

**STATEMENT BY
MATTHEW R. GILLIGAN
BEFORE THE U.S.COMMISSION ON OCEAN POLICY**

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‘The time is always right to do what is right.’
- Martin Luther King, Jr.

Mr. Chairman, thank you for the opportunity to address the Commission today. I’m going to get right to the point. Nothing is more important than ocean policy in the U.S. that is inclusive – that respects and embraces our national diversity. The reasons are clear: shifting national demographics and the talent pool. A rapidly growing fraction of the intellectual talent and energy needed for the future in the marine science, resource management, and technology workforce (we have heard that a large fraction of it will be retiring in the next decade) resides in groups now profoundly underrepresented at professional levels. Fresh thinking, new ideas, and new perspectives are vital to answer ocean questions and solve ocean problems. It exists in populations that have been essentially untapped.

What are the reasons for continuing underrepresentation in ocean sciences by African Americans, for example? The contingencies of American history for one thing. The legacy of slavery, failure of Reconstruction and ‘Jim Crow’ laws of segregation (lack of access to aquatic recreation), lack of civil rights, lack of equal opportunity, and marginalization combined with education systems lacking in African American history has disconnected African Americans for the most part with their stake in ocean and maritime affairs. I venture that most people are unaware of the contributions of African Americans in ocean exploration, maritime commerce, and marine science. We sit here today in Charleston, South Carolina - ground zero of the African American experience. It has been estimated that one third of all African Americans can trace their lineage to the slave market here. Nearly all the local maritime transportation of the low country (St. Marys, Georgia to Georgetown, South Carolina) was built and operated by African Americans from the mid 1500s up to industrialization and capitalization of maritime trade around 1900. Only a few miles from here at the battle of Fort Wagner nearly 200 years after slavery and African rice growing technology transformed the marshes and economy of the low country, Col. Robert Shaw lead the Massachusetts 54th into battle and history. Twenty years after that in 1883 Ernest Everett Just, marine biologist and ‘Black Apollo of Science’ was born here.

The solution is education and participation. People aspire to achievements, contributions and careers that they can envision for themselves and that are perceived as rewarding, dignified, and respected in their communities. Education at all levels is needed to increase awareness and participation at all levels is needed to establish career linkages and patterns of success.

In order to accomplish the goal of inclusiveness we need to

1. Insist upon minority representation in programs and on committees, panels, boards, and commissions in proportion to their representation in the general population. One is not

enough – it has been called the critical mass effect in undergraduate programs. At most marine science meetings that I attend there are no minorities. Most marine education programs, marine related degree programs at colleges and universities, and research experience/internship programs in marine sciences attract one or no minorities. That ‘there aren’t any’, ‘they are too few, overcommitted, unavailable’, or ‘we know they are out there but we just can’t find them’ are poor excuses for not including individuals from underrepresented groups. What they really mean is ‘I didn’t look’, ‘I don’t know where to look’, ‘I don’t understand what it takes or what I may need to do to find them and get them to come’, or worse. It takes special efforts and the key is to recruit and retain critical masses of students who survive the gauntlet of academic and professional development as a cohort.

2. Insist upon respecting those criteria for evaluation of proposals for federal awards, which address broader impacts upon society, and the infrastructure of science in addition to scientific and technical merit. Correcting underrepresentation by minorities needs to be addressed at all levels including proposal review. Resolve at the top is usually not the problem – putting it into practice at the level of program manager and panel is the issue.
3. Use the oceans as a unifying thematic base in education to demystify science, view global issues, stimulate math and science achievement and performance in schools that enroll a significant percent of students from underrepresented groups, and build cultural bridges (for example by rediscovering the hidden history of African Americans in marine exploration, maritime commerce, science).
4. Reinvent the process by which individuals become ocean explorers, scientists, and resource managers. Traditional methods get traditional results. We have some successful models for programs that work and have been effective in increasing pathways to marine science, technology, management and policy. Mostly they are programs that involve collaboration among successful and emerging school districts, two-year colleges, HBCUs, MSIs, tribal colleges, marine laboratories, oceanographic institutions, and government agencies, and businesses.
5. Provide a level of capacity building and support to the places that have demonstrated their effectiveness. For example, though the 109 HBCUs enroll only 12% of the African Americans who are in college, they award 40% of the science degrees earned by African Americans in the U.S. We need to firmly establish their strategic mission in preparing students for careers or advanced studies in ocean sciences, management, policy, or education and makes them nationally competitive. It has been 50 years since America's new role as a global leader began emerging after W.W.II and when the U.S. began supporting the brand new discipline of oceanography by tapping the best and brightest and investing in places that would become the Joint Oceanographic Institutions. It has been more than 35 years since the National Sea Grant College and Program Act of 1966 began providing a stream of support for applied coastal studies at a select number of institutions of higher education. It is time for a similar effort that is inclusive of our national diversity.

If these things are done well, the best and brightest from underrepresented groups will become the national and international leaders, models, and 'heroes' - unequivocally establishing marine science, resource management, and technology professions in as rewarding, honorable and traditional.

Finally, I offer the following written comments, documents and references in support of my testimony.

