Mississippi River Basin Panel (MRBP)
on Aquatic Nuisance Species

Chico Hot Springs Resort
Pray, MT
June 5-7, 2007

Assignments/Actions Summary

Research and Risk Assessment Committee

- Chapman, by mid July, will send letters to all state Panel members soliciting names of their Tier 1 contacts for the ANS Experts Data Base. Tier 2 contact solicitation will go on indefinitely.
- Committee members will contact different experts for information on zebra mussels, viruses, etc. so that control measures can be combined into one set of suggestions for the public. Researchers will probably have a different set of suggested measures - they will be held to higher standard. The Committee will be putting out those recommendations over the next year or so.
- Chapman will begin development of a "Code of Conduct" for handling ANS. The ANSTF has one, but it may need to be upgraded to include gear treatment methods. The *American Fisheries Society* (AFS), *North American Benthological Society* (NABS), etc. will be contacted to see if their codes cover this issue.
- Chapman will draft an MRBP letter for Bogenschutz's signature which will be published in *Fisheries* and the *NABS Bulletin* with a plea for researchers to report ANS findings right away rather than waiting to report them later when their research is finished.
- Committee members will talk with granting agencies to make it a stipulation of contracts that ANS be reported by researchers as soon as they are found.
- Chapman will work with Leah Sharpe (University of Minnesota) and Ann Kapuchinski (University of Minnesota) on the program for the ANS genetics control symposium proposed for the fall of 2008. MRBP support may be requested for this symposium
- Chapman will work with Leah Sharpe on the development of an ANS Decision Management System proposal for MRBP support.

Prevention and Control Committee

- The Committee will develop a draft set of guidelines for Panel review regarding the harvest of Asian carp. The guidelines will warn fishermen and managers to have exit strategies available since our intent is not to encourage a sustainable fishery, include information about communicating with investors and legislators, and address transportation of equipment, etc.
- The Committee will draft a support letter for implementation of the Asian Carp Management and Control Plan which addresses the number and representation of people anticipated to be involved in Plan implementation, securing and managing necessary resources, and the anticipated groups/committees and goals
- The Committee will draft a letter to the ANSTF (similar to the WRP) in support of recognizing pathogens such as VHS as an ANS.
- The Committee will draft a letter to the ANSTF recommending accepting the aquatic portion of the state comprehensive nuisance species plans as the state ANS Plan, and asking for further clarification of the meaning of the term "highest authority" (i.e. can a "Commission" be recognized over a governor) for a given state.
- The Committee will draft a letter to the ANSTF which addresses critical funding needs for implementation of state ANS management plans and for the maintenance of existing ANS staff,

as well as in support of simplifying the process by developing and implementing regional management plans.

Information and Education

- The *Field Guide to ANS* covering at least 16 species will be finished by this fall. Funding for this is already in the budget.
- Schainost will poll state members offering up to $5,000 per state to conduct the ANS Boater Survey, with the first priority being given to the original responders and those who can do it yet this year. He said that the long term idea is for this to be an annual thing with more states joining in each year.
- Schainost said he will be following up on contacts with major retail catalogers to see if they would put an ANS message in their catalogs. Members will be contacted to see if any catalogs were missed in the initial mailing.
- Schainost will contact Committee members to determine interest in building a library of stock of ANS video footage, what footage might be available, what format is it in, what species is covered, what they might be interested in having available, etc. The Panel would act as a clearing house for footage, not as a repository. This survey will be complete by July 15, and additional footage shot, as needed, with the milestone for completion by October 2007. A total of $20,000 has been budgeted for this effort.
- Schainost will be working with boat manufacturers to see if they would be interested in providing hand-out material on ANS to their customers. He said that such things as a sticker with the boat logo and an ANS message could be developed for placement on new boats.
- Schainost will work with *Wildlife Forever*, *B.A.S.S.* and other NGO contacts to determine their interest in increasing their involvement with the states and to determine if their projects are to be expanded. If so, he said, we will facilitate making those contacts.
- Schainost will send a questionnaire to Panel member to determine interest in reprinting the *Stop Aquatic Hitchhikers* brochure. If enough interest is expressed we will do another printing, but we need a large interest to get a significant price break. This request will go out by June 30.
- Committee members will be working with the Research and Risk Assessment Committee to develop a simplified national unified message on how to handle ANS and pathogens when cleaning a boat. He said that his Committee will facilitate putting together a group to address this issue with a July 31 deadline as a milestone.
- Schainost will determine Panel member interest in developing Watch Cards for hydrilla and Brazilian elodea, with a July 31 deadline for this.

Executive Board

- Bogenschutz will send a letter, developed by Chapman, for publication in *Fisheries* and the *NABS Bulletin* with a plea for researchers to report ANS findings right away rather than waiting to report them later when their research is finished.
- Bogenschutz will send a letter to the grass carp diploid states encouraging them to look at their regulations and go triploid and to be involved in a workshop this winter in order to move on toward regional management of grass carp.
- Bogenschutz will report back to MICRA that a review is needed of the FWS *Grass Carp Triploid Certification Program* (GCTCP) and that the states need to look at their own compliance monitoring of grass carp shipments.
- Bogenschutz will send recommendations on the state management plans to the entire membership for comment. Then the Ex Comm will assemble the comments and come up with some sort of recommendation to the ANSTF. She said that we would like to submit this before the next

ANSTF meeting in November, so the sooner we can get it to them the better.

- Hoff will work with the Great Lakes Panel regarding a suggested joint meeting with them, probably next spring or fall.
- Greg Conover will discuss options (January or February) for a joint meeting with the FWS Triploid Grass Carp Inspection and Certification Program and report back to the ExComm. It was suggested that if such a meeting occurs that it be a 1.5 day Panel meeting backed up to a 1.5 day Triploid Grass Carp program meeting.

Panel Member Activities

- State Panel members will be developing their Tier 1 and Tier 2 contacts for the ANS Experts Database.

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DRAFT FINAL

Minutes

Kim Bogenschutz (IA) called the meeting to order at 8:07 a.m. and introduced Larry Peterman (MT) Deputy Director Montana Department of Fish, Wildlife and Parks who welcomed the panel to Montana and gave some introductory remarks.

Peterman said that Eileen Ryce did a fantastic job in picking out our meeting place, and that he started out with the Department in Livingston, working on the Yellowstone River. He said that West of Belgrade you will see the Three Rivers area where the Missouri River is formed by the Gallatin, Jefferson and Madison rivers. He said that Lewis and Clark also met at the mouth of the Yellowstone River, the longest free flowing river remaining in the lower 48 states. He said that the Yellowstone has a natural flow regime, and in the upper reaches you have native Yellowstone cutthroat, rainbow and brown trout; and in the lower reaches you have paddlefish, pallid sturgeon, sucker, and catfish. He said it's a nice river to float and it joins the Missouri River at Ft. Union. Commerce in Montana was based on gold, silver and furs; so river traffic never developed here because the railroad came through first, he said.

He said that Montana's management philosophy is to use wild trout (natural philosophy) so we rely entirely on natural reproduction in our streams. He said that we believe that if you protect habitat and water quality, fish populations should take care of themselves. He said that Montana passed the first stream bed protection act in the nation, and that it expanded to the private sector in 1975. He said that Montana also passed its own clean water acts in 1969 and 1970, and that a water use act in 1973 allowed the state to protect water quantity for instream flows. In recent years he said that whirling disease was discovered in the Upper Madison River and that it was brought in by an outside influence. He said that aquatic nuisance species (ANS) is a big issue in Montana, and what your panel is doing here is probably one of the most important things we as fisheries professionals can do in the next few years. Once an ANS is in body of water, he said, it's almost impossible to eradicate.

Bogenschutz then asked for comments on the minutes of the last panel meeting. Hearing none, she said that we don't have a quorum at this meeting, so action items will have to be taken up via email with the rest of the Panel. Tina Proctor (FWS) said that the Western Regional Panel, which she coordinates, had that problem a few times and they chose to amend their bylaws to pass issues with a majority of those present. It helped to get people to show up at least for the business meetings, she said, so the MRBP might want to talk about doing the same thing. Bogenschutz said that over the next couple of days we will have several action items, so something like that would be helpful.

She then noted that Scott Newsham (FWS), Aquatic Nuisance Species Task Force (ANSTF) Coordinator, will not be here, but he did send a written summary. She then went over the agenda, and noted that New Zealand mudsnails have now been found in parts of the Great Lakes, so she said they are moving closer to more of us. She also noted that we have a slot open for public comments on the agenda (copy attached) if there are any. She then asked Eileen Ryce (MT) for any comments regarding logistics for the meeting.

Ryce welcomed the Panel to Montana, and said that it is an honor and privilege to have us here. She said that it is a beautiful location, and that the resort and Nancy Podlinski (MT) have done a nice job in setting up the meeting. She noted that Montana will provide all of the vehicles for the cook out on Tuesday evening and for the field trip on Thursday.

Mike Hoff (FWS), Second Term Co-Chairman then presented awards to Duane Chapman (USGS) and Dan Sallee (IL) for their work on the Asian Carp Sympsoium. Steve Shults (IL) accepted for Sallee. Hoff also presented Ryce with an award for her work in coordinating and hosting this meeting.

Bogenschutz then asked Jerry Rasmussen (FWS), MRBP Coordinator for a summary of the MRBP budget. Rasmussen presented a brief discussion of the budget and provided a written report (.pdf file available upon request). Hoff noted that when Rasmussen retires the U.S. Fish and Wildlife Service may tap a portion of the MRBP budget to pay the salary of the Coordinator.

Bogenschutz then presented a summary of the Executive Committee's activities. She made the following points in a Power Point presentation entitled: *Mississippi River Basin Panel 2006-2007 EXCOM Actions*:

<u>Attended Events</u>

- November - Regional Panel Principals Meeting
  - First annual meeting of Panel coordinators and chairs
- November - ANSTF Meeting
  - Focus was rapid response plans
- May - ANSTF Meeting
  - Focus was state management plans
- May - Great Lakes Regional Panel Meeting

<u>Chicago Dispersal Barrier Letter</u>

- Wrote letter to ANSTF requesting their endorsement for completing a permanent AIS dispersal barrier in the Chicago Sanitary and Ship Canal.
- Great Lakes Panel sent similar letter.
- Response was received that ANSTF shares our concerns, whenever possible will support the barrier's completion, and forwarded our letter to ANSTF members.

<u>Risk Assessment Workshop</u>

- January 2007 workshop was postponed due to planning personnel issues.
- Mike Hoff took over planning.
- Workshop was rescheduled for August 2007 in Kansas City.

<u>Submissions to ANSTF</u>

- 2006 Annual Report
- Recommendations for May Meeting
  - Federal support for common carp control
  - Department of Defense representative for military bases on ANSTF

<u>The ANSTF should endorse federal support for controlling common carp.</u>

- Common carp are one of the first and most damaging invasive fish in U.S.
- Problems and solutions vary between geographic regions and ecosystems.
- Control strategies need to be adaptive and developed regionally.
- National support is needed for effective research and control strategies.
- Dr. Peter Sorenson from the University of Minnesota started the dialogue on this issue. He is

researching control methods and hosted regional workshop on the issue.
- The MRBP states rated common carp as one of top ANS in the basin.
- MRBP polled member states and found all positive responses to coordinated common carp control.

MRBP Response to Request for Common Carp Control
- Host common carp page on MRBP website
- Continue dialogue with Dr. Peter Sorenson from the University of Minnesota
- Communicate research updates and control projects with members and other regional panels
- Supply meeting time for communications and project coordination

ANSTF Response to Request for Common Carp Control
- ANSTF is not willing at this time to make a formal statement recommending federal support for controlling common carp.
- The common carp is a regional issue and maybe the U.S. Fish and Wildlife Service will be interested in doing something.

The Chairpersons should designate a Department of Defense representative from military bases to the ANSTF.
- A member representing military bases would increase DOD coordination with the ANSTF.
- Military bases have recreational waterbodies that are susceptible to ANS as personnel move around the country.
- Integrated Natural Resource Management Plans should integrate ANS prevention and control.
- Coordinates with WRP's request for permit provisions – make sure personnel clean equipment before transporting.
- Offutt Air Force Base (Omaha, NE) – zebra mussels are in a Base Lake which outflows during high water to the Missouri River, no zebra mussel populations known that far upstream in Missouri River
- Waterbodies on bases are outside of state or federal natural resource agency control but affect state waters.
- Integrated natural resources management plans (INRMP's) should have monitoring, rapid response, and control provisions for ANS.

ANSTF Response
- Department of Defense does have infrastructure and regulations in place regarding invasive species (Armed Forces Pest Management Board).

Nominations and Election
- Brian Canaday (Missouri Department of Conservation) was elected first term co-chair

Bogenschutz said that the ANSTF has begun having a theme for their meetings, and that the theme of the November meeting was rapid response. In May they met in Erie, PA in conjunction with the Great Lakes Panel, and the focus of that meeting was state management plans. She also noted that we submitted our annual report to the ANSTF last fall and that it is available upon request. She said also that we will be holding our Risk Assessment Workshop in August and that we need more participants. She said that we have 15 signed up as of now.

Hoff noted that by law INRMP's are required for military bases, and that these plans must be redrafted every five years. He said that they need to address ANS, but so far we haven't gotten get very far on that with the DOD.

Bogenschutz then presented Hoff with an award for his service as Co-chair. Hoff will become Immediate Past Co-chair on July 1 when Canaday's term as First Term Co-chair begins. Hoff said that it has been an

honor to work for and with the Panel, and that the U.S. is so lucky to have folks such as you in your positions as State ANS coordinators.

Bogenschutz then asked for updates from the three MRBP committees.

Research and Risk Assessment Committee: Duane Chapman, chairman, said that his committee has three major projects:

Carp Symposium - Chapman said that the proceedings of the workshop is moving along with a few of the manuscripts in their final stages. He said that the *American Fisheries Society* has accepted the proceedings and will print it as a new book, and that a few chapters are already completed. He said he doesn't yet know the completion date. That depends largely on when final manuscripts are received from the authors.

Experts Data Base - Chapman said that Pam Fuller will speak about this project tomorrow. He said that the database is nationwide, not just for our panel, but there are certain things which our panel can decide on. He said we need to get together later on at this meeting to discuss our needs. He said that each state will identify 1-4 Tier 1 people (aquatic, terrestrial, plant, etc.) depending on how each state wants to break it up. He said that each state needs to contact Duane with their choices. But because this is a national database there is overlap between panels, but that is o.k. The information you supply to another panel will end up in the same database anyway. He said that the state ANS coordinators will recruit Tier 2 experts from their respective state. He said that procedurally Tier 1 people will then contact Tire 2 people when requests come in. The states will determine who the Tier 2 contacts are. He said that the database includes a form which the experts will need to fill out to document their expertise. Each Tier 2 person will fill out the form and send it to Chapman. Chapman will then send a return email verifying with the Tier 1 coordinator that each Tier 2 person has been endorsed by the state.

Risk Assessment Workshop - Chapman said that he is not as informed on this activity as he should be since Hoff and Rasmussen are coordinating it. Hoff said that all instructors are locked in except someone from the FWS who will address how risk assessments are used in Lacey Act decisions. If necessary, he said, he will do that. So everything is on track. Chapman said that the first Risk Assessment Workshop was very well received, and that reviewers wanted the second one expanded, so we have tried to do that. He said that there is a paucity of experts on risk assessment, so it would be a real shame to see this thing poorly attended.

Hoff added that the Research and Risk Assessment Committee had planned an ANS Symposium several years ago, and that such a symposium will be held this year at the Midwest in early December in Madison, WI. He said that it is planned and some speakers have been invited, but since all speakers are not yet locked in, anyone interested in presenting should contact him. He said further that the MRBP should take credit, in part, for Symposium.

Outreach and Education Committee: Steve Schainost (NE) summarized several activities which his committee has been working on.

Bill Dance Video - Schainost said that at the last Panel meeting Bobby Wilson (TN) showed the Bill Dance video to the Panel and that there was support for distributing it to Panel members. He said that this was done and that all members should now have copies. Wilson said that Pam Thiel (FWS) should be credited for funding the copying of these videos. Jason Goeckler (KS) said that the video has been very useful in his state.

Asian Carp Watchcards and *Field Guide to ANS in the Mississippi River Basin* - Schainost said that these two publications are moving along, and that the Watchcards should be in the mail. He said that Mandy Beale (private contractor) has been finalizing production and collating the orders. He said that she will now focus her attention on the Field Guide.

ANS and Boater Survey - Schainost said that the ANS and Boater Survey is a tool that can be used to gauge public knowledge on ANS and where boaters are getting their ANS information. He said that we would like to expand this database to all states, and that we set aside some MRBP funds to cost share producing these surveys. He said that the Committee will discuss this further at this meeting.

Use of ANS at Science Fairs and at Schools - Schainost said that Marilyn Barrett O'leary (Louisiana Sea Grant) has been coordinating some of this effort, but that more needs to be done.

Schainost said that several other items (i.e. posters for elementary schools, contacting catalogs, partnering with other groups, assembling a library of stock video on ANS, etc.) are ongoing and that these will be discussed further at the meeting tomorrow. Hoff noted that *Wildlife Forever* has taken ANS on as one of their issues, and that they have partnered with Minnesota and Wisconsin Sea Grants on several activities. He said that the NGOs are certainly a good resource that we need to invite to the table. Rendall said that Beale and he have been working on the *Asian Carp Watchcards*, and that it has been a bit of a nightmare working with the vendor. Chapman said that the carp card will be provided as a tear-out in the "*Biological Synopsis of Asian Carp*" document currently being published by the USGS. Bogenschutz said that a high school science coordinator in Iowa got very upset because she couldn't get apple snails anymore. She told Bogenschutz that we tell the kids not to release them, but we can't control what they do. In this case, Bogenschutz said she thinks the teacher was talking about mystery snails. Bogenschutz said she just couldn't get it through to the teacher that this was a problem.

Prevention and Control Committee: Steve Shults summarized his committee's activities through a Power Point presentation. He noted the following:

Developed "*Guidelines for ANS Harvest*"

- Kill immediately on harvest
- Identify and label appropriately
- Require certified data submission
- Regulate locations and seasons
- Maintain flexibility
- Openly communicate objectives

Conducted "poll" for common carp policy

- All members responding were positive
- Used to support ANSTF recommendations.

Support Letter for Electric Barrier

- 2007 funding for operation and maintenance is secured.
- Future still questionable
- Chuck Shea will give us a presentation

ANS Control Database

- Background Information
- Control Information

    - Biological
    - Chemical
    - Physical
- Jerry will give demonstration tomorrow

Next Steps

- Some difficult issues in the near future
- VHS in Committee Meeting
- Recommendations to ANS Task Force
    - Funding
    - Revision
    - Regional objectives

Hoff wondered if Shults would remain as ANS Coordinator for Illinois now that he had been promoted to a supervisory position. Shults said that there are no plans right now to replace him. He said that even thought he is now a regional administrator, he will still do other things.

