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Capitol Hill Oceans Week

Connecting the WOW: Wonders of the Ocean World Creating an Ocean Literate Society

Panel 4: Future of WOW: Increasing Ocean Literacy

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Remarks of
Roger T. Rufe, Jr., President

Good afternoon, and thank you for the opportunity to speak today. I am Roger Rufe, President of The Ocean Conservancy, formerly the Center for Marine Conservation. With 30 years of experience and more than 900,000 members and volunteers, The Ocean Conservancy is a leading advocate for wild, healthy oceans. Through science-based advocacy, research, and public education, we inform, inspire and empower people to speak and act for the oceans.

In many ways, the public education component of our mission—creating an ocean-literate society—is the most challenging. The oceans are in danger, but few people know the extent of the problem, and fewer still understand the causes. In part, this is because most people don't see what lies beneath the surface. On land, we can watch as local forests become strip malls, or rural meadows become housing developments. But few of us can see the devastating effects of dragging trawls across the ocean floor. Nor can most of us witness the beauty and variety of kelp forests, coral reefs, or seagrass meadows.

If you ask a person on the street, “What is the greatest threat to ocean health today,” he or she would likely answer “Pollution.” **But there is a more serious threat to the oceans than pollution, and that is human ignorance.** Each of the major threats to ocean health—pollution, overfishing, habitat destruction—has a human cause. And knowing little about the oceans allows the vast majority of people to look the other way, to be unaware that they are part of the problem. It also prevents them from understanding what must be done to protect our oceans, and therefore, from becoming part of the solution.

Surveys demonstrate that people care about ocean health, but they also show that most people don’t realize that their behaviors contribute to the degradation of marine resources. For example, results of a 1999 survey indicated that 92 percent of Americans consider the oceans essential for human survival, **yet only 14 percent recognized that people are the greatest source of ocean pollution.** Nearly half of those surveyed (45 percent) agreed with the statement: “What I do in my lifetime doesn’t impact ocean health at all.”¹

Few know that more oil reaches the oceans through runoff from streets and highways than from leaking oil tankers or drilling platforms. Few understand that the fertilizer used on lawns, gardens, and farm fields contributes to the growing “dead zones” found in our most productive ocean areas, such as the Chesapeake Bay and the Gulf of Mexico. Few understand that the choices they make at the market or in restaurants contribute to the overfishing that not only threatens many valuable fish stocks, but also is changing the balance and character of ocean ecosystems. And few know that many important food fish, including species of salmon, Pacific cod and rockfish, grouper, and others, are presently vulnerable to extinction.

The late astronomer Dr. Carl Sagan cited surveys suggesting that 95 percent of Americans are “scientifically illiterate.” He stated, “The consequences of scientific illiteracy are far more dangerous in our time than in any that has come before.” And he asked, “How can we affect national policy – or even make intelligent decisions in our own lives – if we don’t grasp the underlying issues?” Sagan’s words ring especially true for our oceans.

Illiteracy with regard to the oceans is, for those of us in the field of ocean conservation, the very biggest challenge we face. How do we make oceans matter? How do we educate the public so that they see what lies beneath the surface? Most important, how do we engage the public to be active stakeholders in ocean health?

We have a series of eight recommendations.

First, we must bring ocean issues to the forefront of the national agenda. Ocean literacy requires vision, leadership, and commitment on a national scale. We must agree, as a nation, that the oceans should be a national priority, and we must look to leaders from government, business and industry, education, and private organizations to ensure that it remains in the forefront of the national consciousness.

¹ Beldon, Russonello & Stewart Research and Communications and The Ocean Project, *Results of National Survey Executive Summary*, November 1999. Survey conducted among 1,500 adults living in the U.S.

