

HGM005-04

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## Reconstruction of the watershed environmental changes based on the lake sediment of Yudou-numa in the Tokachi Plain, Hok

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Hokkaido is a region where the main factor of production changed drastically from hunting and gathering society of Ainu to farming society of Wajin on the boundary of Meiji Restoration. Therefore, the region is an extremely important region for examining the influence of human impact to natural environment. It can be thought that the lake deposit of the estuary area recorded past environmental changes occurred in the drainage area, such as large-scale deforestation and reclamation. The aim of this research is to clarify the situation of the artificial environmental destruction and its influence to the fluvial environment during the development period in the Tokachi Plain.

Four lake sediment cores were taken from the lagoon (Yudou-numa). By means of detailed analysis of the lake sediment and observation of soil profiles in the drainage basins, it was confirmed that the coarsening of the deposits and increasing of depositional speed occurred in response to the human activity. By the chronological investigation using Cs-137 and tephra, it was clarified that the coarsening of the deposit began in around 1920, and depositional speed had accelerated further in 1960's. By the observation of soil profiles in the Yudou river basin, it was suggested that the reclamation of pastures is the most important cause of the soil erosions.

Keywords: Yudou-numa, lake sediment, farmland reclamation, Cs-137, tephra, magnetic susceptibility