



## **Mississippi River Basin Panel Meeting**

**October 11, 2012  
Four Points by Sheraton  
New Orleans, LA**

### **Decisions Points and Action Items**

1. Duane Chapman will query MRBP states regarding changes in regulations on paylakes. Chapman will collate responses to provide an updated report at the next MRBP meeting.
2. Kevin Irons and Duane Chapman will draft a short white paper or letter regarding the increasing evidence of bighead carp contamination in stocked farm-raised channel catfish, and the potential for this to be a vector for the movement and introduction of bighead carp within and outside the Mississippi River Basin. The panel will consider providing the whiter paper/letter to the ANSTF and/or Regional Panels.
3. Sue Thompson will draft a letter regarding the potential of fracking water and water-hauling equipment as a potential vector for the movement and introduction of AIS.
4. Sue Thompson will look for potential speakers to invite to the next MRBP meeting to provide information on regulation of fracking industry, for example mining inspectors or who permits transfer and carriage of water.
5. Jon Amberg will provide information describing potential applications for eDNA other than Asian carp, stressing applications in which some of the Asian carp eDNA problems would not apply. Using this as a guideline, the Research and Risk Assessment Committee will poll MRBP states as to which AIS species need markers developed for use in such applications.
6. Duane Chapman will look for a speaker from FWS or Customs, to present information at the next panel meeting on record keeping of species imported to the United States.
7. The ANS Field Guide Project was changed from a pocket field guide to a web-based tool. Luci Cook will take the lead for developing a series of standardized ANS species fact sheets using the ANS Field Guide text.
8. Steve Schainost will query panel members to see if a state is interested in using panel funds to cost-share an ANS boater survey.

9. The Education and Outreach Committee will send a request for proposals to MRBP members to cost-share evaluations of the effectiveness of ANS education displays (museum/aquarium) or ANS information campaigns (state).
10. Curtis Tackett will contact the Aquatic Resources Education Association to determine interest and opportunity for the MRBP to sponsor an ANS workshop at Association's 2014 meeting.
11. Steve Schainost will contact Stephanie Showalter Otts with the Sea Grant Law Center to discuss funding for an AIS workshop for Mississippi River Basin state Attorneys General in 2013.
12. The Prevention and Control Committee de-obligated \$40,000 for the grass carp review; \$20,000 remains obligated for additional work if needed.
13. Bob Wakeman will contact Jay Rendall to request available information from Minnesota regarding dry hydrants. A brief issue summary will be developed and materials developed by the states to address this issue will be made available on the MRBP website.
14. Luci Cook-Hildreth, with assistance from Steve Shults, will poll state members to see what aquatic plant rapid response plans are already available and could be modified or used to develop an aquatic plant appendix for the MRBP's model rapid response plan.
15. The Prevention and Control Committee de-obligated the full \$10,000 for the proposed Northern Snakehead eDNA Marker Field Evaluation project.
16. Kim Bogenschutz will contact Jay Rendall to request available information from Minnesota regarding the lake services industry. A brief issue summary will be developed and materials developed by the state to address this issue will be made available on the MRBP website.
17. Jason Goeckler will provide a fact sheet template for state-specific AIS issues and example AIS distribution maps to state members to be developed and compiled on the MRBP website.
18. The Executive Committee will discuss the proposed projects and available funding to develop a work plan for 2013.
19. The Executive Committee will see how the Gulf and South Atlantic Regional Panel words the proposed joint recommendation (evaluation of recreational guidelines) and determine at that time whether or not to make it a joint recommendation.
20. Panel members approved 4 draft recommendations for the fall ANS Task Force meeting. The Executive Committee will finalize the wording of the recommendations and submit them to the ANS Task Force by close of business October 16, 2012.
21. The ExComm will explore meeting options in Ohio or La Crosse, WI, in late July.



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### Agenda

- 7:45 Registration
- 8:00 Call To Order (Schmal)
- Review Joint Meeting highlights
  - Review December 2011 MRBP meeting highlights
  - Review MRBP meeting agenda
- 8:15 Coordinator's Report (Conover)
- Projects and obligations
  - 2012 Budget
- 8:30 Committee Breakouts (All)
- 10:00 Break
- 10:15 Committee Breakouts (All)
- 12:15 Lunch
- 1:30 Public Comment (Schmal)
- 1:45 Committee Reports (Committee Chairs)
- 2:30 Communication Needs (Goeckler)
- State AIS Fact Sheets
  - State Asian Carp Distribution Maps
- 3:00 Break
- 3:30 eDNA Analysis (John Amberg)
- 3:50 Meta-genomic Analysis (Tim King)

4:10 Group Discussion: eDNA (All)

4:40 Meeting Wrap-up (Schmal / All)

- 2012/2013 Work Plan Discussion
- Recommendations and Decision Items for ANSTF
- Set Date and Location for Next MRBP Meeting

5:00 Adjourn



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### Participants

Name	Affiliation
Nick Schmal	U.S. Forest Service
Jon Amberg	U.S. Geological Survey
Matt Cannister	U.S. Geological Survey
Matt Neilson	U.S. Geological Survey
Mike Hoff	U.S. Fish & Wildlife Service
Kevin Irons	Illinois Department of Natural Resources
Steve Shults	Illinois Department of Natural Resources
Eileen Ryce	Montana Fish, Wildlife, and Parks
Julie Anderson	LA Sea Grant
Louie Thompson	Catfish Farmers of America
Eric Fischer	Indiana Department of Natural Resources
John Navarro	Ohio Department of Natural Resources
Jeff Ross	Kentucky Department of Fish and Wildlife Resources
Curtis Tackett	Oklahoma Department of Wildlife Conservation
Luci Cook-Hildreth	Texas Parks and Wildlife Department
Steven Schainost	Nebraska Game and Parks Commission
Eugene Braig	Ohio State University
Sam Finney	U.S. Fish & Wildlife Service
Nathan Stone	National Aquaculture Association / UAPB
Duane Chapman	U.S. Geological Survey
Bill Posey	Arkansas Game and Fish Commission
Doug Keller	Indiana Department of Natural Resources
Sue Thompson	Carnegie Mellon University
David Roddy	Tennessee Wildlife Resources Association
Mike Smith	Missouri Department of Conservation
Bob Wakeman	Wisconsin Department of Natural Resources

Kim Bogenschutz	Iowa Department of Natural Resources
Dennis Riecke	Mississippi Department of Wildlife, Fisheries and Parks
Susan Mangin	U.S. Fish & Wildlife Service
Jason Goeckler	Kansas Wildlife and Parks
Greg Conover	U.S. Fish & Wildlife Service - MRBP Coordinator



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### Notes

#### 1. Call to Order

Following welcoming remarks and introductions, Second-Term Co-Chair Nick Schmal led a discussion of the highlights from the joint panel meeting with the Gulf and South Atlantic Regional Panel the previous day.

#### Discussion:

*Vector Management:* Vector management can be a good approach for some vectors, but it will not necessarily work for all. More discussion is needed; perhaps this will occur in the committee breakouts?