Bogenschutz then gave a Power Point presentation entitled, *ANS Task Force Update*, for Scott Newsham, ANSTF Coordinator:

Fall 2006 Meeting

- First meeting of Regional Panel Principals
- First ANSTF meeting with focal theme (Rapid Response)
- Reached agreement on revised ANSTF Strategic Plan
- Will send letters to Army Corps of Engineers expressing ANSTF support for funding Aquatic Plant Control Program

Spring 2007 Meeting

- Held in conjunction with Great Lakes Panel
- Focal theme was State Management Plans
- Mid-Atlantic, Western, and Mississippi River Basin Regional Panels submitted recommendations
- Adopted the National Incident Management System (based on Incident Command System) as model for rapid response planning and operations
- Approved National Management Plan for New Zealand Mudsnail
- Extended timeline for Asian Carp Management and Control Plan
- Submit recommendations via the Panel process to the ANSTF any time, not just for meetings

Requested Input regarding State Management Plans

- Usefulness of existing guidelines and how they could be improved
- How current process could be modified to improve interstate/regional cooperation
- Alternative funding models

She said that the ANSTF serves mainly as a coordinating mechanism, and that they are not going to be the ones who write educational materials or conduct research. She said that they are setting up a working group to develop a rapid response plan such as the command system used out west for the Quagga mussel. She said also that there are now 21 state management plans, so with a limited budget available to the states, each state will be getting gets less and less money (i.e. about $51,000). She said that four more state plans are expected next year, so that amount would drop to $43,000/state. She said also that the National Aquatic Invasive Species Act (NAISA) is not moving and will likely not move during this session of Congress. But Ryce said that the *International Flyfishers Association* has a delegation in

Washington, D.C. this week, and one issue they are pushing is ANSTF funding. She said that they are pushing to get funding at a level of $70-80,000 for each state each year, and that this is their third trip to Washington. She said that the next ANSTF meeting will be held in Washington, D.C.

She then gave the following Power Point update on the *Association of Fish and Wildlife Agencies* (AFWA) *Invasive Species Committee*, entitled, *AFWA Invasive Species Committee Update*:

Communicating Effectively About AIS Workshop

- Held March 2007 in conjunction with *North American Wildlife and Natural Resources Conference*
- Highlighted results of AFWA multi-state grant (MO, AZ, NH, SC)
- Materials available on AFWA website (www.fishwildlife.org)

Proposed Symposium on Genetic Biocontrol of Invasive Aquatic Species

- Seeking partnerships with other AFWA committees
- Formed small planning group
- Propose to collaborate with an international invasive species conference

Invasive Species DVD

- BMP's targeting hunters, anglers, biologists
- Cooperating with USFS and *Wildlife Forever*
- Draft script sent out for review
- Production to begin in fall
- Ron Martin representing AFWA

Invasive Species Legislation

- *National Wildlife Federation* sent letter seeking state support (sign-on) for comprehensive AIS legislation reauthorization
- Committee will establish important elements of legislation that states would agree upon for Directors concurrence and work with NWF to redraft letter

She said that John Kennedy (WY) is now the chair of the AFWA Invasive Species Committee, and that their March meeting focused on education and outreach materials. She said that MICRA had invited Ron Thresher (Australia CSIRO) to speak with the AFWA last fall about genetic controls for ANS and that this made quite an impact. She said that as a result the AFWA is now planning for a special ANS conference, and that Leah Sharpe will be talking about this later in the Program. Sharpe said that it looks like a fall conference will be held in 2008 in the Twin Cities or in the Southwest. She said that she has copies of the proposed agenda and report which was the impetus for the conference. She said that funding has been made available for part, but not all, of the conference. Hoff suggested the possibility of using some MRBP funds to support the workshop. There will be a patchwork of funding for the conference, he said, so let's see where this goes before we act. If they are seeking funds on it later, we can act then he said. But this will be a watershed workshop, he said, since it will be addressing genetic controls. Sharpe said that triploids, daughterless carp, etc. will be addressed with lots of breakout groups and panel discussions.

Ron Martin (WI) noted that a video called "*Dangerous Travelers*" came out about a year ago. It's a 30 minute, well put together show, he said. He said that the Forest Service has made good use of it, and that another will be made for anglers and hunters.

After a break Bogenschutz said that at the last meeting we decided to ask the host state to give us an

update on their ANS Program. So this time Eileen Ryce will make that presentation for Montana.

Ryce made the following points in a Power Point Presentation, entitled, *Montana Aquatic Nuisance Species Management Program*:

Montana ANS Program

- ANS Management Plan since 2002
- Statewide coordinated effort since 2004
- Program led by Montana Fish, Wildlife and Parks
- Primary funding source: ANS Task Force
- Program Priorities
  - Regional and Statewide Coordination
  - Education
  - Control and prevent spread
  - Monitor and detect
  - Rapid response

Coordination

Regional

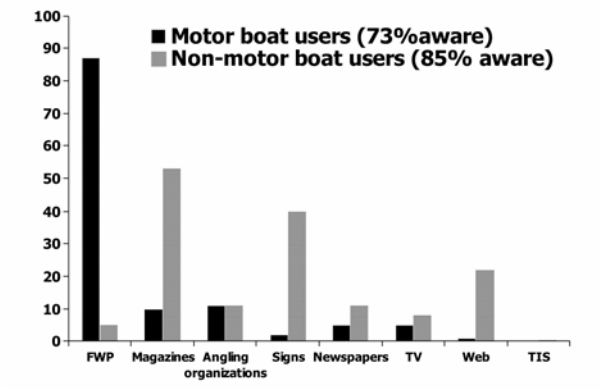
- Western Regional Panel
- Mississippi River Basin Regional Panel
- Greater Yellowstone working group
- 100th Meridian Initiative
  - Columbia River Basin
  - Missouri River Basin

Statewide

- Federal agencies: USFS, FWS, BOR, BLM, USACE
- State agencies: Ag, Livestock, Transport
- Tribes
- Power companies: BPA, AVISTA, PPL

Outreach and Education

- Public Outreach
  - Angler contacts and interviews
  - Boat inspections (border and boat ramps)
  - Fishing/boating events and tournaments
  - Outdoor Shows
  - Special interest groups
  - Presentations
  - Newsletter/Magazine article
  - Signs, brochures, fishing regulations, TIS etc.
- Training
  - AFS, US FS, US FWS, HACCP, Region FWP fish staff



Public Outreach - where anglers are getting ANS information

Control and Prevention

- Boat inspections

- Illegal bait interceptions
- Border checks
- Hatchery inspections
- HACCP – all hatcheries have plans
- Outreach

Boat Inspections/Angler Interviews

- All anglers/boaters must stop at check stations
- 25 lake/reservoir sites, 15 river sites
- Boats and equipment inspected for any weeds, sediment, water, animals
- Bait checked for legality
- Average 2000 interviews annually (20% non-residents)
- 33 states, 2 provinces, 2 European countries

Portable boat washer

Hatchery Inspections

- Annual inspection
- 10 state, 3 FWS, 12 private
- Inflow, outflow, ponds and tanks
- Most hatcheries on secure water
- One private hatchery uses NZMS positive water
- All state and federal hatcheries free of ANS

Priority Species in Montana

- Zebra/Quagga Mussels
- Asian Carp
- Eurasian Watermilfoil
- VHS Virus
- New Zealand Mudsnails
- Whirling Disease

Zebra Mussel Veliger Sampling

- Veligers are 40 – 200 um
- 63 um net mesh size, towed vertically to lake surface
- Preserve with 95% ethanol, 1:1 ratio
- View under cross polarized light

New Zealand Mudsnails

- *Potamopyrgus antipodarum*
- Reproduces asexually
- Found in lakes, streams and rivers
- Can close operculum to avoid desiccation
- Out competes native snails and other invertebrates, densities in Yellowstone National Park (YNP) reported at 750,000 per square meter
- May impact fisheries by reducing food availability

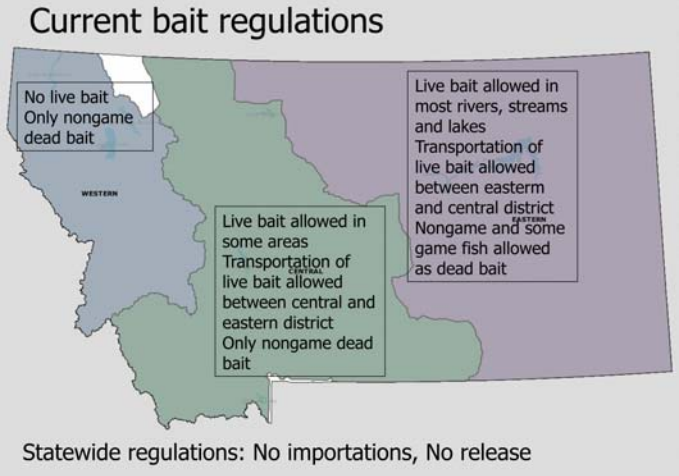
NZMS Identification

- Brown to Black
- 5 to 6 mm
- Sharply conical shell
- 5 to 6 spirals
- Opening on right
- Operculum

VHS Virus

- Informational meetings
  - FWP Commission
  - Anglers Forum
  - Regional tours
- Evaluating bait regulations
  - Dead bait
  - Illegal live bait

Montana State Statutes & Rules



- Fish Health and Import Statutes (87-3-209 through 87-3-277 MCA)
  - Requires permits for importation, including health certificates
  - Provides for inspection, quarantine and disinfection of fish culture facilities
- Leech Rules (12.7.540 through 12.7.542 ARM)
  - Regulation of leech importation and development of approved leech dealers being re-evaluated
- Importation, Introduction and Transplantation of Wildlife Statutes (87-5-701 through 87-5-721 MCA)
  - Authority to regulate importation, introduction and transplantation of wildlife species, including aquatics
  - Revised in 2003, to provide authority to classify exotics as uncontrolled, controlled, or prohibited
  - HB 668, revises to include increased enforcement ability and exemptions, signed April 18 2005

Exotic Wildlife Classifications

- Noncontrolled
  - Threat to environment minimal with no health or safety concerns.
- Controlled
  - Threat to environment, health and safety are mitigated by control measures determined by committee.
- Prohibited
  - Significant threat to environment and/or significant heath and safety concerns. Can not be imported, possessed, sold or transported.

Aquatic Species Classified

- Noncontrolled
  - Aquarium fish
- Controlled
  - Exotic waterfowl
  - Goldfish (ponds)
  - Koi (ponds)
- Prohibited
  - Nutria
  - African Clawed Frogs
  - Bull Frogs
  - Snakeheads (29 species)
  - Asian Carp (4 species)
  - Walking catfish
  - Zander
  - Rusty Crayfish
  - Zebra Mussels
  - New Zealand Mudsnails

Petitioned Aquatics

- Recommendation – Prohibited
  - Eurasian ruffe
  - Round goby
  - White perch
  - Quagga mussels
  - Alligatoridae family
  - Crocodylidae family
- Recommendation – Noncontrolled
  - Pac-man frogs
  - African tree frogs

She noted that Montana is lucky to be a headwater state. Since we have no water coming into the state we can control much of what comes in through other pathways. But, she said, that puts more pressure on us to protect our waters. She said, as Larry Peterman said, we don't stock any of our rivers, we rely on wild fish reproduction and that carries some difficulty when whirling disease and New Zealand mudsnails come in. But, she said, we have relied on educating the public rather than stocking.

She said the state agencies for agriculture, livestock and fish and wildlife have to interact in Montana, and one problem is who handles the riparian zone. She said that Traveler Information Systems (TIS) in Montana are not very effective, because no one tunes in, especially the non-residents who are our target

audience. She said that motor boat users say that the best information source is one on one contact at the boat ramps. She said that fly fishermen say magazines are their best information source - but we doubt their honesty. The problem is that fishermen are going fishing and they don't want to read beforehand. So having someone on site is the best way to get the message out. TIS is useless in MT, she said, and no more money will spent on that.

She said that a *Walleyes Unlimited* member called us about a boat that he bought in Indiana that had zebra mussels on it. We checked, she said, and the livewell had live veligers in it, so we were able to stop this. This was in March, and he had seen one of our talks and called us. We didn't fine him, she said, he did the right thing, and he ultimately became a star on *Walleyes Unlimited* and toured the state telling his story. We then contacted the boat dealer in Indiana telling him not to sell any more boats to Montanans.

She said that they have made several arrests over illegal bait coming into the state, and that they conduct a lot of border checks - a lot of hours with little action. In Montana if you see an angler check station you have to stop, so we get good compliance, she said. We talk to people, give them a questionaire, educate them, and then give them a sticker for their boat. If a boat is a high risk it is pulled out of line and there it waits until we can get to it with our boat washer, she said. We set up our boat washer in nearby areas that do not drain directly to a lake or stream. We average about 2000 stops per year, and so far we have checked boats from 33 states, two provinces, and two foreign countries that could have infected our state. Our boat washer is on a 20 foot trailer, and we can heat water, use high pressure, and use bleach and chemicals. She said we use a garden hose to clean live wells. The boat pulls onto a mat to get cleaned, she said. The boat washer tank holds 700 gallons water - 350 clean and 350 dirty, and is diesel operated with a generator backup.

She said that the Gavin's Point and Garrison Federal fish hatcheries in South Dakota are checked by Montana inspectors before shipping is allowed to Montana. We are very skeptical and would rather not trust anyone else to do the inspections. She said we don't stock our rivers, but we do stock private ponds, reservoirs and highland lakes.

She said that with regard to zebra mussels we sample for veligers, and have a lab set up in Helena. We look at hundreds of samples each year, and we sample close to potential point sources (i.e. boat ramps that out of state boaters use. We also walk along shorelines picking up stones she said. On Halloween 2006 in Jordan, MT she said that a peanut butter jar covered with zebra mussels was found. All forms of veligers and juvenile were found in the jar. She said that Jordan is close to Ft. Peck Reservoir and that there are a lot of anti-government people who live there. She said that Department officials are looking at this as some type of threat to the Department of Fish, Wildlife and Parks or to the Corps of Engineers. Our first response, she said, was to sample the reservoir regularly, and one of our own state hatcheries is of concern. She said that about 50,000 angler days are logged per year on Ft. Peck, our largest lake, while Canyon Ferry Reservoir at the headwaters of the Missouri River logs about 80,000 fishermen days per year. She said that there is a lot of movement between the two lakes. Tiger Reservoir is also highly used as is Flathead Lake, on the headwaters of the Columbia River drainage. She said that if Ft. Peck became infested it could spread to all four of these lakes, and be transported around to our smaller lakes. She said that Flathead Lake is the largest natural lake west of the Mississippi River and it logs about 50,000 angler days per year.

With regard to New Zealand Mudsnails, Yellowstone National Park had the highest densities and now that population has crashed. The same is true for some other sites, she said. This is great news. We've had them for about 10 years now and we think we are starting to see some type of "boom and bust" cycle. The mudsnails have not gone, so they will likely rise again. They have been in the Missouri River since 2002 with little expansion, while the Madison River densities have been high. So they seem to like the constant temperatures of our trout streams. So far, she said, we haven't found any west of the continental

divide. She said that extreme changes in annual water temperature may be keeping them out of Idaho. She said that they seem to prefer spring fed streams. An infected private hatchery in the state has used 20 micron screens to help prevent their spread, and we are trying to move him to a good water source. He has been a good cooperator, she said.

With regard to the VHS Virus, you are technically not allowed to release any live bait in Montana waters. She said that Montana also has white, grey, and black species lists.

Jeff Rach (USGS) wondered about the cost of the boat washer. Ryce said it cost about $64,000.

Bogenschutz then introduced Doug Keller (IN), who made the following points in a Power Point presentation entitled, *Hoosierland Hydrilla: Indiana's Management Challenge*:

Brazillian Elodea

- Discovered in 109 acre Griffy Lake in 2002, but not reported
- DNR Found it in 2004
- *Sonar* treatment in 2006 nearly eliminated it
- Repeat *Sonar* in 2007 to accomplish goal

The Hoosier Land Hydrilla Infestion in Lake Manitou (735 acres)

Significance

- First confirmed location in the region

The worlds worst weed

- Low light levels required
- Fast growing
- Extremely agressive
- Reproduction by 4 means
  - Seeds
  - Turions
  - Fragmentation
  - Tubers
- Easy to control, but…
- Persistence required to eradicate

Rapid response '06

- Learn extent of invasion
  - In Manitou
  - Spread to other lakes?
- *Komeen* treatment 20 acres
- Tubers produced
- Monoecious
- Access restrictions
- Look for help
  - Technical
  - Financial

Eradication begins '07

- Whole lake *Sonar* treatment 6 ppb for 180 days
- Concentration and exposure may change depending on how Hydrilla reacts
- Intensive plant and tuber sampling
- Search other waters

The biggest challenge

- Locating about $500,000 each year for multiple years

Funding 2007

- Cannibalization of programs
  - $400,000 from Fish & Wildlife Fund
  - $100,000 form Lake and River Enhancement (LARE)
- Willingness to rob programs stresses importance of beginning eradication (besides, neighboring states are watching closely)

Future funding

- Indiana general assembly allocated $250,000 for each of next 2 years
- Funding for other half either from LARE or federal sources
- USDA-APHIS logical federal funding source to control federal noxious weed especially since it is new in the region
- Investigating lead with Army Corps of Engineers
- Eradication may take 4 to 6 years

States should….

- Increase sampling effort
- Establish funding "war chest"
- Plan a response now
- States with whole lake treatment restrictions should rethink
- Loosen state *Sonar* restrictions (6-Bump-6)
- **You don't want these issues causing a delay in response --- There is only one chance to do this right the first time!!!**

He said that a routine plant survey with a rake haul found hydrilla in Lake Manitou, and an intensive survey revealed a more widespread infestation. He said that we suspect the invader came in at the boat ramp on the northwest corner of the lake, and the prevailing west-to-east winds spread it around the lake. He said Manitou is a somewhat natural lake with an impoundment, so spread to other lakes is likely. He

said the plant probably came from an east coast state. He said hydrilla is the monoecious form, and there have been two unconfirmed populations noted in Kentucky. Those two unconfirmed infestations are either in Kentucky or Barkley lakes in Kentucky and in an embayment off of the Ohio River. He said that Indiana is a good outlier state from the know population areas. He said that hydrilla is known as the world's worst weed because it can grow deeper than any other plant due to low light level requirements, and can grow an inch per day in ideal conditions. He said that monoecious tubers can lie dormant in sediments for 4 years. He said that it is easy to kill with copper and *Sonar*, but that it is difficult to eradicate because of the dormant tuber bank forcing multi-year treatements. He said that the monoecious form of hydrilla produces tubers during long day conditions, and the dioecious form produces tubers in short day conditions. He said that it would be better for Indiana to have latter form -- tubers would likely not be produced. He said that presently people with boats on the lake are being forced to keep them there, and outside boaters cannot come onto the lake. He said we hope that we go into a multi-year drought cycle to help control lake outflows and reduce treatment costs. He said that they are currently searching areas 1-1.5 hours away from Lake Manitou for hydrilla infestations. He said that they are spending about $500,000 per year on the 735 acre lake to eradicate this infestation, and we may need to do this for possibly 3-5 more years or until the tuber bank is completely depleted. He said that he is excited at the willingness of upper escelon managers' support for these control measures. He said that states need to have whole lake treatment capability especially if large areas of a lake become infested. Without whole lake treatment possibilities using a systemic herbicide, precise and complete detection of each hydrilla bed would be necessary to successfully target with contact herbicides. States with 6 bump 6 *Sona*r restrictions (only one bumb allowed) will need to consider changing this philosophy should hydrilla arrive. Due to the prolonged tuber germination period, frequent bumps may be required, especially in lakes with high inflow.

