



**December 13-14, 2011
Arcadia Lake Conservation Education Center
Oklahoma City, OK**

Decisions Points and Action Items

1. The ANSTF will send a request out to all of the ANSTF members and regional panels to find out how the USGS NAS database is being used and how important it is to your day-to-day mission. Panel members are asked to respond to the forthcoming survey with the requested information.
2. Panel members are asked to consider participating on multiple committees and workshops. E-mail invitations will be sent from the ANSTF for:
 - a) A northern snakehead national management plan development team
 - b) A lionfish national management plan development team
 - c) An ad-hoc committee to develop an interagency strategy to address research gaps identified in the National Academy of Science report on propagule pressure and invasion risks associated with ballast water
 - d) A joint ANSTF/NISC committee to focus on the relationship between climate change and invasive species (terrestrial and aquatic)
3. Panel members are asked to review and provide comments on the ANSTF draft strategic plan.
4. Panel members are asked to review and provide comments on the ANSTF's recreational guidelines.
5. Panel members should forward information to Susan Mangin on ANS outreach efforts that they would like posted on the ANSTF website.
6. Mike Hoff will provide the FWS's six ecological risk screening reports that are available for distribution to the Executive Board for consideration to post on the panel's website until they are available on the FWS website.
7. State members should let Mike Hoff know if there are any AIS of particular concern to them. It is highly possible that a risk screening was already completed, and if not, it may be possible to make it a high priority for completion.
8. Any additional information on proposed 2012 projects should be provided to the committee chairs as soon as possible.

9. The ExComm will get together in January to review the funding requests, proposals, and other additional information provided and prioritize projects for funding in 2012.
10. Luci Cook will work with Jay Rendall to complete the Field Guide to Aquatic Nuisance Species.
11. Steve Shults and Kim Bogenschutz will look for partners to help fund the Triploid Grass Carp Review proposal.
12. Jay Rendall is going to work with Tim Banek to modify Missouri's information on dry hydrants into a template that can be used by any Mississippi River Basin state.
13. Luci Cook will work with Jay Rendall and Chip Welling from Minnesota to begin working on a plant module for the Mississippi River Basin Rapid Response Plan.
14. Jay Rendall will lead an ad-hoc committee to develop BMPs for the lake services industry.
15. Jay Renall and Steve Shults will be checking on support from their agencies to serve as the Prevention and Control Committee Chair.
16. Mark Gaikowski and Catherine Sykes will put together a proposal for equipment needs to advance Catherine's research on dreissenid mussel decontamination procedures.
17. Dennis Riecke will work with Kim Bogenschutz to develop an NCN for the development of current information on the total dollar cost of ANS for consideration by the AFWA Invasive Species Committee.
18. The Outreach and Education Committee will organize a group to further consider the recommendation to assist in the organization of an ANS workshop for AAGs in the Mississippi River Basin states.
19. Steve Shults will send a copy of the University of Illinois graduate student's report on recreational use changes on the Illinois and Mississippi Rivers to Kim and Greg.
20. Conover will get the MRBP Model Rapid Response Plan and the accompanying Fish Module on the MRBP website.
21. Tim will send the proposal for the Missouri crayfish control project to the Executive Committee.
22. Chapman will work with Catherine Sykes and Mark Gaikowski to get a proposal for the quagga mussel control project to the Executive Committee.
23. Ryce will check with Susan Mangin to see if the ANS Task Force is already addressing the need for a new assessment of the economic impacts of ANS.
24. The Executive Committee will send a request for new recommendations out to the full panel membership.

- 25.** Jay Rendall will provide more information on the Midwest Invasive Species Conference to the Executive Committee.
- 26.** Dennis Riecke will let the Executive Committee know when and where the next Gulf and South Atlantic Panel meeting is scheduled.
- 27.** The Executive Board will make a decision and let the panel members know the dates and location for the next MRBP meeting.
- 28.** The Executive Board will develop a list of states that have not yet hosted an MRBP meeting.



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Meeting Agenda

Tuesday, December 13

- 8:15 Registration
- 8:30 Welcome, Introductions, and Review of May 2011 Meeting (Eileen Ryce)
- 8:40 Oklahoma AIS Issues (Curtis Tackett)
- 9:00 Didymo (Bob Wiltshire)
- 9:40 Mississippi River Museum ANS Outreach (Kim Bogenschutz)
- 10:00 Break
- 10:30 Zebra/Quagga Mussel Veliger Treatment Protocols (Catherine Sykes)
- 10:50 An AIS Hatchery Filtration System (Jason Goeckler)
- 11:10 AFWA Invasive Species Committee Update (Bogenschutz)
- 11:25 ANSTF and Panel Principals Updates (Susan Mangin / Ryce)
- 11:40 MICRA Updates and MRBP Coordinator Report (Greg Conover)
- 12:00 Lunch
- 1:00 Committee Breakouts (All)
- Review on-going projects and 2011 work plan
 - Develop 2012 work plan
 - Identify recommendations for the ANSTF
- 3:00 Break
- 3:30 Committee Breakouts continued (All)
- 5:00 Adjourn

Wednesday, December 14

- 8:15 Convene
- 8:30 Public Comment Period
- 8:45 Committee Reports (Committee Chairs)
- 9:30 Mississippi River Basin Attorney Generals AIS Workshop (Hoff)
- 9:45 Recreational Use Survey Data (Bogenschutz)
- 10:00 Break
- 10:30 Asian Carp in Minnesota (Peter Sorensen)
- 10:50 Asian Carp Control in the Mississippi River Basin (Ron Brooks)
- 11:10 Congressional Outreach by the MICRA Invasive Species Committee (Goeckler)
- 12:00 Lunch
- 1:00 A Decision Support System for AIS in the MRB (Leah Sharpe)
- 1:20 Montana's Recent Rapid Response Exercise (Ryce)
- 1:40 Lake Texoma Pipeline (Dave Britton)
- 2:00 Nebraska ANS Boater Survey Results (Steve Schainost)
- 2:20 Best Management Practices for Water Gardens and Ornamental Fishes (Hoff)
- 2:30 Meeting Wrap-up (Ryce / All)
 - 2012 Work Plan Discussion
 - Recommendations and Decision Items for ANSTF
 - Set Date and Location for Next MRBP Meeting
- 3:00 Adjourn

Meeting Attendees

Name	Affiliation
Steven Schainost	Nebraska Game and Parks Commission
Doug Keller	Indiana Department of Natural Resources
Bob Wiltshire	Invasive Species Action Network
Susan Mangin	U.S. Fish & Wildlife Service
Kim Bogenschutz	Iowa Department of Natural Resources
Jay Rendall	Minnesota Department of Natural Resources
Curtis Tackett	Oklahoma Department of Wildlife Conservation
Sue Thompson	Carnegie Mellon University
Bob Wakeman	Wisconsin Department of Natural Resources
Catherine Sykes	U.S. Fish & Wildlife Service
Bobby Wilson	Tennessee Wildlife Resource Agency
Brian Wagner	Arkansas Game and Fish Commission
Eileen Ryce	Montana Fish, Wildlife, and Parks
Nancy Roberts	USDA – APHIS –VS – Oklahoma
Kevin Irons	Illinois Department of Natural Resources
Steve Shults	Illinois Department of Natural Resources
Debbie Cunningham	Oklahoma Department of Agriculture
Leah Sharpe	University of Minnesota
Duane Chapman	U.S. Geological Survey
Peter Sorensen	University of Minnesota
Michael Hoff	U.S. Fish & Wildlife Service
Mark Galkowski	U.S. Geological Survey
Tim Banek	Missouri Department of Conservation
Jason Goeckler	Kansas Wildlife and Parks
Ron Brooks	Kentucky Department of Fish and Wildlife
Luci Cook	Texas Parks and Wildlife
Dennis Riecke	Mississippi Department of Wildlife, Fisheries and Parks
Greg Conover	U.S. Fish & Wildlife Service - MRBP Coordinator



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Meeting Notes

1. Welcome, Introductions, and Review of May 2011 Meeting

Meeting attendees introduced themselves and were welcomed by 2nd Year Co-Chair Eileen Ryce. Eileen introduced the MRBP Executive Committee members and encouraged panel members to consider serving as panel co-chair or committee chair for any upcoming vacancies. Eileen thanked Curtis Tackett and the Oklahoma Department of Wildlife Conservation for providing meeting space and hosting the panel.

Eileen briefly reviewed the panel's previous meeting in May 2011 in Little Rock, Arkansas. The meeting in May was shorter than usual because the panel hosted the ANS Task Force meeting that same week. Only a couple of action items from that meeting remain, and those will be addressed during the current meeting.

No Action Items.

2. Oklahoma AIS Issues

Curtis Tackett, Oklahoma Department of Wildlife Conservation, gave an overview of ODWC's AIS issues and outreach efforts. The Oklahoma AIS management plan was approved in 2008 and the state's first AIS coordinator was hired shortly after. Oklahoma's AIS program primarily revolves around outreach and education, but also includes law enforcement, early detection monitoring, and securing funding for research. Federal funding received for implementation of the state's AIS management plan is inadequate to provide an operating budget, so Curtis spends considerable effort securing additional funding for the program. The AIS program also handles the state's commercial permitting for import or export of all aquatic wildlife including permitting for commercial minnow dealers, bait transfers, etc. ODWC has been reaching out to other agencies in the state regarding decontamination protocols.

Bighead carp, silver carp, grass carp, Harris's mud crab, exotic waterflea, didymo, white perch, zebra mussels, hydrilla, golden alga, alligator weed, purple loosestrife, Eurasian water milfoil, and largemouth bass virus are all species of concern that are

present in Oklahoma. Additional species of concern include black carp, northern snakehead, brook stickleback, New Zealand mud snail, VHS, whirling disease, nutria, Spring Viremia of Carp, quagga mussels, rudd, rusty crayfish, giant salvinia, and water hyacinth.

Curtis gave an overview of many of the state's AIS outreach efforts.

Discussion:

Did you have any resistance from boat owners or tournament fishermen that didn't want to have their boats washed? Some wanted to skip the boat wash and just get to the weigh in. We didn't really operate it as a true decontamination, but more used it just as a chance to do some education and outreach.

Was there any significance to the lanyards, were fishermen required to wear them? They were not required to wear the lanyards. We felt the lanyards would make the cards more visible and less likely to be lost.

Oklahoma recently banned an aquatic invasive plant. Do you know anything about the banning procedure for invasive plants in Oklahoma? ODWC does not have any regulation over plants. That may have been done through the Oklahoma Department of Agriculture.

No Action Items.

3. Didymo

Bob Wiltshire is the Executive Director of the Invasive Species Action Network and the Vice-Chair of Invasive Species Advisory Council. He is also a member of the Western Regional Panel. The MRBP was requested to help sponsor a national didymo conference to be held in 2012. The Executive Committee has agreed to provide some funding towards the conference and invited Bob to speak to the panel members about didymo. Bob helped to organize the first international conference on didymo in 2006. The conference resulted in a white paper that is frequently referenced. A lot has been learned since 2006 and that is the reason for organizing the 2012.

Bob gave an overview of didymo, addressing 'what do we know', 'what do we need to know', and 'what can we do'? Bob concluded his presentation by inviting MRBP members to learn more about didymo by visiting the Invasive Species Action Network website at www.stopans.org. The website has tab titled 'About ANS' with a specific section on didymo that includes the white paper and other papers on didymo. He also encouraged members to sign-up for 'Clean Angling News', a monthly electronic newsletter, and to attend the national didymo conference in 2012.