*Outreach:* Evaluation is important and should be included as a component of outreach projects, but it is difficult to find the funding for evaluation.

U.S. Fish & Wildlife Service (FWS) has had the lead in coordinating the Stop Aquatic Hitchhikers Campaign (SAH) since it was created in 2002, but that responsibility was recently transferred to Wildlife Forever. It seems that most people, including many within the FWS, are not aware that an MOU was recently signed with Wildlife Forever. The Education and Outreach committee may want to discuss what SAH should like look in the future and then provide input to Wildlife Forever. It would be helpful to see a copy of the MOU to understand exactly what this transition means. Doug Grann with Wildlife Forever will be at the ANS Task Force meeting. This would be a good opportunity to learn more about the transition and Wildlife Forever's interest in receiving input on the future of SAH.

*ICS Training:* The ICS training on Tuesday was well attended. It was a good training opportunity, but these types of short introductory trainings have their limitations. Panel members may be better served by more in-depth, local tabletop exercises.

*No Action Items.*

## 2. Coordinator's Report

MRBP Coordinator, Greg Conover, provided a handout (see below) and reviewed the MRBP's FY2013 projected budget and current projects and obligations. If FY2013 funding is received, then panel is projected to have nearly \$27,000 for projects. The committees were asked to review the current project obligations and report back on funds that should be de-obligated.

### Discussion:

Can we keep part of the 2013 funds in reserve to pay for travel and meetings in 2014 in case something should happen and the panel does not receive FY2014 funding? Yes if the panel chooses to, we can obligate funds to cover travel and meeting expenses in 2014.

Do we have a time limit to spend panel funding? Yes, the agreement between MICRA and FWS has a time limit for MICRA to invoice for the panel funds. MICRA usually invoices for the full funding right away because it usually isn't available until late in the fiscal year. For example, FY2012 funding was just received last month. Since FY2012 is over, MICRA will likely invoice the FWS for the full FY2012 funding following this meeting. Once the funding is paid to MICRA, the panel does not have a time limit to spend the remaining funds.

Has the panel received any guidance from MICRA regarding the panel covering part of the coordinators travel? No, MICRA is going to revisit this during their winter meeting.

Something to think about for the future is integrating the Fish Habitat Partnerships and ANS Regional Panels. For example, the Ohio River Basin Fish Habitat Partnership (ORBFHP) has identified ANS as a priority. If the MRBP and ORBFHP coordinated on AIS priorities, we may find some mutual benefits to both groups.

On the project spreadsheet, Wisconsin is listed for conducting an AIS boater survey in 2012. Wisconsin has decided not to do an AIS boater survey this year and will not be using those funds.

Can panel funds be used to sponsor other regional events like the Upper Midwest Invasive Species Conference? Yes, if the panel chooses. The MRBP has provided sponsorship for other conferences such as the 'International Symposium on Genetic Biocontrol of Invasive Species' and the upcoming Didymo conference. The panel has also sponsored several symposia at national and regional conferences.

*No Action Items.*

### MRBP Projected FY13 Budget

FY13 FWS FUNDING		50,000.00
MICRA OVERHEAD		(5,821.05)
OPERATIONAL EXPENSES		(17,200.00)
Meeting Expenses	2,000.00	
Meeting Travel Support	10,000.00	
Co-chair Travel Support	5,000.00	
MRBP Website	200.00	
AVAILABLE BALANCE		26,978.95

### MRBP Obligations Summary

2008 Obligated Funds	Budgeted	Status
ANS Field Guide	18,000.00	On-going
2011 Obligated Funds	Budgeted	Status
MRBP Meeting Travel Support	2,394.14	Complete
MRBP Co-Chair Travel Support	511.00	Complete
Asian Carp Watch Cards	3,000.00	Complete
ANS Boater Surveys (NE)	5,000.00	Complete
* Snakehead eDNA Field Test	10,000.00	Not Started

NOTE: \$2,545.86 de-obligated and accounted for in available balance.

2012 Obligated Funds	Budgeted	Status
2012 Meeting Expenses	2,000.00	On-going
Meeting Travel Support	10,000.00	On-going
Co-chair Travel Support to ANSTF	5,000.00	On-going
MRBP Website	200.00	Complete
Conference Phone	1,000.00	On-going
* AC YOY Acrylic blocks	500.00	Not Started
* Advanced ICS Training	5,000.00	Not Started
AFS Symposium	6,500.00	On-going
MDC Crayfish Control Proposal	10,000.00	On-going
Mississippi River Museum ANS display	5,000.00	On-going
* TGC Program Review	60,000.00	On-going
Whack-A-Mussel	2,000.00	Complete
* WI ANS Boater Survey	5,000.00	Not Started

\* NOTE: Do these funds remain obligated for 2013?

### 3. Committee Breakouts

The committees met from 8:30 AM to 12:15 PM. Committees were asked to review the status of on-going committee projects and to develop an FY2013 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.*

### 4. Public Comments

No public comments were received.

### 5. Committee Reports

#### **Outreach and Education Committee**

The meeting began sometime around 0830.

Attendees included: Steve Schainost, NE - Chair  
Curtis Tackett -OK  
Luci Cook-Hildreth - TX  
Kevin Irons - IL  
David Roddy - TN  
Nick Schmal - USFS  
Dennis Riecke – LA  
Mike Hoff - USFWS (Attended part of meeting.)

#### **On-going Project Updates:**

##### *Whac-A-Mussel:*

At the last meeting, Bob Wiltshire (Executive Director of the Invasive Species Action Network) brought forward an odd and innovative idea. He had contact with Teeg Stouffer of Recycledfish.org ([www.recycledfish.org](http://www.recycledfish.org)). [From their website: "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. Stouffer has been talking to the firm that makes the 'Whac-a-Mole' game to build a 'Whac-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 others to use. However it would be quite large so would fit best at Sport shows or fixed venues like the chain sporting goods stores. A game will cost \$6,000 and he has \$2,000 and he was looking for two more sponsors. In spite of concerns as to the educational value of this, we thought this might be just goofy enough to be effective and put in a budget request for \$2,000. The game was completed and had been to

several venues in the past months, including this meeting. The game was in the room and had been played by quite a few of the meeting's attendees. The only charge for MRBP members to use the game is to pay the shipping to your location as it needs to go by truck (or pickup).

*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 due to the cost of publication. This project was headed by Jay Rendall (MN) with the text being written by Mandy Beall as a private contractor. Jay attended the last meeting and stated that he no longer had the time to finish it and was looking for someone to help. He needed a person to take over the final review of the text, update as necessary, obtain illustrations, lay it out and send it to print.

[Note: a draft version of the species accounts was completed in April 2009 and sent out for review at that time.] Luci Cook-Hildreth volunteered to work with Jay and get this done.

2012 update: Luci was unable to contact Jay since the last meeting. There was some discussion as to what to do with this project. Many states have already produced their own ANS/AIS Field Guides. It would seem that doing another would now be somewhat unnecessary. The suggestion was made that we move forward but in a different format. In essence, the completed text would be combined with illustrations into stand-alone PDF files. These would be loaded onto a CD and copies of the CD would be sent to all panel members. The panel members could then pick and choose from the accounts (fact sheets) to publish their own Field Guides or insert them into websites, etc. Again, Luci volunteered to do this.

