Tennessee Chapter American Fisheries Society Newsletter

Winter 2008 **No. 128**

President's Message

During the past year, it has been my privilege to serve as your president. Working together we have accomplished a lot. Both the TN Chapter and the TTU Student Fisheries Association subunit have successfully revised and updated their bylaws. No small feat! The TTU SFA also has been busy recruiting new members by expanding their chapter's recreational activities; you can check them out at http://orgs.tntech.edu/sfa. Makes me wish I was still a student! The UT subunit is nearing completion of its bylaws and approval of related paper work toward formal recognition by AFS. The many fishery related activities sponsored and carried out by our student subunits adds great recognition to our Chapter and our profession. Their energy and enthusiasm leads me to believe our Chapter has a great future ahead of us.

What a great group of fishery professionals we have here in the Volunteer State, for two years running the American Fisheries Society has recognized you as the Outstanding AFS Chapter with less than 100 members. The award is a testament to your collective accomplishments and willingness to embark upon worthy projects like hosting the 2007 Southern Division Meeting this past February in Memphis. Dave Rizzuto, Phil Betolli, and all those who served on meeting committees did an outstanding job with both the meeting arrangements and program; which featured both workshops and diverse presentations covering a variety of fish and aquatic resource topics while still allowing time to enjoy the sites and sounds of Memphis. The meeting resulted in significant positive financial gain for our chapter which will be used to fund future projects.

Hosting meetings such as the SDAFS and the upcoming 2009 AFS Annual Meeting are major events that require active participation by all our members from the student subunits and academic professionals to the state, federal, and private sector biologists. Speaking of the 2009 AFS Annual Meeting, preparation is under way; meeting chair Bobby Wilson has begun setting up organizational committees so when you are contacted to serve on a committee, be ready to pitch in!

President-elect Frank Fiss has done a great job arranging our 2008 Tennessee Chapter meeting at Fall Creek Falls State Park on March 11 and 12, 2008. See the meeting announcement in this Newsletter. Be sure to include your current email address with your registration. Our revised bylaws now allow us to conduct chapter business through emails which greatly reduces the time and cost of conducting elections and other activities requiring member notification. I look forward to seeing all of you at Fall Creek Falls and sharing ideas to keep building our Chapter to serve the fisheries needs of Tennessee. Have a Merry Christmas, Happy New Year, and Happy Hunting Season ……

- Don Hubbs, Chapter President

Annual Meeting

The Tennessee Chapter of the American Fisheries Society will meet at **Fall Creek Falls State Park** on **March 11 and 12, 2008**. The program will consist of technical sessions with a business meeting and social on the night of the 11th. The meeting will start around noon on the 11th and adjourn by noon on the 12th. Go to: http://www.tn-afs.org/ for registration and accommodation information.

Award Nominations

The Tennessee Chapter of the American Fisheries Society Nomination and Awards Committee is soliciting nominations for the following awards:

Lifetime Achievement Award
Outstanding Fisheries Scientist

Service Award
Friends of Fisheries Award

Please submit all nominations to Brad Cook (sbcook@tntech.edu) by January 4, 2008.

Officer Nominations

The Tennessee Chapter of the American Fisheries Society Nominations and Awards Committee is soliciting nominations for the following Chapter officer positions:

President Elect
Secretary/Treasurer

Please submit all nominations to Brad Cook (sbcook@tntech.edu) by January 4, 2008.

Education Section Award Nominations

CALL FOR NOMINATIONS

Excellence in Fisheries Education Award
Education Section, American Fisheries Society

The American Fisheries Society (AFS) Excellence in Fisheries Education Award was established in 1988. The award is administered by the Education Section and is presented to an individual to recognize excellence in organized teaching and advising in some aspect of fisheries education. Nominees may be involved in extension or continuing education, as well as traditional college and university instruction. Nominees must be AFS members, have been actively engaged in fisheries education within the last five years, and have had at least 10 years of professional employment experience in fisheries education. Two or more people may act as nominators, but at least one nominator must be an AFS member. The nominator(s) is responsible for compiling supporting material and submitting the application. The suggested format for applications can be found on the Education Section web site. Application materials should be sent to **Michael Quist (mcquist@iastate.edu)** in digital form.