Jay Rendall (MN) said that we appreciate all the work you are doing on this, but he wondered what authority was used to close down access to the lake. Keller said that the authority was a rule we implemented giving us quarantine capability under our Division of Entomology and Plant Pathology. Andy Burgess (SD) wondered if there was a precedent for whole lake eradication of hydrilla. Keller said that California has done a 40,000 acre lake with big bays where whole bay treatments have been successfully employed. He said that at Lake Manitou of all the tubers sampled this spring some 70% have sprouted, so maybe we're looking at a shorter treatment period -- maybe 3 years, he said.

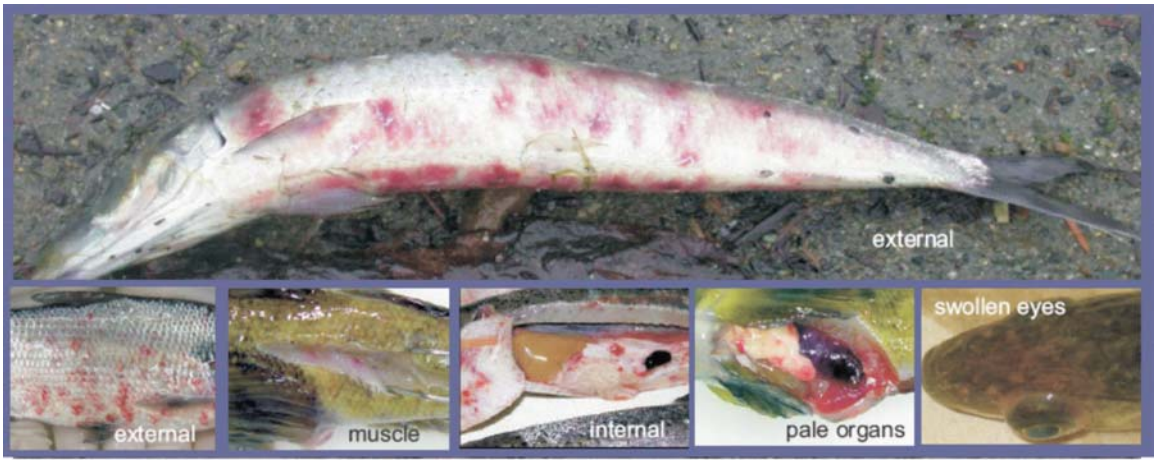
Bogenschutz then asked Shults to discuss the VHS problem. He made the following points in a Power Point Presentation, entitle, *VHS in the Mississippi River Basin*:

<u>Viral Hemorrhagic Septicemia virus (VHSv)</u>

- Aquatic Rhabdovirus
- Four genotypes (based on geography)
    - Types I, II, III – Europe and Japan
    - Type IV – North America, Japan, Korea
    - Virulence varies by genotype and species affected
- Reportable disease to World Organization for Animal Health (OIE)
- First discovered in U.S. in pacific salmon (1988)
- Considered enzootic among herring and cod (Pacific) and halibut (Atlantic)
- There is no vaccine
- Control methods rely on surveillance and eradication.
    - Don’t get it!
    - If you do, kill everything and disinfect

VHS – clinical signs

- Similar to other diseases (non-specific)
  - Hemorrhages on the skin
  - Hemorrhages in muscle tissue
  - Swollen / bulging eyes
  - Hemorrhages in internal organs
  - Pale organs



VHS – diagnostic testing

- Cell culture – observable CPE
- Confirmed by PCR
- "Quick test" is under development

APHIS – Federal Order

- October 24, 2006
- Prohibited Areas
  - importation from Quebec, Ontario
  - interstate movement from 8 Great Lakes states
- 37 species listed
- "to prevent the spread of VHS into aquaculture facilities"

APHIS - Revised Federal Order

- November 14, 2006
- Affected or At-Risk Regions
- "permissible movement" of susceptible species
  - Movement to slaughter facilities
  - Movement for research / diagnostics
  - Movement with documentation from "competent authority" for aquatic animal health as SPF for VHS.

What is a "competent authority"?

- Designated by each jurisdiction
  - State, Tribal, Federal
- Agency having regulatory authority for fish health
  - Agriculture, Natural Resources, Public Health

Duties of the Competent Authority

- Determines which testing protocols and laboratories are acceptable
- Issues, collects, verifies, and reviews Veterinary Health Assessments (VHAs) and Fish Health Assessments (FHAs).
- Issues permits (if required) based upon documentation.
- Maintains documents for consultation and verification with other CAs

APHIS - Amended Federal Order

- May 04, 2007
- Provided for "Catch and Release" fishing activities on shared waters
  - Weigh-ins are acceptable
  - Fish must be returned to same water
  - No use of susceptible species as bait

State's Responses - Michigan

- 1-year moratorium on production and stocking of Walleye, Northern Pike and Muskellunge
- No movement of susceptible fish out of the VHSv Positive Management Areas (GL's and all tributaries up to the first barrier preventing fish passage)
- No harvest of bait from these areas without proper Certification, or bait may only be used in that VHSv Positive Management Area

State Responses - Ohio

- No movement of susceptible species out of the "Great Lakes basin"
  - Does not apply to channel catfish
  - Does not apply to facilities tested negative for VHSv
- Emergency Rule effective for 1 year

State Responses - Wisconsin

- Ban transport of live fish from the Great Lakes or Mississippi River, and connected waters, upstream to the first dam or fish barrier
- No movement of susceptible fish out of Lake Winnebago system and all tributaries up to the first barrier.
- No importation of live bait (some exceptions)
- Restricts use of dead bait that has not been preserved by means that will kill VHS virus.
- Drain all water from bilge, ballast tank, bait bucket and live well, trailers, and other equipment before leaving water. Also applies to containers and fishing equipment used by bank or shore anglers.

APHIS – next steps

- Official Rulemaking is under development
- Species list may change due to further studies in host susceptibility / virulence
- Hybrids of listed species included or not?
- Surveillance / enforcement / inclusion of other pathogens?

MRBP – should we care?

- Causes significant fish kills
- Doesn't affect humans
- Survivors develop some resistance
- Will populations rebound?

MRBP – will we care?

- Western Great Lakes were considered VHS (+) before isolation of the virus due to *connected* waters
- Illinois, Indiana, Minnesota, Wisconsin were immediately placed under quarantine
- Lake Michigan is now VHSv (+)
- Mississippi River is connected via Chicago Sanitary and Ship Canal and upper Illinois Waterway

MRBP – will we wait?

- The Western Regional Panel encourages all member states to become familiar with this emerging pathogen and to incorporate it into their ANS programs."
- We request that the ANSTF recognize this pathogen as an ANS and as a severe threat to the natural resources of North America.

VHS information websites

- http://www.aphis.usda.gov/vs/aqua
- http://www.aquatext.com/images/diseases/vhs.htm#geographical
- http://dnr.wi.gov/fish/pages/vhs.html
    - Check this one often

He said that sub genotype IVb is the form of VHS that we're concerned with. He said that USDA federal Animal and Plant Health Inspection Service (APHIS) prohibited fish movement out of infected areas, so a big meeting was held regarding state's rights. He said that a federal order took precedence, but it has been revised under pressure from the states. He said that the APHIS let each state determine its own competent VHS authority with approval of APHIS. Most of the time, he said, that was the state Agriculture, Natural Resources or Public Health departments. In Illinois the Department of Natural Resources became the competent authority, he said, so each state gets to determine their own testing protocols. He said that originally a list of 37 species were identified using literature searches and lab susceptibility tests, but without testing under field conditions. So the latter issue is a big question that remains to be resolved. He said that catfish may come off of the list. Shults said that he advocates that ANSTF recognize this pathogen as a severe ANS threat to North America. Martin said that VHS was first identified in Wisconsin in connecting waters to Lake Winnebago, then it showed up in Lake Winnebago, and then in Lake Michigan. He said that they probably got VHS from baitfish coming into the state. He said that the federal lab in LaCrosse, WI is now doing all of the monitoring. But he said now dead fish are coming in like crazy, and it's hard to prioritize which samples to analyze. Shults said that right now there are not a lot of labs that test for VHS. Rendall said it is an issue whether or not VHS is going to be considered an ANS or not. Ryce said, however, that pathogens do qualify as ANS. But Bogenschutz said that in Iowa she was told not to deal with it as an ANS, but instead to let the fish disease people deal with it.

After lunch Bogenschutz asked Ryce to discuss the Quagga mussel issue in the West. Ryce made the following points in a Power Point presentation entitle, *Quagga mussels in the West*:

Timeline

- January 6: Lake Mead, NV, Las Vegas boat harbor. 2 found on a breakwater.
- January 6: Lake Mead Marina, 1 found on a Portland sampler
- January 9: Las Vegas boat harbor, "thousands" at 25-45 ft Established
- January 17-19: Lake Havasu, CA, various locations, 30-50 ft on structures, 1-55 adults
- January 21: Lake Mohave, AZ
- March 6: Copper Basin reservoir, CA, 2 adults
- May 15-17: Lake Mead plankton samples, 0-62 veligers/liter

Quagga mussels in the west - concerns

- Over 1,000 mile jump
- Established 3-4 years
- Undetected in hatcheries
  - Possible spread to other areas
- Difficulties sampling
- Lake Mead water temperature
  - Year round reproduction?

Lake Mead average water temperatures

	April	May	June	July	Aug	Sept
Water (^{o}F)	57	68	73	80	83	78
	Oct	Nov	Dec	Jan	Feb	Mar
Water (^{o}F)	70	63	58	54	55	55

Quagga reproduction occurs at about 52 ^{o}F

Lake Mead statistics

- Surface area – 158,000 acres
  - Fort Peck Reservoir – 246,000 acres
- Shoreline – 550 miles
  - Fort Peck Reservoir – 1,520 miles
- Visitors – 8 to 10 million per year
  - Fort Peck Reservoir – 50,000 angler days/yr

What's being done?

- Monitoring – CA, NV, AZ, Columbia basin
- Boat inspections
- Boat wash stations
- Public and agency education
- Columbia Basin Rapid Response Plan
  - Table top exercise

Ryce said that the quagga mussels had been found in Lake Mead at both the State Fish Hatchery and at the Willow Beach National Fish Hatchery. She said that Lake Havasu is at the headwaters of the Central Arizona Project, so it was threatened as well. She said that Lake Mead gets large boats that make 1,000 mile overland trips. One of the biggest concerns, she said, was that the quagga mussel went undetected in the fish hatcheries. She said that the staff thought they were faucet snails or something else. She said that quite feasibly the quagga mussel could be spawning year round in Lake Mead. Keller wondered if they are looking at zebra vs quagga mussels. Canaday said that Missouri has only found one quagga mussel on a barge, and he said, they have a trained malachologist on their staff.

Bogenschutz then asked Greg Conover (FWS) to discusse the Asian Carp Management and Control Plan. Conover said that he would be discussing the following items:

- The MICRA Executive Board's request of MRBP regarding the need for a review of the FWS triploid grass carp program;
- A proposed triploid grass carp program workshop with the states; and
- The Asian Carp Management and Control Plan update

He then made the following points in a Power Point Presentation:

I. Addressing the MICRA Executive Board Request

- Background from Executive Board meeting
- Overview of FWS triploid grass carp program
- Summary of management plan recommendations
- Open discussion

State Concerns

- Illinois found certified triploid shipments with as high as 8% diploids
- Most problems may be with wholesale shipments rather than producer shipments, resulting in mixing of diploids and triploids
- No other states (present) actively checking shipments
- State regs differ from FWS certification
- States need to know program works before changing from diploid to triploid
- Triploid states need to examine compliance monitoring programs
- FWS program warrants an external review
- Requested MRBP to discuss in more detail and make recommendations back to the Executive Board

II. FWS Inspection Program

- Service provided to producers and states
- Inspector observes ploidy tests
  - Subsample of alleged 100% triploids
- Certify that alleged triploid shipments contain no diploids (6 day certificate)
- No enforcement – rely on states to check shipments and enforce regs

Management Plan

- Stocking diploid Asian carp one of 4 highest risk pathways of introduction
- Possible to reduce risks associated with intentional stockings of diploid fish
- 5 strategies and 9 recommendations

Prohibiting Diploid Stockings

- Recommendation 3.1.2.1. Encourage states to develop regulations that prohibit the stocking of any diploid Asian carps into non-aquaculture waters for biological control.
  - Bighead, black, grass, and silver carps

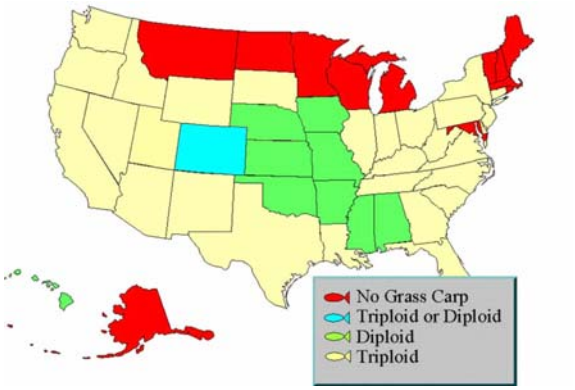
Why No Diploid Grass Carp?

- Poor stewardship and leadership, given that a safer alternative is available
- Many waters still can be protected
- Bigger picture perspective

- Ability to disperse creates regional issues
- Management and law enforcement challenged by conflicting regulations
- Works directly against control efforts

Prevent Illegal Sales

- Recommendation 3.1.3.1. Encourage states that allow the legal importation of grass carp to adopt consistent, uniform regulations that allow only certified triploid grass carp to be shipped or stocked.
  - Whether for food fish or pond stockings
  - Limit and control possession of diploids



Grass Carp Regulations

- 13 states prohibit all grass carp
- 38 states authorize triploid grass carp
- 10 states permit diploid grass carp

Prevent Accidental Shipment of Black Carp

- Recommendation 3.1.3.1. Encourage states that allow the legal importation of grass carp to adopt consistent, uniform regulations that allow only certified triploid grass carp to be shipped or stocked.
  - Increased handling of individual fish reduces risk of accidental contamination

Prevent Illegal Sales

- Recommendation 3.1.3.2. Encourage states to conduct routine and random inspections of all live grass carp shipments within the state.
  - FWS program has no enforcement component
  - States to conduct compliance monitoring and enforce state regulations
- Recommendation 3.1.3.3. Encourage the USFWS to provide ploidy determination for states conducting inspections of grass carp shipments.
  - Equipment can be cost prohibitive ~$40k
  - FWS regional fish health/tech centers as possible way to assist states?

Prevent Accidental Introductions of Diploid Grass Carp

- Recommendation 3.1.6.1. The USFWS should seek an independent scientific review and evaluation of the Triploid Grass Carp Inspection and Certification Program.
  - FWS and producer developed program
  - Purpose of review to improve, not discredit

Discussion

- Is a review of Program necessary?
- Who would conduct the review?
  - *American Fisheries Society*, *United States Aquaculture Society*, *National Academy of Science*, other appropriate groups?
  - Recognized experts in triploidy induction and reproductive physiology of grass carp should be included.
- How could the review be funded? MRBP?

Triploid Grass Carp Program

- Recommendation 3.1.6.2. Develop and provide information on the USFWS Triploid Grass Carp

Inspection and Certification Program.

State Workshop

- Discussed during February 2007 Triploid Grass Carp Program meeting
- Purpose: Improve effectiveness of the Triploid Grass Carp Program
  - Engage states in program
  - Provide information about program
  - Request continued state involvement

Logistics

- Desired audience is state fish chiefs and ANS coordinators
- Proposed February 2008, New Orleans
  - One day workshop
  - Weekend travel?
- Program funds used to cover travel

Agenda

- Overview of program to establish common level of understanding
- Recent issues and LE cases within states
- Examples of within-state control measures
  - South Carolina
  - California

Feedback From MRBP

- Is workshop a good idea?
- Would states attend?
  - Fish chiefs and ANS coordinators
- Is Feb 2008 good date?
  - Least likely to conflict
  - Far enough out to get approval; assume invitations sent June/July?
- What do states want on the agenda?

III. Asian Carp Management and Control Plan

Objectives

- Progress update
- Overview of comments received
- Summary of revisions
- Discuss unresolved issues

Progress Update

- ANS Task Force and public comments addressed - complete
- Final review of revised draft by Working Group – complete
- Address final ACWG comments – On-going
  - Working Group Conference Call - ?!?!?!
- Final Plan Submitted – July
- ANS Task Force approval prior to Fall meeting

ANS Task Force Comments

- ANS Task Force
  - MICRA, NASAC, NOAA, USGS
  - Primarily technical, some substantial changes recommended

Public Comments

- Comments received from 29 entities
  - 18 general public
  - 7 state agencies / organizations
    - IA, IL, IN, MI, MO, UMRCC
  - 4 NGO's
- Varied greatly – general support to lengthy technical comments
- Provided or requested additional information
- 11/29 - requested Asian carps to be listed as Injurious Wildlife
- 10/29 - (5 states) addressed the unresolved issues and requested triploid black carp and live transport be prohibited
- 4/29 - supported use of triploid black carp (1 state) and live transport

Revisions

- Pathway risk levels
- International importation
  - Combined 2 strategies
- Added 3 strategies and 7 recommendations
  - Prevent Introductions – 5 recommendations
  - Population Control - 1 strategy / 1 recommendation
  - Minimize Adverse Effects – 1 recommendation
  - Research – 2 strategies

Unresolved Issues

- Use of triploid black carp
- Live transport of farm-raised bighead and grass carps

How to finalize the plan???

- Omit unresolved issues from plan
- Recommendation with dissenting view
- Forward to ANS Task Force for resolution

Resource Protection and Broad Stakeholder Support

- Issues are briefly addressed within the plan as unresolved issues
  - Not presented as recommendations
- Lengthy discussions moved to appendices
- Includes objective overview of several potential alternatives for consideration
- Provides most information for policy and decision makers
- Issues will need addressed at state level regardless of federal actions

ANS Task Force

- Briefed on revised plan
  - Requested appendix with summary of state regulations regarding import
- Will consider the plan for approval between the spring and fall meetings
- Will begin to discuss coordinated implementation during fall meeting
  - Implementation team

Implementation

- Many activities on-going, mostly independent

- Time to focus on coordinated implementation
- ANS Task Force establish implementation team – key representatives able to direct programs and resources
- States can address many items now
    - E.g., MICRA and MRBP forums for reviewing recommendations and discussing coordinated Regulations

Implementation Team

- Oversee and drive implementation
- Coordination body to align programs and resources
- Roles and responsibilities:
    - Institutional arrangements
    - Prioritize recommendations
    - Seek funds
    - Develop performance measures
    - Develop adaptive management framework
    - Develop communication/coordination strategy
- Smaller group than Working Group
    - 10 member team?
    - How to maintain broad stakeholder representation?
- Primarily key participants in implementation
    - Which stakeholders will that be?
    - What level in organization should team members be?
- ANS Task Force will discuss at Fall meeting (November 2007)
- Opportunity for input
- Seeking ideas, suggestion, models, etc.

Ideas

- Chair vs. Co-chair
    - Federal chair
    - Revolving co-chair
- How are states represented?
    - ANSTF basin panels
    - MICRA, AFWA
    - Commission
- Other members
    - Research
    - Outreach
    - Aquaculture
    - Policy
    - At large

Discussion

- Recommendations
- Models
    - GLFC?

