GEORGIA
DEPARTMENT OF NATURAL RESOURCES
WILDLIFE RESOURCES DIVISION

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Gulf and South Atlantic Regional Panel Update (GSARP) for Georgia
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Satilla River Flathead Catfish Removal Project:

Overview

- The Satilla River is one of the premier sunfish fisheries in the state of Georgia, with redbreast sunfish (*Lepomis auritus*) being one of the most sought after species.
- Flathead catfish (*Pylodictis olivaris*) were illegally introduced and first observed in the Satilla River in 1996.
- During the mid-2000's, standardized sampling and creel surveys revealed declines in abundances of redbreast sunfish and bullhead catfishes (*Ameirus spp*.) coincided with significant increases in the abundance of flathead catfish.

- In an effort to reverse the impacts of flathead catfish on native fish populations, the Georgia Wildlife Resources Division (WRD) Fisheries Management Section (FM) began removing flathead catfish from the Satilla River as time permitted. Despite these efforts, the number and size of flathead catfish per hour of electrofishing continued to increase. In 2006, FM instituted the Flathead Catfish Removal Project Georgia using legislatively appropriated funding. At present, the project funds two positions focused on long-term population control through direct removal of flathead catfish.

Removal Results

- During the 2014 sampling season (May-October), 13,655 (16,393 pounds) flathead catfish were removed. Since 2007, more than 44,471 (86,555 pounds) flathead catfish have been removed.
- Due to the high water on the Satilla River for 18 months leading up to this year's sampling beginning in May, numbers from this year's sampling effort show an increase in several flathead catfish population indices including; CPUE, average weight and length, and biomass per hour removed.

- The size structure of the population has declined with the average size fish removed progressively dropping from 5.8 pounds in 2007, to 0.8 pounds in 2013 but increased some to 1.2 pounds in 2014.

