Hatchery Highlights

U.S. Fish & Wildlife Service
Warm Springs NFH
News and Updates

Summer 2007

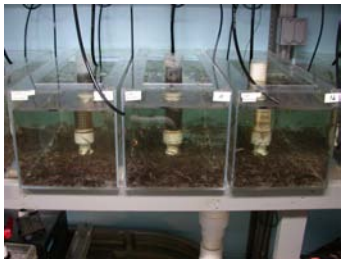
OTC IMMERSION MARKING EFFECTIVENESS ON STRIPED BASS

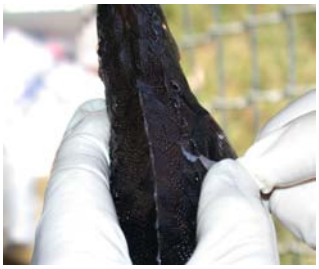
Unpublished trials evaluating OTC immersion marking effectiveness on phase I and phase II striped bass were conducted in 2006 and 2007. Several brands of OTC were evaluated. Several pH buffers were also evaluated for effectiveness during the immersion period. An improved oxygen delivery system was installed in the holding house. Liquid oxygen can now be pumped through copper tubing into every raceway that is used for the OTC marking period.

IMPROVING POND HARVESTING TECHNIQUES AT WSNFH

Many established pond harvesting techniques are stressful to certain fish species because of the amount of handling to get the fish from pond to tank. The Hatchery evaluated an improved method of harvesting that may reduce the handling stress on the fish. An articulated boom was attached to a backhoe and a harvest tank with a quick release lever was attached to the end of the articulated boom. The striped bass harvested using the boom and harvest tank seemed to experience less trauma (including minimal eye injuries normally caused by rubbing against nets and seines). The articulated boom and harvest tank will be used in future striped bass pond harvesting because of the minimal stress to fish and personnel.

LAKE STURGEON PROPAGATION





WSNFH is one of many partners in the expanding effort to restore lake sturgeon in the Upper Tennessee and Cumberland Rivers in Tennessee, and the Coosa River in Georgia. Our involvement in the program began in 1998 to determine and evaluate our capabilities to propagate and culture this threatened species. Spawning protocols were developed by the hatchery utilizing five males per female, keeping individual female groups separate through egg hatching. Tissues are collected from all broodfish for genetic typing. Culture protocols include egg disinfection and a 30-day quarantine period of all fry and discharge waters. A feed transition schedule was developed for lake sturgeon that includes an initial feeding of enriched *artemia* followed by frozen midge larvae (bloodworms) with eventual transition to a semi-moist Rangen diet. After 45 days of culture, fish are distributed to four federal and two State facilities for continued culture and later distribution in the fall. Fish are marked prior to distribution by removing a scute either on the left or the right side of the body, which enables researchers to evaluate survival for each year class.

CRYOPRESERVATION TECHNIQUES REFINED FOR ALLIGATOR GAR SPERM

Despite the small numbers of alligator gar males captured during the last two years, the development of cryopreservation techniques has moved forward. Milt was collected from several alligator gar broodstock during the spawning season. The broodstock were wild fish captured from St. Catherine Creek in Sibley, Mississippi, and held at Pvt. John Allen National Fish Hatchery in Tupelo, Mississippi. We were able to collect large amounts of sperm from each male (about 70 milliliters from each male, several times). We have had problems in the past getting enough sperm, but all it took was holding the fish right side up. We collected enough sperm to use for fertilization, cryopreservation, and additional studies. Future efforts include the development of short-term sperm storage techniques to increase genetic diversity in spawning crosses and also testing cryopreserved sperm on fresh eggs in fertilization trials. Hopefully we will have an even better spawning season next year!

FERTILIZATION OF ALLIGATOR GAR EGGS WITH CRYOPRESERVED SPERM IS A SUCCESS!

Warm Springs Fish Technology Center staff assisted hatchery staff this year with conducting studies. We took small lots of eggs from alligator gar females and fertilized them with sperm that was frozen in 2005 and 2006. The cryopreserved sperm fertilized eggs at a relatively good percentage, validating the techniques used in the past two years. We were able to obtain about 200 fry from using the cryopreserved sperm. They seem to have gotten over the initial "mortality hump". They are about as big as the fry that were fertilized with fresh sperm (as our control). Now, hopefully we can show that cryopreserved sperm will have sufficient fertilization rates, which will make using cryopreserved sperm a viable hatchery management tool if needed in the future. We will be looking at preserved eggs (a lot of them) to determine fertilization rates under the different cryo treatments used.

OUTREACH TRAINING COURSE AT NCTC ATTENDED BY TWO WSRFC STAFF

Jaci Zelko, Fish Biologist, and Rosla Plant, Park Ranger, attended the Public Outreach and Education: Overview and Program Planning Course held in August at NCTC. The course is designed to give participants the tools, skills, and resources needed to develop and implement outreach plans at the individual's office. Jaci learned a great deal from the course and came away with the knowledge that "Outreach is a resource management tool." Two outreach plans are currently in development at the hatchery using the 7-step model learned during the valuable training experience.

REGIONAL DIRECTOR SHOWS GRANDSON THE JOYS OF FISHING AT WARM SPRINGS NFH DURING "KIDS FISH FOR FUN DAY"

Sam and Becky Hamilton, proud Grandparents of Davis Hamilton, participated in the "Kids Fishing for Fun Day" on June 9, held at the hatchery. Little Davis was introduced to the sport of fishing by his grandfather, USFWS Southeast Regional Director Sam Hamilton. The event is celebrated each year as part of the National Fishing and Boating Week Activities which are held throughout the nation. The 2007 event for was a huge success with over 300 children, ages 3 to 12, participating. The Friends of Warm Springs Hatchery, WenMarr Management, Wal-Mart All American Kids Fishing, Wal-Mart DC 6054, as well as many others, helped to make the event a fun experience.

"Opportunities such as National Fishing and Boating celebrations are vitally important to involving citizens in conserving our natural resources. In fact, a growing body of research shows a link between the attitudes and behaviors of adults toward nature and their direct interaction with nature as a child," says Sam. "I'll bet an overwhelming majority of us in the Service found our way into our careers in fish and wildlife conservation by way of our childhood experiences in the out-of-doors. Disconnecting children from all things electronic and getting them out into nature not only develops an awareness of the natural world that will last a lifetime, it also supports children's physical development as healthy, active human beings."

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