Discussion:

Montana Fish, Wildlife, and Parks recently signed up to the Clean Angling Coalition and have found it incredibly useful. A large portion of the angling public is the fly-

fishing group. The agency had been struggling with agency to public interaction with that particular group. The Clean Angling Coalition is a means to provide information to the public that they do not realize is coming from a state agency. It is much more of a peer-to-peer outreach opportunity.

Do you have any recommendations as far as concentrations at disinfections stations so that they continue to be effective over a long period of time? Didymo is very easy to kill, so it is not necessary to use harsh chemicals. A 5% solution of salt water is a good option for killing didymo. Salt has some negative aspects, but is about as good as you can do. As water evaporates, the salt actually becomes more concentrated. Dish soap also works to kill didymo. There is a disinfection paper out of New Zealand that is available on the www.stopans.org website. Complete drying works in places with low humidity. Dip stations can be a problem because they require maintenance, but they are important.

Is there a disinfection treatment that will kill both didymo and mud snails? No. Bob said he is one of the leading advocates for getting away from species specific work. But, he said, there are instances when species specific work can be beneficial. The one thing the angling public wants is a magic spray to spray on their waders to kill all ANS. The problem is we are dealing with plants, animals, and microbes. We would not want anglers running around with a single spray that could kill all of those organisms. It is a very challenging issue.

Has anyone been looking at the genetics of these populations to identify similarities and differences? Didymo is apparently native in Lake Superior and supposedly it is not a problem. It is not present anywhere else in Minnesota. We are wondering if what is present in Lake Superior is the same or different than these other populations. There is some work being done along those lines. eDNA work has been nearly perfected. Trying to tease out a variant between a native didymo and an aggressive didymo is more complex. That is a fundamental question: Why here and not here, what's different? At one point it was thought to be as simple as water chemistry, but it is not. If you want more information on genetics work, I would recommend contacting Leah Elwell at leah@stopans.org.

You started your presentation talking about some leaders in the industry, but then because of some failures the market was still maintained. Have there been efforts to work with those companies to get them to provide supporting documents so that when the government agencies come along side we can get something done? They are all profit driven. If they don't see a profit, then they are not going to do it. They are looking for the low-hanging fruit and right now that is felt soled boots. Much more important than getting rid of felt is getting rid of wading shoes. Boot foot waders with a single pieces smooth rubber boot are much easier to clean. Wading shoes have the tongue, laces, Velcro, and lots of creases that make them difficult to disinfect. Because of the differences in import duties, there is 25% penalty to import boots without felt. That is a big reason why the companies will not import non-felt soled wading shoes.

Specifically with regard to outreach, are there any opportunities to go back and try to work with industry to help deliver the message to anglers that felt soles are a problem and smooth rubber boot-footed waders are preferred. We are trying, and it seems logical that the industry would be interested in supporting this kind of stuff. In ordinary circumstances they would, but the reality is that with the economy the way it is today many of these companies are struggling to survive financially.

Another problem that we hoped the clean angling coalition would help with is that some companies see this as an opportunity to extend their brand by creating their own message. Some companies refuse to participate in common efforts with a single message like the stop aquatic hitchhikers campaign or the clean angling coalition, but rather are inventing their own stuff and their own language which results in disparate messages to different segments to the angling public.

Do you have any idea what the compliance is for states that ban felt soled wading boots? It depends on the state. Maryland, for example, has been very happy with the ban. They are getting very little push back from the public. This has been a great outreach opportunity because of all of the information in the stores.

Is there a place for states to turn if they need help with didymo identification? There are a host of labs. Fortunately it is easy to id, so most universities have people that can do it. If you have any question at all, you can always contact us at the Invasive Species Action Network and we can provide you with a contact.

Is there a location and date set for the national conference? No date has been secured yet. The North East Panel would like to hold their meeting in conjunction with the didymo conference next fall. We have been looking at Manchester, NH, during the 3rd week of October, but I expect this may get pushed back.

No Action Items.

4. Mississippi River Museum ANS Outreach

Kim Bogenschutz gave a brief overview of a project initiated by Nick Schmal and Wildlife Forever to develop an ANS display, similar to what has been developed at the Shedd Aquarium in Chicago. The National Mississippi River Museum and Aquarium is located in Dubuque, Iowa, right on the river. There was conference call with the museum staff in November to discuss what it would take to get an ANS display at the museum. The museum is interested in working with us, but they are not interested in having live displays. They were talking about potentially providing 2,000 ft² for a display. They are not charging anything for the space and they want to help develop the message. They basically just need money to develop the display materials. They estimate \$40,000 will be needed for design and fabrication of the display area, \$10,000 to \$30,000 for the cases and what gets put in the cases, and another \$10,000 for videos and sound bytes. The total is roughly \$60,000 to \$90,000 to develop the display. The Forest Service has said they have \$20,000 for the project, Nick has worked with the Coastal America Program previously and they

could potentially put up \$20,000 as well. We would like to ask the panel for another \$10,000 for the project. Iowa DNR will be providing materials and labor to support development. Once the project is developed we would like to do some outreach and education programming to go along with the display. They are talking about developing something like the traveling trunk set that Sea Grant has done. We have just started talking about the project, but we definitely think the MRBP should be involved in development of an ANS display at the National Mississippi River Museum and Aquarium. Wildlife Forever can hopefully help to bring in other NGOs.

Discussion:

When would the funding be needed? Are we talking about September 30, 2012? Yes, our goal would be to get funding together before then. Mike Hoff will follow-up with Kim regarding FWS Region 3 ability to help with funding for the project.

How many people go there? I'm not sure on annual basis, but I can look that up. In the summer, they have Ding Darling Days and I believe they have about 3,000 people a day go through the facility during that event. In the winter time they have Ice Harbor Days and again they have several hundred people a day go through the facility on those days.

The museum is located right next to a casino and hotel with a big waterpark, so it is in a good location that attracts tourists.

No Action Items.

5. Zebra/Quagga Mussel Veliger Treatment Protocols

Catherine Sykes with the USFWS's Dexter National Fish Hatchery and Technology Center gave a presentation on the research she has been doing with quagga mussels. She has been working for about 3 years to find a treatment for fish hatcheries that will kill quagga mussel veligers, but that fish can survive. The treatment is intended for hatchery stocking trucks that are carrying fish from positive locations to locations not known to be positive for quagga mussels.

Most facilities have been using a published and widely accepted potassium chloride formalin treatment. It has been used across the United States for several years now. In 2009, the BOR provided funding to evaluate the efficacy of this particular treatment on fish stocking trucks that were coming out of Willow Beach National Fish Hatchery in Arizona. The initial trials were astonishingly unsuccessful. She also found mixed results with some preliminary evaluations of other treatments.

The original tests for the standard treatment protocol did not include recovery periods. It simply used criteria that showed no movement of probed veligers to be indicative of complete mortality. Catherine found that when veligers that met these criteria were placed back into untreated water, up to 100% of the veligers were able to recover. She considered veligers recovered if even a single cilia began moving and she did not evaluate long-term recovery, however the veligers were definitely

able to begin moving again. Three other offices duplicated Catherine's work with both quagga and zebra mussels.

Catherine summarized the results of her research with other chemicals to find an effective treatment protocol. Unfortunately, most treatments were lethal to fish. In 2011, she investigated the use of sedatives in combination with molluscicides in the hopes of keeping the mussels from closing up when the toxicant was introduced. Magnesium chloride showed some potential, but more research is needed. She would also like to conduct more research on the survival of veligers after treatment.

Discussion:

Why would increasing the concentration of Magnesium Chloride from 5 g/L to 7 g/L take longer to achieve 100% mortality? The test with 6 and 7 g/L were just set as 15 hour tests. Chances are 100% mortality was achieved in less than 15 hours. Catherine tried 10 g/L, but it was lethal to fish, so she was primarily focusing on treatment evaluations using 5 g/L. Colorado had a veliger recover after 72 hours, so it is very difficult to determine when you have 100% mortality.

Is there an issue when you hold them for a longer period of time to evaluate mortality? Yes, it can be difficult to hold the veligers long-term. The highest mortality I had with controls was 5%, but others have had problems with higher mortality of controls. You have to be careful not to confuse mortality due to treatment with mortality caused just by the handling of these organisms.

No Action Items.

6. An ANS Hatchery Filtration System

Jason Goeckler presented an overview of the development of an ANS hatchery filtration system by Kansas Department of Wildlife, Parks, and Tourism. Kansas had been using the Edwards et al. (2002) formalin/potassium chloride treatment protocol just discussed by Catherine Sykes for all shipments of fish from Kansas hatcheries. Kansas does not have a quagga mussel positive hatchery, but used the protocol for all shipments as a preventative step. Jason provided a description and results of several filtration systems that Kansas experimented with to remove quagga and zebra mussel veligers from water used to fill hatchery trucks. They did find a tandem filtration system that was 100% effective to over 4,000 gallons. The unit, which cost Kansas less than \$200 to construct, uses 3 readily available Culligan water filters that will cost approximately \$150 to replace. The state has not found another suitable chemical treatment so they will be using the filtration system for filling hatchery trucks.

Kansas has four hatcheries and move fish all around the state. Milford Fish Hatchery is of greatest concern to the state because it is in a high risk location for zebra mussel contamination. The hatchery uses a lot of water (8,000 gallons/minute) so there is an increased chance of contaminating the hatchery. The hatchery was shut down for 2 years while the state has been developing a plan to

protect the facility. Kansas is looking at a system that uses both microfiltration and UV treatment, and a second system that uses redundant in-line 25 micron filters. Both options are expensive, \$1M and \$2.8M, respectively. The management team is also considering a third option of just classifying the hatchery as a zebra mussel positive hatchery and limit the locations stocked from this facility.

Discussion:

Are those costs just for the Milford Hatchery or for systems at all four state hatcheries? Just the Milford Hatchery. The cost is so high because of the high volume of water the hatchery uses. The cost would be lower for smaller facilities.

What is your explanation for how the veligers got through your 20 micron filters in the system you developed for the hatchery trucks? We used a paper type of filter and I think it was just errors in manufacturing. But even when we used absolute 20 micron filters, they did not perform as well as the nominal filters. We did not measure the size of any of the veligers that got through.

What are the O&M costs for the two hatchery systems? Basically nothing for the in-line system, but it is significant for the UV system. The company still has not provided a full proposal, so those costs have not been quantified yet.

No Action Items.

7. AFWA Invasive Species Committee Update

Kim Bogenschutz is the Vice-Chair of AFWA's Invasive Species Committee. Bill Hyatt from Connecticut is the committee's new chairperson. As a result of the recent turnover in the chair position, the committee hasn't been very active as of late. The committee's last meeting was in conjunction with AFWA's annual meeting in Omaha, NE, this past September. The next meeting will be as part of the North American Wildlife and Natural Resources Conference in Atlanta, Georgia, in March.

Ron Brooks (KY) attended the committee meeting in September to give a presentation on Asian carp control. He spoke to the committee about getting the states more involved in seeking funding for Asian carp control in the Mississippi River Basin. Mark Gaikowski (USGS) talked about some of the really great work at the Upper Mississippi Environmental Science Center with Zequanox and Asian carp control tools. The meeting usually includes a few presentations to get people up to date with what is taking place in the states.

The committee was asked to provide a representative for an Attorneys General workshop that was held out in the Chesapeake Bay area. Tim Schaffer (PA) represented the committee. The workshop was very well received. The Attorneys General were very interested in invasive species and how they can help. We should all be thinking about how to get our Attorneys General more involved in enforcing invasive species regulations and getting their interpretations of related laws. The

Attorneys General were interested in more workshops, so the committee is going to be looking into organizing similar workshops in other locations around the country.

