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Mississippi-Alabama Sea Grant Consortium Strategic Plan: Plotting a Course for 2006-2010

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Science, Education, and Outreach
Serving America's Coasts

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Preface

The Mississippi-Alabama Sea Grant Consortium (MASGC) Strategic Plan: Plotting a Course for 2006-2010 addresses local, regional, and national issues that were identified through an 18-month strategic planning process involving more than 350 internal and external stakeholders. The plan identifies priority issues affecting the estuarine, coastal, and Gulf environments of Alabama and Mississippi. The plan also establishes goals, objectives, and expected outcomes for MASGC-sponsored programs.

MASGC is one of two bi-state Sea Grant Colleges, and consortium members include Auburn University, Dauphin Island Sea Lab, Jackson State University, Mississippi State University, The University of Alabama, The University of Alabama at Birmingham, The University of Mississippi, The University of Southern Mississippi, and the University of South Alabama. The intellectual capital and resources at these institutions provide a significant pool of scientists who have the expertise to address the priority issues outlined in this plan through Sea Grant's competitive research program. It is this research discovery that feeds our core program areas of education and outreach.

MASGC's 2006-2010 Strategic Plan addresses the collective concerns of the marine community. It is MASGC's administrative responsibility to maximize the positive impacts derived from MASGC-sponsored programs. One very important aspect of success is MASGC's ability to develop and sustain partnerships. MASGC encourages you to critically review this plan and provide feedback. This feedback will assist MASGC to update the 2006-2010 Strategic Plan.

Table of Contents

Executive Summary

History

The Mississippi-Alabama Sea Grant Consortium (MASGC) was created in 1972 and is one of 30 Sea Grant programs. The Consortium members include Auburn University, Dauphin Island Sea Lab, Jackson State University, Mississippi State University, The University of Alabama, The University of Alabama at Birmingham, The University of Mississippi, The University of Southern Mississippi, and the University of South Alabama.

The strategic planning process introduced by MASGC for 2006-10 began during the fall of 2003 with a planning retreat for management team members. The team used priority areas derived from the final plan to develop the MASGC 2006-07 Omnibus request for proposals (RFP) in December 2004, and will use them again for the 2008-09 Omnibus RFP.

Mission

In the 21st century, the Mississippi-Alabama Sea Grant Consortium will serve as one of the region's leading enterprises in addressing the urgent and long-term needs for ocean and coastal resource management. Ecosystem-based approaches through sound science, education and outreach excellence will be followed.

The mission of MASGC is to enhance the sustainable use and conservation of ocean and coastal resources to benefit the economy and manage and protect the environment in Alabama and Mississippi.

Strategic Plan

The 2006-2010 MASGC Strategic Plan is aligned with NOAA mission goals, in particular ecosystem-based management, and also contains many of the same priority theme areas as those outlined in the National Sea Grant College Program strategic plan. The MASGC will address the following four priority theme areas:

1. Health and Restoration of Coastal Habitats.
2. Coastal Community Resiliency and Resource Management.
3. Seafood Safety and Processing Technology.
4. Fisheries Ecology and Aquaculture.
5. Marine Education.

The MASGC involves its core education and outreach (communications, extension, and legal) programs in cross-cutting strategies to address each priority theme area through an integrated approach with research.

Performance Measurement

Measuring performance is an essential element of determining the success of implementation. The MASGC will use three performance measures to track the progress toward achieving the goals and objectives of each priority theme area. These include the return on investment from the discovery and application of newly found sustainable coastal and ocean products; the cumulative number of coastal, marine, and Great Lakes issue-based forecast capabilities developed and used for management; and percentage/number of tools, technologies, and information services that are provided to and used by NOAA Sea Grant partners/customers to improve ecosystem-based management. These performance measures will include short- and long-term evaluations and assessments. Short-term evaluations are simpler to

implement than long-term, longitudinal evaluations since they require “follow-up” after an omnibus cycle concludes. Therefore, fiscal resources will need to be included within the MASGC administrative budget for these expenses.

Introduction

The National Sea Grant College was created in 1966 by federal legislation and is housed within the Department of Commerce’s National Oceanic and Atmospheric Administration (NOAA). By design, Sea Grant is a federal/state partnership that matches NOAA Sea Grant expertise and resources with state academic institutions. The Mississippi-Alabama Sea Grant Consortium (MASGC) was created in 1972. MASGC is one of 30 Sea Grant programs and one of only two bi-state programs. The Consortium members include Auburn University, Dauphin Island Sea Lab, Jackson State University, Mississippi State University, The University of Alabama, The University of Alabama at Birmingham, The University of Mississippi, The University of Southern Mississippi, and the University of South Alabama.

The MASGC administrative office is located at the University of Southern Mississippi’s Gulf Coast Research Laboratory. The University of Southern Mississippi also serves as the fiscal host to MASGC. MASGC’s education program is housed within the University of Southern Mississippi’s Marine Education Center, the Dauphin Island Sea Lab’s Discovery Hall Program, and the Mobile County School System’s Environmental Studies Center. The MASGC outreach program consists of communications, extension, and legal programs located at The University of Southern Mississippi, Auburn University Marine Extension and Research Center, Mississippi State University’s Coastal Research and Extension Center and The University of Mississippi Law School. Research support is provided to Consortium institutions and other institutions within Mississippi and Alabama, local governments, and non-profit organizations.

This five-year (2006-2010) strategic plan uses emerging trends to shape new opportunities and strengthens the distinctive MASGC competencies that set it apart from its peers. The strategic priorities were developed using input from a broad group of constituents vested in solving the complex coastal issues in Alabama and Mississippi. The 2006-2010 Strategic Plan is written following the guidelines from the 2005 National Sea Grant Office’s (NSGO) Guidelines for Program Assessment, the recently completed review of Sea Grant’s program evaluation process, and the Government Performance and Results Act of 1993.

Vision

The Mississippi-Alabama Sea Grant Consortium will, in the 21st Century, serve as one of the region’s leading enterprises in addressing the urgent and long-term needs in ocean and coastal resource management using ecosystem-based approaches through sound science, education, and outreach excellence.

Mission

The mission of MASGC is to enhance the sustainable use and conservation of ocean and coastal resources to benefit the economy and environment in Alabama and Mississippi. **Science Serving Coastal Alabama and Mississippi** is the simpler version of the MASGC mission. To fulfill this mission, MASGC commits to interdisciplinary environmental scholarship and community-based natural resources management so that coastal and marine resources are conserved and managed for a sustainable economy and environment. The tools available in support of the MASGC mission are applied interdisciplinary marine science research, communications, education, extension, and legal services using both targeted and cross-cutting approaches. These tools are utilized at the local, state, regional, national, and international arenas.

Values

The MASGC management team identified values and compared them with value-based information collected from external stakeholders. The identified values provide a means of directing the MASGC program to the realities and expectations of its stakeholders.

- The use of objective scientific discovery to improve coastal management policies and practices.
- The sustainable development of small coastal communities.
- The sustainable use of the natural environment.
- Service to coastal residents and communities.
- Collaborative efforts in addressing coastal issues.
- The marine educational needs for current and following generations.

Ties to National, Regional, State, and Local Plans

The 2006-2010 MASGC Strategic Plan is closely allied to other local, regional, and national plans.

National Plans

The U.S. Commission on Ocean Policy's *An Ocean Blueprint for the 21st Century*, the NOAA 2005-2010 Strategic Plan, the NSGO 2003-2008 Strategic Plan, and the National Ocean Research Priority Plan (ORPP) planning information were used as the foundation for the development of the MASGC Strategic Plan. Every priority theme area identified in the MASGC 2006-2010 Strategic Plan will make a contribution toward addressing one or more of the Ocean Commission's recommendations.

The NOAA Strategic Plan defines four mission goals with each mission goal assigned five common implementation mission strategies. The NOAA mission goals are:

1. Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management.
2. Understand climate variability and change to enhance society's ability to plan and respond.