Nomination deadline is **May 16, 2008**. Additional information can be obtained from:

Michael Quist
Chair, Excellence in Fisheries Education Committee
Dept. of Natural Resource Ecology & Management
Iowa State University
339 Science II
Ames, IA 50011
Phone: (515) 294-9682
mcquist@iastate.edu

TWRA Region I

We placed SMB spawning benches in Pickwick Reservoir. We feel this habitat structure is beneficial to all black bass. However, the lower end of Pickwick has limited spawning areas and the benches should have a positive impact on the SMB population.

We completed our study on the catch and harvest rates of spider riggers (> 3 poles/angler) and the traditional anglers (≤ 3 poles/angler). There were significant differences in crappie harvested between the two types of anglers, although the majority of the anglers in Kentucky Reservoir were not spider riggers. However, spider riggers dominated fishing pressure in some embayments. The analysis showed catch and harvest rates of spider riggers were significantly higher when compared to traditional anglers. Impacts of spider rigging may be significant in smaller embayments with erratic recruitment and where spider riggers dominate fishing methods.

The crew continued monitoring commercial paddlefish harvest. This monitoring will be very important for managing the paddlefish population and determining impacts of the caviar industry. Reggie Wiggins and I are working on a paper summarizing our findings.

In addition to our regular Spring electrofishing activities (52 sites), we attempted to get a better idea of the adult SMB population on Pickwick Reservoir. Sampling for the adults is very difficult and we have not had much success.

We will continue maintenance of deep water fish attractors established lakewide and continue our shallow water fish attractor program in February. That program is very popular with the anglers. We are in the process of updating our fish attractor maps for public distribution. All deep water sites have GPS coordinates and embayments with shallow water sites were identified

We also surveyed reservoirs of Region I and identified the species and distribution of aquatic vegetation. As expected it was a banner year for aquatic vegetation and *Hydrilla* sp increased in Pickwick Reservoir. Although coontail and southern naiad dominated vegetation identified in Kentucky Reservoir, Hydrilla sp. was identified in the middle portion of the reservoir.

We continued assisting Dave McKinney in collecting fish on the Mississippi River for flesh analysis. The silver carp populations are exploding on the Mississippi and sampling can be very dangerous. In our samples of the Mississippi River tributaries, we collected silver carp in the mouth of all the tribs and also found them stacked below the spillway at Reelfoot Lake. Silver carp have been seen in Reelfoot Lake and will be a problem once they become established. Silver carp have also been observed below Cheatham Dam but have not been collected below Pickwick Dam, although commercial fishers have collected bighead carp in the Big Sandy area.

The stream crew completed assigned surveys and now has a three year management plan for streams and small rivers in west Tennessee. This plan will allow us to make comparisons between sampling dates and among warm-water streams in west Tennessee. The naturally reproducing rainbow trout population in Hurricane Creek continued to improve and we completed our five year sampling of that population.

Trap netting surveys for crappie were completed and recruitment was poor to average in Kentucky, Barkley, and Reelfoot Lake. We suspect the hard freeze following warmer water temperatures in the Spring impacted recruitment success. However, Spring largemouth bass electrofishing samples were good and bass fishing should be good on Kentucky Reservoir the next few years.

We are concerned about the impact of increased fishing pressure for paddlefish. We will continue monitoring that fishery and have completed our schedule to accompany commercial fishers (not just paddlefish) once a week during 2007. This data will provide important information on the commercial industry and impacts in the recreational fisheries. Sturgeon sampling is also planned for the Mississippi River.

Keep in touch and see you at the Chapter meeting.

-Tim Broadbent, Fisheries Biologist, Region I

Conservation Fisheries, Inc

It's been an extremely busy year for Conservation Fisheries, with more news than can be discussed in a reasonable amount of space. Newsletters at CFI's website provide additional information, along with photos and video (CFI newsletter). Field work was initiated unusually early during the bizarre 80°F warm spell in mid-March, with a trip to southern Tennessee to collect (Endangered/E) boulder darter brood stock and survey for (Threatened/T) slackwater darters. Eight boulder darters were collected to add to the captive population, along with a bonus—two ashy darters, the first collected from the Elk River since 1981, and only the second and third from that stream in Tennessee! These were provided to Steve Powers, who is re-describing the species and elevating two populations to new species.

Surveys of numerous potential slackwater darter sites near Lawrenceburg were unsuccessful with the exception of the first site visited, a historic (1976) locality on Chief Creek, a Buffalo River tributary. Here, in a scour hole below a culvert, filled with leaves and trash (including a toilet!), six slackwater darters were collected with fine-mesh dipnets! Because the site was the last remaining pool in a dry creek bed and about to dry up (the drought was already underway…), all were returned to CFI to maintain as an ark population.