What Can MRBP Do Now?

- Review recommendations
- Model regulations

Rach wondered what the difference in cost is between diploids and triploids. Conover said about 2-3 times the cost for the end user. Shults said that in IL you can buy diploids for $2 vs triploids for $10, but you are not supposed to be able to buy diploids. He said that the 8% error rate in reading triploids is wrong because on two separate occasions Illinois has found certified triploid shipment with over 20% being diploids. He said that a Coulter Counter and another method detected these, and the actual error is possibly even higher than 20%. Ted McNulty (Arkansas Financial and Development Agency) wondered where were the fish were first inspected. Shults said Arkansas. Conover said that before his life as the Chair of the Asian Carp Working Group, he was a triploid grass program inspector, and that if procedures are being followed correctly, those types of errors will not occur with the FWS program inspections. These types of errors occur as a result of actions outside of the inspection. For example, mixing of diploids and triploids when shipments are loaded. An external program review would help to identify if additional QA/QC measures are needed. Goeckler (KS) said that two years ago Kansas decided to go triploid only for Departmental use, and the fish we are getting had less than 3% error. He said the concern is in the hauling issue, and consistent regulations between states could solve that problem.

Chapman asked if anyone has thought about wild fish making it back into the trade. He said my technicians catch a lot of them, and they could get $1-2 each for them, and I'm sure others have the same idea. Conover said that the working group has considered this as a minor component, but the main issue is the wholesale shipment of diploid grass carp. Shults said that earlier when we discussed our purpose for an external review we recognized that a major problem is not within the procedure, but there are administration and oversight issues that need to be addressed first off. Then we need to address the long term cost of gear and repair costs, he said. Long term use needs to be looked at, he said, because the equipment we have available is very old. Conover said that Coulter is the only company that produces a machine that reads the particle size necessary for this use in our tests and they don't work with producers much on their equipment; in fact they don't support their own equipment after 4-5 years of use. This forces producers to buy new equipment at a cost of $50,000 each.

Rach wondered what there is to ensure that the producers aren't manipulating their stock between the check and the sale. Conover said that the producers are interested in the integrity of their shipments. Hoff wondered if a review of the program was necessary - is it prudent to do it all the way from the producer to the wholesale level? The entire process needs to be looked at, he said, not just the FWS program, but who would conduct the review, he asked. The *National Academy of Science* could do a marvelous job in 5 years, but who could do it on more a timely basis? It seems that this is something we may want to entertain on the ExComm, he said. Conover wondered if we are looking at getting some recommendations back to the ExComm. He said we need to keep building on ideas. Rendall wondered if anyone has put together a scope of work for what such a review would cover. Conover wasn't aware of any such effort. Keller wondered what steps the wholesaler has to go through. Conover said that there is no reporting at the wholesaler level, and that is part of problem. A lot of times what happens, he said, is that the fish go to the wholesaler, and the permit only acknowledges that the stock will be resold to the distributor. If the fish are moved to the wholesaler they are no longer FWS certified, he said. Hoff wondered if once an individual fish is certified whether or not there is any mark or tag placed on them. Conover said no, there is no such mark. Hoff wondered if that is what needs to happen. I have all the faith in the analytical process, he said, but the fish need to be tagged to allow for tracking. Shults said that is a key point, so for some of the states that are on the outside looking in at the program, they would like to see some way to track the fish once they are sold to the wholesaler. Chapman wondered if you could use a colored tag to mark every fish. Conover said that a workshop could cover discussions of methods used across the country. Rendall said that we need to look at the level of competence at all levels of the process, or else we shouldn't allow shipments except from certified producers to the end users. Hoff said we need something similar to the HACCP process. Goeckler wondered that if nine more states come on line wanting only triploids does the FWS have the capacity to handle the volume.

Conover said that his knee-jerk reaction is not right now because there are only inspectors located in Regions 3 and 4, but the program says that the FWS will have an inspector available at all times. Hoff said that's where a review of the program could point out those types of needs.

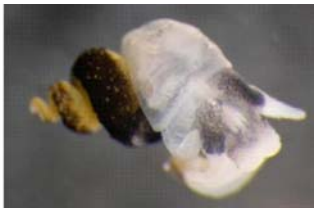
Conover said, so what I'm hearing is that a review of the whole process is prudent. If so, then who would do such a review? Hoff said we could come up with a list of potential contractors who would be willing to do the work and they could let us know how long it would take to complete the work. Rasmussen said we could just put out an RFP for the work. Hoff said that an estimated cost that jumps out in his mind is about $30,000. He said that it is not a huge program, and there are not a lot of technical issues involved. Rendall agreed that it is a fairly narrow focus. The fish barrier review, he said, cost $55,000, and we've had smaller projects, so maybe $30,000 would be enough, he said. Hoff said that it is not going to be a $100,000 plus project, and maybe someone like *FishPro* would be a good candidate. Bogenschutz said that the Prevention and Control Committee will discuss this further tomorrow. Iowa is one of the diploid states right now and we are interested in looking at it, she said. We don't have the capability to test ourselves, so until we have a better situation we likely will not go triploid. Canaday agreed, and said it would be helpful to have the other states on board to encourage all states to go forward with this. Goeckler said that Kansas is changing this month, and we test our own fish with a Coulter Counter. It's just the cost of doing business he said. Conover said that the main supply of triploids is coming out of Region 4, but he didn't think it would be over-taxing right now.

Conover said further that the producers and the FWS inspectors meet each year to discuss the Program, but the states also need to be involved. We need a state workshop to bring all the states together in order to get everyone up to speed on the program, he said. He wondered if this is something that the fish chiefs would attend. Goeckler said that the fish chiefs are very busy in February. Conover said that they have focused on a January-February time frame because production picks up down south after that. Hoff said we need a half day workshop, but maybe that's not enough. Rendall said that to increase participation, it might be valuable for us to have a Panel recommendation to the diploid states that they change their laws. That might be a further incentive to come to the meeting, he said. Rendall said that Minnesota now has a legislative initiative to develop a state Asian carp management plan, so we need to determine which parts of the federal plan have already been done and which ones don't apply to our state. Tina Proctor (FWS) said that the ANSTF talked about creating an implementation team, and they had a discussion on funding needs and the need for legislation.

Bogenschutz then asked Proctor to discuss the New Zealand Mudsnail Management and Control Plan implementation in the West. Proctor made the following points in a Power Point presentation, entitled, *New Zealand Mudsnail (Potamopurgus antipodarum)Management and Control Plan*:

<u>What are New Zealand mudsnails and why do we care?</u>

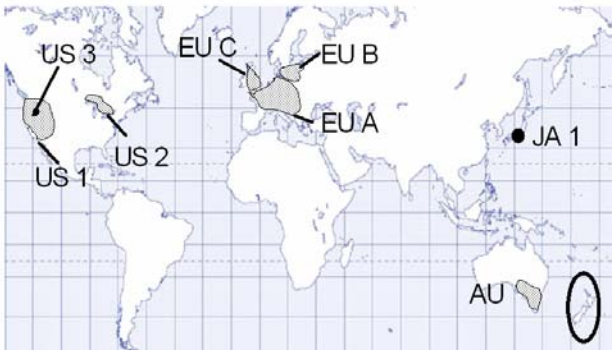
- Description
  - 1-5 mm
  - brown, 5-6 whorls
  - operculum
  - found in rivers, streams, lakes, estuaries
- The Invasion
  - Two Western U.S. Clones - On left is typical western clone (US 1), on right is the newly identified western clone from the Snake River, Idaho (US 3), which is broader, has a larger last whorl and is paler
  - New Western Clone
    - US 3 - some shells have a carina broken into isolated scales

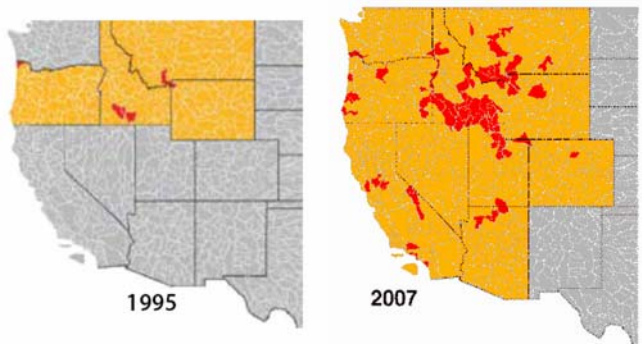
- Mark Dybdahl is working on genetic studies of this clone to determine pathway of introduction.

- Introduced NZ Mudsnails reproduce by cloning – there are very few males
  - US 1 on left, US 3 on right. Last whorl is unpigmented
- Eastern U.S. Clone
  - US 2 is very similar to the typical western clone
  - Notice operculum which is present on all clones and protect the snails from being digested for example

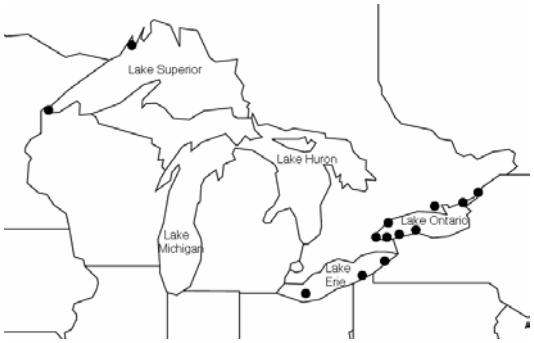
- Distribution of Introduced Clones



- Western U.S. Expansion

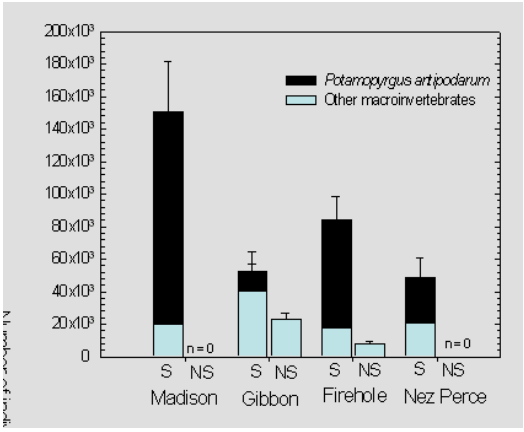


- Great Lakes Occurrences



- Biology and Ecology
  - Invasive populations tend to be comprised of a single clonal genotype, but in New Zealand, populations are comprised of a diverse array of clones.
  - Environmental tolerances are very broad – found in diverse temperature, osmotic, flow

and disturbance regimes. However, individual clonal lineages may have either broad or narrow tolerances.
    - Can tolerate high frequency of scouring events which serve to redistribute snails rather than kill them outright.
    - Although populations fluctuate widely and sometimes seasonally, we don't know if this is temperature related or due to another factor intrinsic to population dynamics of the snail.
    - Boulder Creek
        - Tom Sailelli, U. of Colorado
        - NZ mudsnails in Boulder Creek haven't increased their range in 2 years. Density average is 2000/sq.meter.
        - Found in medium slow to medium fast flow
        - No snails beyond water treatment plant where salinity is higher
        - Snails not moving upstream – limiting factor may be winter shelter
    - Vectors – Human Caused
        - angling gear
        - sampling gear
        - boats/kayaks
        - rafts
        - snorkeling gear
        - swimmers
        - pets
        - fish hatcheries
    - Vectors – non-human
        - birds
        - cattle/wildlife
        - fish
        - floating debris
        - floods/outflow
        - vegetation



- Ecological impacts
    - The effect of NZ mudsnails on invertebrate fauna of NZ, Europe and Australia is largely unknown.
    - May compete with endangered Bliss Rapids Snail (Richards et al. 2001)
    - Can dominate macroinvertebrate assemblages (Kerans et al. 2005)
    - Reduces food resources (Cada and Kerans, submitted)
    - Green River, Utah
        - Green River is largest tributary to the Colorado River
        - Baseline invertebrate work done by Dr. Mark Vinson, Utah State U. in 2001-2003. New surveys in 2005 & 2006.
        - Observed decline of total invertebrate abundances by over 25% after the invasion of NZ mudsnails in 2001.
        - 2nd study – trophic effects of NZ mudsnails based on fish stomach contents, stable isotope samples and predicted fish growth. Results: diets high in NZ mudsnails do not meet energy requirements of fish, resulting in reduced growth and weight loss.
- Methods to Control the Spread
    - Control Methods. . . for biologists, anglers, boaters,water recreationalists
        - Freezing over night
        - 84-86 F, direct sunlight, 4 hrs min
        - Hot Water for 1 minute (120 degrees)

        - Multiple Sets of Gear
    - Chemical Control
        - CA Dept. of Fish and Game -Anti-bacterial form of Formula 409
        - CO Division of Wildlife-*Sparquat* Brand of quarternary Ammonium disinfectant
- What do we know?
    - Moved from 1 state to 10 states in the West and one Great Lake to three
    - Impact on other macroinvertebrates, reduces food for fish
    - Competition with endangered snails
    - Impact on hatcheries
    - There are several methods of controlling the spread by biologists, anglers and other water recreationalists
- Implementation of Plan
    - Goal of Plan
        - To prevent and delay the spread of NZ mudsnails to new areas, reduce the impacts of existing and new populations, and continue developing Information to meet this goal.
    - Objectives
        - Identify foci, pathways and vectors
        - Develop methods of detecting new populations
        - Develop strategies and methods to control and manage populations
        - Develop further understanding of ecological and economic impacts
        - Increase public understanding of the need to deal with NZ mudsnails and gain political support for implementing national plan objectives.
    - Implementation
        - Develop risk assessment of different pathways
        - Expand website and create database on NZ mudsnail sampling efforts
        - Develop hatchery certification
        - Create model provision for States that requires HACCP plan for aquaculture
        - Develop sources of funding for research
        - Raise awareness to audiences associated with identified pathways
            - Develop corps of volunteer anglers who can provide technical Assistance regarding prevention
    - Research
        - Establish baseline data in States which currently have NZ mudsnail populations
        - Develop effective mechanical, physical, chemical and biological control methods
        - Continue studies on treatment of gear
        - Investigate the effects of NZ mudsnails on food webs and ecosystem function
        - Investigate the effects of NZ mudsnails on vertebrates including trout and waterfowl
        - Investigate effectiveness of NZ mudsnail outreach methods in changing behavior of target audiences.
    - Have a plan! Clean your gear before moving to other waters!

She said the Australia clones came straight to the U.S. from New Zealand. She said we can't tell where ours came from in the western U.S., but they probably came from New Zealand in a shipment of fish eggs. Those in the eastern U.S. probably came in along with ballast water. But a major pathway for spread appears to be via anglers. She said the snails have now invaded Lake Erie, Ontario and Superior. In the winter she said you may find a big mat of New Zealand Mudsnails attached to willow roots, so there's a lot we don't know about them. She said we need to have step down plans from the National Plan in order to help with implementation in the states. She said that the 100th Meridian Initiative established a national hotline 1-877-STOP-ANS where someone operates the telephone 24-hours a day. She said the operator takes a digital message, and sends it on to whoever can best answer or respond to the question. She said that on June 27-28 there will be a national meeting in Davis, CA on the New Zealand Mudsnail

plan to decide where to go to from here. Rendall wondered if anyone has done any mass mailings. He said that 90+% of the public have no idea what or where they are. He said that most *Trout Unlimited* people know about them, but others don't. Proctor didn't think that any mass mailings had been made, but some angler groups have had articles in their magazines. Ryce said that they have conducted mailings to Montana anglers. She said that awareness is very high in Montana mostly because of magazine and newspaper articles. She said that they showed up in Montana shortly after Whirling Disease appeared, but that actions being taken are only about 13% as great. She said that the attitude of fly fishermen is that they are very reluctant to take responsibility on this issue. They are more ready to point the blame on others. Proctor said that if you are going to fish several places each day, it's difficult to clean your equipment in between sites. Ryce said that the cleaner "*409*" is only 50% effective in ridding equipment of the snails. Burgess wondered if there is any crossover with Didymo. He said that bleach is used for that. Ryce said no, bleach doesn't work because the snails can close their operculum. Keller wondered if they are seeing the snails drift down into cool water, or are they a cold water species. Proctor said they don't really know, the US-1 clone likes running water, she said, but they don't seem to like reservoirs. But the US-2 clone, on the other hand, seems to really like that kind of water. Bogenschutz asked about temperature tolerance. Ryce said that they can live in 80 degree water, but that it seems to be temperature variation that limits them more than temperature tolerance. She said that they live in the hot water in Yellowstone National Park. Schainost wondered if there had been any population collapses elsewhere. Proctor said not yet. Ryce said the Snake River population has not changed, but Idaho doesn't have as good a monitoring program as we do. Proctor said that Boulder Creek in Colorado is not shut down anymore. Shults said that if compliance goes down with the use of chemicals what are we going to do when VHS comes along? Ryce said "Clean, Wash, Dry" is Montana's policy. But that takes so long to do Shults said. Rendall said we need to know what will be done with all of the residual chemicals in the live wells before we recommend their use. It has to be fine tuned to the site. As states we can't make recommendations that are going to violate federal law, he said. Ryce said yes, giving mixed messages to the public is probably one of the reasons we have such low compliance in Montana. Julia Solomon (WI) said we've been struggling with this in WI, and we've been trying to see how similar VHS prevention is to the other methods we have been recommending. Rach said that this is not an exact science, so we need to be aware of this. It's important for us to coordinate among all agencies and states so that we do it as a prevention method. Shults said that bass fishermen will not run bleach through their livewells or lower units. Chapman said that bleach is very water soluble, where quarternary ammonia is not. Rach said we need to get in touch with companies regarding what will work and what won't.

Proctor finished by informing the group that a publication entitled, *Freshwater Mollusks of Colorado*, is now available. She said it was put together by the Colorado Division of Wildlife and is available if you want a copy.