[Follow up note: When this was presented at the general meeting, it was observed by several that fact sheets like this are already available on a number of web sites. The overall impression being that, perhaps, this project is not necessary as anyone who wants this info can already find what they need. However, these are in a variety of formats and having a large selection in the same format may be more in fitting with our objective.]

*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) agency's information programs. It was also hoped that the surveys 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 surveys to get a more complete, basin-wide picture of the situation.

The MRBP offers \$5,000 as an incentive to help pay for these knowing that surveys cost more than this. Seven states have been able to conduct surveys (KS, IN, IL, OK, WI, MO, and NE). The results of the completed surveys were compiled into a report that was posted on the MRBP website in 2012. Up until this past year, we

had offered funds for two surveys per year. At the last meeting, we received a request from WI for 2012. Subsequently it was learned that there were insufficient funds to cover two surveys so this line item was reduced to one (WI). Then WI withdrew their plans to do a survey so, at the time of this meeting, no surveys were in progress or planned. (The funds were retained in the workplan for the time being and a call will be made to see if anyone is still interested in doing a survey yet this year.)

*Mississippi River National Museum and Aquarium (MRNMA):*

Nick Schmal reported that the display was currently in the process of being constructed. He reported that this was to be a traveling display and it was scheduled to visit 12 major cities in the basin over the next year. The ANS portion was to be two sections of a much larger display dealing with big river ecology, etc. He passed out some concept drawings of the display. The MRBP contribution was to be \$5,000. This prompted a long discussion of educational displays and how we could use them (partially prompted by the presence of the Whac-A-Mussel game). The discussion revolved around these points:

- would it be possible to borrow the ANS section for use in other venues?
- perhaps the MRBP could sponsor the construction of a more compact ANS display for sport shows, etc.
- maybe we could invite one of the people involved with the development of the MRNMA display to describe the process
- invite person to discuss existing ANS displays (Shedd Aquarium??), how they are developed, evaluated, modified, etc.

This led to the question as to how many public aquariums there were in the Basin. How many of these have ANS displays and how many don't have displays but would like one? If we could get this information, perhaps that could be a future workplan item (i.e. sponsor development of additional public aquarium ANS displays).

Education and Outreach Committee FY2012 Work Plan Updates

<b>Activity</b>	<b>Milestones</b>	<b>Deliverables</b>	<b>Funding Obligated</b>	<b>Update</b>
Field Guide to Aquatic Nuisance (Invasive) Species	2012	Print and distribute	\$18,000 - \$16,000 balance	Project changed to from printed Field Guide to web-based fact sheets with images and text in standardized format
ANS and Boater surveys	Next meeting	State survey results	\$5,000	2012 funds remain available
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	WRP received funding and held a workshop in 2012; MRBP waiting to see if funding will be available in 2013
AIS display for Mississippi River National Museum and Aquarium	Next meeting	Assist in sponsoring a permanent AIS display for the Aquarium	\$5,000	Display is under construction
Whack-a-Mussel	mid-February	Assist with producing a game by February 24	\$2,000	Completed

## New Projects:

### *Evaluation of State ANS Education Programs:*

At this Committee meeting a suggestion was made to alter the focus of this to sponsor evaluations of the effectiveness of ANS education displays (museums/aquariums) or of ANS information campaigns (states). This was prompted by presentations on this topic the day before. Furthermore, the Gulf and South Atlantic Regional Panel (the other half of this joint meeting) had proposed "That the ANSTF incorporate evaluation measures into the outreach efforts of the newly revised Recreational Guidelines, to be able to assess the impact they have on the public's behavior." There was much discussion of this concept and we decided to go ahead with it provided that the results of the evaluations or the protocols used would be applicable to MRBP panel members. The process would be to announce to the MRBP the availability of evaluation funds and to submit proposals (similar to an RFP) for consideration. The Committee's job would be to evaluate the proposed evaluations to see if they would produce a product that was in line with MRBP goals and objectives. Up to \$5,000 each would be made available for (up to) two evaluations.

### *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. The committee proposed a budget of \$5,000.

We discussed this and learned that the lead organization for the conferences was the Aquatic Resources Education Association and that the next conference was 21-25 October 2012 (next week). That means that we would have two years in which to get involved and produce outreach materials for the next conference. Curtis Tackett volunteered to contact this Association to work out the details for participating.

### *AIS Workshops for State Assistant Attorneys 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 but additional financial support may be needed depending on the budget allocation. Mike Hoff discussed this at the last meeting but the Sea Grant Law Center had already committed itself to helping with a workshop with the Western Regional Panel. We will be contacting the Center to explore developing a workshop in the MRBP. The suggestion was that the focus of the workshop should be on how we can work to develop laws, etc. that would foster better interstate cooperation by working towards more comprehensive, complementary sets of state and federal laws. I will be contacting Stephanie Showalter Otts to explore this. The committee will request a \$10,000 budget to provide travel assistance for increased participation.

At this same time, we wondered if the ANSTF had ever given a presentation to a national or regional Governor's Conference. We thought that this might be a good idea as it was a coalition of Great Lakes Governors who got the major influx of federal funding for Great Lakes ANS issues.

*Aquarium Hobbyist Industry Study:*

We finished with a discussion of the aquarium hobbyist industry. Luci Cook mentioned that the Houston Advanced Research Center had conducted a study of the aquarium hobbyist industry. A synopsis of their results is available at <http://www.harc.edu/WaterBiodiversity/AquariumOwnersandFishRelease/tabid/1083/Default.aspx>. Luci suggested that a similar study within the MRBP might be worth investigating. We had a short discussion but no action was recommended by the Committee at this time.

Proposed Recommendations for ANS Task Force:

- 1) The MRBP should ask if the ANS Task Force has ever provided a presentation on ANS at a national or regional Governor's Conference.

Education and Outreach Committee FY2013 Work Plan

<b>Activity</b>	<b>Milestones</b>	<b>Deliverables</b>	<b>FY2013 Funding</b>
A Field Guide to Aquatic Nuisance (Invasive) Species	2013	Web-based fact sheets with images and text in standardized format	No additional funds needed.
ANS and Boater surveys	Next meeting	State survey results, one survey, fall/winter 2012	No funds requested for surveys is 2013
ANS Workshop for state Assistant Attorneys-General in MRBP region	Next meeting	Explore opportunities with Sea Grant Law Center for sponsoring an MRBP workshop in 2013.	\$10,000
ANS display for National Mississippi River Museum and Aquarium	Next meeting	Construction of a traveling ANS display.	No additional funds needed.
Evaluations of state ANS education programs	Next meeting	Copies of results of evaluations or protocols used to conduct same.	\$10,000 (up to \$5,000 per project)
Develop materials and workshop for state Aquatic/Fishing Educators	Next meeting	Report on possibility of participating in 2014 conference.	No funds requested.