Biofuels are a hot topic and several invasive plants have been proposed as potential biofuels. The Invasive Species Committee and the Biofuels Workgroup (part of the Ag Committee) are working together to express the invasiveness of particular plants, regulations, controls. Unfortunately some of these things may even be covered by crop insurance. There is nothing in place right now to control these plants if they move beyond the targeted properties. It would just become the state's problem and there would be no liability. These are some of the concerns that the states are expressing. AFWA is working to develop white papers and recommendations as the Farm Bill is progressing.

The committee has an intern working with the committee's coordinator to look at all of the state AIS laws and regulations to identify gaps nationwide. The purpose was to look at what commonalities all the states should have nationwide, identify gaps, and make recommendations. The intern was able to complete 20 states before starting graduate school. The committee hopes to get another intern this summer to continue working on this project.

Every AFWA committee or regional association (e.g. MAFWA) is allowed to develop a National Conservation Need statement (NCN). NCNs are voted on by the grants committee and top 6 or 7 get an opportunity to be funded under the multi-state grant program. Two years ago the committee submitted an NCN on early detection and rapid response to investigate what's working and what's not, and to identify potential controls. The NCN came in just below the line for funding so the committee was unable to accept any applications. Last year the committee used the same NCN, but also added a component to develop a nationwide inspection program to ensure that boats leaving infested waters have been decontaminated. The NCN again fell just below the cutoff for funding so no applications were accepted. This year the committee has not chosen an NCN yet. Three topic areas were suggested: use the same early detection, rapid response, and control proposal from the last two years; biofuels (joint with the Ag Committee); or do a follow-up to the regional ANS workshops that were funded approximately 8 years ago to measure what has changed since the last workshops.

The committee is also involved on the planning committee for the National Invasive Species Awareness Week (NISAW). NISAW will be February 27 – March 2, 2012. The committee hopes to have funding to send some state people to DC for NISAW.

Discussion:

A *Miscanthus* biofuels incentives program is being implemented in Missouri. In addition to starting this program, the federal government is paying a subsidy of as much as \$40/ton for the product. Missouri did an invasive risk screening on *Miscanthus*. The sterile version is not really supposed to be too much of an invasive problem, but the bigger concern is the loss of wildlife habitat from acres that are cleared and converted to *Miscanthus* production. A lot of the lost acreage is in the floodplain. The Invasive Species and Ag committee share those same concerns,

especially with regard to monocultures. Conversion of CRP acreage is also a concern. ISAC put out a white paper on this very issue.

No Action Items.

8. ANSTF and Panel Principals Updates

Eileen Ryce reminded the group that the panel provided one recommendation to the ANSTF for consideration during the fall ANSTF meeting. That recommendation was for the ANSTF to see that the snakehead management plan is completed soon. The ANSTF decided to organize a workgroup to complete development of a national plan. A request for volunteers for that workgroup was recently sent out to all of the regional panels. The MRBP did commit to having at least one member participate on the workgroup since this is an issue of concern to the Mississippi River Basin.

The USGS confirmed that there will be a \$150,000 funding cut for the Nonindigenous Aquatic Species database this year. This will result in the loss of two personnel that are responsible for entering data into the database. The USGS informed us that the database is not going to go away, but it will take longer to get data entered, fact checking, and other services. Eileen voiced this as a particular concern on behalf of the panel. The regional panels are advisory bodies to the ANSTF, so they cannot directly request a federal agency to fund a specific program. The ANSTF will send a request out to all of the ANSTF members and regional panels to find out how the database is being used and how important it is to your day-to-day mission. The information from the responses will be pulled together and sent with a letter to USGS. The ANSTF is advisory to the Departments of Commerce and Interior, so letters from the ANSTF have to be signed by the Director of the FWS and NOAA. If the directors agree to sign the letter, then it will be sent to the USGS.

Texas (conditional) and Arizona had their state management plans approved by the ANSTF.

During the panel principals meeting, there was considerable talk about response exercises and how the panels can work together. There was agreement to pursue this further.

Susan Mangin, ANSTF Executive Secretary, the panel principals met prior to the ANSTF meeting. Topics discussed included common projects that the Regional Panels can work together on, a generic position description for the panel coordinators, and streamlining the funding process. Notes will be provided for panel members to review. Items of interest from the ANSTF meeting include:

- Approved a NISC/ANSTF pilot award program. Six different awards have been proposed: leadership, volunteer, and outreach awards for both aquatic and terrestrial recipients. Working on an awards nomination package that will be distributed to the regional panels, ANSTF, NISC and ISAC. The awards will be presented during NISAW.

- Approved development of the snakehead and lionfish plans. James Ballard is going to chair the lionfish plan. Laura Norcutt (FWS) is going to chair the snakehead plan. The ANSTF is looking for volunteers to participate in development of both plans.
- Laura Norcutt is leading an effort to update the recreational guidelines which were approved around 2002. The ANSTF decided to expand the guidelines to include 2 more groups: 1) watergardeners, and 2) teachers, students, educators, and researchers. Committees are working on the new guidelines.
- Any input on the USGS NAS database (previously discussed by Eileen Ryce) that can be provided would be greatly appreciated.
- Approved a recommendation from John Darling, USEPA, to develop an ad-hoc committee to develop an interagency strategy to address research gaps identified in the National Academy of Science report on propagule pressure and invasion risks associated with ballast water. A call for volunteers has been sent out.
- The Great Lakes Panel provided a recommendation that a report be provided at the ANSTF meetings on what is being done to strengthen the federal screening and listing process for plant and animal trade. The FWS agreed to report on this annually at ANSTF meetings.
- There were a couple presentations on climate change and invasive species. The ANSTF agreed to establish a joint ANSTF/NISC committee to focus on the relationship between climate change and invasive species (terrestrial and aquatic). An email invitation for volunteers will be sent out to the panels.

One of the ANSTF members suggested that states be required to incorporate climate change into their management plans. The proposal was basically to have states include predictions for 5, 10, 20, 40, and 60 years when plans are updated. There was considerable concern expressed, particularly with regard to the amount of work that would be required. The FWS will suggest that states may want to consider and include this information, but it will not be made a requirement.

- The draft strategic plan and recreational guidelines are both out for review and panel member input is appreciated.
- Information regarding AIS outreach efforts can be added to the ANSTF website. Please forward information to Susan.
- The Departments of Interior and Commerce will be asked to sign off on a letter to be sent to NISC requesting that the members work to address the movement of infested boats, particularly with respect to the decontamination of boats entering and leaving federal waters.
- It was recommended that the Research Committee explore the feasibility of establishing the Canadian Aquatic Invasive Species Network program within the United States.
- There will be a session on Friday during NISAW to discuss the ANSTF strategic plan and how stakeholders may want to get involved with the step-down and operational plan that will be developed. There will also be a

session when several federal agencies will provide updates on their invasive species work.

Action Items:

- The ANSTF will send a request out to all of the ANSTF members and regional panels to find out how the USGS NAS database is being used and how important it is to your day-to-day mission. Panel members are asked to respond to the forthcoming survey with the requested information.
- Panel members are asked to consider participating on multiple committees and workshops. E-mail invitations will be sent from the ANSTF for:
 - A northern snakehead national management plan development team
 - A lionfish national management plan development team
 - An ad-hoc committee to develop an interagency strategy to address research gaps identified in the National Academy of Science report on propagule pressure and invasion risks associated with ballast water
 - A joint ANSTF/NISC committee to focus on the relationship between climate change and invasive species (terrestrial and aquatic)
- Panel members are asked to review and provide comments on:
 - ANSTF draft strategic plan
 - recreational guidelines
- Panel members should forward information to Susan Mangin on ANS outreach efforts that they would like posted on the ANSTF website

9. Best Management Practices for Water Gardens and Ornamental Fishes

Marshal Meyers, PIJAC, presented an update on best management practices for water garden retailers and hobbyists to the ANSTF. Mike Hoff, FWS, gave a shortened version of Marshal's presentation to the MRBP. The BMPs were developed by water garden retailers and hobbyists, not PIJAC or the FWS. The work group led by Marshal packaged the BMPs into a first draft that was distributed for review and comment. The comment period has concluded and a number of comments were received. The comments received will be addressed, a revised draft will be circulated among select reviewers, and sometime during the first quarter of 2012 the BMPs will be a release under PIJAC, the American Nursery and Landscape Association, and Habitattitude.

Discussion:

Who's developed these BMPs? The lead for this is PIJAC with FWS support. The BMPs were developed in consultation with the industry. So water garden retailers helped to develop the BMPs. These BMPs are not related to the ANSTF guidelines that are being reviewed.

Other professional societies have developed BMPs. How integrated are those into these BMPs? I do not have an answer for that. We can follow-up on that later and take a look at what those other groups have published.

Has there been any integration of this with terrestrial groups like the nurserymen's association or master gardeners? Terrestrial folks are working on very similar outreach efforts and sometimes they include aquatics. There is some integration already. Let me know if there is anything particular that you are looking for.

Did MRBP members provide comments on this through the panel? No. The requests for comments were distributed to MRBP members, but comments were to be submitted individually rather than coalesced and submitted as panel comments.

Does SeaGrant have any involvement? Some SeaGrant employees provided comments. The BMPs are more detailed than the brief guidelines that SeaGrant is worked on, so the two are complimentary and not redundant.

No Action Items.

10. Example Ecological Risk Summary

Mike Hoff provided an overview of an ecological risk summary of *Psuedorasbora parva* (stone morocco) developed by the USFWS in 2011 under the Great Lakes Restoration Initiative (GLRI). An adaptation of the MRBP's Rapid Risk Analysis process was used by the USFWS to screen 1,400 species in FY11. An additional 800 – 1,000 species are planned for screening during FY12.

Mike reported that on average it takes him approximately 2-1/2 hours to complete the rapid risk screening and to develop the draft report. Components of the ecological risk summary include:

- Picture of the species
- Native range
- Range in the United States
- Means of introduction
- Identity to ensure valid taxonomic status
- Biology and ecology
- Impacts of introduction – i.e., potential for invasiveness
- Impact outcomes
- Impact mechanisms
- Climate matching
- Projection of impacts are included for species determined to be high risk
- Risk Assessment Summary
- References

A number of species were determined to be high risk. Six species have been reviewed for policy by the FWS Washington Office and will be distributed soon. All six species are high risk, but not all six are high risk to all areas of the United States. Five of the six are a high risk to the upper Midwest, including the Great Lakes.

In the risk assessment process, species are determined to be high, low, or uncertain risk. Another approach is being developed for species that have a high uncertainty of risk. In most cases, these are species that have not been introduced outside of their native range. The climate match for the giant tiger fish is high for the southern United States and medium for the remainder of the continental US.

Eventually the FWS will have a website where all of the approved ecological risk screenings will be available for use. The MRBP Research and Risk Assessment Committee had previously recommended that links to the risk assessment reports be included on the panel's website. Mike will provide the six reports to the panel and the Executive Board can consider whether or not to post those on the panel's website until they are available on the FWS website.

States should let Mike know if there are any species of particular concern to them. It is highly possible that a risk screening was already completed, and if not, it may be possible to make it a high priority for completion.

Discussion:

Can the risk screening process be used for both terrestrial and aquatic species? Yes. A couple of terrestrial species have been screened. Funding for these risk screenings is being provided through the GLRI, so the priority is on aquatics – mostly animals, but some plants.

How about inverts? Yes, no problem.

