

**Minutes from the 2008 MICRA Paddlefish-Sturgeon Committee Meeting
Belmont Two, Renaissance Hotel
Nashville, Tennessee
January 23-24, 2008**

Wednesday, January 23, 2008

Welcome/Introductions: George Scholten

- At last year's (2007) MICRA Paddlefish-Sturgeon Committee Meeting, we decided to forward a recommendation to petition the US Fish and Wildlife Service (USFWS) to list shovelnose sturgeon under the Endangered Species Act (ESA) due to the similarity of appearance (soa) to the endangered pallid sturgeon to the MICRA Executive Committee (ExCom), for approval. At the last ExCom meeting, consensus could not be reached regarding the recommendation and a decision was made to discuss the matter further by conference call.
- I met with Christina Thornblom of the USFWS Law enforcement (LE) Intel Unit to discuss evaluation of the roe harvest database Dan Burleson has been working on. LE is interested in being able to track the movement of roe (bowfin, shovelnose, and paddlefish) across state lines. Question to consider: how involved does MICRA want to be in the LE database?

Report of Chairman/Committee Activities for 2007: Chris O-Bara

- Jerry Rasmussen has retired; several candidates are being considered to replace him, based in the USFWS Minneapolis field office.
- The total MICRA budget is \$128,000.
- Inter-jurisdictional issues: can we really distinguish between a pallid sturgeon and a shovelnose sturgeon? The States cannot be making unilateral decisions; we need to work as a group, multi-state cooperative agreements.
- Regarding the shovelnose soa issue: the ExCom didn't feel there was enough information to make a decision.
- Illinois has a new regulatory package moving forward.
- Michael Mac is working on a realistic monitoring program.
- We could possibly use some MICRA funds to support the LE database.

Action item: Chris was tasked with putting together a white paper in how to manage inter-jurisdictional roe fisheries for the ExCom meeting in May/June 2008 and will then move it on to the States.

Regional Management Plan Reports/Updates

ORFMT (IL, IN, KY, OH, WV) - Doug Henley

- The ORFMT is trying to agree on length limit and harvest season for commercial paddlefish harvest. IL is moving forward under administrative rule changes with for length limits and harvest season.
- Tom Stefanavage (IN) noted that IN instituted an emergency rule effective September 15, 2007 with a suite of regulatory changes, including length limit and harvest season.

The emergency regulations included: IN's portion of the Ohio River is the only water body open to commercial harvest of paddlefish in the State, all other waters are closed; there is a ban on all snagging on the Ohio River; the new harvest season is November 15-April 15; length limit is 36" EFL; all entanglement gear was banned outside of the harvest season; and paddlefish may only be checked for eggs with a 10-gauge needle. In meetings with KY, IN could not reach consensus on similar regulations for commercial harvest of paddlefish. The two states are still meeting in an effort to synchronize regulations. Both states issued a moratorium on new licenses this fall.

- Chris O'Bara (WV): WV has been fairly successful with population restoration. There is no commercial harvest in WV. He is getting calls from a Russian national in CA, but hasn't been talking to him (?)

LMRCC (AR, LA, MS, TN)

- Bobby Reed isn't in attendance, but left a report (Attachments I and II).
- AR: Regulatory changes; new definitions "consignment" was added to the definition to "sell" or "sale". The paddlefish harvest season was reduced by 30 days, it's now December 1-March 31, to protect bycatch. There are new gear restrictions addressing mesh size; AR has made permittees responsible for the actions of fish helpers; they have increased violation points and fines, and have increased length limits. The paddlefish regulations apply state-wide. Arkansas's shovelnose sturgeon commercial harvest is mostly located on the White River; the Mississippi River is closed to shovelnose sturgeon harvest in AR.
- Chris O'Bara asks if the committee could come up with a suite of recommendations for common regulations that could be applied across all harvesting states. This has been asked by the ExCom. This question was met with negative responses, several felt that the commercial fishers would not go for it, and that what was needed was the same criteria for managing populations, rather than the same regulations.
- MS: The State is completely closed until they get their legislative package approved. Sport-fishing regulations were approved: 2 fish/day with a maximum size limit of 30".
- TN: George Scholten had a PowerPoint presentation with TN paddlefish exports and regulations.

UMRCC (IA, IL, MO?)

- MO: They have a PhD student working on paddlefish population assessment between Gavins Point Dam and (?). They are planning to collect jaw bones over the next few years for aging. The current estimate for this reach is about 3,600 fish, although they are hoping it is more like 10,000 paddlefish. Pallid sturgeon and shovelnose sturgeon behave similarly in terms of movement, except shovelnose utilize the tributaries more and pallids tend to stick with the main-stem rivers.

