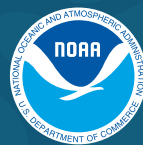




2015 Site Review Briefing Book

FLORIDA SEA GRANT COLLEGE PROGRAM



Agenda

February 3-4, 2015
University of Florida
UF Hilton Conference Center, Gainesville, FL

Tuesday, February 3

7:00 am Continental breakfast

Program Management and Organization

7:45 am Welcome and introductions of SRT, FSG leadership team and guests

8:00 am Program Organization

10:00 am Break

10:15 am Programmed Team Approach

11:15 am Program Support

Noon Working lunch for the SRT team (Q&A from FSG leadership team as needed)

Stakeholder Engagement

1:00 pm Relevance

2:30 pm Break

2:45 pm Sea Grant and UF/IFAS Extension

3:45 pm Education and Training

4:20 pm SRT questions based on the day's discussions

5:00 pm Adjourn; SRT closed meeting

5:30-6:30 pm Reception in foyer

Wednesday, February 4

7:00 am SRT breakfast with University of Florida senior administrators

Collaborative Network Activities

8:00 am Relationships

9:30 am Break

9:45 am Collaboration

11:15 am Open discussion with SRT

Noon Working lunch for the SRT team (Q&A from FSG leadership team as needed)

Closed Session

1:00 pm Closed session for SRT deliberation

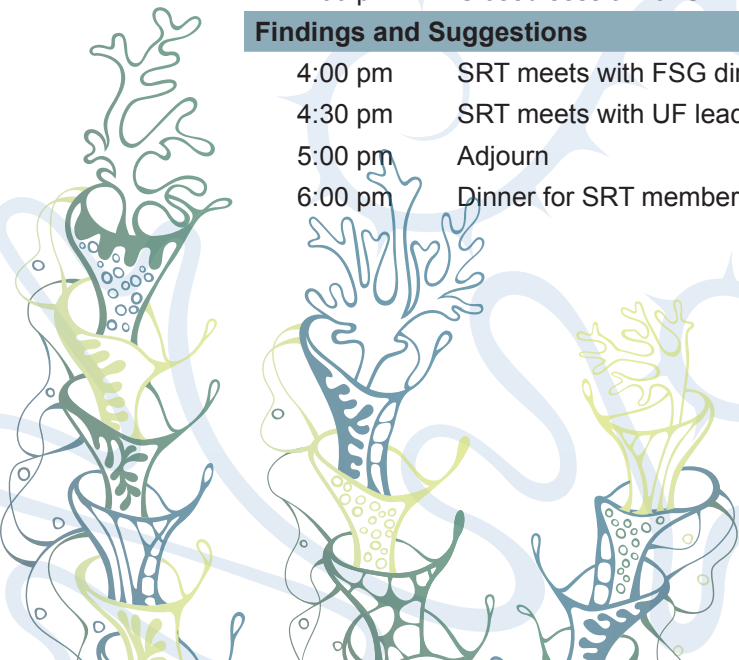
Findings and Suggestions

4:00 pm SRT meets with FSG director and staff

4:30 pm SRT meets with UF leadership

5:00 pm Adjourn

6:00 pm Dinner for SRT members



FLORIDA SEA GRANT COLLEGE PROGRAM 2015 Site Review Briefing Book

CONTENTS

PROGRAM MANAGEMENT AND ORGANIZATION

Organizational Chart	2
Florida Sea Grant Management Team.....	3
Amount of Time Florida Sea Grant Faculty and Staff Devote to Sea Grant	4
An Integrated Statewide Extension Program	5
A Multi-Faceted Communications Program	6
Advisory Council Membership and Function	7
The Research Process	
Process Used to Develop Request for Proposal Priorities.....	7
Research Proposal Review Process and Review Panel Composition	8
Number of Proposals Submitted and Institutions Represented	9
External Leveraging of FSG Research Funds.....	10
Technology Transfer Research Projects	10
Student Support	11
Budget Overview.....	11

STAKEHOLDER ENGAGEMENT

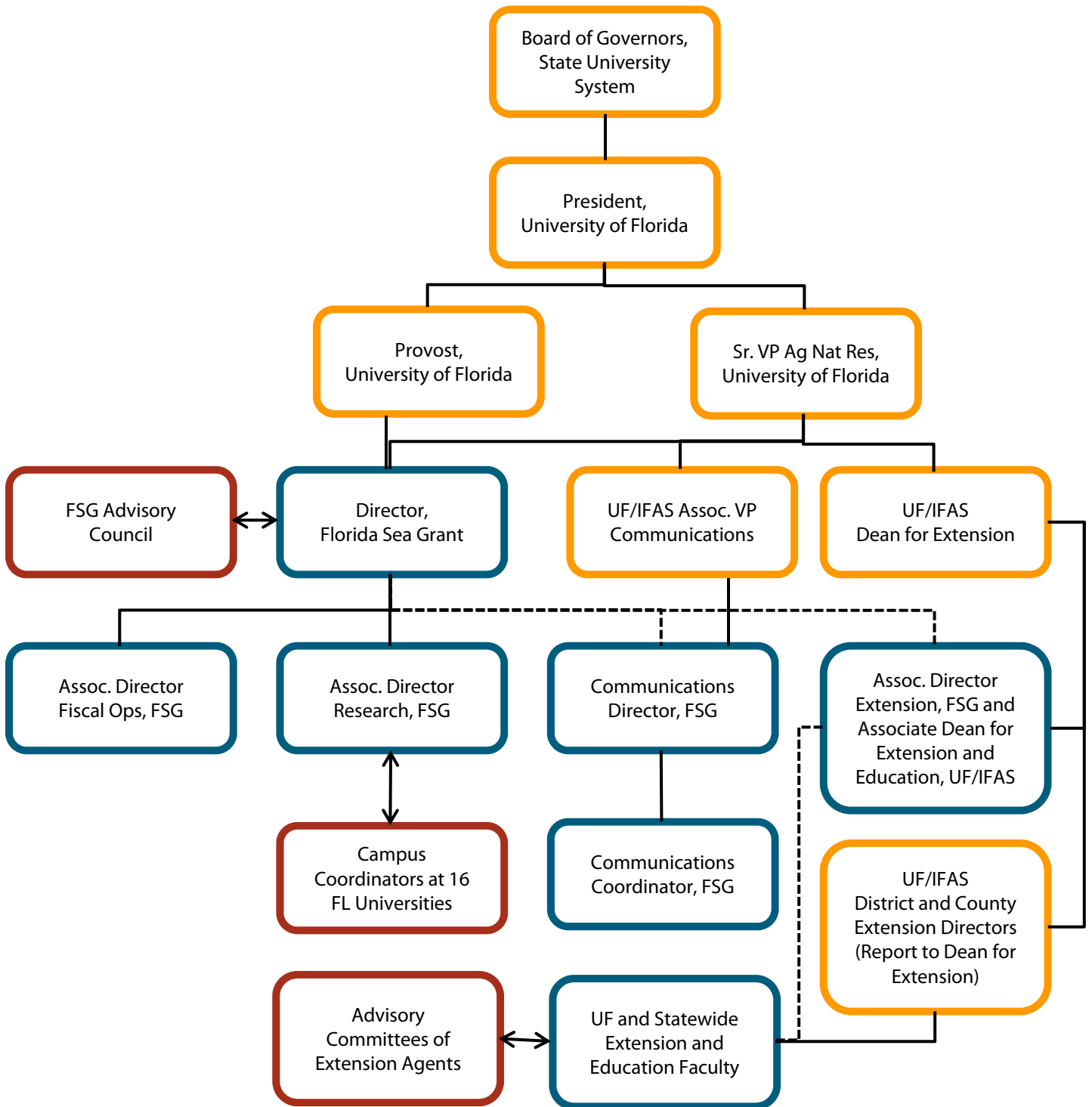
The Process of Stakeholder Engagement	12
Leadership by Staff on Boards and Committees.....	13
Examples of Stakeholder Engagement.....	14

COLLABORATIVE NETWORK/NOAA ACTIVITIES.....

PROGRAM CHANGES RESULTING FROM PREVIOUS REVIEW.....

20

Organizational Chart



Blue = Florida Sea Grant staff; Gold = University of Florida staff; Red = staff at other universities in Florida or external advisors.

