

SEA GRANT SESSION (Current Research)

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Sea Grant Activities in the Gulf Coast Region

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Sea Grant activities in the Gulf of Mexico follow closely the general pattern of Sea Grant around the country; i.e., applied research, education and training in the same mode, and a fast growing advisory services program. These three thrusts are closely linked under the hypothesis that: (1) it is not realistic to expect to mount a strong program of applied research and development in ocean science and technology without first making some arrangements for educating and training the requisite manpower for the job; and (2) the results of such a research and development program, no matter how stimulating in the scientific sense, will have little value unless provided with the proper vehicle for transmittal to the consumer community.

In the first instance, education and training refer to the education of ocean engineers and the training of ocean technicians rather than sponsorship of education in the traditional disciplines of marine biology, physical oceanography, marine geology or marine chemistry.

In addition to engineers and technicians, the Sea Grant Program sponsors the education of a few lawyers in an interdisciplinary kind of ocean-law process, and economists, under the assumption that economics and law are indispensable in treating modern day problems in the marine and lake areas, particularly in the coastal zones.

Table 1 summarizes the National Sea Grant Program's educational and training projects currently funded in the Gulf Coast area. Although recent budget cutbacks have had a severe effect on our educational programs, we have still been able to maintain the leadership in the preparatory training of personnel for the marine industries. For instance, the ocean and marine technology

Table 1. National Sea Grant Program -- Gulf Coast Area

Number of education and training projects	7
Total number of students	222
Total Sea Grant funds	\$ 77,754
Total matching funds	\$117,585
Total funds	\$195,339

training program at Brazosport College, through the Texas A & M grant, is geared to preparing students for employment as vessel operators or engineers for ocean related business and commerce. The ocean engineering program at the University of Mississippi, where students are specifically trained to carry on supervisory functions in shipyards, deserves special mention for two reasons. First, the program, with its consistent 100% employment record, is filling a critical need within the U.S. ship-building industry. And second, the program is now self-sustaining and no longer drawing on Sea Grant funds. This particularly exemplifies Sea Grant's long range approach to marine technical training; namely, identifying the areas of critical personnel shortage, providing the funds to develop a viable training program, and finally, striving to make the technical training project self-sustaining.

Sea Grant research and development programs are carried out in all states around the Gulf Coast except Alabama which, unfortunately, applied for program participation immediately following the Program's budget reduction last year. We still entertain high hopes of funding the Alabama system in the near future. Texas A & M was the first Gulf Coast program to be awarded institutional status and the first program in the Gulf Coast to be designated a Sea Grant College. The numerous projects at this University exceed the amount of time available to us for discussion as do those at all the rest of the universities.

To summarize, however, in the present fiscal year, approximately \$350,000 in grants have been awarded to Sea Grant institutions in the Gulf Coast area to study problems facing the local commercial fishing industry. Additionally, the Sea Grant Program is a matching funds program which requires non-Federal funds equal to 50% of Sea Grant's contribution. For the current operating year, this matching funds requirement provided an additional \$200,000 for fisheries research programs. As we are all aware, however, the amount of expenditures is not a sufficient index for gauging the effectiveness of such a program. You and I need to know what benefits the commercial fishing industry gets from the Sea Grant Program. I will try to give you a general idea of where our fishery's research money goes. In the present fiscal year, approximately 30% of the funds awarded are directed toward biological research on presently or potentially

valuable fishery resources; 60% is allocated for harvesting and processing technology research; and the remaining 10% goes for education programs in the area of fisheries science. Additional funds, not included in the \$350,000 figure, are expended on marine advisory programs.