- IL: They've started to collect contaminant data on sturgeon. The new regulations are available on-line: dnr.state.il.us. Dealer's licenses now have a reporting requirement which must be submitted monthly, for sturgeon and paddlefish. Rob noted that there is a difference between what is allowed under HAACP plans in TN and IL.
- IA is also doing contaminant work with sturgeon.

MICRA tutorial CD for jawbone preparation and paddlefish jawbone validation project update: Jeff Quinn

We had a very instructive session on jawbone work with Jeff. He offered his assistance to MICRA members that have questions or need help with their jawbone work.

January 24, 2008

Presentations and Technical Session (many of these presentations were PowerPoint presentations; if you are interested in a specific presentation, please contact the author for more information).

Tennessee's Lake Sturgeon Reintroduction Program: Lee Friedlander (Tennessee Aquarium Research Institute) Lake sturgeon is categorized as State endangered species in TN; they were extirpated from TN in 1962. The TN Aquarium Research Institute acquired fertilized lake sturgeon eggs from Wisconsin, and in 2000, released 41 1998 year-class fish in TN waters. Phil Bettoli has been doing some lake sturgeon tagging.

Tracy Hill mentioned that he is doing a preliminary study of high mortality of paddlefish and sturgeon associated with checking for eggs and the effects of different collecting gears. He cautioned the group that they should NEVER use super glue to repair cuts/slits in fish; and, if you are suturing the fish it needs to be done well. He will conduct a rigorous study this year using a pocket knife and no repair, a razor blade and sutures, and a scalpel with surgical glue. He might look at using a turkey baster to collect eggs or needle extraction. So far, he's found that fish that were cut with a scalpel and not sutured or glued actually appear to recover best. This was done in July when the water was warm; he's not sure they'll recover as well when the water is colder. Tracy also presented the committee with a proposal for an egg check study (Attachment III).

White River Arkansas Sturgeon Genetics: Lee Holt (Arkansas Game and Fish Commission)

This study is attempting to determine why the sturgeon population in Arkansas' White River is smaller in size than other sturgeon populations. One possibility is over-harvest. He hopes to have his data analyzed and a report out soon.

Bowfin: the other black egg: Kirk Hansen (Iowa Department of Natural Resources) and Mike Quist (Iowa State University) Interest in North American roe-bearing species has increased with declines in Caspian Sea sturgeon stocks; formerly buyers were only interested in paddlefish and

sturgeon, but they are even purchasing bowfin eggs from commercial fishers. The price for bowfin eggs on the upper Mississippi River is now \$25.00/lb., and with the increased interest in bowfin, the authors decided to collect baseline data now while interest was still in the early phase. They sampled pools 11 and 13 of the upper Mississippi River and found that females mature around three years of age, while males mature at two years of age. The sex ratio is currently 50/50. They grow quickly and spawn annually.

Operation Skid Roe: Tom Stefanavage and Brian Schoenung (Indiana Department of Natural Resources) Report on a joint multi-year law enforcement operation involving INDNR and USFWS LE agents and other personnel. This operation was undertaken because all restricted waters in IN were being poached; it was quite successful and led to indictment of many people in the caviar business.

Effects of commercial harvest on shovelnose sturgeon in the upper Mississippi River: Jeff Koch and Mike Quist (Iowa State University)

Bycatch of the endangered pallid sturgeon in a shovelnose sturgeon commercial fishery: Michelle Casto-Yerty (Tennessee Cooperative Research Unit), Phil W. Bettoli (USGS). And George Scholten (Tennessee Wildlife Resources Agency) We quantified the bycatch of pallid sturgeon by accompanying fishers and monitoring their catch on five dates in spring 2007. Fishers could keep or discard any sturgeon they captured using gillnets and trotlines; we collected meristic and morphometric data and tissue samples from suspected pallid sturgeon. Fishers removed 327 live sturgeon from their gear in our presence, of which 93 were harvested; we also obtained the carcasses of 20 sturgeon harvested out of our sight. Two of the 113 harvested sturgeon were pallid sturgeon based on microsatellite DNA analyses. Fishers also gave us five pallid sturgeon that were alive when removed from their gear. Thus, fishers mistakenly harvested 29% of the pallid sturgeon they caught. Based on the incidental harvest rate of pallid sturgeon we observed (~2% of all harvested sturgeon), at least 169 adult pallid sturgeon were harvested in the preceding two years by commercial fishers in the Tennessee waters of the Mississippi River. We watched a fisher remove 53 moribund sturgeon from a ghost gillnet that was lost for only one day; one of the dead fish was a pallid sturgeon. Shovelnose and pallid sturgeon are similar in appearance, especially at small sizes, and we misidentified several pallid sturgeon in the field using external traits and a multiple regression model of meristic and morphometric data.