This document is a companion to the Site Review Team's report from PIER (Program Implementation and Evaluation), which focuses on quantitative outputs from the program. In this publication we focus on process, and explain how Florida Sea Grant develops a strategic plan; strategically manages the program; conducts a transparent and robust process of selecting research projects; coordinates an integrated statewide extension network; supports student education; and effectively disseminates science-based information to a wide range of audiences. This document is cross-referenced to the PIER document where data tables and figures correspond to the narrative provided below.

PROGRAM MANAGEMENT AND ORGANIZATION

Florida Sea Grant Management Team

The program management team of Florida Sea Grant (FSG) operates a credible and effective Sea Grant College in one of the nation's most complex settings in terms of number and diversity of stakeholders, universities, coastal resources and coastal uses. FSG management provides national and international leadership for community and resource management issues to support sustainable and resilient coastal economies and environments.

Principal responsibilities of the FSG management team include: strategic planning; coordinating research extension and communications to meet benchmarks established in four priority focus areas; fiscal accountability; fundraising; building program visibility and value to constituents; networking with other NOAA, federal and state programs; and tracking the outcomes and impacts from research, extension, education and student support. This is accomplished by working internally with an Executive Advisory Council and with program specialists and agents; externally with Campus Coordinators affiliated with 16 Florida academic institutions that have ocean and coastal science programs; and by collaborating with local governments, industries, not-for-profits and citizen groups.

At any given time, FSG manages over \$6 million and more than 100 research, extension, education and communications projects, often with multiple investigators on each project. These include core program projects, program development projects, SG National Strategic Initiative projects, and a host of other extramurally funded projects that leverage the National Oceanic and Atmospheric Administration's (NOAA) investment and advance the FSG mission as defined in its strategic plan.

Several members of the management team are paid 100% by the University of Florida, including the Director, the Associate Director for Research, the Associate Director for Extension and Education (who also is the associate dean for environmental and natural resources programs) and the Communications Director. Only the Assistant Director for Fiscal Operations is paid off the NOAA grant, which also pays the salaries of two secretaries, two communications support staff, and a fiscal assistant.

The work of the management team is coordinated through monthly staff meetings, augmented by ongoing communication between individuals and in smaller groups of the team, depending on the issue. The entire staff (communications, management, fiscal and extension administration) also meet monthly for programmatic coordination. Responsibilities of members of the management team are as follows:

- **Director** – provides overall program vision and leadership; explores new opportunities with partners, constituents, prospective sponsors and the Advisory Council; develops regional and inter-agency collaborations, and ensures that the program addresses priorities of National Sea Grant and NOAA.

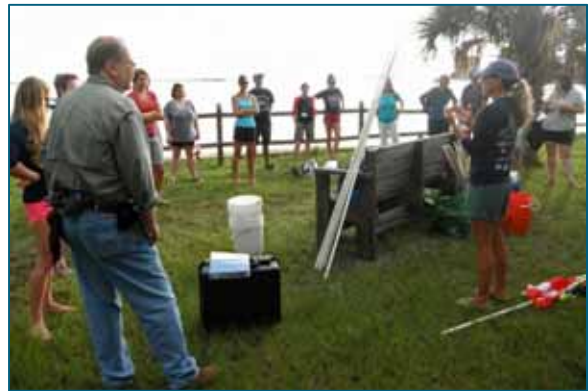
Table 1. Amount of Time Florida Sea Grant Faculty and Staff Devote to Sea Grant (EXT = Extension, EDU = Education and FTE = total FTE devoted to the Sea Grant program). This table is supplementary to Table I-A of the PIER report.

Individual	Title	EXT	EDU	FTE
Karl Havens	Director			1.00
Martin Main	Associate Director for Extension and Education			0.40
Charles Sidman	Associate Director for Research			1.00
Dorothy Zimmerman	Communications Director			1.00
Rebecca Burton	Communications Coordinator			1.00
Ed Harvey	Assistant Director for Fiscal Operations			1.00
LeRoy Creswell	Extension Program Coordinator			1.00
Jackie Whitehouse	Executive Secretary, Management			1.00
Sharon Cook	Administrative Assistant, Fiscal			1.00
Jaime Arnold	Senior Secretary, Extension			1.00
Heather Jones	Communications Program Assistant			1.00
Whitney Gray	Climate Change Specialist	0.50		0.50
Thomas Ruppert	Coastal Planning Specialist	1.00		1.00
Monica Wilson	Oil Spill Specialist – Gulf of Mexico Research Initiative	1.00		1.00
Charles Adams	Extension Specialist – Marine Economics	1.00		1.00
Tom Ankersen	Extension Specialist – Environmental Law	0.20		0.20
Andrew Kane	Extension Specialist – Aquatic Health	0.10		0.10
William Lindberg	Extension Specialist – Fisheries Ecology	0.20		0.20
Cortney Ohs	Extension Specialist – Aquaculture	0.40		0.40
Steven Otwell	Extension Specialist – Seafood Technology	1.00		1.00
Joshua Patterson	Extension Specialist – Restoration Aquaculture	0.10		0.10
Robert Swett	Extension Specialist – Waterway Planning	1.00		1.00
Huiping Yang	Extension Specialist – Shellfish Aquaculture	0.10		0.10
Elizabeth Carnahan	Extension Agent – Pinellas County	0.90	0.10	1.00
Pamela Fletcher	Extension Agent - Miami (joint with NOAA AOML)	0.95	0.05	1.00
Bryan Fluech	Extension Agent/CED – Collier County	0.55	0.15	0.60
Holly Abeels	Extension Agent – Brevard County	0.90	0.10	1.00
Joy Hazell	Extension Agent – Lee County	0.90	0.10	1.00
Scott Jackson	Extension Agent – Bay County	0.90	0.10	1.00
Lisa Krinsky	Extension Agent – Miami/Dade County	0.90	0.10	1.00
Shelly Krueger	Extension Agent – Monroe County	0.90	0.10	1.00
Erik Lovstrand	Extension Agent/CED – Franklin County	0.55	0.05	0.60
William Mahan	Extension Agent – Bay County	0.90	0.10	1.00
Carlos Martinez	Extension Agent (UF Aquaculture Center)	0.15	0.05	0.20
Maia McGuire	Extension Agent – St. Johns, Flagler Counties	0.40	0.60	1.00
Rick O'Connor	Extension Agent – Escambia County	0.90	0.10	1.00
Brooke Saari	Extension Agent – Walton and Okaloosa Counties	0.90	0.10	1.00
Betty Staugler	Extension Agent – Charlotte County	0.90	0.10	1.00
Leslie Sturmer	Extension Agent (Statewide Shellfish Aquaculture)	0.95	0.05	1.00
John Stevely	Extension Agent – Manatee County	0.90	0.10	1.00
Chris Verlinde	Extension Agent – Santa Rosa County	0.50	0.50	1.00
Geoff Wallat	Extension Agent – Taylor County	0.90	0.10	1.00
Total	42 people	21.45	2.65	34.3

- **Associate Director for Extension and Education (FSG), and Associate Dean for Extension, Environmental and Natural Resources Programs (UF/IFAS)** – provides vision and leadership for the statewide extension and education program, develops cooperative programs with extension and education partners at local, state, and national levels including the Cooperative Extension Service, and coordinates the activities of FSG extension specialists and marine extension agents.
- **Associate Director for Research** – coordinates the biennial call for research proposals, tracks the outputs and impacts of funded research projects, coordinates the funding of research development projects, and reports programmatic data and achievements against our program and National Sea Grant metrics identified in the Planning, Implementation, and Evaluation Resource (PIER) information system.
- **Communications Director** – develops and maintains an effective multi-media communications program to meet the needs of researchers, extension experts, students, elected officials, resource managers and coastal residents.
- **Assistant Director for Fiscal Operations** – coordinates all fiscal functions of FSG including administration of awards, tracking of expenditures by investigators, development and/or review of proposal budgets, and fiscal reporting to National Sea Grant, NOAA, the University of Florida (UF) and the State University System Board of Governors.

An Integrated Statewide Extension Program

The FSG extension and education programs are integrated within the UF Institute of Food and Agricultural Sciences (IFAS) Extension and are formalized collaborations with Florida coastal counties. On average, extension agent salaries are paid as 25% from the NOAA award, 47% by UF/IFAS and 28% by counties. Some extension agents and specialists are paid from grants and partnerships with state and federal agencies. Specialists that are faculty in UF academic units are paid 100% by the university. As part of the State's Land Grant Institution, each county faculty member is required to devote a minimum of 5% effort to education programs that may include working with youth and adult volunteers, K-12 teachers and students. They are assisted in their efforts by UF state specialists and staff. The percentage of time that county faculty devote to extension and educational activities is dependent on local needs and the source of funds; these vary slightly over time. Currently FSG has 21.45 FTE devoted to community-based extension programs, and 2.65 FTE devoted to education programs.