## Prevention and Control Committee

Attendees included: Steve Shults, Chair  
Kim Bogenschutz, Iowa DNR  
Sam Finney, USFWS  
Eric Fischer, Indiana DNR  
Jason Goeckler, Kansas FWP  
Mike Hoff, USFWS  
John Navarro, Ohio DNR  
Eileen Ryce, Montana FWP  
Steve Shults, Illinois DNR  
Mike Smith, Missouri Dept. of Conservation  
Nathan Stone, National Aquaculture Association  
Louie Thompson, Catfish Farmers of America  
Bob Wakeman, Wisconsin DNR

### On-going Project Updates:

#### *Grass Carp Review:*

USFWS has funded this project through MICRA and contracts are now in place with HDR to perform this work, including an added objective for review of legal use of diploid grass carp. PCC recommends deobligating \$40k of this amount, holding \$20k in reserve to ensure timely completion of the project in the event of unforeseen costs or if additional work is necessary.

#### *Diploid Grass Carp Letter:*

PCC recommends this letter requesting states to discontinue use of diploid carps be tabled until results of the grass carp review are completed. This will ensure that recent scientific information is available to help inform policy decision by member states.

#### *Dry Hydrants:*

The original intent of this project was to modify existing state materials (KS, MO, and MN) to develop a MRB issue paper and recommendations on dry hydrants. This project has had little progress due to various causes. Tim Banek has provided info from Missouri and Bob Wakeman (WI) has information which can be used. Bob will contact Jay Rendall to request info available from Minnesota. New product will be a short introduction and collection of materials available from other states which can be posted to MRBP website or made available on request. At this point, a complete issue paper will not be completed.

#### *ICS Advanced Training:*

MRBP has offered financial support for member travel costs to attend advanced ICS training for a couple of years, without any requests. In order to generate additional interest, PCC recommends these funds also be made available for tabletop (TTX) and regional mock exercises involving invasive species. This should be increased to \$10k, to allow up to two states participation at \$5k/state.

*Rapid Response Plan Plant Module:*

There was some discussion on the need for continuing to pursue this project. It was suggested that the FWS will require more specific rapid response components from member states when state management plans are updated. Luci Cook-Hildreth will poll states to see what plans are already available, with assistance from Steve Shults. Illinois is completing an EDRR project for hydrilla which may be acceptable for use in this capacity as well. While many member states will need a rapid response plan, we will evaluate whether existing plans may serve in this capacity, or be easily modified and included as the plant appendix for MRBPs response plan.

*Northern Snakehead eDNA Marker:*

This project proposal submitted to MRBP last year was basically for field monitoring within a member state and validation of eDNA marker at the field level. MRBP was hesitant to become involved with this type of project and requested a modified proposal. To date, another proposal has not been received, and PCC recommends deobligating these funds.

*BMPs for Lake Services Industry:*

This project is intended to provide information on the different pathways associated with this industry and develop recommendations to reduce risks. To date, there has been little progress, but Kim Bogenschutz has begun working on BMPs for Iowa. She has agreed to attempt to contact Jay Rendall, and forward the existing documents that can be gathered from various states. These can be made available via the MRBP website to those interested.

*Invasive Crayfish Control:*

MRBP is cost-sharing (with MDC) a research project to develop a chemical control protocol for killing crayfish in fish hatchery shipments. The project is ongoing and PCC recommends continued support.

Prevention and Control Committee FY2012 Work Plan Updates

<b>Activity</b>	<b>Description</b>	<b>Deliverables</b>	<b>Funding Obligated</b>	<b>Update</b>
Triploid Grass Carp Program External Review	Identify opportunities to fund or cost-share the HDR proposal submitted to MICRA	Report with recommendations to reduce risk associated with the use of triploid grass carp	\$60,000	Deobligate \$40K.
Diploid Grass Carp states letter	Prepare 1) draft letter for MICRA urging states that allow diploids to permit only certified triploids, and 2) recommendation to present to ANSTF	Draft letter for MICRA consideration and recommendation for ANSTF	None	Tabled until results of grass carp program review are received.
Dry Hydrants	Modify existing state materials (KS, MO, MN) to develop a MRB issue paper and recommendations on dry hydrants	Issue paper for distribution and MRBP website	None	New members providing leadership on this issue. See discussion below.
Advanced ICS training travel support	Financial support for MRBP member travel costs to attend advanced ICS training	Increased number of "Command Qualified" personnel to lead ICS rapid response efforts	\$5,000	Deobligate.
Rapid Response Plan Plant Module	Begin development of a plant module for MRBP Rapid Response Plan	Plant module for MRBP Rapid Response Plan	None	Continue.
Northern Snakehead eDNA marker field testing	Request and fund a proposal for field testing the northern snakehead eDNA marker in the Mississippi River Basin	Field validation and development of approach for using eDNA for early detection of fishes	\$10,000	Deobligate.
Develop BMPs for the lake services industry	Organize an ad hoc committee to identify the different pathways associated with this industry and develop recommendations to reduce the risks	Issue paper for distribution and MRBP website	None	Continue with modified directions.
Invasive crayfish control project	Cost-share a research project to develop a chemical control protocol for killing crayfish in fish shipments	Report with protocols for chemical control of invasive crayfish	\$10,000	Continue.

## New Projects:

### *ICS training or Tabletop exercise support:*

MRBP has offered financial support for member travel costs to attend advanced ICS training for a couple of years. These funds have not been used. In order to generate additional interest, PCC recommends these funds also be made available for tabletop (TTX) and regional mock exercises involving invasive species. PCC recommends an amount of \$10k, to allow up to two states participation at \$5k/state.

### *Support HACCP Training:*

Support / encourage Hazard Analysis and Critical Control Point training within member states to prevent introduction and spread of ANS. These should be conducted by NCTC certified trainers and produce a completed / implemented plan as a project deliverable. PCC Recommends \$5k for this project with the expectation this amount may cover training or travel expenses for more than one state.

### *Baitfish BMPs:*

Solicit proposals to develop BMPs for commercial and recreational baitfish industry (growers, harvesters, transporters, distributors) that will help prevent introduction and spread of AIS. This project is a modification of the National Asian Carp Management Plan recommendation 3.1.1.3 (priority #6) to include all pathways associated with baitfish movement, and all AIS (not exclusive to Asian carp). PCC recommends that \$40k be made available as cost-sharing to initiate the proposal solicitation process. **NOTE:** *These funds will likely not be needed until FY14.*

## Recommendations for Other MRBP Committees:

*Research and Risk Assessment:* Develop a model that helps explain how stocked diploid grass carp are enhancing natural reproduction in those waters where management agencies are using diploid grass carp in management programs.

Currently, only rotenone exists as an approved fish toxicant, and supplies are becoming problematic. In the near future, there may be a need to:

- 1) Evaluate genetic biocontrol tools (as a result of the genetic biocontrol symposium), and
- 2) Develop new toxicants / methods of control for ANS.

## Proposed Recommendations for ANS Task Force:

- 1) ANSTF should explore opportunities to assign a single federal agency responsibility for AIS management in the US.
- 2) ANSTF should reinstate Congressional reporting of Task Force and Regional Panel's activities and needs. Reporting to Congress has not occurred since 2004.
- 3) ANSTF should elevate visibility of AIS issues and challenges to decision-makers (reporting above is one method accomplish this goal).

