

MINUTES

6th Annual Summer Meeting of the Esocid Technical Committee
North Central Division – American Fisheries Society
Radisson Hotel – LaCrosse, Wisconsin
July 23-24, 1997

Morning Session -- July 23

After a brief introduction by Committee Chair, Terry Margenau (Wisconsin DNR), Dennis Schupp (Minnesota DNR) made an excellent presentation on the trophic relationships of northern pike in Minnesota lakes. Dennis manages an extensive database which includes information from approximately 8,300 surveys on 4,000 lakes over a period of several decades. He used ANOVA to examine interactions among variables which may influence northern pike relative abundance and size structure. Dennis stated, "These observations allow us to identify testable hypotheses" and do not necessarily imply that we now understand cause-effect relationships. A few of the most notable observations/hypotheses are listed below:

- The variables most positively associated with northern pike abundance in Minnesota lakes were water clarity and littoral area.
- There was a strong negative association between the mean weight of pike and their CPUE in standard, multiple-mesh-size gillnets. Dennis hypothesized that the common situation of overabundant small pike may be caused by excessive angler exploitation of adult pike and the presumed concomitant decrease in cannibalism. Would higher length limits help?
- The mean weight of northern pike in gillnet samples was highest in lakes which contained lots of *small* yellow perch and cisco. He hypothesized that these prey species may exhibit a "recruitment response" as their largest, oldest individuals are preyed upon selectively by large pike.
- In lakes <650 acres, there was a highly negative association between northern pike CPUE and walleye CPUE, and the mean size of walleye in gillnet samples increased as pike CPUE increased, suggesting that pike may be capable of impacting walleye recruitment in small lakes. When other interactions were considered, it seemed that yellow perch could "buffer" against the negative effect of northern pike on walleye CPUE. Likely effects of basin morphometry, productivity, and substrate composition (particularly spawning habitat) were acknowledged and were not cleanly separated from fish population interactions for purposes of analysis.
- As yellow perch CPUE and mean size increased in gillnet samples, mean size of bluegill also increased. This observation seemed most pronounced as lake size and productivity increased. (A study in Michigan found that yellow perch ate lots of juvenile bluegill during mid winter under ice cover.)

This presentation generated some interesting discussion, wherein Joe Larcheid (Iowa DNR) spoke of a lake where crappie ate 85% of 2-inch walleye within 24 hours of the time of stocking. Jerry Younk (Minnesota DNR) knew of a similar situation. Dennis Schupp concurred that high crappie population density might negatively affect walleye recruitment. Minnesota will continue to net a group of "core" lakes in order to monitor these complex fish community interactions over time.

Dennis Anderson (Minnesota DNR) presented an interesting case history of 850-acre Horseshoe Lake. DNR biologists felt that anglers desired more northern pike in this recruitment-limited system, so they decided to experiment by stocking "winter-rescued" pike and evaluating fish community response. Thousands of young northern pike (10-16") were stocked in 1969, 1973, and 1979. Gillnet CPUE of northern pike increased significantly after these stockings, but there were adverse side effects. Gillnet CPUE for yellow perch declined precipitously after 1969 and remained low for decades. According to Dennis, stocked pike preyed heavily upon perch at a pre-adult size (4-6"), ultimately leading to the perch population decline. (Large adult perch present at the time of supplemental pike stocking eventually disappeared without replacement.) Gillnet CPUE for walleye also declined following the pike stockings; and walleye growth rate declined, presumably in response to decreased availability of yellow perch as prey. Gillnet CPUE for bluegill increased, and their growth rate declined. Nice-sized crappie were present in low numbers throughout the evaluation period. Dennis concluded that the addition of winter-rescued northern pike to this lake upset the ecosystem in many ways which were not positive.

Dennis Anderson's presentation generated some open discussion of northern pike management in general. Rod Pierce (Minnesota DNR) briefly described the ongoing management of 300-acre Medicine Lake, where a 22- to 30-inch slot length limit on northern pike in a centrarchid-dominated fish community has resulted in a remarkable increase in catches of pike >30 inches. Regulation compliance was good due to the support of a cooperative resort owner. Tim Goemen (Minnesota DNR) mentioned that Minnesota now has *maximum* length limits for northern pike (20, 22, and 24 inches) on several lakes. Their intent is to determine whether increased numbers of large pike will result in sufficient cannibalism to control numbers of "hammer-handle" pike.

Prior to breaking for lunch, NCD President Don Pereira (Minnesota DNR) updated the committee on Division and Society events and issues. The North Central Division has made approximately \$2,000 already this year by sponsoring continuing education workshops, so we have contributed \$2,500 to the Bethesda office project, and plan to do so again next year. A Division-sponsored Fish Genetics Workshop scheduled to serve 50 participants in LaCrosse, Wisconsin next week should generate even more income. There have been numerous discussions about the structure and function of the AFS home office. There was general agreement that computer resources were in desperate need of upgrading or replacement, so the Executive Board decided to use some AFS2000 funds *now* in order to maintain vital operations. This expenditure is consistent with the intended use of those funds to help the home office function effectively and efficiently.

