

Education: The Key to Ocean Stewardship

This article is the second in a series examining the U.S. Commission on Ocean Policy's recommendations for a national ocean policy. In this issue, the Commission's findings on education are discussed.

The U.S. Commission on Ocean Policy's recent recommendations on an ocean management strategy underscored the lack of public awareness about the nation's oceans and coasts. "We'll only have access to healthy and abundant coastal and ocean resources if we're well-informed about their importance and how our behavior affects them," says Dr. Frank Muller-Karger, a member of the Commission.

In the Commission's report, education and public awareness are treated as cornerstones, and it made several significant recommendations for improving ocean education.

Better Coordination

One of the most significant recommendations involves improving the way ocean education is organized and managed. The Commission noted the confusing number of federal, regional, and local agencies charged with managing different aspects of the oceans and coasts and recommended a dramatic federal restructuring.

One suggested reform is the establishment of a cabinet-level council for coordinating all federal agencies and ocean-related affairs, which would include an education office for managing a national ocean education strategy and linking the education efforts of federal, state, and local organizations.

"Everyone agrees that better coordination is needed," says Sue Cook, education director of the Consortium for Oceanographic Research and Education (CORE), an association of oceanographic research institutions, universities, laboratories, aquaria and industry leaders that serves as the coordinating office for the National Science Foundation's (NSF) Centers for Ocean Science Education Excellence (COSEE) network. "Several programs have made good progress, but they could be even more effective as part of a government structure directly tied to the White House."

Expand COSEE and Sea Grant

Federal streamlining could increase the effectiveness of existing programs such as COSEE and the NOAA National Sea Grant College Program, a group of 30 university-based programs that sponsor research, extension and education projects. The MATE Center is a partner in COSEE California.

Improving and expanding COSEE was a critical education initiative of the Commission, which recommended that the number of COSEE centers be expanded. The Commission also found that Sea Grant was a successful yet underfunded and underutilized resource, and recommended that its funding be increased.

Higher Education and Workforce Development

The Commission acknowledged the importance of a well-trained workforce and proposed that the to-be-created cabinet-level ocean education office guide the development of the nation's ocean-related workforce. It advised NOAA, NSF, and the Office of Naval Research (ONR) to strengthen their support of ocean education programs at the college and university level.

Specifically, the Commission supports the establishment by NOAA of a new ocean education and training program for undergraduate, graduate, and postdoctoral students; the further integration of marine-related education into NSF programs; and an increase in the number of ocean-related graduate fellowships made by ONR.

The Commission also encouraged NOAA, NSF, ONR, and NASA to look at ways to increase the participation of traditionally underrepresented student groups in ocean-related careers. "Many underserved populations don't understand the importance of the ocean to their lives," says Dr. Muller-Karger, who is also a professor of biological oceanography and director of the Institute for Marine Remote Sensing at the University of South Florida's College of Marine Science. "We need to provide them with appropriate educational opportunities, as well as information about the marine-related career opportunities."

Teaching the Teachers

The Commission's report noted a gap between ocean scientists and researchers and the teachers in academic institutions and local school districts. Often, teachers don't know about important research findings and consequently, significant information is not integrated into the curriculum.

"Mentoring and adopt-a-teacher programs can be successfully used to bring research into the classrooms," says Dr. Muller-Karger. "Where such programs have been developed, we find that scientists and researchers now feel left out if they're not asked to participate."

Improved Curriculum

The Commission recommended the widespread adoption of ocean literacy curriculum that meets existing education standards, focusing on materials, programs, and best practices that have already proven successful. They recommended the use of ocean-based examples in multiple subject areas such as physical and life sciences, history, and geography.

Next Steps

President George W. Bush's response to the Ocean Commission's report was released in December and is viewed by the Commission as a good first step. "We hope that the report and its suggestions will continue to be kept at a very high profile and that the President will remain engaged," says Dr. Muller-Karger.

The president's U.S. Ocean Action Plan outlined improvements and legislation that are already in progress. It directly addressed a small number of findings and recommendations, promising that others will be examined by Congress and the White House over the next two years.

The White House supports federal agency and organizational restructuring to streamline the management of the nation's ocean affairs. And the plan strongly emphasizes education and supports expanding Sea Grant to the international community. It does not specifically mention COSEE.

In addition, the Ocean Action Plan does not include a strategy for funding or specific guidelines about implementing a new ocean policy. "The proposed 2005 budget doesn't include any extra money for ocean-related programs," explains Dr. Muller-Karger. "The American people must elevate the priority of such programs and hold our representatives and the administration accountable for the funding."

For Dr. Muller-Karger, personal involvement in communicating with our local, state, congressional, and White House leaders may be the key to the successful implementation of the Commission's recommendations. "We need to tap into people's passion about the ocean," he says. "If we tell our leaders what our priorities are, we will see changes!"

To read the Commission's complete report, visit www.oceancommission.gov.