Final Minutes of the
MICRA Paddlefish-Sturgeon Committee Annual Meeting
January 30, 2007-February 1, 2007

Wednesday January 30, 2007
8:15: Comments from Bobby Reed, Chairman of the Paddlefish/Sturgeon Committee

- Bobby opened the meeting and welcomed new attendees, including State and Federal law enforcement officials, State Fisheries Chiefs, Officials from Region 3 of the Fish and Wildlife Service and State and Federal biologists.
- The agenda and sign-up sheet were distributed.
- Bobby attended the Executive Committee meetings in Vicksburg, MS (April 16-17, 2006); and Omaha, NE (Dec. 6, 2006), where he presented our Committee budget for 2007.
- The minutes from the 2006 Committee meeting were mailed prior to this meeting so all members would have a chance to review them before the meeting.
- The Omaha paddlefish symposium was quite successful and Proceedings will be published by AFS.
- The focus of this year's Committee meeting was shovelnose sturgeon; paddlefish discussion was scheduled for Thursday afternoon.
- MICRA's concerns about the status and commercial harvest of shovelnose sturgeon were first raised during the 1997 Committee. At that time there were few regulations for the conservation and management of shovelnose sturgeon throughout its range. Furthermore, there are serious concerns about look-alike issues with the pallid sturgeon which is listed under the Endangered Species Act (Act).
- Several states met in March 2004 to standardize commercial harvest regulations for shovelnose sturgeon.
- A map of harvesting states and a table with current regulations was distributed. (attached)

Demographics of shovelnose sturgeon populations in the United States

Shovelnose sturgeon Presentations

UPPER MISSISSIPPI RIVER

1. Kirk Hansen, Iowa DNR: Commercial Sturgeon Exploitation Pool 13 Upper Mississippi River

- A spawning potential ratio (SPR) to prevent overfishing in a marine pelagic population is ~ 20%, is this SPR valid for shovelnose sturgeon and other commercially exploited river fish?
- Assumption: 570 mm females are mature.
- In Pool 13, a 24" length limit (IL) protects 20% of the population; a 27" length limit protects 70% of the population. Combining Pool 13 and Pool 16 data, the

SPR can be doubled by increasing the length limit for commercially-harvested shovelnose sturgeon.
- Data needs to be refined by including Illinois harvest report data and correcting for under-reporting by commercial fishermen in monthly harvest reports.

2. Patrick Short, Wisconsin DNR: Shovelnose Sturgeon Commercial Harvest Trends In Pool 9 UMRB
- Peak harvest of shovelnose sturgeon from the Upper Mississippi River Basin (UMRB) 1995-2004 was in 2001, since then it has declined.
- There has been a substantial increase in effort (net-nights).
- The number of licensed commercial fishermen has increased because buyers, who were preciously paying $30/lb. for roe are now paying $50/lb.
- No non-resident harvest is allowed, but non-residents can purchase a wholesalers license.
- In the UMRB, the volume of state harvest (in descending amount): IL, IA, MO, and WI.
- Current regulations in Wisconsin (25" TOTAL length limit) provides no protection from over-harvest and over-recruitment fishing. Proposing a slot length of 27" EFL to 34" EFL, all roe must remain intact in the fish until they are unloaded at an approved processing plant.
- Iowa has a slot length of 27" EFL to 34" EFL, and all roe must remain intact in the fish until they are unloaded at an approved processing plant. The harvest season is October 15 to May 15 annually.

MIDDLE MISSISSIPPI RIVER

1. State of Missouri-no one present to represent the Missouri Department of Conservation.

LOWER MISSISSIPPI RIVER

1. Jan Hoover, age/size structure of sturgeon in the free-flowing MS river-
- The focus of this presentation is on pallid sturgeon but there was also discussion of shovelnose sturgeon.
- Due to obvious problems with net sets in the Middle Mississippi River, trot lines have been used to sample sturgeon in the middle Mississippi River.
- These studies have been broad in scope and include obtaining length, weight, diet data, collecting tissue samples for DNA and other testing, and marking individual fish. Habitat, water quality, and other ambient environmental factors are also recorded.
- They are partnering with of the State of Mississippi to sample 1200 river miles, and to date have sampled 12,000 shovelnose sturgeon and 201 pallid sturgeon.
- From River Mile 0 at New Orleans to Chain of Rocks (Illinois) sturgeon tested increase in size going up river.

- Pallid sturgeon: they've found good representation of all age classes in the lower Mississippi River, particularly older fish; in the middle Mississippi River no fish older than 14 yr of age were located.
- Shovelnose sturgeon: the presumed age structures include a modal of 8 years of age in the lower Mississippi River, 6 years of age in the middle Mississippi River. The fish in the middle Mississippi River are younger and a smaller group of fish than those found in the lower basin.
- Retail caviar prices for shovelnose sturgeon are ranging from $25-34/oz.
- The population structure of both species in the middle Mississippi River indicates that the commercial shovelnose sturgeon fishery is affecting shovelnose sturgeon AND endangered pallid sturgeon populations.
- Currently the only commercial harvest of shovelnose sturgeon that takes place in the lower Mississippi River is in Tennessee. The remaining harvest is in the middle Mississippi River.