Have you looked at faucet snails? We may have, but not for certain. It wouldn't take long to check if that is one you want to see a report on.

So if you are only provided the scientific name of a species', does the process generate all of this information? We have not got to the point where a web crawler automatically collects the information. Right now it is done manually, but it can be automated. The first step is to reach the scientific name and validate that it is correct; often times scientific names are incorrect.

You said you have 1,400 on the list to do and only 6 completed? No, we have six that have been approved for distribution. We have a lot in draft form. The bottleneck is the requirement that each report goes through levels of review prior to their approval for dispersal. The review takes much longer than the actual screening.

Is red swamp crayfish on the list of 1,400 species? I think that one has been done.

Action Items:

- Mike Hoff will provide the FWS's six ecological risk screening reports that are available for distribution to the Executive Board for consideration post on the panel's website until they are available on the FWS website.
- State members should let Mike Hoff know if there are any AIS of particular concern to them. It is highly possible that a risk screening was already completed, and if not, it may be possible to make it a high priority for completion.

11. Committee Breakouts

The committees met from 1:00 PM to 5:00 PM. Committees were asked to review the status of on-going committee projects and to develop 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 committee reports.

Action items are captured in the individual committee meeting notes.

12. Public Comments

No one signed up or requested to provide public comment.

13. Committee Reports

Each Committee Chair reported out on their committee's breakout meeting. Some discussion regarding project funding followed the committee reports and is summarized here.

Discussion:

Are there any projects from any of the committees that are expected to not be initiated until next year or are these all projects expected to be at least started this year? The grass carp review may be able to get started this year, but it is unlikely that it would be completed this year. We are still looking for partners to contribute about half the funding. Only one state (WI) has expressed interest in the 2012 funding for ANS boater surveys.

Even though we have already identified more funding requests than the panel has funding available for, panel members should continue to identify additional needs that arise throughout the remainder of the meeting. Identifying all funding needs will be useful for communicating how additional panel funding would be used in the future.

Action Items:

- Any additional information on proposed 2012 projects should be provided to the committee chairs as soon as possible.
- The ExComm will get together in January to discuss which projects to fund in 2012.

Outreach and Education Committee

Attendees included: Steve Schainost, Chair
Bobby Wilson
Curtis Tackett
Luci Cook
Mike Hoff
Bob Wiltshire

We began with reviewing the previous workplan and budgeted items.

We began with an off-agenda item. Mike Hoff had business for several committees so he began. He wanted to discuss the AIS workshops for State Assistant Attorney's General. These are not biology oriented but are one-day meetings to discuss the scope of problems and the legal issues related to AIS legislation. They are dedicated to AIS to keep the attendees focused on the issue. These are sponsored by the Sea Grant Law Center and he/they may be asking for financial support depending on the budget allocation.

We then returned to the previous meeting's workplan. The first item 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. The document is in final revision but Jay doesn't have the time to finish it and was looking for someone to help. He needs a person to take over the final review of the text, update as necessary, obtain illustrations, lay it out and send it to print. Luci Cook volunteered to work with Jay and get this done.

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. We have offered to cost/share the completion of more surveys in more states to get a more complete, basin-wide picture of the situation. Six states have been able to conduct surveys (KS, MT, IN, IL OK, WI, and MO) and one is in the works (NE). The MRBP offers \$5,000 as an incentive and to help pay for these knowing that surveys cost more than this. We received a request from WI for 2011.

We then moved to discuss non-budgeted items.

Next was the idea that we partner with the National Mississippi River Museum and Aquarium to develop a permanent AIS display. They may be asking for \$10,000 from the MRBP. We thought it was a good idea but will wait for a formal proposal before acting on it.

This past fall I was apprised of a situation involving a Lacey Act case in Kansas and Missouri involving bait. Duane Chapman was the source of the information and he stated that it might be possible that some of the penalty dollars might go to the MRBP for Outreach/Education. We discussed what might be done with such a windfall and came up with the following idea. Most states have Aquatic/Fishing Education programs. We suggested developing materials that would help these educators incorporate the ANS message into their existing programs. We are not trying to create a new program, just how to adapt ANS. It was noted that these educators have conferences every two years and we thought the best way to accomplish this would be to sponsor a workshop at these conferences along with appropriate handouts, etc. The funds could be used to produce the handouts, powerpoints, etc. as well as sponsoring the workshop. (Actually, we thought this was such a good idea we might recommend doing this anyway.)

Jason Goeckler came in to discuss Congressional outreach. MICRA will be sending a delegation to Washington during National Invasive Species Awareness Week (NISAW). He was asking for someone to assist with development of information packets that could be left with Congressional staffs.

The final item was brought up by Bob Wiltshire (Executive Director of the Invasive Species Action Network). He has contact with Teej Stoffer of Recycledfish.org (www.recycledfish.org). [From their website: A Recycled Fish is the non-profit organization of anglers living a lifestyle of stewardship both on and off the water because our lifestyle runs downstream. Recycled Fish is a 501(c)3 non-profit organization that started out talking about Catch and Release, but it's bigger than that now. We're a national movement of anglers who live and promote a lifestyle of stewardship both on and off the water.] Mr. Stoffer has been talking to the firm that makes the Whack-a-Mole@ game to build a Whack-a-Mussel@ version. (The Moles would be replaced by huge Zebra mussels). He was planning to premier the game at the next BassMasters Classic. After that it would be available for the sponsors to use. However it would be quite large so would fit best at Sport shows or fixed venues like the chain sporting goods stores. The game will cost \$6,000. He has \$2,000 and is looking for two more sponsors. We thought this might be just goofy enough to be effective and would put in a budget request for \$2,000.

Discussion:

During the meeting in Pennsylvania, each of the committees developed an extensive list of potential projects should funding be available. That may be useful in identifying potential outreach products should the Lacey Act case result in money for the panel.

I would be concerned with the Whack-a-Mussel game because I don't think most people can distinguish between different kinds of mussels. I'm concerned that the game may give the public the impression that all mussels are bad. It might be helpful to involve some mussel people in the development of the game. That same concern was brought up during the committee meeting. The game will stress zebra mussels and include some signage about the benefits of native mussels and to make a distinction between native mussels and invasive mussels.

Was there any discussion about what would be included in the field guide? This project has been in development for years. The idea was to develop about a 30-page brochure. Species of major concern would each have a full-page, some species would get a half-page, and others of less concern may only get a paragraph. The purpose is to get information out to field offices and lake associations, but it is not intended to be widely distributed to the public.

Are both plants and animals included in the field guide? Yes, plants and animals from the whole basin.

Action Items:

- Luci Cook will work with Jay Rendall to complete the Field Guide to Aquatic Nuisance Species.

Outreach and Education Committee Workplan for 2012

Activity	Milestones	Deliverables	Funding Request
Field Guide to Aquatic Nuisance (Invasive) Species	2012	Print and distribute	\$18,000
ANS and Boater surveys	Next meeting	State survey results	Up to \$5,000 per state, two states per year
AIS Workshop for state Assistant Attorneys-General	Next meeting	Development of workshop materials	none until a request is received from the Sea Grant Law Institute
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
Whack-a-Mussel	mid-February	Assist with producing a game by February 24	\$2,000
Develop materials and workshop for state Aquatic/Fishing Educators	Next meeting	Develop materials and workshop for state Aquatic/Fishing Educators	Nothing at this time

Prevention and Control Committee

Attendees included: Doug Keller, Chair
Kim Bogenschutz
Jason Goeckler
Eileen Ryce
Jay Rendall
Tim Banek
Bob Wakeman
Steve Shults
Debbie Cunningham
Greg Conover
Mike Hoff
Susan Mangin

Old Business

The committee started by completing a review of the committee's priorities document. This document outlines the committee's goals, objectives, and priority actions. The committee had two conference calls between the last meeting and this meeting to update this document. A little editing is still needed, but the document is basically finished.

The committee then discussed the status of the Triploid Grass Carp review. MICRA received one proposal in response to a Request for Quotes last year. The proposed cost to complete the project is approximately \$120,000. A related project and discussion is the development of a letter to states that allow diploid grass carp to be stocked. The committee will be developing a draft letter for MICRA review. The letter would urge diploid states to prohibit the stocking of diploid grass carp and to allow only the stocking of certified triploid grass carp. The letter would also inform the states of the proposed review of the triploid grass carp program. The panel obligated \$10,000 for this project several years ago. MICRA submitted the proposal for GLRI funding in 2011, but it was not funded. No other funding sources have been identified. The committee is requesting the panel to obligate an additional \$50,000 for this project. This would fund half the project and may help to interest other partners to fund the other half of the work. This is a high priority for the committee and would like to see this project done. Steve Shults and Kim Bogenschutz volunteered to help keep this project moving along.

Mike Hoff talked more about the risk assessment prioritization tool.

Dry hydrants have been discussed by the committee since it was first raised as an issue during the panel's meeting in San Antonio. The committee continued to discuss how to address this issue. Jason Goeckler and Tim Banek have done some work on this issue in their states. Jay Rendall is going to work with Tim to modify the Missouri document into a Mississippi River Basin document. The final product is intended to be posted on the MRBP website for states to use and send to their fire departments to increase awareness of the issue and how to reduce risk.

The fish module for the MRBP rapid response plan was completed about a year ago. The committee has plans to develop modules for aquatic plants and invertebrates as well, but has struggled to move these along. The committee discussed which states might have the expertise in dealing with aquatic plants and which states may have a plan for aquatic plants that could be used as a starting point. Luci Cook volunteered to help lead this project. Chip Welling from Minnesota has some expertise in this area. Jay Rendall will ask Chip to work with Luci on the plant module.

The panel obligated \$15,000 last year to help MRBP members attend advanced ICS training. The funding was not to organize the funding, but rather to help cover travel costs to get people to existing training opportunities. No one has requested to use the funding yet, so the committee recommends reducing the obligation to \$5,000 for 2012. There was some discussion about mock exercises. Bill Bolen, USEPA, may be able to help organize mock exercises in one of the Great Lakes states.

Funding was obligated last year for completion of some northern snakehead eDNA work in the Mississippi River Basin. The committee is waiting for a revised proposal from Lindsay Chatterton, who is currently in Spain. The committee plans to keep those funds obligated until reviewing the new proposal sometime after the first of the year.

New Business

The committee discussed the possibility of setting up a pot of money and a rotenone stock pile for rapid response needs in the Mississippi River Basin. The Great Lakes Basin has been able to do this use GLRI money. Some \$800,000 worth of rotenone is in storage for a rapid response in the Great Lakes Basin. This Mississippi River Basin should consider how to accomplish these two things as well so the states are able to implement a rapid response should the need arise, rather than assembling funds and rotenone after the need arises. This is addressed in the MICRA AIS Action Plan. Should the plan get funded, the Mississippi River Basin states would have the ability to purchase an advance supply of rotenone and to have funds available to implement an action.

The committee wanted to identify new projects based on the revised priorities document. Unfortunately the committee did not have enough time to cover this during the breakout session.

Jay Rendall brought up a new pathway of concern, which is the lake services industry. These are the business that install and move piers, boat lifts, and such. Minnesota had to conduct two rapid response actions within a couple of weeks' time because of the installation of boat lifts encrusted with zebra mussels. There is a need to identify the different pathways associated with this industry, to raise awareness in the industry on the risk of transferring ANS, and then to educate the industry on how to reduce those risks. Jay Rendall will be leading an ad-hoc committee to develop BMPs for the lake services industry.

The final order of business for the committee was to identify a new chair. Doug has taken a new job with Indiana and will not be able to continue serving as committee

chair. Jay Renall and Steve Shults both expressed interest and will be checking on support from their agencies. Hopefully a new chair will be announced in the near future.

