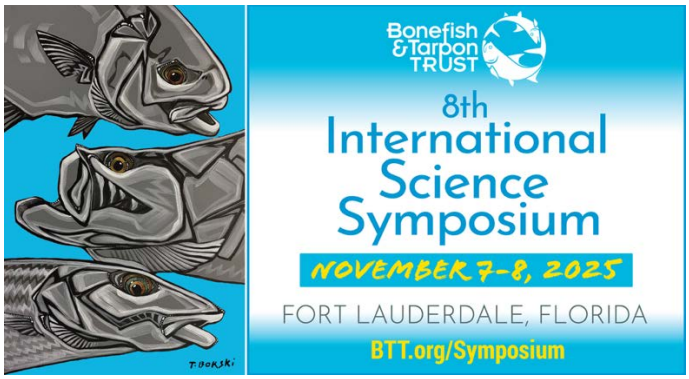


Flats food web study: Diet and food web reliance of seagrass flats for permit and bonefish across South Florida

W. Ryan James[1], Alia A. Jones[1], Jennifer S. Rehage[1], Rolando O. Santos[1], Jonathan R. Rodemann[1], Justin S. Lesser[1], Jessyca LaBadie[2], Ross Boucek[2]

Seagrass flats food webs play a significant role in supporting Florida Keys recreational fisheries. Perceived declines in fishery quality, along with reports from flats guides and anglers of key species shifting from active feeding to schooling or cruising behavior on seagrass flats in Key West, have prompted concern about the role of these habitats in supporting key game species. To investigate these changes, we partnered with guides and anglers to conduct non-lethal sampling and examine spatial and temporal variation in the diet and resource use of Permit (*Trachinotus falcatus*) and bonefish (*Albula vulpes*) across the Florida Keys. Fecal swabs and stable isotope analysis of fin tissue collected by fishing guides were used to understand the diet and resource use of permit and bonefish across the Florida Keys and Biscayne Bay. For permit, the first year of the study revealed clear regional differences in both diet composition and seagrass food web reliance across the Florida Keys. Permit collected outside Key West had diets mainly consisting of snails and were supported by seagrass food webs, while permit from Key West had diets mainly of crabs and energy derived from pelagic food webs. These results suggest that reduced availability of energetic resources may be driving the observed variation in fishing quality in Key West. Understanding these patterns is critical for assessing coastal food web resilience and guiding adaptive management of recreational fisheries in the Florida Keys.

1) Institute of Environment, Florida International University, Miami, FL, 33199 (wjames@fiu.edu)
2) Bonefish & Tarpon Trust, 2937 SW 27th Ave Suite 203, Miami, FL 33133