MESSAGE FROM THE SPECIAL EDITOR

"The loss of species is the folly our descendants are least likely to forgive us."

—E.O. Wilson

BIOLOGICAL DIVERSITY IS THE VARIETY OF LIFE—from genes to species to habitats and ecosystems—that forms the intricate fabric of our planet's natural systems, which provides many essential goods and services. Changes in this fabric—such as losses of biodiversity—may be small or set in motion a chain of events where ecosystem functions change, and goods and services are no longer available. These changes can have significant social, economic, and scientific consequences. This is why understanding and conserving biodiversity are considered among the most important research priorities and policy issues of our time. Without better understanding of what organisms make up biological communities, and how these organisms and communities interact and are interconnected to form functioning ecosystems, we are destined to continue playing a dangerous game of ecological roulette, unsure which policy decisions and management actions might produce results that sever critical threads and begin an unraveling of marine ecosystem functions.

This special issue of *Oceanography* presents information and perspectives by distinguished scientists on what we know, don't know, and urgently need to know about marine biodiversity. Perhaps more importantly, this issue also highlights past management efforts, some lessons learned, and future management actions needed to sustain functioning marine ecosystems and the diversity upon which they depend.

I think you will find this issue an invaluable resource and a pleasure to read. It has been an honor to work with The Oceanography Society and this exceptionally talented group of contributors on this important topic. It is fitting that this issue helps commemorate 25 years of science and service by the National Oceanic and Atmospheric Administration (NOAA) as steward of the nation's marine and coastal resources.

I look forward to the challenges the marine research and conservation community faces during the next 25 years. As I see it, our challenge in the field of marine biodiversity is to better understand the causes and consequences of changes in marine biodiversity; the economic and social values of marine organisms and their ecosystems; how and why organisms are distributed, so we can make effective management decisions; and how to prevent reductions in marine biodiversity to avoid compromising options for future generations.

The broader oceanographic community has made important contributions to understanding many of the scientific issues related to stewardship of marine biodiversity. For example, we are beginning to understand how climate changes may lead to variations in water temperature, productivity, and the biogeography of organisms on a variety of time and spatial scales, and progress is being made on understanding the related impacts on ecosystems and the services they provide. It is imperative that these contributions continue and even increase, to help shape future science agendas, management policies, and public choices. Until recently, unfortunately, there was little comprehensive effort to coordinate science and management efforts dealing with the use and conservation of marine biodiversity. The tide has clearly turned. Recent efforts which will help focus research and management activities include: the Global Biodiversity Assessment report (1995), the National Research Council's "Understanding Marine Biodiversity: A Re-

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search Agenda for the Nation" (1995), and assessments and policy statements by the Ecological Society of America (1995) and American Fisheries Society (1995) concerning biodiversity and the scientific basis for ecosystem management. In addition to ongoing efforts such as AGENDA 21 (1992) and Systematics Agenda 2000 (1994), these hold tremendous promise for more coordinated efforts to sustain marine biodiversity.

The quality of our lives and the health of our environment in the 21st century will be determined by the choices we make today. For the scientific community that means we need to make reasoned choices on how to focus research dollars and develop strong partnerships among the various disciplines, and with the nonacademic community. It is the responsibility of all those involved—scientists, resource managers, and policy makers—to make the essential connections between academic and nonacademic fields so the very best available talents and experience are brought to bear.

Rachel Carson once said, "Like the resource it seeks to protect, wildlife conservation must be dynamic, changing as conditions change, seeking always to become more effective." Becoming more effective and adapting to change is exactly what we must do. As the Nation seeks to shrink the Federal government and balance the Federal budget, marine research funds will come under great strain. We in the marine community must identify which research investments will build a strong foundation for sustainable use and resource conservation. We can become more effective by making sure our science goals are policy relevant, though not policy driven. Scientists play an especially important role in this process and need to "step up to the plate" more often to put their findings in policy-relevant contexts. All of us are facing critical ocean and coastal issues that depend on oceanography and other fields for information, predictions, and solutions. There has never been a better time for the oceanographic community to make powerful and substantive contributions to our understanding and wise conservation of the world's marine biodiversity.

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