The FSG extension and education program has activities that are consistent with the Florida Sea Grant strategic plan, is responsive to constituent needs, and is collaborative across the state. For this to occur, three things happen.

- First, each extension agent and specialist is actively involved in developing our four-year strategic plan and they develop their general programming in the context of that plan.
- Second, each extension agent (Table 1) has a local advisory committee comprised of individuals who form a cross-section of their community and help identify specific needs within the boundaries of our broader strategic plan.

- Finally, agents and specialists work together to address statewide issues via work action groups (WAGs) that bring them together on issues including: aquaculture, education, fisheries, climate change, waterway planning and habitat restoration.

As noted, all extension agents allocate some percentage of their time to K-12 education. Examples include the *Grasses in Classes* hands-on program focused on sea oats biology, shoreline stabilization and restoration that has been incorporated into the science curriculum of most high schools in the Florida Panhandle; elementary-age marine education modules that are consistent with Florida state education standards and downloadable from our website; and interactive programs that bring together K-12 students with Sea Grant-funded researchers. A recent example is dune restoration work by a UF professor who studied the viability of cryopreserved sea oats. As part of their field science curriculum, high school students from northeast Florida used the cultivated sea oats to help re-plant experimental dunes under the guidance of a Sea Grant extension agent. In the last three years, the FSG aquaculture extension team developed a ninth grade science curriculum called *Teach Aquaculture*. Over 120 teachers have completed *Teach Aquaculture* training and implemented programs in their schools.

A Multi-Faceted Communications Program

The FSG communication program supports our goal to create a more scientifically and environmentally informed public, using a dynamic portfolio of print, broadcast and digital media to reach state, regional and



international audiences. Communications activities are closely integrated with program management and extension initiatives to increase visibility and multiply efforts with key stakeholders including: local and state decision makers; Congress; students; researchers; coastal residents; marine businesses; resource management agencies and NGOs.

The website www.flseagrant.org is a window into our program, receiving on average 4,100 visits per month. It is a key interface for research and extension faculty to obtain timely information relevant to their needs. It also is

a repository for searchable pdf files of FSG's fact sheets and technical reports, which provide practical science-based information. Student scholarship, fellowship and job opportunities are communicated primarily via social media (Facebook, LinkedIn, Instagram) with content specifically managed for this purpose.

The FSG Facebook page (www.facebook.com/flseagrant) now has more followers than any other Sea Grant program in the nation (2,900 as of December, 2014) and routinely records strong engagement metrics. Traditional email is an effective medium with Campus Coordinators at the 16 universities and labs within our statewide network to disseminate information to faculty and students about all funding opportunities. We also use email to publish a quarterly digest of new titles from our program, reaching the news media, researchers and agencies through well-established listservs. We annually produce a visually engaging and concise 'Program Highlights' to illustrate major program impacts for Congress and constituents. Print publications are used by extension agents to conduct industry training and informal education. Florida Sea Grant is the national publications coordinator for the entire library of seafood HACCP curricula that helps the seafood industry comply with FDA regulations. Beginning in 2015, FSG will have stories in Florida Trend magazine, which has a readership of over 100,000 business leaders, legal experts and elected officials. Our articles will focused on pressing issues of the coastal economy and environment.

FSG is headquartered on the UF campus and communications maintains close liaisons with the UF and IFAS communications news offices, which provide FSG with access to high-value resources and services, especially in

digital and broadcast production. For instance, collaboration with these campus units makes it possible to routinely produce quality video features for the FSG YouTube channel.

Advisory Council Membership and Function

The FSG Advisory Council (Table 2) is comprised of leaders from the private sector, non-governmental organizations, local governments, and state and federal agencies who are actively engaged in issues related to the resilience of Florida’s coastal and ocean economies and natural resources. They serve a term of four years, renewable for additional terms if mutually beneficial to the member and the program. They generously provide their time, knowledge, experiences and ideas to help FSG maintain excellence and relevance in its research, extension and education at state, regional and national levels.

Table 2. Florida Sea Grant Advisory Council Members, 2014-17 [n = new since last review]

Name	Position	Affiliation
Bobby Aylesworth, Chair	Owner	Aylesworth’s Fish and Bait
Jim Cantonis, Vice Chair	Owner and President	Acme Sponge and Chamois
Billy Causey	Southeast Regional Director	NOAA NMSP
Jim Beever (n)	Principal Planner	SW Florida Regional Planning Council
Ernesto Lasso de la Vega (n)	Advisory Committee Member	Charlotte Harbor NEP
Kathleen Elliot (n)	Vice President	Mahogany Youth Corporation
Laura Geselbracht (n)	Senior Scientist	The Nature Conservancy
Gib Migliano (n)	Owner and President	Save On Seafood
Richard Pruitt (n)	Vice President	Royal Caribbean Cruise Lines
Steve Stock (n)	President	Guy Harvey, Inc.
Jacqui Sulek (n)	Chapter Manager	Audubon of Florida
Elliot Kampert	Director, Growth Management	Okaloosa County, Florida
Renee Bernica	Seafood Procurement	Darden Restaurants
Chuck Listowski	Executive Director	West Coast Inland Navigation Dist.
Gary Lytton	Director	Rookery Bay NERR
Gil McRae	Director	Fish and Wildlife Research Institute
Ben Nelson	Forecaster	NOAA National Weather Service
Michael Poff	Vice President	Coastal Engineering Consultants
Jerry Sansom	Executive Director	Organized Fishermen of Florida
Dan Solano	Owner	Cedar Key Aquaculture Farms
John Sprague	Director of Government Affairs	Marine Industries of Florida

The Advisory Council participates in developing the FSG Strategic Plan, provides input regarding implementation of strategic planning objectives, and provides guidance and support for governmental relations, fund raising and new strategic partnerships. Advisory Council members travel with the Directors to discuss impacts of FSG and Sea Grant as a whole with members of Congress, both in DC and at their home offices. Meetings of the Advisory Council occur twice per year, once by teleconference, and once at a site that rotates to a different location in Florida where particular a member hosts the meeting.

The Research Process

Process Used to Develop Request for Proposal Priorities

Priority research topics are developed directly from the performance measures in the National Sea Grant Office (NSGO)-approved FSG Strategic Plan. That plan is developed every four years (most recently for the period 2014-17) in a transparent and inclusive process that includes a 2-day planning workshop attended by all members of the FSG Advisory Council, educators, university and agency scientists, resource managers, extension specialists and agents, and representatives from a variety of coastal business sectors. In addition to requiring that projects

address priorities identified in a Request for Proposals (RFP), FSG ensures that projects are highly relevant to the needs of the coastal zone by stipulating in the RFP that a proposal will only be sent out for review if ‘the Principal Investigator has worked with a specific end-user in order to develop a relevant proposal’ and we ‘require evidence about how the end-user will ultimately use the new information, tools, models or other products of the research program.’ We also require that at least one student be partially or wholly supported on the grant as part of his/her MS, PhD, JD or undergraduate research that is supervised by the PI. We recognize that many practical coastal issues cannot be resolved by a single two-year research project. However, requiring engagement with end-users helps to ensure that research is pointed in the direction of issue resolution, however many years it may take.

Research Proposal Review Process and Review Panel Composition

FSG makes a concerted effort to ensure that all eligible applicants at universities, state agencies, non-for-profits and other institutions including the private sector are aware of our funding opportunities and that they have the opportunity to submit proposals. The RFP for pre-proposals is posted biennially on the FSG website during the first week of January and broadly distributed by email to the more than 800 natural and social scientists, engineers and legal professionals across Florida. The RFP is sent to the 16 universities in Florida with ocean or coastal programs, via their designated Campus Coordinators and to their divisions of sponsored research. The RFP also is sent to state and federal agencies, to the Florida Ocean Alliance, the Florida Institute of Oceanography and to the FSG Advisory Council. These groups have large networks in the academic, agency and private sectors and they assist in broadly disseminating the proposal to prospective PIs and end-user partners.

Project selection by FSG consists of a two-stage technical/relevancy review. Pre-proposals are due in late February and are sent out for review to disciplinary experts at state and federal agencies, universities outside of Florida, and in the private sector. Lead scientists or program directors at each agency or business distribute pre-proposals to staff with academic and/or practical expertise in the area of pre-proposal focus. All reviewers are required to read and attest to a conflict of interest form before the FSG online review system allows them to view and critique a pre-proposal. Each pre-proposal is also assigned to a primary and secondary reviewer on the panel of 10 out-of-state experts whose collective expertise spans the RFP priorities. Review panelists are selected both for their academic credentials and experience in leadership positions.