April is when many species begin to spawn at CFI, and when several species are stocked out in order to have an opportunity to spawn in the wild as well as create space for new fish. We released tangerine darters (46) to the Pigeon River at Denton (the first ever), smoky (E/277) and yellowfin (T/419) madtoms and spotfin chubs (T/295) to Tellico River, and boulder darters (E/628) to Shoal Creek, south of Lawrenceburg. We snorkeled with and filmed the spectacular buffalo run in Citico Creek (see WBIR's Heartland series or our website for some of our underwater video) and field-stripped and fertilized sicklefin redhorse eggs beside the Little Tennessee River near Franklin, NC for our first effort at rearing releasable numbers of this rare sucker.

May through July required the usual juggling of hatchery spawning and rearing (spotfin chubs, boulder darters, logperch, blueface darters, etc.) combined with collection of wild nests to rear—duskytail darters (E) from Citico Creek and Little River (TN), smoky madtoms from Citico, and yellowfin madtoms from Citico, Copper Creek (VA) and the Powell River (TN & VA). Survey work ranged from central Tennessee (Kelley Creek, a Harpeth River trib), to north Georgia (Etowah River and Conasauga River tribs), to western Virginia

(Clinch River near Cleveland). Efforts to collect slender chubs (T) in the Clinch River near Sneedville were unsuccessful, but five pygmy madtoms (E) were collected (a record number in a single effort?) and transported back to CFI, where they produced several spawns, and, ultimately, several progeny, despite numerous problems with incubating eggs. Propagated yellowfin madtoms were released in the Powell River near Jonesville for only the second time, but not before a monitoring snorkel survey found three tagged individuals stocked the first/previous year, one of which was a male defending a clutch of eggs! These were collected and taken to CFI to rear, along with other nests collected from the main population many miles downstream, for 2008 stocking. Finally, nearly 1500 fingerling sicklefin redhorses were released, a first for this species, in the Oconaluftee River in Cherokee, NC, as well as the Tuckaseegee River in Cullowhee, NC.

August until the end of field season is our primary snorkel monitoring and survey season, during normally low flows and optimal visibility. Due to the ongoing drought this year, water was so low that some of the smaller streams we survey annually were actually TOO low to survey many habitats effectively, except pools. More positively, however, many larger rivers (particularly the Clinch) were at levels and visibilities more optimal than we had ever experienced, permitting ideal snorkel conditions. Results, as briefly as possible: Abrams Creek—restored populations of smoky and yellowfin madtoms continue to thrive, while duskytail darters appear to be more numerous than in the source population, Citico Creek (TTU students Keith Gibbs and Jason Throneberry did the bulk of the monitoring for thesis work); Citico Creek—minimal monitoring, but the three latter species appear at least stable; Tellico River—smoky madtom and duskytail darter populations are reproducing, spotfin chubs were observed, but did not appear to have reproduced (due to low flows) this year, despite notable recruitment in 2006 (hopefully, additional releases of >1200 in 2007 will offset); Little Tennessee River—spotfin chubs have recovered somewhat at most survey sites from worrisome lows of 2006; Clinch River (VA)—yellowfin madtom known distribution doubled from ~15 river miles to nearly 30 and ashy darter distribution (not collected from VA from 1964 to 2006) expanded to ~15 river miles; North & South Toe Rivers (NC)—blotchside logperch, olive darter, sharphead darter, and blotched chub observed; Shoal Creek—14 stocked/tagged boulder darters observed at release site, but none at shoals/habitat downstream; first spotfin chub release (~600); Little River—no duskytail darters observed at 2 stocking sites, so fall release (~90) at new site; robust new local population also discovered; Conasauga River—blue shiner, holiday darter, bridled darter populations expanding, but no Conasauga logperch (E) observed; Little Chucky Creek—three checks of PVC pipe traps set out in March failed to find Chucky madtoms—either the technique is unproductive or the species increasingly appears to be extinct.

Finally, after successfully producing more than 1200 logperch to serve as mussel hosts, we have collected blotchside logperch from the Little River to attempt to propagate in 2008 and restore to Tellico River and Citico and Abrams Creeks, and Roanoke logperch (E) from the Roanoke River, VA to develop propagation protocols and hopefully produce life history information critical to population viability analysis and conservation of this fragmented and highly imperiled species.