- 4) ANSTF should provide a definition of “dead” for purposes of Lacey Act enforcement. This recommendation stems from the intercepted shipments of bighead carp crossing the United States border with Canada. The Lacey Act prohibits the shipment of live fish. However, fish transported on a slurry of ice can potentially be revived. This is primarily a law enforcement issue.
- 5) ANSTF should seek means of funding and implementing the National Asian Carp Management Plan. Since the entire plan is not likely to be funded, MRBP recommends that individual components of the Plan be implemented where possible, beginning with the 40 prioritized objectives as set by regional panel.

Discussion:

UMESC is investigating targeted delivery systems of piscicides for control of invasive fish. In relation to this work on the Micro Matrix platform, UMESC is conducting structural analysis relationship to look at the relationships between specific chemicals and their toxicity. The idea is to screen through large databases of chemicals in search of a lock and key mechanisms that are specific to individual species.

Prevention and Control Committee FY2013 Work Plan

<b>Activity</b>	<b>Description</b>	<b>Deliverables</b>	<b>FY2013 Funding</b>
Triploid Grass Carp Program External Review	Monitor progress of contractor toward achieving accomplishments.	Report with recommendations to reduce risk associated with the use of triploid grass carp	No additional funds needed.
Diploid Grass Carp states letter	Prepare 1) draft letter for MICRA urging states that allow diploids to permit only certified triploids, and 2) recommendation to present to ANSTF. Tabled until results of grass carp program review are received.	Draft letter for MICRA consideration and recommendation for ANSTF	None
Dry Hydrants	Collect existing state materials (KS, MO, MN, others) to develop an MRB briefing on dry hydrants	Short introduction and state materials for distribution on MRBP website	None
Rapid Response Plan Plant Module	Development of a plant module for MRBP Rapid Response Plan	Plant module for MRBP Rapid Response Plan (developed from existing materials)	None
Develop BMPs for the lake services industry	Collect existing state materials to develop an MRBP briefing on lake services industry.	Short introduction and state materials for distribution on MRBP website.	None
Invasive crayfish control project	Cost-share a research project to develop a chemical control protocol for killing crayfish in fish shipments	Report with protocols for chemical control of invasive crayfish	No additional funds needed.
ICS training / TTX support	Financial support for tabletop (TTX) and regional mock exercises involving invasive species.	Increased number of trained persons in ICS and identifying gaps in ability to perform rapid response for AIS.	\$10,000
HACCP training	Financial support for HACCP training to prevent introduction and spread of invasive species.	Increased number of HACCP trained persons and implemented HACCP plans.	\$5,000
Baitfish Vector analysis	Solicit proposals and identify opportunities to cost share analysis of baitfish vector.	Report with recommendations to reduce risk associated with the use of baitfish.	\$40,000 (may not be needed until FY14)

## Research and Risk Assessment Committee

Attendees included: Duane Chapman, Chair  
Kevin Irons, IL DNR  
Sue Thompson, Carnegie Mellon University  
Eugene Braig, OH Sea Grant  
Bill Posey, AGFC  
Jeff Ross, KDFWR  
Jon Amberg, USGS  
Mike Hoff, USFWS

### Old Business:

#### *GLMRIS (Great Lakes – Mississippi River Interbasin Study):*

Committee Chair continues to serve on GLMRIS tasks, will participate in Corps of Engineers charrette in Chicago in November. Chair updated committee on status of major GLMRIS products.

#### *Asian Carps in Reservoirs:*

Initiation of this study, with goal of a decision support system that would allow determination of what reservoirs are at risk for Asian carp (including grass carp) establishment, has been a goal of the committee for two years. Study neared funding through a variety of channels, but currently unfunded. There is support for it among states. We have asked for \$15k seed/matching money from MRBP for 2013, but there is a chance that a very similar study will be funded by USGS, with goal of using reservoirs to validate models generated for Great Lakes tributaries. If this is funded, we will need to determine what parts of the state's needs are not covered by the USGS study and potentially look for a way to move that forward, probably through state and FWS region 6 and region money (either SSP or other dollar sources). Committee agreed to continue request to hold \$15k from EXCOM, but that to avoid duplication of effort, those dollars would not be requested immediately – taking a wait and see approach for the moment.

#### *River Barges and Tows as Vectors for Asian carp:*

Study completed by HDR, report is in the hands of the USCG, but no publication as of yet. Gist of study – AC can survive in bilge of barges, but vector risk low because tows take on and release ballast water in the same place, and because holed barges (at MRBP request) are no longer allowed to be transported through the barrier. Barges do not take ballast through the barrier. Pump types used to remove water killed larvae in tests, so that in the unusual event that substantial water was transported through in a barge, most if not all larvae would die passing through the pumps. Risk of larval or juvenile fish transport is not zero, but low compared to many other risks. Note that other studies underway are providing evidence that river barges can be vectors of Asian carp DNA, especially if fish jump on the ship, die, and are carried over the barrier. A new system of looking for carp carcasses on board barges before the barge passes through the barrier has been instituted.

*ANS Screening Reports:*

Committee recommends that ANSTF support risk screening and that a mechanism be put in place to provide that organisms identified as high risk can be added to the Lacey Act's injurious species list, before they are actually introduced.

*AFS AIS Symposium:*

MRBP, at request of committee, sponsored AIS symposium at AFS meeting in Minneapolis. Peter Sorensen was chair of meeting. Several countries, including Russia and Australia, were represented, that would not have been available without matching travel funds from MRBP.

*Genetic Methods of Biological Control Symposium Proceedings:*

MRBP, at committee request, was a partial funder of this symposium. The Proceedings are to be published as a special issue of Biological Invasions.

Mike Hoff suggested that a document is needed that deals with policy. That a manuscript should be developed for the proceedings that explores impacts and benefits. We need a clearly articulated strategy on where to use genetic modification as a control for ANS. White paper would be a good start. High level people are not aware of the issues. Inform policy by exploring alternatives. Bryan Arroyo noted that Sea Grant Lawyer explored patchwork of regulations on genetic control of ANS.

Kevin Irons suggested that letter to Science to collect responses, then to make white paper from that. Ann Kapucinski has a grad student that has dealt with policy issues of using GMO control in the Colorado River.

Committee agrees on the need for genetic modification policy, but an action item was not described. This item may be taken up again in the future. It was noted that this would be a good item for ISAC to wrestle. Also, it would be a good idea to bring Australia folks in to meeting because they are planning on using daughterless carp and will have ideas and some experience in tackling policy recommendations.

