

# Committee on Resources

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## Witness Testimony

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Testimony before the U.S. House of Representatives,  
Committee on Resources,  
Subcommittee on Fisheries Conservation, Wildlife & Oceans

Testimony presented by  
**Dr. John S. Toll**  
Chairman,  
National Sea Grant Review Panel  
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Chairman Saxton and Members of the Subcommittee on Fisheries Conservation, Wildlife & Oceans:

It is a great pleasure to appear before you in connection with your review of H.R. 437, the Bill to re-authorize the National Sea Grant College Program. I appear on behalf of the Sea Grant Review Panel, on which I serve as Chairman at the present time. I thank you for the invitation to testify briefly on this important Bill. I also speak as an individual who has been president of universities and an association of universities since 1965, including two universities which have conducted Sea Grant College Programs.

It may help to place the Sea Grant College Program in perspective by noting that it was inspired, in part, by the example of the Land Grant College Program which has been so successful in making our nation's agriculture the most productive and responsive in the world. With the combination of pure and applied research, education, and extension, the Land Grant College Program has indeed been the foundation for much of our nation's progress and economy. It has been an outstanding example of what can be accomplished by a proper investment of national resources and the full cooperation of the federal government, universities, and local initiatives and resources.

The National Sea Grant College Program is expected to accomplish for the marine environment much the same kind of dramatic progress as has been achieved for our agricultural programs through the Land Grant College Program. The majority of the earth's surface is covered with water; in the next century we can expect that we will be increasingly dependent upon the food and other resources that we will obtain from the marine environment. Thus the National Sea Grant College Program is likely to become in the next century even more important than our Land Grant College Program has been in the past.

The National Sea Grant College Program is relatively young, now entering its thirtieth year. The Land Grant College Program is more than one hundred years older. Now it is important for Sea Grant College Program to become the focus of national attention as we seek to protect and to utilize marine resources in much more effective ways than have been achieved in the past. It may be difficult to see now, but I predict that in the next century humans may get most of their food from the sea.

The Land Grant and Sea Grant programs depend upon the remarkable balance of both federal leadership and investment and local contributions and initiatives. Thus the federal appropriations for the Sea Grant College Program have been matched both directly and indirectly by local resources. We expect this to continue as the Sea Grant College Program expands in the future. The multiplication effect is much greater than may at first appear. In addition to the explicit match of at least 50% of the federal appropriation by local resources in each Sea Grant College Program, numerous other contributions are produced. For example, many other university research programs were stimulated by the Sea Grant College effort. The Sea Grant College Program has led to the introduction of many educational programs that provide an increasing number of experts who go on to careers that contribute to the utilization and protection of the marine environment. Through the Sea Grant Extension Programs or Marine Advisory Services, the expertise developed by Sea Grant is made available to industry and local citizens who are working to produce fisheries and other marine resources for our economy. It has been estimated that the federal investment in the National Sea

Grant College has been multiplied 20-fold in the returns to our economy.

In many ways we are just beginning. The balanced program of research and education and extension conducted by Sea Grant can indeed have a major effect on our utilization of the ocean, coastal and Great Lakes resources in the next century. We have seen a transition on the land from the human role as hunters and gatherers to direct cultivation, so our utilization of marine resources will gradually shift more and more towards aquaculture, conducted in ways that will allow greatly increased productivity while at the same time protecting the environment.

In order to keep the United States competitive on an international level, we must be able to maintain our leadership relative to other nations. However, already in such fields as the marine aquaculture of salmon, other nations are springing ahead. In such cases we can benefit greatly by cooperative programs with other nations. The Sea Grant Program has shown that it can respond quickly to specific threats like those of zebra mussels, oyster disease, pollution, etc. It is an excellent feature of the Sea Grant College Program that there is a close interconnection between researchers and practitioners in many states so that problems are quickly shared through the network. I believe this combination of sensitivity to local concerns but ready availability of national expertise is one of the main strengths of Sea Grant.

The field of marine biotechnology is an excellent example in the way in which the Sea Grant Program must be comprehensive enough to span the full range from basic to applied research to education to Marine Advisory Services. In my own State of Maryland I have seen how scientists have been able to use the new techniques of biotechnology to transfer the growth hormone so as to increase the growth rate of fish and to have these attributes inherited by other fish. I have also seen how scientists have been able to identify and to clone the chemicals responsible for the setting of oyster larvae and now this process is being introduced in the practical development of oyster beds in a more effective manner.

The increasing populations in our coastal areas and the natural processes of erosion and pollution, the gradual rising of ocean sea levels, and the serious depletion of some natural resources pose many problems. Building sustainable fisheries, recovering protected species, and sustaining a healthy environment present many challenges. We must be able to make sound choices on how best to invest our resources and efforts so as to be most cost effective and to make proper trade-offs as we act to meet the needs of rising populations and a growing economy. We cannot make sound decisions without much improved information of the kind that is being gathered, distributed and analyzed by the Sea Grant Colleges.

In summary, the National Sea Grant College Program is essential for the continued economic leadership of the United States and the proper utilization of our coastal and Great Lake marine resources. The Sea Grant Colleges will supply the needed basic and applied research, and the scientists and engineers, and resource managers and highly educated work force that can respond effectively to the many changes coming in the Twenty-first Century.

We all recognize the need to work hard for the elimination of the deficit. But the choices should be based upon the long range benefits that will be achieved. I personally believe there is no program that can show greater long range benefits than the National Sea Grant College Program and therefore I strongly endorse the approval of the Marine Resources Revitalization Act of 1997 with as great an opportunity for expansion of future budgets as possible so that in the new century the Sea Grant College Program will be supported at least at the levels that Land Grant College Program has been supported in the past.

The members of the National Sea Grant Review Panel are ready to help your Subcommittee in any way we can as you review the Marine Resources Revitalization Act of 1997.

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