California Sea Grant (CASG) serves the communities, industries and people of California and the nation through research, extension and outreach on important coastal and marine issues. In a state where few institutions fully combine rigorous research with public engagement, CASG takes pride in providing scientific and socioeconomic information to solve practical problems that promote the sustainable use of coastal and marine resources. Based at the Scripps Institution of Oceanography in La Jolla, CASG works statewide to serve roughly the 29 million of California’s 39 million citizens outside the Los Angeles basin, (which is served primarily by USC Sea Grant). The California coastline encompasses a stunning diversity of marine and human communities, extending for 840 miles past coastal mega-cities, rural towns, working harbor communities and pristine coastline. Nearly 20% of state coastal waters have recently been established as marine protected areas by state legislation.

The 2010-2013 CASG Strategic Plan identifies five primary focus areas for investment plus one cross-cutting theme, closely aligned with the national strategic plan:

<table>
<thead>
<tr>
<th>National Focus Area</th>
<th>CASG Focus Area</th>
<th>Investment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy Coastal Ecosystems</td>
<td>Healthy Coastal and Marine Ecosystems</td>
<td>48.7%</td>
</tr>
<tr>
<td>Safe &amp; Sustainable Seafood Supply</td>
<td>Safe &amp; Sustainable Seafood Supply</td>
<td>22.4%</td>
</tr>
<tr>
<td>Marine/Coastal Literacy</td>
<td>Education, Training and Public Information</td>
<td>20.3%</td>
</tr>
<tr>
<td>Sustainable Coastal Development</td>
<td>- New Technologies and Products</td>
<td>5.3%</td>
</tr>
<tr>
<td></td>
<td>- Resilient Coastal Communities (SCD)</td>
<td></td>
</tr>
<tr>
<td>Hazard Resilient Coastal Communities</td>
<td>- Effective Response to Climate Change</td>
<td>3.3%</td>
</tr>
<tr>
<td></td>
<td>- Resilient Coastal Communities (HRCC)</td>
<td></td>
</tr>
</tbody>
</table>

*Level of Effort with Leverage (%) for Feb 1, 2010 – Jan 31, 2014

CASG supports eight full-time Extension Specialists who are based from Eureka to San Diego. All CASG Specialists have PhDs and conduct community-based outreach and research, sharing critical science solutions with stakeholders for application and management. Their expertise ranges from fisheries and conservation biology to climate change adaptation to social science.

Our extension program is supported almost entirely by core funds received from NOAA (=$3.95M annually), plus grants obtained by our Extension Specialists. CASG is heavily dedicated to supporting applied marine research statewide, devoting approximately 44% of total NOAA core funds, plus $3M-$5M annually from several state sources, to research efforts.
Introduction

CASG embraces the ideals of promoting marine science literacy and educating the next generation of marine and coastal scientists and policy makers. As required by the federal legislation authorizing the Sea Grant programs, CASG makes the results of its publicly funded projects widely available. We accomplish this by asking CASG-supported researchers to incorporate educational and outreach components into their Sea Grant-funded research, and to publish their work. In addition, we accomplish this through the activities of our Extension and Communications staff, who collaborate with a variety of partners to help train and educate citizens at the K-12, undergraduate, graduate and post-graduate levels.

The niches to be addressed by Sea Grant within this arena have been defined after extensive discussion among CASG administration, extension specialists, and diverse stakeholders and state-agency partners. Taking many factors into account, our program has chosen to invest the majority of its resources allocated to "education" in post-graduate and graduate traineeships. We are especially proud of our “state fellows program”, in which one-year career training fellowships are provided to recent doctoral, masters and law graduates to work in state agencies on policy and management issues. This is an area where CASG education dollars have demonstrated significant impact in training new generations of marine managers and policy makers.

