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ANNOUNCEMENT

Florida International University
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Doctoral Dissertation Defense

Abstract

Observation to Action: A Stakeholder Driven Analysis and Assessment of a Data-Limited Fishery

by

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Translational ecology defines a collaborative effort among scientists and stakeholders with the goal of rapidly translating environmental problems into action. This approach can be applied in a fisheries management context when information needed to inform regulations is unavailable, yet conservation concerns exist. My dissertation research uses a translational ecology framework to assess the stock status and develop research priorities for the Crevalle Jack (Caranx hippos), an unregulated and data-poor fish species, by collaborating with recreational fishing guides in the Florida Keys, U.S.A. In chapter II, I used interview data that compiled veteran fishing guide knowledge to develop hypotheses about Crevalle Jack stock status that I then tested using existing fisheries-dependent datasets. The results of this chapter revealed that Crevalle Jack populations in the Florida Keys appear to be in decline since at least the 1990s, that the decline has been gradual, and that Crevalle Jack are seasonal residents, inhabiting the Florida Keys mainly in the winter months. For chapters III and IV I used two complementary techniques to describe the daily, seasonal, and lifetime movement and migration patterns of Crevalle Jack in Florida and the northern Gulf of Mexico. The results of these chapters revealed that Crevalle Jack inhabit inshore, coastal nursery habitats as juveniles before engaging in ontogenetic migrations to cooler, more offshore habitats between ages 1 and 2. Florida Keys and Alabama fish appeared to represent separate, self-recruiting stocks with little to no connectivity between the populations during the juvenile and sub-adult stages. However, adult Crevalle Jack appear to make regular long-distance movements to the northern Gulf of Mexico, suggesting that multi-state management efforts may be necessary to restore and conserve the population in the future. Finally, chapter V applies the results of the previous three chapters to creation of a data-limited stock assessment for Florida Crevalle Jack. The stock assessment results revealed that Florida Crevalle Jack have been overfished and fully exploited for the past two decades, highlighting a need for management action. The results of my dissertation research will be used to develop management recommendations for this important fish species.

Date: March 10, 2022
Time: 09.00 a.m.
Place: MMC, AHC5-300
Zoom Link: https://fiu.zoom.us/j/98321890318?pwd=a0dMUXhFYjNCekQ2b2RFYitKeldHUT09
Meeting ID: 983 2189 0318 Passcode: k66ReU

Department: Earth and Environment
Major Professor: Dr. Jennifer S. Relage