



Gearing up and getting ready.

## Fish Sampling By Chuck Lambert

There are a myriad of ways to sample fish populations. To date the Augusta State University fish crew has used three types of sampling gear as primary research tools to sample fishes on and around St Catherines Island. Seines are used to sample the beaches, a trawl to sample the estuaries and minnow traps to sample the fresh and brackish waters of the island's interior. This is about to change as the researchers are getting ready to add a fourth – gill nets. These differ from seines and trawls in that they are passive capture devices. The 150 foot long nets are deployed and left to hang in the water column for a period of time, from a couple to several hours, allowing fish to swim into the net and get caught.

The addition of gill nets as a primary sampling technique is meant to do a couple of things. First, it will allow the crew to

round out the current list of species by allowing the capture of species which would normally avoid seines or trawls such as the Spinner shark pictured here (caught July of 2012 in McQueens inlet). The spinner shark is quite similar to and often confused with the Blacktip shark which is also common to coastal Georgia waters. Like the Blacktip shark the Spinner shark has black or dark grey tips on the second dorsal, anal, pectoral fins and lower lobe of the caudal fin. The most easily recognized difference between the two is that the first dorsal fin of the Spinner shark is closer to the head. It's name comes from the fast swimming behaviors such as leaping and spinning shown during feeding.

Second, it will allow the building of a dataset which can be used by researchers of other disciplines. The fish crew plans on setting a sampling regimen which will target areas which would likely have been used in other time periods for subsistence fishing. Gill nets are a similar version of the fish nets that were typically used in earlier time periods. Sampling will occur on a monthly basis, helping to identify seasonal changes in fish populations over an extended period of time. Seasonal studies in areas other than the near shore waters of the beaches adds yet another dimension to the dataset we have already compiled as well opens another area for exploration. The fish crew is excited about putting this plan into action and would like to thank everyone involved for making this opportunity possible and we look forward to the rewards continued research will bring.

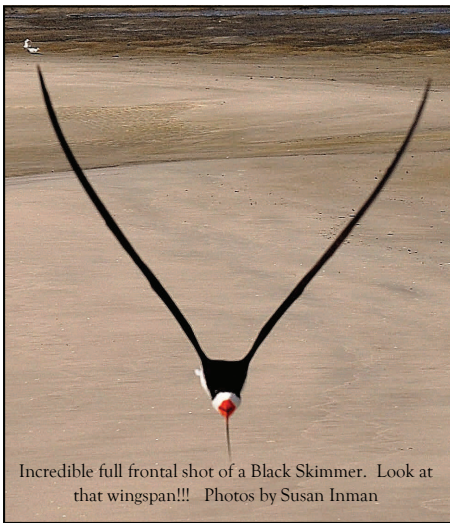


Gill net in action



Spinner Shark

## Beautiful Bounty on the Bar



Incredible full frontal shot of a Black Skimmer. Look at that wingspan!!! Photos by Susan Inman

This summer was a challenge for beach nesting birds due to both predator and tidal stresses. St. Catherines Island Bar (GA state property, managed by DNR) off the NE corner of St. Catherines Island produced a bounty of fledglings on the Georgia coast this year. Many shorebirds began the season nesting on sandbars in the mouth of the Altamaha River; and other locations, like any other year. Most nesting attempts failed (from over-washed nests) due to the unusual frequency of high tides and early season tropical storms throughout the season ; one May 7th, and one associated with Tropical Storm Beryl (May 27) were particularly destructive. Tropical Storm Debbie in late June also brought significant amounts of rain and flooding of nests. This prompted many birds to



Black Skimmers on nest (above), chick and nest (below) and near fledging juvenile (bottom). For Black Skimmers it is normal for both adults and chicks to "lay down"



abandon their nests and seek new nesting locations. Towards the end of the nesting season, many shorebirds re-established nesting at three locations along the coast, (St. Catherines Island Bar, Little St. Simons Island (LSSI), and the Brunswick Dredge Island). In mid-June while SCI staff monitored American Oystercatchers on the bar, they noticed that Black Skimmers, Least Terns, and Gull-billed Terns had settled and nested by the hundreds. SCI staff counted 236 Black Skimmer nests, 65 Gull-billed Tern nests, and 46 Least Tern nests. By July there were chicks everywhere. An accurate number of fledged chicks is not available, as the disturbance that would be created to count the chicks was too great; the adults would leave and the chicks would remain exposed to weather and possible avian predation. Based on juveniles and fledglings seen at a distance, a conservative estimate of reproductive success would be 30% fledgling success. The SCI bar has not been this successful since 1989, before Hurricane Hugo leveled the bar post-nesting season.

A number of locations along the GA coast also suffered high predation rates. Major predators were coyote (Cumberland Island), raccoon, mink and ghost crab (all locations). In cooperation with the Georgia Ornithological Society and GA DNR predator control efforts were applied in the Altamaha Sound, Wassaw Sound, and SCI Island and surrounds. SCI staff applied pressure



Least Tern Adults (above) and chick (below)



on predators along the Intracoastal waterway around the SCI area this summer. This effort corresponded with a higher number of American Oystercatchers fledglings produced. SCI's egg-incubation project, coupled with predator control, produced the majority of fledged Oystercatchers this year for the Georgia coast.

Georgia non-game DNR, funded by the National Fish and Wildlife Foundation, will be hiring 2 technicians (2013-2014) to help assess predator control techniques at four locations on the Georgia coast, documenting techniques, costs, and productivity response of American Oystercatchers. St. Catherines Island is one of five partners involved in this predator control project that are working within an adaptive management framework. The group will be using active predator control and Oystercatcher productivity monitoring to develop decision support "triggers" allowing managers to determine when predator density/frequency levels require predator control efforts. The immediate result is hoped to be increased Oystercatcher productivity on 60% of the Georgia coast. The long term benefit could help managers develop similar tools throughout the range of the American Oystercatcher to maximize efficiency of trapping efforts.



American Oystercatcher chick