Commercial Roe Fish Harvest Database update- George Scholten Commercial roe harvest to be totaled monthly by each state and submitted to the MICRA coordinator annually. Information to be considered: total by water-body, paddlefish, *Schaphirhynchus* spp., bowfin, roe weight, flesh weight, and number of fish. Law enforcement would have a separate database to include: daily harvest and import records by fisher, totals by water-body, roe weight, flesh weight, number of fish, and name of receiving dealer. This would also include the fishers' name, DOB, state of residence, state of license and license number. It would also include information on the number of day's fished, total number of fishers, and number of gravid females taken. The database would likely be housed by the MICRA coordinator who could then write queries for each state, as requested, and get all information into the proper format for the centralized database. **The two most important questions:**

What do biologists need for management purposes? What does LE need for enforcement purposes?

Paddlefish movement within and without of the Ohio River Basin-Doug Henley Between 2002-2006 some 3,500 paddlefish were tagged with jaw tags in the Ohio River Basin. During that time there have been 428 tag returns with 385 having known locations.

MICRA paddlefish tag database update-Joanne Grady and Brian Elkington

Joanne and Brian Delivered an updated database on Cd's as well as an update of stock assessment project activity. Discussion occurred regarding the use of individualized state databases to submit their data to Columbia NFWCO. Joanne and Brian reported only 1 or 2 states had followed through and submitted data in this way and were asking more states to do the same as per the 2006 agreement. When asked if states had data waiting to be submitted, numerous individuals raised their hands. Joanne and Brian also fielded questions about the use and functionality of the individualized state databases.

CITES update-Laura Noguchi (USFWS/Division of Management Authority) and Marie Maltese (USFWS/Division of Scientific Authority) Laura discussed the recent Animals Committee meeting and the CITES sturgeon committee meeting, including quotas for the Caspian and Black Seas. Marie requested copies of updated state regulations and copies of state harvest reporting forms. She also mentioned that her supervisor would like to convene a meeting with the State Fisheries Chiefs to discuss paddlefish conservation and management.

Paddlefish book update-George Scholten We need to raise \$25,000 to pay for publication; he wants to request funding from the State agencies, State AFS chapters, USFWS, USGS, and the private sector. Are the NGO's a possibility for funding?

2008 Task assignments To the ExCom- two funding requests: \$21,500 for the tagging database, and \$19,500 for the egg-checking study.

Adjourn

ATTACHMENT I
Provided by Bobby Reed

LOUISIANA PADDLEFISH ACTIVITIES – 2007

- 1) Louisiana completed a 17 year restoration program involving the hatchery propagation and large scale stocking of paddlefish fingerlings in water bodies impacted by reservoir construction and hurricane related fish kills. Over one million fry and fingerlings were released into sites selected for recovery. Monitoring of paddlefish populations is being conducted by Inland Fisheries personnel through its' standardized sampling of rivers and lakes. Tag returned fish are being added to both, the state and MICRA data bases.
- 2) Louisiana instituted a recreational fishery for paddlefish which began May 20, 2007. Bag limits are two fish per day with a 30" EFL maximum limit (see Notice of Intent and Commission Resolution).
- 3) Inland Fisheries continues to spawn a small number of paddlefish to provide fertilized eggs and fry to about two dozen Louisiana teachers as part of the Native Fishes in the Classroom Project. Fingerlings raised in this project are returned to the state hatchery for CWT tagging and stocking into state waters.
- 4) Inland Fisheries continues to jaw tag a small number of brooders returned to the river from the Native Fishes Project above.

Inland Fisheries is updating its' statewide Paddlefish Management Plan since the recovery phase of propagation is completed. The last revision was in 1996. The revision will be incorporated into the MICRA Lower Basin Paddlefish Mgmt. Plan as time allows.

ATTACHMENT II - Provided by Bobby Reed

**NOTICE OF INTENT
Department of Wildlife and Fisheries
Wildlife and Fisheries Commission**

The Wildlife and Fisheries Commission hereby advertises its intent to amend the following rule on paddlefish (Polyodon spathula) in portions of Louisiana.