3. Serve society's need for weather and water information.
4. Support the nation's commerce with information for safe, efficient, and environmentally sound transportation.

The five common NOAA strategies are:

1. Monitor and observe land, sea, atmosphere, and space and create a data collection network to track earth's changing systems.
2. Understand and describe how natural systems work together through investigation and interpretation of information.
3. Assess and predict the changes of natural systems and provide information about the future.
4. Engage, advise, and inform individuals, partners, communities, and industries to facilitate information flow, assure coordination and cooperation, and provide assistance in the use, evaluation, and application of information.
5. Manage coastal and ocean resources to optimize benefits to the environment, economy, and public safety.

The 2006-2010 MASGC Strategic Plan contributes to the first three NOAA mission goals with ecosystem-based management encompassing approximately 75 percent of MASGC programs. To better understand ecosystem-based management, the Ecological Society of America described eight essential elements. Each of these elements is relevant in the implementation of the MASGC's plan.

1. Sustainability: Ecosystem management does not focus primarily on deliverables but rather regards intergenerational sustainability as a precondition.
2. Goals: Ecosystem management establishes measurable goals that specify future processes and outcomes necessary for sustainability.
3. Sound ecological models and understanding: Ecosystem management relies on research performed at all levels of ecological organization.
4. Complex and connectedness: Ecosystem management recognizes that biological diversity and structural complexity strengthen ecosystems against disturbance and supply the genetic resources necessary to adapt to long-term change.
5. The dynamic character of ecosystems: Recognizing that change and evolution are inherent in ecosystem sustainability, ecosystem management avoids attempts to freeze ecosystems in a particular state of configuration.
6. Context and scale: Ecosystem processes operate over a wide range of spatial and temporal scales, and their behavior at any given location is greatly affected by surrounding systems. Thus, there is no single appropriate scale or timeframe for management.
7. Humans as ecosystem components: Ecosystem management values the active role of humans in achieving sustainable management goals.
8. Adaptability and accountability: Ecosystem management acknowledges that current knowledge and paradigms of ecosystem functions are provisional, incomplete, and subject to change. Management approaches must be viewed as hypotheses to be tested by research and monitoring programs.

The NSGCP Strategic Plan focuses on 11 theme areas developed and updated by the Sea Grant Network. These theme areas include:

1. Aquaculture
2. Biotechnology
3. Coastal Communities and Economies
4. Coastal Natural Hazards
5. Digital Ocean
6. Ecosystems and Habitats
7. Fisheries
8. Marine Aquatic Science Literacy
9. Seafood Science and Technology
10. Urban Coasts
11. Aquatic Invasive Species

The MASGC Plan reorganized and/or consolidated several priority areas and de-emphasized other areas after completing a fact-finding stakeholder prioritization process. Fewer theme areas will allow MASGC to devote more resources to the highest priority issues. The desired outcome from this approach is to realize higher quality positive economic and societal impacts. While the MASGC plan is less broad than the NSGCP plan, MASGC maintains enough flexibility to shift resources if necessary toward new initiatives at the local, regional, and national levels.

The ORPP is an ongoing national research planning effort initiated in early 2006 and to date has included a stakeholder meeting in Denver, Colorado. MASGC will review this plan to determine if modifications are necessary as the plan is developed.

Regional Plans

The Gulf of Mexico Alliance was established by the governors of Alabama, Florida, Louisiana, Mississippi, and Texas with support from 13 federal agencies. In March 2006 the Alliance released its 36-month action plan. The action plan focuses on five priority areas:

1. Water quality for healthy beaches and shellfish beds
2. Wetland and coastal conservation and restoration
3. Environmental education
4. Identification and characterization of Gulf habitats
5. Reductions in nutrient inputs to coastal ecosystems

The MASGC has a long history in addressing each of these priority areas. The 2006-2010 MASGC Strategic Plan contains elements of each and provides added value to the Alliance plan by continuing to provide leadership in environmental education and initiating research and outreach programs in support of the four other action plan objectives.

The strategic plans of the four Gulf of Mexico Sea Grant programs have numerous reoccurring themes. Education and outreach programs have long histories of collaborative projects. Numerous unplanned collaborative research initiatives have also arisen including co-funding of research projects. The Gulf of Mexico Sea Grant program

directors and other management staff met in July 2006. During this meeting, each program committed to cost-sharing $200,000 per year to fund a coastal communities and resiliency regional research project. The regional research project would begin with the next biennial omnibus cycle beginning in 2008.

All four Gulf Sea Grant program directors compose and serve on the leadership council of a grant funded by the NOAA Sea Grant's National Office to develop a comprehensive and inclusive regional research strategic plan and implementation process. The strategic plan is due to be completed in 2008. At which time the, MASGC will review and update its 2006-2010 Strategic Plan.

State and Local Plans

MASGC worked closely with state and local partners during the development of the 2006-2010 MASGC Strategic Plan. The management and/or strategic plans were compared to plans from the Grand Bay and Weeks Bay National Estuarine Research Reserve System (NERRS), the EPA supported Mobile Bay National Estuary Program (MBNEP), and each state's NOAA Coastal Programs. Administrative staff from each of these agencies either serves on the MASGC Advisory Council or participated in the planning process. Local governments and elected officials also participated in the planning process.

Planning Process

Background

Operational definitions of common strategic planning terms are provided to minimize confusion for the reader. These definitions were obtained from a variety of sources including the Center for Strategic Planning (http://www.cssp.com) and the terms were changed, where necessary, to be consistent with the terms used by NOAA Sea Grant.

Operational definitions of strategic planning terms used in MASGC strategic and implementation plans:

1. Priority theme or management area – a theme area identified by external and/or internal stakeholders and includes an input gathering process followed by prioritization.
2. Goal – a broad qualitative statement of what is hoped to be achieved.
3. Setting – a description of the importance of the theme area that includes some of the factors causing the topic to be an issue.
4. Strategic actions – statements of major approach or method to attain goals but do not describe specific activities or projects (tactics).
5. Objective (benchmarks) – a specific, measurable statement of those steps to be taken to achieve the desired outcome within a time frame. Objectives are achieved through implementation (action) plans. The best objectives are specific, measurable, agreed upon, reasonable, and time-limited (SMART).
6. Expected outcomes – desired changes in attitude, knowledge, behavior or skills sought in a person or group of people.

7. Performance measure (success indicators) – a common set of quantitative and qualitative metrics used to track the progress toward goals. Quantitative can be expressed in numerical terms and qualitative measures are process oriented and generally difficult to capture in numerical terms. Performance measures are closely linked to expected outcomes.
8. Milestone – specific actions that will be undertaken to accomplish the strategies or objectives whereby progress toward the goals and/or outcomes is realized.

Identification and Involvement of Stakeholders

The MASGC obtained extensive input from internal and external stakeholders. Internal stakeholders are defined as the Board of Directors, Management Team, and Administrative Staff. External stakeholders include the MASGC Advisory Council and stakeholders who were contacted and chosen to participate in our Web-based strategic planning survey. Examples of external stakeholders include scientists, elected officials, commercial fishers, seafood processors, educators, charter boat captains, marina owners, private businesses, planners, librarians, federal employees, realtors, and non-profit agencies.

Mechanisms for Determining Priority Areas

The planning process began in 2003 with an internal assessment by members of the MASGC Management Team of programmatic strengths, weaknesses, opportunities, and threats (SWOT) and an external SWOT with the MASGC Advisory Committee. In 2005, a Web-based stakeholder survey was conducted using Survey Monkey (surveymonkey.com). The planning survey and responses may be reviewed at: http://www.surveymonkey.com/Report.asp?U=61798933458. The survey questions were developed using the goals and priorities listed in the National Sea Grant College Program's (NSGCP) 2003-2008 Strategic Plan, goals and objectives from the 2000-2005 MASGC Strategic Plan, priorities outlined by local and regional plans, and newly identified issues obtained from stakeholder input. Demographic and other value-based information was also obtained. All 11 theme areas and the 50 priorities from the NSGO Plan were used as an anchor to select and rank MASGC priorities. The remaining part of the survey presented 33 additional priorities obtained from local stakeholder input and relevant priorities from other local, state, regional, and national planning documents.

