

# FLEUR DE LIS FISHERIES

US Fish and Wildlife Service



Assistant manager Jan Dean helps harvest Mississippi Alligator Gar from raceway at Natchitoches National Fish Hatchery July 30, 2013.

# Mississippi Alligator Gar at Natchitoches in 2013

By: Jan Dean

Earlier, we reported on the Louisiana Alligator Gar reared at Natchitoches National Fish Hatchery this year. The Mississippi variety were spawned at Private John Allen NFH in Tupelo, MS in early March from adults captured at St. Catherine Creek National Wildlife Refuge on the Mississippi side of the Mississippi River. The young gar hatched May 3rd, and we brought about 6000 five-day-old fry to Natchitoches on May 8th. They were initially placed into four small round tanks and fed brine shrimp and Encapsulon diet before adding or switching to Otohime and Cyclopeeze for awhile. The

MS gar were a few days older but were slightly smaller than the LA gar from LSU. The faster growth of the LA gar was attributed to the somewhat higher rearing temperature used for them. The two sets of gar were reared at Natchitoches in different buildings to as to prevent any mixing of the two genetic strains.

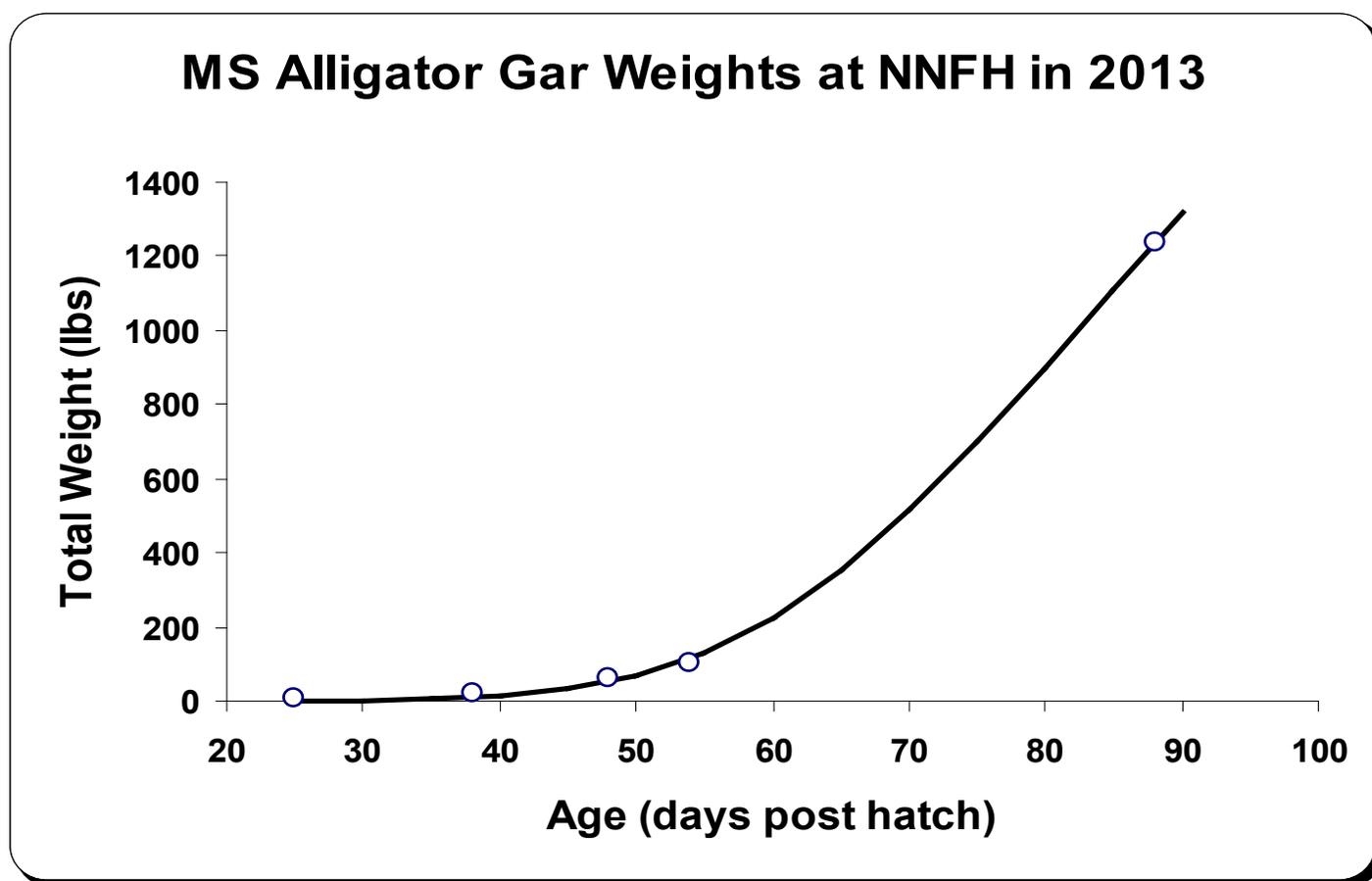
There was relatively little loss of the MS gar fry and, as they grew, they were split into other tanks in the same building. Initially, they were reared on a recirculating water rearing system in which some water was exchanged at regular intervals. The intervals became shorter as the fish grew and were moved to larger round tanks in the same building. This was changed to a recirculating water system with constant addition of Cane River water; Cane River Lake is the source of water for the hatchery ponds and for the fish holding house. The constant water addition was thought necessary to flush ammonia and nitrites from the rearing system. Ammonia has its origin in the high-protein feed for the gar which they eat voraciously. It is changed to nitrite by bacteria before further conversion to nitrate by other bacteria. Because both ammonia and nitrite are toxic to fish, they must be reduced or removed from the rearing system. They may be of little concern in a flow-through system but become critical in recirculating rearing systems. The gar were eventually moved to an in-pond raceway for final growout. The objective was to rear them to a length of about 10 inches for implanting with a coded wire tag (CWT). After the initial larval diets, the gar fingerlings were fed Cargill Aqua Feed of different sized floating pellets. Later, they were fed Purina Aquamax as they grew to final size in the raceway.



