Gulf and South Atlantic Regional Panel Update
(GSARP) for Georgia
October, 2013
Raleigh, NC

Satilla River Flathead Removal Project

- The Satilla River has historically been one of the premier sunfish fisheries in the state of Georgia, with redbreast sunfish (*Lepomis auritus*) being one of the most sought after species. The presence of illegally introduced flathead catfish (*Pylodictis olivaris*) was first observed in 1996. During the mid-2000's, observed 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 negate the impacts on native fish populations, existing Wildlife Resources Division (WRD) Waycross Fisheries staff began aggressive removals via electrofishing in 1996 as time allowed. Despite these removal efforts, the number and size of flathead catfish per hour of electrofishing had continued to increase since their introduction. In 2006, the Georgia legislature appropriated funding for three new positions (reduced to two in FY 2009). These personnel were assigned the task of reducing the flathead catfish population levels through direct removal while searching for a long-term population control.

Current Results:

- For the 2013 sampling season (June-October), the crew has removed 2,600 flathead catfish totaling 2,425 pounds. Since the implementation of the full time flathead management program in 2007, more than 68,919 pounds of flathead catfish (28,691 fish) have been removed from the river in 7 years. The size structure of the population has declined with the average size fish removed progressively dropping from 5.8 pounds in 2007, to 0.9 pounds in 2013. In addition, the average length fish removed has declined from 512 mm TL in 2007 to 256 mm TL in 2013. Biomass per effort had also initially declined from 57.1 kg/hr in 2007, to 23.6 kg/hr in 2008, to 19.9 kg/hr in 2009, but increased in 2010 to 31.1 kg/hr and then declined to 25.3 kg/hr in 2011, 10.9 kg/hr in 2012, but increased a little in 2013 to 12.1 kg/hr.

- In addition, to changes in the size structure, the age structure was also truncated by removal efforts. In 2007, 15% of population was made up of age-1 & age-2 fish, and it was dominated by a strong 2003 year-class of age-4 fish (50%), and 5% of the population consisted of fish Age-6 or older. In 2008, the strong 2003 year-class of now Age-5 fish was still present and made up 13% of the population and the same amount of older fish (>age-6) still comprised 5% of the population, but the population began to show signs of being heavily exploited, because 50% of the catch was now age-1 or age-2 fish. In 2009, the age-structure data revealed a typical population that has received high exploitation, characterized by a large

numbers of small fish (<356mm TL), with over 80% of the fish being age-1 or age-2 and only 3% of the population was age-6 or older, including that once strong 2003 year class. The 2010 age sample also consisted of over 80% of fish being age 1 and age 2 fish. In 2011, the age-structure appears to be rebuilding some with only 66% of the fish being age-1 or age-2 fish and 22% of fish being age-3, and 12% of the fish were age-4 or better. Part of this rebuilding in the age-structure may be an artifact of the sampling crew focusing more than a usual amount effort on the lower river in 2012, where more adults have been recovered in the past. In 2012, 70% of the fish were age 1 or 2, but 24% were age 3 and 5% were age 4 or better. Part of this rebuilding in the age-structure may be an artifact of the sampling crew focusing more than a usual amount effort on the lower river in 2011, where more adults have been recovered in the past.

- Gravid, turning Age-2 females were found in ranging in size from 200 to 251 mm TL. There appears to be a compensatory shift in sexual maturity due to over a decade of increased exploitation. Maintenance control and or suppression of flathead catfish in the Satilla River is possible given our reported changes in biomass, size and age-structure but higher recruitment and earlier maturation was demonstrated, as a result this will require intensive harvest to be maintained to prevent the flathead population from rebuilding within 2 to 5 years.

Most Recent Findings:

- On June 19, 2013, WRD personnel collected 5 flathead catfish-in the Ochlockonee River ranging in size from 595-1000 mm TL and weight ranged between 3-13.5 kg. Lapilla otoliths revealed ages ranged from 3 to 8 years of age. There have been reports of flathead catfish being captured in the Ochlockonee River for the past couple of years in Georgia. Although we had never collected one in the river until this year, Florida has confirmed the presence of flathead catfish in Lake Talquin for roughly a decade (FWC). This is the first time flathead catfish have been documented to exist in the Ochlockonee River in Georgia. Three additional flatheads were collected on September 10th, and ranged from 305 to 820 mm TL. These fish will be aged as well.