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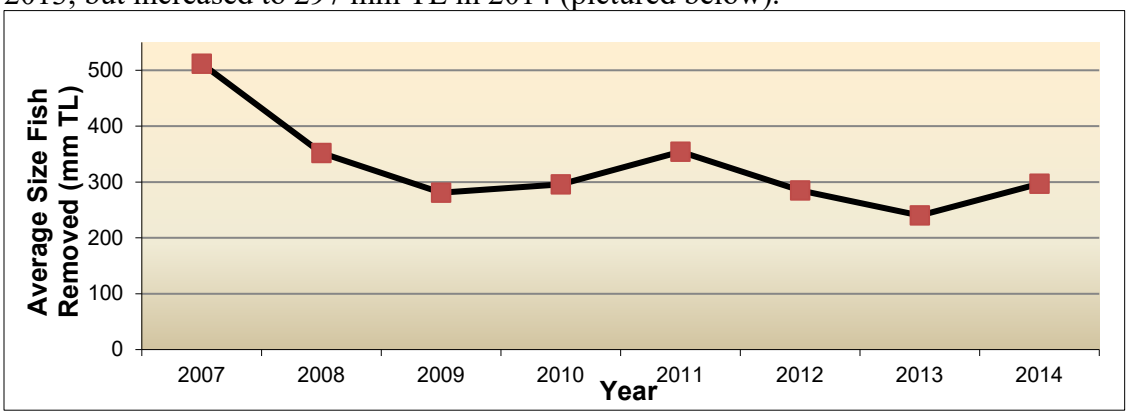
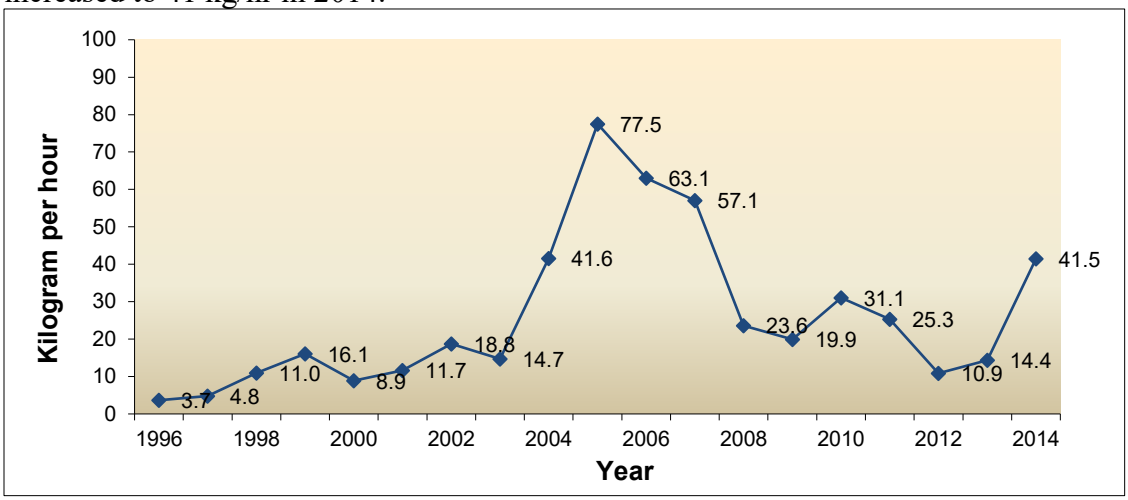
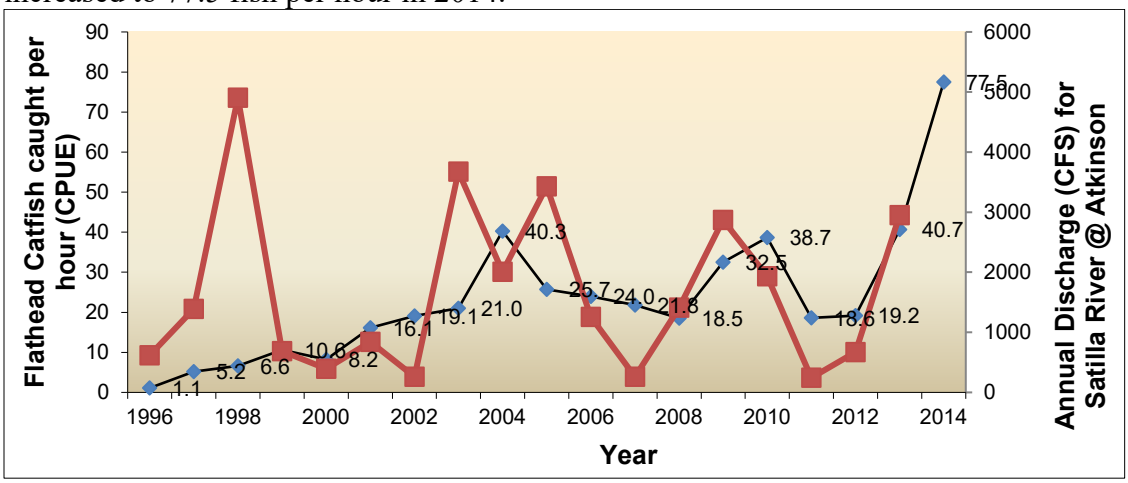
The average length fish removed has declined from 512 mm TL in 2007 to 240 mm TL in 2013, but increased to 297 mm TL in 2014 (pictured below).



Biomass per effort also declined from 77.5 kg/hr in 2005, to 10.9 kg/hr in 2012 but also increased to 41 kg/hr in 2014.



Catch per effort has fluctuated between 18 and 40 fish per hour since 2004 but steadily increased to 77.5 fish per hour in 2014.



- Gravid, turning Age-2 females have been found in multiple sampling years ranging in size from 200 to 251 mm TL. There appears to be a compensatory shift in sexual maturity due to increased exploitation.
- Suppression of the flathead catfish population in the Satilla River has been demonstrated through measured changes in biomass, size and age-structure. However, higher recruitment and earlier maturation is being witnessed; and ongoing intensive harvest will be required to prevent the flathead population from rebuilding. It appears that successive high water period from the fall of 2012 until the spring of 2014, has helped the flathead population rebound.