A total of 323 survey responses were received from external and internal stakeholder groups. The MASGC strategic planning exercise relied on rankings assigned to each survey question to obtain an initial ranking of importance. The response (level of importance) average for each question was determined using a 1-5 Likart scale. The responses were sorted by rank. Several priorities within the 11 theme areas were very similar. Not surprisingly, the similar priorities were often closely ranked when response data were reviewed. The management team's role in the assessment of the results of the survey was to identify priority themes and then develop a single priority from among the elements of the overlapping priorities.

Final priorities for the MASGC plan were defined using the results of the survey, input from the MASGC management team, and input from the MASGC Advisory Council. Survey priorities were compared to the MASGC mission, other agencies' missions, available funding, staffing, expertise within Consortium member institutions and future management goals. The 25 highest-ranked survey priorities from the 88 total were compared with priorities from the 2000-2005 Strategic Plan. If there were obvious connections the priorities were included in the 2006-2010 plan. Reviews of the Gulf of Mexico Alliance Action Plan, the EPA Gulf of Mexico Program plans, and other Gulf Sea Grant program plans were valuable in understanding how MASGC's priorities fit into a regional context. Plans of local agencies were also used in the final priority selection process. Reoccurring research priorities identified by local, state, and regional partners provided a means of validating ranked priorities and identifying potential opportunities for collaboration. Final priorities for MASGC were determined with the intent of matching highest ranked priorities with MASGC's management and the scientific expertise found within consortium member institutions. The final priorities selected also involved, at a minimum, two of the three MASGC core areas (research, education, and outreach). Goals, objectives, outcomes, and performance measures were written based on the final priorities.

Review, Approval, and Monitoring

A draft plan was developed in August 2004 and reviewed by the MASGC Management Team, Board of Directors, and Advisory Council. The priority theme areas and corresponding objectives were posted on the MASGC Web site. Survey respondents were then contacted and asked to comment on the outcome of survey responses. The MASGC Board of Directors approved the draft plan in 2005.

The plan has been reviewed and modified twice. The first review occurred shortly after Hurricane Katrina. The post-Katrina review allowed the MASGC Management Team to place greater focus on objectives better suited for post-Katrina needs. Additional reviews and modifications occurred after the 2005 Program Assessment Guidelines were released. The print on demand format of the MASGC 2006-2010 Strategic Plan provides a simple mechanism and a no-cost incentive to constantly monitor and update the plan.

Implementation

Biennial Implementation Plans

Implementation of the MASGC strategic plan occurs through biennial plans utilizing competitively funded research, education, and outreach programs. Two biennial implementation plans are developed during each strategic planning period. Each implementation plan provides details though the addition of a set of milestones necessary to achieve the objectives from the strategic plan. Each objective contains both research and/or education milestones that will lead to fulfilling the stated

objectives. Tracking the progress toward objectives is achieved by benchmarking anticipated outcomes and performance measures with a post-implementation plan evaluation of program outcomes and performance measures.

Sea Grant research funds are competitively distributed through the biennial Omnibus research proposal review process and program development initiatives. Principal investigators are afforded the opportunity to compete for funds through national strategic investment initiatives. The final priority areas from the 2006-2010 Strategic Plan were used to develop the MASGC 2006-07 Omnibus request for proposals (RFP) in December 2004 and will be used again for the 2008-09 Omnibus RFP.

Education and outreach are mandated to integrate research by focusing on youth and adult audiences who are provided with learning opportunities through a joint communications, extension, and legal program. Each core area cuts across priority theme areas to address the goals and objectives by translating research discovery into issue-based education and outreach programs. MASGC education and outreach uses numerous delivery methods including one-on-one, group meetings, distance education, print media, and the Internet, among others. MASGC outreach produces a variety of print media including publications, newsletters, web sites, and radio. For example, Sea Briefs, Water Log, Sea Harvest News, and the Gulf Coast Fishermen are four newsletters that reach over 7,000 people annually. MASGC also manages numerous web sites including the internationally renowned Aquaculture Network Information Center (AquaNIC); used by more than 4 million people annually. MASGC Education focuses on formal and information programs for teachers, students and adult audiences. Delivery of these education programs is achieved through teacher in-service training, student workshops and camps, and exhibits.

Performance Measures

NOAA has adopted three performance measures for the Ecosystem-Based Management Matrix. These measures provide categories where MASGC can report the impacts from each of its five priority theme areas. More detail concerning each of the performance measures will be included in MASGC's 2006-08 Implementation Plan. The performance measures are:

1. Return on investment from the discovery and application of new sustainable coastal and ocean products.
2. Cumulative number of coastal, marine, and Great Lakes issue-based forecast capabilities developed and used for management.
3. Percentage/number of tools, technologies, and information services that are used by NOAA Sea Grant partners/customers to improve ecosystem-based management.

Examples of the performance measures will be presented for each priority theme area. More detailed use of performance and evaluation measures will be included in each biennial implementation plan.

Priority Thematic Areas

The MASGC will address five priority theme areas: (1) Health and Restoration of Coastal Habitats; (2) Coastal Community Resiliency and Resource Management; (3) Seafood Safety and Processing Technology; (4) Fisheries Ecology and Aquaculture; and (5) Marine Education. Through an integrated approach with research MASGC utilizes its core education and outreach (communications, extension, and legal) programs in cross-cutting strategies to address each strategic area. Each priority theme area is organized around three general categories including what is to be accomplished (goals), what needs to be done to get there (objectives milestones), and how to measure progress (outcomes and performance measures).

Priority Theme Area 1. Health and Restoration of Coastal Habitats

Goal

To reduce nonpoint source pollution and increase the use of improved technologies and techniques for creation, enhancement, and restoration of estuarine habitats.

Setting

In Alabama and Mississippi, Perdido Bay, Mobile Bay, and the Mississippi Sound are important estuaries representing a total surface area of 5,981 km^2. Mobile Bay and the Pascagoula River drainage basin in the Mississippi Sound are of special concern to MASGC. The 480-square-mile Mobile Bay estuary contains a documented 337 species of fish, more species per area than any other region of North America. Of the 74 major river estuaries in North America, the Pascagoula River is the only one in the United States that remains unaffected by channel fragmentation and flow regulation along its entire length. As a result, the Pascagoula River is a vital center of biodiversity and essential fish habitats for numerous threatened and endangered species.

The anthropogenic impact on estuarine ecosystems has led to a decline in total acreage of habitat. Estuarine ecosystems, such as salt marshes and other wetlands, seagrass meadows, oyster reefs, and tidal basins, physically protect coastlines, provide essential habitat, and filter nutrients and other pollutants that degrade water quality and adversely affect overall ecosystem health. Estuaries provide critical habitat for numerous species of commercially and recreationally important waterfowl, migratory birds, marine mammals, and sea turtles. The decreased area and fragmentation have led to a decline in the essential ecological benefits provided by these habitats. In recognition of the importance of sustaining healthy estuarine habitat, the Estuary Restoration Act of 2000 called for a national strategy with a goal of restoring 1-million acres of estuarine habitat by 2010. Several areas of research are necessary to meet this goal. Research programs that address on-the-ground restoration projects are needed to apply appropriate restoration science and technology to project design, implementation, and evaluation.

