler spoke to the panel members about his experience as part of the MICRA delegation that traveled to Washington, DC. It became clear during MICRA's visits with members of Congress that they were building awareness on ANS issues. It was made clear to them that it is extremely important for the states to be delivering this message to their congressional members in their home offices. The briefings were most effective when a member of the delegation was from the congressional member's state, despite MICRA being present and representing all 28 states in the basin. Several members' offices indicated that it would be beneficial for each state to make similar contact with their local offices. Jason encouraged the state members to work with MICRA and provide support at the local level by visiting congressional members in their local offices. This should be an on-going effort and not considered as a completed task.

Even though this is a tough budget climate, these contacts are really important to set the stage for future funding opportunities.

The Great Lakes states have shown that working together can pay great dividends. The MICRA Action Plan shows the states are working together and could payoff even during tough budget times.

During their visits, the MICRA delegates informed the congressional members that there are existing mechanisms that can be used to increase funding to address ANS issues in the Mississippi River Basin (e.g., NISA/NAISA, Asian carp management and control plan).

One of MICRA's main action items from the briefings is to provide a report back to each of the MICRA delegates, a copy of the briefing packet, and a request for delegates to follow-up with their congressional members in their home offices. This type of follow-up should occur regularly, at least annually, and state ANS Coordinators are encouraged to help make sure that these local meetings occur. Does MICRA have packets for each of the individual states or are there materials that this group can receive from MICRA to use when visiting local congressional offices? Copies of the packets used by MICRA are available, but they are not tailored to each individual state. MICRA can work with each state to develop materials that can be used for this purpose.

Many of the people we are talking about have rarely, if ever, approached their congressional members, so anything that MICRA can provide would be beneficial. The states should contact MICRA to discuss the March meetings, follow-up with local offices, and/or to develop briefing materials.

Mike Hoff reminded panel members that the Great Lakes states are receiving a considerable amount of funding through the Great Lakes Restoration Initiative (GLRI) for implementation of their state ANS management plans. In addition to other funding needs, the MICRA Action Plan identifies a need for \$28 million for implementation of Mississippi River Basin state ANS management plans. This is an important detail that states should be aware of.

Action Items:

- ! Conover was asked to post the MICRA Action Plan and brochure on the MRBP website.
- ! MRBP members were encouraged to meet with their congressional members in their home offices to increase awareness about AIS issues in the Mississippi River Basin, and to contact MICRA for assistance developing briefing materials if needed.

4. MRBP Coordinator Report

Conover reminded panel members that the member updates have been posted on the new MRBP website (www.MRBP.org). The new website is not yet functional otherwise, but does have a structural outline for panel members to review and comment on. The website is being developed as a sister website to the new MICRA website (www.MICRArivers.org). The MRBP website will no longer be contained

within the MICRA website, but the two will be linked together. Conover will be working to develop the website and have it functional as soon as possible.

An MRBP budget report was provided and reviewed. The panel currently has about \$43,000 available to obligate towards new projects, including FY2011 funding that has yet to be received from the FWS. The report includes a list of on-going projects dating back to 2008. The committees should review the list of on-going projects and obligations during the breakout sessions and make sure that these older projects are on track to be completed as soon as possible.

A number of MRBP sponsored outreach materials are available to members by contacting Greg Conover: 21,000 hydrilla/Brazilian elodea Watch Cards; how to prepare Asian carp dvd; Bill Dance dvd; and black carp tooth blocks. Printed copies of the MRBP Model Rapid Response Plan, and the Rapid Response Protocols for Fish, were sent to each of the MRBP delegates. Additional copies are available.

Discussion:

Dennis Riecke is working on a resolution to be submitted to the Southern Division of the American Fisheries Society that recommends \$6 million in additional funding for the ANSTF Regional Panels. If approved, the Southern Division would then forward the resolution on to the parent society for consideration.

Action Items:

- ! MRBP members were asked to review the new MRBP website, provide comments on structure and content, and to provide materials.

5. AFWA Invasive Species Committee Update

Kim Bogenschutz, vice-chair of the AFWA Invasive Species Committee, provided the following update. AFWA participated in National Invasive Species Awareness Week (NISAW) by assisting with the planning and implementation of the State and Regional Invasive Species Day. The USFWS provided support through AFWA for seven state representatives to attend NISAW. One of the breakout sessions during the State and Regional Invasive Species Day featured a panel discussion on the white paper AFWA's Invasive Species Committee is developing on Management of ANS: Federal and State Government Roles, Responsibilities, and Authorities. Three main topics that emerged during the panel discussion were 1) the need for consistent state laws and regulations, 2) identifying additional funding mechanisms other than user fees, and 3) use of the term "nuisance" versus "invasive". The white paper will be completed this summer and submitted to the Directors for approval at AFWA's annual meeting in September.

Larry Riley (Arizona) provided a legislative and regulatory report that included information on EPA NPDES Permitting, development of Clean Boating Act regulations, and the need to develop information for constituents on the need and safety of piscicide use. AFWA's Invasive Species and Angler and Boater Participation Committees will coordinate with the National Association of Boating Law Administrators to engage with the EPA and the US Coast Guard as they continue to pursue development of Clean Boating Act regulations. Multiple AFWA Committees (i.e., Invasive Species, Fisheries and Water Resources Policy, Science

and Research, Wildlife Resources Policy Committee, Fish and Wildlife Health) will partner with other organizations to evaluate the safety of piscicides and develop a white paper or fact sheet regarding the importance and safety of these tools.

The Invasive Species Committee submitted a National Conservation Need (NCN) for the 2012 Multistate Conservation Grant Program. The NCN focused on coordination to improve, develop, and/or implement Early Detection and Rapid Response (EDRR) and containment methods so state and federal agencies can more effectively manage invasive species. The NCN was ranked 7th by the National Grants Committee and fell just below the line recommending the top 6 NCNs be eligible for funding. Development of a containment strategy with an associated economic assessment may be pursued by supporting an intern or graduate student project.

Other Invasive Species Committee tasks include working with the Department of Interior's Tiger Team to develop approaches to streamline listing and associated processes of the Lacey Act, supplying a speaker to address national enforcement issues related to invasive species for a training workshop sponsored by the National Association of Attorneys General, working with the USFWS as they examine the need for a disease/pathogen management plan, and working on biotechnology issues with the Agricultural Conservation Committee.

No Action Items.

