Researchers remind policy makers that fish don't obey political boundaries

July 7 2015, by Kathleen Haughney

Gag grouper. Credit: NOAA Photo Library

Fish don't care where political boundaries exist. That's why countries must work together on environmental management practices, according to Florida State University researchers.

Gag Grouper, a popular fish served in many coastal restaurants might be the prime example of a fish that knows no boundaries.

Felicia Coleman, director of the Florida State University Coastal and Marine Laboratory, and former FSU graduate student Nathaniel K. Jue—now an assistant professor at California State University, Monterrey Bay—write in the journal *PLOS One* that grouper off the coast of Florida in the Gulf of Mexico and those living near the Campeche Bank off Mexico are extremely similar.

By examining the genetic patterns of the gag grouper, Coleman and Jue

were able to determine that the population of the gag grouper off of the Florida coast and the population off of the Mexican coast are not distinct groups, and they are dependent on each other for further reproduction.

"From the scientific perspective, this study suggests that ecosystem and species-level migration processes affecting population dynamics in marine environments such as the Gulf of Mexico may be operating at a larger scale than typically appreciated or examined," Jue said.

That discovery also has public policy implications.

Environmental management practices often don't extend past political boundaries.

In the United States, the National Oceanic and Atmospheric Administration (NOAA) governs fishing practices and often places restrictions on the time of year that different types of fish can be harvested and the amount that can be caught. But Mexico and other Latin American countries have entirely different rules.

For Coleman, the research highlights that biological systems transcend political boundaries and that current management practices need to be developed in coordination with other countries in order to protect grouper and other species living in the Gulf.

"This work helps us better understand an important fishery species' biology and should contribute to improving our ability to make fisheries management decisions that help keep this important economic and ecological resource around for a long time," Coleman said.

More information: "From Shelf to Shelf: Assessing Historical and Contemporary Genetic Differentiation and Connectivity across the Gulf of Mexico in Gag, Mycteroperca microlepis." *PLoS ONE* 10(4):

e0120676. DOI: 10.1371/journal.pone.0120676

Provided by Florida State University

Citation: Researchers remind policy makers that fish don't obey political boundaries (2015, July 7) retrieved 19 September 2024 from https://phys.org/news/2015-07-policy-makers-fish-dont-political.html

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