

Deterioration of Eelgrass Meadows by Water Pollution in Seto Inland Sea

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Abstract

In January 1996, we transplanted vegetative shoots of eelgrass into a shallow bottom without eelgrass vegetation, off Iwakuni City, Yamaguchi Prefecture, in the Seto Inland Sea. At 0m transplanting site, the shoot density of transplants showed a rapid decline after the typhoon attack in August 1996, and all the transplants disappeared in November 1996, due to sand movement. However, natural eelgrass bed near our transplanting site remained active. There were differences in the vertical distributions of shells in the sediments between natural eelgrass bed and transplanting site, although physico-chemical characteristics resembled each other. At -1m and -2m transplanting sites, the shoot density of eelgrasses increased more than that of the natural eelgrass bed within 1 yr of transplanting. At shallow bottom, sand movement was found to be one of the most important factors for the development of eelgrass bed in conjunction with physical characteristics of the sediment. It is important to create stable habitat for eelgrass bed restoration by reducing wave action and sand movement.