



WHO WE ARE



**Gulf Coastal Plains &
Ozarks Landscape
Conservation
Cooperative**

Alligator gar are apex predators and representative of large river fish. By developing a habitat model to support sustainable populations of this fish, the GCPO LCC is gaining an understanding of big river aquatic systems, their floodplains, and how they can be managed to sustain populations of large aquatic organisms, including sport fish.

A GIS expert supported by the GCPO LCC and the US Fish and Wildlife Service developed an innovative method for modeling the degree and timing of floodplain inundation using Landsat imagery. Alligator gar require access to seasonally flooded habitats and wetland vegetation for spawning and nursery habitat. The model also incorporates remote sensing techniques for estimating water temperature and vegetation to identify areas within the Mississippi Alluvial Valley that are potentially suitable for alligator gar spawning or reintroduction. Telemetry tagging of gar at St. Catherine Creek National Wildlife Refuge along with data quality loggers on site provided ground-truthing.

In the ultimate test of the completed model, gar were observed spawning at a new site on the St. Catherine Creek Refuge in 2014, which the model had correctly predicted as potential high quality habitat.

IN OUR PARTNERS' WORDS

"We work hard and devote so much time to a project like the Alligator Gar tool and sometimes never get a true answer if what we did works like we thought it would. However, our management support tool was put to the test almost immediately. By being in the right place at the right time, I not only got to witness an amazing slice of nature but was able to document the evidence needed to show our decision support tool was as accurate as we all hoped!"

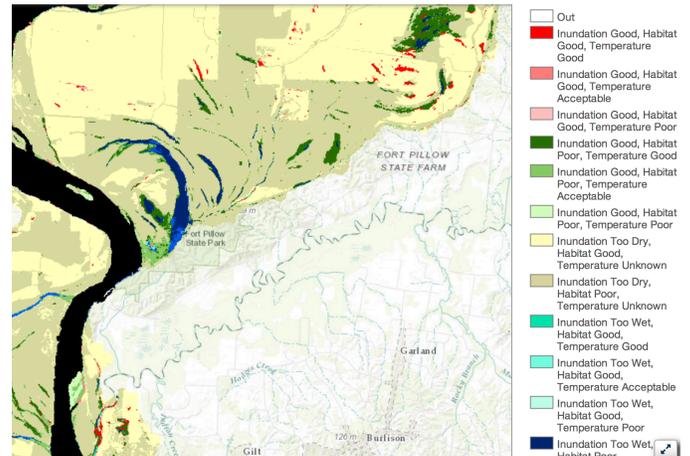
-Kayla Kimmel, US Fish & Wildlife Service Fisheries Biologist

For More Information

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ALLIGATOR GAR PRIORITY TOOL

Innovative analysis of aquatic habitat using remote sensing, a proven technique developed by the GCPO LCC and partners, is spreading and has wide application to many species



Historically maligned as trash fish, alligator gar populations have shown declines in many areas of their historical range, due to decreases in available spawning habitat and its increasing popularity as a sport fish. It is hoped that in large enough numbers, they may be one of the few native species large enough to exert predation pressure sufficient to check populations of invasive, non-native, and at times dangerous, silver and bighead carp.

Although the initial gar model covers the lower Mississippi River corridor exclusively, gar managers in Arkansas and Texas have expressed interest in expanding its application to local rivers. The floodplain inundation methodology can be applied anywhere with sufficient Landsat data, and it can be applied toward conservation of a diverse number of species dependent upon floodplain habitats: from cypress to black bear.

Project database listing: [Alligator Gar priority tool](#)
Conservation Planning Atlas: [Alligator Gar Priority Tool & data layers](#)

KEY PARTNERS

US Fish and Wildlife Service - [St. Catherine Creek NWR](#), Region 4 National Wildlife Refuge System Inventory and Monitoring Program, Baton Rouge Fish and Wildlife Coordination Office, [Private John Allen National Fish Hatchery](#); the [Southern Division of American Fisheries Society](#) - Alligator Gar Technical Committee; [Arkansas Game and Fish Commission](#); US Army Corps of Engineers - [Engineer Research and Development Center](#); [Southeastern Aquatic Resources Partnership](#)