Satilla River Fishing Report:

- Anglers are reporting impressive stringers of large redbreast sunfish, including 10 inch
- "Roosters,' caught in the heart of the flathead catfish removal area. More than a dozen angler awards were issued for sunfish species on the Satilla River in the past year (See pictures below).
- The redbreast sunfish increase may, in part, be due to the reduction of large flathead catfish in the Satilla River, but other contributing factors, such as the water level and fishing effort have also played a part. The river was in the floodplain all summer (2013) and most of the winter (2014), so redbreast sunfish have had ample foraging opportunities resulting increased survival and accelerated growth rates.

Recent Findings (Range Expansions):

- On March 25, 2014, a 10-12 inch smallmouth bass (*Micropterus dolomieu)* bass was caught and released on West Point Lake.
- Dr. Steve Sammons (Auburn University) found the fish on the Georgia Outdoor News GON forum and identified it as a smallmouth bass.
- This identification was corroborated by Andrew Taylor, who also identified the fish as a smallmouth bass. Andrew's research on the "Dispersal of nonnative smallmouth bass in the Chattahoochee River" suggests that smallmouth bass could move down the river to West Point Lake during the winter months.
- WRD fish biologist Brent Hess responded with an electrofishing survey in the Turkey Creek area around the angler's dock. A total of 68 largemouth bass and 9 spotted bass were caught in 1.5 hours of electrofishing, but the released smallmouth bass not recovered.

West Point Lake Smallmouth Bass

- During sampling in 2011, the WRD flathead catfish removal crew documented the non-indigenous range expansion of the Blue Catfish (*Ictalurus furcatus)* in the Satilla River, Georgia. A total of seven blue catfish were recovered in 2011 ranging in length from 360 mm TL to 492 mm TL and in weight from 0.337 to 1.044 kg. Ages ranged from 3-5 years old. This is the second non-native riverine catfish to be found in the Satilla River basin. Blue catfish were not collected during sampling in 2012 & 2013.

- On May 24, 2014, Roving creel clerk Brentz McGhin interviewed an angler on the Satilla River out of the FFA camp boat ramp. Two individual juvenile Blue Catfish were obtained from the angler (170 & 195 mm TL). These fish were caught at the confluence the Alabaha and Satilla rivers, between the towns of Blackshear and Hoboken, GA. This is substantially further upstream (about 100 river miles) than the first documentation in 2011. The fishes had anal fin ray counts of 31 (within the range of 30 to 36), a 2 vessel swim bladder, straight anal fins, serrated pectoral fin rays, scissor-like tails and no spots. Both fish were sacrificed.


Blue Catfish (above left) Pleco (above right)

- Only July 6, 2014, a Pleco (*Hypostomus plecostomus)* was found lethargically swimming near a boat ramp on the Chattahoochee River and was most likely an aquarium release. The fish was released by the fishing guide who encountered, but most likely did not survive do to daily water temperatures as low as 11-13C in the immediate vicinity.

- On, July 15, 2014, Channeled apple snails (*Pomacea canliculata*) were found by WRD non-game biologist, Eamonn Leonard at the Towne Lake subdivision in Chatham County in Pooler, GA near Savannah. Obvious pink egg masses and live apple snails were found.


Pink eggs from the invasive apple snail (above left) and Brazillian Pepper (above right).

- On, July 20, 2014, Brazillian Pepper (*Schinus terebinthifolius*) was found in the Turtle River drainage near the entrance towers on the Jekyll Island Causeway.

- These plants were first discovered by an intern working for the Coastal Georgia Cooperative Invasive Species Management Area (CISMA) for the summer 2014. Pictures were sent to Jessica Spencer and Tina Gordon who are the co-chairs of the First Coast Invasive Working Group. They have worked with this species in Florida and confirmed the identification. WRD treated the site shortly thereafter and believes they have a complete kill. It will be retreated in the fall if necessary.

- In a proactive effort to monitor grass carp ploidy (diploid surveillance), and to minimize the potential establishment of wild grass carp populations in state managed waters, the Georgia Department of Natural Resources, Fisheries Management Section (FM) is instituting a protocol to collect and test grass carp (*Ctenopharyngodon idella)* ploidy. This protocol should be put into action by October 2014.

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