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Developmental Processes of Temperate Seagrass Ecosystems on the Coasts of Northern Japan and Salt Tolerant Features of Seagrasses

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Summary

Five temperate seagrass species occur along the coasts of nothern part of Honshu Island. *Zostera marina* is a cosmopolitan species in the Pacific and Atlantic Oceans of northern hemisphere. Besides *Z. marina*, *Zostera caulescens*, *Zostera caespitosa*, *Zostera japonica* and *Phyllospadix iwatensis*, a rocky shore phanerogamm, distribute in Otsuchi Bay, Funakoshi Bay and Yamada Bay in Iwate Prefecture locating along Rias Coast of Sanriku Area. *Z. caulescens* and *Z. caespitosa* are endemic species in the noth-western Pacific. It is considered that species diversity and endemism of seagrasses along the coasts of Iwate Prefecture are greately affected by the ocean currents, such as the Kuroshio Current, the Oyashio Current and the Tsugaru Warm Current as well as topographic environments of Rias coasts.

The survey on the seagrasses in Otsuchi Bay, Funakoshi Bay and Yamada Bay were conducted to analize the distribution of seagrass species and ecological informations such as differences of morphology, biomass, natural histories and phylogeny. Analysis of environmeantal factors is important and logging of data are needed to analize the diversifying seagrass beds in different habitats.

We are now collecting data for above mentioned study subjects. To describe the distribution area of seagrasses an echo sounding system was used. Biomass structures of *Z. marina* and *Z. caulescens* were obtained and morphology of rhizome system of *Z. caespitosa* was studied. To know an important factor for phtosynthesis of seagrasses, phonton flux was measured.

Further studies should be continuously going on for the promotion to protect of endangered seagrass species. Logging of basic data is surely help evluating approaches to the conservation of rare and endangered species in coastal ecosystems and ecosystem communities.