The specific goals addressed by CASG personnel, its partners and funded researchers are defined in our current strategic plan, which has been developed in concert with key partners, and vetted with our advisory board. Armed with this advice CASG has chosen to focus effort and work with strategic partners toward the following goals:

- Involve stakeholders in coastal and marine research and outreach projects.
- Support undergraduate and graduate student stipends, fellowships and scholarships to attract talent to coastal and marine disciplines.
- Provide academic enrichment opportunities for students and educators, such as applied/outdoor educational experiences, scholarships, mentoring and curriculum development.
- Provide opportunities for students and post-graduates to study and gain on-the-ground training in coastal and marine management.
• Translate technical scientific information into language appropriate for non-scientists
• Disseminate scientific research findings broadly.
• Produce and distribute educational and training programs/materials.
• Facilitate and participate in conferences, discussions, workshops and other events to exchange information and enhance its relevance to real-world issues.

**Performance Summary**

California is a large and diverse state, with distinct coastal regions and 36.5 million residents. Home to six major seaports and more than 200 marinas and harbors, the high level of activity in the coastal zone places immense pressure on natural resources, poses unique challenges, and creates a need for science-based information. The challenge of reaching the entire “public” was addressed by identifying subsets of the state population that would benefit most from the targeted training and information.

Our program has chosen to invest heavily in post-graduate and graduate traineeships. CASG’s flagship State Fellowship program (15131) represents a significant investment in post-graduate education and career development opportunities. Between the years 2010-2013, California Sea Grant awarded 36 State Fellowships to exceptional graduate students. The Fellowship winners spent 12 months at a host agency in California engaged in marine policy and resource management. The hosts included: California Ocean Protection Council; California Ocean Resources Management Program; California Coastal Commission; California Coastal Conservancy; California Water Resources Board; Monterey Bay National Marine Sanctuary, and NOAA Coastal Services Center. Historically, many of these fellows have gone on to careers in state government. The fellowship program serves to both increase the capacity of ocean and coastal management agencies in California with highly motivated and talented graduate students, and facilitate the training and development of the next generation of ocean and coastal leaders.

Partnerships with non-governmental organizations and other Sea Grant programs have helped enrich the CA Sea Grant portfolio of educational programs. In partnership with the non-profit Ocean Discovery Institute in San Diego, CA Sea Grant-funded researchers reached more than 500 students at area primary schools with marine science lessons on ocean acidification and climate change through lesson plans based on their work (18270). These students almost all come from economically disadvantaged families. CA Sea Grant has also partnered with West Coast Sea Grant programs developed national classroom guidelines and a curriculum for elementary students aimed at reducing the spread of aquatic invasive species (18134).

Research has shown that minority groups are underrepresented in the sciences, particularly marine science. One of the key solutions is to provide exposure and access to marine science to groups that have traditionally not participated in this field. The Research and Education for
Students and Teachers about the Ormond Beach Restoration (RESTOR) Project (15103) developed by the CA Sea Grant Extension coastal specialist in the Santa Barbara region supports teachers of underrepresented students through professional development in environmental education and participation in water-quality monitoring. During the reporting period, the project engaged over 2,000 students and 35 teachers, as well as participation from Master Gardeners, university students, political representatives and the City Corps.

The marine and coastal literacy components of CA Sea Grant’s programs were not limited to formal education. After the implementation of the USDA’s seafood Hazard Analysis and Critical Control Point (HACCP) regulation, the seafood industry, regulators, public agencies and other specialists needed a trusted seafood technology network information center. CA Sea Grant transferred technology on seafood safety and quality through listserv discussions, website content and webinars (6562). A CASG Extension Specialist participated in the planning, implementing and performance evaluation of more than 60 participants in sensory workshops in cooperation with NOAA-SIP, FDA, National Fisheries Institute, and Seafood Products Association. The Specialist also served developed the “HACCP Training Curriculum,” authored the Train-the-Trainer’s guide, and planned new curriculum for three domestic and international courses. Through outreach articles, webinars, publications, websites and trainings about seafood safety and technology topics in English and Spanish, CA Sea Grant Extension helped improve knowledge about seafood safety, quality, nutrition and supply among the general public and seafood professionals. These materials have reached more than 400,000 users nationally and internationally.