Title 76

Wildlife and Fisheries

Part VII. Fish and Other Aquatic Life

Chapter 1. Freshwater Sports and Commercial Fishing

' 137. Paddlefish

The incidental take and possession of paddlefish (Polyodon spathula), commonly called spoonbill catfish, shall be regulated by the following provisions. Paddlefish as referred herein shall include roe and any parts thereof.

1. Properly licensed recreational fishermen using legal recreational gear may take paddlefish as per the following provisions. No person shall take or possess paddlefish in violation of any of the provisions herein:
 - a. Area - The taking or possession of paddlefish is closed in all saltwater areas of the state and in border waters shared with Texas.
 - b. All possessed paddlefish must be dead. The possession or transportation of live paddlefish is prohibited.
 - c. All paddlefish possessed on the waters of the state shall be maintained intact.
 - d. No persons shall possess paddlefish eggs on the waters of the state which

ATTACHMENT II - Provided by Bobby Reed
are not fully attached to the fish.

- e. Daily take and possession limit – The daily take and possession limit of paddlefish is two per person.
- f. Maximum size limit – All paddlefish greater than 30 inches (lower jaw fork length) must be returned to the water immediately. Lower jaw fork length is the distance from the tip of the lower jaw to the mid-line of the caudal fin.

2. The commercial take and possession of paddlefish is prohibited.

AUTHORITY NOTE: Promulgated in accordance with R.S. 56:6(25)(a), R.S. 56:325.C.
and R.S. 56:326.3.

ATTACHMENT II - Provided by Bobby Reed

HISTORICAL NOTE: Promulgated by the Department of Wildlife and Fisheries, Wildlife and Fisheries Commission, LR 12:368 (June 1986), LR 15:868 (October 1989); amended by the Office of Fisheries, LR 18:978 (September 1992), amended by the Wildlife and Fisheries Commission, LR .

The Secretary of the Department of Wildlife and Fisheries is authorized to take any and all necessary steps on behalf of the Commission to promulgate and effectuate this notice of intent and the final rule, including, but not limited to, the filing of the fiscal and economic impact statements, the filing of the notice of intent and final rule and the preparation of reports and correspondence to other agencies of government.

Interested persons may submit written comments of the amended rule to Gary Tilyou, Administrator, Inland Fisheries Division, Department of Wildlife and Fisheries, P.O. Box 98000, Baton Rouge, LA 70898-9000 no later than 4:30 p.m., _____, 2006.

In accordance with Act #1183 of 1999, the Department of Wildlife and Fisheries/Wildlife and Fisheries Commission hereby issues its Family Impact Statement in connection with the preceding Notice of Intent: This Notice of Intent will have no impact on the six criteria set out at R.S. 49:972(B).

Mr. Terry D. Denmon

Chairman

RESOLUTION
LOUISIANA WILDLIFE AND FISHERIES COMMISSION
LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
January 4, 2007

WHEREAS, R.S.56:325.C and R.S. 56:326.3 give the Louisiana Wildlife and Fisheries Commission the authority to amend by rule, size limits, daily take limits, possession limits, seasons, and times set by law for freshwater finfish, and

WHEREAS, The Louisiana Wildlife and Fisheries Commission completely prohibited the take and possession of paddlefish, commonly called spoonbill catfish, or paddlefish body parts, including eggs, November 1, 1992, and

WHEREAS, SCR 16 of the 2006 regular session was passed to urge and request the Department of Wildlife and Fisheries to allow an incidental catch of spoonbill catfish, and

WHEREAS, Studies indicate that Louisiana populations of paddlefish are now stable or slightly increasing, and

WHEREAS, Paddlefish populations are still susceptible to overharvest if allowed to be taken for their roe, and

WHEREAS, Allowing for a limited take of paddlefish by recreational fishermen should not lead to overharvest.

THEREFORE BE IT RESOLVED that the Louisiana Wildlife and Fisheries Commission hereby promulgates a Notice of Intent, attached to and made a part hereof, to adopt a rule to allow for the recreational take and possession of paddlefish.

THEREFORE BE IT FUTHER RESOLVED, The Secretary of the Department of Wildlife and Fisheries is authorized to take any and all necessary steps on behalf of the Commission to promulgate and effectuate this Notice of Intent and the Final Rule, including but not limited to, the filing of the Fiscal and Economic Impact Statements, the filing of the Notice of Intent and Final Rule and the preparation of reports and correspondence to other agencies of government.