During the most recent proposal cycle each pre-proposal received at least three reviews from subject matter experts, including reviews by panel members where they had the specific expertise. Review scores were tallied and provided as summary tables to the review panel members, who met with FSG leadership via teleconference for a one-day evaluation session in early April. Each pre-proposal was discussed by the panel and a recommendation was provided regarding whether the project was a ‘high priority,’ ‘low priority’ or ‘not acceptable.’ The process involved the primary reviewer providing an overview of the project goals, objectives and approach; a summary of the review comments and scores; and his/her conclusions about the merits of the pre-proposal. The secondary reviewer provided additional comments, and other panel members sometimes added comments to the dialogue. The primary reviewer then suggested a rating and the full panel was asked to concur. After discussing all of the pre-proposals, the review panel selected the top pre-proposals. Several days after the review panel concluded, FSG invited the PI’s who submitted those top rated pre-proposals to submit full research proposals. All PI’s may submit full proposals; however this is not encouraged unless their pre-proposal was ranked in the top tier.

Full proposals were invited in mid-April and received by FSG through an online submittal process on or before a specified deadline in the first week of June. Prior to receiving the full proposals, FSG identified a minimum of three external reviewers from outside of Florida (which included panel members) to evaluate each full proposal and contacted them by phone or by email to confirm that they would conduct a review in a specified period of time. Reviewers included subject matter experts affiliated with academic institutions and federal agencies, and were leaders in their respective fields of study as documented by significant peer-reviewed publications in the

subject areas of the full proposals. Again, reviewers were required to read and attest to a conflict of interest form. Each full proposal received at least three reviews, including reviews of a primary and secondary panel member (same panel as for pre-proposals). Prior to the review panel meeting, primary reviewers were required to complete a review summary form, where based on the reviews obtained, they provided a narrative of the pros, cons and areas for improvement for proposals that they are assigned.

The review panel met again by teleconference with the FSG leadership team in early August and a representative of the NSGO monitored the process. Review panel members were provided with a list of the proposals and discussion occurred in the same manner as for the pre-proposals. Proposals were ranked in order from highest to lowest mean review score and discussed in that order. At the end of each 15-minute discussion period, the primary reviewer was asked to rate the proposal as 'excellent,' 'very good,' 'good,' 'fair' or 'poor' and his/her completed forms were provided to the FSG executive secretary for entry into the online system where the critiques and scores are made available to the PIs for download. At the end of the proposal evaluation process, the panel ratings determined which projects were funded – i.e., those receiving a rating of excellent.

In the most recent (2013) RFP process, 8 projects were rated as excellent, and after considering the total dollar amount of the proposals and the available funds, all of them were funded (and one technology transfer project – see below). The projects rated most highly by the review panel also had the highest mean review scores. No attempt was made to adjust the results of this process to, for example, ensure a broad distribution of funds across different universities in Florida, because there was no objective way to do that. The review process is unbiased and fully transparent and the projects selected represent the best science and the highest relevancy to issues identified in FSG's strategic plan.

Number of Proposals Submitted and Institutions Represented

During the four-year review period, there were two biennial research competitions. In those competitions FSG received 88 pre-proposals, solicited 43 full proposals, and selected 15 full-proposals for funding (see Table I-D in the PIER report). In addition, 49 program development (PD) projects were funded during those four years. The maximum amount of funding that we provide to biennial research projects is \$100,000 per year and for PD projects, the maximum funding level is \$10,000. PD projects do not allow for indirect costs but they do require a cost-share of one non-federal dollar for every two federal dollars awarded.

See Table I-E in the PIER report for a listing of projects funded in the review period.

In addition to projects being supported with funds from Sea Grant and NOAA, during the review period there were a number of projects funded by state agencies, NGOs, and other sources, and collaborative projects done without extramural funding to support regional initiatives:

- Gulf of Mexico SG Regional website (ongoing, developed by FSG, hosted by MS-AL SG)
- South Atlantic SG Regional website (ongoing, developed and hosted by FSG)
- Counterpart International and Royal Caribbean Cruise Lines Ocean Fund grants to support work on sustainable fish aggregating devices (FAD) fisheries in the Caribbean – \$80,000.
- The Billfish Foundation, the Gulf and Caribbean Fisheries Institute and NOAA NMFS grants to support a Caribbean Fisheries Professional Development Program at UF – \$7,500.
- Florida Fish and Wildlife Conservation Commission grant for the development and implementation of a Climate and Sea-Level Rise Program – \$146,850.
- Cetacean Logic Foundation grant to support the Marine and Estuarine Goal Setting for South Florida Project (MARES) – \$111,000

External Leveraging of FSG Research Funds

Researchers report that because of FSG research funding, they were able to obtain an additional \$7.5M in research funds from other sources during the 4-year review period. Some examples are provided in Table 3.

Table 3. Selected examples of larger projects influenced by FSG core funding.

Project	Funding Year	Leveraged Project	Funding Source	Leveraged Amt
R/C-P-32	2010	Regional analysis of offshore recreational boating in northeast Florida	NOAA NMFS	\$246,235
R/LR-Q-33	2010	Detection of planktonic grouper larvae by RNA amplification	Guy Harvey Ocean Foundation	\$50,000
R/LR-Q-34	2010	Molecular detection of vibrio and related pathogenicity on oyster aquaculture	NOAA Aquaculture SBIR	\$90,000
PD-10-11	2010	Resolving chemical properties and extent of crude oil and dispersant	FL Institute of Technology	\$262,000
R/LR-Q-33	2011	Collaborative research: biogeographic variation in linkages among predator interactions and resultant benthic-pelagic coupling services on oyster reefs	NSF	\$280,000
R/C-D-19	2011	State-of-the-art large-scale testing for wind to enhance infrastructure resiliency and develop energy-efficient buildings	Department of Energy	\$972,000
R/LR-B-63	2011	Investigating the relative value of seagrass beds to spotted seatrout and other upper trophic level nekton in Apalachicola Bay	Florida Fish and Wildlife Conservation Commission	\$153,270
R/LR-A-48	2012	Influence of commercial diets and feeding regimen on Florida pompano aquacultured in inland recirculating systems	USDA	\$130,000
R/C-E-56	2012	Center for integrated modeling and analysis of the Gulf ecosystem	NOAA GoM Research Initiative	\$150,000
R/C-S-54	2012	Examine effects of sea-level rise within the St. Johns River Water Management District through cooperation with the UCF research cluster on the coastal dynamics of sea-level rise	St. Johns River Water Management District	100,000
R/C-D-20	2012	Tornado-resilient structural retrofits for sustainable housing communities	NSF	\$400,000
R/LR-B-66	2013	Setting and evaluating ecological targets for invasive lionfish control	Coral Reef Conservation Program	\$90,000
R/C-D-21	2013	Climate change adaptation 2012: Sarasota County, Fla. – processes and tools for stakeholder engagement and adaptation planning	NOAA	\$96,000
R/ GOM/ RP-2	2013	Planning for hydrologic and ecological impacts of sea-level rise on sustainability of coastal water resources	NSF	\$476,904

Technology Transfer Research Projects

Starting in 2013, FSG implemented funding for a new kind of research project – one that transfers a near-fully developed technology to a private sector partner. The concept is to (1) find faculty who have been conducting research for a number of years with Sea Grant or other funds and who are working with a private sector partner, and then (2) provide the funds necessary to get the research innovation into commercial production. In 2013, our RFP identified that we would fund one such project at a maximum amount of \$100,000 per year for two years, that the projects had to be done as a formal collaborative work of the PI and a private sector partner, and that we expected that by the end of the two-year funding period, the new research innovation (tool, technology,

etc.) would be in the early phases of commercialization. In response to this component of the RFP we received 5 pre-proposals, which all merited development into full-proposals. We selected one technology transfer project for funding. All pre- and full proposals were reviewed in the same manner as regular research projects. The only difference was the composition of the review panel, which in this case was comprised of 7 members of our Advisory Council. The review panel selected a highly practical project with good potential for commercialization – a device to provide low-cost repairs of old roofs in hurricane-prone locations. In the 2015 RFP we again will have a technology transfer project and this year we are working closely with the UF Innovation Hub to refine our transparent and applicable criteria by which to make selections of technically sound projects.