2. George Scholten, Tennessee Wildlife Resources Agency: Tennessee's Shovelnose Sturgeon Fishery

- In 2000, Tennessee instituted a monthly harvest report for shovelnose sturgeon harvesters. The harvest season was 11/1 through 4/23 annually and there was no length limit.
- In 2002, Tennessee designated a length limit of 30" maximum.
- In 2003, TWRA shortened the harvest season by two weeks: 11/15 through 4/23.
- In 2005, a daily report, submitted monthly, was instituted. A 24" to 32" slot length was put into place, and the season was extended from 10/15 to 5/15.
- Prior to 2004, annual harvest of shovelnose sturgeon was 1,400 fish. With the change in regulations in 2005, there was a 286% increase in fish harvested-over 5000 fish.
- After the longer season was put into place, most of the increased harvest occurred at the end of the season.
- Since 2000 there have been an increasing number of shovelnose sturgeon fishermen; the number of fishermen increases as the price of roe increases. Currently the minimum wholesale price of shovelnose sturgeon roe is $70/lb.
- Ten fishers reported harvesting >90% of the total shovelnose sturgeon commercial harvest.
- TWRA is considering proposing limiting the number of nets/fisherman in this fishery.

3. Lee Holt, Arkansas Game and Fish Commission: White River Shovelnose Sturgeon

- The commercial harvest season for shovelnose sturgeon in Arkansas runs from 11/15 to 5/1, annually.
- Trot lines are the predominant gear used on the White River.

- The Mississippi River is closed to commercial harvest in Arkansas, as are many other rivers in the state.
- Monthly commercial harvest reporting was instituted in 2002 for all roe fishers.
- Currently, there is no length limit for shovelnose sturgeon in Arkansas. Data from the White River indicates that a 20" length limit would protect 18% of gravid female shovelnose sturgeon. Aging results indicate that this is a young population; all sampled fish were ≤ 4 years of age.
- Several commercial fishermen have told AGFC about catching 13-14" gravid females; therefore, they are not supportive of a 20" length limit. However, no one has been able to provide AGFC with one of these fish, to date.

4. Rob Columbo, Southern Illinois University: Harvest of shovelnose sturgeon influences year class strength and adult abundance: are we moving towards collapse?

- Study of shovelnose sturgeon in the middle Mississippi River by SIU MO Department of Conservation, and the U.S. Army Corps of Engineers.
- Age, growth, mortality, year class strength, and population modeling w/FAST.
- The population of shovelnose sturgeon in the middle Mississippi River is currently being overfished:
    - Reduction in the density of adults
    - Recruitment linked to harvest level
    - Shift in size and age structure
- The proposed minimum length limit on this population is insufficient
    - A more stringent length limit
- The commercial fishery for shovelnose sturgeon may be impacting the endangered pallid sturgeon.

BREAK

5. Bobby Reed, LA Department of Wildlife and Fisheries: Louisiana status of shovelnose sturgeon

- There are three species of sturgeon found in Louisiana waters: gulf, pallid and shovelnose sturgeon. All sturgeon species have been protected since 1990.
- Some surveys have been conducted since 1991. Annual mortality for shovelnose sturgeon was found to be ~ 34% in 1992 and 1993.
- Most of the survey work done by the LADWF has targeted pallid sturgeon and hybridization issues. The Mississippi River is closed below the TN state line and the State of Mississippi is closed to commercial harvest.
- There have been records of lake sturgeon found in LA waters.

OHIO RIVER DRAINAGE

1. Rob Maher, Illinois Department of Natural Resources: Lower Wabash River shovelnose sturgeon

- Shovelnose sturgeon data collected from 2000-2004 on the Lower Wabash River.

- Data from Les Frankland's electrofishing data and entrapment gear only, no entanglement gear was used.
- When the shovelnose sturgeon annual growth rate reaches 25" it slows down so that resources can be diverted to reproduction.
- Illinois has proposed a 25" length limit for shovelnose sturgeon.
- While sampling, they have found that 5-6% of the shovelnose sturgeon they catch have been slit to check for eggs, and appear to have survived well.

2. Tom Stefanavage, Indiana Department of Natural Resources

Population characteristics, reproductive biology, and the effects of length limits on shovelnose sturgeon in the Wabash River

- Ohio River shovelnose sturgeon from the States of Illinois, Indiana, and Kentucky don't appear to like impoundments on the Ohio River.
- Shovelnose sturgeon concentrate on the lower 60-80 miles below Smithland Dam (Kentucky and Illinois borders).
- The Wabash River is the eastern range limit of shovelnose sturgeon, east of the Mississippi River. It is also the largest river without impoundments, east of the Mississippi River and includes an endemic lake sturgeon population.
- The Wabash River is considered inter-jurisdictional waters between Illinois and Indiana, for the purpose of commercial fisheries.
- Shovelnose sturgeons are collected at electrofishing index stations around Lafayette, Indiana.
- The mean EFL was 673 mm, and the population age structure ranges between 2-30 years of age. Large numbers of fish have been captured, but there are few young fish. Of the shovelnose sturgeons that were captured, 95% were found to be between 13-20 years of age.
- It was determined that 74% of recaptures indicated zero or negative growth (no time period given).
- Total annual mortality for Wabash River shovelnose sturgeon ranges between 20-24%.

Fish >774 mm in length were more likely to be checked for eggs; of those that were recaptured, 2.1% had been cut to check for eggs. The sex ratio is skewed towards males.

REPRODUCTIVE BIOLOGY IN THE WABASH RIVER

- Shovelnose sturgeons are commercially harvested between March 17 and May 26, the peak date for gravid females is generally around May 10. Spawning cues are weather-dependent (river water must reach 65 degrees in temperature) and dependent on the spring river-rise.
- Smaller, younger females generally spawn every 2-4 years, as they get older and larger (approaching 850 mm) they may spawn every year. The mean gsi is 19.3. Relative egg size and fecundity increase with an increase in the size of the fish.
- They are recruited to fishing gear by age 9, and are fully recruited by age 13.