Bogenschutz then asked Hoff to discuss rapid response. Hoff made the following points in a Power Point presentation, entitle, *Report to MRBP: Member Information on Rapid Response*:

<u>Panel Members' Needs for Rapid Response (RR)</u>

- Recommendations submitted to ANSTF in November 2006 regarding RR
  - Contingency fund
  - Environmental Compliance
- MRBP requested member feedback on rapid response accomplishments, plans, and needs

<u>Accomplishments</u>

- North Dakota conducted a RR action for Eurasian Water Milfoil in a Red River tributary reservoir
  - Action: Water drawdown
  - Funding needed: None

        - 4 Staff days of ND Game and Fish Commission
    - Other needs
        - Communication network with partners was needed, and successfully implemented
- ILDNR-led action for Eurasian water milfoil
    - 3 partners
    - 2, 4-D treatment
    - Funding Needed: $3100
        - State and ANS Management Plan funds
    - Other needs
        - Streamlined environmental compliance process recommended for similar future actions

Plans

- Indiana DNR-led
    - 3 separate plans
        - 2 plans for Brazilian elodea
            - 13 lake chemical treatments for Brazilian elodea
            - 12 in private waters
            - 1 in public waters
        - 1 plan for Hydrilla
- Indiana DNR-led for Brazilian Elodea (2 plans)
    - Began in 2006
    - Need continuation in 2007
    - Funding Covered:
        - $70 K in 2006
    - Funding needed
        - $20 K in 2007
    - Other needs
        - Chemical applicator and plant sampler
- Indiana DNR-led plan for Hydrilla
    - Partners: none
    - Hope to begin in 2007
    - Funding Covered:
        - $100 K per year for 4 years
    - Funding needed
        - $400 K per year for 4 years
    - Other needs
        - Chemical applicator and plant sampler
- A comment from Indiana:
    - "I hope everyone's input helps in establishing a rapid response fund so we can deal with some of the large rapid response issues that would break an individual state's bank"
- Offutt Air Force Base, NE zebra mussel chemical eradication
    - Partners: 9
    - Hope to begin in 2007
        - Funding Covered:
            - $0
        - Funding needed
            - $500 K
        - Other needs
            - "Knowledge"

Summary of State Needs for Rapid Response

- Funds
- Communication network
- Technical assistance
  - Chemical applicators
  - Samplers
- Streamlined approval processes
  - Includes Federal environmental compliance

Recommendations from MRBP to ANSTF

- Contingency Funding to support Partner RR efforts:
  - Recommendation to the ANSTF:
    - Pool ANSTF member funds to develop a Rapid Response Contingency Fund
    - Establish process to allocate those funds
- Environmental Compliance to enable rapid response
  - Recommendation to the ANSTF:
    - Consult with National Invasive Species Council (NISC) to determine progress toward development of environmental compliance documents
- Environmental Compliance to enable rapid response
  - Recommendation to the ANSTF:
    - If additional measures are needed to complement NISC progress and products, then either:
      - Establish a committee (with NISC??) to develop joint/model compliance documents, or
      - Pool ANSTF member funds to contract development of joint/model compliance documents
- Contingency Funding to support Partner RR efforts:
  - Recommendation to the ANSTF:
    - Explore options to develop a contingency fund for rapid response by either:
      - Allocating existing funds, or
      - Developing a budget initiative
    - Establish process to allocate those funds
- Environmental Compliance to enable rapid response
  - Recommendation to the ANSTF:
    - Either:
      - Establish an interagency working group to develop joint/model compliance documents (Programmatic EA, or Cat. Ex.) or
      - Use year-end or other flexible funding to contract development of joint/model compliance documents

MRBP requested member feedback on rapid response accomplishments, plans, and needs

- Summary of State Needs for Rapid Response
  - Funds
  - Communication network
  - Technical assistance
    - Chemical applicators
    - Samplers
  - Streamlined approval processes
    - Includes Federal environmental compliance

Hoff said that the ANSTF did not consider establishing a fund for rapid response. Bogenschutz said that the ANSTF rapid response action was to establish a team or point of contact for responding to a developing threat. She said that they will also identify any federal regulatory requirements that need to be responded to for a rapid response. Rendall said that rapid response is how we found the Brazilian elodea and no one had reported it because someone wanted to do research on it. He said the same thing happened with New Zealand mudsnail and the Quagga mussel. He wondered if there is something we can do to require them to let us know when something like this is found. Hoff suggested developing a "code of conduct" for researchers to report findings of ANS. Rendall said that there is a code of conduct for researchers transporting ANS - it's called the *Research Procedures Code of Conduct*. Ryce said that anyone doing any research in MT is required to report findings under their collector's permit. She said we require reporting, disinfection, etc., and if they don't comply no permit is issued to them the next year. Shults said that this is definitely something we need to address. Rendall said that zoos are exempt from injurious wildlife regulations under federal law. Shults said zoos are eligible for a permit in Illinois, but that research, scientific, medical and zoological uses are four exemptions under the federal Lacey Act. Unless exempted by state law, Ryce said. Bogenschutz asked if there was any recommendation on how to proceed. Rendall said we need to refer this to the committees.

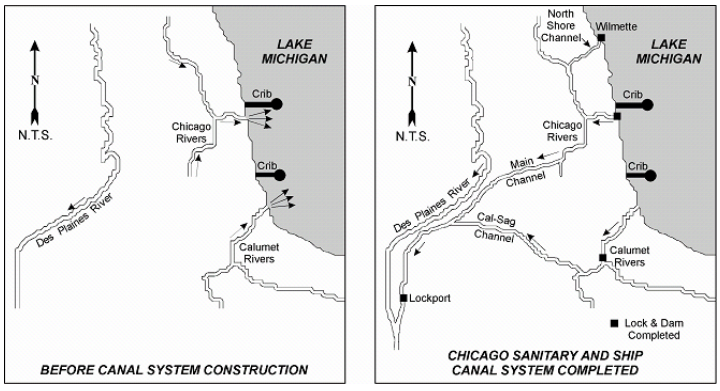
The meeting adjourned for the day at 5:00 p.m.

June 6

Bogenshutz called the meeting to order at 8:00 a.m. and introduced Charles Shea of the U.S. Army, Corps of Engineers in Chicago. Shea made the following points in a Power Point presentation, entitled, *US Army Corps of Engineers Chicago District Aquatic Nuisance Species Dispersal Barriers*:

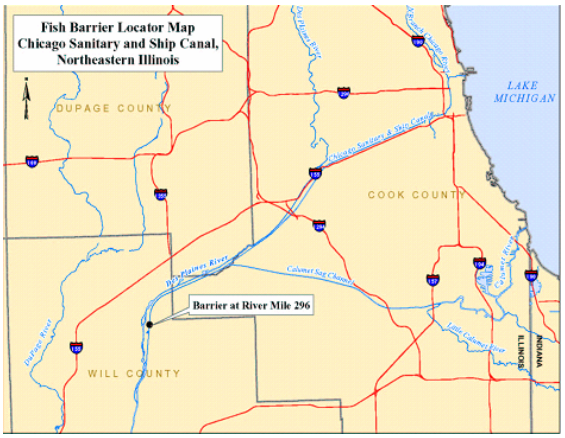
<u>Location of the Waterway System</u>

<u>Hydrologic connections before and after canal construction</u>

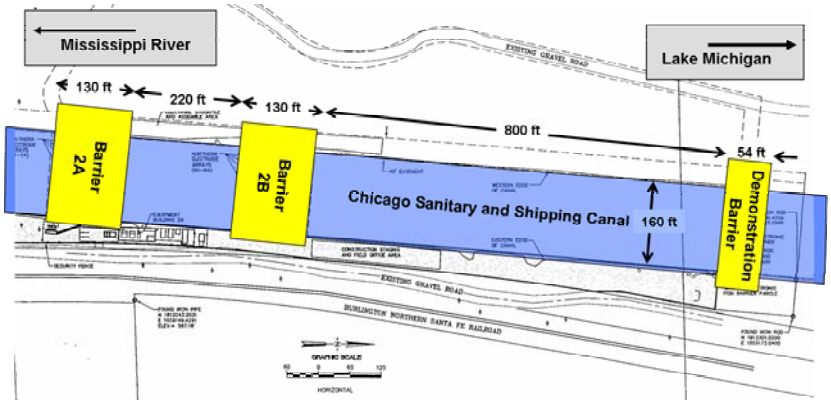


Corps Dispersal Barrier Projects

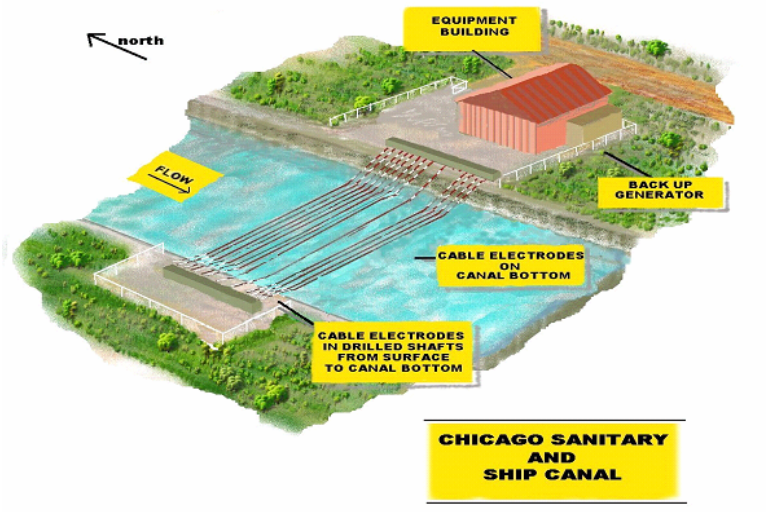
- Demonstration Barrier
  - Operational Since April 2002
  - Intended to be Temporary
- Permanent Barrier
  - Construction Underway
  - Larger and Longer-Lasting



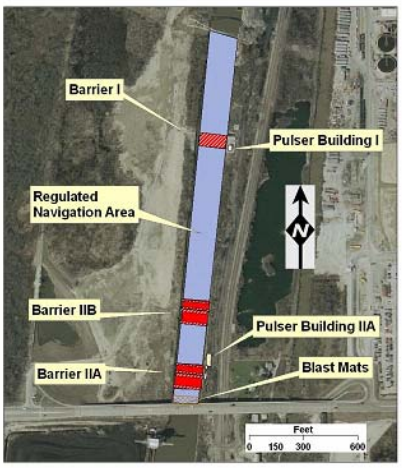
- Relative Location of Barriers



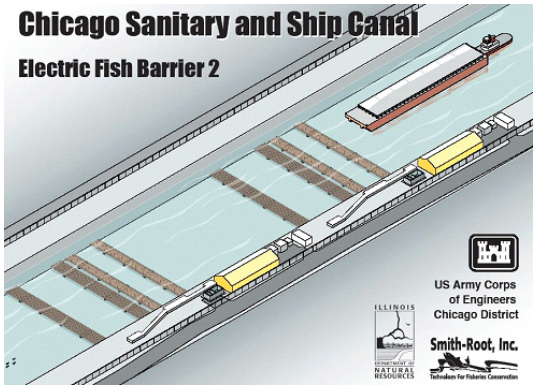
- Demonstration Barrier



- Demonstration Barrier Status
  - In Continuous Operation
  - Maintaining Necessary Field Strength
  - Will Operate at Least Until Barrier IIA is On-Line
  - Current Funding Will Allow Operation Throughout FY07
- Demonstration Barrier Results
  - Effective Overall
  - May Not Be As Effective for Small Fish
  - Metal-Hulled Vessels Impact Electric Field
  - Sparking Possible Between Conductive Objects (e.g., Metal Hulls) in Water

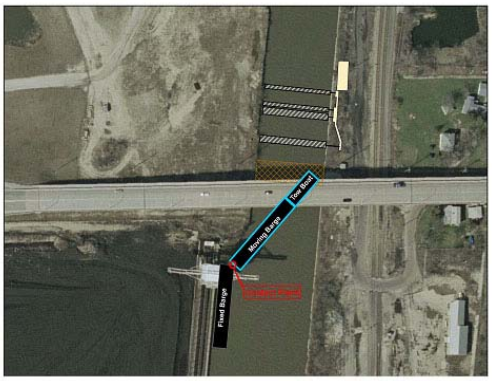


- Regulated Navigation Area



- Permanent Barrier Design

- Permanent Barrier Status
  - IIA Construction Complete
  - Ongoing Safety Investigations
    - IIA Extent of Electric Field/Sparking Potential
    - Person in Water
  - Additional Funding Needed to Complete
- IIA Electric Field Extent Testing
  - Field Extended Beyond RNA
  - Sparking Was Confirmed in Fleeting Area
  - Blast Mat Grounding System Installed
  - Completed Further Field Extent Testing
    - Varying Pulser Operation
    - Varying Grounding System Connection
  - Completed Further Sparking Potential Testing
    - Some Configurations with No Sparking
    - Review Continuing within USACE and USCG



- Person in Water Study
  - Investigation by U.S. Navy Experimental Diving Unit
  - What are Physiologic Effects of Barrier Electric Field on Person in Water?
  - Initial Results in Summer 2007
- Barrier IIA Emergency Operation Plan
  - IIA Can Be Operated at 1 V/in for Up to 30 Days
  - Defines Notification Procedures
  - RNA Extended 270 Feet Further South
  - Bow Boats on Red Flag Barges
- Barrier Issues
  - Additional Authorization and Appropriations are Needed to Fully Complete Barrier II
  - Will the Demonstration Barrier Become Permanent?
  - Cost Sharing Partners?
  - Who Will O&M the Barriers?
- Possible Barrier Legislation
  - President's FY08 Budget
  - Water Resources Development Act
  - National Aquatic Invasive Species Act of 2007
  - Stand Alone Barrier Acts
    - H.R. 553
    - S. 336

Shea said that a report summarizing all of the testing that has gone on is under review by higher authority within the Corps of Engineers (COE). The report will then go to the U.S. Coast Guard (USCG), and then into COE/USCG conference. After that there may be more testing required before it gets turned on. This process may stretch into the summer or fall, he said, but they have found a couple of ways to operate the barrier without causing the sparking. He said that the bottom line is that the COE has two overriding priorities: 1) operate the barrier, but 2) do it safely. He said that barrier II was constructed in cooperation with the State of Illinois under a 25% cost share, but when it becomes operational it will be up to Illinois to pay for the operation and maintenance. However, he said the stakeholders are currently working to get 100% federal funding for the project, but legislation will be needed to get this authority and appropriation. He said that the Water Resources Development Act (WRDA) will likely be the bill which carries this authorization. He said that electric barriers can be very effective, but they are not species specific, and if used where there is navigation and people you have to be very careful. He said we know the villain, and we have public support, but we have lots of competing uses and interests in that waterway. Bogenschutz wondered how many barges use the canal each day. Shea said maybe 100 or more a day, and maybe 5-10 red flag (i.e. flammable) barges per day. He said that a lot of industries get their raw materials via the canal. Shults said that we might want to touch on the urgency of the electrodes shorting out - 6 of 12 are in jeopardy now, he said. Shea said yes there are 12 electrodes, one has been gone for some time, and five others show signs of decline. He said that the barrier hasn't broken down, but testing shows signs of corrosion. He said that the contractor, *Smith-Root*, has tried to determine electrode life, but it is too unpredictable. Pam Fuller (USGS) wondered what the life of the new design might be. Shea said that the new electrodes are 5-inch by 5-inch steel bars and they will have a longer life. Hoff said that the *Alliance for Great Lakes* is currently conducting a feasibility study on long term solutions, and wondered if Shea was privy to when their report will be completed, and will it come to the COE. Shea said yes it will come to the COE, and the study is looking at whether or not we should fill in the canal. The problem, he said, is the economic impact as well as some environmental impacts. It will be interesting to see what they come up with, and what the least damaging alternative might be to commerce, he said. He said further

that some WRDA language asked the Corps to address this same issue as well as all methods to stop ANS from using the canal to spread. It will be a highly controversial study which will last a long time he said. Hoff said that we as a panel will want to pay attention to that report, and asked Shea to forward it to us when it becomes available. Shea said that will not be a problem, he was sure that it will be a big press event.

Bogenschutz then asked Jay Rendall to discuss the status of the proposed Asian carp barrier on the Upper Mississippi. Rendall made the following points in a Power Point presentation entitled, *Proposed Mississippi River Dispersal Barrier for Asian Carp:*

Issues

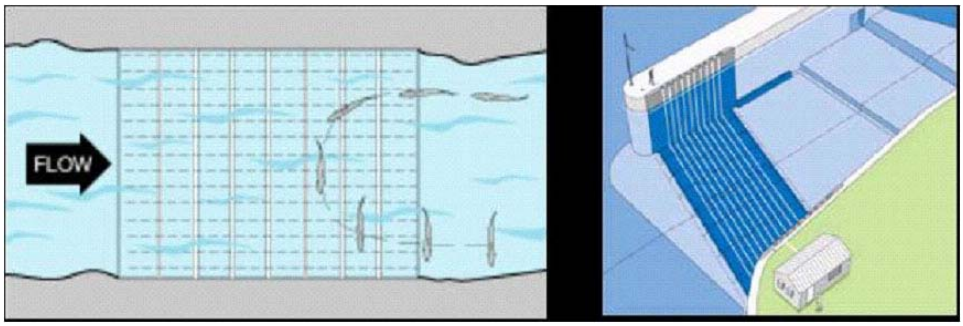
- Spread could happen soon. Asian carp can move long distances in short times (7 mi./day, 150 mi./season)
- Very large recreational value of the Upper Mississippi River Basin (UMRB)
- Native fish passage is desired

What's Been Done

- *Smith-Root* visit/evaluation
- Feasibility study by *FishPro*
- Audiogram study by *Fish Guidance & Sub Acoustic*

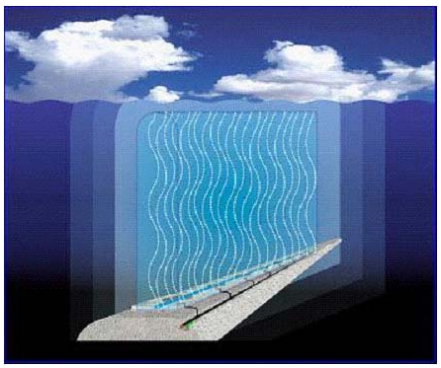
Graduated Field Electrical Barriers

- Considered in 2003, but less feasible due to cost, safety concerns, and other factors
- These work by causing an unpleasant sensation that increases the further the fish swims into the field. A water current is required to carry the fish back downstream.