CA Sea Grant work has also extended to the national level. The state’s diverse coastline includes sandy beaches, underwater reefs, coastal cliffs, rock jetties and piers, all of which create unique hazards for beach patrons. Rip currents are the most threatening of all hazards along California’s south coast. In partnership with the California Surf Life Saving Association, CA Sea Grant helped develop table tents to educate beach goers about rip currents (18278). The information and graphics supported the national NOAA-Sea Grant-NWS-USLA rip currents campaign. Lifeguards distributed the 50,000 table tents to CA beach area hotels, restaurants, etc., willing to display them. After learning of the educational table tent outreach program about rip current awareness, the successful California Sea Grant-California Surf Lifesaving Association program project was replicated by the United States Surf Lifesaving Association along the East Coast and 100,000 table tents were distributed nationwide.
PIER PRP Program Focus Area Report
California Sea Grant
Marine/Coastal Literacy

Program Focus Area: EDUCATION, TRAINING, AND PUBLIC INFORMATION

Program Goals

1. Educate, Train, and Inform the Public

JUMP TO REPORT SECTION
Full Text of Impacts
Program Performance Measures
Objectives

Impacts and Accomplishments toward Program Goals

1. Program Goal: Educate, Train, and Inform the Public
Impact(s)
- 18855 - Balancing Ecosystem Health & Boating: Fouling Dynamics and Outreach
- 18278 - Rip Current Table Tent Outreach Project Goes National
- 6562 - Public service/outreach on seafood safety, quality and regulations

Accomplishment(s)
- 20478 - Sea Grant, fishermen team up to teach students about local seafood and fisheries
- 20462 - Sea Grant website teaches public, students about Southern California’s beach ecosystems
- 18569 - Coastal and Marine Spatial Planning
- 18270 - Ocean acidification lesson plans developed to reach 500+ CA students each year
- 18134 - Regional AIS Schools Pathway Outreach
- 15131 - CASG State Fellows Awarded
- 15103 - RESTOR Educates Teachers and Students about Wetlands
- 6469 - Sea Grant Extension Program (SGEP) Coastal Community Development
- 6243 - West Coast Regional AIS (via OSU subaward): Mgt of Non-Native Invasive Dreissnid Mussels
- 6240 - California Collaborative Fisheries Research Program (CCFRP)

Full Text of Impacts and Accomplishments

20478 - Sea Grant, fishermen team up to teach students about local seafood and fisheries
A California Sea Grant Extension Specialist designed and led a "Know Your Local Fishermen" activity in collaboration with a local fisherman for 130+ students in the San Diego Unified School District. This activity was designed to increase awareness of fishing communities, and introduce P-12 students to the concept of a sustainable, local seafood supply chain in Southern California. Additionally, the extension specialist developed local (San Diego) seafood information resources and outreach materials to raise public awareness of local fisheries including printed trading cards, species profiles with fishery, biology, nutritional and culinary information, website resources hosting this information and more about San Diego's fisheries and fishermen.

RECAP: In collaboration with a local fisherman, a California Sea Grant Extension Specialist designed lessons and materials for students in the San Diego Unified School District.

20462 - Sea Grant website teaches public, students about Southern California's beach ecosystems
Beaches are popular but the beach ecosystem is generally under-appreciated by the public and even beach professionals. A multi-page website, complete with photos, diagrams and interactive figures, was created to provide information about sandy beach ecosystems to beach managers and the general public. In addition to information about beach-dwelling plants and animals, the site discusses the unique characteristics of this dynamic ecosystem. Sediment movement is discussed and represented in interactive figures and photos. Human impacts to beaches are detailed including: beach grooming, armoring, artificial lighting and climate change. Additionally, Best Practices and Education sections are provided.