- Mr. Stefanavage recommends a minimum length limit of 635 mm, and states that due to the lack of pallid sturgeon in the Wabash River, there is no need for an upper length limit.
- Illinois has the longest shovelnose sturgeon harvest season in the country; it runs from 10/1 to 5/31, with a 25" length limit.

MISSOURI RIVER DRAINAGE

1. Wyatt Doyle, USFWS, Columbia Fisheries Resources Office, Lower Missouri River (COE Pallid Monitoring Program)
This project team (COEPMP) also includes Nick Utrup and Tracy Hill, USFWS, Columbia Fishery Resources Office, Gerald Mestl, Nebraska Game and Parks Commission, and Vince Travnichek, Missouri Department of Conservation.

- Discussion of key indicators between pallid sturgeon and shovelnose sturgeon.
- When water temperatures are ≤ 55 degrees the COEPMP uses gill nets to capture fish, when the temperature rises they use trammel nets and otter trawls. Otter trawls are the best way to represent the population with out introducing bias.
- Dyke notching to increase habitat is affecting both species, but long term study is necessary to determine effects.
- The COEPMP monitors 9-10,000 fish per year: all are floy tagged; so far, the number of recaptures has been extremely low.
- The Missouri Department of Conservation has been tagging sturgeon for 5 or 6 years, and there are other ongoing studies, so we should be seeing development of information in the near future.
- The large volume of effects throughout this large and modified river system requires a number of years of data to help determine what the best management measures are for the species, and what information is just background noise.

LUNCH BREAK

AFTERNOON SESSION

2. Aaron Delaney, USGS, Columbia Environmental Research Center: Sturgeon Reproduction and Population Viability Analysis for the Lower Missouri River

- This project is an extensive telemetry effort that has been in place since 2004. Field work takes place in early March through the end of April to determine reproductive behavior and movement of pallid sturgeon and shovelnose sturgeon in the Lower Missouri River.
- The project is developing a spatial context for reproductive behavior for both species: track individual movements, length and time of movements, spawning location(s), timing, and success.
- They are also considering the impacts of highly modified environments, particularly at Gavins Point Dam where there is unimpeded access to the river; a stretch of 800 miles which is free-flowing without alteration.

- Monofilament gillnets (2.5") are set overnight. They are looking for 600 mm/ 1kg females; generally ~ 20% will be gravid females.
- Between the Osage River and Louisville they work 2 crews 4 net nights=16 nights. During this time >500 females were captured; 10% were gravid.
- Regarding movement ~ 50% move >70 miles and ~ 75% move >125 miles, and all fish were captured during the spawning run; therefore, they have already traveled many miles. Some of the fish have moved >250 miles.
- After spawning, 20-35% females are recovered. Spawning success appears to be high- 75-82%, leading to the conclusion that if they swim upstream, they will spawn.
- Other conclusions, to date: there are dissimilarities between populations; the species' make extensive spawning runs, use multiple spawning sites, and spawning peaks May 1-June 15.
- There is a behavioral basis for gear selection and season-the sturgeon use wing dykes and revetment edges, which is where commercial fishermen tend to harvest them. Protracted spawning occurs from the end of April into August.

Mark Wildhaber, USGS, Columbia Environmental Research Center, with the Population Viability Analysis section.

- Deterministic age-based models are used.
- Model parameters and assumptions.
- Assumptions: Density 2500/km, sex ratio 1:1, age at first reproduction is7 years, fecundity is age-specific, the spawning interval is 2.5 years, and the mortality rate is 7%.
- His exploitation model indicates that 24" is the best length limit because it allows females to spawn twice, and maintains a stable population.
- Conclusions, to date: significant yields can be sustained, although no single regulation is protective, and some populations may not sustain harvest. Changes in parameters can make big differences.

3. George Jordan, USFWS Pallid Sturgeon Recovery Team Leader
Issues and concerns about loss of pallid sturgeon associated with commercial harvest of shovelnose sturgeon

- The Pallid Sturgeon Recovery Team-11 members with representatives from the States, Federal government, and 1one University.

- The pallid sturgeon was listed in 1990; the recovery team started to develop a recovery plan in 1993.

❖ Reasons for decline

- Habitat loss
- Contaminants
- Commercial harvest

- The original recovery plan noted that there was no differentiation made between pallid sturgeon and shovelnose sturgeon during commercial harvest; therefore a temporary moratorium on the commercial harvest of all sturgeon was recommended
- In 2005, a 5-year review was initiated to assess the current status of the pallid sturgeon.
- The recovery team now believes that the recovery plan is outdated and is in need of revision.
- The Recovery Team met and among other issues, discussed proposing changes to the current recovery plan.
- Development of criteria for delisting is being discussed as part of the new recovery plan. Conceptual language: *The species will be considered for reclassification when identified threats are alleviated and a self sustaining genetically diverse population is achieved range-wide for 3 generations*
- All discussed criteria identified that identified **threats** must be addressed and alleviated.