Strategic Actions

MASGC will support integrated research, education, and outreach programs to:

1. Determine the impact of nonpoint source pollution on estuarine ecology (wetlands, marshes, seagrasses, or shellfish communities).
2. Develop methods to control or abate nonpoint source pollution.
3. Develop methods to minimize impacts of wastewater treatment plants using constructed wetlands.
4. Determine the effectiveness of erosion control technologies and alternatives.
5. Develop and assess estuarine restoration strategies.
6. Develop predictors of the effects of habitat fragmentation on living marine resources.
7. Develop predictors that link land-use planning to the health of coastal watersheds and minimize adverse impacts on water quality.
8. Assess living resources' responses to environmental stress or pollution.
9. Provide leadership in improving water quality and producing oysters to assist in restoration efforts through the Mobile Bay Oyster Gardening Program.
10. Conduct education programs by disseminating research-based information on non-point source pollution, estuarine restoration, and watershed management to agency leaders, elected officials and those who live in coastal communities.
11. Provide leadership in designating and prioritizing conservation and restoration areas.
12. Test and implement alternatives to shoreline erosion control devices such as seawalls and bulkheads.
13. Analyze and disseminate information about the existing and potential legal and policy strategies to protect estuarine habitats and other coastal ecosystems.
14. Coordinate pollution reduction programs including the Clean Marina and marine debris programs.

Objectives

1. Improvements in water quality and health of coastal watersheds will be achieved through a better understanding of ecosystem system components and by adopting new technologies derived through MASGC-supported research and outreach.
2. Fifty acres of estuarine habitat will be created, restored, or enhanced using techniques developed through MASGC sponsored research or outreach.
3. Increase the number of new and provide support to existing volunteers participating in the volunteer restoration program.
4. Five new marinas will join the Alabama and Mississippi Clean Marina program.
5. Two shoreline protection alternatives will be implemented in coastal Alabama and Mississippi.
6. Over 3,000 members of special interest groups such as Realtors and educators, as well as schoolchildren and the general public, will gain a better understanding of issues pertaining to habitats and water quality in the coastal region.

7. 2,000 coastal residents will increase their knowledge about the ecological and economic dangers posed by aquatic nuisance species (ANS).

Expected Outcomes and Performance Measures

Expected outcomes are organized into the three areas of performance.

1. Return on investment from the discovery and application of new sustainable coastal and ocean products.
    a. Improved restoration strategies achieved through improved technologies for use by managers, non-profit organizations, and environmental consulting firms.
    b. Increased resiliency of estuarine habitats through adoption of improved restoration technologies.
2. Cumulative number of coastal, marine, and Great Lakes issue-based forecast capabilities developed and used for management.
    a. Number of tools developed to achieve a better understanding of interactions between estuarine habitats and nonpoint source pollution.
    b. Number of tools developed to predict the effects of land-use planning on estuarine habitats.
    c. Number of tools developed to evaluate effectiveness of restoration strategies.
    d. Number of predictors of environmental stress on coastal ecosystems.

3. Percentage/number of tools, technologies, and information services that are used by NOAA Sea Grant partners/customers to improve ecosystem-based management.
    a. Graduation, placement and recognition of undergraduate and graduate students and their contribution of theses and dissertations.
    b. Number of top-ranked publications and citation frequency.
    c. Patents and licensed technologies.
    d. Number of needs-based outreach events/publications
    e. Partnerships developed in support of priority areas.

Priority Theme Area 2. Coastal Community Resiliency and Resource Management

Goal

To provide economic leadership in maintaining a balance between coastal development and historical activities in coastal communities.

Setting

More than half of the U.S. population is concentrated in coastal areas that account for only 10 percent of the nation's land mass. The estimated 2003 population in the five coastal counties (Mobile, Baldwin, Jackson, Hancock, and Harrison) of Alabama and Mississippi was 920,361. This estimate represents a 14-percent increase since 1990. Population density in these coastal counties has also increased from 171 per square mile in 1990 to 200 per square mile in 2003. In contrast, non-coastal counties in Alabama and Mississippi have an estimated 70 people per square mile. Neither the population nor density estimates account for the additional people who participate in the $20 billion tourism industry. While population growth along the coast of Alabama and Mississippi may not be as explosive as other U.S. regions, substantially negative consequences still persist.

One of the greatest threats to ocean and coastal areas is the increasing amount of polluted runoff from urban, suburban, and agricultural areas. Poorly planned growth reduces and fragments fish and wildlife habitat and can alter sedimentation rates and flows. A result of poorly planned growth is the increase in impervious surfaces, such as roads, parking lots, sidewalks, and rooftops. Some evidence suggests that ecosystem health may be seriously impaired when the impervious area within a watershed reaches 10 percent, particularly in the absence of mitigating factors, such as a high percentage of wetlands or forest cover in the watershed, or where urban stormwater best management practices have been implemented. Socioeconomic data must be readily available to include in the land-use planning process before any environmentally sensitive land-use practices can be implemented.

Population growth is also leading to gentrification of coastal communities. Historically important industries like commercial fishing and agriculture are being displaced by higher valued businesses. It is essential that these working waterfront communities become more competitive, and viable alternatives need to be developed so that existing coastal communities can maintain their cultural diversity.

Strategic Actions

MASGC will support integrated research, education, and outreach programs to:

1. Develop, implement, and evaluate resilient community planning technologies.
2. Assess socioeconomic impacts of pathogens on coastal businesses and recreation.
3. Conduct economic valuation of coastal resources.
4. Develop socioeconomic indicators for low-impact, nature-based tourism and recreation.
5. Assess socioeconomic issues of working waterfront communities relative to future management and development.
6. Implement programs for ocean observing systems.

7. Participate in programs leading to the alignment of state and local policies, incentives, and other resources to promote and implement planning for sustainable development.
8. Provide science-based information through educational programs on smart growth concepts, economic values of existing coastal resources and potential values of new resource-based opportunities.
9. Provide leadership in addressing issues associated with maintaining working waterfronts.
10. Facilitate public safety programs such as rip currents awareness programs.

Objectives

1. Two coastal communities will develop long-range plans for community resiliency.
2. Support formative and economic assessments of two nature-based tourism programs in Alabama and Mississippi.
3. Working waterfronts will be preserved in two coastal communities.
4. Annual workshops in coastal counties targeting coastal city officials, safety workers and hotel/condominium managers will inform key people about rip currents. Topics will include education on what rip currents are, why and how they form, how to recognize and avoid them, and the legalities and responsibilities of posting rip current information.

Expected Outcomes and Performance Measures

1. Return on investment from the discovery and application of new sustainable coastal and ocean products.
    a. Number of community partnerships developed with county and city governments to plan and implement resilient community technologies.
    b. Number of environmentally sustainable low-impact tourism businesses.
2. Cumulative number of coastal, marine, and Great Lakes issue-based forecast capabilities developed and used for management.
    a. Number of predictors of gentrification on working waterfront communities.
    b. Number of tools developed to estimate the value of coastal resources.

3. Percentage/number of tools, technologies, and information services that are used by NOAA Sea Grant partners/customers to improve ecosystem-based management.
    a. Graduation, placement and recognition of undergraduate and graduate students and their contribution of theses and dissertations.
    b. Number of top-ranked publications and citation frequency.
    c. Patents and licensed technologies.
    d. Number of needs-based outreach events/publications.
    e. Partnerships developed in support of priority areas.

Priority Theme Area 3. Seafood Safety and Processing Technology

Goal

To assist the seafood processing industries in providing safe and reliable supplies of products while minimizing the environmental impacts from processing facilities.

Setting

Alabama and Mississippi are significant seafood harvesting and processing states. In 2004, the dockside value of commercial landings in Alabama and Mississippi exceeded $80.5 million, with more than 211 million pounds landed. Based on a 3.5 multiplier effect, the combined value of dockside landings, processing, and wholesales is $738 million. The seafood industry is very much a part of the social and economic fabric of the Alabama and Mississippi coasts. More than 15,000 jobs are provided in fishing, processing and marine related sales, service and support.

The seafood industry faces many challenges and opportunities. Issues requiring evaluation and solutions include an increasingly competitive global marketplace, complex trade policies, stricter safety regulations, rising energy costs, food security concerns, waste handling, and increasingly limited seafood supplies.