RECAP: A California Sea Grant Extension Specialist created a multi-page website, complete with photos, diagrams and interactive figures, to provide information about sandy beach ecosystems to beach managers and the general public.
18855 - Balancing Ecosystem Health & Boating: Fouling Dynamics and Outreach

UPDATE FROM 2012

Relevance: New policies are being developed in response to water quality issues in harbors resulting from copper-based antifouling paints. However, these policies are not considering implications of such changes on the transport of aquatic invasive species (AIS). The goal of this project is to assist policy makers and boat owners in making sustainable decisions on policies and practices to co-manage invasive and other hull-fouling species and to reduce antifouling pollution, while maintaining California's multi-billion boating industry that supports thousands of small businesses employing diverse staff.

Response: California Sea Grant Specialists have conducted research to: 1) assess recruitment dynamics of invasive and native fouling species on boat hulls; 2) assess their responses to selected hull coatings, including pesticidal copper antifoulants and non-toxic coatings; and 3) assess their response to hull-cleaning, best-management practices. Research was conducted in two different regions where climate, copper pollution, species composition and other ecological and anthropogenic factors vary. Specialists also developed outreach materials and presented their findings to inform policy makers and boaters about the need for and solutions to balancing boating practices with ecosystem health (water quality and aquatic invasive species).

Results: Research results from California Sea Grant Specialists have identified risks associated with various hull fouling control practices that influence the potential transport and subsequent spread of aquatic invasive species. Results indicate: 1) reducing/eliminating the use of copper-based paints will likely increase risks associated with the spread of AIS via boating as AIS recruit more readily to non-toxic coatings, 2) AIS eventually (> 6 months) selectively recruit to copper-based paints as they tolerate copper better than native species, and 3) California in-water hull cleaning best management practices do not stimulate fouling and provide an effective way to reduce risks of transport of AIS. Specialists also adapted an integrated pest management approach for managing hull fouling on boats based on their and others' research and have developed outreach materials and presentations illustrating how this approach can be used to identify best management practices for controlling hull fouling for boaters with differing situations (e.g., location, hull paint/coating, frequency of boat use, boating destinations). Specialists have been asked by local, state and federal agencies to provide this information and input on the development of best management practices for boaters, including policies about hull cleaning practices and use of copper-based antifouling paints. Other states and countries also have requested the outreach materials.

RECAP: California Sea Grant Extension's research and outreach has enhanced not only the state's, but also other states' and nations', ability to develop policy, technology and practices for sustainable co-management of antifouling pollution and transport of aquatic invasive species for boats kept in saltwater.

18569 - Coastal and Marine Spatial Planning

Relevance: Coastal and marine space use is dynamic and multi-dimensional, with important linkages within and across users, communities and other interests, and across the land-sea interface. Growing interest in new uses of the ocean such as marine renewable energy (MRE) poses challenges to existing and potential new users of the ocean and associated working waterfront, coastal communities, and ocean and coastal managers. The goal of this project is to meet critical needs, through research and outreach, for: 1) information about existing and potential uses and their socioeconomic and ecological implications, 2) understanding of agency capacity for engaging stakeholders in meaningful discussion and planning, and 3) mechanisms for fostering constructive dialogue and information-sharing to ensure equitable access to land and sea, minimize conflict, and determine appropriate mitigation for any losses.

Response: The California Sea Grant (CSG) Specialist collaborated with Sea Grant colleagues and others to: 1) disseminate results of their recent research on potential space-use conflicts associated with MRE on the US east and west coasts, 2) assess "NOAA family" capacity for stakeholder engagement for coastal and marine space use planning, and 2) plan and conduct the 2013 National Working Waterfronts Symposium (NWWWS) to facilitate discussion among diverse coastal and ocean space use interests.

