U.S. Department of the Interior

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BP Deepwater Horizon – After the Spill

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Assessing Injury to the Gulf Sturgeon

The Gulf sturgeon, *Acipenser oxyrinchus desotoi,* traces its ancestry back 200 million years. The appearance of this prehistoric fish has changed little since that time. It reaches lengths of up to nine feet and weights up to 300 pounds. It is well armored with rows of heavy plates that make it look menacing, but it is actually not an aggressive species, preferring to linger near the bottom of riverbeds and marine environments. With a tail like a shark, whiskers like a catfish, and a tube-like mouth that projects from the bottom of its head, the sturgeon has been called both ugly and beautiful.

Service biologists Frank Parauka and Jeff Powell hold a Gulf sturgeon during sampling season, credit USFWS.

While the Gulf sturgeon has survived hundreds of millions of years, it was listed as a threatened species in 1991 under the Endangered Species Act. This listing came about for a variety of reasons. Gulf sturgeon populations were reduced dramatically in the early 1900s as they were exploited for their meat and caviar. The species was further impacted by the construction of dams on rivers, which blocked them from reaching their historical spawning sites. Water pollution and loss of habitat have also had an adverse impact. Continued existence of the Gulf sturgeon depends on our maintaining and protecting important riverine and marine habitats.

A more recent threat to the Gulf sturgeon has come from the Deepwater Horizon Oil Spill, the largest oil spill in history.

The Oil Spill

On April, 20, 2010, the Deepwater Horizon oil well exploded and leaked millions of gallons of crude oil into the Gulf of Mexico. Since that time, the Deepwater Horizon Natural Resource Damage Trustees – Department of the Interior, NOAA, Florida, Alabama, Mississippi, Louisiana, and Texas – have worked together to assess the kind and extent of injuries cause be the spill and response activities. The Trustees are guided in their work by the Natural Resource Damage Assessment Regulations contained in the Oil Pollution Act of 1990. Since shortly after the spill occurred, technical staff have worked to document and evaluate the impacts on an array of resources including: coastal vegetation, birds, fish, shellfish, turtles, marine mammals, coral and other marine organisms, and water quality.

Assessing Injury to the Gulf Sturgeon

The Gulf sturgeon is an anadromous fish, which means that it migrates from the marine environment to the freshwater river systems in the spring to spawn. Spawning and non-spawning adult and sub-adult Gulf sturgeons migrate into the rivers in the spring and stay there until fall when they return to the marine environment to feed. Adult and sub-adult Gulf sturgeons are bottom feeders, normally consuming a variety of bottom dwelling marine organisms, including amphipods (small shrimp-like crustaceans), isopods (small crustaceans), lancelets (sediment-dwelling worm-like animals), polychaetes (bristle worms), and other marine worms. The Gulf sturgeon has an unusual life history trait — they do not eat during their six to eight month freshwater residency.

These characteristics make the Gulf sturgeon an excellent species for assessing the exposure and impacts of the spill on marine fish populations. When the spill occurred, Gulf sturgeons were in the rivers, and thus were not exposed to the Deepwater Horizon oil. After the spill, researchers quickly sampled populations as they traveled back to the estuaries and open water. This produced good baseline, or pre-spill, data.

The fish were assessed again in the spring of 2011 as they migrated back up the rivers, and once more in the fall of 2011. The sampling of populations being conducted in 2012 constitutes a continuation of this work, and is likely to be the last year of sampling.

The Gulf Sturgeon Assessment Plan

The Gulf sturgeon assessment plan focuses on collecting information that will facilitate the evaluation of potential injury from the DWH Oil Spill in adult sturgeon. Its purpose is to measure physiological indicators of potential injury including mortality estimates and behavioral changes of adult sturgeon as they overwinter in the Gulf of Mexico and return to the rivers in the spring.

The main objectives of the assessment plan are:

- Document the condition of Gulf sturgeon during the fall and spring migrations and compare condition of adult Gulf sturgeon between migrations;
- Collect blood samples from up to 180 adult Gulf sturgeon from among the nine major river systems associated with the DWH oil spill; and
- Document offshore movement and habitat use of up to 180 adult Gulf sturgeon during the overwintering period in the Gulf of Mexico.

Six teams of three researchers are netting sturgeon on nine river systems:

- Pearl River (LA/MS)
- Pascagoula River (MS)
- Escambia River (FL)
- Blackwater River (FL)
- Yellow River (FL)
- Choctawhatchee River (FL)
- Apalachicola River (FL)
- Ochlockonee River (FL)
- Suwannee River (FL)

When netted, each fish will be tagged, and the following data will be collected for each fish:

- Body length and other measurements
- Weight
- Fin clips for genetic samples
- Blood samples
- Photographs

Twenty adult fish from each of the nine river systems will be implanted with an ultrasonic acoustic transmitter. These transmitter tags will allow researchers to monitor movement and habitat use of Gulf sturgeon in the marine environment.

Analysis of the data collected will be used to help determine the obligations of the Responsible Parties to restore natural resources that were damaged by the spill.

For More Information about BP Deepwater Horizon NRDAR

www.doi.gov/deepwaterhorizon

www.gullspillrestoration.noaa.gov

www.restorethegulf.gov

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