Terry D. Denmon, Chairman
Wildlife & Fisheries Commission

Proposal for: The evaluation of mortality and healing time related to egg checked shovelnose sturgeon

Dr. Darin Simpkins (USGS/Columbia Environmental Research Center; River Studies)
Wyatt Doyle (FWS/Columbia National Fish and Wildlife Conservation Office)

Egg checking in shovelnose sturgeon may be a significant source of delayed mortality and confound managers' ability to draw correlations between harvest and mortality. Concern raised during MICRA's Sturgeon/Caviar Meeting about this residual affect prompted an anecdotal study in 2007 on the effects of egg checks on sturgeon in a hatchery environment. This work was done by the USFWS Columbia Office in cooperation with MDC's Blind Pony Fish Hatchery.

In this initial study, shovelnose sturgeon were taken directly from the Missouri River on trot lines and were held at the hatchery from June through August. Fish were evaluated for mortality and wound closure related to closure techniques and style of incision. We evaluated two types of incision styles referred to as scientific or commercial fisherman style. In the scientific style a small slicing incision was made (10-12mm) and a pipet was used to probe for eggs while in the commercial fisherman style a large incision (14–35mm) was made with a multi-tool gouge cut and knife tip probe. This type of wound in the case of females left the ovaries protruding out the body and no closure technique was performed.

For the scientific incision, healing rates were determined based on three closure styles (suture, adhesive, open or none). Six fish had multiple incisions treated with different closure techniques and an additional 25 fish were treated with single incisions (Table 1). The wounds that had no closure technique (open) were found to heal the fastest for both the multiple and single scientific incision treatments (5-6 day average). One scientific multiple incision fish died in the study. An additional group of 13 fish were cut with a commercial fisherman style incision and healing rate averaged 29 days ranging from 13 to 46 days. No fish died in this treatment group. Results revealed that an open wound left alone healed in less than two weeks and it healed on average better than using adhesive or sutures. For larger traumatic commercial fishing style egg checks, sturgeon showed a remarkable ability to develop a membrane around the exposed ovaries and close the wound in about a month's time with no mortality observed.

ATTACHMENT III - Provided by Tracy Hill

Table 1. Incision types, treatment groups and healing rates for shovelnose sturgeon taken from the Missouri River and held at a hatchery during June through August (22 -27 degrees)

Treatment	Scientific						Commercial
	Open	Multiple Incisions	Suture	Open	Single Incisions	Suture	Single Incision
		Adhesive			Adhesive		Open
N	6	6	6	3	16	6	13
\bar{x} (Range) Incision Length in mm	5 (4-7)	6.5 (4-8)	6.3 (5-8)	6 (6-6)	8.75 (4-13)	7 (5-10)	20.8 (14-35)
\bar{x} (Range) Healing Time in Days	9 (8-14)	15.6 (8-21)	26.2 (14-41)	16 (14-20)	28 (8-45)	35.3 (14 – 53)	29 (13-46)
Mortalities	0	1	0	0	0	0	0

The initial study lacked the scientific rigor to address behavioral or additive affects of treatment types in a laboratory study or perform quantitative statistics. However, at the very least these data show that shovelnose have the ability quickly heal from traumatic egg check wounds and do not readily succumb to their wounds. Our experiment evaluated sturgeon at a temperature higher than what they would normally experience when these types of wounds would occur and is therefore not applicable to managers in making decisions on the true effects of delayed mortality during the spring roe harvest.

We propose performing a more robust study with better scientific controls in a more appropriate water temperature (February to May) to provide a peer reviewed publication on the associated delayed mortality and wound closure rate of fish subjected to a commercial fisherman’s egg check with no closure method.

Two experiments would be planned at different temperatures ending in May. At a minimum, one experiment would evaluate a minimum of 12 non-gravid female sturgeon at an average commercially available size range. In the event a second experiment could be conducted, an additional larger size class of sturgeon would be evaluated. Females assumed to be discarded by fishermen (stage 3 and 4 grey or yellow eggs) would be used for this study. A block design with replication would be used to evaluate mortality and healing rates by physically observing wound closure and appearance of infection until healing was complete or fish had to be moved out of hatchery.

Our ability to document delayed mortality and or draw on observations related to the healing process at the time when commercial fishermen would potentially be egg checking thousands of shovelnose in Missouri and Mississippi Rivers would provide important information for managers making decisions related to harvest regulations and closure of the fishery. Our ability to perform this study would be dependant on available

ATTACHMENT III - Provided by Tracy Hill

water levels at MDC's Blind Pony Hatchery before April 1. In the event that the experiment could not be performed, monies would be returned.

Budget:

GS-5 Technician Salary	\$ 8,200
Fuel	\$ 600
FWS Fish Collection/Oversight	\$ 3,400
USGS Design, Analysis, Write-up	\$ 7,000
Fish food	<u>\$ 300</u>
	\$19,500