Results: First, results of the MRE space-use conflicts project, which identify the implications of MRE for existing users and coastal communities, and strategies for minimizing conflict and enhancing communication among affected and interested parties, have been archived by project sponsor BOEM and published in a project report and in Water Resources IMPACT. Those results are being used by fishery participants, coastal community members and others, for example in Oregon, to address their concerns about potential MRE impacts on existing uses. Second, the assessment of West Coast "NOAA family" stakeholder engagement capacity for coastal and marine spatial planning fostered dialogue among focus group participants, and produced a report to NOAA that identified gaps and challenges associated with stakeholder engagement, data sharing, and the development and use of appropriate tools. NOAA West is expected to use those results to guide its future stakeholder engagement not only in MSP but also in other areas. Third, the NWWWS fostered extensive and productive discussion among more than 300 participants from the US and other countries on diverse aspects of working waterfronts. The Specialist not only took the lead to develop a key Symposium Theme on the social and cultural dimensions of working waterfronts, but also convened harbormasters, fishermen and others for a panel discussion of social and cultural considerations for working waterfronts, which was among the best
RECAP: Recap: California Sea Grant’s research and outreach have provided better understanding of the dynamics and interdependencies among ocean and coastal space uses and associated communities, characterization of agency capacity for engaging stakeholders on the topic, and enhanced communication and information exchange among coastal and ocean space use interests toward ensuring equitable access, and minimizing conflict and other negative impacts of coastal and ocean space use.

18278 - Rip Current Table Tent Outreach Project Goes National
In 2013, California Sea Grant (CAG) co-supported an educational table tent outreach project about rip currents with the California Surf Lifesaving Association (CSLSA). The successful project is being replicated by the United States Surf Lifesaving Association along the East Coast and 100,000 table tents will be distributed nationwide. Additionally, CSLSA will be printing NOAA rip current artwork onto banners for school talks and street fairs. This is also an offshoot of the National Sea Grant rip currents education and outreach campaign.

RECAP: After learning of the educational table tent outreach program about rip current awareness, the United States Surf Lifesaving Association emulated the California Surf Lifesaving Association program.

18270 - Ocean acidification lesson plans developed to reach 500+ CA students each year
Relevance, Response, Results: CA Sea Grant researchers are working with the Ocean Discovery Institute to develop a lesson plan that explains upwelling and environmental vulnerabilities of the southern California shelf. This has included five meetings with ODI program coordinator and instructors. ODI staff have been provided information regarding ocean acidification, deoxygenation, and global warming with a focus on local impacts. ODI has developed 6th grade curricula on the topic of ocean acidification set to be implemented in the Spring of 2014. They anticipate this to reach more than 500 students per annum.

RECAP: More than 500 students in southern California each year will benefit from lesson plans about ocean acidification developed by CA Sea Grant-funded researchers and the Ocean Discovery Institute.

18134 - Regional AIS Schools Pathway Outreach
The West Coast Regional Aquatic Invasive Species team created and submitted "Classroom Guidelines for Preventing the Introduction and Spread of Aquatic Invasive Species" for consideration by the federal ANS Task Force during its meeting Nov. 6-7, 2013. It is hoped the guidelines will be adopted by USFWS and become model guidance for schools and teachers nationwide.

Additionally, a curriculum for grades 4-12 was developed based on the cartoon series (14 strips) in the syndicated Stone Soup comics. The series follows a crayfish from campground to home to local stream, with the classroom teacher providing the "do not release" message.

RECAP: Aquatic Invasive Species (AIS) "Do Not Release" national classroom guidelines and curriculum developed by West Coast (CA, USC, Oregon, Washington) Sea Grant programs.

15131 - CASG State Fellows Awarded
Seven state fellows were awarded in 2011. See www.csg.ucsd.edu/NEWSROOM/NEWSRELEASES/2011/CSGStateFellows.html

15103 - RESTOR Educates Teachers and Students about Wetlands
Student pre and post-tests indicated increased student understanding of watersheds and wetlands. Teachers brought students to the wetland independently and one teacher led a student 4H project that resulted in the creation of an educational trail at the Ormond Pointe Native Plant Nursery site.