Research and Risk Assessment Committee 2012 Work Plan Updates

<b>Activity</b>	<b>Description</b>	<b>Deliverables</b>	<b>Funding Needed</b>	<b>Update</b>
Asian Carp in Reservoirs	Develop a model for determining if reservoirs are suitable for Asian carps spawning	Model to evaluate suitability of reservoirs for Asian carp spawning.	May request \$15k in 2013.	MRBP project on hold until it is determined if a very similar USGS proposal is funded.
Dreissenid Mussel Research	Purchase needed equipment in support of research by Catherine Sykes to develop quagga veliger treatments that can be used effectively with fish	Effective treatment protocol for killing quagga veligers that can be safely used with fish	Awaiting proposal from Mark Gaikowski and Catherine Sykes	No proposal provided.
Invasive Fish Symposium	Travel support for up to three high profile speakers for an Invasive Fish Symposium at the American Fisheries Society annual meeting	Committee will organize and chair the symposium on Invasive Fish	\$6,500	Done.

## New Business:

### *Paylakes:*

Issue rising again, ANSTF has expressed interest in paylakes issue. Paylake information will be updated for next MRBP meeting. Kevin, Sue, Eugene, Bill, and Jeff will provide information on their states. Committee chair will collate responses, and if possible find out if other states have changed regulations on paylakes since the last report.

### *Catfish stocking as a source of bighead carp:*

Committee notes that catfish stocking may have been a vector for bighead carp movement within and outside of Mississippi River basin, through contamination of catfish being stocked. Evidence is mounting that this has occurred. Kevin Irons, with Duane's help will draft short white paper or letter that will go to ANSTF and other panels as a warning that this may have occurred. Risk of such movement is much lower now than in past.

### *Fracking water and water-hauling equipment as a vector for ANS:*

This is apparently the source of golden algae in Pennsylvania (brought from Texas). Education needed to stop this vector. Sue Thompson will draft letter. Also, Sue will look into people to bring into MRBP for two-way information transfer, for example mining inspectors or who permits transfer and carriage of water. These people invited to future meeting.

### *eDNA applications in invasive species other than Asian carps:*

There is a need for markers for other species. There are other applications for eDNA that may be more useful than the current use for Asian carp, and less fraught with problems. Jon Amberg will draft letter to MRBP describing potential applications, stressing applications in which some of the carp eDNA problems would not apply. Using this as a guideline, committee will poll member states as to which species need markers developed for use in such applications.

### *Database of imported species:*

The committee discussed how to address the issue, brought up by Earl Chilton in the plenary, of the inadequate recording of species imported to the United States. Committee also discussed ISAAC's needs a database of species that are being imported to the USA. For non-CITES species, records are very inadequate. Under Lacey Act, it is required that scientific name is attached, but that is not kept in the records. The committee determined that we had an inadequate understanding of the problems inherent in keeping these data, and that we could not make recommendations or develop a plan of action without greater understanding. We thus will request that a speaker, most likely from FWS or Customs, be brought to MRBP to alleviate this ignorance.

Research and Risk Assessment Committee 2013 Work Plan

<b>Activity</b>	<b>Description</b>	<b>Deliverables</b>	<b>Funding Needed</b>
Asian Carp in Reservoirs	Identify collaborators to help fund model development to determine if reservoirs are suitable for Asian carps spawning	Model to determine which reservoirs are suitable for Asian carp to spawn in.	May request \$15k in 2013. Waiting to see if similar USGS proposal is funded.
Paylakes	Update information on state regulations	Travel support for a speaker to attend an upcoming MRBP meeting	\$1,500
Catfish Stocking as a Source of Bighead Carp	Develop a white paper to be provided to the ANS Task Force	White paper to increase awareness about this issue.	No funding requested.
Fracking Water and Water-Hauling Equipment as a Vector for ANS	The committee will draft a letter on this issue and invite two speakers to attend a future MRBP meeting for two-way information transfer	Letter and increased awareness of resource managers and industry	\$3k (up to \$1,500 for two speakers)
eDNA Marker Development	Provide funding for development of markers for priority ANS species	eDNA markers for priority ANS species	May request \$15k in 2013. Waiting for information to be presented at the next panel meeting.
Database of Imported Species	A database of information on what species are being imported and what organisms are arriving with these imports is needed	Travel support for a speaker to attend an upcoming MRBP meeting to provide more information on international imports.	\$1,500

### Proposed Recommendations for ANS Task Force:

- 1) The ANS Task Force should explore methods to establish and institutionalize an ANS screening process that would evaluate species prior to importation.

The committee is also working on a recommendation regarding the need for a policy on the use of genetics for biocontrol of ANS, but this is not ready to submit.

## **6. Awards**

Nick Schmal presented Doug Keller with an award recognizing Doug's three years of service as Prevention and Control Committee Chair from 2009-2012.

Steve Shults received an award for his three years of service as MRBP co-chair from 2009-2012.

## **7. Communication Needs**

Jason Goeckler reiterated a couple of the communication needs that he discussed during the joint panels meeting the day before. He reported on his success in Kansas meeting with members of his state congressional delegation and providing them with fact sheets on priority AIS issues in Kansas. He suggested that the information presented in the fact sheets could be useful for a number of audiences and recommended that the MRBP states consider developing a series of fact sheets with a common template that presents the specific issues in each state. Capturing the expense of AIS to the states would also be good to include on these fact sheets. The panel could make these fact sheets available for the whole basin from the MRBP website. This would provide a simple way for someone interested in AIS issues in the basin to find information specific to each of the basin states in one location. Jason is willing to provide a fact sheet template to MRBP members.

In addition to the state fact sheets, the panel could similarly provide detailed maps on the distribution of bighead and silver carp within each of the sub-basins and basin states. Wisconsin developed a distribution map which provides more detailed distribution information for the state than the USGS NAS database maps provide. This would be a good model for the other states. A series of these maps may be very useful as a communication tool on the threat Asian carp pose to the interior of basin states. The Ohio River Basin states recently develop a map summarizing the state distribution info at a sub-basin level. It may also be useful to provide a series of sub-basin level distribution maps from the panel website to provide an overview of distribution within the basin.

Is there interest in pursuing development of these tools?

### Discussion:

Amy Benson has been putting a lot of maps together using the NAS database. If we provide her with the format she may be able to develop maps rather easily.

It is very helpful to know the intended audience when developing fact sheets.

Action Items:

- Jason will provide a fact sheet template and example maps to state members, but he will need the members to provide the requested information.

**8. The pros and cons of environmental DNA (eDNA): Development of a new surveillance tool** – Jon Amberg, USGS, La Crosse, WI

Jon Amberg presented work being conducted on environmental DNA (eDNA) at the USGS Upper Midwest Environmental Sciences Center in La Crosse, WI. Much of the work is being conducted as part of the eDNA calibration (ECAL) study funded by the U.S. Army Corps of Engineers. Jon provided an overview of the on-going research highlighting some of the pros and cons of this technology and the direction this technology is moving in the development of a new, highly sensitive tool for surveillance of aquatic invasive species.

Jon defined eDNA as DNA from an organism that is detected in non-biological samples (e.g., soil, air, and water). It is a relatively simple technique to use eDNA and surveillance of invasive species is just one of many applications of this technology. Jon described a targeted approach using species specific markers to look for eDNA from a particular organism(s), specifically surveillance for bighead and silver carp in the Chicago Area Waterway Systems.

