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FLEUR DE LIS FISHERIES

US Fish and Wildlife Service

Fishing, Facepainting and Fun are all part of Natchitoches NFH's Annual Open House and Kid's Fishing Derby

Natchitoches National Fish Hatchery Host Two Fishing Events in June

By: Tony Brady

The Natchitoches National Fish Hatchery and the Friends in Support of the Hatchery (FISH) have been hosting our annual Open House and Kid's Fishing Derby for over 15 years. The open house and derby coincide with the National Fishing and Boating Safety week in June. On 2 June, 266 people signed in at the open house, and 115 kids signed up to fish. With 700 pounds of Channel catfish in two of the hatchery ponds, there was a lot of fishing going on, and over 240 pounds of fish were caught. Thanks to the support of several community businesses from salons to insurances companies, a local bank, as well as the 25 volunteers that helped things run smoothly, the visitors and kids all had a grand time. Prizes were awarded by age classes to the kids who caught the biggest fish, smallest fish and the top three places for heaviest stringer of five fish. Winners received either a fishing rod or reel combo, a tackle box or, in the case of the oldest age group, cash for their fishing effort.

Now I know that there are some of you reading this who are doing the math and want to know what happened to the 460 pounds of catfish left in the ponds. Well we had one heck of a fish fry for the hatchery staff. JUST KIDDING!!! The hatchery staff decided to honor the men and women serving at Fort Polk in Leesville, LA by hosting a Military Appreciation Day where families from Fort Polk could come out and fish for the left over catfish. After the fishing was over, lunch was provided by FISH, the Natchitoches Regional Medical Center and Cane River Glass. While the event went well, the hatchery wanted to do more for our service men and women at Fort Polk, so we contacted the biologist on Fort Polk and arranged for the remaining fish to be stocked out into one of the ponds on Fort Polk where any of the military families can connect with nature and enjoy some time fishing. The hatchery staff is honored to have started a new tradition for the hatchery, one in which we get to say thank you to those who fight to protect our country. THANK YOU!

These young men have attened many of Natchitoches NFH Open Houses and it shows by the mess of fish they have caught.

Chief Warrant Officer Chuck Maglothin and his family enjoy a day of fish at Natchitoches National Fish Hatchery

Table Rock Smallmouth Bass Sampling Workshop

By: Jan Dean

The U. S. Fish and Wildlife Service's National Conservation Training Center Electrofishing Course leader Alan Temple and I met for three long days and nights June 18-20 with the Smallmouth Bass Sampling Protocol Subcommittee of the Missouri Department of Conservation at Table Rock Lake. The location was near Cape Fair, MO where the James River empties into Table Rock Lake. Phil Pitts of the MDC had asked us to help them with standardization of their smallmouth bass sampling and with the evaluation of their electrofishing boat fleet. Their desire is to sample smallmouth bass using an electrofishing approach called standardizing by power so as to increase catchability or capture efficiency and to reduce the variation in capture efficiency. The result will be better sample information for research and for management surveys using the same or less effort. This intense workshop also served as education for their biologists in preparation of their own training development – it was considered a "teach the teachers class."

As instructors for the FWS Electrofishing course, Alan and I are always trying to gain new knowledge useful to improvement of the course; and this workshop served as a great opportunity to make some measurements that we have little time and opportunity for in a typical class. This was one of the rare times to study a boat fleet for resistance, power allocation and mapping of voltage gradients. Our idea is that this can serve as the genesis of an advanced electrofishing course for the FWS. We taught the biologists how to use various instruments including scopemeters, peak-reading multimeters, current clamps, voltage gradient probes and meters and conductivity meters. Biologists measured the resistance of electrodes, determined power thresholds for successful fish capture, calculated power allocation between anodes and cathodes, and inspected waveforms to confirm frequencies and duty cycles. The MDC smallmouth bass electrofishing boat fleet included boats of various sizes and electrode configurations; most used the typical two anode booms with the boat as the cathode, but one boat was fitted with a single anode boom. Pulsators (control boxes) evaluated included Smith-Root Type VIA, Smith-Root VVP 15B, ETS MBS and Midwest Lake Electrofishing Systems Infinity units.

