Meeting Summary
Esocid Technical Committee
North Central Division, American Fisheries Society
August 3-4, 2006
By Mark Boone

STATE REPORTS

Indiana

- No esocid research
- Stock 11 lakes; Webster Lake (740 acres) is the best
- Webster Lake has a population density of about six muskies per acre
- Stock about five fingerling (10") per acre per year
- MLL—36"; DL—one muskie per day
- Pit tag muskie during 2006 sampling
- 16% recaptures from last year for muskies > 30"

Missouri

I distributed and discussed our new muskie brochure, release poster, Show-Me Muskie Project results, and fyke netting data.

Michigan

- Bacteria caused a die-off in Lake St. Clair during 2003. In 2005, another die-off occurred because of a virus (hemorrhagic septicemia).
- Tested their two broodstock lakes and found a different virus in Thornapple Lake. No problems were identified in Lake Hudson.
- They think they have two lakes with Great Lakes strain muskies. They are testing genetics and anglers are helping collect tissue.
- 95 inland lakes with muskies
- Michigan has five Great Lakes populations.
- They are working on a muskie management plan, which will include broodstock, culture, genetics, and assessments.

Dakota

- One lake with muskies—Lake Amsten (sp?)
- Stocked another lake with hybrid muskies two years ago.
- Northern pike are a major issue—they are coming off a 'boom' period. Size structure and number are declining.

Wisconsin

- Struggling with angler concerns about poor muskie size structure.
- Working to refine muskie management goals.
- Studying genetics of their native muskies. Trying to find genetic markers.
- Developed a broodstock management plan and revised stocking strategies

- Began Green Bay restoration with Great Lakes strain muskies in 1989. Goal is to establish a self-sustaining population. They haven't documented natural reproduction yet.

Representatives from IA, IL, KS, MN, NE, OH, and Ontario did not attend the meeting.

TECHNICAL SESSION

Chippewa Flowage Musky Project (Dave Neuswanger, Wisconsin DNR)

- Conducted fyke net surveys April 18-22, 2006.
- East side: CPUE (≥20") = 2.35; RSD40 = 33; RSD45 = 8
- West side: CPUE (≥20") = 0.86; RSD40 = 39; RSD45 = 10

PIT tag retention in muskellunge fingerlings (Marty Jennings, Wisconsin DNR)

- PIT tags were placed into the dorsal muscle and body cavity of anesthetized (7-13") fingerlings obtained from IL and WI. Control fish were handled, but not tagged. All fish were fin-clipped.
- The fingerlings were placed in raceways and checked after 48 hours for tag retention and initial mortality.
- Tag retention was 99-100%, regardless of strain or tag location. No mortality.
- Over winter results—Tag retention was still 99-100%. Survival was 87-93% for fish tagged in the dorsal muscle and 84-92% for fish tagged in the body cavity. Survival of control fish was 88-92%.

Developing a stock/recruit relationship for muskellunge (Lawrence Eslinger, Univ. of Wisconsin, Green Bay)

- This study will begin this fall
- Objectives are to 1) model stock-recruit relationship, and 2) describe and compare population dynamics in exploited and unexploited muskie populations.
- Study lakes: Exploited lakes—Escanaba and Plum; unexploited lakes—Big Crooked and Wolf
- Fish from Escanaba Lake will be marked with PIT tags and opercle tags next spring and recaptures will be documented the following spring. Adult muskies on the remaining three lakes (Wolf, Big Crooked, and Plum) are receiving an opercle tag and a LV clip.

A muskie bioenergetics model (Steve Chipps, South Dakota St. Univ.)

- Studied hybrid muskies in South Dakota
- Goal to reduce uncertainty in an esocid bioenergetics model
- General model: consumption = metabolism + waste + growth
- Metabolism was similar between summer and fall, but it was less during winter
- Developed three models by season

Wisconsin muskellunge genetics (Ed Murphy, Univ. of Wisconsin, Stevens Point)

- Conservation genetics of Wisconsin's muskie management program
- 25% of WI muskie fisheries began by stocking

- Widespread stocking out of the local fish can result in poor performance
- There are five muskie stocking regions and there is no transfer of fish from one region to another.
- For broodstock collection, they stopped using non-recruiting populations and developed 3-5 brood source lakes in each region.
- Cross one female with 3 males; do not reuse males.
- Ensure all crosses are randomly represented when stocking lakes.
- They have identified 15 micro-satellite markers so far.
- Studying the genetic integrity of Lac Courte Oreilles (LCO) muskies
- LCO historically contained large muskies. LCO was stocked a few times with muskies from Big Spider and Mud/Callahan lakes, which some local anglers think are genetically inferior (small ultimate size—'mutts') fish. LCO fish didn't change from these stockings.

Northern pike assessments in large MI lakes (Patrick Hanchin, Michigan DNR)

- Lakes > 1000 acres
- Estimate abundance, growth, mortality, movement, and angler exploitation
- Tagged legal (>24") fish with reward and non-reward (1:1) tags.
- Determine abundance with multiple census (netting) and single census (creel) methods
- Used dorsal fin rays for age and growth
- Catch curves were used to estimate total mortality
- Angler exploitation averaged 20.1% (7.8-31.4%)
- Average harvest was 0.16 fish per acre
- Angler catch rate was 0.07 fish per hour

Muskellunge movement in the Manitowish Chain, Vilas, Co., WI (Jordan Weeks, Wisconsin DNR)

- Wanted to determine daily and seasonal movement in the 10 lakes
- Objectives: 1) Do individual muskies spawn in the same lake each year? and 2) Do they move to different lakes the rest of the year?
- Muskies were tagged with Floy tags in 2004 (n = 400) and 2005 (n = 91)—each lake had a different color tag
- 19-month radio transmitters were implanted into 36 muskies at least 30" long.
- 55% spawned in the same lake the second year
- 59% stayed in the same lake the rest of the year
- Mean home range was 4.4 acres (0.22-22.9 acres)

BUSINESS MEETING

Treasury report

- Account balance was $786
- Summer meeting registration fee will be raised from $75 to $100. Students presenting study results will only pay $50

We need attendance of state representatives at both meetings—annual summer meeting in WI and winter meeting during the Midwest Conference. If state reps can't attend, they need to find a replacement. Paul Cunningham volunteered to write a letter to AFS Chapter Presidents and Fisheries Chiefs to encourage participation and travel approval of state reps.

Tim Simonson (Wisconsin DNR), ETC Chair, wrote a ½ page 2005 ETC summary for the NCD/AFS.

Muskellunge Symposium

- Held in Indianapolis, IN, October 2005
- 28 presentations and several posters
- Hoping for 2006 printing of the proceedings in a special issue of *Environmental Biology of Fishes*. 16 accepted and 6 rejected papers.
- A book that will contain the accepted papers and additional information (*e.g.* panel discussion) will be printed for a cost of about $50. Rejected papers may also be included in the book.
- Scott Law is the Muskies, Inc. contact; Dr. Jim Diana (Univ. of Michigan) is the ETC contact.

Tim Simonson (WI) is planning to update the history of the ETC and put on the ETC/NCD web page.

The ETC prepared two documents in 1997: *The Introductory, Maintenance, and Restoration Stocking of Esocids* and *A Synopsis of Angling Regulations for Esocids in North America.* At our next summer meeting, we will update one of these two documents.

Chair for the next three years will be as follows (taking over after the Midwest Conference):
2006/07—Mark Boone, Missouri
2007/08—Ed Brown, Indiana
2008/09—Dr. Jim Diana, Michigan