It took vision, leadership, and a national commitment to put a man on the moon and a vehicle on Mars. But today, when there is a space shuttle launch, classrooms all over the country tune in to watch, just as they did in the 1960s and '70s, when NASA launched Mercury, Gemini, and Apollo spacecraft. The evolution of our space program has been fascinating, dramatic, and educational. And Americans are probably quite literate when it comes to knowledge of space exploration; Apollo, and Voyager, and the Hubble Telescope is household names. I believe the oceans have equal capacity to fascinate, dramatize, and educate; I simply think we haven't given them equal commitment.

Second, we must make oceans matter. Those of us in the conservation community believe that it is our duty to protect and restore the oceans. But we are often so caught up in our work that we don't take time to communicate the urgency of our work in human terms. As we speak and write about the oceans, we must remember to do so in terms that everyone can understand, and in a way that conveys the importance of the oceans to human existence. We must work harder to connect people to the oceans, and the oceans to people, regardless of where they live.

Third, we must create a movement to foster an ocean conservation ethic. Each of us takes pride in the national land ethic that created Yellowstone—the world's first national park—along with Yosemite, Great Smoky Mountains National Park, and Acadia. These, too, are household names.

By protecting, exploring, and sharing knowledge about our nation's unique ocean areas, we can bring about an ocean conservation ethic as strong as that which fostered our national park system and national wilderness areas.

A lot has been said recently about the value of establishing marine protected areas and wilderness areas to replenish ocean resources and help restore ocean health. But they offer educational value, too. Such areas will allow us to witness how wild ecosystems operate, what they look like when left unaltered, increase our overall understanding of how the oceans function—and, like our public lands, contribute to our national identity.

And here is an area where people are willing to learn, and do, more. In 2002, The Ocean Conservancy co-sponsored a poll² in New England and Atlantic Canada, which found that most residents believed that between 20 and 23 percent of their ocean waters were already fully protected from fishing and other habitat-altering activities. Once survey participants learned that, in fact, less than one percent of New England's ocean waters and none of Atlantic Canada's were protected in this way, **over 73 percent stated that they were very supportive of establishing ocean areas protected from fishing, drilling, and other extractive activities.**

Just as it took vision, leadership, and commitment on the part of Teddy Roosevelt, Aldo Leopold, and others to establish our national parks and national wilderness areas, it will take similar vision, leadership, and commitment to establish a national network of marine

² Other co-sponsors of this poll were Conservation Law Foundation, Environmental Defense, World Wildlife Fund Canada, and Canadian Parks and Wilderness Society.

protected areas and ocean wilderness areas. But, both the process and the end result will convince the public that the oceans are important.

Fourth, we should create and carry out policies that inform the public about critical ocean issues. In making laws and appropriating funds for government programs, the United States Congress has many opportunities to educate the public. The BEACH Act, passed in 2000, provides an example. For too long, beachgoers remained ignorant about water quality—even in their local areas. And when beaches were closed, few people knew why. Legislation such as the BEACH Act, which mandates both regular testing of beach water quality and reporting to the public on the causes behind closures, is an important step in educating the public. If citizens know what is behind beach closures, they are more likely to seek remedies. So the government's role of gathering and disseminating information about the oceans is an important—and empowering—one.

We think that more research and more information on fisheries, on marine wildlife, and on the way in which ocean ecosystems function would further educate and empower the American public.

Fifth, we should create incentives that foster cogent, in-depth media reporting on the oceans. The media is perhaps our most powerful educational tool. Our national media have provided the American public with much of what they know about space and space exploration, and they do an excellent job of keeping us current with medical research. Often, however, they choose to sensationalize rather than educate. The coverage of the shark attacks of last summer demonstrates that vividly.

Occasionally, sharks do attack humans, and it is regrettable when it occurs. But humans are a much greater threat to sharks than sharks are to humans. A study published by the American Fisheries Society in 2000 indicates that at least six species of sharks found in U.S. waters are particularly vulnerable to extinction. Several U.S. shark populations have declined by as much as 90 percent due to overfishing.