Discussion:

What chemical did you use in Minnesota for the lake services incidents? We put curtains around the area and treated with Copper Sulfate for 2 or 3 or 4 weeks.

Was it expensive? And would a rapid response fund have helped you? Jay was not directly involved and responded that he was not sure what the cost was.

SePRO has newer chemical that was developed for a molluscicide that is called NATRIX. It is not licensed in most states. We were able to get it licensed in Missouri prior to a response, but we ended up using Cutrine® instead. NATRIX is better because you can use a higher concentration. It is labeled for 2.2 ppm, but Cutrine® is only labeled for 1 ppm.

Action Items:

- Steve Shults and Kim Bogenschutz will look for partners to help fund the Triploid Grass Carp Review proposal.
- Jay Rendall is going to work with Tim Banek to modify Missouri's information on dry hydrants into a template that can be used by any Mississippi River Basin state.
- Luci Cook will work with Jay Rendall and Chip Welling from Minnesota to begin working on a plant module for the Mississippi River Basin Rapid Response Plan.
- Jay Rendall will lead an ad-hoc committee to develop BMPs for the lake services industry.
- Jay Renall and Steve Shults will be checking on support from their agencies to server as the Prevention and Control Committee Chair.

Prevention and Control Committee Workplan for 2012

Research and Risk Assessment Committee

Attendees included: Duane Chapman, Chair
Brian Wagner bkwagner@agfc.state.ar.us
Sue Thompson sthomp@andrew.cmu.edu
Peter Sorensen soren003@umn.edu
Mark Gaikowski mgaikowski@usgs.gov
Ron Brooks ron.brooks@ky.gov
Catherine Sykes Catherine_sykes@fws.gov
Kevin Irons kevin.irons@illinois.gov
Dennis Riecke dennisr@mdwfp.state.ms.us

Invasive Asian Carps in North America

The Proceedings of the International Asian Carp Symposium were published by the AFS and hard copies of the book became available about 1 week after our last MRBP meeting. The MRBP was the primary funder for the printing of the publication and the panel was also the biggest funder of the original symposium that led to publication of the book. The book is available on the AFS website and is \$60 to AFS members.

River Barges and tows as Vectors for Asian carp

The U.S. Coast Guard (USCG) has completed their work evaluating the potential for Asian carp eggs and larvae to be transported and dispersed by damaged and leaking barges. Last year's report is available on the web. A report of the second year's work on this project is complete but has not yet been posted on the web. This project was not funded by the MRBP, but it never would have happened if it would not have been for the panel raising the issue and helping to make it happen. During the first year, researchers looked at how much water was actually being moved around by barges. They also assessed water quality in the barges, and where the water was being moved. There were plans to look at entrainment during the second year's work, but the researchers were not able to time their work with the "larval flood", i.e., the large pulse of Asian carp larvae coming down the river. The researchers were able to assess survival of larvae in the barges. The larvae survived very well in cages on barges, however, the larvae did not survive the pumps that were used to evacuate the barges. So larvae good easily be transported by barges, but they would need to enter through a holed barge and go out the same way they came in.

Another thing that came about because of the MRBP is when the USCG agreed a couple of years ago to disallow any damaged barges from traveling through the electric dispersal barrier on the Chicago Sanitary and Ship Canal. Operators are supposed to check their bilges daily and if they have water they should not be transporting the damaged barge across the barrier. There is still some risk, but it is much less than before.

Decision support system

We will hear a presentation later today about the Decision Support tool that Leah Sharp was funded to develop. Some progress was made, but she did not develop the decision support tool for her dissertation. It is uncertain if the decision support tool will be forthcoming.

Taxonomic Experts database

The taxonomic experts database has been around for a while and has required a fair amount of effort to keep it up. Susan Pasko (NOAA) and David Britton (USFWS) and USGS-NAS were to make some programming improvements this year, but that seems less likely with the cuts to the USGS-NAS budget. The public does not look to the ANSTF site if they find something they cannot identify so the site is not being used by public. Tier 1 contacts can use the database for Tier 2 experts for questions they receive from the public directly, or for their own use. Considering the amount of work that went into developing and maintaining this thing, it is probably not been cost effective. The public doesn't seem to be using the database. This is something that the panel may want to consider eliminating and using the funding for other projects; it would likely not result in a huge loss. If it is to be continued, some substantial effort needs to be placed into making the project more visible and more user friendly for users, the people providing data, and those entering data and trying to keep the database up to date. Some of this work is done by USGS-NAS, who is already losing some of their funding. Meanwhile, Susan Pasko has indicated that she is planning on putting out another announcement to provide data to update the database.

AC in reservoirs

At the last meeting, the committee suggested that 10K be offered as matching funds for a study of whether AC are reproducing/recruiting in Truman Reservoir in Missouri, in part as a step to developing a decision support system that can be used by managers to determine the risk of AC establishment in managed reservoirs. MDC did not fund the project, so it did not move forward.

However, the issue of Asian carp establishment in reservoirs is still of high importance, and Region 6 has offered up 40 K towards a study. Also, USGS has recently developed information on the developmental rate of AC with temperature, and drift models that incorporate those data, to estimate the risk that AC may use rivers as spawning sites. Truman reservoir, with its three different tributaries that may provide spawning habitat, and a resident population of fertile grass carp and possibly present silver carp, represents an opportunity to validate those models, and possibly to critical information gaps on minimum size/discharge of rivers for spawning and recruitment of AC. The committee will request the EXCOM contribute up to 15K of matching funds for this study and request MRBP support funding the remainder of this validation study with USFWS SSP funds. The research would not only support the GLRI needs of validation of river models and early life history survival, but also, if AC (including grass carp) are recruiting in this reservoir it would elevate the issue of preventing establishment of AC in reservoirs across the Midwest.

Dreissenid mussel research

The committee identifies the development of dreissenid mussel decontamination procedures that can be used with fish as a high priority. At the last meeting the committee supported performing the research that Catherine Sykes quagga mussel research to zebra mussels and recommended some funding for research. However, the committee now feels that, given the absence of quagga veliger treatments that can be used effectively with fish, it is more important to develop such treatments before the research be further expanded towards zebra mussels. Mark Gaikowski and Catherine Sykes will put together a proposal to MRBP to fund purchase of equipment required to push this research forward.

ANS Screening Reports

The committee requests that MRBP provide temporary web support to serve reports as they become available until USFWS is able to go live with these risk screenings. Also, the committee recommends that EXCOM provide a letter to ANSTF supporting screening and that a mechanism be put in place to provide that organisms identified as high risk be added to the Lacey Act, especially in cases where economic impact and industry resistance would be low. The Committee will develop a letter for review by the EXCOM.

“where are the small Asian carp”

IL DNR and collaborators are developing a white paper on this topic. Kevin Irons is looking for people interested in helping or have information on this topic both from a geographic and a habitat standpoint. We want to know how far upriver Asian carp are spawning and how far upriver there are young-of-the-year Asian carps. That is a critical piece of information that is needed throughout the basin and is of importance to the Great Lakes community also. An e-mail questionnaire will be sent to members of the Mississippi River and Great Lakes panels.

Hydrofracking

Activities associated with hydrofracking and movement of equipment and water between watersheds has apparently introduced golden algae to Pennsylvania and caused a kill of fish and invertebrates. Other ANS transfers are possible. It is not known if BMPs for management of ANS transfers through hydrofracking activities exist. Sue Thompson will look into finding potential reps from industry and from an agency or NGO to facilitate two-way knowledge transfer regarding industry practices and ANS concerns. These reps would be asked to present at a future MRBP meeting. The committee requests that travel funding be provided, if necessary, for these as-yet-unidentified speakers.

AFS symposium on ANS control

Peter Sorensen is chairing symposium at the 2012 Annual AFS meeting in St Paul. The Committee requests that funding be provided, if necessary, for full or partial travel support for up to three high profile speakers, including possibly Dr. Reshetnikov from Russia on *Percottus glenii* control and spread control, Dr. Nicol, on engineering of pathogens for control of common carp, and Peter Moyle (general

invasive species control talk) and for up to two students, for a total contribution of not more than \$6500. Also, if you would like to speak in this symposium, or can recommend a good speaker, please contact Peter.

Bighead carp in ponds stocked with catfish

The Illinois DNR has a draft report out on the occurrence of bighead carp in catfish ponds. It is pretty convincing that bighead carp have been moved around and stocked with channel catfish. Other states which have stocked catfish purchased from growers who may have had bighead carp and channel catfish in polyculture may also have bighead carp in them. The fish which have been caught recently are very large, but probably were stocked when small. This has many implications for places where bighead carp may have been stocked any may have escaped from the ponds while young. It seems clear that the threat of future stockings is reduced because fewer aquaculturists grow bighead carp since the bighead carp was added to the Lacey Act, but it is not clear that the threat is zero. Some culturists may continue to stock bighead carp for perceived bluegreen algae control effects.

Is there anything the panel can do other than an awareness statement? There are potentially a lot of bighead carp that have been stocked in the Great Lakes states that we just don't know about. States should be closely screening catfish stockings in their lakes.

Economic effects of ANS

Current information on the total dollar cost of ANS would be very useful for managers and policy makers. Pimentel manuscript is getting old and needs update, and a different focus might be useful. The committee suggests that this need be put forward as a National Conservation Need (NCN) through AFWA. Dennis Riecke has offered to work with Kim to get this on agenda for AFWA. Dennis requests that anyone with ideas in this regard or who wishes to help, please contact him. Dennis will be taking the lead on this effort within the committee.

Discussion:

NCN's will be due in February, so we will have to work on this very quickly. We do need more quantitative figures on the cost of ANS.

A bi-national risk assessment of Asian carp to the Great Lakes is soon to be released. This is a good model for how the Mississippi River Basin could potentially develop a basin-wide risk assessment for species of concern in the future.

Action Items:

- Mark Gaikowski and Catherine Sykes will put together a proposal for equipment needs to advance Catherine's research on dreissenid mussel decontamination procedures.
- Dennis Riecke will work with Kim Bogenschutz to develop an NCN for the development of current information on the total dollar cost of ANS for consideration by the AFWA Invasive Species Committee.

Research and Risk Assessment Committee Workplan for 2012

GLMRIS

Committee chair continues to serve on GLMRIS tasks, and will, as time allows, participate in risk characterization plans for identified connections between the Mississippi River Basin and the Great Lakes Basin.

Asian carp in reservoirs

The committee acknowledges that managers need to be able to identify reservoirs at risk for establishment by Asian carps, and that Truman Reservoir, in Missouri, with potential spawning tributaries in Kansas, would be a good test case for model application. The committee will work to identify collaborators who might assist monetarily in using Truman Reservoir as a test case to validating a models designed to determine if reservoirs are suitable for Asian carps spawning. The committee plans to request 15K from MRBP to assist in this study to begin in spring of 2013.

River Barges and tows as Vectors for Asian carp

First draft of report on second year's work has been completed by USCG's contractor. Committee chair will provide review of the report to the USCG by January 28, 2012. Committee Chair or Phil Moy of Great Lakes Panel, who has been working closely with the Committee Chair on this issue, will present the results of this study at a scientific meeting TBD in 2012.

ANS Screening Reports

The committee recommends that EXCOM provide a letter to ANSTF supporting risk screening and that a mechanism be put in place to provide that organisms identified as high risk be added to the Lacey Act, especially in cases where economic impact and industry resistance would be low. The Committee offers to draft such a letter for review by the EXCOM.