- During sampling in 2011, the WRD removal crew documented the non-indigenous range expansion of the Blue Catfish *Ictalurus furcatus* occurring 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 to 5 years old. This is the second, large, non-native riverine catfish to be found existing in the Satilla River basin, joining the flathead catfish which was found in 1996.
- No blue catfish were collected during sampling in 2012 & 2013.

<u>Channeled Apple Snails</u>

- Awaiting a report from UGA on kingsland/St.Mary's project.

Chinese Mystery Snails

- Occurring in the Chattahoochee Drainage (Fulton County Subdivision Pond)
- Believed to occur in many water-bodies across the state

Yellow Bass

- Occurring in 2 reservoirs in the Coosa River drainage.
- Discovered in 2009 in Lake Antioch and 2013 in Queen City Lake.

Alewife

- Discovered in April 2010 by WRD in Carter's Lake.
- Established, large numbers collected since 2010

Emerald Ash Borer

- Emerald ash borer, a nonnative invasive insect that infests and kills ash trees, has been confirmed by USDA-APHIS in Fulton and DeKalb counties. This is not an unexpected event, as this species has been spreading southward for several years and recently became established in Tennessee and North Carolina. As a federally regulated pest species, its confirmed presence means that quarantine areas will be established in Georgia. The Georgia Department of Agriculture and Georgia Forestry Commission share regulatory responsibilities for this species and gave a news release.
- Our primary involvement will consist of helping to promote the "Don't Move Firewood" campaign and relaying questions from the public to GFC, GDA, or UGA cooperative extension offices. While ash trees make up a small portion of Georgia's forests overall, Carolina or water ash is a common understory tree along many South Georgia streams.

Asian Carp (Bighead and Silver) Risk Assessment

The threat of Asian carp spreading into Georgia waters appears to be minimal at the present time.

Firstly, when speaking of Asian carp we are referring specifically to bighead and silver carp. There is also potential for introduction of black carp, but this threat seems minimal at the present time given their limited distribution (almost entirely in the main-stem Mississippi River. Bighead and silver carp also seem to present more of a danger based on their behavior (leaping out of water, competing with native species).

Asian carp have become a big problem in parts of the Mississippi Basin. They have been collected in every major Mississippi River tributary, including the Tennessee River.

Fortunately for us, they have been slow to spread upstream through the TN River system. According to Mike Jolly (TWRA Region 3) there has only been a single bighead carp caught below Nickajack Dam several years ago at the headwaters of Lake Guntersville (on the TN River). There have been no reports of Asian carp from Nickajack lake itself or from Chickamauga Lake. The rest of the Asian carp reported have been on the lower end of the TN River.

There are several small/medium sized creeks that flow out of Georgia and into Nickajack and Chickamauga Lakes, including Cole City Creek, Lookout Creek, Chattanooga Creek, West Chickamauga Creek, and Chickamauga Creek. All of these creeks are less than 20 meters wide at their widest point. They also tend to be shallow and rocky, with significant riffles and shoals. Asian carp appear to occur only in larger rivers 50 meters across or more.

Based on all this, there is very low potential for Asian carp to enter GA waters via upstream migration. Even if this immigration occurs, it would be limited to a very small area of the state that receives little fishing pressure, and it would be unlikely for someone to move bait from one of these creeks to another Georgia water body. Special seining/cast-netting closures on TN drainage streams are not warranted at this time.

There are other potential vectors for the spread of Asian carp into Georgia waters. The most likely of these vectors seems to be inter-basin transfer via angler bait bucket. Georgia biologists suspect that the alewife now common in Carters Lake may have come from one of several Tennessee lakes that have thriving alewife populations. This example shows the potential for illegal transport of bait across our state line. Georgia anglers routinely travel to the TN River and other areas to fish for trophy catfish. YOY Asian carp can be easily mistaken for gizzard shad, which are popular catfish bait. There is potential for anglers to inadvertently collect young Asian carp while cast netting for bait, and bring that bait to our state. Again, this scenario is unlikely at the present time, given the lack of Asian carp in nearby lakes. We may have to revisit this in the future if/when Asian carp populations become established in more TN and AL lakes.