Afternoon Session -- July 23

Treaty biologist Ruth King (Wisconsin DNR) kicked off an afternoon session on monitoring the harvest of muskellunge. Ruth summarized the difficulties involved in monitoring harvest with on-site creel surveys as follows: 1) muskellunge are caught at a much lower rate than most other species; and 2) so few muskellunge are kept that the probability of creel clerk contact with a harvested fish is very low. Wisconsin DNR has examined muskellunge harvest based upon their on-site creel surveys (40 hours/week, stratified-random, daytime) at 33 treaty lakes where the primary objective was to monitor walleye harvest. Between 1990 and 1997, muskie fishing comprised 20% of all angler effort on the study lakes. Average catch rate for muskellunge was one fish per 27 hours of muskie angling effort, and mean specific harvest rate was one fish per 385 hours. Most fish caught were <40 inches long, and 80% of all legal fish were released; but more than half of the 94 harvested fish documented by creel clerks were <40 inches long.

Jerry Younk (Minnesota DNR) summarized Project Muskie Angler Diary (1986-1989). After a trial year in 1986, 63% of voluntary participants (<100 annually) responded to Jerry by submitting diary records of their muskie fishing trips. The 128 anglers who participated in the project during 1987-1989 reported fishing 56,068 hours during 4,912 trips, 94% of which were to Minnesota waters. Effort and catch peaked in July. Three anglers accounted for 23% of the reported catches. Mean specific catch rate by participants was one fish per 67 hours in waters with self-sustaining muskellunge populations and one fish per 20 hours in waters dependent upon stocking. The average size of fish caught and released was 34 inches, and over 98% of all fish caught were released. The average Minnesota muskie angler spent \$23.81 per daily trip, travelling an average distance of 61 miles to fish.

Steve Newman (Wisconsin DNR) reported the results of mandatory harvest registration for muskellunge and other species at 293-acre Escanaba Lake in the Northern Highlands Experimental Management Area. Escanaba Lake has been managed and monitored since 1956 with no size limits, no bag limits, and no closed season for any species of fish. Approximately 20 muskellunge were harvested annually, with a mean annual exploitation rate estimated at .23 between 1956 and 1996. Harvested males averaged 31.8 inches long and confirmed females averaged 34.1 inches. (Some larger fish were not dissected due to angler plans to have the fish mounted.) Many of the muskellunge harvested were caught by walleye anglers. On average during the past ten years, anglers have fished 10 hours/acre/year specifically for muskellunge. Mean specific catch and harvest rates for muskellunge of all sizes have averaged one fish per 25 hours and 200 hours, respectively.

Business Meeting -- July 24

ETC Chair Terry Margenau reported on plans for the Muskellunge Management Symposium to be held as a special session of the Midwest Fish and Wildlife Conference in Milwaukee next December. To date, 11 papers have been accepted for presentation between 1:00 and 5:15 p.m. on the first day (Monday) of the conference. Terry has asked all authors to submit by July 31 draft papers for publication in a future issue of the North American Journal of Fish Management.

Terry distributed and briefly discussed Dr. John Casselman's report on the status of the Muskellunge Scale Exchange Program, which most participants will be starting in August.

Terry reported that Wayne Stancil (USFWS) has completed assembly of our esocid "grey literature" library. Documents are now available from the Fish and Wildlife Reference Service.

Steve AveLallemant (Wisconsin DNR) reported on the status of the Esocid Angling Regulations Synopsis. Steve obtained responses from 30 of 35 agencies queried. Committee members reviewed and unanimously approved the format Steve developed to present the information. It was agreed that all contributors should be afforded the opportunity for a final review before the document is printed. Steve will contact Steve Budnik of Muskies, Inc. in order to determine if they are interested in funding publication and printing costs. Steve will likely suggest to Muskies, Inc. that we split 50/50 any proceeds from the sale of the Synopsis which exceed their publication and printing costs. Steve will suggest to Muskies, Inc. that 500 copies of the Synopsis be printed for our committee to distribute free to professionals, plus whatever number they think they can sell to interested anglers at whatever price they think is reasonable.

We next discussed final production and distribution of the document prepared by Dave Clapp entitled "The Introductory, Maintenance, and Restoration Stocking of Esocids" which summarizes the results of our 1996 Summer Meeting. Committee members reviewed their respective input and noted a couple errors which will be corrected prior to publication. It was agreed that each person who summarized program material for another state or province should contact that entity and ask if the information presented on their behalf is accurate and acceptable for release. Such individuals are to notify Dave Clapp by September 1 of any corrections.

While time is short, we agreed that we would try to have *both* the above referenced publications completed and available for sale at the annual meeting of Muskies, Inc. In Springfield, Missouri in late October. Dave Neuswanger agreed to handle local distribution.

Dennis Scholl conducted a successful raffle of several fine muskie lures donated by Pete Maina, Bruce Shumway, and Joe Bucher, plus a half gallon of pure maple syrup donated by Richard Day. This fun activity netted the committee \$145.

Chair-Elect Rod Pierce (Minnesota DNR) closed the meeting by establishing that our next Summer Meeting will be held July 21-22 in LaCrosse, Wisconsin. Rod plans to invite participants from Canada and would like to develop the program around a theme of regulation case histories. The meeting ended at 11:00 a.m. with the acclamation of Joel Klammer (Nebraska GPC) as new Chair-Elect.

Respectfully submitted on July 31, 1997 by:

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Disclaimer: Any errors of omission or content which occur herein are strictly my own and should not reflect upon the leadership of the Esocid Technical Committee, who have not reviewed these Minutes. I hope I represented our many interesting projects accurately and thoroughly. --Dave