Finally, finally, our hatchery technician, Meredith Penland, left us at the start of August to pursue graduate work at Coastal Carolina (on sharks! But maybe we'll get her back in freshwater some day…). We welcomed her able replacement, Becky Franklin, from Appalachian State, as well as UTK grad student and part time worker, Russ Bohl! Many thanks are also deserved by all the volunteers that assisted this year, particularly UTK students and state and federal agency staff too numerous to list.

- Pat Rakes, CFI

Department of Biology – Tennessee Technological University

Dr. Brad Cook is conducting research concerning three federally threatened or endangered fish species in Abrams Creek of the Great Smoky Mountains National Park. Dr. Cook currently has two MS students (Keith Gibbs and Jason Throneberry) working on this project. Keith is working with the duskytail darter and Jason is working with yellowfin and smoky madtoms. A Ph.D. student under Dr. Cook's direction (Johnathan Davis) is developing rare fish monitoring protocols for use by the National Park Service in the Obed Wild and Scenic River and the Big South Fork National River and Recreation Area. Ben Hutton (MS student working with Dr. Cook) is developing a species list of aquatic insects in the Obed Wild and Scenic River. Chip Walton (MS student) is studying microhabitat utilization of the Nashville crayfish (endangered species) in the Mill Creek watershed under Dr. Cook's direction.

Finally, Jade Young (MS student working with Dr. Cook) is studying the effects of a Dickson County wastewater treatment plant on benthic macroinvertebrate communities. Chip Walton should graduate in May 2008 and Ben Hutton should graduate in December 2008.

Three of Dr. Cook's former students now hold professional positions. TR Russ is employed by the North Carolina Wildlife Resources Commission. Christina Schmidt is currently employed by Wetland and Ecological Consultants in Woodstock, Georgia. David Goodfred is now employed by the Florida Fish and Wildlife Conservation Commission. All three of these students were part of Dr. Cook's project concerning the spotfin chub in the Emory River watershed.

The coming holiday season means it is time for Phil Bettoli's students to get to work. The winds of winter beckon Christy Kitterman, who will be performing stock assessments of saugers and investigating barotauma in Kentucky Lake. Tom Ivasaukas and Casey Bergthold will continue their research on trout survival and performance in reservoirs stocked this winter, and Michelle Casto-Yerty will be gearing up for another shovelnose sturgeon sampling season this spring.

- Brad Cook, TTU

Student Fisheries Association - Tennessee Technological University

The Tennessee Tech SFA has been very active since the fall semester began in August. We currently have 32 active members. On September 6th we had our fall fish fry fundraiser and had 90+ people attend. Also in September we had a snorkeling trip to the Emory/Obed Rivers. During the month of October we hosted 5 speakers to give presentations during our guest seminar series. They included; Quenton Fontenot and Allyse Ferrara from Nicholls State, Matt Kulp and Steve Moore from Great Smoky Mountain National Park, and Joey Woodard from Tennessee Stream Mitigation Program. The Southern Division student colloquium was held in Charleston, WV on October 20th and 21st. We had 14 members attend this meeting, with 2 making oral presentations and 3 presenting poster presentations. On November 16th we went to Northeast Elementary school and gave a presentation to 5 second grade classes on fish species, aquatic invertebrates, aquatic vertebrates, and freshwater habitats. We are currently getting our application together to host the 2008 Southern Division student colloquium.

The University of Tennessee Sub-Unit of the American Fisheries Society

The University of Tennessee Sub-Unit of the American Fisheries Society is on its way to being official. The unit has existed for several years as a joint society with the UT Wildlife Society. We are now creating our by-laws so we can be officially recognized as a separate unit. We will still operate in close relations with the UT Wildlife Society because has been a great opportunity for us to network and expand the interests of our members while working with students and professors who will be lifelong friends and co-workers in the natural resource profession. In an effort to get students more involved we are planning several spring events such as a "Back to School Fishing Day" on the Clinch River in mid January, a stream cleanup in the Knoxville area, and a fundraising fishing tournament in March on Lake Loudon and Tellico. We are excited about being a Sub-Unit of the AFS and can not wait to do our part for the Society.