- **Habitat loss/alteration**
- **Over utilization**
- **Disease and Predation**
- **Inadequate regulatory mechanisms**
- **Other natural man made factors affecting it's continued existence**

The Recovery Team is very concerned about incidental take of pallid sturgeon associated with commercial harvest of shovelnose sturgeon. Reports of finding pallid sturgeon in fish markets; while conducting status surveys, capturing female pallid sturgeon with check marks; and continuing seizures of the species from commercial fishermen, indicates that the pallid sturgeon continues to be taken in areas where commercial shovelnose harvest occurs..

There are concerns about the difficulty of distinguishing between the two species.

- Character indices developed by taxonomists can be complex and are not always accurate.
- Indices may be size OR geographically specific.

Stocking programs have been in place long enough that the stocked pallid sturgeon are now reaching sizes that could make them susceptible to commercial harvest.

There are concerns by all about mixed pallid sturgeon and shovelnose sturgeon in buckets of eggs. FWS tests caviar shipments coming in to the country, but there are very few tested that are going out. **Suggestion: Random testing of exported shovelnose sturgeon eggs to determine if there are pallid sturgeon eggs present.**
However, only five CITES permits have been issued for export of pallid sturgeon since 2001; therefore, the roe is either being consumed by the domestic market or is exiting the US illegally.

Is it legal to harvest hybrids (*pallid sturgeon x shovelnose*)?
Paul Hartfield USFWS Region 4 -be careful; don't harvest hybrids, if you want to be legal.

4. Mary Jane Lavin, FWS, Office of Law Enforcement, Special Agent in Charge, Reg. 3
International Trade in Paddlefish Shovelnose Sturgeon

Discussion of exports that were declared to USFWS LE

- Total of 5 shovelnose sturgeon exports between 2001-2006 totaling 277 kg; one shipment alone was 209 kg.
- Average declared value was $399/kg.

Paddlefish exports by year:

- 2002: 31 total exports
- One export refused (.972 kg) (*From DSA: exports that are this small are generally samples that are sent for potential new customers to test*.)
- 3,087 kg of caviar in 26 shipments
- 27 caviar exports by two companies
- 600,000 live eggs in 4 shipments by one company
- 20 kg of meat in one shipment
- Caviar average declared value = $196/kg

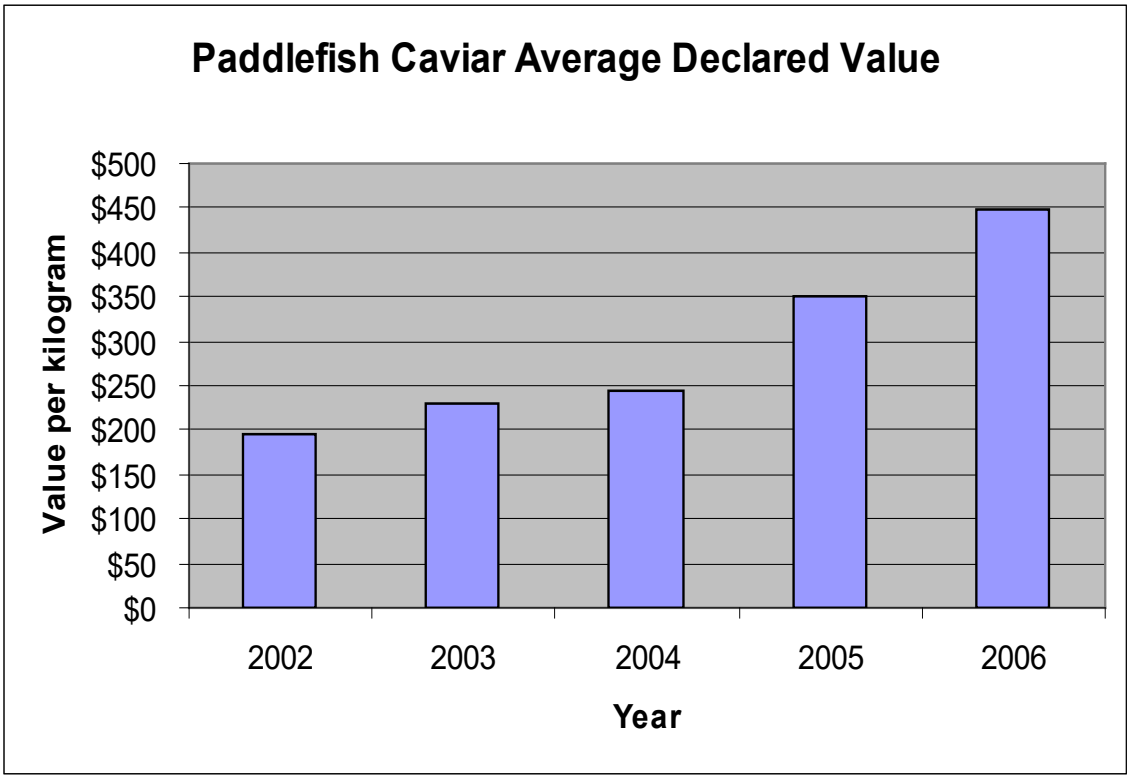
- 2003: 46 total exports
- One export refused (.056 kg)
- 4,834 kg of caviar in 39 shipments
- 22 caviar exports to Japan
- 20 caviar exports by one company
- 925,000 live eggs in 6 shipments by one company
- 75 kg of meat in one shipment
- Caviar average declared value = $231/kg

- 2004: 43 total exports
- One caviar export refused (.454 kg)
- 4,401 kg of caviar in 35 shipments
- 21 caviar exports by one company
- 21 caviar exports to Japan
- 1,920,000 live eggs in 8 shipments by one company
- Caviar average declared value = $244/kg