Student Support

Florida Sea Grant has a long history of supporting large numbers of college students with scholarships, fellowships and on research grants, and this pattern continued in 2010-13 (Table 4). The following table provides specific information on the level of student support and it identifies a substantive amount of support from private donors and foundations. As of 2013, the Aylesworth Foundation had supported over \$500,000 of student scholarships and the Guy Harvey Ocean Foundation had supported \$80,000 (with another \$40,000 in 2014 and pending for 2015).

Table 4. Students supported by private endowments, NOAA Omnibus research grants and national fellowships. This table expands on the information provided in Tables I-F and II-C of the PIER report.

	2010	2011	2012	2013
Aylesworth Foundation Scholarship	1	1	3	1
Guy Harvey Scholarship	2	4	5	8
Florida Outdoor Writers' Association	1	1	2	2
Scotts Nutrient Dynamics Fellowship	0	2	2	0
Skoch Award	1	1	1	1
Total Students Supported with Private Funds	4	6	9	10
Students Supported on Omnibus Research Grants	67	63	84	97
Students on National Fellowships	4	7	5	4
TOTAL	80	85	111	123

Budget Overview

Core Omnibus funds from NOAA support regular research projects, PD projects, extension, communications and program management (Table 5).

Table 5. Amount (and percentage) of core funds in support of Florida Sea Grant program functions, 2010-2013.

	2010	2011	2012	2013
Research	\$886,953 (43)	\$872,919 (43)	\$853,119 (42)	\$789,441 (40)
Extension	\$660,000 (33)	\$660,000 (33)	\$679,800 (34)	\$679,800 (35)
Communication	\$194,401 (10)	\$200,026 (10)	\$200,026 (10)	\$205,817 (10)
Management	\$283,646 (14)	\$292,055 (14)	\$292,055 (14)	\$300,718 (15)
Total	\$2,025,000	\$2,025,000	\$2,025,000	\$1,975,776*

*The 2013 omnibus funds were reduced by \$49,224 as part of federal rescission.

Over the four years from 2010 to 2013, research funding dropped off from 43 to 40% of total core funding, as the total omnibus core slightly declined and there were mandatory raises and salary increases at UF associated with staff and faculty promotions, in the extension, communications and management budgets; those budgets are nearly 100 percent salary funds.

In addition to the core funds from NOAA, FSG obtains non-federal matching funds on its awards and it manages pass-through funds. This brings the amount of program funding up to between \$3.6 and \$4.9M per year (**Table I-B of the PIER report**). There also are leveraged and influenced funds that contribute to programmatic activities (**Table III-B of PIER report**). Finally, if one considers the salaries of the program faculty listed in Table 1 of this document there annually is \$1,435,000 of salaries and fringe benefits contributed to the program that are not used as matching funds and not reported in PIER. Taken as a whole, we calculate that to run all of the activities of FSG, we annually spend (either out of our program, from other UF programs that support FSG or directly from private sponsors) approximately **\$6.5M** a year. When all sources of income are considered, whether they are spent by FSG or by other units in support of FSG, the NOAA core funds (\$300K) used for program management are approximately 4% of the total program costs.

UF also periodically supports special projects led by FSG. For example, in 2012, the Director of FSG was asked to chair a still ongoing Oyster Recovery Team to lead a research and outreach project in response to the collapse of a historic oyster fishery in Apalachicola Bay. To support this initiative, the Senior Vice President of UF/IFAS provided FSG with \$250,000, which was provided to research faculty in academic units who were conducting the research, allowing them to hire technical support.

Looking Ahead: Starting in 2014 (data not shown) the research expenditures will substantively increase because of additional NOAA core funding. Further, the Director is PI and project manager of a \$1.3M research grant from the National Fish and Wildlife Foundation for experimental oyster reef restoration in Apalachicola. Extension expenditures will increase by approximately \$100K a year because of the recent hire of a specialist under the GOM regional grant from GoMRI. Further, the Guy Harvey Ocean Foundation is co-funding a research project at \$75,000 in 2014, another research project at \$50,000 per year in 2015-16, and an extension project at \$225,000 in 2014-16. The Director is pursuing more co-funded research for 2018-19.

STAKEHOLDER ENGAGEMENT

The Process of Stakeholder Engagement

Florida Sea Grant is the state's premier research-extension-education program in coastal and ocean sciences. To a large extent this reflects our high degree of engagement with coastal constituents. Engagement begins with collaborative development of our four-year strategic plan, and it is woven through all of our program functional areas.

Florida Sea Grant's research program is driven by both the priorities of the strategic plan and by a requirement that all researchers engage end-users of information in the development of relevant proposals. This requirement, added in the 2009 call for proposals, has resulted in all of our research proposals being partnerships between university faculty and either the private sector or a resource management agency. Where it makes sense, research projects also involve a Sea Grant extension agent, who may support both research and outreach components of the project. Examples of extension agent involvement include: (a) a project evaluating the response of different sponge species to transplantation in the Florida Keys involves two FSG extension agents; and (b) demonstration of appropriate methods for bottom planting of sunray venus clams by a regional shellfish extension agent, as part of a research project that developed methods to commercially produce that new product in Florida.

The extension and education programs are driven by the needs of coastal constituents. Committee members of FSG extension agents might include local business leaders, mayors, county commissioners, staff from NOAA, NEP and NERR, other federal and state agencies representatives, educators and non-profit professionals. These local committees provide guidance to the agents on how their ongoing and future programs align with community issues.

Most extension agents work out of their respective county extension offices. They have reporting responsibilities to their host county, to FSG and to UF/IFAS Extension. Their activities are integrated into both the strategic plans of Florida Sea Grant and UF/IFAS Extension. Agents prepare an annual Plan of Work that is based on local needs, yet is consistent with FSG and UF/IFAS strategic priorities. At the end of the year, the agents prepare an annual Report of Accomplishments that is shared with UF/IFAS Extension and FSG administrators, and with their local advisory committees. Program activities, outputs and impacts also are reported in an online system developed by FSG.

Coordination of local activities and development of a balanced, programmed team approach is accomplished through an annual planning retreat of all the FSG extension agents and specialists with the leadership team, to plan collaborative activities for the upcoming year and ensure that the overall program is aligned with the strategic plan and the national priorities. A quarterly internal newsletter also is a venue for exchange of information between the extension staff. Work Action Groups are the primary means for development and implementation of statewide extension projects. Biennial 'coastal science symposia' bring together FSG-funded researchers, extension agents, specialists, graduate students and members of the Advisory Council for exchange of information and ideas from the different components of our program.

Leadership by Staff on Boards and Committees

The staff of FSG, including program leaders, specialists and extension agents, is highly engaged on boards and committees from the international to state level. At the regional level, the program is in a unique position of occurring in two NOAA regions – the Gulf of Mexico and South Atlantic. This presents challenges in regard to staff time, as well as opportunities for serving as a bridge between regions. The following are examples of recent and current leadership positions.

International and National

Planning Committee Member, National Conference on Beach Preservation Technology (Havens)
 Associate Editor, *Hydrobiologia* (Havens)
 Associate Editor, *Journal of Plankton Research* (Havens)
 Founding Editor and Board Member, *Freshwater Systems* (Havens)
 Associate Editor, *Conservation Biology* (Main)
 Member, Advisory Board, International Association of Aquaculture Economics and Management (Adams)
 Technical Advisor, USA Delegation for Codex Alimentarius, South Africa (Otwell)
 Executive Board and U.S. Representative, International Association of Fish Inspectors (Otwell)
 Team Member, Project FISHPORT, World Health Organization/UN Food and Agriculture Organization (Otwell)
 Executive Director, Seafood Science and Technology Society of the Americas (Otwell)
 Member, External Advisory Board for Seafood PLUS Europe (Otwell)
 Member, Advisory Committee to National Plan for Algal Toxins and Harmful Algal Blooms (Adams)
 Member, Seafood Education Committee, Association of Food and Drug Officials (Otwell)
 Member, Technical Advisory Committee, National Fisheries Institute (Otwell)
 Member, Technical Advisory Committee, National Shrimp Processors Association (Otwell)