Pros:

- Extremely sensitive
- Quick to collect samples
- Has been audited by EPA
- Straight forward modification for different species/applications
- Simple concept

Cons:

- Extraction and analysis is time consuming - currently about a 14 day turn around
- Inconsistent extraction efficiency – current research is trying to develop a method with highest efficiency and most consistent results
- Cannot infer fish number from DNA response
- Cannot infer source of DNA, i.e. presence of a live fish
- Several unknowns
  - Depth to collect water
  - Best location for collecting water samples
  - Effects of inhibitors
  - Vectors
  - Shedding rates
  - Degradation rates
  - Sampling scheme

These unknowns have created a lot of uncertainty in the technology and what the results mean. The ECAL study is designed to answer all of these unknowns except

for the development of a sampling scheme. USGS is working to develop multiple markers (e.g., mitochondrial, nuclear, and RNA) and various length markers. New markers are being specifically designed for qPCR assay which can provide results in a matter of a few hours. With the use of a control marker, it may eventually be possible to determine relative abundance in terms of population is increasing or decreasing.

Currently the scales are tipped a little further towards the cons, but the ECAL study the scales will address many of the cons. Cons that will persist include: effects of inhibitors, unidentified vectors, best sampling scheme unknown, and the ability to infer population size. eDNA provides a single line of evidence, where multiple lines of evidence are necessary to confirm the presence or absence of a live fish.

#### Discussion:

The challenge that we face as a management agency is proving positive eDNA results with the collection of a live fish. Are there any plans to work on the correlation between eDNA and a live fish? Some of Duane Chapman's work may start to get at this. Hopefully we will be able to.

There is a lot of work in the west with eDNA and PCR techniques. With all of the different federal agencies and other groups that are involved in this research, how much coordination is there among the different groups? Is there a lead agency? There is very little coordination and no lead agency. That has been identified as a need. We would like to see through the ECAL study that there is a certification process and labs using the same protocols. We need to get to the point where the results can stand up in court.

How do we get to the point of certification? Has USGS taken this on? No. Molecular science workshops and symposia would help move in this direction.

*No Action Items.*

### **9. Invasive and Rare Species Detection by Next Generation Sequencing of Environmental (e)DNA – Tim King, USGS, Lee Town, WV**

Where analysis of eDNA with PCR/qPCR is useful as a targeted approach to collect, amplify, and verify presence/absence of a known DNA sequence of specific species, metagenomics is a "shotgun" sequencing of the eDNA in a sample. When a shotgun sequencing approach is used on a very large scale, there is a high probability that if an individual species' DNA is in the sample, it will be detected. The question with this approach is - will the DNA that you have detected be identifiable? Up until now, there has not been much information collected on the sequencing of many rare and invasive species. Tim's lab is sequencing the genomes of many AIS to build a reference database for the metagenomic approach. Next generation sequencing (NGS), metagenomics, and community sequencing are all used interchangeably.

A fundamental difference between this approach and that described by Jon is that there is not a PCR step involved in the metagenomic approach. There is no amplification of a select sequence, but rather attempting to sequence all the DNA

that is present in the water sample. Both techniques are looking to determine what species are (or are not) present in the water sample. PCR is used to determine presence/absence of a specific species. Metagenomics sampling looks at the makeup of the community as a whole by determining what sequences are present.

Three fundamental objectives of next generation sequencing (NGS):

- 1) taxonomic analysis (who is out there?)
- 2) functional analysis (what are they doing?)
- 3) comparative analysis (how do they compare?)

Tim's lab is working on developing a database of sequences for AIS and rare species (AIRSbase). PCR-based techniques look for a specific region of DNA. Metagenomics provides thousands of genes from each species that are potential markers for identifying a species within a sample.

Whether we are trying to preserve populations or extirpate them, we need to understand how they function at the population level. For example, is the population of silver carp in the Ohio River functioning as one large randomly mating population or is the population sub-divided along a linear gradient? Different approaches are necessary to eradicate these different types of populations. We need to know source-sink relationships. In addition to the identification and delineation of populations, molecular markers can be used to determine the effective population size and whether the population has been decreasing or increasing over time.

#### Discussion:

There really has never been a good estimate of the population size of any riverine fish species except for migratory species like salmon that are actually counted. To really be able to manage a species it helps to know how many are out there. It is one of the first questions asked by people who are interested in harvesting a species. Sonar does not provide a complete answer. This effective population size holds a lot of potential for managing a number of riverine species.

The first thing that we need to do is to delineate the population structure. All that is needed is a fin clip or mucus off the fish. As a conservation geneticist, it is difficult to conceive trying to manage a species without understanding the population structure – how and where the population is delineated.

So how can the states assist in this? Are you in need of samples or fin clips? Fin clips. States that have contracts with commercial fishermen on the Mississippi River could make sample collection a condition on the contract. The Leetown Lab could provide collection tubes with ethanol. Any tissue can be placed in the tubes for genetic analysis.

The Forest Service used effective population data to evaluate the effects of barrier removal, i.e. once a barrier has been removed can you detect an increase in the effective population size and demonstrate a positive change. It sounds like you are proposing this same molecular approach for evaluating the effectiveness of

population control on AIS. Yes, if you have a measure of effective population size before an action is taken and then you can go back and assess effective population size after the action is taken, you can see how the population has changed in response to the management action.

Do we have a sense of what the effective population size is for the different species of Asian carps? From the samples that Duane Chapman has provided in the past, the effective population sizes are generally running in the 20's to 50's. This may not sound like a lot, but when you consider that they are non-native species, an effective population size that large means that one of two things has happened. There have either been multiple introductions where the fish have been fully compatible with one another, or the number of reproductive events has been very, very large. It is the reproductive events that create the mutations that we see as alleles in genetic variation. Effective population size is more stable than the census size. Effective population size therefore is what we need to target for management.

Could the introduction of two species at the same time that are so closely related that they interbreed result in a competitive advantage because they effectively have two genetic pools contributing to success? It could, but I do not think that the high degree of genetic variation that we see in these two species is due to hybridization. We see much differentiation between the alleles of these two species. In hybrids we would see alleles from both species. Even after several generations of backcrosses we would see alleles of the other species. So what we see suggests that it is more likely the result of multiple introductions.

We have found alleles from European populations and Chinese populations here in the United States. It seems unlikely that there would have been very many introductions of silver carp from China. mDNA is very useful for evaluating bottle necks or founder effects. In this case, if you see numerous mDNA haplotypes that is indicative of multiple introductions. When looking at the sequences for bighead and silver carp, there are definitely multiple mitochondrial lineages for each of these species in the Mississippi River.

You had mentioned Didymo sequencing. Can you tell us more about your work with Didymo? Tim has been funded for about 3 years to sequence Didymo. His lab is sequencing individuals that both are, and are not, in the stalk producing mode to generate two transcriptomes for Didymo. They are also conducting RNAc, where under the very same conditions, stalked and unstalked individuals are being compared. He has also been funded to look at the phylogeographic structure of Didymo in the Delaware River, but he is trying to collect samples from all around the world. They will be developing markers to evaluate population structure, although it is very difficult to do this with diatoms. All the Didymo samples are in AIRSbase. In many cases Didymo is a nuisance rather than a non-native species, but something is changing in the environment that is allowing them to bloom. Isn't it more likely to be a genetic mutation? We do not know what has caused the stalk variation, which is what creates the mats and earned Didymo the name rock snot.