- 2005: 40 total exports
- One caviar export refused (.198 kg)
- 4,209 kg of caviar in 28 shipments
- 21 caviar exports by two companies
- 14 caviar exports to Japan

- 1,667,000 live eggs in 10 shipments by one company
- 8,351 kg in 2 meat shipments
- Caviar average declared value = $350/kg

- 2006: 32 total exports
- One caviar export refused (204.6 kg)
- 6,018 kg of caviar in 25 shipments
- 18 caviar exports by two companies
- 13 caviar exports to Japan
- 1,406,100 live eggs in 7 shipments by one company
- Caviar average declared value = $447/kg



Source: FWS: Office of Law Enforcement

5. Marie Maltese, FWS, International Affairs, Division of Scientific Authority for CITES
   - Introduction of our colleagues from the permits office, Jorge Villavicencio and Amy Brisendine.
   - At the request of OLE Reg. 3, out time was shared with them on the agenda. Their presentation was excellent and tied the paddlefish trade together for the past five years, indicating how the volume of trade has increased and the value of paddlefish products (especially caviar) has increased.

- Our office and the Division of Management Authority, Branch of Permits, review paddlefish and sturgeon applications for CITES export permits. DSA's role is to determine if the harvest was not detrimental to the survival of the species. DMA is required to determine if the product proposed for export is legally acquired. In addition to the exports refused at the ports, our offices deny a number of permits annually, because one or both of these findings cannot be made.
- There was a slight decrease in the volume of trade in 2004 and 2005; this was an artifact of high water, and a reduction in the number of fishable days.
- Our offices have developed a new permit application form specifically for paddlefish and sturgeon exports because the current general wildlife application is not easily understood by the applicants. The new form asks for specific information, and describes the manner that the application should be organized. The application is awaiting clearance by the Office of Management and Budget (OMB).

6. Laura Noguchi, FWS, International Affairs, Division of Management Authority, Branch of Operations.

- CITES Resolution. Conf. 12.7 will be discussed and possibly revised at the upcoming CITES Conference of the Parties (CoP) held in The Hague, Netherlands, June 3-15, 2007.
- There is a Sturgeon Working Group and there were discussions of restrictions on re-exports of caviar at the last CITES Animals Committee meeting (Lima, Peru, July 7-13, 2006), quotas, and management plans for the Caspian Sea and the Black Sea.
- The US continues to suspend imports of beluga sturgeon/products because the range countries have not produced an inter-jurisdictional management plan for the species.
- Laura and several LE staff attended the International Sturgeon Enforcement. Workshop to Combat Illegal Trade in Caviar, in Brussels, Belgium, 27-29 June 2006.

7. Rob Simmonds-USFWS, Contaminants
Contaminants in sturgeon
Consumption advisories for fish
Area discussed: Lock & Dam 22 to Cairo, IL

- Since mid 1980's
- Sturgeon meat and roe
- Missouri has a 'do not eat' advisory due to the presence of PCBs and chlordane.
- Illinois limits consumption to 'one meal per month' due to presence of PCBs.
- USFWS has no authority to close the fishery in advisory areas or enforce the consumption advisories; however, we contribute contaminants data.

Issues

- Unknowing consumption of commercially harvested sturgeon meat and roe in areas that are under a 'do not eat' recommendation
- Does long term exposure to PCBs and chlordane effect sturgeon reproduction?

Results

- Actual risk may be higher in the wild from exposure to both PCB and chlordane in older aged individuals.
- Inter-sex males found in sample group; is there reproductive impairment in inter-sex fish?
- Does the presence of PCB's or chlordane induce inter-sex characteristics and/or other health affects?
- There have been reports of inter-sex males since the '60's; in a 2004 study inter-sex Asian carp were located.
- USGS studies of this and other reproductive anomalies since 2001.
- Other reproductive anomalies include: inter-sex females, Teratomas, activated oocytes in gonads, elevated vitellogenin protein, and Atresia/incomplete spawning.

8. Ken West, Missouri Department of Conservation
Enforcement concerns/issues for commercial harvest on boundary waters

Ken West works SE MO, borders IL, KY, MO, and AR.

- Patrol caught 9 MO fishermen and 5 IL fishermen; seized 17 nets, wrote 19 citations for 10 boats, found commercially harvested pallid sturgeon in Cairo, IL.
- It was quite an eye-opener about what's happening on the river.
- Dan Burleson (FWSOLE, MO) and State LE worked with 3-4 biologists to teach identification of pallid sturgeon vs. shovelnose to 37 LE agents. They spent 3 days on the river, one on the ground, during poor weather conditions. They performed several checks and wrote 11 commercial fishing violation citations and 4 or 5 waterfowl violation citations.
- Side-scanning sonar is very helpful to le.
- Commercial fishing cases are the hardest to make because the fishermen know all the ins and outs of how to get around the laws and regulations and other problems associated with illegal fishing.
- Byron Mann's commercial fishing license has been revoked in MO, but he holds a TN non-resident commercial fishing license. There is a need for a strong reciprocity agreement between all the harvesting states.

9. Ben Sisk-Arkansas Game and Fish Commission, LE

- There has been a 392% increase in the number of licensed fisherman in Arkansas from 2003 to 2006.
- He vigorously enforces fish and game laws, so be sure to measure fish correctly, and don't fudge the extra ¼".

February 1, 2007

Bobby opens meeting at 8:15 with action items he would like the Committee to consider. Each item would be intended for paddlefish and shovelnose sturgeon, unless otherwise noted.

