

Preface

Conservation and Management of Living Marine Resources

This issue of Global Environmental Research discusses several characteristics of capture fisheries management: (1) a history of repeated mismanagement, (2) fostering and developing adaptive management, and (3) seeking sustainability in human-nature relationships. Japanese fisheries and nature conservation movements also have a number of characteristics, including (i) sympathies for sustainable use, including commercial whaling, (ii) community-based fisheries management, and (iii) a big market for fisheries products.

In 2005, the Shiretoko Peninsula on Japan's northern island of Hokkaido achieved listing as a World Natural Heritage site. Coastal fisheries exist in this region, so coexistence of natural ecosystems and sustainable fisheries is sought (Torii). The management plan for this region will be based on 'co-management' by local fishing cooperative associations. Japanese fisheries have traditionally been characterized by co-management, and this continues currently (Makino). The sandfish fishery has dealt with natural stock fluctuation and provides a good example of an agreement by the community union to ban fishing (Watanabe & Sakamoto). The fishing community union of the sandeel fishery in Ise Bay is adaptively managing a Marine Protected Area and fishing periods (Tomiyama *et al.*).

Among whaling and tuna fisheries, international fisheries management has been developed. This includes management of both taxa (Matsuoka *et al.*, Morishita & Goodman, Tsuji). These are some typical examples of adaptive population management, a key concept in marine and terrestrial population and ecosystem management. Readers, however, may find some differences between Japanese coastal fisheries and international fisheries regarding adaptive management. These differences may reflect differences in fishing law systems between Japan and developed countries of the West (Makino).

Maximum Sustainable Yields (MSY) ignore uncertainty, the dynamic nature of stock fluctuations and complexity of ecosystem interactions. Therefore, fisheries management based on MSY theory has not worked for many fisheries. Japanese sardine stocks have been decreasing since about 1990. The Total Allowable Catch (TAC) of the Japanese sardine is a target of controversy between the fisheries industry and scientists (Nishida). Some Japanese fisheries scientists recommend TAC decision rules based on theories other than MSY.

The Marine Stewardship Council (MSC) is also involved in this issue, though MSC certification has not been achieved in Japan (Izawa & Makino). I expect MSC certification to play a big role in sustainable fisheries. Thus, some of the authors in this issue represent the Japanese government (Torii from the Ministry of Environment, Morishita from the Fisheries Agency), while others represent non-governmental organizations (Izawa of WWF Japan). I hope our readers will enjoy the diversity of perspectives in Japanese society on fisheries management.

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