OCEAN BIOLOGY AND THE NATIONAL INTEREST

If the seas were barren, remote, or inaccessible, we might have little reason to explore them. But science and technology are available, and the national interest dictates that we apply these new tools to explore the seas, to increase the harvest of their food and mineral resources, and to improve weather and ocean forecasting services. We can enhance the quality of urban living along the oceans and Great Lakes by arresting pollution and waterfront decay, and by providing for water-related recreation. We can further the cause of world understanding and security through international cooperative endeavors in the seas and through a strengthened code of international law.

Recognizing the emerging opportunities for our ocean endeavors to contribute to national needs, Congress passed the Marine Resources and Engineering Development Act of 1966 "to develop, encourage, and maintain a coordinated, comprehensive, and long-range national program in marine science for the benefit of mankind."

The Act emphasized the President's responsibility for providing leadership to the program. It established the Marine Science Council composed of the Vice-President as Chairman, five Cabinet secretaries, and three heads of other Federal agencies to advise and assist the President in policy planning and coordination of the marine science programs of 11 Federal agencies.

The Council has begun to examine the Nation's stake in the oceans by identifying how the oceans can serve broad social and economic goals, and it has helped establish priorities to transform the promise of the oceans into practical benefits. The Council has recommended to the President, and he in turn to the Congress, that this Nation accelerate marine science activities, including new programs to expand education and research in marine sciences, particularly through Sea Grant and other university programs, and to speed up research on an economical technology for extracting Fish Protein Concentrate for use in the War on Hunger. New programs should also foster rational development of the coastal zone to promote economic growth while conserving our limited shoreline resources, prevent and alleviate pollution from spillage of oil and other hazardous ship cargoes, and inaugurate an international decade of ocean exploration. This would serve to intensify investigations of the oceans and their resources and to broaden the patterns of collaborative endeavors which can benefit many nations.

Each of these initiatives reflects the importance of the biosciences in the oceans. Our practical uses of the sea will be critically limited unless oceanic biology provides an adequate basic science foundation for our endeavors.

We need to know more about the ecology of the coastal zone—an area rich in biota but highly sensitive to man's impact on the marine environment. We need to learn more about the oceanic biology and understand the microbiology of the deep oceans. We should also be concerned with the dissolved metabolic products in the oceans. Intensified research in marine pharmacology and toxicology and the evaluation of toxins and chemicals recovered from marine resources for medicinal and industrial purposes is necessary. We can benefit by accelerated efforts in the artificial culture of fish and in extracting high quality protein from the sea. Not enough is known about man in the sea—the physiological effects of living in a hyperbaric environment and carrying out the same functions we perform on land. We must have improved research techniques for studying all facets of oceanic biology.

Although the task is formidable the rewards will be manyfold. We have only begun to realize the promise of the oceans. As Vice-President Humphrey recently wrote, the national marine science program is "dedicated to the pursuit of excellence. It is proving how the power of science, transformed through our various institutions and the democratic process to a technology, may serve our Nation's diverse interests."

We must insure that we have a balanced program that recognizes and responds to the opportunities for developing the biosciences of the oceans.

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