

## **North Central Division Centrarchid Technical Committee Winter Meeting 2009**

December 6, 2009

Springfield, IL.

A total of six people representing three states (NE, SD, and IL) attended the 2009 North Central Division annual business meeting:

Quinton Phelps-Southern Illinois University

Jason DeBoer – University of Nebraska-Lincoln

Matthew Ward – South Dakota Game Fish and Parks

Justin VanDeHey – South Dakota State University

Michael Greiner (Dakota Chapter Representative) – South Dakota State University

Mark Kaemingk (Chair) – South Dakota State University

The Centrarchid Technical Committee currently has \$738.51 in its account. The following reports were then read to those attending the meeting:

Additional information discussed at the meeting included the following:

The next meeting will be held in LaCrosse, Wisconsin during July 27-29<sup>th</sup> and will be held in conjunction with the Esocid and Walleye technical committees. Future goals include seeking a CTC representative from each state and updating the website. We hope to encourage more communication among states with regards to regulation changes, current research, and other associated information about Centrarchids in the NCD.

### **IOWA (Lewis Bruce)**

#### Regulation Change

January 11, 2009 marked the first day of Iowa's statewide bag limit on panfish. Bluegill and crappie each have a 25 fish daily limit.

#### Mississippi River Centrarchid work

Winter habitat selection of Bluegill, Black Crappie and White Crappie are being assessed using radio telemetry. The Bellevue crew has tagged 280 fish throughout 4 pools of the Upper Mississippi River. This work has been important in evaluating an Environmental Management Program Habitat Rehabilitation and Enhancement Project. It will also help direct the Corps of Engineers in future backwater restoration efforts in the Mississippi River.

## Sampling Gear Study

Work is currently being conducted to compare fyke net and unbaited tandem hoop net catches. Initial work shows CPUE of hoop nets is between 8 and 12 times higher than fyke nets.

## **MINNESOTA (Michael Knapp)**

Two projects come mind. The first is some genetics work that Mike McInerny (MN DNR) and Loren Miller (U of M) have done regarding large crappies. They looked at the genetic component of the largest crappies from numerous lakes and found many of the largest crappies were first-generation hybrids between black and white species. Many of these fish looked almost identical to their black crappie parents and were typically identified as such. While this is interesting, it is probably not a big surprise for many biologists to hear that hybrids may be identified as a parent species or that they grow well. However, it's what can happen in the data analysis where things can get messy. While there was annual variation in the prevalence of hybridization, those first-generation hybrids accounted for over 80% of the outliers in length distributions of black crappie age classes. Further, they were also responsible for upward bias in back-calculated length estimates for black crappies.

Jeff Reed (MN DNR) has been working on a project examining largemouth bass nesting habitat and dynamics of the breeding population. He's in the second year of the study and data collection thus far suggests that only a few nests may be contributing to any given year class. The goal is to get a better idea what percentage of the population is spawning in any given year and how many nests are contributing to a year class. He's also piloting a project modeled after Alabama's BAIT (Bass Angler Information Team) program to collect data from the highly popular small, weekly fishing tournaments.

Some other general thoughts from MN. There has been a ton of interest in habitat lately, both professionally and from the public. Professionally, many new research projects (centrarchid and other) are focusing on habitat, both in lake and riparian. On the public side of things, a new source of dedicated funding came online this year. In a nutshell, the natural resource portion is focused on restoring, protecting, and enhancing Minnesota's wetlands, prairies, forests, and habitat for fish, game, and wildlife. While this may be done in a variety of ways and the scope is large, what quickly became apparent is that there needed to be a shared voice for fish, one that carried some weight (like Ducks Unlimited and other wildlife champions), not just a variety of smaller single species groups. Well, a new group grew out of this called Anglers for Habitat. Their mission is to preserve and improve aquatic habitat, clean water and fishing in Minnesota. As we all know, if we take care of the fishes home, the fish can take care of themselves, so it's encouraging to see anglers getting involved and promoting habitat.

## **SOUTH DAKOTA (Michael Greiner)**

### **Natural Reproductive Cycle of the Northern Largemouth Bass *Micropterus salmoides salmoides* in the Upper Midwest**

**Daniel E. Spengler (M.S. student at South Dakota State University)**

The reproductive cycle of northern largemouth bass *Micropterus salmoides salmoides* was documented in a small southeastern South Dakota impoundment for one cycle. Seasonal trends in gamete development, organosomatic indices, sex steroid hormones and the egg-yolk precursor protein vitellogenin (Vtg) were related to seasonal temperature and photoperiod variation. Results from this study confirm that northern largemouth bass possesses a seasonally distinct reproductive cycle similar to other temperate freshwater teleosts, where seasonal trends in gamete development, organosomatic indices, sex steroid hormones and Vtg were highly related to seasonal changes in temperature and photoperiod. Although many reproductive cycle similarities exist between the Florida *M. s. Floridanus* and northern subspecies, the northern subspecies possessed some characteristics more typical of cool water teleost species (e.g., walleye), which exhibit gamete development during the fall prior to winter periods. Production and retention of gametes through winter periods may reduce the amount of energy needed for gamete development in the spring. Additionally, a small increase in E<sub>2</sub> appeared to promote peak Vtg levels in females during the fall, even when E<sub>2</sub> levels were seasonally low. Although Vtg levels increased in the spring, peak Vtg levels did not coincide with peak E<sub>2</sub> levels during the spawning season, differing from the typical E<sub>2</sub>-Vtg relationship observed for most temperate freshwater fishes. This E<sub>2</sub>-Vtg mismatch may be related to peak periods of endocytosis during the spawning season, where Vtg was rapidly removed from the blood stream and integrated into growing oocytes. Results for the reproductive cycle, obtained in synchrony with natural photoperiod and temperature dynamics, should provide a baseline for developing a compressed photothermal schedule to accommodate out-of-season spawning by northern largemouth bass.

### **Development of Urban and Community based Largemouth Bass Fisheries in South Dakota**

**Michael Greiner (M.S. student at South Dakota State University)**

Angler participation rates have been declining across the United States, particularly for younger generations. Urban fisheries may be vital, yet underused resources for recruiting and retaining new anglers. We developed a study to identify the use, status, and angler satisfaction with community based fisheries (n = 5 lakes, 0.6- 29 acres) in South Dakota. Our objectives were to develop a management program that increases angler use and satisfaction, particularly for younger age groups. We electrofished each lake in late May to assess the fish communities present as well as the population dynamics of largemouth bass (*Micropterus salmoides*), a popular sport fish in many community-based fisheries. We conducted creel surveys to assess angler use, harvest, satisfaction, and preferences. Largemouth bass population estimates ranged from 53 (SE=2.0) to 416 (SE=6.48). Angler surveys revealed high use (114 hrs./acre) relative to non-urban fisheries within close proximity (12 hrs./acre). Trip satisfaction was also high (55-

95%) for urban anglers. Additionally, anglers commonly cited close proximity and knowledge of stocking events as reasons for choosing to fish urban fisheries rather than other lakes. Therefore, management aimed at increasing catch rates may be an appropriate method for increasing use and satisfaction with urban fisheries.