AFS symposium on NAS control

Peter Sorensen will chair a symposium at the American Fisheries Society annual meeting in St. Paul. The Committee requests that funding be provided, if necessary, for full or partial travel support for up to three high profile speakers, including possibly Dr. Reshetnikov from Russia on *Percottus glenii* control and spread control, Dr. Nicol, on engineering of pathogens for control of common carp, and Dr. Moyle (general invasive species control talk) and for up to two students, for a total contribution of not more than \$6500.

Genetic Biocontrol Symposium and Special Issue of Biological Invasions

Symposium took place in June. An issue of Biological Invasions to be published in 2012 will be devoted to publication of the symposium proceedings.

Experts Database

The committee will continue to support the experts database by recruiting new Tier 2 contacts and updating Tier 1 contacts as needed, until other instructions are received, but the value of this database is questionable and could be something to drop from the workload.

14. Mississippi River Basin Attorneys General AIS Workshop

Mike Hoff discussed a request from the National Association of Attorneys General and the National SeaGrant Law Center for potential FWS and Regional Panels funding. The issue is really for the state members to consider how much communication on AIS with the state Attorneys General is desired.

The background was that the National SeaGrant Law Center and the National Association of Attorneys General hosted a pilot workshop in the Chesapeake Bay area this past May. The workshop was designed to educate Assistant Attorneys General (AAGs) and state agency council on ANS issues in the region. That workshop allowed for networking among states and allowed the AAG to share success stories of what is working in one state and what is working in another. There were 15 individuals from 5 states and the District of Columbia that participated, most were AAGs but there were also lead council from natural resources management agencies.

A survey was sent to the participants after the workshop and the feedback was that they learned a lot. The lead for the National SeaGrant Law Center suggested that the workshop be repeated in other locations. The National SeaGrant Law Center included a funding request to cover travel for the AAGs and lead councils to attend the regional workshops.

Mike forwarded the recommendation on to the MRBP ExComm for consideration. The ExComm had some questions regarding the workshops. Mike reviewed the ExComm's questions and the answers provided by the National SeaGrant Law Center.

1) How much input will the panels have regarding agenda topics?

The first workshop there wasn't any input from any panel. The lead for the National SeaGrant Law Center would be open to any suggestions for any agenda topics and any speakers. It is not a prescriptive approach. The workshop would be very issue and geography driven, remembering who the audience is. The MRBP could have considerable input.

2) Why is the National SeaGrant Law Center covering the \$25,000 - \$30,000 budget request?

Basically because they don't have the money. They have requested some funding for this in the FY12 budget, although most federal agencies do not yet have a budget for F12. The Western Regional Panel is considering a

proposal to one or several of the west coast Sea Grant programs (not the Law Center) for supplemental funding to help sponsor a workshop in that region. There are a variety of ways to piece this together, so it may be possible to do this without panel funding if this group considers the proposed workshop valuable. The states really need to consider if this important and if they see value in bringing these issues before their AAGs.

- 3) Why are the Regional Panels being asked to contribute such a large percentage of their annual budgets when they have repeatedly reported to the ANS Task Force that current funding levels are inadequate to meet existing needs? Is it necessary for the Panels to contribute financially to participate in planning for a workshop?

No it is not necessary for the Regional Panels to contribute funding. The MRBP could still have some influence on a regional workshop, but funding will be needed for invitational travel and some other things.

- 4) Are there other opportunities for organizing such a workshop that would result in better attendance and/or reduced costs?

Yes, but the singular topic of the workshops makes this an attractive alternative. If the workshop is held in conjunction with another meeting, the focus of the event would not be the communication with AAGs on ANS issues. The committee discussed the potential to do this as a web-based workshop to potentially reduce travel costs and increase attendance. That option can be further explored, but first the panel must first decide if this is something to spend our time on.

The states and panel need to decide if this of interest. If so, then the next step will be to see if funding comes through in the National SeaGrant Law Center FY12 budget.

Discussion:

What do they hope to accomplish? I don't see the connection with informing the AAGs. In Minnesota they are not involved with developing or promoting the laws, their role is enforcement. It may be more valuable for the state members to talk with legislators and their natural resources committees. Can you help me understand the value? This recommendation for more regional workshops stems from the feedback of the AAGs that were at the first regional workshop. They said they learned a lot, and that the workshop was of value to them. Based on that, there may be some action that they can take after being made more fully aware of the issues and laws. It will differ by state what the AAGs do with the information. If anyone wants more information, Mike will provide you with contact information for the project lead with the National SeaGrant Law Center.

Is it just federal legal issues that are covered in the workshop? This is meant to be whatever we want it to be. This is more of a state driven issue so I doubt there was much focus on federal aspects.

Illinois hosted the Midwest Environmental Enforcement Association this year and Steve Shults participated in that meeting. That is usually a 2 to 4-day meeting. There were AAGs from many states in the Midwest. That particular group targets AAGs very well. This is a good opportunity to get increased involvement in Lacey Act cases by informing them of the available tools and applicability. The Environmental Enforcement Association has the ability to do a workshop in a compressed time frame (e.g., an afternoon), and a lot of AAGs and agency chief councils participate in these meetings because they get continuing education credits which is something they need to maintain their licenses in their individual states. This would likely be much cheaper, because the association funds the participants travel.

We could have a small group discuss the pros and cons of this, perhaps under a committee's leadership. Mike Hoff is willing to assist in communications with the National SeaGrant Law Center if necessary, but the states need to determine if this is worthwhile and how worthwhile.

Do we want to put a placeholder down for funding? The placeholder could be zero at this point because there appears to be some options that would not require panel funding, just time to help organize. We can come back at a later time if a need is identified.

Action Items:

- The Outreach and Education Committee will organize a group to further consider the recommendation to assist in the organization of an ANS workshop for AAGs in the Mississippi River Basin states.

15. Recreational Use Survey Data

A recreational use survey on Mississippi River Pool 13 was conducted by the IA DNR in the early 1990s. Kim Bogenschutz showed some of the results from the survey and raised the potential for this type of information to be useful in demonstrating recreational use changes over time. There are not a lot of bighead and silver carps in Pool 13 at this time, so repeating the study in this pool now would not likely show changes in recreational use related to Asian carp. Kim also asked the group if this type of data would be useful in inferring economic impacts brought about by Asian carps. Her intent was to generate some discussion and to identify other information that may exist and be useful for this purpose.

When the MICRA delegation went to DC last year, the Senators and Representatives wanted to know specifically how Asian carp are affecting their constituents. Ecologic impacts tend to be the focus of natural resource management agency messaging about the impacts of Asian carps (or ANS in general). Ecologic impacts are followed secondarily by the potential for economic impacts without any real explanation or examples of what that means. Unfortunately we are not even very successful demonstrating ecologic impacts because most states do not have the necessary biological data, or the resources to generate those data, to

demonstrate changes in the fish community brought about by Asian carps. Discussing potential biological impacts, or even potential ecological impacts, does not make a meaningful enough impression on policy and decision makers to illicit concern or actions to address the problem. Perhaps we would be more effective if our primary message focused on economic impacts, and ecologic impacts were communicated secondarily. Can we use something like this Pool 13 recreational use survey to document how the public is affected, how their utilization of the resources has changed, and what that means in economic terms? This type of information would not allow us to say that any changes are because of Asian carp, but we may be able to make some correlations and show changes that have occurred since Asian carp have become established.

Discussion:

Missouri has done a recreational use survey on the Missouri River in the past. I do not know if shows an economic difference, but this is something that we can look into. We just completed a survey not that long ago, and we have past data as well, so we could look at the data to see if there is a change. Could you send a copy of those surveys to Kim or Greg?

Does anyone know about the Cornell study where they are evaluating the impact of invaded areas by asking fishermen how it has impacted their experiences? They have requested license information from Indiana so that they can contact fishermen and conduct focus groups to discuss what the impacts have been to those people who are fishing waters that have been invaded and to compare that to how usable the waters were before they were invaded. Asian carp are a part of the study, but it is not all about Asian carp. A lot of this has to do with predicting the impacts to the Great Lakes. That study may get at some of that information.

A survey can be set-up to specifically get at the loss even if you do not have previous data.

A graduate student at the University of Illinois just completed research investigating that very thing on the Illinois River. She has not published anything yet, but Shults can provide a copy of that report. She did her work on the Illinois River the first year, and then expanded to include the Mississippi and Illinois rivers her second year. I don't think her work includes economic numbers, but it does capture changes in use.

It is important to remember when looking at this information, and if you are going to make that connection to the Great Lakes, except for parts of the Illinois and upper Mississippi river, the primary sport fish in the Mississippi River Basin are catfishes. If I was going to pick a fish that would be least affected by Asian carps it would be catfishes, so you are not as likely to identify economic impacts related to fishing as you would be in Lake Erie where there are likely to be impacts on fishing for walleye and yellow perch.

You may still be able to see changes in abundance and recruitment of sport fish. There are other important fisheries that we might detect economic impacts.

Water skiers and boaters would seem to be an obvious group that would be easy to measure decreased use.

Part of what jumped out to me with the Pool 13 survey is that they measured multiple recreational uses in addition to fishing.

There may be some information in the MRBP's ANS boater surveys. The survey includes a section that asks if you have been impacted by specific species. Kansas has a graduate student conducting an economic analysis for zebra mussels that will be completed in 2012.

Are there any ideas that may want to pursue as a panel to try and collect this information?

How was this survey in Pool 13 done? Was it mailed out? No it was direct contact through a creel survey.

Kim will try to work some of this into an NCN if one is developed on economics.

Mississippi conducted a longitudinal survey of fishing over 10 years. ANS were not involved. Fishing frequency went down over time. Knowing why changes occur could be difficult to determine unless that information is specifically collected. But the people you really want to contact are the ones that aren't showing up anymore. How do you reach those people and collect that information?

Would it be possible to have this type of information added to the next national survey of hunting and fishing?

Kansas has a human dimensions specialist that may be willing to help refine survey questions.

Action Items:

- Steve Shults will send a copy of the University of Illinois graduate student's report on recreational use changes on the Illinois and Mississippi Rivers to Kim and Greg.

16. A Decision Support System for AIS in the MRB

Leah Sharpe, University of Minnesota, presented some highlights of her research and dissertation work over the last 4 years. It became clear to her after she began working on her project that there was going to be a lot more foundational research required than she had anticipated. As a result, the bulk of what she worked on over the last 3 years was the foundational research looking at information from managers, stakeholder groups, and policy makers in order to develop a blueprint for a decision support tool that is actually useful for ANS managers. Without this foundational research the decision support tool would have been an academic exercise that did not provide any real application to managers. Leah provided an overview of her

foundational research and a blue print for developing a decision support tool. She hopes to be able to continue working on the development of a decision support tool after she completes her dissertation and her future work as a grant fellow at NOAA Fisheries, Office of Science and Technology.

Leah began her work by conducting a series manager interviews focused around the Mississippi River Basin, but concentrated in Minnesota, in order to get a sense of manager priorities. She then did focus groups around the Great Lakes to get input from a broad group of stakeholders. Next she did a policy analysis looking at federal level invasive species policy with a focus on the National Invasive Species Act. Lastly, she pulled all of the information together into a blueprint for developing a decision support tool. She focused her presentation to the MRBP was primarily focused on the manager interviews and the blueprint for a decision support tool.

Discussion:

Will you complete the tool? I would like to.

What will it take for you to complete the tool? Leah is going to check with NOAA to see if working on the decision support tool could be a part of her duties there. She has also been talking with her advisor about potentially co-advising a new graduate student to develop the tool.