- Trent Jett, UTAFS Sub-Unit President

Pigeon River Recovery Project Update

The drought in the southeastern U.S. is the region's driest year in 113 years according to USA Today, and "It is the driest year on record for North Carolina and Tennessee." (USA Today, October 19, 2007) The Pigeon River in NC fell to historical low flows. According to the USGS, the lowest recorded flow occurred on 9/19/98 at 39mgd. Blue Ridge Paper Products Inc at Canton had its lowest flow this year on 8/20/07 at 36.9 mgd (USGS gauge showed 50cfs). In TN, an unlikely hero took the form of the Waterville hydroelectric facility which kept the flows downstream to the required minimum (100cfs) throughout the summer and fall.

In TN, we had six collection and release trips from April to September releasing 959 fish. Conservation Fisheries and UT, Knoxville, released the first propagated tangerine darters into the Pigeon River. The forty-six juveniles were set free at Denton, TN, in April; propagation efforts will continue. No lampreys or stripetail darters were collected this year due to the drought. However, as a result of the low flows, we managed to collect bluebreast darters for the first time in two years from the Nolichucky and added a new species to the re-introduction list, the blotched chub. It was believed that we would have to propagate this species but with the low flows in the French Broad, we were able to collect sufficient numbers of them just below Boyers Island. We collected almost double the number of madtoms (438) as had been collected in the past, again due to low flows. We combined two field trips to acquire fish and snails, collecting approximately 1,500 *Pleurocera* spp., *Lithasia* sp. and *Leptoxis* sp. snails from the French Broad in May and approximately 2,500 *Pleurocera* spp. and *Leptoxis* sp. from the Nolichucky in September. All the snails were released at Wilson Island near Denton.

We began our monitoring activities in July. The TDEC/TVA/TWRA annual IBI survey at Tannery Island (TI) netted three surprises: 1) the first mountain brook lampreys, 2) a bluebreast darter with a red tag (7/03 release) which meant it had been tagged for nearly four years, and 3) the first river darter collected in the Pigeon (probably a result of natural migration). Total fish density has increased since last year. Darter numbers are up but the shiner numbers are still low. The telescope is back on the inventory list but still no Tennessee shiners.

We picked up where we left off with our snorkel surveys from last year. Starting above Sisk Island (PRM 10.3), we covered 12 sites and 10 miles to the mouth of the Pigeon. We observed gilt darters for the first time at two sites above TI but didn't find them at two sites below TI where they were found in the past. We continued our search for the blueside darter near the Pigeon's mouth. A snorkel survey of Fork Island found no bluesides but plenty of potential habitat and more than 30 healthy juvenile gilt darters. Snails were located at 11 of the 12 snorkel survey sites but very few were found at the Newport site off River Road below a plant discharge pipe, where many had been seen in the past. The extensive snorkel survey (3.5 hours) at Fork Island documented very good habitat and a diverse fish community but not a single snail.

In NC, our three Spring collection and release trips went very well, releasing 2,361 fish. This included a new re-introduction species, the Tennessee shiner. Our three Fall collection efforts were cancelled as a result of extremely low flows in the upper Pigeon and Cosby Creek. Steve Fraley, NCWRC, was able to collect striped shiners in October for the Haywood County Schools Striped Shiner Propagation Project. They had more than enough to place in the aquaria so the extras were released at the mouth of Crabtree Creek (Pigeon tributary). The striped shiner is the seventh species to be re-introduced into the NC reach of the Pigeon. Monitoring efforts were conducted August 15 and 16, from approximately PRM 47.0 to the Irontree Golf Course at PRM 52.3. We observed mirror, silver, telescope, and Tennessee shiners but the best find was an untagged gilt darter - reproduction begins!

This summer, Michael Gaugler, a PhD graduate student at UT, Knoxville, began his preliminary research using underwater video and GPS equipment to document and map Pigeon River aquatic habitat. He began recording at the rivers' origin and video-taped approximately 23 river miles, ending the session a mile below Ferguson Bridge.

Unfortunately, just as the TN reach had a fish kill last year, the NC reach suffered a fish kill on September 7, 2007. An accidental thermal discharge from the paper mill killed approximately 8,434 fish between Canton and Clyde, NC, with northern hog suckers accounting for more than half of the fish. The good news is that silver shiners were found in the first three miles below the mill, which means that they have dispersed almost eight river miles from the nearest release site. This may be the beginning of a re-colonization!

As always, I want to thank all the partners and volunteers whose love of this river makes this project happen!

See you on the river!

- Joyce Coombs, University of Tennessee

Thanks to all who submitted material for this newsletter.

-**Richard Strange**, Editor