The RESTOR Project:
- Has made over 2000 students and 35 teachers aware of and involved in the Ormond Beach restoration project. They understand its importance to the watershed and marine environment as a result of hands-on involvement in water quality monitoring and the wetland restoration process.
- Has trained teachers to measure water quality and, in turn, given them the ability to train their students in effective water quality monitoring. Teachers have collected base-line scientific water quality data for the Ormond Beach restoration project that is available to scientists for the restoration effort.
- Provided teachers and students with the motivation, information and contacts necessary to participate in on-going community watershed monitoring and wetland restoration programs.
- Provided students with hands-on experience in the marine environment and given them the ability to explain the impact of land water quality on the ocean and the importance of wetlands.
- Provided teachers with standards-based curricula pertinent to watersheds, wetlands and water quality.

In 2011-12 we now have increased participation from different community groups. City Corps youth participation in the project has resulted in funding for their formal participation in 2012-15. Master Gardeners, CSUCI students, a local City political representative, teachers and City Corps youth, all participated in the initial workshop for the 2011-12 school year. Furthermore, a small wetland restoration project was initiated in 2011 (at the Ormond Pointe facility) across from the large wetland restoration site led by CSUCI professor and students and Advised by UCLA professor Richard Ambrose.

RECAP: The RESTOR Project has involved over 2000 students and 35 teachers in in the Ormond...
Beach, CA, wetland restoration project.

6562 - Public service/outreach on seafood safety, quality and regulations
CA Sea Grant is a recognized leader in transferring technology on seafood safety and quality through listserv discussions and announcements, website content and webinars. One webinar topic was so successful that the CFSI included a link from their website to the archived presentation, "Selenium Health Benefit Values as Seafood Safety Criteria" by N. Ralston, Univ. of North Dakota.

Webinars on the introduction and adoption of technology were presented to: California Department of Public Health-Food and Drug Branch; California Fisheries and Seafood Institute (CFSI); Seafood Products Association; Alaska Department of Environmental Conservation; and NOAA. About 43 people participated remotely and webinar workshops will continue to be offered as a new technology transfer program.

During the reporting period visits to three CA Sea Grant extension websites totaled: Seafood Network Information Center (282,624); Prohibited Antimicrobial Agents in Seafood (3,492) and SafeOysters.org (122,317). NOAA posts and referrals plus FDA subscription and referrals validate the value and respect for the websites' content.

There were 1,125 global subscribers to the international seafood HACCP discussion list with more than 55 countries represented. The domestic Seafood Announcements and Information List (SAIL) totaled 475 subscribers including FDA staff, who also refer their colleagues and industry clients. There were 58 SAIL news releases/announcements and 509 listserv discussions during the reporting period.

6469 - Sea Grant Extension Program (SGEP) Coastal Community Development
Myers: A four-page Emergency Services and Stormwater Management publication was developed that has been widely distributed online to the low-impact development community, emergency safety personnel and land-use planners. The results of the project were presented by Myers and Lawrence at the Non Point Education for Municipal Officials (NEMO) conference in Portland, Maine in September 2010. (www.csgc.ucsd.edu/BOOKSTORE/Resources/LID_FACTSHEET.pdf)

6243 - West Coast Regional AIS (via OSU subaward): Mgt of Non-Native Invasive Dreissnid Mussels
CA Sea Grant Extension Program (SGEP) provided information on our early detection monitoring manual at three conferences; reviewed and commented on the design of an early detection monitoring program for a lake in Santa Barbara County; prepared and made a presentation on quagga mussel recruitment patterns at one lake in Southern California at a professional conference; and began working with USFWS on a series of training workshops to be held in March 2011. SGEP results have helped evaluate effective and efficient ways to detect quagga mussels in support of healthy coastal ecosystems and sustainable fisheries. Through this project, valuable information was gained on how, when and where to detect quagga mussels in California. While most substrates were found to be adequate for detecting mussels when densities were high, only certain substrates were effective at detecting mussels at low densities. Mussels were also more readily detected at certain times of the year and at certain water depths. These results are being used to modify existing recommendations for early detection of quagga mussels in the West.