Mike Hoff suggested that a Bayesian network would be a good way to structure the decision support tool. The Bayes net could be the architecture for the tool itself. There may be other platforms, but Bayes net would certainly be worth looking into.

One of the tricks will be linking the Experts System with the GIS database. The Bayes net will allow for that.

The Midwestern fish habitat partnerships have developed parts of this tool already. Maureen Gallagher from FWS Region 3 has been the lead. They hired Downstream Strategies to do a habitat assessment, collect fish data, and construct GIS layers to develop a decision support tool for habitat. Some aspects and GIS layers may already be assembled.

Are there any publications or planned publications on your results so far? Yes, Leah will defend on January 13. Soon after that her dissertation will be available on-line. The focus group chapter has been submitted to a journal and hopefully the rest will be submitted soon. Please keep the panel notified of any publications.

After a tool like this is finalized a major challenge is going to be keeping up with changing data and having a real-time decision tree analysis. Is that being addressed in these systems that are being developed? The main thing to keep current will be the GIS layers. The information behind the experts system is asking key questions which hopefully will not drastically change. The answers to the expert system will become more informed and the uncertainty will be reduced as more information becomes available. That part of the tool won't need to be updated as frequently.

No Action Items.

17. Asian Carp in Minnesota

Peter Sorensen, University of Minnesota, gave a presentation on the status of Asian carp in Minnesota. Peter serves as a technical advisor on an informal working committee on Asian carp in Minnesota. Most of the slides in Peter's presentation were provided by Tim Schlagenhaft and Jay Rendall with the MN DNR, and John Afinson with the National Park Service (NPS). Peter talked about the region, the history of Asian carp in Minnesota, Minnesota's approach to the Asian carp invasion, and some of the confusion that has resulted. Peter was curious to hear from some of the people who have been working with the Asian carp issue in the Chicago area.

Eight bighead and three silver carp have been captured between 1996 and 2011 in the Minnesota and Wisconsin portion of the upper Mississippi River, including two fish collected in the St. Croix River. These continued captures led to the development of an Ad-Hoc Asian Carp Task Force in Minnesota. Environmental DNA (eDNA) sampling has resulted in positive collections for silver carp in several locations including the St. Croix River and the Mississippi River as far upriver as the Coon Rapids Dam. No bighead carp eDNA has been collected, but still waiting for results from several locations. No live bighead or silver carp been collected. However the positive eDNA has resulted in greater interest and involvement on the informal working committee, including participation by staff from governor's office, state legislature, MN DNR, and NGOs. The Task Force is putting together a plan that will be presented to the governor of Minnesota in about a week. The plan recommends more eDNA and traditional sampling, research, fixing the Coon Rapids Dam, reducing lock usage at locks and dams #1 and #2, installing acoustic barriers on the St. Croix and Mississippi Rivers, as well as mitigation, population control, and outreach and education actions. The MN DNR, an NGO coalition, and the City of Minneapolis have all taken positions that they would like the locks on the Mississippi River in the Twin Cities area closed. The governor's office is working with the Task Force to have an Action Plan. Some money has even put forward for some of the identified actions, but much more funding is needed.

Discussion:

Under the Water Resources and Development Act (WRDA) of 2007 there is an authorization for the Corps for barrier construction in the Upper Mississippi River. No appropriations, but they already have construction authority.

The Task Force did complete the plan for the governor? Yes. Is it available on-line? I don't know. One of the big issues is what to do about reliable detection techniques because there are sources that are prepared to put funding into barriers.

Who is putting up the \$3,000,000? That is from the Lessard-Sams Council fund (from state sales tax) in Minnesota. But one of the stipulations is that there are contributions from Wisconsin and the federal government for the barrier.

Any thoughts about why the eDNA has been detecting silver carp but not bighead or grass carp? It makes me wonder. In Iowa we see more bighead and grass carp than silver carp in our portions of the river.

Are they analyzing for grass carp? The first round they did, but they did not detect any. Nor did they detect any bighead carp and they have been collected. We don't have any information on how detectable grass carp are by eDNA. Illinois did have success detecting grass carp with eDNA below the TJ O'Brien Lock and Dam, but the fish were there in high abundance; 44 were collected during the rotenone project that followed the eDNA sampling.

Illinois saw similar results in the Chicago Area Waterways System (CAWS) sampling this year. Only bighead carp have been collected above the barrier, but only silver carp eDNA has been detected. Minnesota is using QPCR which is supposed to be even more sensitive than the PCR techniques developed by David Lodge's group that are being used in the CAWS.

How far upstream in the Upper Mississippi River has anyone reported the collection of a young-of-year grass carp? No YOY of any Asian carp have been collected in MN waters. Do we have any idea? Commercial fishermen in Iowa would catch YOY. This seems to be a huge question for the Mississippi River that we really need to get a handle on. Is there any sampling in Iowa, Illinois, or Missouri that would detect YOY? Perhaps the LTRM monitoring, but that would be about it.

No Action Items.

18. Asian Carp Control in the Mississippi River Basin

Commercial Fishing

Ron Brooks provided an update on the issue of Asian carp population control in the Mississippi River Basin below the Illinois River. Schaeffer Fisheries has established a distribution center in Kentucky. The facility was formerly used for processing catfish. He generally sends two semi-trucks each week and is getting about 69,000 pounds per week on average. Their goal is to collect 150,000 pounds per week, but high waters are confounding harvest. The facility is located below Lake Barkley and most of the fish are coming from open waters. The fishermen have not been taking advantage of the new Kentucky regulations yet, but they may be due to the high water.

Kentucky is sending biologists out with the commercial fisherman as observers and to collect data. They are keeping track of the level of effort, i.e. number of nets, net dimensions, and size of mesh, along with data on harvest fish, i.e. numbers, lengths, weights. Snags have been somewhat of a problem for commercial fishermen. Biologists can do little things like using side scan sonar before commercial fishermen set their nets to facilitate harvest. Ron spent one day with a commercial fisherman who collected 6,800 pounds of Asian carp. The catch would likely have been much higher, but the fishermen spent 2-3 hours removing snagged nets from the water.

Things are moving along slowly. Part of the reason things are moving slowly is that most of the fishermen that have expressed interest in fishing for Asian carp are also paddlefish fishermen. So much of what is being provided to Schaeffer's right now is just by-catch from paddlefish fishermen. One fisherman brought in six bighead carp from Kentucky Lake that weighed 350 pounds. Ron hopes to see more effort directed at Asian carp as the fishermen learn about the new regulations in Kentucky.

In the areas that Kentucky has opened to the commercial fishermen, are they only allowed to take Asian carps? Yes. It was very painful for them to release buffalo and other native fishes they can sell. That may be something we can offer them down the line to entice them into these areas more.

Kentucky has worked with Southern Illinois University to conduct a few taste tests. Tilapia, farm-reared catfish, and Asian carp were used in the taste tests; Asian carp were selected as the preferred fish every time. Kentucky plans to spend more time on marketing Asian carp next year.

Ron spoke with the businessman who has plans to open a processing facility in Paris, Tennessee. It sounds like the two or three businessmen pulled away from their financial backer once they saw the potential profits to be made. Unfortunately, they are now trying to get their own funding from banks and instead of opening in January 2012 and their future is uncertain at this point. They have also ran into some problems with the Chinese company that they were working with, so they are now looking at just processing fish for the fish meal market initially. There is not a very good profit margin on fish meal, so they are also looking for a \$1.9 million subsidy from the State of Tennessee. Ron will be providing them with contact information for another group out of China that is looking for a processor to work with. It looks like the Tennessee facility still has a long way to go before it happens.

Ron had heard that there were two small scale processors getting started in Mississippi. After talking to people in Mississippi, there may be some consideration taking place, but there are no contracts for fish from Mississippi.

Illinois has received a tremendous amount of funding and is leading the way in this area. We need to use the Illinois model and learn from their experiences to further this industry in the Mississippi River Basin.

Discussion:

Has anyone talked with these Chinese companies about financial backing for these processing facilities? Ron has talked with several Chinese companies and always discusses the issue of financial backing. The companies always say they are interested in discussing financial backing, but none of them have ever followed through. Schaeffer Fisheries and Big River Fish Corp have made the necessary contacts to establish export markets in China, the Middle East, and Europe where there is evidently a sizable market for Asian carp fillets.

How much have the commercial fishermen learned about harvesting Asian carps? Are they getting to the point that they know what they are doing and are getting good at it? Yes, if they need to catch them they seem to know how to get them. But in Kentucky Lake, paddlefish commercial fishermen are catching 5,000 – 7,000 pounds of Asian carp as by-catch per day. Pounding seems to work very well.

It would be nice to have a list of the companies involved so that all requests for assistance could be directed to all of the companies. There are only 3 processors involved. Ron makes sure to communicate that Kentucky DWF's role is to facilitate this issue. The department is helping by providing access to waters that are currently restricted to fishing. Ron's message is that this should be a private enterprise endeavor and works to get information to everyone that he knows of that is involved.

Increasing Awareness

Ron briefly talked about his experience as part of the MICRA delegation that went to Washington DC during NISAW in 2011 to raise awareness about ANS issues in the Mississippi River Basin. It was clear that MICRA's efforts would be more effective if the different state representatives were active in meeting with their congressional members (or their staff) in their home offices in each of the states.

Ron also attended the most recent AFWA meeting to discuss these issues with the Invasive Species Committee, the Fisheries and Water Resources Policy Committee, and the Executive Committee. It was evident that most of the directors had not been made aware of the issues before. Ron was requested to develop an Action Statement that the committees can review and consider at AFWA's next meeting in March.

Ron recently sent an email to the MICRA Delegates encouraging all of the basin states' Fish Chiefs to get their directors involved. It is also important that the state governors are informed and get involved. The involvement of the Illinois and Minnesota governors are two good examples.

MICRA recently passed a position statement on commercial harvest of Asian carp that everyone should be aware of. Briefing statements with pictures and economic impacts are useful.

Discussion:

Do you have any positive economic impacts, like jobs created, that could be included with this information? That information is included in the MICRA position statement.

Have you seen any issues with the condition factors of Asian carps that would make them of low value to processors? The fish harvested in the upper Illinois River may not be as big and robust as they are farther down river. Are there problems with the markets because of this? I don't think there are on the Illinois River. The fish in Kentucky are in very good shape. Bighead carp from the Missouri River are in such

poor condition that it would not be sellable. Silver carp are in poor condition too. Are the Missouri River fish still of value for fish meal? One part of that process is extracting fish oil and these fish will not have much oil so they have little value. They will have little value until they fatten up again. This will be a recurring problem on the Missouri River with years of high recruitment during years of high waters.

No Action Items.

19. MICRA Outreach and NISAW

Jason Goeckler gave a summary of MICRA's outreach efforts during NISAW 2011 and an overview of plans for MICRA outreach during NISAW 2012. Jason represented Kansas Department of Wildlife and Parks as part of a delegation representing MICRA in Washington DC during NISAW in 2011. The MICRA delegation visited with the US Fish and Wildlife Service, the Council on Environmental Quality's Asian Carp Director, and a number of congressional offices. This was a good first step in introducing MICRA and MICRA's mission. The purpose of MICRA's visits to DC was to partner with NISAW and raise awareness of ANS issues in the Mississippi River Basin. The delegates that attended were able to talk about basin-wide issues and the major issues in each of their states. MICRA is looking to repeat this effort during NISAW in 2012.

No Action Items.

