



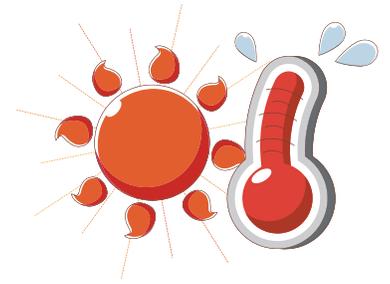
Natchitoches News

Manager's Corner

By: Karen Kilpatrick

Dogged summer temperatures in excess of 100°F for extended periods combined with a 4% across-the-board budget cut have hit the hatchery hard in the month of July. Usually the heat is all we have to beat in the summer months. But this year, a 4% budget cut took its toll too. For the second time in my 32 years of public service, 30 of those at this hatchery), we have no fish in the ponds! The first time was in the early 90's when Senator J. Bennett Johnston managed to get the hatchery \$3.2 million dollars to redo the hatchery infrastructure. That money was wisely managed by the Mr. Tony Mayeux, my predecessor, and resulted in overlaid parking lots, electricity to the

ponds, rehabilitating several ponds, hiring an office assistant, and the construction of a new office building. This time the ponds are empty for a totally opposite reason...lack of funding! The hatchery budget took a \$28,000 cut when the final allocation figures came out with 75% of the fiscal year already gone. The only way to make up the difference was through reduced electrical costs, primarily pumping and aeration of the summer crop. The budget cut was the final blow to a decision process that also involved the drought conditions we have been experiencing in Louisiana. Our water source, Cane River Lake, was 3.5 feet below pool stage and concerns for quantity and quality of water also played a part in shipping the fish off station. The fish were all transferred to the Booker Fowler State Fish Hatchery which



partners with us on many levels. Hopefully, this will be an event that allows the ponds to lay fallow for a period of time, thus giving the soil a rest and allowing an explosive release of nutrients when the ponds are filled again next spring. Until then, the hatchery is busy moving forward with freshwater mussel work throughout a four state area, planning alligator gar work, and completing year-end reporting. Additionally, there are three construction contracts and a grant to finish...so even though there are no fish in the ponds, there is plenty of work going on to ensure that the ponds and the staff are headed in the right direction for the Service's future.



Fish and Wildlife Service Employees Conduct War on Terror Against Flesh-Eating, Body-Fluid-Sucking Alien Invaders

By: Jan Dean

Is that a title for a science fiction movie? Well, it could be, but unfortunately this story is all too true. Assistant manager Jan Dean served as an instructor for the FWS Electrofishing Course in Ludington MI July 11-15. Almost all of the class participants were FWS employees, and most worked at the Ludington Biological Station. They had requested the class to renew their FWS electrofishing certifications. The primary function of the Ludington and Marquette Biological Stations is to control populations of the parasitic sea lamprey. These large external parasites of fish are native to the North Atlantic Ocean and were known to exist in Lake Ontario in the 1880s. They gained access into the Upper Great Lakes by the 1930s after improvement to the Welland Canal in 1921. Their invasion, plus commercial over-harvest, led to the collapse of the lake trout fishery in most of the Great Lakes during the 1950s. Early attempts to control sea lampreys focused on preventing their spawning, but those efforts were not successful, so attention turned to control more at the larval stage when they burrow into the bottom



A backpack electrofisher is used to capture Michigan stream fishes.

of streams and rivers for three to four years. That is where electrofishing becomes important. Special commercial backpack electrofishers are used for assessment of larval lampreys in shallow water areas, often in tributaries to the Great Lakes. These ETS ABP-2 backpack units can produce two electrical waveforms which can be quickly switched by the operator. The electrodes are special "football-shaped" paddles with a metal screen bottom. A very low frequency pulsed direct current of 3 Hz (pulses per second) with a 25% duty cycle (the percent of time that current flows) is used to stimulate the larval lampreys out of the sand or silt substrate, then a higher but still low frequency of 30 Hz pulsed direct current with a 25% duty cycle is used to immobilize the lampreys for capture in the screened paddles. Results of the electrofishing assessments are used to rank streams for application of lampricides.

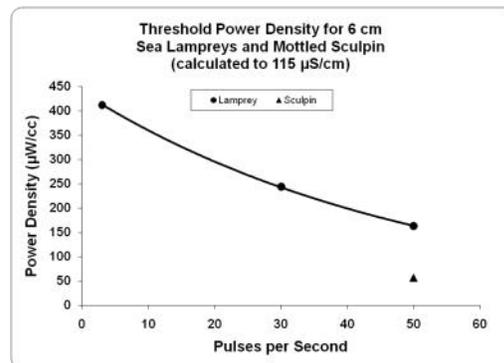
During the class, Dean demonstrated the effect of electrical waveforms on fish response. A graph shown here is of the power needed to immobilize 6 cm total length larval sea lampreys, and a similar-length mottled sculpin, using a duty cycle of 25% with frequencies of 3, 30 and 50 Hz. Less power was needed as the frequency was increased, and the sculpin required less power than the lampreys. These results are from a very limited amount of fish used in a class demonstration, so there is no claim for absolute accuracy. It did show class participants how such re-



Electrofishing paddles with lamprey.

