

Figure1 Amagasaki Harbor and Nishinomiya seawall at Osaka bay in Japan

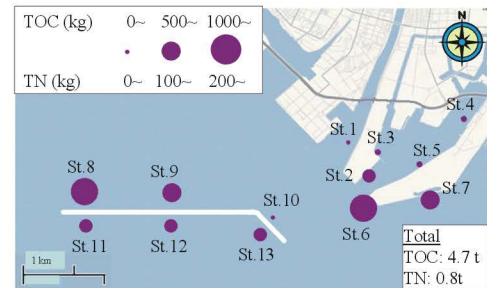


Figure2 The Amount of TOC and TN per the length seawall 1m at each sites in summer

Impact of damming and eutrophication on DSi: DIN ratio in river water, a case study of Yahagi River, Japan

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Dissolved silicate (DSi) is one of the key nutrients to determine structure of phytoplankton communities. In recent years, significant reductions in the transport of DSi from river have been reported after construction of dams, with severe consequences for food web structure in the coastal areas as diatoms are replaced by non-siliceous (potentially toxic) species. These issues are not a regional problem, but likely to occur in many freshwater and marine systems throughout the world.

To assess current status and possibility of Si depletion in Japanese river, variations of DSi and ratio to dissolved inorganic nitrogen (DSi:DIN ratio) were investigated in the Yahagi River, Japan over three years (from June 2000 to June 2003). DSi concentration and DSi:DIN ratio in the Yahagi River ranged from 75 to 254 M (average: 162 M) and from 0.74 to 4.3 (average: 2.3), respectively. Referring to the DSi:DIN ratio, there is a possibility of Si depletion in the Yahagi River and Mikawa Bay during the low flow period.

DSi:DIN ratio in the river were reduced by high DIN loading from the lower tributaries, and its effect was stronger during the low river discharge period. From November to May, the low water exchange rate of the dam water leads to diatom blooms and results in the reduction in DSi:DIN ratio in the river water.

It is suggested that the increased nitrogen loading from agricultural and urbanized catchments and lower river flow induced by the water utilization, brought about not only a decrease in the DSi supply to the coastal sea but also a reduction in the DSi:DIN ratio.

Suspended sediment dynamics at the Mekong Floodplains: data analysis

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Sediments are an essential part of the floodplain ecosystems providing nutrients for the primary and secondary production. The sediments are also an important part of the ecosystem processes in the Lower Mekong floodplains in Cambodia, including the Tonle Sap system and other floodplains downstream from Kratie. However, the present sediment dynamics there is still rather poorly understood, especially outside the Tonle Sap.

The Mekong region is developing with increasing