Feasibility Study

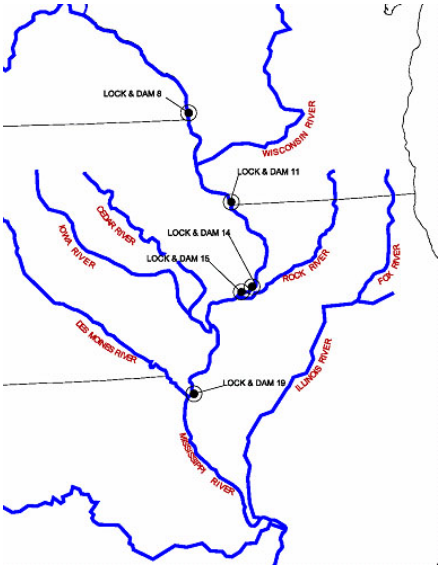
- MNDNR, WIDNR, and USFWS paid for study in early 2004
  - The study provided ranges of effectiveness and costs for various technologies
  - No silver bullet
  - Nothing is 100% effective
  - Several could be combined at selected locks and Dams



BAFF Acoustic Deterrent(Bio-acoustic Fish Fence)

- Combination of bubbles and sound have potential
- This method works by deflecting fish from an area through behavioral response to the sound and bubbles. Fish species vary in their sensitivity to these deterrents. Currently, Illinois Natural History Survey

is conducting a study or audiogram to determine the optimum frequencies for Asian carp

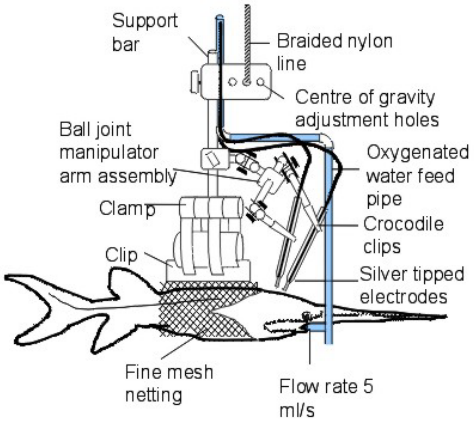


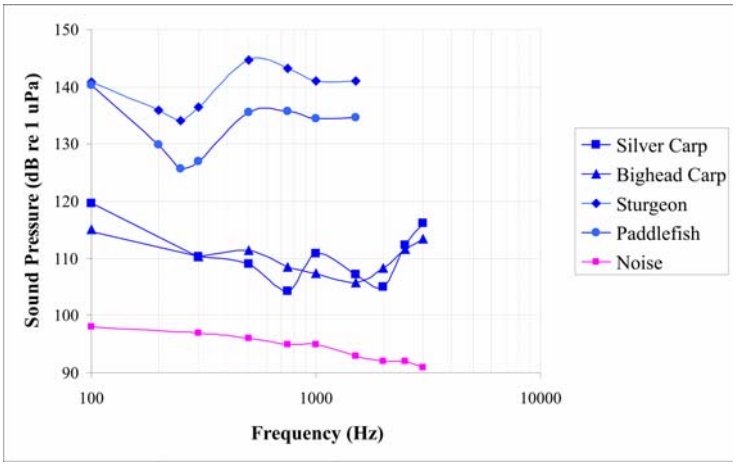
Potential sites

- Several sites were recommended where the flooding was the least and that were upstream of Asian carp populations
- L&D 19
- L&D 15
- L&D 14
- L&D 11
- Tributaries (such as St. Croix River)

Acoustic Studies on Paddlefish and Sturgeon

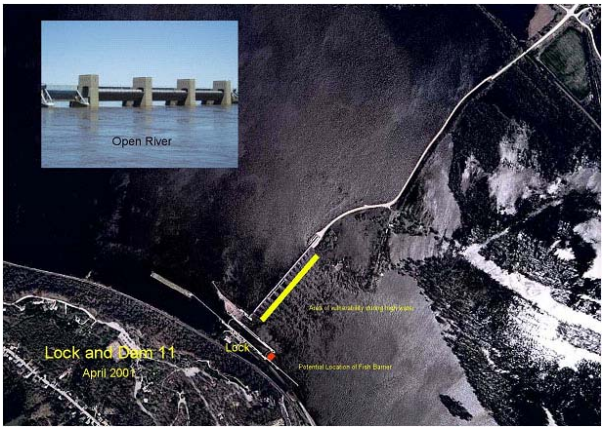
- Recent study funded by the DNR determines the hearing ability of two native migratory fish and compares the results with those of bighead and silver carp.
- J. Nedwell, J. M. Lovell and M. Pegg. 2005. The Hearing Abilities of the Paddlefish (*Polyodon spathula*) and the Lake Sturgeon (*Acipenser fulvescens*), Subacoustech Report Reference: 611R0303.
- Test subjects held in flexible mesh cradle
- Oxygenated water was gravity fed toward the gills through soft rubber mouth tube
- Audiograms





Recommendations

- 2004: Two barriers & fish harvest at L&D 14/15 and L&D 11 for $7 M
- 2007: Some sites no longer desirable - One barrier & fish harvest at L&D 11 for $4 M
- The study recommended a combination of components: sound projector array at Lock approach $1.2 - 1.6 M
- Why L&D 11?
  - It is upstream of known populations of bighead, black, and silver carp protects Minnesota, Wisconsin, and some of Iowa waters



- No spillway or flooding around L&D
- Low frequency of gates open (3%)

- We investigated a fall back to just protect some tributaries and the cost was $4 million for the mouth of the St. Croix which was consider too costly.
- Minnesota Efforts to Obtain a Mandate and Funds
  - 2004 - A DVD and letter from MN Governor Pawlenty sent to Congressional members
  - 2005 - MN DNR Commissioner
  - visited Congressional offices
  - 2006 - Provided information for consideration in President's budget
  - 2007 - DNR Fish and Wildlife Director visited Congressional offices
  - 2007 - MN Governor's DC staff provided comments on WRDA language

Contact with Others

- Iowa 2007 - Iowa DNR supports the recommendations in the "Feasibility Study…" (2004), particularly the installation of an acoustic barrier at Lock and Dam 11. … The IDNR recognizes that impeding native fish passage is a concern with any type of barrier and that removing barriers to allow fish migration is a long-term goal for the Mississippi River. However, invasive fish pose such a significant threat that preventing them from reaching uninfested waters and native species outweigh the impacts to native fish migration at this time.
- Others - Letters from early in project from WI, IL, USFWS, ACOE. Contact with ANS Coordinators in WI & IA. Budget table developed by ACOE.

National Management and Control Plan for Asian Carps - 2007 Review Draft

- Recommendation 3.2.1.2. *Evaluate the effectiveness afforded by alternative technical containment measures (i.e., physical and behavioral barriers).*
- Recommendation 3.2.2.3. *Construct and operate a Sound Projector Array-based acoustic bubble curtain fish deterrent at two locks and dams on the Upper Mississippi River to prevent the spread of Asian carps throughout the basin.*

WRDA Versions

- House version - address ANS spread through the UMR system, in L&D 11, *monitor and evaluate in coop with USFWS*, *at Federal expense*, and *$4M authorization*
- Senate version - conduct study, *demonstration project, Asian carp*, *into northern reaches of Miss. R.*, consider locating *at L&D 11*

Rendall said that the Mississippi River locks and dams are delaying upstream Asian carp movement, and the BAFF barrier was determined to be the most feasible for use in the Mississippi River. He said it has been used at power plants and for other operations. He said that audiograms were done for bighead and silver carp, and that paddlefish and sturgeon hearing was also looked at to see if a barrier could be selective for carp. Theoretically based on Audiograms, this could be done. He said potential barrier sites were at locks and dams that flood the least frequently. Those include locks and dams 14, 15, and 11. He said that a BAFF would be placed at the lower end of the lock and dam, and that money is proposed in a bill to fund the U.S. Fish and Wildlife Service to harvest fish that are blocked. He said that a BAFF may also be placed below the roller gates, and we're looking at this as a demonstration project. These are all

temporary barriers, so we could always pull them back out. He said he feels that it is more important to keep the Asian carp out than it is to allow native fish passage. He said the House version of the bill is too general, since it talks about all ANS which is too broad, but the Senate version talks about this study. Shea wondered if any NEPA work had been done on the proposed project yet. Rendall said no we haven't, and we're not sure what the Senate version is talking about, but the BAFF will be much different from the electric barrier in Chicago. The physical impact would be much less than that of the electric barrier. Shea also wondered if they had talked with the shipping industry. I'm sure they will ask a lot of questions, he said. Conover wondered if there is anything in WRDA about harvesting Asian carp. Rendall said no, nothing about that or about operation and maintenance. Hoff said that *Fish Pro*, the contractor, was not clear about harvest methods. He said that Ed Little (USGS/Columbia, MO) is working on pheromone use now which could aid in harvest.

Bogenschutz then introduced Leah Sharpe, University of Minnesota, who made the following in points in a Power Point presentation entitled, *A Decision Support System for Improved Management of Established Aquatic Invasive Species*:

Why is a tool needed?

- Invasive species are a serious problem
  - Threat to biodiversity
  - Negatively affect outdoor recreation
  - Expensive
  - A form of pollution
  - Once established, nearly impossible to eradicate
- Managers are having trouble dealing with invasive species
  - Decisions are often *ad hoc* or in response to public pressure
  - Only 15% of wilderness areas have invasive species management plans
  - Inadequate funds and personnel

Benefits of a decision support tool

- Allows for most effective use of available control techniques
- Promotes Integrated Pest Management strategies
- Allows for decisions to be made systematically and uniformly
- Prioritize competing management needs
- Allow information from a variety of sources to be integrated and viewed together
- Transparent

Types of decision support tools

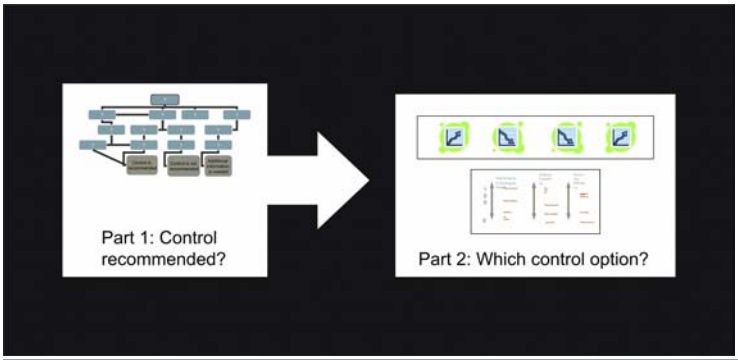
- Highly specific
- Broadly applicable
- Management focused

Tool Objectives

- Help managers make informed decisions regarding invasive species management
  - synthesize the available scientific literature
  - incorporate managers' specialized knowledge
  - provide a framework that can be used for a wide variety of species
  - provide a transparent record of the logic followed to make the decision
  - help managers consider and prioritize different concerns

- Design the system to:

- determine when control efforts should be pursued
- determine which control option(s) are most appropriate
- allow application to a different water bodies
- allow customization of the system for specific areas

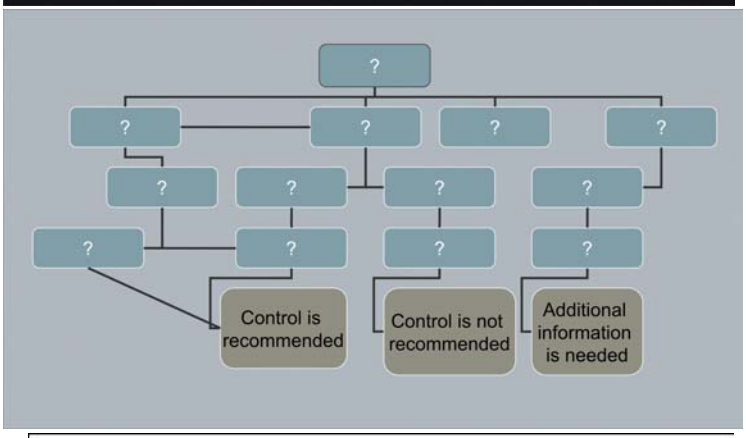


Tool Creation

- Two versions of the tool created:
  - General version
  - Version specific to the Mississippi River Basin

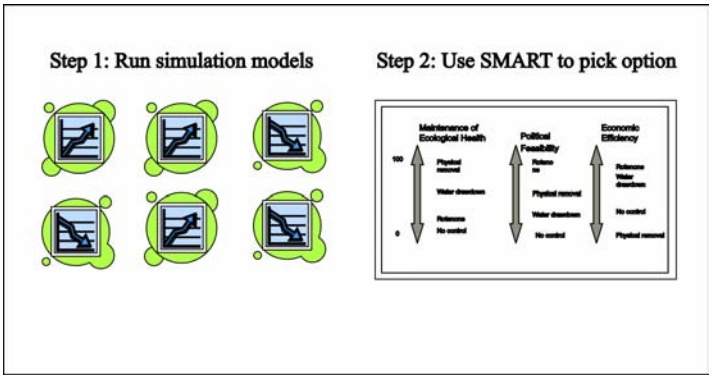
Part 1: Is Management Appropriate?

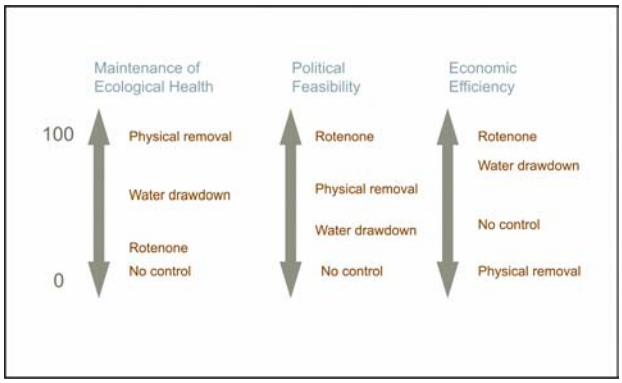
- Expert system type model
- Questions deal with issues such as:
  - indicators of ecosystem health
  - biology and life history of the invasive species
  - the likelihood that the invasive species are responsible degradation of ecosystem health
  - whether the invasive species is having any economic impacts
  - public reaction to the presence of the invasive species



Part 2: Appropriate Control Option(s)?

- Consider issues such as:
  - prioritizing the management of several species with limited funds
  - the political feasibility of the different options
  - the efficacy and long-term results of these control options
- 2 steps
  - Simulation models
  - SMART (simple multi-attribute rating techniques)
- SMART technique
  - Managers rank the relative importance of a variety of criteria
  - Evaluate the options for how well they meet each criterion
- First, determine the best option for a given species
- Then, use the SMART technique to determine on which species (or group of species) limited funds could be most





effectively spent

Manager Involvement
- Interviews
- Tool posted online so that managers can log in, view, and use the tool
- Feedback on evolving drafts

Tool Evaluation
- Computer programs and paper copies
- Manager feedback
- Test against old Mississippi River Basin decisions

Importance
- More effective management
- Better use of limited funds
- Directing attention to areas needing more research
- Manager participation

Sharpe said that prevention, early detection, and rapid response are important, but once an ANS is here what do we do? She said that she is working on an intuitive and persuasive tool that addresses disagreements through a program called SMART, which if run a number of times can evaluate different options and criteria. She said that she will post versions of this tool on line, and anyone interested can log on and use the tool, and provide feedback. She said that it will not be time consuming to participate, and in the end it will be built and distributed as a series of computer programs, but also will be distributed in paper copies. She said that it will continue to be evaluated through feedback. It is a unique tool in that it will be directed toward managers. Hoff said that Greg Conover as chair of the Asian Carp Work Group, and likely soon to be chair of the implementation plan, will need to winnow down and prioritize options, so this will be one group paying attention to the tool. In fact, they may be one of your biggest audiences, Hoff said. Also, he said, the states who have developed ANS Management Plans have documented their process, so I suggest you focus on those states that have plans in place for use of the tool.

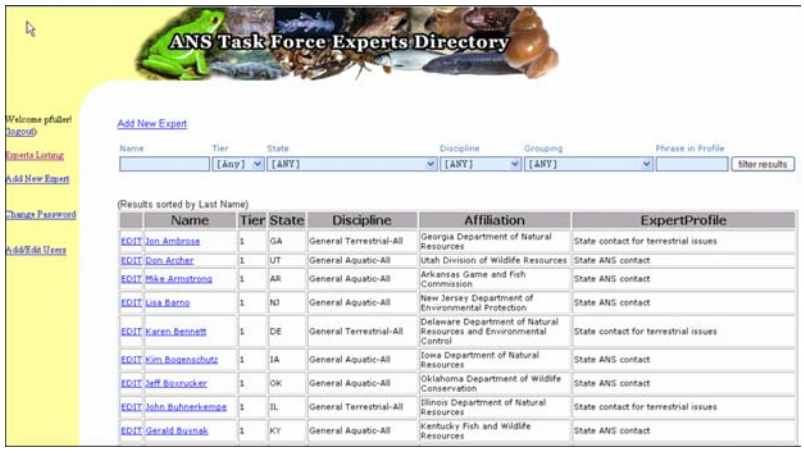
Bogenschutz then asked Pam Fuller (USGS) to discuss the Expert Database which is being developed as a directory of ANS experts in the states. Fuller made the following points in a Power Point presentation, entitled, *ANS Task Force Experts Directory*:

Location of the Database
- http://www.anstaskforce.gov/experts

Public View of the Database

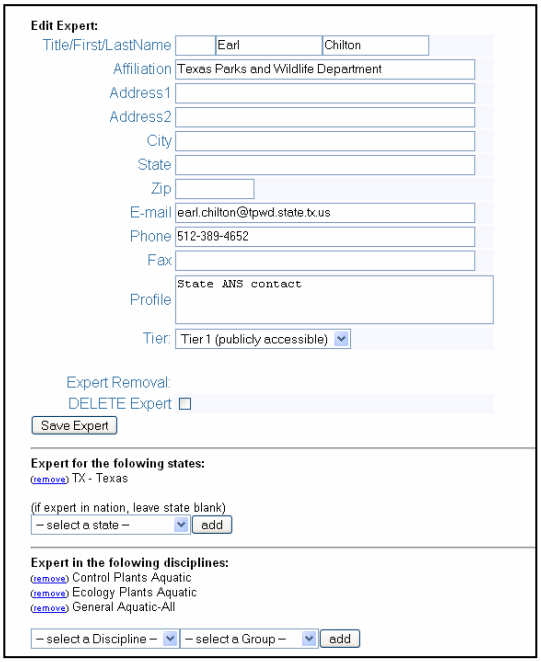
- Tier-1 is currently AFWA list of contacts

- Logged in View



- Example of all experts in Florida.

- Tier 1 (publicly accessible)
- Tier 2 (hidden from public)
- Disciplines
  - Control
  - Ecology
  - General
  - Pathways
  - Physiology
  - Taxonomy
- Groups
  - A-Aquatic All
  - A-Terrestrial All
  - I-Annelids
  - I-Coelenterates
  - I-Crustaceans
  - I-Mollusks
  - I->>>>>
  - P-Plants Aquatic
  - P-Plants Terrestrial
  - V-Amphibians
  - V-Fishes
  - V->>>>



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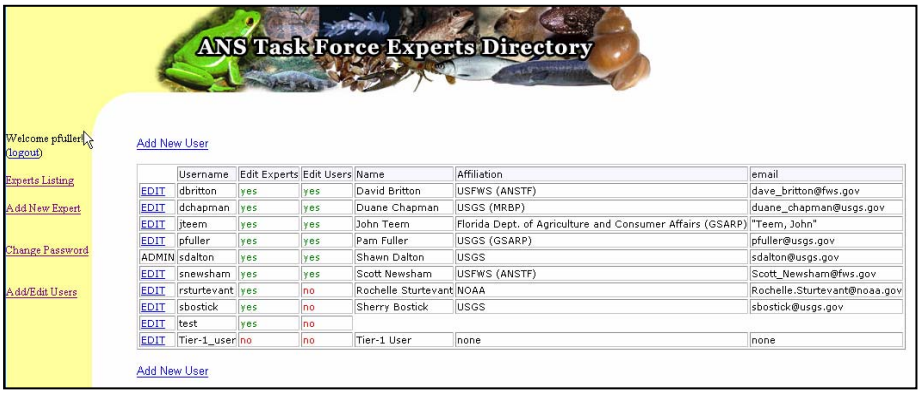

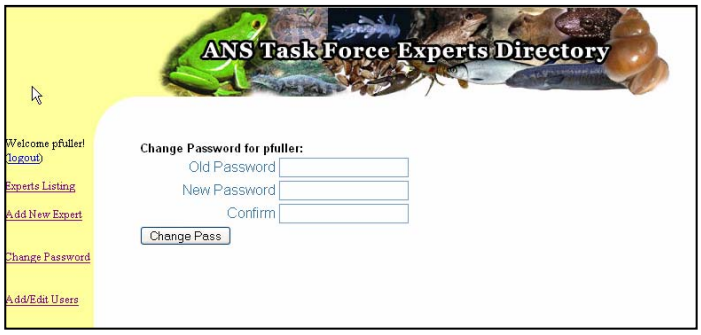

http://nis.gsmfc.org/expert/MRBP_add_expert.htm

Fuller said that all panels had plans to put together an experts database, so we decided to consolidate them into one. The database is now available on line, but not yet available to the public. That will come later, she said. Tier 1 experts will be from states in order to make sure state personnel are the first to know about a problem. Tier 1 will act like a filter to keep the public insulated from the Tier 2 experts. Each profile listed is meant to show details of an expert's expertise. Duane Chapman will be the person who fills out the forms for the MRBP, she said. The Tier 1 folks will go out and locate the Tier 2 experts. If interested, then their info will be forwarded to Duane for entry into the database. But the public will only see the Tier 1 experts. She suggested that each state have 1-4 Tier 1 experts per state (i.e. freshwater, terrestrial, etc.), but the ball is in your court on that. Tier 1 experts will contact the appropriate Tier 2 expert when a question comes in. The database is up and ready, and we'd like to get it populated and online ASAP. Bogenschutz asked if terrestrial experts would be included. Fuller said, yes, they will. Bogenschuts wondered if there is any organized group putting the terrestrial list together. Fuller said that is being done panel by panel. Rendall wondered if they had looked at a regulation category. Fuller said, no, but that's a good one, a list of disease experts is another.

