

Striped Killifish

Fundulus majalis

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DESCRIPTION

Taxonomy and Basic Description

Photos by Mark & Carol Archambault

Walbaum first identified the striped killifish in 1792. The striped killifish is the largest member of the genus in South Carolina; it is known to frequently reach lengths of 152 to 178 mm (6 to 7 inches) in the Western Central Atlantic. All individuals have a conspicuous silvery sheen on the sides. Adult females are olive dorsally and white below with one to several dark longitudinal lines and one or more disrupted vertical bars near the tail. Adult males are dark olive on their back with salmon yellow bellies and sides; their sides are marked with 15 to 20 black vertical lines (Hildebrand and Schroeder 1928).

Striped killifish utilize all available food items except detritus, with small crustaceans and polychaetes being the most frequent food (Baker-Dittus 1978).

Status

The striped killifish is not a state or federally listed species; however, killifish are ecologically important because of the role they play in the food web. Killifishes are prey for wading birds, aerial searching birds, piscivorous ducks and many predatory fish (Peterson and Peterson, 1979). Although data identifying specific predators of the striped killifish is lacking, its presence in shallow habitats suggests that it might be important prey for wading birds. Baker-Dittus (1978) found that *Fundulus* uses all available food items with small polychaetes and crustaceans being most common.

POPULATION DISTRIBUTION AND SIZE

The striped killifish is found along the east coast of the United States from New Hampshire to northeastern Florida mainly in saltwater and, less frequently, in brackish water. This species is found throughout the South Carolina coast.

No definitive information is available on the population size of striped killifish in South Carolina; most existing surveys fail to collect this species, most likely because of their preference for shallow habitats that are not easily sampled. However, Anderson et al. (1977) found it to be relatively abundant in shallow front-beach habitats at Folly Beach, South Carolina from June through September. Striped killifish is also common when the water is shallow on high salinity tidally inundated marsh and oyster bars (pers obs).

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

All sizes of striped killifish are found in shallow estuarine and front beach habitats. Though they co-occur with other species in their genus, striped killifish tend to prefer sandier sediments and higher salinity water (Lipcius et al. 1985).

CHALLENGES

Saltmarsh is one of the most biologically productive ecosystems in the world. The marsh provides food, structure and refuge from predators; it also regulates the amount of freshwater, nutrient and sediment input into the estuary (SAFMC 1998). Small tidal creeks associated with marshes provide nursery areas and critical fisheries habitat for a variety of species (SAMFC 1998). Development of upland habitat adjacent to saltmarsh and the proposed development of hammock islands in South Carolina have reduced or have the potential to reduce the quality of saltmarsh habitats. Degradation of the saltmarsh ecosystem would risk negative impacts to the vast resources that depend upon it, including striped killifish.

CONSERVATION ACCOMPLISHMENTS

South Carolina's Attorney General, Henry McMaster, determined that the state holds ownership of marsh islands, unless it is determined that they are privately owned (Post and Courier, November 13, 2004). With the majority of these islands being under state ownership, the likelihood of them being developed is lessened.

CONSERVATION RECOMMENDATIONS

- Develop a better understanding of the ecological role and potential importance of striped killifish in marine ecosystems.
- Protect water quality and important estuarine and beachfront habitat. This can be accomplished, in part, by working with municipalities to include BMPs in soil and water conservation plans. Such plans should include installation of retention ponds, modified septic systems, and stream bank protection measures.
- Work with appropriate agencies to plan development of undeveloped beachfront and to deter development of critical and sensitive beachfront habitat.

MEASUREMENT OF SUCCESS

Success will be indicated by the presence of healthy populations of striped killifish as well as the species that depend upon this prey base.

LITERATURE CITED

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