6. Inter-basin Introductions of Crayfish

Dr. Dan Magoulick, University of Arkansas Coop Unit, gave a presentation on inter-basin introductions of crayfish. Crayfish convert large amounts of particulate organic matter, are very important in ecosystem food webs, and are often keystone species. The southeastern United States is the center for global crayfish biodiversity. A little over 50% of North American crayfish species are considered "at-risk" species, trailing only mollusks in the percentage of species at-risk. Crayfish are highly impacted by invasive species. Crayfish introductions occur on two different spatial scales. In extra-regional invasions species have been moved across continents or major drainage boundaries; extra-limital invasions are those in which the species has invaded a drainage adjacent to their native range. Extralimital introductions can be very important and are probably more common than we realize. Dr. Magoulick presented a case study of an extra-limital invasion in Arkansas and Missouri that he has studied for several years.

Discussion:

The white river crayfish is another example of an extra-limital invasion in Missouri. Dr. Magoulick has found the woodland crayfish one drainage over from its native range and it is affecting two native species.

Is the red swamp crayfish the one that is commonly in the bait trade? Yes it is one species that is commonly found in bait shops. One of the collaborators with the Missouri Department of Conservation recently completed a survey of bait shop owners as part of process to try and get regulations changed for the use of crayfish as bait. The survey found several species of crayfish from all over the place being

used in the commercial bait trade not just the red swamp crayfish. Bait trade is definitely a potential source of introduction.

How prevalent are internet sales of crayfish for aquaria trade? In Germantown, Wisconsin, the Wisconsin DNR had to go into a local pond in a subdivision that was infested with an invasive crayfish. There are no solid data, but internet sales are suspected to be a significant vector. Most teachers obtain their crayfish for teaching various K-12 biology classes from biological supply houses via internet sales. You can even get them on e-bay.

Do you know anything about a species of crayfish that is thought to be parthenogenic? Just a little bit; this is very new information. It is possibly derived from a couple of *Procambarus* spp. Females can produce more females without males. There are a number of questions and concerns regarding this species. There is major potential for this species to be invasive. Missouri recently added the species to their prohibited species list.

Is the issue of fellow travelers with aquaculture fish a concern with crayfish as well? Previous experience as a technician with a state hatchery there were a lot of crayfish moved around with fish. Is this something on people's radar screens? People are a lot more careful now. There is also the ability to use chemicals to eradicate crayfish production ponds, especially baitfish.

In your case study of extra-limital invasions, do you have any evidence that the native and invading species serve similar ecological functions? This gets at the really big question of "does it matter" that native species are being replaced by nonnative species. Dr. Magoulick has begun to look at ecological function and what the different species are doing in the systems, looking for ecological redundancy. So far the results have not indicated an impact on ecologic function in the system, but the research has just touched the tip of the iceberg. They have looked at things like leaf decomposition, a little bit of food web dynamics, and chlorophyll a and algae production. So far, based on these sorts of things, it doesn't matter. Things like drying matter a lot to some of the functional parameters. The verdict is still out on this really, really important question that people should be asking. But hardly anyone has done much to look at this and much more funding is needed.

With some other species like the rusty crayfish there has been research to show that they do have an impact on ecological function. Yes, in some of these heavily studied extra-regional invasions they have nailed some of the functional differences and proven that it does matter that the native species has been displaced. This has not studied for extra-limital invasions.

You are suggesting that these species are moving by human mediated means, do you see any evidence of them moving naturally to neighboring watersheds? No. There have been no stream captures or natural events that would allow for the species to easily move between watersheds.

In your study, the invasive crayfish survived as well in the predator treatment as it did in the non-predator treatment. Did that suggest that they were less available to

the smallmouth bass? Did they have characteristics that made them less susceptible to predation? There was an interaction between drying and predation for the invasive species. They got hit hard by the bass in the wet treatments, but they survived equally well, regardless of bass presence or absence, in the dry treatments. It appears that the invasive crayfish move more into the shallow habitats when the bass are present and it dries, than the native species do. There also appears to be something happening with the drying and bass's ability to feed on the invasive species. The bass could feed very effectively on the native species during drying.

Do you think that the invasive species is using those shallow habitats in the wild even when streams are not drying and does this make them less available as a prey item than the native species? Yes this is possible. The researchers did look at habitat used in the two different treatments, but Dr. Magoulick did not recall the data. He would like to do more work looking at their habitat use on a smaller spatial scale in the field to study microhabitat use.

Where do the crayfish that are in trade come from? Are they regionally grown and distributed or is there mostly one region supplying the entire bait trade? There are large crayfish farms in upstate New York. In Arkansas crayfish are harvested as an incidental crop and are then sold as a food item and typically not as bait. The President of the Ohio Aquaculture Association is very proud of being the largest producer of crayfish for bait in Ohio, but don't know what species he raises. Missouri requires their bait dealers to register and ask them where they get their bait. Based on this information it appears that crayfish are brought in from all over – Minnesota, Wisconsin, Arkansas – there are good chances of encountering several different species in the bait trade. Missouri has found rusty crayfish in the bait trade.

No Action Items.

7. Update on Barges as AIS Vectors

Duane Chapman provided an update on barges as AIS vectors. The potential of barges as a pathway was brought up a few years ago. There is concern about the ability of barges to move water and ANS over long distances and the vessels are in the water most of the time. Duane has had a number of conversations with the American Waterways Operators and the USCG. Bryan Moore, USCG, talked to the panel at a previous meeting about how bilges and ballast water as a vector in barges and tows. It appears that ballast water is not much of an issue in the basin, but bilge water is potentially a more serious problem. One thing that has come up is the concern that barges get holes, collect water, and transport that water throughout the basin including above the electric dispersal barrier in Chicago. There is potential for eggs and young fish, including Asian carp, to be transported in these waters. In communications with the USCG, Chapman has learned that when a barge is seriously damaged, the Commander of the USCG requires a permit for the damaged barge to be moved from one location to another to be fixed. In response to MRBP concerns, the Commander stopped issuing permits early on to prevent the movement of damaged barges across the barrier.

