DEVELOPING A SEA GRANT REGIONAL RESEARCH AND INFORMATION NEEDS STRATEGY FOR THE PACIFIC COAST

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Introduction

The California, Oregon, Washington and University of Southern California Sea Grant programs are developing a Regional Research and Information Needs Plan for the West Coast of the United States. The initiative, supported by the National Oceanic and Atmospheric Administration (NOAA) National Sea Grant College Program, follows recent national recommendations for a regional approach to research planning. The Governors of the three western coastal states, recognizing the importance of regional cooperation for managing ocean resources, signed the West Coast Governors' Agreement (WCGA) on Ocean Health in September 2006, identifying Sea Grant as a major vehicle for identifying research priorities.

The goals of the Sea Grant initiative are to identify and prioritize research and information needs for the California Current Large Marine Ecosystem (CCLME), as identified by stakeholders throughout the three states. Sea Grant will provide the state and federal governments with a plan for initiating natural and social science research that will provide policy makers with the best possible science and information for making wise policy choices.

Data Gathering

The Sea Grant process was based on extensive communication with stakeholders throughout Washington, Oregon and California. Sea Grant solicited input from a wide range of interests, including government officials and scientists at local, state and federal levels, academic scientists, interest groups, fishing communities, marine industries, recreational users, non-governmental organizations, and the interested public. Over 600 participants attended sixteen workshops held across the three states between May 2007 and January 2008. Invitations to participate in the workshops were distributed widely, especially in coastal communities and among interest groups concerned with coastal resources. The Sea Grant planning team utilized a variety of methods to provide opportunities for input into the initiative, including websites; email "listservs" at the federal, state and local levels, including that of the West Coast Governors' Agreement; personal contacts; flyers at relevant local, state and national conferences; Sea Grant advisory bodies; hard copy mailings; and contacts with existing industry and community action groups.

The workshops were organized around seven central themes: 1. Social and economic vitality of coastal communities; 2. Coastal natural hazards; 3. Oceans and human health; 4. Ecosystem health; 5. Ocean and climate variability; 6. Marine transportation and security; 7. Education and environmental literacy.

These themes are similar to the priorities outlined the by Joint Subcommittee on Ocean Science and Technology's (JSOST) Ocean Research Priorities Plan, with the addition of ocean education and environmental literacy. They concur closely with the action areas identified in the WCGA and the subsequent West Coast Governors' Action Plan, released in draft form in October 2007. Having similar themes to national and state research priorities ensures continuity between the federal research prioritization effort and funding schemes, the state priorities, and the regional Sea Grant effort.

Participants in the regional workshops provided written and verbal input, using the themes as organizing principles. In most cases, the workshops were small enough to allow group discussion on all themes. In some cases, break-out sessions for each theme were held, and participants were free to move between sessions. Input cards were utilized so that participants could provide input to all seven themes in writing; if they attended breakout sessions only on individual themes, if their concerns were not raised in group discussions, or if they wished to clarify ideas after the group discussions. This flexibility in workshop design was critical to developing workshops that fit the needs of different regions. In all, over 3,600 research and information needs were gathered from these workshops (another 100 were received in writing outside of the workshops).

An internet-based survey was available through Sea Grant Program websites from July 2007 through January 2008. The survey used an open-ended format so that individuals could list research and/or information needs and provide supporting arguments in the same seven thematic areas as the public workshops. More than 350 respondents provided comments through this vehicle, contributing 1380 additional comments.

Coordination with WCGA and State and Federal Partners

An integral component of the Sea Grant process was close coordination with the state leads from the WCGA and with other federal partners. Representatives of the state and federal liaisons attended the regional workshops and in several cases, state representatives spoke at the workshops, highlighting the integration of complementary efforts and the expectation that the Sea Grant plan would inform state research prioritization and planning. The states are very supportive of the efforts of the four West Coast Sea Grant institutions. Action 6.1 of the draft Action Plan for the WCGA states that the Governors will support the Sea Grant process by identifying funding sources and partners for a sustained approach to ocean and coastal research.

The WCGA created a Federal Working Group (FWG) to help coordinate federal involvement with the states in developing the WCGA Action Plan. The Group was formed by the Subcommittee on Integrated Management of Ocean Resources (SIMOR) with three agencies being appointed as co-leads of the Group: Department of Commerce/NOAA, United States Environmental Protection Agency, and Department of the Interior/Mineral Management Service. The FWG role is to partner with the states to determine how federal agencies can better organize to further regional ocean governance. The FWG has been fully engaged in the Sea Grant process. NOAA and the other federal agencies will use the priorities identified by Sea Grant as a prime source in determining what research will be undertaken to support regionally significant research in support of the WCGA.