1. Student comments to U.S. Commission on Ocean Policy. Abbreviated statements from undergraduate students enrolled in MSCI 4101 Marine Ecology at Savannah State University, Savannah, Georgia on the first day of classes for spring semester 2002.)
2. Background Literature, Resources, Handouts*. References and resources that I compiled with assistance from a Diversity Panel that was convened at the Fall 2001 Meeting of the National Association of Marine Laboratories (NAML). Hatfield Marine Science Center, Newport, OR Oct. 4-6, 2001. There are some outstanding blueprints for increasing minority participation in this collection.

I thank you for your attention.

Student comments to U.S. Commission on Ocean Policy

(Abbreviated statements from undergraduate students enrolled in MSCI 4101 Marine Ecology at Savannah State University, Savannah, Georgia on the first day of classes for spring semester 2002.)

The government should do more to offset the decline of the endangered northern right whale population due to mortality caused by collisions with ships in the only known birthing ground (the southeast U.S. coast). With all the technology that is available (from the Navy) and all the research that has been done, there should be a way to prevent collisions entirely by making the technology and information available and requiring ships to use it when they are in this area. - Kymberly Brown

Over fishing and pollution resulting in habitat decline are not in the U.S. interest since fishing contributes significantly to our economy. It is the fishermen who need an education. They need to see in the effects of pollution and over harvesting and the promise that aquaculture holds to reduce the harvest of natural populations. - Jeanne Zimmerman

The oceans are the heart of our living planet. Education, technology and legislation and enforcement are the keys to its sustainability. - Keith McCullough

During the 'Minorities at Sea Together' (MAST) program (Hampton University) we visited a small town in Maryland that was centered on its menhaden fishery. We heard about a decline in

catch and size over many years and that not enough research was being done to find out why. They want 'real results' from research. - Gregory Hunter

We need more public education and programs that seek to increase the level of minority groups in ocean sciences. – Anonymous

Children need to be exposed to and discuss the oceans and marine life in the middle school and high school. In my hometown of Brunswick, Georgia, which is on the coast, there is now early exposure to Spanish in school but not to the oceans and marine life. – Donna McDowell

More research on microorganisms in the ocean is needed. They supply a large percent of atmospheric oxygen on the planet, produce or contribute to biomagnification of toxins and toxic algal blooms, and may be important indicators of ecosystem health. –Takiesa Grant

Begin marine education early; especially include those that do not live close to the ocean, and increase the number of colleges and universities that offer exposure or curricula in marine science. –Chrissy Sellers

What is the potential of a more understood ocean? Genetic insights and medical products? New ways of thinking and new technologies will move things faster. – Lee Sellers

This field is not diverse. Minorities are underrepresented. More should be done to see that the minority population rises. – Steward James

Policies to promote aquaculture and reduce over harvest, to prevent overdevelopment of coastal areas, and to protect National Marine Sanctuaries are needed. The U.S. must be a major voice in global ocean issues for protection and policy-making for all marine environments. – Anonymous

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Biographical Sketch Matthew R. Gilligan

Dr. Gilligan Director of Marine Programs and AY 2001-2002 Distinguished Professor at Savannah State University (SSU), Savannah, Georgia. He earned a the B.A. degree (Biology) from Hartwick College, Oneonta, New York and Ph.D. degree (Ecology and Evolutionary Biology) from the University of Arizona. For the better part of 20 years he has taught marine biology, marine ecology, biostatistics, technical writing, ichthyology, marine analysis techniques, research, and general biology (for non-majors) at the undergraduate level at SSU, the oldest historically-Black unit of the University System of Georgia.

As coordinator of the B.S. degree in Marine Biology (name changes to Marine Sciences in 1998) at SSU, enrollment grew from 5 students in 1980 to over 70 students in 1999. A 6,000 sq.ft. marine science teaching facility with wet-lab, dock was constructed on the SSU campus (1988). Over 75% of the 82 graduates of the program have been employed in the related fields, been accepted into, are matriculating in or have completed advanced degrees. In October 2001, a new Master of Science in Marine Sciences degree at SSU was approved by the Board of Regents of the University System of Georgia, the first graduate degree program in the sciences and technology at SSU. The marine sciences program operates four vessels and has a staff of seven: six faculty including a NOAA fishery biologist, a post-doctoral research associate, and a full time boat captain.

Dr. Gilligan serves on the executive committee of the SSU faculty senate, is chair of the Gray's Reef National Marine Sanctuary Advisory Council, and is as a member of advisory boards of the Skidaway Institute of Oceanography (University System of Georgia) and Skidaway Marine Science Foundation. He is currently a Co-PI for the Bridge to Research in Marine Sciences REU Summer Program (with Harbor Branch Oceanographic Institution, 9th year, NSF-funded), Collaboration to Integrate Research and Education Program (with Skidaway Institute of Oceanography, 4th year, NSF funded), and Living Marine Resources Science Center (with University of Maryland- Eastern Shore, Hampton University, Delaware State University, University of Miami, SEFSC and NEFSC, NOAA, 1st year NOAA-funded). He is also the activity director for the Title III (U.S. Department of Education) Marine, Environmental Science, and Biotechnology Research Center at SSU.

He chairs the Education Committee of the Southern Association of Marine Laboratories, serves on the steering committee of the NOAA Expanding Opportunities Program, has served as a minority mentor for the CURMLO Minorities program at ASLO meetings since 1990, and organized a diversity panel session at the fall 2001 National Association of Marine Laboratories Meeting (Hatfield Marine Science Center, Newport, OR) sponsored by the Southern Association of Marine Laboratories.