Barges that are not seriously damaged may pose an even greater risk. Barges frequently get small holes and continue to be moved around without being repaired. There is a system in place that requires barges, if they are in use, to be inspected daily to make sure no compartments are full of water. But there is still a concern that things could be transported above the barrier. The USCG has taken this on. Chapman has been working with Phil Moy and a representative of the USCG to design studies to look at this type of thing. The study has been funded by the USEPA. Last year the funding wasn't received in time to do any evaluations with live fish. A contractor was hired by the USCG to look at barges in the canal. They looked at barges that had just come through the barrier or were tied up to see how many barges had holes and how much water they were transporting. A total of 132 barges, 14 tow boats, and 969 total individual bilges (each barge has at least six bilges) were checked. Five percent of the barges contained measurable water in at least one bilge area; water depths ranged between 2" –117". Water temperatures and dissolved oxygen were measured inside the barges. The study was conducted during the summer time. Water temperatures ranged between 69° and 86.7° F and dissolved oxygen was sometimes low but often up to 8 mg/L. Conditions in most barges were such that eggs and larvae would not be killed. These results provide enough concern to warrant closer evaluation, particularly with respect to transporting ANS through the dispersal barrier. The study will be continued this year. The USCG has a contract with a California company that has subcontracted with the Illinois Natural History Survey to complete portions of the study. USCG has contracted a barge and tow for the study that will be available during peak spawning season for Asian carp. They will be evaluating entrainment and survival of eggs and larvae in the bilge hold over time.

The results of last year's study were presented by Phil Moy at the Midwest Fish and Wildlife Conference in Minneapolis, Minnesota. The information is getting out there.

The barge operators have been great to work with. They have bent over backwards to allow access to sample barges. Penny Herring has been the driving force on this project with the USCG. She should be recognized for all her hard work executing contracts and working with USEPA on GLRI funding to make this project happen.

Discussion:

Is the study primarily focusing on vessels that use the Chicago Sanitary and Shipping Canal? Yes and this is a good point. The panel originally was concerned about the spread of organisms like apple snails throughout the basin. This study does not address that issue. We did communicate early on with the American Waterways Operators about these issues and shared recommendations that operators examine the hull of barges for egg masses before transporting them. We did receive a response, but no commitment to implement an inspection program. We have been raising awareness. Places like Arkansas are at great risk because apple snails are a serious pest of rice farming.

A lot of the concern in the Chicago area is the source of DNA and the potential for silver carp to jump on to barges and then be transported above the barrier. Is this being looked at as part of the study and have dead Asian carp been observed on the

barges? The contractor was supposed to include an evaluation of the different ANS that were found on barges, but this was not included in the final report. Chapman was not sure if this was actually looked at by the contractor or not. There is a group with the USACE, USFWS, and USGS that are looking at this issue as part of a much larger eDNA study funded by GLRI.

You mentioned that ballast wasn't a big concern and tow boats do not tend to have designated ballast tanks, but they do ballast down in the bilge holds. What sort of potential is there for tows to move water and ANS above the dispersal barrier? As far as we can tell, the barge tanks are occasionally used to ballast under bridges. The operators do not want to carry the water very far, so they pump it back out as soon as they are past the bridge. There is some possibility to move a little bit of water that is not pumped out. There is some ballast in the tows themselves and that depends on individual operator preference. Typically an operator that uses ballast will take it on before leaving, keep it on during the few day trip, and pump it back out once back at the originating port. In these cases water is being moved around, but really is not released in a new location.

What is the volume that we are talking about? Is it a small enough amount that a couple of gallons of bleach or other practical solutions would take care of? Practical solutions are needed and the operators have been very good about implementing them. The work the panel is doing is very helpful in raising awareness and getting this information to the operators.

No Action Items.

8. Montana's AIS Outreach Program

The Montana state legislature is in session every other year. Two years ago the legislature provided an influx of money to go towards AIS outreach programs in the state. Eileen Ryce gave a presentation highlighting some of the new outreach efforts in Montana that were implemented last year as a result of the increased funding. Awareness has increased exponentially since the previous legislative session, however there was opposition in the current legislative session to putting any ANS funds into outreach efforts. The Department is not certain how it will continue these outreach efforts over the next two years. This fully supports what Jason and others said earlier about the importance of talking to both your state and federal congressional members so that they understand AIS issues and in this case the importance of outreach and education.

Montana has an exceptional communication and education division within the Department of Fish, Wildlife and Parks that allows professional outreach specialist to work on these programs rather than it falling on the biologists and scientists who generally aren't trained for this. A 5-step program is used to develop programs by identifying the problems, objectives, audience, message, and tools (POAM-T). All of this information is put into the department's public information plan.

Problem: There is a low level of awareness about AIS in Montana. Montana is mostly still dealing with prevention. There are some invasive species in the state, primarily milfoil, mud snails, and whirling disease.

Objective: Raise awareness and change behavior. The program includes evaluation to determine if outreach efforts are successful in changing behaviors.

Audience: Concentrate on boaters and anglers. Montana has two main sets of water recreaters: motorboats and drift boat/raft users. These are two very different groups so this presented somewhat of a challenge.

Message: Montana wanted something that was simple and consistent with what other states are using and ended up with “Inspect, Clean, Dry” – 3 easy steps to do your part. A graphic logo was developed.

Tools: Used a bit of a targeted and shotgun approach. Billboards were put in larger cities, but were very expensive. Stop Aquatic Hitchhikers logo was used on all the outreach materials. Tailgate wraps were put on 100 agency vehicles and bumper stickers were printed. Media packets were assembled and distributed to radio, television, and print media. This was inexpensive and very effective. DVDs with agency public service announcements (PSA) were also included in the media packets. Posters were printed with more specific information about each of the 3 steps. A telephone number is provided for reporting violations and a call tree was set-up. The number and types of calls, as well as the resulting enforcement action are built into the reporting system. A feature article was included in the state’s outdoor publication providing much detail about the issue. The agency purchased pages in newspapers to print full, half, and quarter page color spreads. These will be run just before the major holidays and often results in more lengthy articles being printed in the different newspapers. The agency website was revamped. Banners with links to the website were added to many media partners’ websites. The agency purchased prime time radio and television advertising spots to run PSAs rather than allowing the radio stations to voluntarily run them at low listening times. Additional television channels called and requested the PSA to be run on their channels as well. Two-minute outdoor segments were created to run during news reports.

Direct post card mailings were sent to registered boaters as part of the more targeted tools. This year they will be sent to a portion of the state’s licensed anglers. This received some of the best feedback, but it is not cheap. Approximately 46,000 postcards were sent out at a cost of about \$18,000 for printing and postage. Signs were standardized with the Inspect-Clean-Dry message. Signs can be modified for new invaders in the state. Presentations were made at fly fishing festivals and other outdoor events. A printed teaching guide is being developed with a curriculum that includes 5 or 6 games for teachers to use. The agency has always used a watercraft inspection program and the new messaging is now being used with this program.