20. Montana's Recent Rapid Response Exercise

Montana is part of the Mississippi River and Columbia River basins. The Columbia River Basin has had a Rapid Response Plan for Dreissinids for approximately 6 years. The plan was signed by the Directors or Governors of Montana, Idaho, Oregon, and Washington, and key federal agencies. NOAA and British Columbia recently signed on to the plan. The plan uses the Incident Command System (ICS). A timeline for doing exercises was also developed when the plan was written. It was Montana's turn to do the exercise and it was the fifth exercise completed under the umbrella of the plan. Each year a different component of the plan is exercised in a different portion of the basin. There have been a couple of scares in the basin where portions of the plan were enacted, but to this point the entire plan has not had to be implemented.

Eileen Ryce provided an overview of the rapid response exercise conducted in Montana during 2011. The exercise was designed to engage British Columbia. Montana has a large Canadian border but have not had a lot of interaction with Canada on ANS issues. Lake Koocanusa is half in Montana and half in British Columbia and was used as the site for the rapid response exercise. The dam on the reservoir is owned and operated by the U.S. Army Corps of Engineers so this was a good way to get that agency directly involved in the exercise. The U.S. Forest Service owns all of the land around the reservoir and controls all of the access

points, so they were a key player in the exercise as well. All four states were involved.

ICS is the standard for all emergencies responses in Montana. Because of all of the forest fires that they have to deal with, the state has a lot of staff that are trained in ICS. Montana had to implement an emergency response for an oil spill in the Yellowstone River this past year, which gave them experience with an ICS based response for a natural disaster other than forest fires. Fish, Wildlife and Parks was the lead agency for that response which provided the agency with ICS experience.

One key to making the exercise a success was having an inter-agency design team that started to work on developing the exercise about a year in advance. The design team chose a scenario, hired a consultant, and began to work on who we wanted to be involved, and what we wanted to achieve. This was a lot of work up front, but really helped to make the exercise a success. The exercise itself lasted two days. It was conducted in a remote location with little or no cell phone coverage and no wireless internet so that the exercise would be as close to the real thing as possible. There is an After Action Report on the 100th Meridian website, under the Columbia River Team part.

The site was selected because the team new it would be a complicated exercise with few options available. Most of the state's reservoirs are river-run reservoirs, so they are excepting the reality that chemical control is much of an option but instead will focus on how to prevent overland spread to another area. There is very little that can be done to stop downstream dispersal. The scenario was Dreissinids were found during a routine hatchery inspection. The goal for the exercise was to test and refine the existing plan, increase coordination among the agencies involved, and to further develop a containment strategy. The exercise was focused on the operations branches. Two operations branches were used: one to look at containment and the other to look at monitoring. The idea was that the exercise would take them through the first 24-48 hours of a real event.

Incident Solutions out of Colorado was the consulting firm that was used. They were excellent and were highly recommended by Eileen for anyone wanting to conduct a rapid response exercise.

One of the outcomes was an increased awareness of the ICS among the different partners. Montana Fish, Wildlife, and Parks has now committed to doing exercises on an annual basis. They will move to new locations, use new scenarios, and try to engage new partner agencies, as well as more of their own fisheries staff. There was some uncertainty by Montana about using ICS, but they now see a lot of benefits to ICS and doing the exercises. Eileen strongly recommended that anyone conducting an exercise put the work in up front for development to make it the most productive. A lot of partners are looking for prescriptive plans, but that is not realistic. Their plan helps you to quickly work through the process to decide who needs to be at the table, how we make decision, who makes decisions, and who does what.

Discussion:

Where can we get a copy of it? It's all on the 100th Meridian website under the Columbia Basin Team. A player's handbook was developed and given to each of the participants. If that is not on-line, Eileen will make sure that it is added. Everyone that showed up was given a very specific role, and no one was invited to be observers.

How do you recommend states that are not familiar with ICS move forward? Do you only need to have your set leaders go through the full training? First you must convince your fish chief and the fish chief then convince the Director that ICS is the way to go. The people you want to do the 300 and 400 level training are the ones that will be taking lead roles in the ICS structure. You want people who are going to have the time to put into the training and who are going to be able to fulfill that role in an exercise. Eileen's AIS technician was put in the top operations role and she did very well. You may run into a situation where someone in the ICS structure is over someone who they are normally under in your agencies structure on a day-to-day basis. It's important that the people doing the work understand that their chain-of-command is no longer through their agency, but rather through the ICS structure. The training is important for everyone that is involved to have basic ICS training.

When you have an incident come up now, does your Incident Commander fill many of the other positions depending on the specifics of the incident and the geographic location? What we have is a framework that is based on land ownership and location as to who we appoint and to what type of position. We don't have specific people already identified for each of the roles.

Short of training everyone in your agency, how can you prepare for something like this? This is certainly an advantage in Montana where a lot of people on staff have had some level of ICS training. In your situation, the best you can do is to anticipate the types of responses you may have to participate in, and the train the people that would participate in those types of responses. The lack of ICS training can be a real problem when it comes to operating within the ICS chain-of-command rather than the agency chain-of-command.

Montana did not try to do this all within their' own agency, but rather looked to identify what partners have the ICS expertise and could help with a response. There are a lot of positions that don't require technical experts and can be filled by someone who knows ICS.

State Departments of Agriculture can be a good source for ICS expertise. Most have an ICS plan or a group that has been trained and takes part in exercises regularly. The Department of Agriculture will regularly pull from other agencies because you can rapidly run out of people with training and expertise with ICS.

The technical staff doesn't need to go to 300 and 400 level training. That level of training and expense is only necessary for the people that will be filling leadership roles. The 100 and 200 level courses are available on-line and should be taken by everyone participating in a response.

No Action Items.

21. 2012 Workplan Discussion

Eileen reviewed the new potential projects that were previously identified during the committee reports and asked if there were any additional ideas.

The purchase of some adult Asian carp mounts and acrylic blocks with YOY Asian carp and shad were added to the list. The estimated cost for the adult mounts is \$300 - \$600. No one had a good handle on an estimated cost for the acrylic blocks. Sea Grant was trying to do this but couldn't get the YOY. They should be able to provide us with an idea on the cost. \$1,000 was estimated for these products.

Tim Banek requested \$10,000 - \$15,000 funding for a proposal in Missouri for a 2-phase invasive crayfish control project. The first phase is to develop a chemical control protocol for killing crayfish in fish shipments. This is something that could be used by other states. The second phase is eradicating crayfish from an infested hatchery in Missouri. The total project cost is expected to be around \$200,000. Missouri Department of Conservation is providing some funding for the project, but is looking for partners where ever they can to help get this project completed. The first phase has some relevance to the whole basin. Tim will send the proposal to the Executive Committee.

The proposed projects exceed the amount of funds available for projects in 2012. The Executive Committee will review the proposals and additional information that were requested for a number of projects and make final decisions on a conference call in late January.

The panel reviewed which projects would be started and/or completed in 2012.

- Asian carp in reservoirs: This will likely be a two year project. The MRBP funding will make it possible to complete the first year of work. This project would likely start in 2013. We will hold this funding request for consideration in 2013.
- Equipment for quagga mussel research: This is something that we need to move on quick. She cannot move her research forward without the equipment. We need a proposal from her soon. Duane will work with Catherine to get a proposal for Executive Committee consideration.
- AFS symposium: This is for the 2012 Annual meeting this August so this funding would be needed during 2012.
- Boater surveys: Wisconsin has expressed interest, but no other states have shown interest for 2012. We will reduce this to \$5,000 for a single survey in 2012.
- ANS museum display: This project is dependent on the federal budget. The funds could be used this year if the federal funding comes through.
- Whack-A-Mussel: Funding for this project is needed immediately. The hope is to debut the game at the Bassmaster Classic in February 2012.

- Grass carp review: There is a proposal that is ready to be funded. This project is ready to get started as soon as the additional funding is secured. We need to make it a priority to look for additional funding sources.
- Missouri crayfish control: This project is scheduled to start in July 2012.

Action Items:

- Conover will get the MRBP Model Rapid Response Plan and the accompanying Fish Module on the MRBP website.
- Tim will send the proposal for the Missouri crayfish control project to the Executive Committee.
- Chapman will work with Catherine Sykes and Mark Gaikowski to get a proposal for the quagga mussel control project to the Executive Committee.
- The Executive Committee will review the funding requests, proposals, and other additional information provided and prioritize projects for funding in 2012.

22. ANS Task Force Recommendations

Fall recommendations included standing recommendations for full funding of state ANS management plans and implementation of the national Asian carp management plan. The panel also requested that completion of the national snakehead management plan be expedited.

We have an ad-hoc committee working on an NCN regarding the economic impact of ANS. We may want to forward this as a recommendation to the ANS Task Force so that it is being approached from multiple angles. There may be something related to this already happening. We will check into this and look to develop a recommendation around this if it is not already being acted upon by the ANS Task Force.

A center for assessing new control tools for ANS is greatly needed. For example, Minnesota is looking into using acoustic barriers, but there is no objective information to be found. There are fish passage centers, something similar is needed for ANS control.

Do we need to recommend that we need a real-time USGS NAS database? That was essentially addressed at the fall ANS Task Force meeting. The Task Force is going to follow-up with the panels and send a letter to the USGS.

Recommendations are needed 30 days prior to the spring meeting (usually held during the first week of May), so we will have to submit them by early April. Since there are members not in attendance at the meeting, maybe this list should be sent out to the full membership with a request for additional recommendations.

Action Items:

- Ryce will check with Susan Mangin to see if the ANS Task Force is already addressing the need for a new assessment of the economic impacts of ANS.
- The Executive Committee will send a request for new recommendations out to the full panel membership.

23. Scheduling Next MRBP Meeting

Sticking to the 9 month rotation for panel meetings, the next meeting should be in September. Have we visited all of the sub-basins? Yes. We could hold it in the Twin Cities or Lake Itasca in Minnesota. Lake Itasca is a 4 hour drive from the airport in the Twin Cities.

The Gulf and South Atlantic Panel meets twice a year, usually in April and October. We could explore the possibility of a joint meeting with them. We have done joint meetings with the Western and Great Lakes panels. The biggest drawback is that we have less time on our own. Is there a benefit to the MRBP if we meet together or would a joint meeting impact attendance? Dennis will let the Executive Committee know when and where the next Gulf and South Atlantic Panel will be.

There will be a Midwest Invasive Species Conference in La Crosse, WI, in October or early November. Wisconsin and Minnesota are hosting the conference, but they are trying to get other states to come to it. There may be an opportunity to have a panel meeting in conjunction with that conference. The Southeastern Association of Fish and Wildlife Agencies usually meets around the third week in October. The Western Regional Panel meets in October. The ANS Task Force meets in early November and we want to make sure we have our meeting prior to then.

What states have we not been to? Ohio, West Virginia, Kentucky, Mississippi, Indiana. The Executive Board should develop a list of all the states that have not yet hosted a panel meeting.

Action Items:

- Jay Rendall will provide more information on the Midwest Invasive Species Conference to the Executive Committee.
- Dennis Riecke will let the Executive Committee know when and where the next Gulf and South Atlantic Panel meeting is scheduled.
- The Executive Board will make a decision and let the panel members know the dates and location for the next MRBP meeting.
- The Executive Board will develop a list of states that have not yet hosted an MRBP meeting.

24. Acknowledgements

Eileen informed the group that Doug Keller had accepted a promotion in Indiana and may not be attending future meetings. She recognized Doug Keller for his active

participation in the panel over the years, including his most recent role as Prevention and Control Committee Chair.

Eileen thanked Curtis Tackett and Oklahoma Department of Wildlife Conservation for hosting the meeting.