Lead Coordinator, Seafood HACCP Alliance for Training and Education (Otwell)
 Member, National Academy of Science panel to study the balance of risks and benefits of seafood (Otwell)
 Member, Advisory Committee for the National Sea Grant Ports and Harbors Specialist (Swett)
 Member, Advisory Committee for Working Waterways and Waterfronts (Swett)
 Member, Past President, World Aquaculture Society (Creswell)
 Executive Secretary and Editor, *Proceedings of the Gulf and Caribbean Fisheries Institute* (Creswell)
 President and Executive Committee Member, National Shellfisheries Association (Creswell)
 Associate Editor, *Journal of Shellfish Research* (Creswell)
 Steering Committee Member, National Working Waterfronts and Waterways Network, (2012-present) (Swett)
 Publications Coordinator, National Seafood HACCP Alliance for Training and Education (Zimmerman)
 Member, Steering Committee, 3rd National Working Waterfronts and Waterways Symposium, Tacoma, WA, (2012-13) (Swett)
 Member, Steering Committee, The Coastal Society's 23rd International Conference, Miami, FL, (2011-12) (Swett)

Regional

Member, Gulf of Mexico Consortium Technical Review Panel (Havens)
 SG Representative, South Atlantic and Caribbean NOAA Regional Team (Havens)

SG Representative, National Marine Fisheries Service
 MARFIN Research Review Panel (Havens)
 Member, Scientific and Statistical Committee, Gulf of
 Mexico Fishery Management Council (Adams)
 Member, Aquaculture Interagency Coordinating
 Committee, FDACS (Adams)
 Member, Aquaculture Subcommittee, Florida Oceans and
 Coastal Council (Adams)
 Member, Proposal Review Committee, Southern Regional
 Aquaculture Committee (Adams)
 Member, Board of Directors, Northern Gulf Institute
 (Havens)
 Member, Management Team, NOAA Northern Gulf of
 Mexico Sentinel Site Cooperative (Gray)
 Florida Lead, Working Waterfronts Technical Team,
 Governors' South Atlantic Alliance, (2013-present)
 (Swett)

State and Local

Chair, UF Oyster Recovery Team (Havens)
 Board Member, Florida Oceans and Coastal Council
 (Havens)
 Board Member, Florida Ocean Alliance (Havens)
 Board Member, Florida Institute of Oceanography (Havens)
 Technical Advisor, Apalachicola Oyster Dealers Association
 (Otwell)
 Technical Advisor, Florida Center for Ocean Science
 Education Excellence (COSEE, NSF) (Creswell)
 Chair, *From Stem to Stern II: Boating and Waterway
 Management in Florida* Conference, Clearwater Beach,
 Florida, May 15-17, 2012. (Staugler)
 Member, UF Geospatial Task Force (Swett)

Sea Grant

Chair, Educators Network (McGuire)
 Chair, Program Mission Committee (Havens)
 Chair, Fiscal Officers Network (Harvey)
 South Atlantic Representative, National Sea Grant Extension
 Assembly (Main)
 Member, Safe and Sustainable Seafood National Focus
 Team (Otwell)
 Secretary-Treasurer (elected), Sustainable Coastal
 Community Development Network, 2014-15 (Swett)
 Member, Sustainable Coastal Community Development
 Network (Swett)
 State Contact, Marine Spatial Planning, National Sea Grant
 Network, (2012-present) (Swett)
 Member, Sea Grant Network Advisory Council (McGuire)

Examples of Stakeholder Engagement

Managing Waterfronts and Waterways

The 25-year success of FSG’s Waterfronts and Waterways Planning Program is due to the development of close working relationships with clientele and stakeholders that include boater groups, local governments, inland



navigation districts, the FWC, the FDEP and NOAA. The program blends innovative research and policy solutions with practical outreach products for boaters that help to instill responsible behaviors and resource management by providing non-regulatory, education-based, alternatives. For example, FSG played a pivotal role in the establishment of a Regional Harbor Board and a Waterway Management Task Force in southwest Florida, which were formed to collaboratively resolve emerging boating, waterfront access and navigational issues on a regional basis. These working partnerships have been formalized and nurtured through the establishment of

memoranda of understanding; by cost-sharing projects; and by organizing venues for information sharing and collaboration, such as the *Stem to Stern* regional workshops and biennial conference for boating and waterway management in Florida. These actions have resulted in new policy guidelines and information products for boaters that are helping to promote boating safety, manage anchoring and mooring and maintain shorefront and navigational access for Florida’s boaters and waterfront businesses.

Coordinating a Statewide Artificial Reef Program

For more than three decades, FSG, working in partnership with state and federal agencies, counties and inland navigation districts, has contributed to the evolution of Florida's artificial reef-building community. These reefs provide fishing opportunities for an ever-growing number of anglers in rapidly urbanizing areas, and enhance fishery stocks by improving fisheries habitat. Consequently, state and local artificial reef program coordinators are constantly seeking technical assistance from FSG extension agents and specialists to properly plan and manage their programs. Most of Sea Grant's coastal county-based extension agents are now involved in some activity related to artificial reefs. Florida Sea Grant coordinates the periodic staging of the statewide Florida Artificial Reef Summit for more than 200 attendees in close collaboration with the Florida Fish and Wildlife Conservation Commission (FWC). In a programmatic partnership with a FSG extension specialist, the FWC is deploying at least 450 conservation reefs within the Steinhatchee Fisheries Management Area, 100 square-mile, large-area artificial reef site permitted by the U.S. Army Corps of Engineers to UF as a research and demonstration project, based on research and ongoing funding sponsored by Sea Grant and NOAA-NMFS-MARFIN.



Enhancing the Resilience of Coastal Communities

One of the biggest sources of either vulnerability or resilience comes from land use planning choices and disaster preparedness work. These are local government duties. Florida Sea Grant's efforts in coastal resilience have thus focused on working directly with local government to provide resources, information, dialogue, and support for their planning and policy development. Working directly with local governments allows FSG to be sensitive to the specific situations faced by local governments and respond to needs they articulate. With some local governments we focus on the economic impacts of flood insurance changes; with others, the opportunities presented by more resilient design; still others how they can improve stormwater infrastructure to decrease flooding under expected climate change and sea-level rise scenarios, and others, public outreach on climate and sea-level rise. Sensitivity to local concerns and constraints has helped FSG establish itself as a resilience resource for local governments in Florida.



Ensuring the Quality and Safety of Seafood

Comprehensive seafood safety training led by Sea Grant's National Seafood HACCP Alliance for Training and Education is cited by federal authorities as a leading factor in the significant decline of fish-associated foodborne illness outbreaks over the last decade. Since the mid-1990s, all seafood processors and importers have used the HACCP (Hazard Analysis and Critical Control Point) management system to meet federal food safety regulations for marketing fish and fishery products in the United States. Florida Sea Grant leads the steering committee of the Seafood HACCP Alliance, a network of Sea Grant programs, state public health inspectors, the U.S. Food and Drug Administration, NOAA Fisheries, trade associations and the Association of Food and Drug Officials. The

essential training supports the commercial viability of 5,400 seafood firms in the U.S. and U.S. territories. Alliance programs annually train more than 2000 individuals, and to date have graduated more than 35,000 participants from 28 nations.

Growing the State's Aquaculture Industry

The FSG aquaculture work action group supports the nation's most diverse aquaculture industry by coordinating research with industry needs, promoting crop diversification and economic evaluation, and introducing middle-



school and high-school-aged students to career opportunities in the industry. Through workshops and disease diagnostic services, the team supplies ornamental fish and aquatic plant growers with the latest science-based production information. The team also plays an integral role in training, demonstration, and extension efforts that have rejuvenated the heritage fishing community of Cedar Key into an epicenter of the hard clam industry. The team has also partnered with the state's Division of Aquaculture to develop the *Teach Aquaculture* curriculum, giving schools STEM education tools centered around marine science and aquaculture for

the state's middle and high school students. Participation has increased from 18 participating schools in 2008 to 85 in 2013.

COLLABORATIVE NETWORK/NOAA ACTIVITIES

The complexity of issues facing Florida coastal communities requires collaborative solutions. FSG works closely with other SG programs, with various NOAA units, and with industry, local communities and other state and federal agencies. This collaboration occurs with research and extension projects. We have two extension agents located at NOAA facilities, working in collaboration with those partners – one at the NOAA Atlantic Oceanographic and Meteorological Laboratory (AOML) in Miami, who contributes to coastal elements of Everglades restoration as part of the MARES project team (Marine and Estuarine Goal Setting for South Florida) and another at the Rookery Bay NERR who works with reserve staff and the regional population on a variety of issues.