The whole awareness program cost about \$120,000 and the state wanted to evaluate the effectiveness of spending those dollars. About \$6,000 was spent to conduct a survey to evaluate success. A pre-survey was conducted in early spring

before the fishing season began and a post-survey was done in the fall. Both surveys included the same 11 questions intended to determine if awareness was increased and if behaviors changed. Awareness and prevention actions among the boaters and anglers were surprisingly high in the pre-survey. After one year boater awareness was increased but no change in behaviors was measured. Angler awareness and behavior were not changed. The agency concluded that it takes longer to change behavior than it does to increase awareness. A follow-up survey is planned for the end of 2011 or 2012.

Mass media tools ranked very high and most effective by survey respondents. Peer-to-peer information also ranked high. A peer-to-peer program has been developed so the information is coming from other fishers and boaters rather than the government.

Discussion:

Did the enthusiasm of what your agency was doing catch on with your partners? Enthusiasm has hugely increased. Another state agency received funding for AIS work in Montana.

A lot of agencies around the country are using non-profit organizations such as Wildlife Forever who have a lot of contact with the sign companies (e.g., Lamar). No one agency has a lot of money, but pooling resources and working with non-profit organizations provides a lot of growth potential for this tool. Billboards have been shown to change behavior in Minnesota. Montana has data on how many people are looking at billboards. One value Montana was able to get was to pay for the signs to be up during the boating season and then they were left up at no charge if no one else rented them. The tribes have purchased several of the billboards and the agency just purchases the skin that goes on them.

Have you talked about what will happen if next year's results don't show a behavior change? The agency is reluctant to conduct the survey this year for fear of not showing a behavior change and as a result losing the funding. The agency will have a strategy for this year and next year and hopefully be able to show some good results in time for the state's 2013 legislative session. If we are not changing behavior are we being effective is a huge question. It will be hard to show an increase in awareness with 80% indicating awareness. Behavior change may be difficult as well with 60% of the public already indicating that they are taking some level of frequent action.

A high percentage of survey respondents in Iowa indicated that signs are very effective, but responses to additional questions raised doubts as to whether signs are actually read and effective.

No Action Items.

9. Illinois ANS Boater Survey Results

Recreational boaters are key vectors in the spread of AIS and fish diseases. Mae Davenport gave a presentation on a recreational boater survey on AIS and

pathogens conducted in Illinois. Her research focused primarily on higher order concern, awareness, and past behavior drivers responsible for environmental behaviors. Because of the difficulty in measuring future behavior, the researchers attempted to understand intended environmental behavior to determine effectiveness in changing behavior. The research questions addressed by the survey were:

- Who are Illinois recreational boaters?
- In what responsible environmental behaviors (i.e., best boating practices) do they engage?
- What is the relationship between knowledge and concern about AIS/VHS and behaviors?
- How can resource managers influence future behaviors to prevent the spread of AIS/VHS?

The study focused on registered boaters in Illinois' 11 southern-most counties during 2009 and with additional funding from APHIS was expanded to the remaining 91 counties during 2010. The survey included a survey and intervention component to the project by attending boat shows, fishing tournaments, and state fairs to provide intervention materials and to ask people to complete surveys on site.

Results of the survey were presented. The on-site intervention component indicated that increasing concern about problems and knowledge about responsible environmental behaviors resulted in the greatest behavioral changes. Seventy-five percent of survey respondents indicated they were willing to pay more for a fish license or boat registration if those activities prevented AIS and reduced their harmful effects. Respondents were more likely to engage in responsible environmental behaviors if they knew the water bodies they boat in are infested.

Discussion:

Did you ever look at the data based on region? Did their proximity to an infested water body change their likelihood of engaging in responsible environmental behaviors? That was not specifically looked at. There were no differences based on geographic distribution within the state (i.e., north, central, and southern regions).

Tournament anglers were poorly represented in the results. Did you see a pattern of which group those that responded did fit into? The number of responses from tournament anglers was too low. There were differences observed between anglers and non-anglers. Anglers sometimes consider invasive plants as good habitat for bass and are sometimes reluctant to want to see them controlled.

No Action Items.

10. Compilation of MRBP Sponsored State AIS Boater Surveys

Steve Schainost, Outreach and Education Committee Chair, reviewed the State AIS Boater Survey standardized questions and presented a summary of results from the seven completed surveys. The survey questions provided to participating states by the MRBP were originally developed by Minnesota and have not been changed so that all states would ask the same questions and generate comparable data. Panel

members were provided with a list of the standard questions and were asked to indicate whether each question should be kept, modified, or deleted for future surveys.

Schainost reviewed some recurring problems with the standardized survey and survey questions. Communication between the Outreach and Education Committee and the individual responsible for designing each state survey is crucial. Information was frequently relayed second or third hand which resulted in confusion or misunderstanding of what the MRBP wanted. Each state tends to tweak the questions so it can be difficult to compare results among several states. States sometimes omit standardized questions from their survey stating that "This question will not work in our survey because...", further preventing comparison of results among states and throughout the basin. Overall he had a difficult time compiling the results of the seven surveys to compare the results.

Schainost provided a couple of recommendations for future surveys:

- 1) make it clear that the MRBP is providing "assistance" to the agency and not doing our own survey, and
- 2) provide a spreadsheet with questions and blank boxes to be filled-in after the survey and provided to the MRBP to make it easier to compile results.

Discussion:

How do we address potential leading questions? It is important to have a core set of questions that are asked consistently across states, but also to provide states the flexibility to ask questions that are specific to their needs. Overall several of the questions worked very well for Illinois. It is important to really identify the core information that is desired to prevent asking similar questions that can be frustrating to survey respondents.

Action Items:

- ! The Outreach and Education Committee was asked to continue discussing this topic during the breakout session and to provide a recommendation back to the full panel.

11. MRBP Award Presentation

Outgoing MRBP Co-Chair Jason Goeckler was presented with a plaque in appreciation and recognition of his leadership as MRBP Co-Chair for the last 3 years.

12. Committee Breakouts

The committee members were asked to review the committee's goals and objectives, short-term and long-term priority actions to accomplish the committee goals and objectives, and to identify needs that must be addressed for the committee or panel to accomplish the priority actions. Committees were asked to review the status of on-going committee projects, finalize the FY2011 work plan, and to begin development of an FY2012 work plan. Funding requests for committee projects need to be identified in the work plan. Committees were also

asked to identify potential ANSTF recommendations for discussion and consideration during the afternoon committee reports.

Action Items are identified in the committee reports.

13. Committee Reports

Each Committee Chair reported out on their committee's breakout meeting. The committees' 2011 work plans are provided in Attachment 1. The committee chairs all recommended longer breakout sessions (e.g., 3 hours) during future meetings.

