

SEASONAL DISTRIBUTION OF HYBRID STRIPED BASS IN A POWER PLANT COOLING RESERVOIR AND A COMPARISON TO RED DRUM

Author: Kevin Ray Piner

Palmetto bass (Morone saxatilis x M. chrysops) are the most commonly stocked hybrid striped bass in Texas. Twenty-four palmetto bass and four red drum (Sciaenops ocellatus) were monitored in 1990-1991 using ultrasonic biotelemetry in Lake Fairfield, Texas. Habitat, water temperature and dissolved oxygen level occupied were recorded for each fish located. Palmetto bass avoided heavily structured habitats, but showed a near-random distribution in non-structured habitats. Palmetto bass avoided the southern end of the reservoir throughout the entire study. Palmetto bass tolerated water temperatures above 32 C in summer to remain in water with dissolved oxygen concentrations above 4-5 mg/l. Water temperatures were important in determining palmetto bass horizontal distribution. Dissolved oxygen was more important than water temperature in determining vertical distribution of palmetto bass in the water column. Red drum seasonal distribution and habitat use were used to verify a larger 1989 red drum study. Habitat overlap between palmetto bass from the 1991 study and red drum from the 1989 study was significant in all seasons. Due to seasonal crowding in northern reservoir areas, realized habitat overlap was greatest during summer.

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Department of Wildlife & Fisheries Sciences
Texas A&M University
College, Texas 77843-2258