Further, FSG has a climate change extension specialist who is located at the Florida Fish and Wildlife Conservation Commission (FWC) in Tallahassee, and whose salary is paid 50:50 by FSG and the FWC. We also have an extension specialist located at the College of Marine Science at the University of South Florida in St. Petersburg, who is a member of the team of experts hired under the contract between the Gulf of Mexico Research Initiative and the four SG programs in the Gulf. The following are examples of collaboration with local, state and federal partners.

Promoting a Coordinated Response to Invasive Lionfish in the South Atlantic and Caribbean

The Sea Grant programs of North Carolina, South Carolina, Georgia, Florida and Puerto Rico are collaborating in funding a regional SG research and outreach project focused on approaches for dealing with lionfish, which have been decimating reefs off our coasts. Lionfish consume nearly all small reef fish, and create an ecological imbalance in reef ecosystems. We are funding



three multi-year research projects (in Florida, the Caribbean and Puerto Rico) where investigators are attempting to understand the efficacy of programs to eradicate lionfish from reef habitats. The five SG programs also are carrying out an outreach program with recreational divers, fishermen and the commercial fishing sector related to lionfish identification, handling and control. This project was initiated and is being managed by FSG. Outreach collaboration occurs via a team that was formed among the SG programs at the start of the project, and via yearly meetings with the research investigators.

Extending Oil Spill Science to Communities in the Gulf of Mexico

The Gulf of Mexico Research Initiative (GoMRI) was established to investigate the impacts of the 2010 BP oil spill. As part of that effort, Florida and other Gulf state Sea Grant programs collaborated in 2013 to obtain \$1.5 million of GoMRI funding to support a multistate extension program to translate the results of GoMRI science to key stakeholders. The Sea Grant programs in the Gulf of Mexico region (FL, MS-AL, LA and TX) collectively interviewed and hired four Gulf Oil Spill research extension specialists, each with different expertise, creating a comprehensive team. The FSG hire is a PhD physical oceanographer. The other SG programs hired individuals with expertise in chemical oceanography, coastal ecology and environmental influences on human health. Several of the specialists are experienced extension educators. The team has been working together less than a year but is already producing collaborative extension materials on the fate, transport, and impact of oil dispersants to aquatic life, the response of fisheries stocks to the spill, effects on human health, and models of oil spill movement. The extension team is scheduled to attend and present at the GoMRI conference and regional Sea Grant Network meetings during 2015 and multiple stakeholder meetings are being planned.



Strengthening Co-Management of Shared Gulf and Caribbean Fishery Resources

Gulf of Mexico states and Caribbean nations share valuable marine fisheries stocks. Capacity development to improve management of those fisheries, particularly among island nations, has long been identified as a critical need. Although member nations are eager to promote greater collaboration, synergy, and the sharing of knowledge in the region, they often lack networks and opportunities to achieve these goals. Florida Sea Grant is focusing capacity-development in two areas: (1) with NOAA and NGO partners, FSG is offering professional exchange opportunities for both Florida and Caribbean-based fisheries professionals to spend time in international settings and learn more about promoting practices that encourage sustainable and safe seafood processing and marine resource management; and (2) through partnerships with the Royal Caribbean cruise lines, Counterpart International, the Japan International Cooperation Agency, and the Caribbean Regional Fisheries Mechanism, FSG is providing practical tools to local fisheries management and fisherfolk communities to improve the sustainability, profitability and co-management of the Caribbean offshore fishery, which is increasingly reliant on the use of fish aggregation devices.



Increasing Sustainable Fishing Practices in the Gulf of Mexico

Florida is the nation's No. 1 fishing destination, and more than 2.4 million fishermen annually generate an economic impact of \$7.6 billion. Over the last 15 to 20 years, however, anglers have had to release more and



more fish to comply with harvest restrictions enacted to manage effort. The FSG fisheries extension program has become a "go-to" resource in the region and throughout the Sea Grant network on educating fishermen about circle hooks, dehookers, venting tools, descending gear and other research-based methods that increase survival of grouper, snapper and other marine species. Close programmatic collaboration with FWC and NOAA Fisheries ensures consistent, science-based messages are presented through publications, demonstrations and the leading Sea Grant website, <http://catchandrelease.org>.

Results of FSG trials testing fish descending tools recently

convinced the Gulf of Mexico Fisheries Management Council and the State of Florida to change rules that required venting of reef fish, giving anglers more options for using a larger variety of release gear.

Developing a Community of Practice for Climate Change Outreach in the Gulf of Mexico

The Gulf of Mexico Climate Change Community of Practice (CoP) began five years ago with a seed grant from the NSGO to FSG, who partnered with the Gulf of Mexico Alliance (GOMA) to develop a proposal. The funds supported a workshop that brought together extension faculty from Sea Grant programs around the Gulf with other practitioners of climate change outreach and education. Since its inception, a CoP workshop has been held every year in one of the Gulf states, and the number and breadth of participants has grown. In particular, the group now includes a large number of community representatives from locales that are implementing climate change adaptation approaches that have emerged all or in part from their participation in the CoP program. Sharing of 'lessons learned' and developing consistent social and natural science-based outreach approaches has strengthened the Gulf-wide extension program on this issue, which in some Gulf communities remains contentious. The 2015 CoP is being held in St. Petersburg, Florida.

Developing Sea Grant Extension Capacity through a National Sea Grant Academy

The National Sea Grant Extension Academy is a professional development investment that ensures the network's new extension hires are technically trained to design, implement, and evaluate effective outreach, technology



transfer, and education programs that meet the needs of the marine and coastal clientele groups that they serve. Although members of the Sea Grant network have written the booklet *Fundamentals of a Sea Grant Program* to cover the basics needed for effective program management, the Academy provides the intensive face-to-face training that lays a foundation in the NOAA-Sea Grant culture and the Sea Grant extension philosophy. FSG helped provide the leadership that launched the first Academy in 2005, and led the program till 2013. To date, more than 120 Sea Grant participants have successfully completed four academies, forming invaluable

partnerships between programs and with other NOAA line offices. In 2013, when administrative turnover and the federal shutdown prevented the national office from participating in part two of the Academy, FSG

dispatched a staff member experienced with Academy management to provide the on-site program management and logistical coordination needed in Duluth, Minn.

Building Consensus for South Florida Ecosystem and Everglades Management

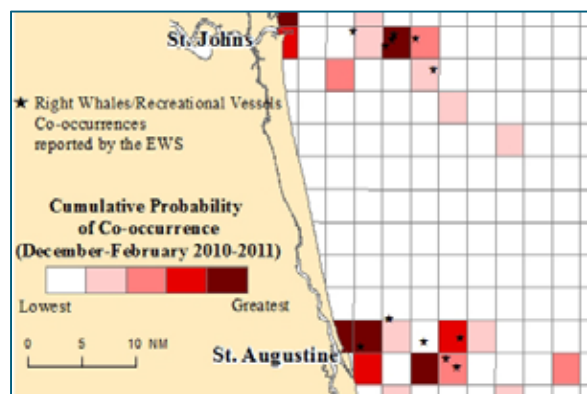
NOAA and FSG have established a regional extension coordinator position to work with the NOAA AOML developing outreach efforts for multiple projects pertaining to south Florida coastal ecosystems. The extension audience for this position is primarily natural resource managers and stakeholder groups that influence or participate in resource management issues. The extension coordinator has expertise in conflict resolution and the human dimensions of natural resource management. This partnership helps coordinate activities among the AOML and other NOAA affiliates such as the Cooperative Institute for Marine and Atmospheric Studies (CIMAS) and NOAA's Integrated Coral Observing Network (ICON). Some key examples include the MARES project, the ICON Coral Reef Conservation Program, and the Gulf of Mexico Integrated Ecosystem Assessment. The individual in this position has also assisted with numerous publications, the most notable being the book *Tropical Connections – South Florida's Marine Environment*.

Incorporating Climate Change Science in Everglades Restoration

Florida Sea Grant is collaborating with the USGS, DOI, US Army Corps of Engineers and South Florida Water Management District to incorporate climate change into the planning and implementation process for the Everglades Restoration Program. In 2012 we worked together to conduct a scenario exercise in which future (2060) model projections of rainfall, evapotranspiration, sea level and temperature were fed into a regional hydrologic model, and potential impacts to regional ecosystems were evaluated. The future is likely to be hotter, by about 2 degrees C and sea level is likely to be at least 1.5 ft higher. Rainfall change is uncertain however, if it is just 10% less than today, there will be a severe regional shortage. We now are working together with leaders in the federal restoration group to incorporate the necessary flexibility into restoration projects to allow satisfactory outcomes in the future with uncertain climate conditions. This project involves Sea Grant collaboration by the Director and by two of our Miami-based extension agents and is ongoing.