The wasteful practice of shark finning—killing sharks for their fins alone—is now illegal in U.S. waters. But it is still practiced elsewhere, particularly in Asia, where shark fin soup is an expensive delicacy. And shark finning is pushing sharks further toward the brink of extinction. Yet that particular shark story has yet to make the nightly news.

So what can we do to encourage the media to report more often, and in more depth on ocean issues? We can take more time to cultivate and educate the media about the oceans. Too often, we are reactive with regard to the media; we seek their attention only when there is a crisis: an oil spill, a fishery collapse, or pending legislation. Only infrequently do we share with them the wonders of the ocean world—the discovery of new species or new relationships among species, the complexities of ocean ecosystems, the connections between marine wildlife and human life.

In this regard, we can do much more. We can take members of the media out on the water and under the water, to the places where we work, and investigate, and discover. And we

can create increased incentives—such as recognizing and rewarding the best ocean reporting. For example, the business and environmental community could partner to establish an award that recognizes the very best ocean-related news stories of the year—apart from the awards already in place for environmental reporting.

Sixth, we should advance ocean curricula in our formal education system. To further increase ocean literacy, we must advance ocean curricula in our schools nationwide—one that elevates the importance of ocean study and demonstrates its relation to other disciplines. We must change the prevailing notion that ocean study is a self-contained, esoteric discipline, and bring it into the classrooms by integrating it with earth sciences, biology, mathematics, economics, language arts, social studies, and art. We should, as a nation, commit to preparing the next generation of ocean stewards—in Alaska, in Ocean City, in Iowa.

Seventh, we should insist that students have at least one on-the-water educational experience during their years in school. Nothing increases people’s knowledge of the oceans better than in- and on-the-water experiences. Experiential education is one of the most effective tools that we have to influence children—and adults. We know that these experiences increase children’s appreciation for the environment as well as their enthusiasm for studying. If 53 percent of us live in coastal areas, why can’t the same proportion expect to have at least one on-the-water experience during the course of our education?

Because The Ocean Conservancy believes that experiential education is important, we launched our Seacamp Scholarship program last year. We sent our first scholarship winner—Emanuel Waktola—to Seacamp, a non-profit, marine science camp located in the Florida Keys. This year we will send two students: one from Washington, DC and one from Portland, Maine.

But what about students in the Midwest or Mountain States? How can we connect them and make them care about a place that they’ve never seen? We have to be committed and creative. As we pursue research in the oceans, we have to find a way to save a virtual seat for the public, just like NASA has done so successfully with the space program. We are pleased to be involved with Sustainable Seas Expeditions, which have opened our eyes to new scientific insights while bringing the adventure of ocean exploration into classrooms around the country.

But also, by more effectively connecting students with their local environments, we have an opportunity to connect them with the oceans. As the saying goes, “All rivers run to the sea,” and in remembering this, we can teach young people in inland states that by cleaning local streams, or planting tree buffers, they can contribute to their communities and to ocean health.

Finally, we must create volunteer opportunities that connect people with the oceans.

People want to do the right thing when it comes to the oceans. We've seen that over the last 16 years with our International Coastal Cleanup (ICC). In 1986, The Ocean Conservancy held its first annual ICC, which provides the public—virtually anyone who is interested—an opportunity to help clean up our coastal areas and inland waterways. By the year 2000, it had grown to the largest volunteer cleanup event in the world; more than 850,000 participants of all ages combed over 20,000 miles of beaches, rivers, and lakes, and hauled in over 13.5 million pounds of trash. To date, people in more than 100 countries and all 55 U.S. states and territories have participated.

But the ICC is more than a beach cleanup. It is, for all those involved, an educational experience—an opportunity to become more ocean literate. Participants see the problems caused by marine debris first hand, they learn about the behaviors that cause it, and they return home from the Cleanup more knowledgeable, and above all, more empowered to make a difference for the oceans.

If a single organization can engage over 800,000 people in such an activity on a single day, imagine what an entire nation committed to educating its people about the oceans can do.