- Each State that allows commercial harvest should produce a map indicating open and closed waters in the State. This map should be available to the Committee and researchers. Commercial and sport-fishers should be provided with a copy when they apply for their fishing license or permit.
- Local population information, including life history traits, habitat selection and utilization, and additional information that could be useful when developing or adjusting management strategies should be produced for each range State. This document should include an up-to-date point of contact within the State agency. These documents are for management and research purposes only, and are not for external publication. Circulation will be limited to the Committee, State and Federal governments, and MICRA member tribes.
- Develop an identification poster for bait shops, boat ramps, etc. that shows the morphological differences between pallid sturgeon, shovelnose sturgeon and hybrids of the two species. The poster might also be made into an 8" x 11" page to be included with annual license/permitting information.
- Marie Maltese (FWS/DSA) is looking for scientific illustrations of paddlefish. If you are interested, or know of someone that might be, please contact her at: whoopingcranes@comcast.net, or (703) 358-2486.
- A list of exporters under CITES is requested.
- Develop a guide containing commercial and sport-fishing regulations and statutes for all paddlefish and sturgeon range States. The guide should be controlled by a responsible person, so that changes can be made when States make legislative changes, and the other States can be notified by e-mail when such changes have been made.
- It is important to get a handle on the domestic market breakdown.
- What is the feasibility of a contaminant study on shovelnose sturgeon/paddlefish stocks? Commercial harvesting States should be informed that the Committee is concerned about the potential for high contaminant loads in the eggs of paddlefish and shovelnose sturgeon. From a public health standpoint, the Committee would like to determine if there is any interest or funding available to conduct contaminant studies in one or more States throughout both of the species' range.
- MO has a no consumption alert downstream from Lock & Dam 22.
- A list should be prepared indicating areas where contaminant studies have already been done, so we can move forward with new studies, rather than using limited resources to duplicate previous efforts.
- MICRA and the Pallid sturgeon recovery team will work to ensure that size-related stocks are protecting shovelnose sturgeon with slot limits in over-lapping States.
- Committee to work with the States to help close loopholes regarding take of hybrids-if the hybrid isn't listed as a commercial species, then it cannot be legally taken, according to TN attorney.
- Others agreed-if a fish has any of the characteristics of a pallid sturgeon-then it's a pallid sturgeon.

- RECOMMENDATION: MICRA SHOULD WORK WITH THE STATES AND STATE BIOLOGISTS TO TRAIN LAW ENFORCEMENT AND COMMERCIAL FISHERMEN HOW TO IDENTIFY PALLID STURGEON AND SHOVELNOSE STURGEON.
- Mike Armstrong is very concerned about commercial fisheries in areas where shovelnose sturgeon and pallid sturgeon stocks overlap particularly in the mid-Mississippi River.
- RECOMMENDATION: SENDING A LETTER FROM THE MICRA STURGEON AND PADDLEFISH COMMITTEE TO THE MICRA EXECUTIVE COMMITTEE SUGGESTING MICRA SHOULD PETITION USFWS TO LIST SHOVELNOSE STURGEON BASED ON THE SIMILARITY OF APPEARANCE TO PALLID STURGEON WHERE THEIR RANGES OVERLAP.
- General question: how long would it take to complete such a listing? From Wendi Weber, Assistant Regional Director for Ecological Services, Region 3: It generally takes at least 2 years from the original petition date for a final determination to be made.
- Several State representatives mentioned a need to brief their agencies and engage in internal State discussion prior to supporting a petition to list the shovelnose sturgeon under the Endangered Species Act (Act).
- Gerald Mestl, Nebraska Game and Parks Commission (NEGPC) would like to add the Missouri River to any shovelnose sturgeon listing under the Act.
- MICRA proposed the same action item in 1998, but there is more information to justify it now.
- Bobby suggested a show of hands adopting the recommendation to send a letter to the MICRA Executive Committee regarding petitioning FWS to list shovelnose sturgeon under the Act, where the species overlaps with the pallid sturgeon. One individual was against the recommendation, there were 2 abstentions, and 7 individuals support the recommendation.
- Marie Maltese suggested listing the species range-wide, citing the difficulties in a listing limited to the overlap area alone. Such problems include law enforcement issues, impacts to the species in other, poorly-studied areas of the species' range, and shifts in trade that could cause increased poaching and smuggling.
- Mike Oetker (FWS, Reg. 3) suggested: States that currently have a lower length limit should increase the limit in order to protect pallid sturgeon. He is concerned that a listing with limits on range would shift harvest (legal and illegal) and trade to Iowa and the pallid sturgeon would be rapidly over-harvested.
- An FWS Law Enforcement (LE) Special Agent stated that he'd caught a fisherman with 81 pallid sturgeon tags, which he kept as a "trophy". The fisherman also said he returned all of the pallid sturgeon to the water, but there was no way to verify this statement.
- Concerns were expressed that a listing of shovelnose sturgeon under the Act could shift harvest and trade pressure back to paddlefish.
- Many felt that adequate State and Federal LE can deal with illegal trade in caviar.
- Contaminant studies might get decent funding if they had good press in the right market.

- Regarding the letter to the MICRA Executive Committee: the Exec Comm. is composed of 6 sub-basins, 2 Federal entities (USFWS, ACE) = 8 votes.
  The Exec Comm. must have full consensus in order to pass; if not, it is passed down to the 28 member Committee for a vote; 21 "for" vote passes it.
  The next step is to create a task-force to draft the petition, which is then sent to the Exec Comm. for approval.
- The next meeting of the Exec Comm. is in June in Montana.
- Mike wants to put the recommendation out to all 28 states for discussion during the June meeting.

