Natural wetlands still better than rice fields for egrets in southeast US

November 18 2015

Researchers attached satellite tags to great egrets to track their habitat use in South Carolina and Louisiana. Credit: Avian Research and Conservation Institute

Wading birds in many parts of the world use agricultural habitats such as flooded rice fields, but in the southeastern U.S., Great Egrets (*Ardea alba*) prefer natural wetlands over any other habitat type, according to a new study in *The Condor: Ornithological Applications*. Researchers tracking habitat use by Great Egrets in Louisiana and South Carolina found that while some human-influenced wetlands, such as ponds and

crayfish production impoundments, did attract egrets, this preference varied between regions. Overall, Great Egrets preferred to forage in natural wetlands.

Human-influenced wetlands such as fish hatcheries, flooded agricultural fields, and artificial ponds and reservoirs represent a rising percentage of the world's wetland areas, and in some areas these may offer enhanced foraging opportunities for wading birds. Jason Fidorra, formerly of the University of Florida and now with the Washington Department of Fish and Wildlife, and his colleagues captured Great Egrets in southern Louisiana and coastal South Carolina and fitted them with backpack transmitters to learn how these birds used available wetland habitats. They also conducted aerial surveys of a breeding population in Louisiana, where nesting colonies located on a boundary between agricultural and natural wetlands provided an ideal opportunity to observe the birds' habitat preferences.

In both South Carolina and Louisiana, satellite tracking revealed that the most commonly used foraging habitat was natural wetlands; human-influenced ponds and lakes were the second most popular habitat type in South Carolina, while rivers were second-most popular in Louisiana. Satellite-tagged birds did not use flooded agricultural fields at all during the study. In aerial surveys, the only human-influenced habitat the egrets preferred to natural wetlands was impoundments for crayfish production, not rice fields.

Catching egrets required a bit of ingenuity. "We spent several months learning ways not to catch an egret, and the successful method was something I don't claim credit for," says Fidorra about the pneumatic net guns used in the study. "It was a colleague, Danny Caudill, who suggested it. Of course, since we were often working within urban areas we couldn't use the actual guns that are normally modified to shoot nets. Instead, Caudill came up with some DIY instructions for an air-powered

net gun that he pieced together at a hardware store for about $35. In the end it turned out to be a versatile and effective tool—and a lot of fun, of course."

Their results show that despite the importance of agricultural fields for wading birds in some parts of the world, natural wetland habitat is usually preferred by Great Egrets in the U.S. "Rice fields have been fairly well studied as bird habitat in many parts of the world, but much less so in Louisiana," says Fidorra. "We found that while Great Egrets did use rice fields, they were never selected more strongly than natural wetlands. This suggests that they are less-than-adequate replacements to natural wetlands."

"Long-legged wading birds have long been emblematic of freshwater and estuarine wetlands, ponds, lakes and rivers. Their health and abundance is an expression of the productivity of those habitats that have been so altered by humans for agriculture and suburban development over the past century," adds John Brzorad of Lenoir-Rhyne University, an expert on egret movements and energy requirements. "This study is an excellent reaffirmation of the conservation value of natural wetlands and will further stimulate research on the value of golf course, suburban and retention ponds using advancing telemetry methods."

More information: "Selection of human-influenced and natural wetlands by Great Egrets at multiple scales in the southeastern USA" will be available November 18, 2015 at www.aoucospubs.org/toc/cond/118/1

Provided by The Condor

egrets.html