Helping NOAA Protect the Endangered North Atlantic Right Whale

The North Atlantic right whale is one of the world's most endangered whales and protection measures are vital to its recovery. Strategies have focused on reducing boat strikes, a primary human-related cause of injury and mortality. Protection is especially important in the coastal waters off Georgia and northeast Florida, where the whales give birth between December and April. Information about recreational boating traffic patterns is needed to help plan protection strategies. Florida Sea Grant partnered with the NOAA National Marine Fisheries Service's Right Whale Recovery Program to document patterns of boating in the right whale calving grounds. Results of the analysis are being used by the NOAA program to evaluate risks to the whales from the proposed development of new marine facilities such as boat ramps, private docks and marinas. Encouragingly, further analysis has shown that offshore boating activities in northeast Florida are at their lowest levels during the peak calving season, which means fewer interactions between boaters and vulnerable whale offspring.



PROGRAM CHANGES RESULTING FROM PREVIOUS REVIEW

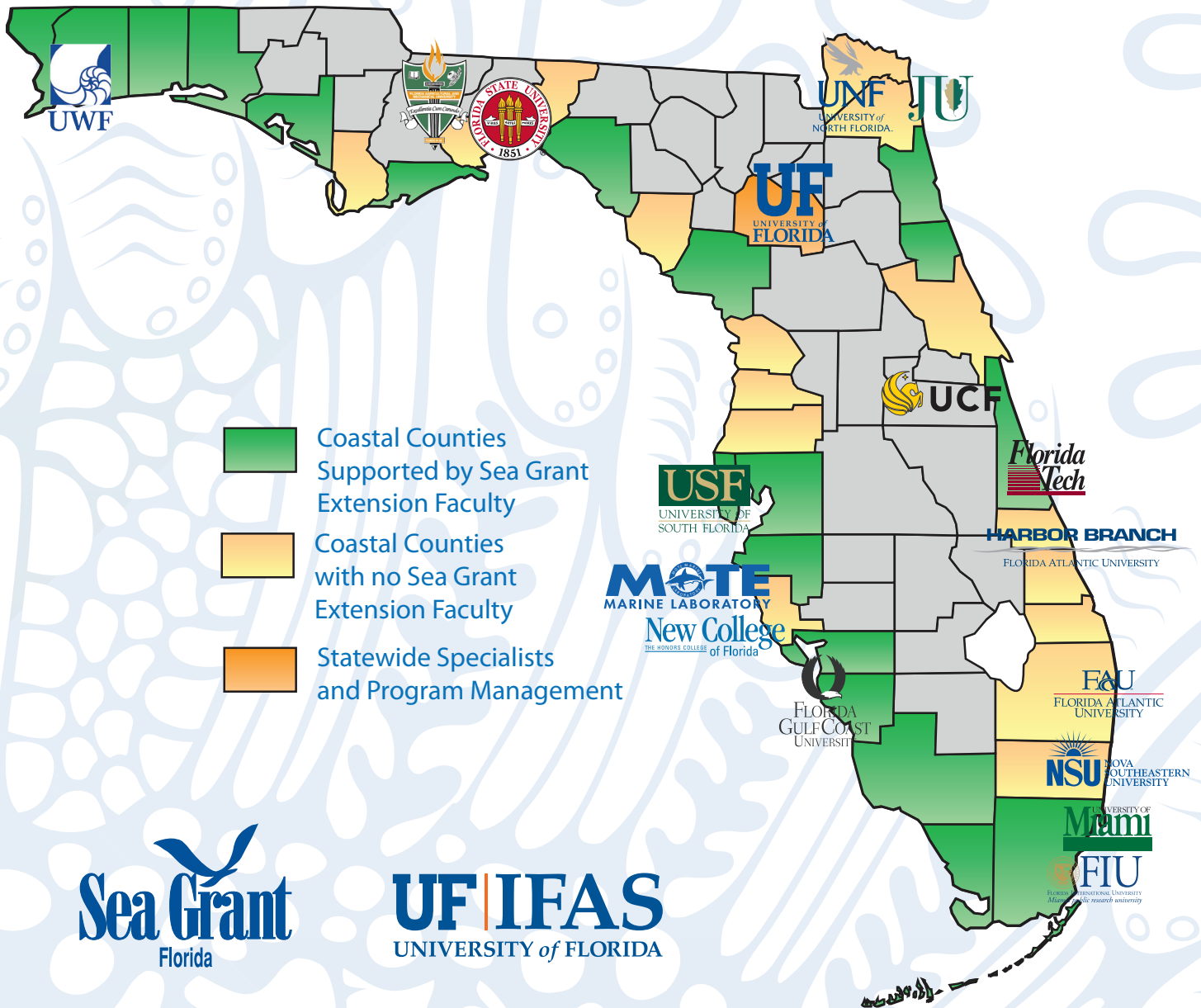
The 2010 review of the Florida Sea Grant College Program did not result in any Recommendations; however, suggestions were made. We found the suggestions to be constructive and helpful to the program. In response, the following changes were made.

- The composition of the FSG Advisory Council was evaluated to ensure that it supports the current strategic plan. This process led to the number of Council members being expanded from 14 to 21, by adding members with expertise in regional planning (James Beever, Southwest Florida Regional Planning Council), coastal resource management (Laura Geselbracht, The Nature Conservancy), the cruise industry (Richard Pruitt, Royal Caribbean), fisheries conservation (Steve Stock, Guy Harvey Ocean Foundation), coastal bird ecology (Jacqui Sulek, Audubon of Florida), youth education (Kathleen Elliott, Mahogany Youth Corporation) and community engagement (Ernesto Lasso de la Vega, Lee County).
- Florida Sea Grant no longer restricts research funding to the 16 major Florida universities. Our research funds now are available to any qualified PI, whether he/she comes from one of the state's universities, agencies, an NGO or a private corporation. We require only that the PI have documented expertise in the specific area of the research project and that a student be supported and work on the research project as part of his/her undergraduate research, MS, PhD or JD degree.
- Florida Sea Grant has enhanced its relationship with the UF Department of Urban and Regional Planning and other academic units dealing with smart growth and resilient development by awarding research grants to PIs and through their work with our extension agents. Notably, we have hired a community planner who works in a particularly important niche for Florida – assisting coastal communities in identifying their risks from storm surge and sea-level rise, and helping them develop locally-appropriate adaptation strategies.
- Although FSG extension does not include expertise in land-use planning or coastal urban design, we are part of the larger UF/IFAS extension program, where there are specialists and agents who do work in these areas around the state. Our coastal community planning specialist collaborates with those faculty members when working on issues related to resiliency to coastal hazards. In general, within UF/IFAS Extension, Sea Grant works in the water and at the water's edge and other components of the program work from the water's edge inland.
- Although we do not mandate that extension agents be engaged in all research projects that we fund, it often happens when it makes sense, both geographically and programmatically. Because we require that research PIs 'engage with end-users' of research results in the design and implementation of their projects, nearly all of our research projects are partnerships between a university PI and either a resource management agency or the private sector. Transfer of information often happens directly to the end-user in this process, and where appropriate extension agents may disseminate the results to a broader audience.
- Florida Sea Grant is in the process of hiring a regional extension agent who will fill a gap in our program in the area of watersheds, water quality and coastal ecosystem health.
- We have conducted a number of projects in collaboration with NOAA Fisheries, including a Gulf-wide project to develop an approach to use NOAA FishWatch as a means of certifying sustainability of products caught in U.S. waters and the Director of Florida SG serving on the South Atlantic MARFIN research review panel.
- A number of extension agents now hold positions of leadership at national and regional levels, as identified in a table in the site review team 20-page program summary report.

Florida Sea Grant Research, Extension, and Education Network

Florida Sea Grant supports an integrated program of research, education and public outreach through a statewide network of 16 academic institutions and the UF/IFAS Extension Service. The University of Florida in Gainesville serves as the host campus, but all of the institutions shown here are a formal part of the program. UF is also home for Sea Grant statewide specialists, who interface with program management and a network of IFAS extension faculty in coastal counties.

Florida Sea Grant is also part of the National Oceanic and Atmospheric Administration and one of 33 Sea Grant programs nationally.





Science Serving Florida's Coasts

Florida Sea Grant is committed to enhancing the practical use and conservation of coastal and marine resources to create a sustainable economy and environment.

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