One night, we used an aquarium setup to demonstrate the effects of frequency, duty cycle and water conductivity changes on the response and threshold power required for immobilization of black bass (largemouth and spotted bass) previously collected from Table Rock Lake. Those data served as a real eye opener for those who want to standardize by power across waters of different conductivity level, and they demonstrated that all frequencies and duty cycles do not affect fish the same.

Some of the most useful information gained for an advanced course included the detailed voltage gradient mapping around the anodes and the determination of threshold power settings for successful fishing. The latter information, plus electrode resistance and power allocation, can be combined with similar information from a few other boat fleets to make generalizations useful to standardizing by power. We also described the function and operation of the pulse width control for the Type VIA pulsator. The pulse width setting simultaneously controls multiple parameters, so that was useful information for biologists using that pulsator or a similar one not tested here.

The workshop was a lot of work in a short time. Our hope, with expectation, is that it provides dividends for the MDC fisheries biologists and for participants in future FWS Electrofishing classes.

Mapping voltage gradients near the anodes of a smallmouth bass electrofishing boat.

Mussels of the Pearl River: One Year 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 Bogulusa, 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 Wildlife and Fisheries assess the impact the chemical had on the fish and mussel communities of the Pearl River. One year later the Louisiana Department of Wildlife and Fisheries contacted Natchitoches National Fish Hatchery and asked if they could assist with a follow-up survey of the mussels in the Pearl. With assistance from the Alabama Ecological Service Field Office, six preselected sites were sampled to obtain data on the mussels communities of the Pearl River. The data collected from this survey will be compared to pre-spill surveys to determine the current health of the Pearl River mussels.

No. It's not a clam bake, but biologists did work quickly to keep these mussels from baking in 100 degree weather.

Mussel Survey Completes Project on the Buttahatchee River

By: Tony Brady

Natchitoches National Fish Hatchery has been coordinating with Wildlife Mississippi; Mississippi Department of Wildlife, Fisheries, and Parks; Private John Allen National Fish Hatchery; and the Mississippi Ecological Services Field Office to complete a fish passage and mussel survey on the Buttahatchee River in eastern Mississippi. Details about the fish passage survey can be found in the May issue of Fleur de Lis Fisheries. In July, staff from the above mentioned offices joined together to complete the mussel survey portion of this project. Twenty-two sites were sampled during this survey and were selected to match the sites sampled in 1989-90 by Hartfield and Jones (1990). Two man-hours were spent at each site with folks snorkeling and hand digging for mussels in the river bottom. The 22 sites covered ten miles of river and resulted in the collection of 21 mussel species. Eighteen of those 21 species were found as living individuals. The Buttahatchee River is home to four threatened and endangered mussel species, and we were able to find three of the four species alive at multiple sites during the survey. Wildlife Mississippi, a private conservation group, has purchased large tracks of land along the Buttahatchee River and have plans to restore, protect and enhance the area to native bottom and hardwood forest. Hopefully, the improvements to the land around the river will benefit not only the terrestrial animals but also the aquatic ones as well. We hope to have the opportunity in the future to follow up on this survey and see how the mussels are responding to the hard work of Wildlife Mississippi.

Staff and volunteers from state, federal and non-government agencies showing off the mussels they collected.