Strategic Actions

MASGC will support integrated research, education, and outreach programs to:

1. Develop assessment methods for rapid identification of biological (algal, bacterial, viral) or chemical contaminants.
2. Develop technological improvements in processing and creating new products.
3. Establish methods to reduce the level of waste disposal from processing.
4. Provide leadership/guidance to seafood processing industry and consumers on means of assuring a safe and nutritious supply of seafood.

Objectives

1. At least 5,000 seafood consumers will become more knowledgeable of the risks associated with biological and chemical contaminants.
2. One seafood waste-processing alternative will be evaluated.

Expected Outcomes and Performance Measures

1. Return on investment from the discovery and application of new sustainable coastal and ocean products.
    a. Improvements in safety and efficiencies of processing facilities through adoption of new techniques and technologies.

   b. Decrease in fines and other regulatory actions imposed on processing facilities.
   c. Development of value-added products derived from seafood-processing wastes.
2. Cumulative number of coastal, marine, and Great Lakes issue-based forecast capabilities developed and used for management.
   a. Extent of use of rapid detection methods for shellfish by health agencies and industry.
   b. Number of tools identified to predict oyster safety and potential for disease outbreak.
3. Percentage/number of tools, technologies, and information services that are used by NOAA Sea Grant partners/customers to improve ecosystem-based management.
   a. Graduation, placement and recognition of undergraduate and graduate students and their contribution of theses and dissertations.
   b. Number of top-ranked publications and citation frequency.
   c. Number of patents and licensed technologies.
   d. Number of needs-based outreach events/publications.
   e. Number of partnerships developed in support of priority areas.

Priority Theme Area 4. Fisheries Ecology and Aquaculture

Goal

To improve the sustainability of the commercial and recreational capture fisheries and aquaculture including stock enhancement through research and outreach programs.

Setting

The commercial fishing industry is very important to the economies of Alabama and Mississippi. Recreational fishing is also a significant driver of the economies of both states. The 2001 economic output from saltwater fishing in Alabama was valued at $463 million, and in Mississippi it was valued at $98 million. The saltwater recreational angling industry has created more than 6,000 jobs. Most of the Gulf of Mexico's economically important marine fish and invertebrate species are heavily exploited, The continued presence of normal and healthy population numbers substantially relies upon healthy and sufficient estuarine and nearshore coastal habitats and ecosystems.

Fishery products are a chief source of protein globally. Some estimates suggest that 20 percent of the world's protein is derived from fish. In 2004, per capita seafood consumption in the U.S. achieved a record level of 16.6 pounds. The 16.6 pounds per person per year does not account for seafood caught and consumed by recreational anglers. Data from a 2005 survey demonstrated that these anglers and their families may consume an additional 20 pounds of seafood per year. Seafood imports contribute to our federal trade deficit with over $8 billion in 2004. These imports account for more than 75 percent of the total seafood consumed. The enormous and ever-increasing

demand for seafood is obvious. However, in response, the U.S. is unlikely to expand current domestic commercial harvests substantially.

The U.S aquaculture industry is valued at nearly $1 billion in products annually from both fresh and saltwater farms and employs about 200,000 people. For aquaculture development to proceed to the level where it is recognized as a major contributor to new agricultural production, clear, fervent, unambiguous linkages between aquaculture and the environment must be created and fostered. The multiple and complementary roles of aquaculture as a contributor to marine natural product development, source of organisms for medical research, fisheries sustainability, rehabilitation and restoration, and enhancement must be successfully articulated to a highly concerned, increasingly educated, and involved public.

Strategic Actions

MASGC will support integrated research, education, and outreach programs to:

1. Develop predictors of ecosystem health using fishery models.
2. Collect fundamental life history and behavioral information on recreational and commercially important species.
3. Assess the role of forage species on the populations of commercial and recreational species.
4. Identify critical spawning and nursery habitats of NOAA defined trust resources.
5. Evaluate technology for and economic feasibility of marine aquaculture enterprises, including land-based hatchery and nursery support systems.
6. Determine the impacts and develop technologies to reduce introductions and minimize the impacts of invasive species on biodiversity and estuarine community assemblages.
7. Increase the public's awareness of ecosystem management and essential fish habitat issues and provide well-documented, comprehensive, and accurate information on the feasibility of marine aquaculture.
8. Provide leadership in engaging the Asian ethnic groups in fisheries issues.
9. Provide technology transfer for nearshore and offshore aquaculture.

Objectives

1. One commercially manufactured sea urchin feed will enter the marketplace.
2. One new predictive fishery model will be developed.
3. The ecological role of gray triggerfish on artificial reefs will be determined.
4. Bait production technologies, economics and marketing will be developed that leads to better economic return for four bait dealers and the creation of one new bait businesses.
5. At least 50 high school teachers and 250 students will participate in aquaculture training or classes.
6. Over 3,000 recreational and commercial fishermen, environmentalists and other interested parties will increase their understanding of natural resource issues

such as essential fish habitat, marine reserves, the “precautionary approach” in fisheries management, limited entry, and individual transferable quotas.
7. Fisheries bycatch will be reduced in Mississippi-Alabama coastal and offshore fisheries. Fishermen will learn techniques to reduce fuel consumption and concomitant operating costs.

Expected Outcomes and Performance Measures

1. Return on investment from the discovery and application of new sustainable coastal and ocean products.
    a. Number of new product lines for the aquaculture supply industry.
    b. Number of new aquaculture businesses using new technologies or techniques (food and bait).
    c. Increased return on investment by commercial and recreational fishing industries through adoption of new technologies or techniques.
2. Cumulative number of coastal, marine, and Great Lakes issue-based forecast capabilities developed and used for management.
    a. Number of predictors developed to estimate long-term health of fisheries.
    b. Number of predictors developed to aid in siting marine aquaculture enterprises
3. Percentage/number of tools, technologies, and information services that are used by NOAA Sea Grant partners/customers to improve ecosystem-based management.
    a. Graduation, placement and recognition of undergraduate and graduate students and their contribution of theses and dissertations.
    b. Number of top-ranked publications and citation frequency.
    c. Number of patents and licensed technologies.
    d. Number of needs-based outreach events/publications
    e. Number of partnerships developed in support of priority areas.
    f. Number of K-12 aquaculture programs developed.

Priority Theme Area 5. Marine Education

Goal

To give citizens, coastal managers, teachers, and the nation’s youth the training and experiences that will help them make connections between ocean science information and decisions about coastal and ocean resources.

Setting

Education and outreach are two of MASGC’s core program areas. Continuity of these programs is essential to their long-term success. The key to achieving success of these programs is matching theme areas with staff expertise. MASGC education and outreach staff have demonstrated experience in one or more of MASGC’s theme areas. Operationally, staff implements programs by focusing on priority objectives as defined in

the strategic plan and timely prioritized in each biennial implementation plan. Educators and/or outreach specialists serve as the bridge to inform our external stakeholders about research discovery and assist them in realizing its utility. Each outreach specialist must maintain a significant level of flexibility to modify programs as necessary. For example, MASGC outreach programs were somewhat reprioritized after Hurricanes Ivan and Katrina.

K-12 and Informal Education

Educating the 21st century workforce in marine and aquatic sciences is integral to both the educational and scientific missions of Sea Grant. Sea Grant's educational efforts contribute to improving marine and aquatic science literacy through efforts that facilitate the effective delivery of science-based information, programming, and resources via formal and informal educational activities.

Graduate and Undergraduate Education

Undergraduate, graduate, and post-doctoral education is a significant element of MASGC funded research. For every two-year MASGC-funded research project, one or more undergraduate, graduate, or post-doctoral student is expected to participate in the research activities outlined for the project. Upon graduation these students become the backbone of a highly trained workforce entering into the coastal and ocean resources job market.

