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## The Importance of Marine Affairs

The work of the Third United Nations Conference on the Law of the Sea has, in one form or another, been going on for about 10 years. It has proved extremely difficult to reach agreement on a treaty acceptable to 156 participating nation-states. Whether or not the conference produces a treaty that can be signed and ratified by the required number of states to allow it to come into force, it has been the agent of a revolutionary change in the regime governing the world ocean. We are, in fact, in the midst of a global enclosure movement affecting the oceans in which about 35 percent of the planet is currently passing to national control. At the same time, patterns of ocean use are being modified by major advances in technology.

Some of the effects of the enclosure movement—particularly those related to the conduct of marine scientific research and to fisheries—have been discussed in detail in the professional literature. It is clear that distant-water oceanographers, such as those from the United States, will face more restrictive conditions in the future with respect to access for research in the 200-mile economic zones of other states. The enclosure movement will also affect all of the world's stocks of fish and shellfish, except for most whales, about 35 to 40 percent of tuna and similar species, and a few stocks of other oceanic species. Fishery management systems will have to face regimes amounting to national property rights in various stocks of fish, as opposed to the open access of the past.

Much less is generally known about the effects related to ocean shipping, pollution controls, the exploration and exploitation of nonliving resources beyond the continental margins, the conduct of military operations, modification of the marine environment, and possible innovations such as weather modification and the development of new sources of energy from the oceans.

Our concern is that the scientific and technological communities will be insufficiently prepared to deal with the ramifications of the world enclosure movement. These jurisdictional changes are occurring at a time when technological advances are intensifying human use of the coastal zones of the world ocean. They will allow coastal states to exercise various degrees of control over most of the activities occurring in these zones. The implications of different patterns of ocean use will have to be taken into account when these states begin to consider what they will do with the jurisdiction gained. It is therefore necessary for national and international marine policies to be formulated and implemented in a more coherent and coordinated fashion than they have been in the past.

The enclosure movement can be viewed as presenting opportunities for imaginative action. New methods and procedures will be needed for future marine activities. We would like to see these opportunities emphasized in American marine policy, but we feel that this is a neglected area among the myriad studies made of the marine environment. The study of marine affairs has been the subject of many planning meetings by the International Decade of Ocean Exploration and other organizations, but it is still poorly defined, poorly funded, and lacks the participation of many important and knowledgeable scientists. The few people currently working in marine affairs are usually specialists in particular disciplines such as economics, sociology, law, oceanography, fishery biology, and systems analysis. The training of people in the broad areas relevant to marine affairs must be expanded so that the U.S. government and the scientific community can respond to the changing regime governing use of the world ocean.—DAVID A. ROSS, *Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543*, and EDWARD MILES, *Institute for Marine Studies, University of Washington, Seattle 98195*