Mississippi Alligator Gar were implanted with coded wire tags at Humboldt Fish Hatchery before release in Willow Lake, Chisholm Lake and Open Lake, Tennessee.

One day after arrival at Natchitoches, at six days post hatch, they were about 15 mm (0.6 inches) total length. After that initial stage, and especially after the water temperature increased to about 24°C or 75°F, they ate more and begin to grow faster. The attached graph shows the increase in total weight though time. At harvest on July 30th, they averaged about 0.4 lbs

each. We knew before harvest that our one distribution truck was inadequate to haul all of the fish to Tennessee for tagging and stocking, so we asked the Louisiana Department of Wildlife and Fisheries (LDWF) for assistance with the harvest and hauling to Tennessee. That is quite a commitment, and they were able to help us with all that we asked. Many thanks to Kristi Butler and the LDWF folks (Chris, Tracy, Chase, Tim and Ginny) who helped harvest, weigh and transport the gar. The gar harvested from the raceway on July 30th were sent to the Tennessee Wildlife Resources Agency's Humboldt Fish Hatchery near Medina, TN for tagging. Tagging the 3087 gar took ten hours with two tagging machines. Later, the gar were stocked in Willow Lake (1000), Chisholm Lake (1040) and Open Lake (1047). The objective is to increase the population of gar in that more northern part of their historical range. Natchitoches National Fish Hatchery is but one of several partners in this important effort.



Growth in total weight of Mississippi Alligator Gar at Natchitoches National Fish Hatchery in less than three months. They averaged 0.4 lbs at harvest.

# Mussels of the Pearl River: Two Years after a Major Chemical Spill

By: Tony Brady

The Pearl River flows south out of Jackson, Mississippi on its way to the Gulf of Mexico. Before the Pearl River spills its contents into the Gulf, it becomes the southernmost border between Mississippi and Louisiana. This river is home to several threatened and endangered fish and mussels, including the Gulf sturgeon and the Inflated Heelsplitter. In the summer of 2011, a major chemical spill occurred around Bogalusa, Louisiana killing a large number of both fish and mussels. As a quick response to the spill, the U.S. Fish and Wildlife Service sent biologists from Natchitoches National Fish Hatchery and the Baton Rouge Fish and Wildlife Conservation Office to assist the Louisiana Department of Wildlife and Fisheries assess the chemical's

impact on the fish and mussel communities of the Pearl River. In July 2013, the Louisiana Department of Wildlife and Fisheries, as well as Region 4 SCUBA divers from Natchitoches National Fish Hatchery and the Alabama Ecological Services' Northern Gulf Coastal Program, conducted the second follow-up survey of the mussels in the Pearl. Seven preselected sites were sampled to obtain data on the mussel communities of the Pearl River. Due to the sensitive nature and legal restriction associated with the chemical spill, the collected data cannot be presented here, but the data collected will be used by state and federal agencies to compare pre-and post-spill surveys to determine the current health of the Pearl River mussels.



Patric Harper and Tony Brady collect mussels from the Pearl River.

# Archery: It's not Just for Boys!!!

By: Tony Brady

Let me start by confessing something to you. Growing up I was one of four guys living in my house, and I may have had at some point in my life a “guys rule mentality”. Over the past 16 years of being the only guy in a house full of ladies (totaling 4), I have been humbled and have come to the conclusion that we guys have always been playing catch up to the gals. In light of my new paradigm, I was happy to host a Girl Scout archery camp for Troop 210 during July. Troop 210 is comprised of 6 young ladies ranging in age from 6 to 15. Using the National Archery in the Schools Program material, the girls learned archery safety and the 11 steps to archery success. As the week progressed, the girls of Troop 210 were given a shooting demonstration by two of Natchitoches Parish’s 4-H

female competition archers (who also happen to be my daughters), were exposed to different bow types, and had the opportunity to shoot both compound and recurve bows. By the end of the week, several of the girls had expressed an interest in continuing archery during the school year. I informed them about the Archery in Louisiana School Program and then followed up by going to all of their schools and talking with each school’s principal or vice principal about the archery program. Appointments have been set up with the principals and teachers, after schools start back, for more detailed conversations about the archery program with the hopes of starting archery programs in all Natchitoches Parish Schools.



The girls of Troop 210 and their troop leader enjoyed their time at archery camp.