ABSTRACT

Fish samples were collected in the Harsens Island marsh-bay complex of Lake St. Clair to determine the species utilizing marsh and bay habitats. Fish were collected with a variety of gear over a 7-month period. Vegetation was surveyed and habitat parameters measured in 61 hectares of marsh and bay. The marsh extended approximately 77 m from the shoreline to a depth of 50-77 cm. It covered approximately 2 hectares and was dominated by emergent vegetation. The bay comprised the remaining 59 hectares of the total sampling area and was dominated by submergent vegetation occupying a water depth range of 78-186 cm. Water temperature values within the inner and outer marsh were similar, but values from 4 June to 2 July 1981 in the bay were 2-3 C higher. Secchi disk transparency exceeded water depth in all but two measurements, indicating low turbidity in both the marsh and bay. A total of 7,367 fish, representing 39 species, was collected. Four species assemblages were identified, based on seasonal catches of 18 species. The Resident Assemblage was most common, accounting for 90% of the numerical catch. The remaining groups--Spring, Summer, and Fall Assemblages--comprised 3%, 3%, and 1% of the total catch, respectively. Since the Harsens Island marsh-bay community structure was dominated by resident fish species, energy exchange within a freshwater marsh may be self-contained in comparison with an estuarine marsh. Spatial and temporal patterns of utilization in the marsh and bay were common among the species collected. The marsh was generally used as a nursery area, while the bay was used for both spawning and nursery purposes.