Is there a connection with what you are doing and the spread of VHS virus? Is there an application of your research to this issue? Tim has not been involved in this issue, but metagenomics could have some application.

*No Action Items.*

## **10. Meeting Wrap-up**

### 2012/2013 Work Plan Discussion

After adding the de-obligated funds to the projected FY13 available funds, the panel has approximately \$77,000 for projects in 2013. The projects proposed by the committees totaled \$91,000, however many of these projects are proposed for out years and not 2013. The total funding needed for projects in 2013 is less than the \$77,000. The ExComm will discuss the proposed projects and available funding to develop a work plan for 2013.

### Discussion:

The ExComm should consider obligating one year's meeting expenses, in case panel funding falls through in 2013 or 2014.

### ANS Task Force Recommendations

1. There was a proposal during yesterday's meeting for a joint recommendation for the ANS Task Force to evaluate the recreational guidelines after they are implemented.

### Discussion:

It is important to have a pre-evaluation prior to the release of a product. The recommendation would be to have a good pre-evaluation in place before the guidelines are released by the ANS Task Force, followed by a post-evaluation one or two years out.

Who would do the evaluation? The ANS Task Force, not sure which agency would have the lead.

Are we as the panel evaluating? No, the ANS Task Force should do an evaluation to determine if the guidelines are being used and effecting behavior change.

Should the ANS Task Force encourage anyone who uses the guidelines to evaluate their effectiveness? Are we expecting the ANS Task Force to implement and evaluate? We are not talking about evaluating the actual guidelines, but whether or not the tool is being used correctly.

A lot of time was spent developing these guidelines and we should evaluate whether or not they are creating the intended behavior change.

Part of the problem is that we are not clear how the guidelines are going to be used. How are they going to be distributed? Websites.

I would be more interested in finding out how the members of the ANS Task Force are going to implement the guidelines.

The GSARP decided to move this recommendation forward. The MRBP will see how the GSARP recommendation is worded and determine at that time whether or not to make it a joint recommendation.

2. The Education and Outreach Committee discussed a recommendation regarding the Stop Aquatic Hitchhikers (SAH) brand. It is not clear until we see the MOU and hear that discussion at the ANS Task Force meeting to know what it is that we need to do and how to get involved.

Discussion:

We do not necessarily need to wait. Even if the FWS was continuing to manage the brand, we could still make recommendations. Are we satisfied with SAH? If not, then what would we like to see changed. Wildlife Forever would likely be very open to discussions about where SAH should be heading in the next 20-30 years.

SAH should be evaluating the effectiveness of the brand at changing behavior.

The main point is that we communicate ideas on how SAH is managed, marketed, and used.

Susan Mangin will provide the panel with a copy of the FWS's MOU with Wildlife Forever. Joe Starinck and Doug Grann will be talking about SAH at the ANS Task Force meeting. We need to keep in mind the idea of evaluating SAH, but for now we need to wait to see the MOU and hear what is discussed at the ANS Task Force meeting.

3. Research and Risk Assessment Committee is working on a recommendation for the Spring ANS Task Force meeting regarding the need for a policy on genetic controls. The committee is working on the topics that need to be addressed within the policy.

Discussion:

Co-chair can advise the ANS Task Force that the committee is working on this recommendation for the spring meeting, but it is not ready to be submitted as a recommendation now.

4. The ANS Task Force should institutionalize a risk screening mechanism for identifying species that should be listed as Injurious Wildlife under the Lacey Act before they are imported into the United States.

Discussion:

Is this still part of the direction of the FWS's Tiger Team? I don't know what the status of that team is. It would be useful to provide something concrete to the ANS Task Force members. The Task Force has already had a committee recommend a screening process.

What we want to see is a process in place and funded.

So what you are talking about is streamlining the listing process, a part of which is the screening process and a part of which is the administrative side? Yes. You have to have the fiscal process in place to implement it, and you have to have a way to move species through the process and onto the Injurious Wildlife list.

One ISAC recommendation that was presented yesterday was for the Lacey Act process to be streamlined. The panel could acknowledge the ISAC recommendation in its recommendation.

The draft recommendation was approved by the membership; ExComm members will finalize wording via conference call.

5. A single federal agency should be assigned as the lead with responsibility for all AIS management.

Discussion:

We realize that this is a complex issue, but we hope to gain is the start of a discussion on this topic.

The recommendation should say that based on the results of GAO report, the ANS Task Force members should explore opportunities...

Didn't the GAO decline to complete the evaluation stating that there wasn't duplication between NISC and the ANS Task Force? Siting this report could weaken the recommendation. We need to review the language in the document.

FWS is lead agency for freshwater and NOAA is lead for marine environment. How likely is it that the federal government would appoint a single agency lead?

The point is that we are looking for leadership on AIS management.

The draft recommendation was approved by the membership; ExComm members will finalize wording via conference call.

6. The ANS Task Force should reinstate congressional reporting.

The draft recommendation was approved by the membership; ExComm members will finalize wording via conference call.

7. Elevate awareness of the ANS Task Force, Regional Panels, and AIS issues.

Discussion:

We need to be clear who we are elevating awareness to. It needs to be focused.

The draft recommendation was approved by the membership; ExComm members will finalize wording via conference call.

8. A federal definition of dead is needed for Law Enforcement support of the Lacey Act.

Discussion:

This is not an appropriate issue for the ANS Task Force members. This is a state issue.

9. The ANS Task Force members should look for opportunities to implement the top 40 prioritized recommendations from the national Asian carp management and control plan.

Discussion:

We have recommended the ANS Task Force implement the national plan since it was approved in 2007. Should we keep the recommendation to implement the national Asian carp management and control plan, and in addition, provide the ANS Task Force members with a handout of the top 40 prioritized recommendations? If they are not able to implement the plan in its entirety until it is funded by congress, then member agencies should look for opportunities to begin implementing the plan starting with the highest priority 40 recommendations.

The FWS has now implemented a part of the plan by funding MICRA to complete the grass carp review. We should put a positive spin on this recommendation by acknowledging member agency efforts to implement parts of the plan. In order to help with these efforts, here are the 40 highest priority recommendations as prioritized by the Regional Panels.

The draft recommendation was approved by the membership; ExComm members will finalize wording via conference call.

### Scheduling Next MRBP Meeting

The 9 month rotation puts the next meeting in July. Members requested a late July meeting to avoid the 4<sup>th</sup> of July.

It was recommended that we chose a location in the northern portion of the basin.

The Research and Risk Assessment Committee proposed Ohio as a meeting venue for some of the items the committee is trying to move forward.

There was also a recommendation to meet in La Crosse, WI, due to the interest in eDNA. The USGS and FWS have new facilities that may be of interest.

The ExComm will explore meeting options in Ohio or La Crosse, WI, in late July.