Strategic Actions

1. Create and sustain effective marine and aquatic sciences-based educational programs aligned *Science Education Standards (NSES),* the Essential Principles and *Fundamental Concepts of Ocean Literacy*, as well as *State Standards*.
2. Provide professional development programs for inland and coastal formal and non-formal/informal educators relative to marine and aquatic sciences.
3. Enhance the "literacy" of coastal and inland pre-college teachers and their students concerning marine and aquatic environments.
4. Expand and promote marine and aquatic science education to/for underrepresented populations.
5. Involve public aquariums, museums, environmental education centers, and other similar facilities in pre-college education in ocean and coastal processes.
6. Participate in the Gulf of Mexico Centers for Ocean Science Education Excellence (COSEE), the Gulf of Mexico Alliance Education Priority Area, and the Gulf of Mexico Ocean Observing System Education Committee.
7. Enhance pre-college students' existing knowledge and professional development programs for teachers through content and complementary activities that focus on nonpoint source pollution, subsequent impacts on human health, and the importance of marine and aquatic habitats and restoration efforts.
8. Incorporate specific programmatic components and resource materials concerning smart growth and effective resource management practices for pre-

college teachers and their students so they better understand the impact of increases in coastal population growth and the corresponding need to address sustainability of the world's oceans and watersheds.

9. Inform pre-college teachers and their students about current research results in seafood nutrition and contaminant concerns, the economics of a competitive seafood market on a global scale, and related workforce and technological needs to sustain and/or create new seafood products, through program expansion.
10. Increase programmatic emphases for pre-college teachers and their students on the potential consequences of worldwide, "overfishing" pressures imposed on commercial and recreational fisheries, the detrimental effects of invasive species, the degradation of water quality and essential fish habitats, and the need to increase the availability of fishery products as a primary source of protein for humans.
11. Provide undergraduate, graduate, and post-doctoral research, education or outreach experiences.
12. Recruit and support students who seek fellowship opportunities.

Objectives

1. Annually, a minimum of 5,000 citizens will receive new and updated information through face-to-face, inquiry-based outreach programs.
2. At least four million people annually will be provided research, education, and outreach information through MASGC-sponsored Web sites.
3. At least 200 teachers will receive specialized education and training to enhance their ability to successfully improve ocean literacy of their students through the following mechanisms:
4. At least 5,000 students and/or members of the general public will increase their ocean literacy by using the Gulf of Mexico as an example ecosystem.
5. A minimum of six undergraduate or graduate students will participate in marine research projects.
6. A minimum of four students per year will participate in fellowships or competitive awards in international organizations.
7. A minimum of four regional and four national meetings will encompass involvement and proactive leadership by MASGC management team and/or Co-PIs.

Expected Outcomes and Performance Measures

1. Return on investment through the discovery and application of new sustainable coastal and ocean products.
2. Cumulative number of coastal, marine, and Great Lakes issue-based forecast capabilities developed and used for management.
3. Percentage/number of tools, technologies, and information services that are used by NOAA Sea Grant partners/customers to improve ecosystem-based management.

a. Number of undergraduate and graduate students, their recognition and their contributions realized through theses and dissertations.
b. Number of top-ranked publications and citation frequency by students as lead author.
c. Number of patents and licensed technologies obtained by students and their work.
d. Number of needs-based outreach events conducted by priority theme area.
e. Number of education and outreach publications and curricula developed.
f. Number of partnerships developed in support of priority areas.
g. Number of K-12 programs developed and teachers trained.
h. Number of underrepresented and minority students who participated in education and outreach programs.
i. Tracking of job placement and career choices by MASGC-supported university graduates.

Program Administration and Management

Goal

To provide administrative leadership and fiscal accountability for MASGC.

Setting

MASGC's role in management is to help determine the highest priority needs, keep the correct balance of research, education, and outreach focused on solving the problem or creating the opportunity, recruit the best talent to work on the issues, secure the funds to support the work and track progress against expected outcomes and performance measures. Management is also responsible for creating an environment in which faculty, agency, and industry partners thrive and prosper. The existing infrastructure enhances MASGC's cost effectiveness. MASGC encourages and allows for collaboration across its individual projects and programs.

Short-term Actions

1. Recruit and sustain well-qualified administrative and programmatic staff.
2. Develop and implement assessment and evaluation procedures through outcome mapping using the LOGIC model.
3. Integrate research findings into education and outreach programs through formal processes and disseminate the results.
4. Provide regular and frequent updates on the status of MASGC programs to over 300,000 people per year through administrative fact sheets, press releases, and other communication tools.

Long-term Actions

1. Increase the ratio of Sea Grant funds to non-Sea Grant funds by 25 percent.
2. Develop seamless program planning and submission procedures.
3. Increase the effectiveness of program integration through internal and external program evaluations.
4. Increase distribution of MASGC information by 20 percent per year.

Objectives

1. MASGC will manage 30 percent more funds at the end of 2010.
2. Every research proposal supported by MASGC will include an education or outreach collaborator.
3. Every education and outreach program will include an evaluation component, including three long-term (5 years) evaluations.
4. MASGC will in partner with other locale, state, federal agencies or non-profit groups to create the following positions: applied ecologist, coastal business specialist and structural engineer.
5. Develop Gulf of Mexico regional research strategic and implementation plans.

Expected Outcomes and Performance Measures

1. Level of funding
    a. Programmatic funding levels.
    b. National strategic investment, fellowship, and other NOAA grants received.
    c. Non-NOAA grants in support of priority theme areas.
2. Number of new investigators who participate in MASGC-sponsored programs.
3. Recruiting talent
    a. Total number of scientists who participate in MASGC-sponsored programs.
    b. Percentage of research scientists who are assistant and associate level.
    c. Percentage of research scientists who represent underserved or minority institutions.
    d. Recognition and awards received by research scientists, educators and outreach staff.
4. Ability to develop outcome based outreach programs
    a. Number of education and outreach programs using the LOGIC model in program development.
    b. Percent of outcomes achieved after program implementation.

APPENDIX

Appendix 1
Strengths, Weaknesses, Opportunities, and Threats

A very useful planning tool is the strengths, weaknesses, opportunities and threats (SWOT) analysis. Generally, strengths and weaknesses are internal issues for the program, whereas opportunities and threats are external to the program. MASGC conducted a SWOT analysis among its Advisory Council (external stakeholders), and Management Team members (internal stakeholders) during the fall of 2004.

Strengths

1. MASGC has nine consortium member institutions.
2. Overall experience of MASGC personnel.
3. Willingness of MASGC to partner with others who are willing to work toward common issues.
4. Bi-state program shares a similar region of the north central Gulf of Mexico.
5. MASGC is managed as a bi-state program rather than as two separate state programs and places greater emphasis on issues that cut across state boundaries.
6. MASGC has the ability to quickly disseminate information and facilitate the engagement of sensitive issues.
7. The MASGC Legal Program was the genesis of the National Sea Grant Legal Center.
8. MASGC has more than 35 years of experience in addressing coastal issues.
9. MASGC has a strong and historic relationship with the fishing industry.
10. MASGC has over 20 years of experience in building and maintaining collaborative relationships with industry, business, private organizations, schools, government agencies (local, state and federal), and researchers.
11. Leverage provided by core education, extension, legal, and communications is a core part of MASGC; the benefits associated with the host institution housing these core programs by providing staffing support.
12. MASGC has a young, enthusiastic, well trained, and devoted staff.
13. Funding from a variety of sources strengthens extension programs.

Weaknesses

1. Inadequate funding.
2. Competition within NOAA for the same resources.
3. Duplication and redundancy among agencies providing similar programs
4. In Alabama, the majority of the population does not live within 50 miles of the coast and doesn't feel any commitment to MASGC's investment in coastal programs (lack of understanding among policy makers and general public).
5. Lack of understanding of the economic importance of coastal resources and heritage.
6. Bi-state program concept requires more management involvement and communication among constituents living and working in two states.