6240 - California Collaborative Fisheries Research Program (CCFRP)
This collaborative fisheries project is enlisting fishing boat captains and recreational anglers to gather fishery-dependent information on the sizes and catch rates of various fishes found inside and outside marine reserves along the Central Coast. As the fishing community has been among the more vocal opponents of the state's efforts to establish a network of marine protected areas, a primary goal of this project is to engage them in the process by which the MPAs will be graded. Co-equal with this goal is providing managers with the data they need to evaluate and monitor MPAs, as called for under the Marine Life Protection Act. Preliminary results show that some (but not all) species appear to benefit from no-fishing zones, in terms of their sizes (lengths) and abundances (as inferred by catch frequency). Another year of catch data will be collected before final analyses are formally presented to the scientific and fishing communities. In 2010, CCFRP completed 33 days of fishing, made use of 3,250 volunteer hours from 84 individuals and caught 5,166 fish from 27 different species. Since the project began in 2007, we have completed 148 days of fishing, employed 15,070 volunteer hours from 467 individuals and caught a total of 27,441 fish from 43 different species.

Program Performance Measures (2010 - 2013)
<table>
<thead>
<tr>
<th>Program Performance Measure</th>
<th>Target (2010-2013)</th>
<th>Reported</th>
<th>Program Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of attendees at meetings/workshops/conferences/presentations</td>
<td>10,000</td>
<td>65,172</td>
<td>2012 - From PIER national metrics screen (two items).</td>
</tr>
<tr>
<td>Number of CASG website hits (excluding proposal/funding applicants)</td>
<td>250,000</td>
<td>350,637</td>
<td>2012 - 53,218 unique visitors during 2012 to our 3 main websites: CASG, SGEP, and seafood.nic</td>
</tr>
<tr>
<td>Number of degrees awarded to supported students</td>
<td>12</td>
<td>41</td>
<td>2012 - Include undergrads and grads as reported by researchers.</td>
</tr>
<tr>
<td>Number of fellowships awarded</td>
<td>8</td>
<td>24</td>
<td>2010 - all Fellows</td>
</tr>
<tr>
<td>Number of graduate students supported</td>
<td>25</td>
<td>271</td>
<td>2010 - not including fellows 2012 - Includes 2012 trainees reported by researchers, Delta Science Fellows and NMFS Fellows.</td>
</tr>
<tr>
<td>Number of grants awarded</td>
<td>25</td>
<td>8</td>
<td>2010 - Core awards</td>
</tr>
<tr>
<td>Number of local or state agencies use data to modify management practices.</td>
<td>2</td>
<td>6</td>
<td>2012 - As reported by various researchers.</td>
</tr>
<tr>
<td>Number of meetings/workshops/conferences/presentations sponsored</td>
<td>300</td>
<td>1,031</td>
<td>2012 - From PIER national metrics screen (two items).</td>
</tr>
<tr>
<td>Number of partners participating</td>
<td>250</td>
<td>1,070</td>
<td>2012 - Our researchers and extension staff reported more than 2826 people reached and 1245 communities reached with information. CASG communications wrote 41 news releases, 3 newsletters, and 6 research summaries in 2012. A minimum of 73 of those were printed/repeated by other news sources.</td>
</tr>
<tr>
<td>Number of scientific publications generated</td>
<td>400</td>
<td>531</td>
<td>2012 - During 2012, 171 publications, including theses and dissertations from Sea Grant funded projects, were submitted to the National Sea Grant Library.</td>
</tr>
</tbody>
</table>

Program Objectives (2010 - 2013)

There are no Objectives for this Focus Area.