Analysis of Workshop and Survey Data

Sea Grant collected over 5,000 research and information needs from the regional workshops and the Web survey. A rigorous review of the stakeholder comments and existing priorities has been underway to prepare a Regional Research and Information Needs Plan that fully considers the broad range and variety of input. A methodology for survey analysis that fully considers the depth and range of stakeholder input will yield a statistically robust report that will be useful for further inquiry.

Prioritization
The strength of the stakeholder-based process is a bottom-up approach to needs identification. This process also takes into consideration other relevant data gathering efforts, such as the California Current Ecosystem-Based Management Initiative. An assessment of the current state of knowledge is critical to properly defining gaps in research and information needs. Both oral presentations and posters from the September 2006 California and the World Ocean Conference were categorized into the seven workshop themes, and provide a review of research currently being conducted in California. The prioritization process will include results from an analysis of research needs common to over 45 recent reports (strategic plans, implementation plans, programmatic reports, etc.) published by state and regional agencies and organizations on the west coast.

An important outcome of the Sea Grant effort is collecting input from stakeholders at a very detailed level in a process that allows articulation of the concerns and information needs from managers, scientists, interest groups, business interests, and other users. This information will be available to multiple users, who can access the database for a variety of end uses. Different levels of detail are needed for development of research priorities for funding, and for different levels of governance. While it may be more appropriate to define five large priority areas at the gubernatorial level, the fine-scale detail captured in the stakeholder comments will help Sea Grant programs better define funding strategies to address important regional research questions.

Preliminary Findings

Several cross-cutting priorities have emerged from review of the data collected from the regional workshops. For example, these include:

- Improve the sustainability of fisheries through cooperative research among resource managers, the scientific community and the fishing community; research on modeling for multispecies management; and research on the design and effectiveness of marine protected areas;
- Utilize ocean observations and long-term monitoring data sets to better understand ecosystem function and interactions (e.g., the land-sea connection; improve prevention measures and capacity to respond to harmful algal blooms (HABs), hypoxia and other emerging issues;
- Conduct comprehensive assessments to optimize and retain social and economic vitality in coastal communities, using profiles of communities to identify characteristic economic and resource qualities and potential threats to long term viability;
- Utilize regional modeling scenarios to prepare for the challenges of climate change and its effect on ocean resources;
- Develop rapid response indicators to identify and quantify pathogens and toxins leading to acute and chronic human health and seafood safety concerns;
- Study port and harbor development and maintenance to improve safety and security, reduce the impacts of shipping activities and alternative energy development on ocean ecosystems, and assess the "greening" and growth of large west coast ports;
- Develop effective standards and principles for incorporating coastal, ocean and environmental themes into state education standards, and foster formal and non-formal marine science education curricula initiatives to improve science and environmental literacy among children, residents, and visitors;
- Across all priorities and research areas, develop protocols and methods for improved data management and access to and dissemination of new and existing research to support ocean and coastal resource management.

A draft of Sea Grant's West Coast Regional Research and Information Needs Plan will be released for public review during the summer of 2008. A final plan is expected in November 2008 for use as a strategic planning and prioritizing tool by local, state, regional and tribal governments, and by the four Sea Grant Programs as they develop their own strategic research priorities. The impact of the plan will be enhanced by the commitment of the three states to pursue joint funding for regional research projects where pooled resources or coordinated efforts will maximize the return on investments to benefit all three states.

Conclusion

The level of participation by stakeholders in government, academia, interest groups, industry and the general public has been remarkable, especially given that there have been other needs assessment efforts in the last several years. The partnership among state and federal authorities and the Sea Grant programs is an important factor in motivating stakeholders to engage in the process. Sea Grant programs play a unique role in coastal management by being responsive to both stakeholder and government agency needs. With their connections to federal and state-level government, their daily interactions with stakeholders in the field, and their access to academic science, Sea Grant programs are perfectly positioned to lead the identification of research and information needs. Indeed, during the series of workshops held in the three states, participants commented that they were glad to provide Sea Grant with input and that they value Sea Grant's knowledge of coastal communities and marine resource users.

The wealth of data that is being analyzed will allow the West Coast Sea Grant programs to continue to play an important role, with state and federal partners, in establishing priorities and structure for funding research to provide the tools and information needed to better understand complex ocean and coastal processes. The translation and application of the input by the broad range of coastal interests is a difficult job at best, but one that promises to be useful for making wise management decisions.

References

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