7. To all SG programs (strength and weakness) – opportunities to continue working with the commercial fishing industry. SG fills that role completely; however, it is also a weakness because the commercial fishing industry is being characterized as pillagers.
8. High turnover in MASGC directors (3 directors over a 5 year period).
9. Inability to rapidly replace personnel or hire to fill new positions when new extension opportunities arise.
10. Weak connection among outreach, education, and research.
11. Sea Grant patterned after Land Grant – Land Grant is a billion $ organization; model we're held up against is funded by much greater amounts and supported (farming) (commercial fishery expects the same support).
12. Sea Grant is a small portion of a large NOAA agency.
13. NOAA in general doesn't have a focus among its five line offices.
14. Sea Grant is not prevention based.
15. Sea Grant is not marketed very well.
16. Lack of evaluation – performance based programs – on a national level; no one knows what metrics to use for evaluation.
17. Lack of MASGC name recognition and public support of MASGC programs.

Opportunities

1. Increase environmental awareness among our general public.
2. Shift in the paradigm all the way up to watersheds (develop and implement inland programs that could reduce the negative impacts at the watershed level.) Within 20 years, 60 percent of the U.S. population will live near the coast.
3. Electronic communication to deliver education and outreach programs.
4. Outreach will have the opportunity to move toward facilitation and interpretation of information rather than simply providing information.
5. Loss of water access for water-dependent industries.
6. Need to look for broader application of research results (lag time between completion of research and dissemination of results).
7. Have to make risky statements regarding future vision.
8. National emphasis on regionalization to protect the Gulf of Mexico Ecosystem.
9. Change of the composition of the people who are using the resources has led to a clash of cultures; gentrification of the coastline has been accompanied by the departure of traditional users and new residents are not aware of MASGC supported activities.
10. Find common thread of interest among commercial and recreational fishers and new resource users.
11. What should our response be concerning the social impacts of our programs (advantage to one group but disadvantage to another group).
12. Funding of research and development program to collaborate with the shrimp industry to develop management and policy for long-term viability/sustainability.
13. The fisheries extension initiative provides new opportunities for closer regional collaboration.

Threats

1. Loss of water access for water-dependent industries (waterfront property going to those who can afford it). It is an emerging issue that needs to be addressed nationwide and will require MASGC intervention.
2. Inability to identify potential new stakeholders.
3. Budget cuts due to war on terrorism.
4. Refusing to separate MASGC programs from others that address issues which transcend agencies.
5. Two-state program that shares a common part of the coast but does not take advantage of the opportunities to work jointly in solving problems.
6. Fifteen years ago we had a monopoly on the “marine information” niche. The media and a host of organizations (Mobile NEP, Weeks Bay NEER, DISL, and GOMP etc.) have become more active in information dissemination on marine related issues. With the necessity to partner with many of our “competitors”, MASGC relinquishes its identity.

Appendix 2
Board of Directors

The MASGC Board of Directors (2006) serves a policy function including approving the annual administrative budget. The Board meets once each year.

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Appendix 3
2006-2010 Advisory Council

The purpose of the MASGC Advisory Council (2006) is to participate in long-range strategic planning and review biennial implementation plans. The Advisory Council meets annually to share information and to be updated on the impacts of the MASGC. The MASGC director and Management Team members interact on a regular and informal basis to develop new, collaborative opportunities and projects of direct benefit to coastal businesses and residents.

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Appendix 4
Management Team

The MASGC Management Team consists of the associate director, the programs officer, the fiscal officer, communications coordinator, education director, extension program leaders and the director of the Legal Program. The Management Team and the director discuss progress in implementing the biennial implementation plan during monthly conference calls.

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Appendix 5
Partners

MASGC partnered with numerous national, regional, state, and local organizations since 2000.

Federal

1. Bon Secour National Wildlife Refuge
2. Grand Bay National Estuarine Research Reserve
3. Gulf of Mexico Fishery Management Council
4. Gulf Islands National Seashore, National Park Service
5. Mobile Bay National Estuary Program
6. National Marine Fisheries Service, Southeast Fisheries Center, Pascagoula, MS
7. National Marine Fisheries Service, Pascagoula Office
8. National Organic Aquaculture Working Group
9. National Science Foundation
10. National Sea Grant Office
11. Natural Resources Conservation Service
12. NOAA Gulf Coast Services Center
13. NOAA Fisheries, Marine Fisheries Initiative Program (MARFIN)
14. NOAA National Weather Service
15. NOAA Ocean Service, Beaufort, North Carolina
16. NOAA Restoration Center
17. NOAA Southeast Science Center
18. Ocean US
19. U.S. Army Corps of Engineers
20. U.S. Coast Guard Marine Safety Office, Mobile, Alabama
21. U.S. Commission on Ocean Policy
22. U. S Congressman Gene Taylor's (MS) Office
23. U. S. Congressman Jo Bonner's (AL) Office
24. U.S. Department of Agriculture, Cooperative State Research, Education, and Extension Service
25. U.S. Department of Agriculture Experiment Station, Stoneville, Mississippi
26. U.S. Environmental Protection Agency's Gulf of Mexico Program
27. U.S. FDA Seafood Laboratory, Dauphin Island, Alabama
28. U.S. Fish and Wildlife Service, Daphne Field Office [AL]
29. U.S. Fish and Wildlife Service
30. U.S. Minerals Management Service
31. U.S. Naval Oceanographic Office
32. U.S. Navy
33. U. S. Senator Jeff Session's (AL) Office
34. Weeks Bay National Estuarine Research Reserve

Regional

35. Gulf of Mexico Alliance
36. Gulf States Marine Fisheries Commission
37. Gulf and Caribbean Fisheries Institute
38. Northern Gulf Cooperative Institute
39. Southern Shrimp Alliance

Local & State

State

40. Alabama Agricultural Experiment Station
41. Alabama Aquatic Nuisance Species Task Force
42. Alabama Center for Estuarine Studies
43. Alabama Cooperative Extension System

44. Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section
45. Alabama Department of Conservation and Natural Resources, Division of Wildlife & Fisheries
46. Alabama Department of Conservation and Natural Resources, Marine Resource Division
47. Alabama Department of Education
48. Alabama Department of Environmental Management
49. Alabama Department of Natural Resources
50. Alabama Department of Transportation
51. Alabama Forestry Commission
52. Alabama Seafood Association
53. Alabama-Mississippi Clean Marina Program
54. Florida Department of Education
55. Louisiana Department of Education
56. Louisiana Department of Wildlife and Fisheries
57. Mississippi Cooperative Extension Program
58. Mississippi Department of Education
59. Mississippi Department of Environmental Quality
60. Mississippi Department of Marine Resources, Coastal Programs
61. Mississippi Department of Marine Resources, Fisheries
62. Mississippi Department of Marine Resources, Grand Bay NERR
63. Mississippi Department of Wildlife, Fisheries, and Parks
64. Mississippi Marine Debris Task Force
65. Mississippi Museum of Natural Science
66. Mississippi Office of Secretary of State
67. Mississippi State Port Authority at Gulfport
68. Pascagoula River Basin [MS]
69. Texas Department of Education
70. The Governor's Office on Rebuilding and Renewal [MS]

Local & State

Local

71. Baldwin and Mobile County Soil and Water Conservation Districts [AL]
72. Baldwin County Planning and Zoning Department [AL]
73. Baldwin County Wetlands and Watershed Protection [AL]
74. Biloxi Port Commission [MS]
75. Coastal Alabama Clean Water Partnership
76. City of Biloxi [MS]
77. City of Foley [AL]
78. City of Gulf Shores [AL]
79. City of Moss Point [MS]
80. City of Ocean Springs [MS]
81. City of Orange Beach [AL]
82. Dauphin Island Parks and Beach Board/Fort Gaines [AL]
83. Mobile Area Water and Sewer System [AL]
84. Mobile County Planning Commission [AL]
85. Mobile County Soil & Water Conservation Service [AL]
86. Port of Pascagoula [MS]
87. South Alabama Regional Planning Commission [AL]
88. South Mississippi Environmental & Agricultural Coordination Organization (SMEACO)
89. Town of Dauphin Island [AL]