Bogenschutz then asked Steve Shults (IL) to discuss the ANS control page on the MRBP Web Site. Shults said you can now go to our web site and find a clearing house for ANS background and control information. He said that Rasmussen had constructed this page for us. He said unfortunately, some of the links are broken right now because urls have been changed, but he said we will get that fixed and continue

to update the page as needed. He said we'd like for each of you to go there and let us know of more and better information that we can cite. He said that Rasmussen has searched the web, but there is always the possibility that information has been missed, or that there are better sources to be used. He said that we will update and include information you provide, and that updating will be constantly underway in order to keep the page current with the literature. He said that he wanted to especially thank Rasmussen for his work on this at no additional cost to the Panel. He said that we originally had budgeted $10,000 for this project.

Bogenshutz then briefly discussed the status of the National Aquatic Invasive Species Act (NAISA). She said that if you all get MICRA's newsletter, *River Crossings*, you can get good legislative updates there. She said that there is not a lot going on with NAISA right now. She said it was introduced in March by Senator Levin (MI), and all indications are that NAISA is not likely to move this session. She said it is sitting in Committee right now, and the Public Works Committee hasn't touched it. She said we need to refocus some effort on this. Hoff said that the Great Lakes Regional Collaboration Act is about 95% ANS related. He said that it will fund the Barrier II in Chicago (construction and operation and maintenance, etc.). Unfortunately, though that legislation isn't going anywhere either. He agreed with Bogenschutz that *River Crossings* is an excellent source to us in order to stay abreast of legislation.

The Panel then broke out into separate Committee meetings, reconvening at 3:00 p.m

Bogenschutz then asked for committee reports:

Research and Risk Assessment Committee: Chairman Duane Chapman said that work continues on the Asian Carp Symposium proceedings and the Experts Database as described by Pam Fuller. He said that letters will go out by the middle of July to all of the state Panel members soliciting the names of the Tier 1 contacts, and the Tier 2 contact solicitation will go on indefinitely. He said that we need more attendees for the Risk Assessment Workshop, so everyone should be looking for those. He said that as for new projects we're beginning to look at standardized gear and treatment methods for both the public and researchers. He said that Committee members will contact different experts for information on zebra mussels, viruses, etc. so that we can combine control measures into one set of suggestions for the public. This will be a first shot effort, he said, and it won't be easy. He said that researchers will probably have a different set of suggested measures - they will be held to a higher standard. He said that the Committee will be putting out those recommendations over the next year or so. He said that we need to develop a "Code of Conduct" for handling ANS. The ANSTF has one, he said, but it may need to be upgraded to include gear treatment methods. He said we need to talk to experts at the *American Fisheries Society* (AFS), *North American Benthological Society* (NABS), etc. to see if their codes cover these sorts of things. If not, they need to be added. As part of this, he said, we need to look up reporting issues that were brought up yesterday - do existing codes address this? Rendall and Bogenschutz will write a letter from the MRBP to be published in *Fisheries* and in the *NABS Bulletin* with a plea for researchers to report ANS findings now rather than waiting to report them later when their research is finished. We also need to talk with granting agencies, he said, to put this in as a stipulation of the contract. He said that we need to provide breaking news right away, and not wait for publishing of the reports. He said that we have received a proposal from Leah Sharpe and Ann Kapuchinski for support in holding an ANS genetics control symposium. He said that we requested for it to be held at a Midwest location so that many of us can attend. He said the Symposium is planned for the fall of 2008. He said that we need a proposal from them by September, so that it can be brought to the Ex Comm for possible funding. Also, he said that we will be receiving a proposal from Leah Sharpe for development of the ANS decision management system. He said that this proposal will likely total up to $5,000, and we need it by mid July. Keller wondered if when he sends something to one of his Tier 2 experts will he be notified of the result. Fuller said yes, that should be how it works. Keller said he was sure that would happen for his in-state experts, but what if it is a Hydrilla expert in Florida. Will they still report back to the requesting state?. Fuller said, yes they

should. Chapman said that it would also be good for you to indicate to the Tier 2 person that you want to be kept in the loop with the original submittal.

Education and Outreach Committee: Chairman Steve Schainost said that the *Field Guide to ANS* will cover at least 16 species, and that it will be targeted to a more selective audience than the ANS brochures developed earlier. He said that the goal is to finish this by fall, and that funding is already in the budget. He said that with regard to the proposed ANS Boater Survey, we will be sending out a poll to members offering up to $5,000 per state to conduct the survey, with the first priority being given to the original responders and those who can do it yet this year. He said that the long term idea is for this to be an annual thing with more states joining in each year. Bogenschutz wondered who will get the survey. Schainost said that that will be up to the states themselves. Rendall said that in Minnesota it goes out to randomly selected licensed boaters. Schainost said that we also decided to try and contact major retail catalogers to see if they would put an ANS message in their catalogs. He said that the letter went out a week ago, so we don't have any results in yet. He said that the goal is to determine the level of interest and what the conditions will be for each catalog. He said that we will then follow up with a sample of what we might put in the catalog. He said that we may also contact many of you to see if we missed any catalogs. He said that the Committee is also looking at building a library of stock ANS video footage, and that we will carry this idea forward in an email to members to determine interest. He said that we will be asking what footage might be available, what species is covered, what they might be interested in having available, etc. Also, he said, we will want to know what kind of format the existing footage is in. He said that the Panel would act as a clearing house for footage, not as a repository. He said that we will complete the survey by July 15. He said that we will then have additional footage shot, as needed, with the milestone for completion by October. It was agreed that we would put $20,000 in the budget to shoot the new footage. He said that the Committee is also investigating working with boat manufacturers to see if they will provide hand-out material on ANS to their customers. He said that such things as a sticker with the boat logo and an ANS message could be developed for placement on new boats. He said that we will be determining the interest in this project. He said that we will also be working with our *Wildlife Forever* contacts to see there are is any interest in increasing their state contacts and if their project are to be expanded. If so, he said, we will facilitate making those contacts. We will also do the same thing with *B.A.S.S.* and other such groups. He said that a questionnaire will also be going out via email to Panel members asking for interest in reprinting the *Stop Aquatic Hitchhikers* brochure. If enough interest is expressed we will do another printing, but we need a large interest to get a significant price break. He said that this request will go out by June 30. He said that his Committee will also be working with the Research and Risk Assessment Committee to develop a simplified national unified message on how to handle ANS and pathogens when cleaning a boat. He said that his Committee will facilitate putting together a group to address this issue with a July 31 deadline as a milestone. Finally, he said the Committee has developed the *Asian Carp Watchcard*, and we will be requesting input from members on the interest in developing such cards for hydrilla and Brazilian elodea, with a July 31 deadline for this.

Prevention and Control Committee: Chairman Steve Shults said that the Committee is developing a set of guidelines for harvest of Asian carp and agreed that fishermen and managers should be warned to be sure to have exit strategies available since our intent is not to encourage a sustainable fishery. He said that our guidelines should also include information about communicating with investors and legislators. Also, he said the guidelines need to include an item about transportation of equipment, etc. Many other edits were discussed he said and this will be taken up as a re-draft and circulated to the committee. He said the Committee also agreed to draft a support letter for implementation of the Asian Carp Management and Control Plan. Shults will draft the initial letter, including verbiage about the number of people anticipated to be involved in Plan implementation, their representation, etc. This will be a two-tiered approach. The first tier will address the effort to secure and manage necessary resources, and the second tier will address working groups/committees and goals. He said that the Committee may recommend that the USFWS and a state representation co-chair and manage Plan implementation. The

Committee will report back to the Ex Comm on this at a later date. With regard to Viral Hemorrhagic Septicemia he said that the Committee agreed that the MRBP should recommend that pathogens be considered in ANS management. He said that the Western Regional Panel (WRP) already supports this approach, and the authorizing legislation states that pathogens can be considered as ANS. However, the ANS Task Force (ANSTF) has been reluctant to deal with this in their "coordination" role, and have stated that certain issues are "Regional issues" (i.e. Carp). But the Committee agreed to draft a letter to the ANSTF (similar to the WRP) for the MRBP Chairperson's signature including statements of support for legislation and critical regional issues. He said that the Committee also agreed that we should request input from the ANSTF regarding state management plans. This input should address:

- **Recommendations regarding state management plan guidelines.** The MRBP should ask the ANSTF to consider an alternate approval method for state management plans by defining the intent of the approval process. In other words, we recommend accepting the "aquatic portion" of state comprehensive Nuisance Species management plans as the state ANS Plan.. Secondly, we need to ask for clarification on the term "highest authority" for a given state. For example, in Missouri, the highest constitutional authority is a Commission rather than a Governor. Does this meet the intent of the legislation, if not the letter? Let's simplify the process!!
- **Recommendations for regional approaches (vs. state plans) to ANS management.** Based on current funding regional single species management plans should be considered/accepted, but it is impractical to support them with current funding levels. Based on FULL, funding regional single species management plans should be considered and supported.
- **Recommendations for state management plan funding allocation (e.g., based on need, equal shares, set amount of time).** He said the ANSTF needs to REQUEST FULL AUTHORIZED FUNDING!!!!!!! Under the current funding level, there is NO adequate method to divide this amount of funding. If there is a set time for federal support, many ANS coordinators will lose their positions due to salary deficits ... most use soft monies for small operational needs. The *Association of Fish and Wildlife Agencies* (AFWA) should take this on as highest priority and discuss it directly with FWS Director Dale Hall. The 29 MICRA states should also begin this process to secure additional funding.
- **Current Funding Level Recommendations.** Based on need, under the current funding level, we become competitors, not cooperators. Equal shares are not equitable....We need to do more to address the emerging problems. We cannot continue these programs with fewer resources and maintain current programs.
- **Set amount of Time.** Under the current scenario the plans will become non-existent due to lack of personnel.
- **FULLY authorized funding level.** We need to establish a minimum amount of funding for each approved state plan ($80-100K). The remaining funds can be distributed based on special projects.... See the previous recommendation. Again, regional single species management plans should be considered and supported (i.e. 3-state management plan for Hydrilla/Elodea, 4-state management plan for Asian Carp, Special projects for Rapid Response, Regional plans, etc.). He said there was much discussion on this point, and the exact language did not have complete consensus. There was broad agreement, but the above will be discussed in committee, and then brought to the entire Panel for further discussion and resolution.

The committee agreed that an independent review of the Triploid Grass Carp Inspection and Certification Program (TGCICP) should be conducted in a timely fashion due to known problems which have occurred. This review should be conducted by an independent (likely private) firm to establish confidence in the program and include aspects of risk management, QA/QC, and Chain of Custody from hatch to final stocking. The purpose of the review is to strengthen the program and build confidence to encourage regional participation, not to invalidate or eliminate it. Any changes which are made as a result of this review must be carried out with active participation from the states. Since this is a program that essentially ensures that states regulations are being met, states want to be active participants in the

development and resolution of this review process. The committee recommended funding from the MRBP of up to $10,000 for this initiative as it is a large basin issue. Since this needs to develop quickly, the Ex Comm will review this recommendation and draft a letter, then email it for member approval. Finally, he said that the Committee forwarded a recommendation to the Research and Risk Assessment Committees to develop a Single set of guidelines for the public to prevent the spread of all ANS species.

Hoff said that we need to be communicating with the ANSTF on all of these issues, but that we also need to communicate with others using our other hats. With regard to the FWS's TGCICP, MICRA has a roll because triploid and diploid states are all within the Basin. He said that he recommended that the Panel budget about $10,000 in seed money to get this thing going. Rendall said that the committees all need to work together on several of these issues. We need the facts, he said, regardless of where they come from and then we need to craft the message. We've all talked about these issues on each committee. Shults, Chapman and Schainost all agreed on behalf of their respective committees.

Bogenschutz then asked for any Old Business. She said that all of the committees have given their updates, so we can move on to New Business.

Conover reminded the group of Canaday's earlier comments that it would be helpful if the Panel could send a letter to the grass carp diploid states encouraging them to look at their regulations and go triploid for improved management on a regional basis. He also said that the FWS Triploid Grass Carp Program will be holding a workshop this winter in order to move on toward regional management of grass carp. He said that the triploid states need to look at compliance monitoring of what is coming into their states because Illinois sees issues and other states may be having the same problem. The other states need to look at some of the grass carp shipments coming into their states. Bogenschutz asked for any comments. Rendall said that this is a good idea. Conover said that part of our message back to MICRA could be that we need a review of this situation and that the states need to look at their own compliance monitoring. Goeckler asked the FWS to please check with Kansas before a letter goes out to the diploid states since Kansas may be going triploid shortly. He said this would be so that our communications are good.

Bogenschutz said that the recommendations on the state management plans will go out to the entire membership for comment. Then at the Ex Comm we will assemble the comments and come up with some sort of recommendation to the ANSTF. She said that we would like to submit this before the next ANSTF meeting in November, so the sooner we can get it to them the better. We need to move on this as fast as possible she said.

She then turned to any recommendations for the time and place of our next meeting. She said that we may need to meet again in six months, and Nashville or Knoxville, TN have been suggested as locations. Hoff said that the Great Lakes Panel has suggested that we meet with them, but we can talk about this later since they tend to meet in the spring and fall. Bogenschutz said that a January time frame would be good for our winter meeting, but she knows that the grass carp meeting is planned for February in New Orleans. Conover said that, timing wise, it would be good for us to meet with the Asian Carp Working Group at least for that issue. Bogenschutz wondered if the meeting could be moved up until January. Rasmussen said that room prices would be much better in January since it would be further away from Mardi Gras. He said that was an issue the last time the Panel met in New Orleans. Conover said that he would carry those thoughts forward. Hoff said that we need to hear back from Conover on this before we decide. Bogenschutz agreed. Conover said that he thinks that the Asian carp folks have settled on New Orleans and FWS Region 4 is leading this. Hoff said that he would check into locations and dates and get back to us. Rendall said that the concept we have been working on is moving our meetings around to different areas to see the various ANS problems and since we have already met in New Orleans it would be better to meet somewhere else. Bogenschutz said that we also said we would not piggy back another meeting onto our Panel meetings. Hoff said that if we are only looking at a one day workshop, then we

may want to lean that way. Chapman agreed since the FWS is going to assist in getting people to the meeting location. Also, he said if we are meeting in 6 months, maybe we can make it a shorter meeting. Bogenschutz said that we would probably just go one day, but if we hold our own meeting it would likely be a two day meeting. Hoff said that if we have a 1.5 day meeting we could get a lot done. Conover said that maybe it could be 1.5 day Panel meeting and a 1.5 days Workshop.

Hoff said that he wanted to recognize Ron Martin (WI) for all the hard work he has put in on the Panel, since Ron will likely be retiring soon. He also wanted to recognize Rasmussen for his hard work, since he will likely retire soon as well.

Bogenschutz again thanked all of the speakers. She said that they all provided a lot of thought provoking issues. She also thanked all of the Committee chairs their work, and Hoff and Rendall for their support as Co-chairs. She also thanked Canaday for stepping up as the new First Term Co-Chair, and especially Ryce for the great meeting location and field trips.

The meeting adjourned at 5:00 p.m.

Mississippi River Basin Panel (MRBP) on Aquatic Nuisance Species (ANS)
Meeting No. 6
Attendance List

Pray, MT
June 5-7, 2007

Kim Bogenschutz	Iowa Dept. of Natural Resources	kim.bogenschutz@dnr.iowa.gov
Duane Chapman	USGS - CERC - Columbia	dchapman@usgs.gov
Jason Goeckler	Kansas Wildlife and Parks	jasong@wp.state.ks.us
Mike Hoff	U.S. Fish and Wildlife Service	michael_hoff@fws.gov
Doug Keller	Indiana Div. of Fish and Wildlife	dkeller@dnr.in.gov
Ron Martin	Wisconsin Dept. of Natural Resources	ronald.martin@wisconsin.gov
Jay Rendall	Minnesota Dept. of Natural Resources	jay.rendall@dnr.state.mn.us
Eileen Ryce	Montana Fish, Wildlife and Parks	eryce@mt.gov
Steve Schainost	Nebraska Game & Parks	schainost@ngpc.ne.gov
Steve Shults	Illinois Dept. of Natural Resources	steve.shults@illinois.gov
Bobby Wilson	Tennessee Wildlife Resources Agency	bobby.wilson@state.tn.us
Jeff Rach	USGS	jrach@usgs.gov
Andy Burgess	South Dakota Game, Fish & Parks	andy.burgess@state.sd.us
Charles Shea	USACE - Chicago	charles.b.shea@usace.army.mil
Brian Canaday	Missouri Dept. of Conservation	brian.canaday@mdc.mo.gov
Pam Fuller	USGS	pfuller@usgs.gov
Greg Conover	U.S. Fish and Wildlife Service	greg_conover@fws.gov
Julia Solomon	Wisconsin Dept. of Natural Resources	julia.solomon@wisconsin.gov
Leah Sharpe	University of Minnesota	sharp092@umn.edu
Tina Proctor	U.S. Fish and Wildlife Service	bettina_proctor@fws.gov
Ted McNulty	ADFA	TMcNulty@ADFA.state.ar.us
Jerry Rasmussen	MICRA	ijrivers@aol.com

Final Agenda
5-7 June 2007
Chico Hot Springs Resort
Pray, Montana

Tuesday, June 5

7:00 Breakfast (onsite)**, Registration**

8:00 Welcome and Introductions
Kim Bogenschutz, Iowa Department of Natural Resources, MRBP Co-Chair
Larry Peterman, Chief of Operations, Montana Fish, Wildlife and Parks
Short Introduction of Participants/Members

8:20 Review of Last Meeting and Minutes, Overview and Logistics of this Meeting (Kim Bogenschutz, Co-Chair; Mike Hoff, USFWS, Co-Chair; Jerry Rasmussen, USFWS, Coordinator, Eileen Ryce, Montana Fish, Wildlife and Parks)

8:35 EXCOM Actions since Last Meeting (Kim Bogenschutz, Co-Chair, Mike Hoff Co-Chair, Jerry Rasmussen, Coordinator)
Attended events – ANSTF meetings, other Regional Panel meetings
Submitted annual report to ANSTF
Chicago barrier letter and response
Postponed and rescheduled risk assessment workshop
Nominations and election

8:50 Committee Updates
Research and Risk Assessment (Duane Chapman, USGS)
Education and Outreach (Steve Schainost, Nebraska Game and Parks Commission)
Prevention and Control (Steve Shults, Illinois Department of Natural Resources)

9:20 Budget Update (Jerry Rasmussen, Coordinator)

9:25 ANSTF and AFWA Invasive Species Committee Updates (Kim Bogenschutz, Co-Chair)

9:40 Break

10:00 Montana ANS Program (Eileen Ryce, Montana Fish, Wildlife and Parks)

10:30 Emerging National and Basin Issues
Hydrilla in Indiana (Doug Keller, Indiana Department of Natural Resources)
VHS (Steve Shults, Illinois Department of Natural Resources)
Quagga Mussels in the West (Eileen Ryce, Montana Fish, Wildlife and Parks)

11:45 Public Comment Period

12:00 Lunch (onsite)

1:00 Asian Carp Management and Control Plan (Greg Conover, USFWS)
Plan Recommendations
Triploid Grass Carp Certification Program
Implementation Planning

3:00 Break

3:15 New Zealand Mudsnail Management and Control Plan (Tina Proctor, USFWS)

4:30 Member Updates

5:00 Adjourn for Day

6:00 BBQ sponsored by Montana Fish, Wildlife and Parks

Wednesday, June 6

7:00 Breakfast (onsite)

8:00 Prevention and Control Initiatives
Update on Dispersal Barrier in Chicago Sanitary and Ship Canal (Chuck Shea, USCOE)
Dispersal Barrier in Mississippi River (Jay Rendall, Minnesota Department of Natural Resources)
Decision Support System for Improved Management of Established Aquatic Invasive Species (Leah Sharpe, University of Minnesota)
Invasive Species Experts Database (Pam Fuller, USGS)
Control Methods and Background Information for Selected Aquatic Invasive Species in the Mississippi River Basin Website (Steve Shults, Prevention and Control Committee Chair and Jerry Rasmussen, Coordinator)
NAISA Update (Kim Bogenschutz, Co-Chair)

9:45 Break

10:00 Committee Meetings (Committee Chairs – Moderators)

12:00 Lunch (onsite)

1:00 Committee Meetings (continued)

3:00 Break

3:15 Committee Reports
Research and Risk Assessment (Duane Chapman, USGS)
Education and Outreach (Steve Schainost, Nebraska Game and Parks Commission)
Prevention and Control (Steve Shults, Illinois Department of Natural Resources)

3:45 Old Business
Update on action items from 2006 meeting
Risk Assessment Workshop
Status of Asian carp cards and field guide

4:00 New Business
Actions requested by committees
Actions requested by membership
Time and Place for Next Meeting

4:45 Wrap-Up

5:00 Adjourn

Dinner on your own

Thursday, June 7

7:00 Breakfast (onsite)

8:00 – 4:00 Optional Field Trip to Yellowstone National Park. (Transportation will be provided.) The National Park Service will give a short presentation on lake trout removal in Yellowstone Lake. We will also visit New Zealand mudsnail sites in the Yellowstone River and tributaries.

