THE USE OF INTERTIDAL SALT MARSH CREEKS AS FISH NURSERY AREAS: A SEASONAL SURVEY OF THE FISHES IN NORTH BULL ISLAND, DUBLIN BAY

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ABSTRACT

The presence of juveniles of 10 fish species in two salt marsh intertidal creeks in Bull Island, Dublin Bay supports the premise that they serve as nursery areas.

The creeks were sampled from June 2000 till September 2001 to determine the seasonal composition, abundance and distribution of fish species. A 1 m × 1 m trawl net with a 1 cm mesh was used almost every month and the samplings included both ebb and flood phases, so as to reduce sampling bias to a minimum. Water temperature and salinity were measured *in situ* with an ST probe. Water samples were also taken for SPM and Chlorophyll *a* determination.

All fish caught were counted and weighed and their total length was determined. The resident gobies dominated the catches, but also juveniles of exploited and threatened species such as the bass, *Dicentrarchus labrax* and the catadromous *Anguilla anguilla* were hosted. Only one species was taken in October 2000 and the highest number of species at any one time (6) in September 2001.

Four indices were calculated. The Shannon-Wiener species diversity index (H'), the Shannon-Wiener Evenness Proportion (SEP), the "species richness" component (D), and the "Evenness" index of Pielou (J') were used to assess differences between the sampling sites and between seasons. All index values indicated low heterogeneity and diversity within the fish community.

The estuarine fish using the intertidal marsh creeks have rarely been studied in Europe and the role these habitats play for them remains largely uninvestigated. The need for similar research is stressed.