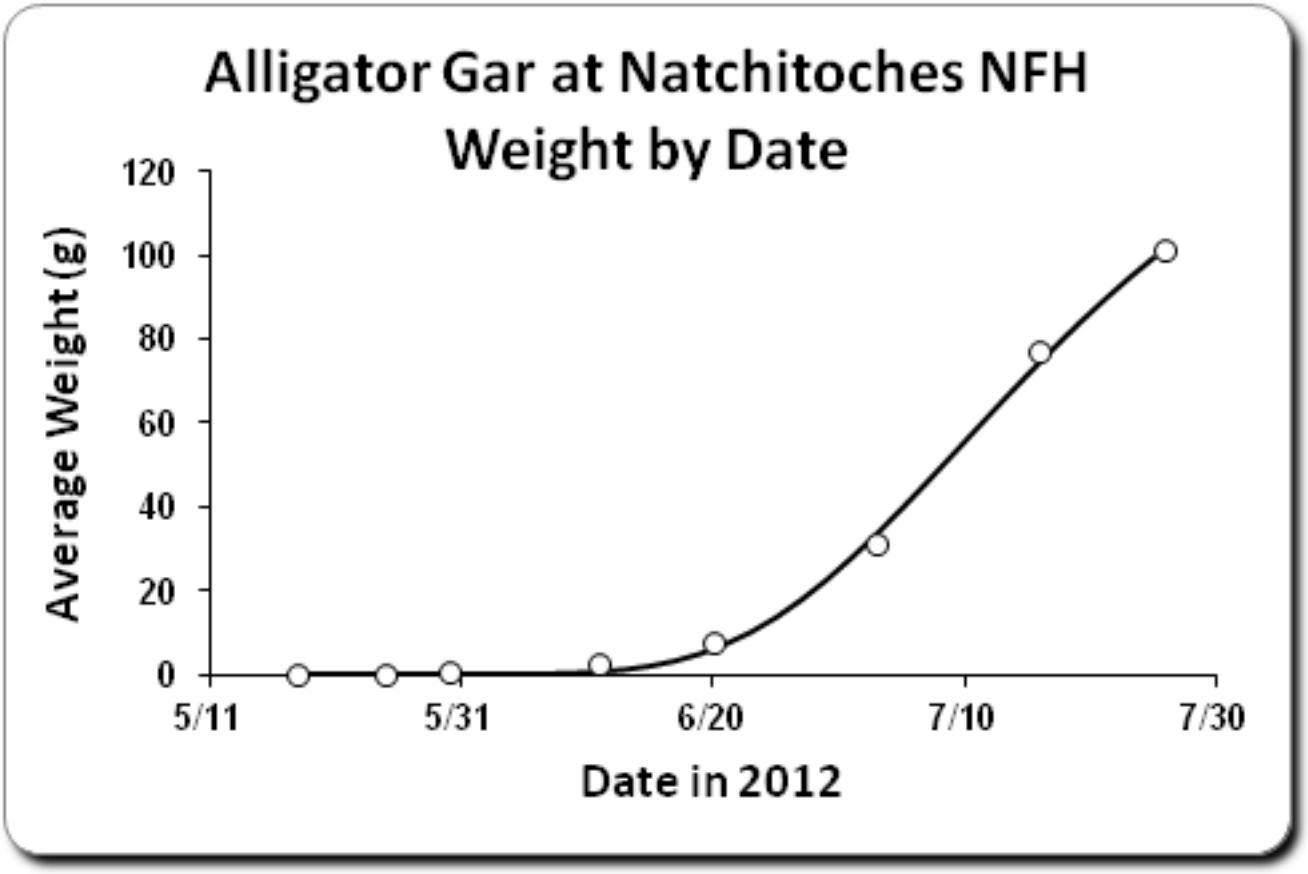
Rockefeller Gar Juveniles back to LSU

By: Jan Dean

In our May newsletter, we reported on a collaborative effort among the Louisiana Department of Wildlife and Fisheries, Nicholls State University, Louisiana State University and Natchitoches National Fish Hatchery to rear, tag and release alligator gar juveniles at Rockefeller Refuge in Southwest Louisiana. The purpose is to gain information on gar growth and movement at Rockefeller Refuge, the source of the parents for these young gar. This collaborative effort will generate critical data for use in reintroduction efforts in areas where alligator gar have been extirpated or where populations have declined and are in need of supplemental stocking.

As reported earlier, the adults were spawned at the LSU Aquaculture Research Station by Dr. Allyse Ferrara of Nicholls State University and by Dr. Chris Green of LSU, and the fry hatched on May 1-2. About 5000 fry were picked up from LSU and transported back to Natchitoches when they were age 8 day post hatch. As in past years, the alligator gar growth was amazing. The gar were transferred back to LSU in three shipments because there was too much biomass (weight) to transport at one time in the tank being used and because we were keeping the rest for rearing to a larger size here at Natchitoches. For the transfers made on July 2, 16 and 26, the gar averaged 37, 77 and 101 grams. Actually, the average weight on July 26 was more when including the largest group which averaged 330 grams. We chose to not mix the two sizes of gar on July 26 because of likely cannibalism enroute, so we sent two Natchitoches NFH trucks to LSU for the final bon voyage and transfer.

We had average weight data for all the fish until the first shipment on July 2. After that point, the average weight data obviously included only those remaining at Natchitoches. Thus, the graph presented below is



a bit conservative. In other words, had all (including those shipped out) of the fish been included in the last two weighings (points on the graph), the average weights would have been slightly higher for those last two dates, and the data for the largest (59 gar which averaged 330 grams) fish are not included on the graph for the last two dates. Considering the conservative nature of the data included, the growth model indicated a maximum weight gain of 3.25 grams per day on July 9, or at age 69 days post hatch. That is impressive growth by any standard.

