Regional Differences in Permit Diet and Resource Use Suggest Shifts in Seagrass Flat Food Webs

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Shallow seagrass flats across the Florida Keys support important recreational fisheries. However, guides and anglers have reported declines in catch quality, especially in Key West, along with changes in fish behavior from active feeding to cruising or schooling. Preliminary findings suggest that reduced prey availability may explain these changes. To explore this further, we partnered with guides to collect non-lethal samples from permit (*Trachinotus falcatus*) across the Florida Keys and Biscayne Bay. We analyzed permit fin tissue and fecal DNA to assess resource use and diet composition, which differed across regions. Permit in the Lower Keys consumed more crabs and relied on pelagic sources. In contrast, fish from the Upper Keys and Biscayne Bay consumed more snails and relied on seagrass-based food webs. This study supports the need for further research on prey availability to determine whether it drives spatial differences in diet and resource use. Understanding these patterns can inform future efforts to monitor fishery health and habitat condition.