Proposal for the Restoration of the Seto Inland Sea, Japan based on a new concept of "Sato Umi" with special emphasis on biological diversity and productivity

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Abstract

The Seto Inland Sea is the largest enclosed coastal sea in Japan and had suffered from very serious pollution around 30 to 40 years ago. But water quality has gradually recovered after that. During the age land reclamation has reduced the shallow area, in particular of tidal flat and seaweed/seagrass bed which are very important spawning and nursery ground for various animals. Since recent decrease of fish and shellfish catch, especially decrease of benthic species is mainly due to the loss of shallow area and deterioration of benthic environment, restoration of shallow water environment is essential for habitat conservation and living resource management.

Recently new idea of the creation of "Sato Umi" is proposed by the Research Institute for the Seto Inland Sea. "Sato Umi" in Japanese, means coastal sea under the harmonization of sustainable and wise use with conservation of appropriate natural environment and habitat conditions. Compared with deteriorated coastal environment, "Sato Umi" is able to provide higher biological diversity for habitat and higher biological productivity for living resources. These characteristics of "Sato Umi" are also suitable for demonstrating multi-functional roles of fisheries.

In order to establish functionally efficient "Sato Umi", development of new holistic approach for sustainable biological production and control of eutrophic level is strongly requested. Promotion of integrated environmental management towards environmental restoration of many varieties of habitat is recommended based on national as well as international exchange of information, ideas and methodologies.

Restoration method for damaged shallow environment and habitat with use of environment friendly technology is being developed and applied in the Seto Inland Sea. Future method of habitat conservation and resource management should be examined from the viewpoints of low environmental impact, high recycling of material used, low cost with high cost performance, energy saving technology, and applicability of adaptive management. Continuous monitoring after the restoration is also very important for evaluation of restoration method applied.

Preferred mode of presentation: oral

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