What is more impressive to me is the increase in numbers of alligator gar produced at Natchitoches the last few years. These fish are being reared in tanks using recirculating water. The system was built for holding and rearing pallid sturgeon but lately has been used for overwintering alligator snapping turtles and rearing alligator gar in May until harvest. The distribution records indicate 985, 1416 and 2153 alligator gar for the years 2010, 2011 and 2012, respectively. And we actually have reared a few more and used them for display in our public aquarium. The production in our current rearing system is at a maximum. Over 400 gallons of water are exchanged every day, and gar rearing requires about 4-5 hours per day for cleaning tanks and feeding the fish the way it has to be done in this system. Biologist Tony Brady did a lot of that work and deserves much credit for the increased production this year. He certainly invested a lot of sweat equity in those remarkable fish.

First shipment of juvenile alligator gar back to LSU July 2, 2012. Dr. Chris Green, right, and Ph.D. student Josh Patterson are counting the fish into the transport tank

Second shipment of juvenile alligator gar back to LSU July 16, 2012. LSU student Matthew Maroney and Natchitoches NFH biologist Tony Brady are counting the fish into the transport tank.

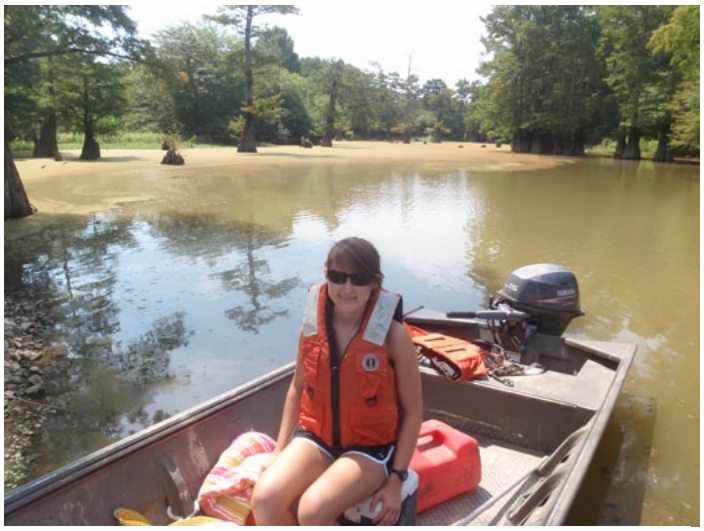
Inventorying and Monitoring Survey conducted on the Tallahatchie National Wildlife Refuge Intersects FMBS Training at Private John Allen National Fish Hatchery

By: Tony Brady

A unique opportunity took place in July, when the Administrative Officer and Biologist from Natchitoches National Fish Hatchery (NNFH) teamed up for a trip to Mississippi. Lana Litton, Administrative Officer for the NNFH, and Laura Dobbins, Administrative Officer for Private John Allen National Fish Hatchery (PJANFH), helped organize beneficial FBMS training using Microsoft Access® for folks working with budgets at offices from four different states. This training took place at Private John Allen National Fish Hatchery in Tupelo, MS and was lead by Buddy Jones from the Regional Office. Natchitoches NFH had agreed earlier in the year to assist

Lana is all smiles after her FBMS training.

with a mussel survey as part of the Inventorying and Monitoring efforts on Tallahatchie National Wildlife Refuge. The timing of the FBMS training worked perfectly for Natchitoches NFH's mussel biologist to join up with PJANFH manager Ricky Campbell to conduct the mussel survey in Tippo Bayou. Tippo Bayou is normally cut off from any flowing body of water most of the year, so the mussel habitat is lacking and the handful of mussels collected can usually be found in muddier habitats. The results of the survey were given to the refuge staff and should a larger survey be requested, the staff at NNFH will be willing to assist.



Heather Crosby, incoming freshman at the University of the South, spent a few days job shadowing Ricky Campbell and joined us on the Tippo Bayou mussel survey.

While it looks like I'm sitting down on the job, I'm literally rolling around in the knee deep mud trying to collect a Mapleleaf mussel in Tippo Bayou, without getting stuck.