Outreach and Education Committee

On-going projects:

- The AIS Field Guide should be in the final stages and ready for printing but the exact status of the project is unclear at this time. One of the committee members will call Jay Rendall, lead for the project, to discuss project status and steps to get it printed and distributed.
- A considerable amount of time was spent discussing the ANS Boater Surveys and their intended value to the MRBP. The committee will contact states that have completed MRBP sponsored surveys to ask what is being used and how it is being used. Instead of being focused getting a list of percentages for each of the questions back from the states in a format that allows for comparison among state results, the focus should be on assisting states to conduct surveys of their own. Once a state has completed a survey the Outreach and Education Committee would then ask the state, based on the results of the survey, what can the MRBP do to further the state with their outreach efforts (e.g., what products could the MRBP help to provide). The MRBP can then focus on meeting these identified needs. Often times what is needed in one state is needed in several states.
- This fits in with discussion during previous meetings about working with NGO's to produce outreach materials. Many NGO's have the experience to develop outreach materials. The MRBP can work with the states to complete surveys, identify kinds of outreach materials needed, and then provide funding to NGO's to produce products.

Completed projects:

- The Asian Carp marketing summit was completed and a report has been published and distributed electronically. The report is also available on the Illinois/Indiana Sea Grant website.

New business:

- The committee will be sending out a water garden outreach poll to each of the states. The poll will only have about four questions:
 - Can the water garden hobby create AIS problems?
 - Is there something the MRBP can do to assist the state to address this vector?

- The committee discussed the MRBP web site and requested the state ANS boater survey reports be added. The committee also recommended links to species and/or pathway specific information. A link to the information Eileen Ryce presented earlier in the meeting regarding Montana's AIS Outreach Program was provided as an example.
- The Illinois/Indiana Sea Grant is organizing another print run of Asian carp watch cards and asked if the MRBP would be interested in purchasing cards to distribute to member states. The watch cards use the 877-STOP-ANS national hotline number for reporting new sightings. The committee would like to gauge the members' interest in ordering additional supplies.
- The Upper Mississippi River Aquarium is developing an AIS display and may approach the MRBP for financial assistance. The Coastal America Partnership is also helping to develop AIS displays at other aquaria and may approach the MRBP for financial assistance.

Discussion:

Will you be sending out a questionnaire to those states that have completed the boater surveys? Yes, not so much a questionnaire as asking each state directly how the results are being used and if the state has ideas for outreach materials that the MRBP could help to produce or get produced to assist the state. The committee will rely on each state to identify what is needed and how the panel can provide assistance.

Prevention and Control Committee

Risk Assessment Prioritization Tool:

Mike Hoff reported that some 400 species have gone through the rapid screening tool developed by the MRBP. Most of the 400 species are fish, but some aquatic invertebrates and aquatic plants have been included. Mike hopes in the next year to rapidly screen 600 to 800 more species. The screening tool identifies those species that require a more detailed risk assessment. The committee previously identified the need to develop a prioritization tool for those species requiring full risk assessment and the MRBP obligated \$10,000 for this work last year. The committee did not initiate this project last year in the hopes that a similar project would be funded through GLRI; unfortunately it was not. It is doubtful that it would be funded with 2011 GLRI, but a possibility again in 2012. The committee recommends the MRBP de-obligate the \$10,000 that was set aside for this project and Mike Hoff will pursue other promising funding opportunities to complete this work.

Committee Responsibilities, Goals, Actions, and Needs:

The committee spent some time working on this task but little progress was made due to limited committee time. The committee decided to spend some time on conference calls to update this document that has not been updated since the committee was formed.

MRBP Model Rapid Response Plan:

The MRBP Model Rapid Response Plan and protocols for fish appendix were both completed since the last meeting. States need to take the fish plan and adopt a similar form of the plan as their own so they can be prepared to implement rapid response when necessary. The committee would also like to develop appendices with protocols for invertebrates and plants. The committee is planning on developing the plant protocols document next, but the group does not have a good idea on how to move forward or what the cost may be. Perhaps we could work with other groups (i.e. plant management experts) to develop the plant rapid response appendix. Identify in work plan as a priority but no funding devoted at this time.

Triploid Grass Carp Program Review:

A Request for Quotes was developed and sent to a list of potential contractors identified by the multi-stakeholder steering committee organized by the MRBP. Three groups expressed interest in developing a proposal; two eventually declined and one submitted a proposal. MICRA submitted a proposal for GLRI funding for this project. MRBP currently has \$10,000 obligated for this project. GLRI funding would allow for the full review to be completed at once, rather than objective by objective over a number of years. The proposal will be sent first to MRBP EXCOM and then to the steering committee for their review and to determine support for the proposal. There was not time for the steering committee to review the proposal before the GLRI application deadline. No new funding request for the review at this time until we hear the outcome of GLRI funding. We should know about GLRI funding in July. The committee would like to pursue other federal funding opportunities if GLRI funding does not come through.

Diploid Grass Carp Letter to States:

The committee would like to encourage states that allow grass carp to only allow triploid grass carp. The committee has discussed this since the meeting in Montana several years ago. The committee is going to finalize a draft letter to be forwarded by the MRBP to MICRA. MICRA would be asked to send the letter to all of the Mississippi River Basin fish chiefs to urge them to prohibit the continued stocking of diploid grass carp.

Will MICRA be asked to send the letter to all states or only Mississippi River Basin states? All diploid states, with the exception of Hawaii, are in the Mississippi River Basin, so the letter will only be sent to the basin states. The letter will also inform the fish chiefs of the triploid grass carp program review.

Dry Hydrants

This is an issue that was first discussed at the San Antonio meeting. Kansas and Missouri have developed letters to inform fire departments about the concerns with dry hydrants and ANS (e.g. mussels, plants, pathogens). The Kansas and Missouri letters will be used to develop an MRBP template that other states can use.

ICS Training

The committee was not able to organize an MRBP-sponsored advanced ICS Training class during 2011. Other opportunities for advanced training through the Department of Interior were made available to MRBP members in early 2011. A few members expressed interest, but no members ended up attending the training. The EPA may have training opportunities available for MRBP members to attend. The committee decided not to organize MRBP sponsored training, but rather to continue identifying existing training opportunities. Panel funding will remain obligated to provide travel support for panel members to attend advanced ICS training.