Non-Governmental Organizations

90. Alabama Coastal Foundation
91. Alabama Fisheries Association
92. Alabama Gulf Coast Area Chamber of Commerce
93. Alabama Gulf Coast Convention & Visitor's Bureau

94. Alabama Partners Against Litter
95. Alabama Water Watch Association
96. American Fisheries Society
97. Audubon Bird Sanctuary, Dauphin Island, AL
98. Bayou La Batre Chamber of Commerce
99. Board of the Friends of Shepard State Park
100. Coastal Conservation Associations
101. Dauphin Island Chamber of Commerce
102. Dog River Clear Water Revival
103. Eastern Shore Art Center
104. Eastern Shore Chamber Foundation
105. Gulf of Mexico Foundation
106. Historic Ocean Springs Saltwater Fly Fishing Club
107. Interstate Shellfish Sanitation Conference (ISSC)
108. Land Trust for the Mississippi Coastal Plain
109. Marine Environmental Researchers of LSU
110. Marine Science Graduate Student Organization
111. Marine and Estuarine Graduate Student Association of the University of Southern Mississippi
112. Maritime & Seafood Industry Museum
113. Mississippi Charter Boat Captains Association
114. Mississippi Coast Audubon Society
115. Mississippi Exotic Plant Pest Council
116. Mississippi Gulf Fishing Banks, Inc.
117. Mississippi Museum of Natural Science
118. Mississippi Wildlife Federation
119. Mobile Area Chamber of Commerce, Sea Food Task Force
120. Mobile Arts Council
121. Mobile Museum of Art
122. National Fish and Wildlife Foundation
123. Restore America's Estuaries
124. Society of Wetland Scientists
125. South Alabama Regional Planning Commission
126. South Baldwin Chamber of Commerce
127. South Mobile County Education Foundation
128. Southern Association of Marine Educators
129. The Gulf and South Atlantic Fisheries Foundation, Inc.
130. The Nature Conservancy of Alabama
131. The Nature Conservancy of Mississippi
132. Weeks Bay Reserve Foundation
133. Wildlife Care and Rescue Center, Inc.

International

134. Food and Agriculture Organization of the United Nations
135. National Shellfisheries Association
136. World Aquaculture Society

Industry/Business

137. Alabama Seafood Association
138. Alabama State Port Authority
139. Bosarge Boats & Dockside Seafood
140. Chevron Refineries
141. Club Caribbean Dive and Travel
142. Coca-Cola Bottling Company of Mobile [AL]
143. Crockett's Oyster Farm
144. Degussa Corporation [AL]
145. Exxon Mobil Corporation

146. Fort Morgan Marina [AL]
147. GothicArch Greenhouses
148. Grass Roots, Inc.
149. Knight-Abbey Print
150. Litton Industries/Ingalls Shipbuilding
151. Mississippi Space Services
152. Mobile Bay Oyster Gardening Program
153. Organized Seafood Association of Alabama
154. Shaughnessy Printing Co.
155. Ship Island Excursions
156. South Alabama Marina Alliance
157. The FORUM

Academic Institutions

School Systems

158. Mobile County Public School System [AL]

Secondary Schools

159. Alba Middle School [AL]
160. Alma Bryant High School [AL]
161. Baldwin County High School [AL]
162. Clarke School of Math & Science [Mobile County, AL]
163. Daphne High School [AL]
164. Fairhope High School [AL]
165. Moss Point High School [MS]
166. Pascagoula High School [MS]
167. Summerdale Middle School [AL]

Junior Colleges

168. Mississippi Gulf Coast Community College
169. Faulkner State Community College [AL]

Universities

170. Alabama Cooperative Extension System
171. Auburn University
172. Dauphin Island Sea Lab
173. Florida State University's Edward Ball Marine Laboratory at Turkey Bayou
174. Gadsden State Community College
175. Harbor Branch Oceanographic Institution
176. Jackson State University
177. Louisiana State University
178. Michigan State University
179. Mississippi State University
180. Mississippi State University Coastal Research and Extension Center
181. Mississippi State University, Geo Resources Institute
182. North Carolina State University
183. Purdue University
184. Roger Williams School of Law
185. Texas A&M Shrimp Mariculture Facility
186. The Dean Rusk Center at the University of Georgia
187. The University of Alabama
188. The University of Alabama at Birmingham
189. The University of Florida
190. The University of Mississippi
191. The University of Southern Mississippi
192. University of Southern Mississippi, Gulf Coast Research Laboratory

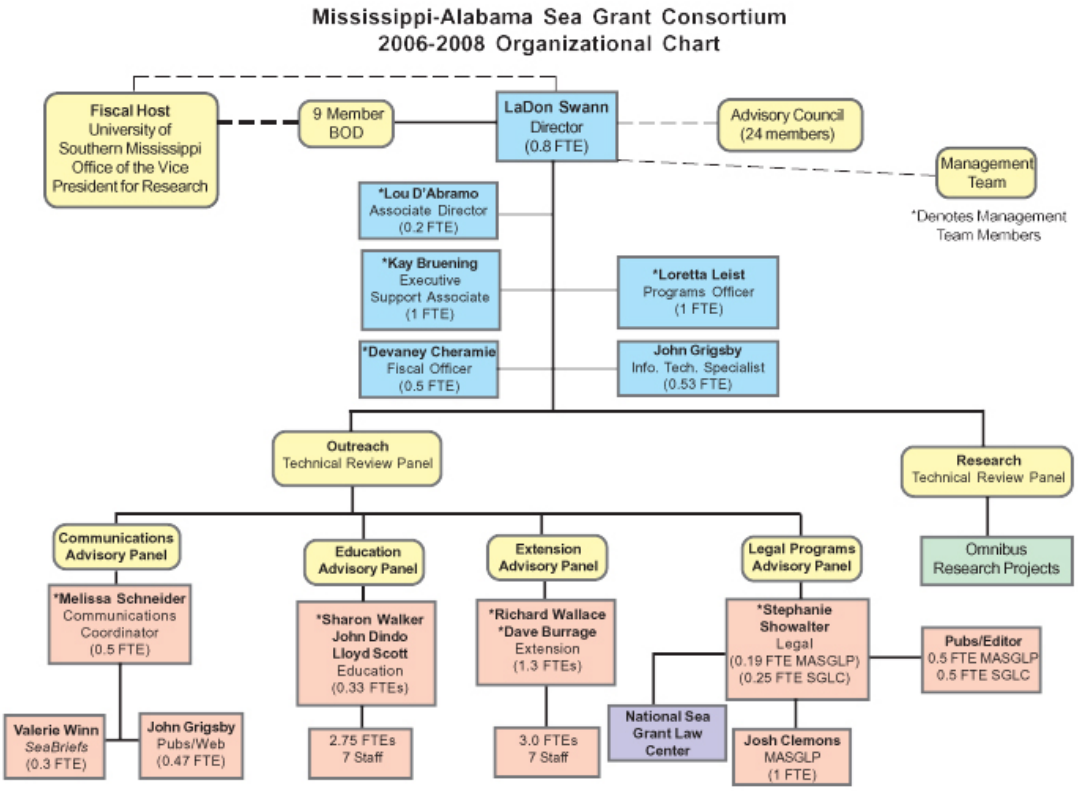
193. University of California at Davis
194. University of Delaware Center for the Study of Marine Policy
195. University of Hawaii
196. University of New Hampshire - CICEET
197. University of North Carolina at Wilmington
198. University of South Alabama

Sea Grant Programs

199. Florida Sea Grant
200. Georgia Sea Grant
201. Illinois-Indiana Sea Grant
202. Louisiana Sea Grant
203. North Carolina Sea Grant
204. Puerto Rico Sea Grant
205. South Carolina Sea Grant
206. Texas Sea Grant Program

Appendix 6

2006 MASGC Organizational Chart.



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