Photo credit: USFWS Ludington Biological Station

search could be done using a backpack electrofisher and an aquarium with simple electrodes placed inside. Many professionals consider their jobs critically important to some aspect of fisheries and wildlife conservation. The employees of the Ludington and Marquette Biological Stations serve as the line of defense against these larval sea lampreys which, if they escape to transform into external parasites with large sucking discs and make it to the Great Lakes, each one can destroy about 40 pounds of fish before they return to spawn in streams and continue their cycle. A class participant said that they are trying to keep lamprey levels to about 5% of their maximum seen in the 1950s. What a responsibility! Failure is not an option.



Region 4 SCUBA Divers Conduct Mussel Survey on the Saline River in Southern Arkansas

By: Tony Brady

In the Ouachita Mountains of Arkansas there are four streams that join forces in Saline County to form the start of the Saline River. This unique river starts out as a mountain stream and gradually changes into a gulf coastal plain low gradient river as it draws near and empties into Ouachita River in southern Arkansas. The Saline River is one of the last free flowing rivers in Arkansas, and one of only a few places left in the United States where you can find the federally endangered Winged mapleleaf mussel (WML). It is also inhabited by the federally threatened Arkansas fatmucket, a species found only in Arkansas, endangered Pink mucket and candidate Rabbitsfoot. Winged mapleleaf mussels were initially found in the Saline River in 2001 and biologists from the Arkansas Ecological Services Field Office (AESFO) and Arkansas Game



After being brought to the boat, the mussels are sorted by species.

and Fish Commission have been monitoring their populations since they were discovered. Record flooding in 2008 and 2009 left biologists wondering what affect the floods had on the populations of WML in the Saline River. In July 2011, Region 4 SCUBA dive team members from the AESFO and Natchitoches National Fish Hatchery (NNFH) teamed up for six days to monitor the WML beds on the Saline River. To monitor the mussel population the divers pushed, pulled, and motored boats to make their way to the isolated mussel beds in the Saline River. For this survey, the dive team members used surface supplied air or Hookah-rig to dive down to the bottom of the river and collect mussels that were within a one square meter frame called quadrates. Divers would place the quadrate on the river bottom and start picking up all the mussels they could find on the surface and place them into a collection bag. After the surface was picked clean the divers would dig with their fingers in the gravel-sand substrate and find all the mussels that were buried below the surface. Once the diver could no



Winged mapleleaf mussel seen on the bottom of the Saline River

longer find any mussels, the collection bag was returned to the boat, where the mussels were sorted out by species, counted, and in the case of an endangered or candidate species, length, height and width measurements were taken before all mussels were returned to the river. A total of 38 species of mussels were collected during the six days including the WML, Pink mucket, and Rabbitsfoot. A total of 16,627 individual mussels were collected and returned to the river during this survey. The close proximity of the Saline River to NNFH, and the presence of endangered mussels, opens the door for NNFH to work with AESFO to develop propagation programs for these threatened and endangered species as well as others mussels of concern in Arkansas.



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*Saving the world one species
at a time.*



Drew Russell, a recent graduate from Tennessee Technological University's Tennessee Cooperative Fishery Research Unit, inserts a coded wire tag into a Natchitoches reared Alligator gar at Private John Allen National Fish Hatchery.

<http://www.fws.gov/natchitoches>

www.facebook.com/natchitochesNFH

See Ya' Later Alligator...Gar

By: Tony Brady

One of the most rewarding parts of working at a fish hatchery is seeing fish loaded up on hauling trucks and distributed to their requested destination. These distribution days are a lot like independence days for the fish when they get their freedom to explore a whole new underwater world. For the Alligator gar that were being reared at Natchitoches National Fish Hatchery (NNFH), their independence day came on 5 July. In the early morning hours of 5 July, before the sun approached the horizon, the staff at NNFH loaded up over 1400 Alligator gar that av-

eraged a length of 7 inches and weighed 16 fish per pound. Before being set free, these Alligator gar made a quick stop at Private John Allen National Fish Hatchery (PJANFH), MS, where they received a coded wire tag (CWT). This CWT will help biologists identify hatchery reared Alligator gar when they show up in sampling efforts in years to come. The Alligator gar reared at NNFH were added to the gar reared at PJANFH and together they were transported to their final destination, the Hatchie River in Tennessee. It is here in the Hatchie River that the

Tennessee Wildlife Resource Agency (TWRA) is hoping to reestablish a recreational fishery for Alligator gar in west Tennessee. In today's culture where Bass and Walleye tournaments are promoted and are televised across the nation, the idea of fishing for Alligator gar may seem odd, but in the early to mid 1900's Alligator gar were a highly sought after sport fish in the southern United States. Through the efforts of PJANFH, NNFH, and TWRA, it is hoped that the Alligator gar will again be prized as a recreational sport fish.