

Movements of Southern Flounder in Mississippi Sound

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Abstract

Understanding the movement patterns of a fisheries resource is necessary for proper and effective species management. Passive acoustic telemetry is a proven method used to monitor movement and habitat use of fishes. Southern Flounder is a popular sport fish species along the northern Gulf of Mexico and is the most harvested flatfish species in Mississippi coastal waters. Prompted by evidence of range-wide population declines and stakeholder concern, MDMR recognized a need to develop projects to increase knowledge of the Southern Flounder stock. In response, the MDMR and USM-CFRD began a collaborative acoustic telemetry project aimed at documenting the timing of Southern Flounder movements from Mississippi estuaries to offshore waters, and subsequent returns to inshore habitats following presumed spawning activity. In 2021, cooperative tagging efforts were conducted in Biloxi Bay and Pascagoula drainages by MDMR and in St. Louis Bay by USM-CFRD. A total of 96 Southern Flounder were collected and externally fitted with acoustic transmitters between August and November 2021. Southern Flounder movement was monitored using several passive acoustic receiver arrays deployed throughout the Mississippi Sound, St. Louis Bay, Biloxi Bay, Pascagoula Bay, and the barrier island passes. Using acoustic telemetry and continued collaborative efforts, we hope to gain a better understanding of Southern Flounder migration patterns and connectivity between coastal drainages to enhance management of the species in Mississippi.

Bio

Jennifer Green received a BS degree in Natural Resources- Fisheries Management from Delaware State University in 2010 and a MS degree in Coastal Resources from The University of Southern Mississippi in 2015. Her graduate research focused on using acoustic telemetry to investigate relationships between habitat selection of Gulf-strain Striped Bass and abiotic environmental characteristics within the Biloxi River, MS. Jennifer is currently a Fisheries Biologist in the Finfish Bureau at the Mississippi Department of Marine Resources where she primarily focuses on coordinating the acoustic telemetry tagging program to monitor spatial and temporal movement patterns of sport fish species, including Southern Flounder, Red Drum, and Cobia. She serves as a Mississippi representative for Gulf of Mexico Alliance's (GOMA) Wildlife and Fisheries Priority Issue Team and is a member of the Gulf of Mexico Fishery Management Council's Red Drum Scientific and Statistical Committee. Jennifer resides in Ocean Springs with her husband, John, and four-year old daughter, Evelyn.