Northern Snakehead eDNA Monitoring in Arkansas

The University of Notre Dame (UND) is working with the University of Arkansas and the Arkansas Game and Fish Commission to develop an eDNA monitoring program for northern snakeheads in Arkansas. Markers have been developed and tested in the lab, but have not been field tested. The project is described as a "Proof-of-Concept" and is intended to determine their success at detecting eDNA out in the wild. The project would also be designed in a way to provide an assessment of northern snakehead distribution in the Piney Creek watershed, if the technique proves successful. The Potomac River was suggested as an alternative study site to Piney Creek but obviously not using MRBP funds.

UND has requested the panel to provide funding assistance for processing water samples collected from the drainage this year. UND will be asked to provide the committee with a 1-page synopsis of deliverables to inform the panel what they would get in return for providing financial support to this effort. The committee would like to see UND include as part of a final report to the panel, development of the approach for using eDNA for early detection of fishes. The committee is requesting an initial \$5,000 with an additional \$5,000 available if the concept seems to be working using FY 2011 money to support this project, pending further information from UND. Panel funds will be matched by in-kind contributions from UND, and will not fully cover the cost of processing water samples.

Committee Business

The committee has not been very active between meetings and as a result projects have not progressed very fast. The committee members plan to begin holding conference calls between meetings in order to continue making progress between panel meetings.

Research and Risk Assessment

The committee has not historically had much continuity in its membership and participation at meetings. The Committee Chair, Duane Chapman, encouraged panel members to participate regularly in the committee.

Several ongoing projects will be wrapped up this year, so the committee spent considerable time discussing potential new projects.

Asian Carp in Reservoirs

The need to identify which reservoirs in the Mississippi River Basin are at risk to establishment by Asian carps was discussed. Missouri and Kansas are particularly concerned about Truman Reservoir. Two projects were discussed:

1. Development of a risk assessment tool for managers to use for reservoirs of concern within their respective states.
2. Facilitate the completion of the risk assessment for Truman Reservoir, the results of which would be useful to the basin as a whole. The committee plans to request the panel for matching funds for the completion of a cooperative study with MDC and Kansas to determine if Asian carp of any species are recruiting in Truman Reservoir and its tributaries. The funding request is dependent upon whether or not Missouri and/or Kansas would be interested in providing funding for such a study.

Zebra and Quagga Mussel Research

The committee discussed a Zebra and quagga mussel research project that was completed 2 years ago in the Colorado Basin. It was a collaborative project between the USFWS and the Bureau of Reclamation. The effectiveness of protocols to kill veligers in aquaculture shipments was tested. A formalin bath with potassium chloride is currently used by most hatcheries to kill zebra mussel veligers. This protocol was being tested for its effectiveness on quagga mussels and it was determined that the recommended protocol was not effective to kill quagga mussel veligers. The committee was concerned that only one person in attendance at the meeting had heard of this study that was completed two years ago. Colorado repeated the study at two state hatcheries and reached the same conclusion that the treatment is not effective for killing quagga mussel veligers. There was one significant difference in the study design between the zebra and quagga mussel studies. In the original study with zebra mussels, veligers were observed under a microscope and if they were not moving they were considered dead. In the quagga mussel study, the researchers moved veligers that were not moving back into freshwater and after a period of time the veligers were found to have recovered. The zebra mussel study did not include a recovery period and it is feared that the recommended treatment may not be effective with this species either. Many western and Midwestern states rely on this program to prevent the movement of zebra mussel veligers when fish are moved.

The committee believes that the study needs to be repeated with a recovery period for zebra mussel veligers to determine whether or not the treatment is lethal and effective. The committee identified a short list of researchers that could potentially manage such a project. Chapman will contact malacologists and toxicologists to identify interest in completing the recommended study. The committee is identifying partners and working to make sure the right people are involved. Following this, the committee may request the MRBP for funding assistance to conduct the study.

Asian Carp Monitoring in the Upper Mississippi and St. Croix Rivers

The National Park Foundation has been spearheading an effort to prevent the expansion of Asian carp into the Upper Mississippi and St. Croix rivers. There is an opportunity for a couple of locks to be permanently closed to prevent a potential invasion of Asian carp into several hundred miles of wild and scenic river. The group is concerned about protecting the quality of the ecosystem and native mussels and wants to survey more intensively for Asian carps. They have received some private funding but no federal assistance. The group is discussing the development of an eDNA and commercial fishing gear sampling protocol to better determine how many Asian carp might be in the area. The MRBP was asked to consider matching funds to assist in the implementation of monitoring program. The MRBP could support this effort with or without funds, but a small amount of matching financial assistance (e.g., \$2,500 - \$5,000) is requested. The goal would be to provide assistance that would support the development of a policy regarding the closure of locks in the Upper Mississippi River Basin to prevent an invasion by Asian carps.

Cataloging Species Transfers

The committee briefly discussed the need for a catalog of species transfers that are known to have occurred at the different interbasin connection sites identified in the USACE Great Lakes and Mississippi River Interbasin Separation (GLMRIS) study. This could be a useful tool for knowing what kind of transfers have occurred in what types of interbasin connections. This would probably be a desktop type of project that would not require a lot of funds to complete. Chapman is going to follow-up with USACE to determine if there is interest in supporting such a project.

Discussion:

At the upcoming 100th Meridian meeting in July, a researcher who conducted the quagga mussel study at one of the facilities in Colorado will be presenting the results of her work. This may be a good opportunity to visit with her and inquire about her interest in participating. She has been contacted about her interest in the proposed zebra mussel project. She is from Nevada and is not interested (or able) in participating.

The Fairport Hatchery in Iowa has a new facility that is available for conducting the zebra mussel study. It is located right on the Mississippi River and is a good location for zebra mussel work. A good facility is available, now we need to find the right expertise.

14. Public Comment

A sign-in sheet was provided for individuals wanting to make a public comment and a call for public comments was announced. There were no public comments.

15. Meeting Wrap-up

Recommendations and Decision Items

Recommendations from today's meeting will be submitted to the ANS Task Force for consideration during the fall meeting. Three MRBP recommendations were

submitted to the ANS Task Force for the spring meeting this week. The first two recommendations have been brought before the ANS Task Force several times. The third is a new recommendation.

1. MRBP requests the ANS Task Force to work with its partners to obtain appropriations for the full authorized funding for state ANS management plans.
2. ANS Task Force members should work with the USFWS to fully implement the national Asian carp management plan that was approved by the ANS Task Force in November 2007.
3. The ANS Task Force should encourage and develop a qualified rapid response team that can support states and others planning and implementing rapid response actions for AIS.

Committee Chairs were asked to review their meeting notes and work plans, and to follow-up with committee members as needed via conference calls and email to finalize recommendations for the fall ANS Task Force meeting and 2011 workplans. Committees were also asked to continue updating the committee's goals, objectives, priority actions, and needs.

