

Features and Implications of bottom sediment at dredged hollow in Lake Nakaumi

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Lake Nakaumi, fifth largest lake in Japan, has been dredged since 1968 when desalinization of lake water which is related to reclamation was started. Deep hollows measuring ten meters were formed by dredging and several tens centimeters of soft organic mud HEDORO has been deposited. Anoxic bottom water is frequently formed in those hollows especially in summertime. This causes water quality worse than before. Consequently, reburying of deep hollows is considered.

In order to prepare the basic data for restoration of lake environment, it is necessary to take core sediment and to understand the characteristics of soft organic mud deposited in those hollows. Surface soft organic mud has quite different characteristics to those underlying sediment, namely, color, water content, grain size composition, soft X-ray radiography, total carbon content and nitrogen content.

Many laminae are observed in soft-Xray photo of soft sediment. In order to clarify the origin of those laminae, grain size measurements were carried out in every 2 millimeter-thick sediment. Three of them are related to historical flooding. As a result, event sediments which are related to flooding are sometimes intercalated in soft organic sediment of deep hollows in Lake Nakaumi.