MRBP Member Updates
Spring 2007

Alabama: The State of Alabama Aquatic Nuisance Species Management plan is nearing completion. After a nearly 2 year process, the first draft available for public comment should be ready by mid June. There will be a 60-day comment period and we expect to the Governor to approve the plan hopefully by the beginning of the fall.

Arkansas: Arkansas has initiated work on an ANS Management Plan. We have formed of core group, composed of biologists from Arkansas Game and Fish Commission and the University of Arkansas at Pine Bluff, which has met several times to coordinate the effort. We solicited representatives from a broad array of stakeholder groups and recently held our first Task Force meeting. The meeting was well attended and participation, tentative at first, increased by the end of the meeting. The Task Force is currently working on refining the list of species that the plan will address. We have an interesting case of a native crayfish species of conservation concern that has been introduced into an adjacent basin, where it is displacing another native crayfish species, also of conservation concern. This situation is making us look closely at our definitions of "non-native" and "nuisance."

Illinois: Since the last MRBP meeting, Illinois has been active in many areas. We have invested approx. $100K in expanding operations to a fish processor specifically to increase harvest of Asian carp. We have continued monitoring for Asian carp in the upper Illinois waterway, as well as supporting electric barrier issues, among others. Illinois' law enforcement personnel have conducted investigations resulting in successful cases being made against dealers carrying unapproved aquatic life and unlawful transportation of restricted species (grass carp). To further this effort, Illinois has supported (among it's neighboring states) a review of the triploid grass carp certification standards. As part of a new Cooperative Weed Management Area, it was discovered that certain home improvement stores in one area were selling salt cedar in Illinois. As a result of contacts by natural heritage personnel, these stores agreed to stop selling those species, and all specimens were immediately recalled. We've also begun contacting pet stores to limit their use of unwanted invasive plant species, and amendments to our administrative rules regarding hydrilla, Brazilian elodea, and New Zealand mud snails are expected to be drafted this year.

Indiana: Monoecious hydrilla was discovered in Lake Manitou in August 2006. Manitou (735 ac.) is in the Mississippi basin but just a half hour from the Great Lakes basin. This is the only known infestation of hydrilla in the Midwest. A chemical treatment (Komeen) was quickly applied after the discovery to reduce the biomass and prevent further fragmentation, however the focus in 2006 was containment. Access to the lake is now restricted to only those with owned or rented pier space on the lake. Access restrictions will remain in place until further notice. Plant surveys at nearby lakes were performed in the fall of 2006 but no hydrilla was discovered. A $500,000+ treatment will take place in 2007 and will be required for multiple years for complete eradication to be achieved. As you might expect, this high cost presents quite a challenge to a state. The 2007 Sonar treatment will begin in mid-May. The target concentration is 6 ppb and may be maintained for up to 180 days. In all actuality though, the reaction of hydrilla to the Sonar will dictate any changes necessary in concentration or contact time. The second year of the Griffy Lake Brazilian elodea eradication project began May 1, 2007. Plant surveys just prior to the application shows the 2006 treatment was extremely effective. Before the 2006 treatment it was very easy to fill a sampling rake with Brazilian elodea. This year we were able to find only two small sprigs of the plant. It is anticipated that elimination of the plant will be achieved this year with the second consecutive year of a whole-lake Sonar treatment program. The two year eradication will cost the State around $135,000 for this 109 acre impoundment. Indiana is beginning to work on the development of a white/black list for aquatic plants in trade. Meetings have been held with representatives from the

watergarden and aquarium industry as well as other interested parties. At the two meetings held so far there has been strong support from those in the industry to develop strategies to prevent invasions of aquarium and water garden plants. Besides the development of the white/black list, we will also address best management practices for the industry and discuss outreach strategies to prevent plant releases.

Iowa: The ANS Program secured permanent funding in 2005 when the Iowa Legislature passed an increase in boat registration fees and appropriated half of the increase to the ANS Program. The increased boat registration fees took effect in FY07, and an additional full-time employee for the ANS Program was hired in October 2006. We also hired nine seasonal employees for summer 2007 to conduct surveys and watercraft inspections. The ANS Program and DNR Law Enforcement Bureau have stepped up coordination to increase officer knowledge of ANS and watercraft inspections. All permanent conservation officers and summer water patrol officers receive training on ANS identification, prevention, and laws. Thirteen of the water patrol officers in 2007 will conduct watercraft inspections on a rotating basis along with their patrol duties to increase the number of watercraft inspections and public contact in 2007. Zebra mussels have currently been found in two interior lakes in Iowa. Clear Lake is a large lake and major destination fishery in Iowa and is a walleye brood stock lake. Iowa State University was funded to study and document water quality conditions in the lake starting in 2007. Lake Delhi is an impoundment on the Maquoketa River which is a direct tributary to the Mississippi River. Both lakes will be sampled for the presence of veligers in 2007. Iowa continues to participate with Minnesota and Wisconsin in a joint outreach and evaluation project using the Stop Aquatic Hitchhikers logo and message. Outreach methods include gas pump toppers, billboards, flying banners, newspaper ads, television and radio PSA's, rest area displays, signs, watercraft inspectors, and a traveler information system. The outreach methods are being evaluated using surveys conducted by watercraft inspectors which ask interviewees about the logo, sources of information about ANS, and actions regarding ANS. ANS-HACCP plans were prepared for all DNR Fisheries Bureau activities in conjunction with an update of the Fisheries Bureau Operations Procedure and Policy Manual.

Kansas: The Kansas Aquatic Nuisance Species Management Plan was approved by the ANSTF in May 2005. The goals of the plan are to prevent new introductions of ANS to Kansas; prevent dispersal of established populations of ANS; eradicate or control to minimize the adverse ecological, economic, social, and public heath effects of ANS; educate all aquatic users of ANS risks; and support research ANS in Kansas. The coordinated efforts contained within the plan are designed to protect residents of Kansas and the state's aquatic resources from the multitude of potential losses associated with ANS plants and animals. Kansas' ANS personnel will continue to monitor zebra mussel reproduction in El Dorado Reservoir with monthly plankton tows. Record veliger densities were observed there in July 2006 (236 veligers/L). Settling structures have been deployed to determine daily settlement rates. Zebra mussels were also discovered in Winfield City Lake in December 2006. Monitoring and outreach activities are underway there. Research is also being conducted to determine the risk of zebra mussel transport from El Dorado Reservoir and Winfield City Lake via recreational boaters (bilge and livewell sampling). A survey will evaluate the educational campaign's effectiveness. Educational materials will continue to be distributed to El Dorado Reservoir users. A new flyer was developed for distribution to all lake users (campers, boaters, anglers, day-users, etc.). ANS personnel will continue to monitor (Portland samplers and/or plankton tows) all department waters and the Kansas/Missouri River @ Kansas City for presence of zebra mussels. Numerous ANS press releases were produced including front page coverage in the Wichita newspaper. Also, a large section in our fishing regulations is dedicated to ANS. A boater survey was also conducted as part of the 100th Meridian survey program. ANS personnel also surveyed the Kansas River for silver carp. Kansas ANS personnel also participated in a regional zebra mussel forum for surface water users (municipalities and industry). And they will continue to investigate a zebra mussel report from Cheney Reservoir. In Aug. 2004, plankton tows (taken by Oklahoma biologists) revealed veligers to be present. All subsequent samples have been negative for veligers, and no adults have been found, so the lake is no longer considered infested. Kansas has also implemented a 'triploid

only' grass carp program, and added a requirement that all fishing tournament directors must certify that all 'bass pass' registered tournament participants are 'ANS free'. Additionally ANS prevention materials are circulated to registered fishing tournaments. We have also implemented HACCP procedures for the department's fish imports. Zebra mussel information was also posted on popular fishing websites, and the *Stop Aquatic Hitchhiker* signs have been placed at all boat ramps across Kansas. We have also distributed educational material to Kansas bait dealers about the emerging fish virus Viral Hemorrhagic Septicemia. Also white perch were added to the state's prohibited species list this year. With regard to HACCP training, it has been provided to multi-agency and multi-state natural resource management staff, and HACCP plans have been written for stream survey crews as well as fish hatchery operations. Additionally, human dimension research is being conducted to evaluate the affect of a new baitfish regulation to eliminate the vector for ANS spread. The Asian tapeworm was discovered in the wild this year, and we will conduct wild fish health testing during the summer of 2007.

Minnesota: Efforts are underway to prevent further spread of spiny waterfleas from border waters with Canada. Several meetings were held in Int'l Falls, Warroad, and Baudette to discuss responses to the new infestations including restrictions on bait harvest. DNR designated four border waters as infested and are in the process of adding more. Voyageurs National Park (VNP) proposed several new restrictions in response to the infestations. Interagency collaboration by DNR, Sea Grant, NPS-Voyageurs National Park, Canadian Fisheries and Oceans, and local groups, efforts is underway to raise public awareness featuring the *Stop Aquatic Hitchhikers!*^{TM} logo and messages. A new card concerning state laws that apply to zebra mussel or spiny waterflea infested waters is being distributed. Billboards, radio and newspaper ads, news releases, brochures, stickers, AIS cards, and lawn banners are being used statewide. New water access signs with the campaign's logo are being produced for statewide use. DNR is requesting that Governor Pawlenty designate the last week in June as *Stop Aquatic Hitchhikers!* ^{TM} Week. DNR hired 50 watercraft inspectors statewide for 2007 including four dedicated to the infested border waters. DNR's Invasive Species Program will receive a significant boost in funding, increasing the annual budget to over $4 million per year. The Minnesota Zoo will include *Stop Aquatic Hitchhikers* and *Habitattitude*^{TM} in a new display. *Invasive Species of Aquatic Plants and Wild Animals in Minnesota: Annual Report for 2006 is available at* http://www.dnr.state.mn.us/ecological_ services/invasives/index.html.

Missouri: After three years the Missouri Aquatic Nuisance Species Management Plan is complete and submitted (February 2007). On June 14, 2006 zebra mussels were confirmed at Lake of the Ozarks (LOZ). Divers were contracted to do basic presence/absence monitoring at 8 locations within the LOZ using SCUBA/visual survey for adults. Signs have been placed at all public boat ramps statewide and on on interior waters. Zebra mussels were also found on the Mark Twain Bridge Project attached to a construction barge (after it was already in the water). This event lead to new conditions within MODOT contracts, MDC contracts, USACE regional conditions for 404's and other permits, and MDNR 401 certifications/permits. Monitoring programs have begun at both Mark Twain and LOZ. Zebra mussel information packets have been distributed through direct mailings to 738 marina, dock, restaurant, resort, boat dealer, and bait shops around LOZ and Table Rock Lake. Zebra Mussel Reporting/Monitoring (citizen monitoring) is going on through the Missouri STREAM TEAM program. We are also tracking known sites and investigating reported sites, and using billboards Highways 54 and I-44. PSA's are being used, signs are being posted at public/private ramps, fishing tournament organizers are being informed, and tournament web sites are being used to spread the word. We are spreading information through Water Patrol Regatta Permits websites and direct mailings. Regarding Asian carp we have developed restructured silver carp patties for feeding exotic animals. This work is in cooperation between the University of Missouri, USGS-Columbia Environmental Research Center, St. Louis Zoo, and the Missouri Department of Conservation. We have also worked with bait shops, bait dealers, pet store owners, and the Missouri Aquaculture Coordinating Council providing "Don't Dump Bait!" stickers, providing VHS discussions and certification information, and training staffs on HACCP procedures. We are also working on regulations proposals for no live bait and outside boats MDC fish hatchery water

supply lakes.

Nebraska: In April 2006, an established population of zebra mussels was confirmed in a private lake south of Omaha, Nebraska. The lake is owned by Offutt Air Force Base and is used as a recreational facility for Base personnel. It is located within one mile of the Missouri River and can discharge to the river if it goes over full pool. Nebraska's ANS activities for the past year have focused on this situation. To date, in addition to meetings with Base personnel, we have had two major planning meetings that brought together Base personnel, local power utilities, and local, state and federal government and regulatory entities. Accomplishments to date include restricting the use of private boats on the lake, producing warning signs, and the plugging of the lake outlet tubes. The ultimate goal is to eradicate this population of zebra mussels. The method of eradication is not determined as of this writing but ClamTrol and potassium chloride are being considered. Financing the eradication project is not determined yet and may be a significant problem. Other activities have included: MRBP O&E Committee business, checking Omaha-area lakes for zebra mussels (that might have come from the Offutt Base Lake) and distribution of the Save Aquatic Hitchhikers Brochures.

Oklahoma: A first draft of the Oklahoma State ANS Plan was completed by Oklahoma Department of Wildlife Conservation (ODWC) staff and is currently being reviewed by other state and federal agency representatives and stakeholders. The goal is to have the plan ready for submission to the ANS Task Force by fall 2007. ODWC has established HACCP procedures to minimize the potential for spreading of ANS through its field and hatchery activities. The plans can be accessed at http://www.wildlifedepartment.com/ nuisancespecies.htm. Hydrilla has become established in Arbuckle Reservoir and small colonies have been found in Murray and Sooner Reservoirs. A task force has been established to develop procedures to eradicate the foundling populations and to control the established population. Zebra Mussel populations were found in Sooner Lake and discovered in the Arkansas River downstream from Keystone Reservoir in 2006. It appears that zebra mussels will move down the Arkansas River, after becoming established in Kaw Reservoir (having moved downstream from Kansas), and eventually coalesce with populations that became established in the lower Arkansas River in the mid-1990's as a result of barge traffic from the Mississippi River.

South Dakota: The ANS program in South Dakota has been undergoing quite a shake up over the past year. For the first time South Dakota is preparing to begin treatment and control measures on ANS infestations in the state. Impacts caused by the introduction of Didymosphenia geminata have ruined trout fishing in a black hills stream and prompted a State-led pilot study to increase overall stream productivity. In Eastern South Dakota, Brittle Naiad has been found in a heavily used lake and chemical treatment will be used to control its potential spread. These incidents along with the presence of regional and national ANS threats have prompted the state to begin preparations for the drafting of a State ANS management plan. The winter meeting of the SD Game, Fish and Parks, Fisheries Division contained a morning-long session on ANS issues and threats in the state. Additional plans for the upcoming year include; aquatic HACCP training, examination and possible revision of State baitfish regulations, drafting of an ANS risk assessment for the state. Sampling for zebra mussel, adults and veligers have failed to find evidence indicating their spread below Fort Randall and Gavins Point dams on the MO River during 2005-2006.

Tennessee: Tennessee is getting closer to completing its ANS Management Plan. We are in our 3rd draft and hope to have it available for public comment by July 1, 2007. Not much to report as far as aquatic nuisance species are concerned except that numerous silver carp were recently reported to be observed below Cheatham Dam on the Cumberland River. Cheatham Dam is approximately 30 river miles from Nashville. Tennessee, like many other states, is also very concerned about the spread of VHS into the state and will be proposing legislation to strengthen laws prohibiting its introduction into our waters.

Wisconsin: The DNR recently completed a biennial report to the Governor and Legislature for 2005 and 2006 on controlling AIS in Wisconsin waters. The report is available on the DNR web page or hard copies can be obtained from Ron Martin. The UW-Madison Center for Limnology has identified a list of waters that are vulnerable to zebra mussel infestation. Sampling for zebra mussels will be prioritized this summer based on the waters on this list. There are 14 Clean Boats, Clean Waters workshops scheduled this spring and summer to train volunteer watercraft inspectors. Additional workshops are likely to be added. The Natural Resources Board recently approved emergency rules to help control the spread of VHS in Wisconsin's fisheries. While the regulations themselves are an important part of this effort, the primary message is that all anglers and boaters need to take personal responsibility for not spreading this virus or other AIS. A proposal for invasive species legislation was drafted by an internal DNR working group and approved by the Department Secretary and the Natural Resources Board. Three of the 15 proposals in the legislative package are already included in the Governor's biennial budget initiative for 2007-09, and the rest of the items will need sponsors in the Legislature. The proposal, if adopted as drafted, would address the key gaps in invasive species legislation in Wisconsin.

Illinois-Indiana Sea Grant: IISG has been working with Indiana DNR and the Great Lakes Commission to convene a working group to address invasive aquatic plants in trade in Indiana through regulations, outreach and voluntary practices. We have also partnered with Chicago Department of Environment on a Habitattitude poster with tear off sheets of the "alternatives to release." These posters are now in every pet store in Chicago and we're working with both IL and IN DNRs to get the posters in stores throughout both states. The proceedings of last year's Asian carp symposium will contain our paper in which we lay out a comprehensive outreach plan for bighead and silver carp. We are hoping that this plan will help others as they go about doing bighead and silver carp outreach. We also are beginning work (perhaps with Wisconsin) on Hydrilla WATCH cards, and are looking for ways that we can help out with the VHS issue.