Discussion:

What is the status of the snakehead management plan? Steve Minkinen, USFWS, is continuing to work on the plan. It is not ready for approval by the ANS Task Force.

A proposal was made that the MRBP submit a recommendation to the ANS Task Force for a draft of the snakehead management plan to be expeditiously completed and submitted to the ANS Task Force for review and/or approval.

A recommendation was made that the panel should work on developing guidelines and Best Management Practices, similar to the recreational guidelines, for other pathways. Similar to what is available for the Stop Aquatic Hitchhikers and scuba divers. Other pathways have come to the forefront such as bait trade, water gardens, use of live organisms in classrooms, etc. It would be useful for people doing outreach across the country to have a unified set to avoid providing conflicting information. Is this something that should be assigned to a committee to work on? Was there some discussion on this at the last ANS Task Force meeting? The Northeast Regional Panel is bringing a recommendation to the ANS Task Force at this meeting to develop an Ad-hoc committee to develop vector interception management strategies. This may be something we want to revisit as a panel following discussions at the ANS Task Force meeting this week.

If approved by the ANS Task Force this week, Mike Hoff and Marshall Meyers (PIJAC) will be working with a committee to develop Best Management Practices for several vectors including: water gardens, birds, and ornamental fishes. Best Management Practices are more detailed than guidelines and will cover the full chain of custody (i.e., "cradle-to-grave"), whereas guidelines are shorter, snappy, and more easy to remember.

Action Items:

- ! Committee Chairs were asked to send committee meeting notes (including decision items or recommendations) and updated 2011 work plans to Conover.
- ! The MRBP will submit a recommendation to the ANS Task Force requesting that a draft of the snakehead management plan be expeditiously completed and submitted to the ANS Task Force for review and/or approval.
- ! The panel will consider ANS Task Force follow-up actions to the Mid-Atlantic Panel's recommendation to develop an Ad-hoc committee to address vector management strategies and the need for the MRBP to develop guidelines (similar to the recreational guidelines) for additional high risk vectors.
- ! Mike Hoff will report back to the Panel on discussions at the spring ANS Task Force meeting and progress on the potential joint development of Best Management Practices for several ANS vectors with PIJAC and other volunteers.

Next MRBP Meeting

The panel agreed to meet in late November or early December for a 2-day meeting. Curtis Tackett offered to host the next panel meeting in Oklahoma. The last week of November was tentatively selected for the next meeting.

Mark Oliver and Brian Wagner were acknowledged for hosting the MRBP and ANS Task Force meetings and all of their efforts organizing the field trip and preparing for the meetings.

Action Items:

- ! Oklahoma agreed to host a 2-day MRBP meeting tentatively scheduled for the last week of November 2011.
- ! Panel members were asked to submit potential agenda items for the next MRBP meeting to the panel coordinator.

Outreach and Education Committee

Meeting Notes

The meeting began at 1:00.

Attendees included: Nick Schmal
Pat Charlebois
Lani Cook
Curtis Tackett
Mae Davenport
Lacey Pugh
Susan Mangan
Steve Schainost, Chair

Due to the nature of this year's schedule, we only had two hours to transact business this year. We began with reviewing the previous workplan and budgeted items.

The first of these was the "Field Guide to Aquatic Nuisance Species". It was explained that this would be a resource for those that need the information but not considered to be a freebee for the general public. This project is headed by Jay Rendell (MN) with much of the work being done by Mandy Beall as a private contractor. At last word, the document is in final revision. Attempts to contact Jay to ascertain the current status were unsuccessful. Pat Charlebois may call him to find out what's going on. It will be carried over pending the results of the phone call.

The next budgeted item was the "Aquatic Nuisance Species and Boater Surveys". [These surveys are designed to collect information about our public's knowledge of ANS, where they get their information, and their boating activities. Designed as a phone or mail survey, it has proven useful in directing (or redirecting) agencies information programs. It was suggested that the survey, in addition to the individual states, would prove valuable to the MRBP in addressing its public outreach efforts at the basin level. To date, seven surveys have been completed including KS, MT, IN, IL OK, WI, and MO.] No surveys were funded in 2010 and, instead, the results from completed surveys was compiled and presented at the general meeting.

We had a long discussion on the surveys and how they were structured. This was an extensive discussion. In the past, the focus has been to get states to use our exact list of questions so that results may be compared. It was found that this was a difficult goal to accomplish. The immediate objective for the future would be to pare down the list of questions to eliminate those that were thought to be redundant or unnecessary. Additionally, states will not be queried after they had completed a survey as to whether they are using the results, how the results are used and if they found any needs that could be fulfilled by the MRBP.

We then moved to discuss non-budgeted items.

Next was the idea that we partner with NGOs like Wildlife Forever and B.A.S.S. While our contacts with B.A.S.S. haven't seem to gone anywhere, we will try to maintain contacts with both. In addition, we may be able to use the resources available through Wildlife Forever to implement our larger plan if we can get additional funding from the ANSTF. We discussed various ways that they could help us get the message out but concluded that we really needed talk with them for their ideas. Nick Schmal brought up the idea of partnering with the National Mississippi River Museum and Aquarium to develop a permanent display on AIS. This was discussed along with using the State Fish Art contest to get our message out.

Pat Charlebois previously reported that IL/IN Sea Grant was working on ideas for the water garden hobby and retail outlets of plants. Several studies have found that this hobby is one recurring source of exotic, invasive plants (and sometimes small critters too). Pat developed an email poll regarding these guidelines which I have forwarded out to the MRBP states to assess their level of concern regarding this pathway.

On the same issue, IL/IN Sea Grant put together a Summit on Asian carp marketing which was held in August, 2010. The objective of the Summit was to assemble everyone working on this concept to develop an action plan on commercial harvest and marketing. The summit was held and the published results are available on the IL/IN Sea Grant website.

The meeting adjourned at 3:00.