While not trying to be exhaustive, I would like to give a sampling of the types of research projects now underway. The area of fisheries biology is mainly concerned with assessing the distribution of commercially valuable or potentially valuable species. For example, the University of Miami is evaluating the commercial potential of a second spiny lobster species found along the southeastern coast of Florida. In the area of harvesting and processing technology, the projects range from the University of Florida's field testing of nets and trawls to Texas A & M's project dealing with efficient packaging and marketing of fishing products. One of the more important aspects of this research area is concerned with the evaluation of the harvesting, processing, and marketing of underutilized species. Several programs are now underway in this area. For example, Texas A & M is engaged in a project to evaluate the efficient use of fishing products taken incidental to shrimp trawling operations; the University of Florida is investigating optimal processing techniques to extend storage stability of mullet fillets; and Louisiana State University is studying ways to utilize by-products of the menhaden fishing industry.

At this point, let me provide a word of explanation about the manner in which projects are selected for inclusion into the system. The University Sea Grant Director normally issues an invitation for project applications several months in advance of the date his proposal is due in Washington. He then faces the difficult task of screening proposals in terms of their scientific and technological merit, relevance to Sea Grant objectives and probability of success based on reputation of the proposers.

The Sea Grant Director is assisted in his efforts by an in-house council composed of persons delegated from several departments in the university who would be concerned in the program's activities. The next stage of review is conducted out-of-house by an external council composed of persons in the surrounding community who would be expected to represent the consumers; e.g., state and local legislators, heads of state and local public agencies, directors of fishing and canning companies and individual fishermen, and representatives of marine recreation, mining and pharmaceutical industries. These persons will hold a one- or two-day review of the program as proposed by the Sea Grant Director in a most critical fashion, focusing their criteria on relevance to their own needs and opportunities. This double review ensures both academic excellence and practical relevance.

Finally, the proposal is shipped to Washington where it is first screened by the Sea Grant staff, fractionated into various functional components and sent to specialists in these functional technological areas for specialized review and, finally, sent to the members of the Sea Grant Advisory Panel who will accompany the staff on the annual site visit.

As any Sea Grant Director will tell you, these site visits are arduous, onerous, and often traumatic to the university. The Sea Grant Program, as you know,

must be watchful to observe that the interests of the consumer communities are observed and, secondly, that it muscles into the purviews of other Federal agencies as little as possible. Owing to the proliferation of such agencies, this last is particularly difficult.

In this connection, it should be observed that two large user communities are state and local government planners and decision-makers, and fishermen and fishing industry representatives. Accordingly, these represent two large areas of Sea Grant research and development. The manner in which we interface with the public executives is not necessarily germane to this discussion; let it suffice to say that we maintain contact in as broad a sense as possible.

This leads to the discussion of the interface between the Sea Grant Program, its components and scientists, and the various fishing interests. In our perspective, fishing interests are extremely difficult to categorize. They cover a very broad spectrum ranging from the hierarchies of the largest fishing companies, all the way down to, but very definitely including, the individual fishermen. As you know far better than I, consensus is difficult under the very best circumstances and normally impossible to obtain. But we do want to satisfy all parties. The principal difficulties in adjusting the program's techniques to the needs and opportunities of fishermen relate: (1) to obtaining a representative consensus as to the kinds of research needed; and (2) to the amount of time it takes to evolve a particularly directed staff of suitable competence at any one or another selected university. For instance, let us suppose that after many months of discussion, a sector in the fishing community finally expresses itself as being particularly desirous of studying the effects of one or another commonly used toxic substances on the fish populations of a given local area. It may turn out that there might be perhaps one university of substance in the general area. The next job is to locate scientists who are trained in this particular field. They may or may not be available. If available, they may or may not be fully occupied with other projects at the given time. The first problem, of course, is to inculcate the university at large into the Sea Grant technique. And, of course, this is not easy owing to the peculiarities of the Sea Grant Program, relating to its interdisciplinary nature, matching fund requirements, and various regulations and restrictions.

Fortunately, we are able to relate, in all honesty, that we can see daylight ahead; that in nearly all cases we are able to project over the next 5 or 6 years the strong probability of being able to handle most, if not all, fisheries' technology problems in a university which possesses the combined attributes of technological competence, academic interest and geographic proximity.

In conclusion, however, I must stress that these things take time and that capability will, inevitably, be slow in catching up with desire.