- Marion is curious about regulations in 8 other states; can roe be removed from the fish and put in buckets in the boat, or must the fish remain intact until they reach shore? He believes this regulation should be consistent across the harvesting States. Illinois will be changing their regulations from the ability to transfer roe into buckets to now, must keep the fish intact.
- Paddlefish eggs and equipment continue to be rinsed in river water-this is a HAACP violation.
- FDA regulations state that processing begins when the egg sac is cut from the fish.

BREAK

MIKE ARMSTRONG PRESENTED A PLAQUE TO BOBBY REED FOR MERITORIOUS SERVICE AS THE MICRA STURGEON AND PADDLEFISH COMMITTEE CHAIRMAN FROM 2001-2007. BOBBY TOOK OVER THE CHAIRMANSHIP FROM KIM GRAHAM IN 2001. WE ALL KNOW KIM WAS A TOUGH ACT TO FOLLOW, AND BOBBY MOVED FORWARD COMMENDABLY AS CHAIRMAN OF THE COMMITTEE. BOBBY BROUGHT EXCELLENT MANAGEMENT SKILLS WITH HIM, HE ENCOURAGED SCIENTIFIC RESEARCH, AND EXECUTED HIS DUTIES AS CHAIRMAN WITH PATIENCE, GOOD HUMOR, AND FIRST AND FOREMOST, GREAT CARE FOR THE RESOURCES. YOU WILL BE MISSED, BOBBY!

GEORGE SCHOLTEN (TWRA) IS THE INCOMING CHAIR OF THE MICRA STURGEON AND PADDLEFISH COMMITTEE. HE'S GOT QUITE A LEGACY TO FOLLOW, BUT IF YOU ASK ANYONE WHO KNOWS GEORGE THEY WILL TELL YOU HE HAS A TIRELESS WORK ETHIC AND IS ONE OF THE MOST ABLE PEOPLE AROUND. LET'S GIVE HIM OUR SUPPORT!

PADDLEFISH SESSION

Strategic plan update

- The last strategic plan was written in 2001-2002.
- The Committee would like to hold a Symposium every 5 years. Previous to the December 2006 Symposium, the last meeting had been 8 years ago, in 1998.

Ongoing research rapidly modifies the current state of knowledge regarding paddlefish and sturgeon; therefore, a shorter, 5-year timeframe would help to disseminate information throughout the scientific, management, and law enforcement communities in a timelier manner.

- George Scholten and Craig Paukert organized the 2006 Paddlefish Symposium and are now compiling presentations and associated papers to publish a Proceedings (similar to the Proceedings from the 1998 Symposium) new p-fish publication through AFS.

Regional Updates

OHIO RIVER- River basin report was completed several years ago, it is updated annually.

MISSOURI RIVER- River basin report has been completed and is available from Gerald Mestl.

UPPER MISSISSIPPI RIVER BASIN- River basin report is incomplete at this time, but it is in progress. Ann Runstrom is working on the Upper Mississippi River Basin (Upper Miss) report and discussed her management plan and population data. She is working with 17 sampling sites. Ann requests information and data from the Upper Miss States, at a minimum she would like them to provide comments on what she's drafted.

LOWER MISSISSIPPI RIVER BASIN- River basin report is incomplete at this time, but it is in progress.

USFWS-Columbia Fishery Resources Office discussion
Tracy Hill-Paddlefish database

- The database has grown extensively over time, and duties associated with it have also changed.
- Brian Elkington will be taking over the management of the database.
- CD's with the data base were available, and they were personalized for each state, because the States are now entering their own data
- Ann wanted to look up a tagged fish, but couldn't access information through a database query. Discussion with Brian.

Budgetary needs/issues

- Bobby has a copy of the 2007 MICRA budget; anyone who's interested can pick up a copy from him.
- Computer consultation and programming funds for Jo Grady= $2000
- Discussion of CWT tag reading and tag management-group voted to discontinue use of CWT's. States are responsible for jaw tag numbers.

Other: $7500

- CWT tags for hatchery fingerlings; and monel jaw tags for adult fish $3000
- Completion of sub-basin management plan $1500
- Paddlefish/sturgeon Committee meetings. (2/year) ($3000)
- Standardized commercial harvest reporting meeting w/CITES $1500

Total: $29,000

The decision on Bobby's proposed budget will be made at the next Exec. Comm. meeting.

Standardized harvest report info- George Scholten

- Monthly harvest reporting has been extremely helpful to the State and Federal wildlife agencies and State and Federal Law enforcement, because we are now able to go back and check harvest reports against other records to determine the validity of documentation of harvest.
- Previously, we have not been able to determine the amount of domestic harvest of paddlefish roe in the U.S. To determine the domestic harvest of roe we can subtract exports from the States harvest-this will at least give us a rough estimate. For instance, last year 83,000 lbs. of roe were harvested and 26,000 were exported. Therefore, the domestic market would be roughly 57,000 lbs. This figure does not include roe produced in aquaculture, nor does it include illegal harvest.
- There are specific types of information required for standardized monthly harvest reports. We need to look at the number of pounds of eggs harvested annually. We need the weight of roe and number of fish per trip.
- Should the report year be the calendar year or fiscal year? George would like to use the fiscal year: July-June.