2011 Work Plan

Activity	Milestones	Deliverables	Funding Request
"Field Guide to Aquatic Nuisance (Invasive) Species"	15 Nov 2010	Print and distribute	\$18,000
ANS and Boater surveys	Next meeting	State survey results	Up to \$5,000 per state, two states per year
NGO's like Wildlife Forever and B.A.S.S.	Next meeting	Pat C. will call and investigate ways that we can cooperate on producing outreach products	None at this time
Water Garden outreach	1 July 2010	Pat C. will produce email query designed to assess the level of concern among basin states regarding this pathway	None
AIS display for National Mississippi River Museum and Aquarium	Next meeting	Assist in sponsoring a permanent AIS display for the Aquarium	None - Waiting for project proposal
Asian Carp watchcards	Next meeting	Purchase and deliver to states	\$6,000

Prevention and Control Committee

2011 Work Plan

Topic	Issue	2011 Budget needs
PCC Responsibilities, Goals, and Actions	Revise document to bring up to date	NONE
MRBP Rapid Response Plan	Complete plant and invertebrate appendices however difficulty in identifying how to move this forward or what the cost may be.	NONE
Triploid Grass Carp Program External Review	One bid to perform the review has been received. MRBP and project steering committee will review the scope and bid to be sure it fits our desires. \$10,000 has been previously obligated but this amount will not allow the complete review. Project has been submitted for GLRI funding and if not successful then other federal funding opportunities may be explored.	\$10,000 previously obligated. No additional budget request at this time.
Diploid Grass Carp states	Committee will finalize letter drafted several years ago. Letter will then go to MICRA for distribution to all MRB fish chiefs.	NONE
Species Ranking System for Detailed Risk assessment	Original intention was to hire a graduate student, coop, or university to develop ranking system. Project submitted for GLRI funding consideration. May be other funds committed if GLRI is not successful.	Previously obligated \$10,000 for project. GLRI or other funding source may be found so it was agreed that we will de-obligate the entire \$10,000
Dry Hydrants	Information developed by Kansas and Missouri will be blended together and distributed to MRB state contacts.	NONE
ICS training	Continue to identify advanced ICS training to get members "Command Qualified" to lead ICS rapid response efforts. Money previously obligated for holding our own MRBP training opportunity will remain obligated but now for travel support to get members to training sponsored by other entities (e.g. EPA)	\$20,000 previously obligated, no additional obligation at this time.
Northern Snakehead eDNA Monitoring in Arkansas	Notre Dame wishes to test a northern snakehead eDNA monitoring program in Arkansas.	\$5,000 initial obligation to test the concept, additional \$5,000 if the concept works to assist in delimitation of northern snakehead in Piney Creek watershed.

Research and Risk Assessment Committee

Meeting Notes

River Barges and tows as Vectors for Asian carp:

Contractor has completed field work of Asian carp entrainment into barges and of survival in barges. We are awaiting final report. Phil Moy or contractor will report on the study August 30 at Technical and Policy workgroup meeting August 30 in Chicago. Additional presentations planned, probably at the Midwest Fish and Wildlife Conference and/or the Great Lakes Fishery Commission meeting in March. Committee Chair or designee will present on these results at the next meeting of the MRBP.

Decision Support System for Improved Management of Established Aquatic Invasive Species:

Leah Sharp is currently analyzing the data collected in the policy analysis, focus groups, and manager interviews. Blueprint for the decision report system is planned to be completed by end of calendar year, and final decision support system by spring of 2012.

Experts Database:

The committee will continue to support the experts database by recruiting new Tier 2 contacts and updating Tier 1 contacts as needed. Susan Pasko (NOAA) and David Britton (USFWS) have agreed to make some needed updates to the database programming this year. Some improvements have already been incorporated. Susan Pasko sent out a survey to the experts soon after the spring MRBP meeting and got over 150 responses just before she left on maternity leave. There was some confusion over one or two of the questions and substantial time has passed, therefore Susan will send out a new survey and after responses are received will compile the responses and map out a plan to restructure the database. Lisa Moss from the Mid Atlantic Panel has also volunteered assistance to see this project through.

Catalogue of species transferred between Great Lakes and MRB:

At the most recent MRBP meeting, committee members suggested that a catalogue of species which are known or believed to have moved through water connections between the Great Lakes and the Mississippi River Basin would be a useful product. Committee Chair agreed to contact Michael Saffran of the USCOE GLMRIS project to see if any such product existed. Chair has done so and the response was that no such product was in existence, but that it would be useful to the GLMRIS effort. In 2011, Chair will contact committee members for ideas as to how such a catalogue might be compiled. It is likely that documentation of such transfers will be low, and transfers might be difficult to assign to any given connection. The Chicago Ship and Sanitary Canal might be an exception. Round gobies, zebra mussels, and at least two species of undesirable zooplankton are known or believed to have entered the MRB through that connection.

Asian carp in reservoirs:

The committee identified a need to determine the risk of Asian carp establishment in Midwestern reservoirs. One reservoir that has been identified as possibly at risk is Truman Reservoir in Missouri, which has tributaries that extend into Kansas that are potential spawning habitat. Many grass carp are reported from Truman Reservoir, and

there have been several unconfirmed recreational user reports of silver carp jumping in response to boating activity. The committee suggested that MRBP provide supplemental funding if Missouri and/or Kansas were to fund a study to investigate Asian carp reproduction in Truman Reservoir. Tim Banek submitted a proposal to the Missouri Department of Conservation, but it was not funded. The proposal will now be submitted to the Fish and Wildlife Service.

Zebra and Quagga Mussel Research:

At the spring 2011 MRBP meeting, the committee discussed a Zebra and quagga mussel research project that was completed 2 years ago in the Colorado Basin. It was a collaborative project between the USFWS and the Bureau of Reclamation. The effectiveness of protocols to kill veligers in aquaculture shipments was tested. A formalin bath with potassium chloride is currently used by most hatcheries to kill zebra mussel veligers. This protocol was being tested for its effectiveness on quagga mussels and it was determined that the recommended protocol was not effective to kill quagga mussel veligers. The committee was concerned that only one person in attendance at the meeting had heard of this study that was completed two years ago. Colorado repeated the study at two state hatcheries and reached the same conclusion that the treatment is not effective for killing quagga mussel veligers. There was one significant difference in the study design between the zebra and quagga mussel studies. In the original study with zebra mussels, veligers were observed under a microscope and if they were not moving they were considered dead. In the quagga mussel study, the researchers moved veligers that were not moving back into freshwater and after a period of time the veligers were found to have recovered. The zebra mussel study did not include a recovery period and it is feared that the recommended treatment may not be effective with this species either. Many western and Midwestern states rely on this program to prevent the movement of zebra mussel veligers when fish are moved.

The committee believes that the study needs to be repeated with a recovery period for zebra mussel veligers to determine whether or not the treatment is lethal and effective. The committee identified a short list of researchers that could potentially manage such a project. Chapman will contact malacologists and toxicologists to identify interest in completing the recommended study. The committee is identifying partners and working to make sure the right people are involved. Following this, the committee may request the MRBP for funding assistance to conduct the study.