Despite the export permitting indication that Illinois is exporting the most paddlefish roe this season, George's data indicate that KY IS HARVESTING THE MOST PADDLEFISH.

- Rob Maher-IL Dept of Natural Resources stated that he can make a harvest report form that contains whatever data he wants. He stated that he will add the number of fish and the weight of roe to IL forms, but finds adding a daily report which is submitted monthly "problematic".

GEORGE AND CRAIG NEED TO FUNDRAISE FOR THE SYMPOSUM PROCEEDINGS-NEEDS $25,000, IF YOU HAVE ANY IDEAS, PLEASE LET HIM KNOW.

- How many states have excess cwt readers, and since won't be using them-can we send them back for a refund?
- Bobby will send an e-mail out for information about surplus cwt readers, and if for nothing else, we can use them for parts.

STANDARDIZED SAMPLING PROTOCOLS FOR PADDLEFISH

- What is the minimum number of fish necessary to adequately estimate length estimates?
- How many dentary bones are needed?
- We should be developing a protocol for sampling that will produce meaningful information.
- What is an adequate sample size? What is a statistically significant sample size?

NOTES FOR STANDARDIZING THE PROTOCOL

- 300-500 fish are needed, at a minimum, to assess a population.
- At least 200 of those fish should be aged.
- Computer programs should be used to develop age/length keys.
- FAST should be used for roe yields.
- ASSUMPTION-NEW, UNTESTED RIVER

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Tom Stefanavage-IN Department of Natural Resources: we need to get a handle on the number of mature, non-gravid fish in the population-not just the gravid fish. Age/length data collection is workable on the Ohio River.

Chris O'Bara-WV Division of Natural Resources: Collecting equipment should be standardized to eliminate gear basis.

Bobby: We need gear recommendations for the protocol.

Dennis Scarnecchia would be very helpful if we are sacrificing fish for dentary bone collection/ sexing, and gonad removal, he collects this type of information to DEVELOP GSI. Need to talk to Dennis.

We need sex-ratio information and the variability in timing of movements of the sexes, although females generally move first.

There is a temptation to sample fish on the spawning run; however, this creates a bias towards mature, spawning fish.

We need to locate other areas where the fish congregate.

Habitat is always difficult to standardize when collecting data.

State of Mississippi update

Their roe season will run 11/15/08-3/31/08, and commercial fishing will be allowed **only** on the Mississippi River border shared with Arkansas. They will have a 36" length limit.

Louisiana

- Proposing a year-round sports fishery for paddlefish using legal recreation al gear only. This will allow trot-liners to keep 2 fish caught by trot-line/day.
- Creel limit is 2 fish per day, nothing over 30" can be kept; therefore there should never should be a roe fish in someone's possession.
- A record 86 lb. paddlefish taken on a bluegill.

Nebraska

- Sport- fishery with a special permit for paddlefish costs no more than $35.

Illinois

- Proposed roe licenses:
- Harvester resident: $250/ non-resident $3500.
- Buyers resident $1000/ non-resident $2500.

Kansas

- Fishers need a paddlefish permit with tags (6 per year), in addition to a regular State fishing license.
- They do have a snagging season - Mar 15- May 15 on designated waters.

ADJOURN

CURRENT SHOVELNOSE STURGEON REGULATIONS – U.S.

STATE	REC	COMM.		LEN LIMIT	SEASON
Nebraska	**YES**	**NO**			
Tennesse – MS River	**YES; no size or bag limits**	**YES**		**24-32" FL slot**	**Oct 15-May 15**
South Dakota	**NO**	**NO**			
North Dakota	**NO**	**NO**			
Louisiana	**NO**	**NO**			
Kansas	**YES no bag limit**	**NO**		**None**	**Year round**
Indiana (Feb 1, 2007)	**YES**	**YES**		**25" Min FL**	**Oct 1 - May 31**
Missouri – MO River	**YES; 10 fish; 30" Max**	**Y - Res**		**24 – 30" FL slot**	**Nov 1 - May 15**
Missouri – MS River	**YES; 10 fish; 30" Max**	**Y – R & N**		**24 – 32" FL slot**	**Oct 15 - May 15**
Mississippi	**NO**	**NO**			
Kentucky	**YES**	**YES**		**24-32" FL slot**	**Oct 15 - May 15**
Arkansas – White R.	**?**	**YES**		**NONE**	**Nov 15 - May 1**
Iowa – MS River Iowa – MO River Iowa – Big Souix	**YES** **YES 10 fish bag** **NO**	**YES** **NO** **NO**		**27" Min FL**	**Oct 15-May 15**
Illinois – MS River Illinois – Wabash Illinois – Ohio River	**YES** **YES** **YES**	**YES** **YES** **YES**		**24-32" FL Slot*** **25" Min FL*** **24-32" FL Slot*** *** (proposed only)**	**Oct 1-May 31 *** **Oct 1-May 31 *** **Oct 1-May 31 *** *** (proposed only)**
Ohio	**NO**	**NO**			
West Virginia	**NO**	**NO**			**RESTORE**
Wisconsin – MN Bor Wisconsin – IA Bor	**Y 10/day; no len** **No limit; no len**	**YES**		**25" Min FL** **27" – 32" FL slot**	
Minnesota – below L & D Three	**YES 10/day**	**NO**		**No Length Limit**	**Yearlong**
Montana	**YES; 5 sns/day**	**NO**		**TL < 40" ***	**Yearlong**
Texas	**NO**	**NO**			
Oklahoma	**NO**	**NO**			