

## Resilient Communities and Economies

This focus area is new as of the 2014-2017 National Sea Grant Strategic Plan, and it incorporates components from the Hazard Resilience in Coastal Communities and Sustainable Coastal Development focus areas in the 2010-2013 Strategic Plan. This focus area is organized into four goals:

- 1) Development of vibrant and resilient coastal economies.
- 2) Communities use comprehensive planning to make informed strategic decisions.
- 3) Improvements in coastal water resources sustain human health and ecosystem services.
- 4) Resilient coastal communities adapt to the impacts of hazards and climate change.<sup>1</sup>

### **Strengths**

Many of Sea Grant's core values are major strengths in achieving goals with the RCE focus area: ability to provide unbiased, science-based information, strong connections to local communities, solution-relevant research, and strong partnerships across governmental agencies and other sectors.<sup>1</sup> Sea Grant fills a niche, different than many other NOAA programs, in that they have a direct connection to local communities to address needs and enact solutions. Another niche that Sea Grant has within NOAA is in social science. Because of the strong community connections and the solution-based research, Sea Grant is perfectly positioned to incorporate social science into its work.<sup>2</sup> In the previous strategic planning period, Hazard Resilience and Sustainable Coastal Development focus areas accounted for 45% of the social science research in Sea Grant.<sup>3</sup> One example of a region that has excelled in the social science realm is the Great Lakes. Through the Great Lakes Social Science Network formed in 2011, 160 specialists have been trained in social science methodologies as of April 2015.<sup>4</sup> A great strength for the RCE focus area is that NOAA and Sea Grant have invested in building climate capacity, and again Sea Grant is in a great place to do this because the network is directly connected with local needs.<sup>5</sup> Another one of SG's strengths for this focus area is the size of its network, and the ability to share information and experiences across the network. An example is the National Sea Grant Resilience Toolkit, which is a collection of resources developed locally to assist communities with resilience and adaptation from Homeowner's Handbooks to decision support and planning tools.<sup>6</sup>

Sea Grant network's programs and projects address all of the stated goals within this focus area to some degree. SG's impacts and accomplishments have a strong focus on economic development, water resources (with a strong emphasis on water quality), hazards and risks.<sup>7</sup> About 35% of the projects that Sea Grant anticipates funding in the 2016-2018 cycle fall within RCE, and within the focus area some of

---

<sup>1</sup> National Sea Grant College Program Strategic Plan 2009-2013

<sup>2</sup> Interview with Joshua Brown

<sup>3</sup> Social Science Highlights and Impacts

<http://seagrant.noaa.gov/WhatWeDo/SocialScience/SocialScienceHighlightsandImpacts.aspx>

<sup>4</sup> Sea Grant Featured Story

<http://seagrant.noaa.gov/News/FeatureStories/TabId/268/ArtMID/715/ArticleID/507/Great-Lakes-Social-Science-Network-brings-the-audience-into-the-equation.aspx>

<sup>5</sup> Interview with Joshua Brown

<sup>6</sup> <http://seagrant.noaa.gov/WhatWeDo/ResilienceToolkit.aspx>

<sup>7</sup> Keyword search of PIER Impacts and Accomplishments

the most common categories represented include: water quality, coastal and natural hazards, climate impacts, shoreline processes and erosion, hazard mitigation and adaptation, and social science.<sup>8</sup>

## **Weaknesses**

Although Sea Grant's work is addressing all of the goals set forth in the current strategic plan, there seem to be gaps or weaknesses in the portfolio. For example, although clean energy is mentioned in one of the outcomes under the first goal, there are very few projects addressing clean energy. Few projects seem to incorporate development planning, natural resource planning, or comprehensive planning. Again, although Sea Grant is very strong on water quality, there are very few impacts or accomplishments pertaining to water allocation, water planning, or water law and policy. Similarly, within the strong focus on hazards and risk, there seem to be much fewer impacts and accomplishments related to risk assessment or communication.<sup>9</sup> In the upcoming 2016-2018 funding cycle, Sea Grant intends to fund few to no projects in coastal business development, waterfront redevelopment, working waterfronts, coastal and waterway access, marine infrastructure, socioeconomic dimensions of environmental change, water availability, multiple use management and conflict resolution, earthquakes and tsunamis, floodplain management, and cumulative impacts of development.<sup>10</sup>

With regards to functional weaknesses in this focus area, SG seems to be very reactive in its approach to hazards. For example, there have been really strong responses to natural disasters (Sandy, Irene, Deepwater Horizon). Strong efforts in the aftermath of these disasters is necessary, but with increasing understanding of the impacts of climate change and extreme event forecasting capabilities, SG should probably be more proactive in preparing for hazards. This reactive pattern follows patterns with funding.

Another weakness in this area is that funding is not proportional to the risks. The resources allocated to resiliency don't reflect the potential losses to communities at risk.<sup>11</sup> Coastal communities in the United States are very diverse socio-economically, and some are extremely vulnerable. It's not clear that SG has made efforts to focus on particularly vulnerable populations within coastal communities. A reviewer on the PRP summary reports noted, "A community is only as resilient as its most vulnerable population."<sup>12</sup>

Weaknesses in reporting were also a common trend in the PRP reports for HRCC and SCD focus areas. Reviewers noted that many of the programs struggled in making clear connections between their program goals, their work, and impacts.

## **Opportunities**

There are several opportunities currently to move SG's work in this focus area forward. There is overlap amongst agencies and other organizations that have similar goals, some of which work on much larger funding scales than SG does. Demonstrating how SG projects can catalyze much larger funds from other

---

<sup>8</sup> Internal file

<sup>9</sup> Keyword search of PIER Impacts and Accomplishments

<sup>10</sup> Internal file

<sup>11</sup> Interview with Joshua Brown

<sup>12</sup> New York HRCC PRP summary report 2015

agencies, could potentially magnify SG impacts in resiliency and sustainable development. Agencies that may be able to magnify SG impacts include: FEMA, DOD/Navy, EPA- Smart Growth Program, USACE, and others. Some large philanthropies have interests that overlap with this focus area as well.<sup>13</sup> A recent example of this catalytic process is how Virginia Sea Grant funded a project for students to create resilient designs for a historic neighborhood that experiences high water. That community then received a \$120 million HUD grant to implement the designs.<sup>14</sup>

A growing public acceptance and discussion of climate change impacts on frequency of extreme storm events, droughts, etc. is increasing the opportunity for preparedness and resilience. The COP21 Climate Paris Agreement in 2015 also committed the US to a low-carbon future, and addressed topics that are encompassed by this focus area (clean energy, carbon storage and sequestration options, like blue carbon habitats, and climate-resilient infrastructure.)<sup>15</sup> This may open up more funding for these kinds of projects, but at the least, it will draw more attention to the need for this work.

Some opportunistic areas going forward with this focus area include: natural infrastructure, integrated water, and all impact areas of climate adaptation (tourism, human health, ecosystem function, etc.).<sup>16</sup>

### **Threats**

Funding will be a constant threat to SG's work. In particular, dealing with inconsistencies in funding, it can be difficult to keep the momentum going in this focus area. RCE is a relatively new focus area, and with that, historic funding tendencies within SG may lean more heavily towards SG's traditional roles, like healthy coastal ecosystems and fisheries.<sup>17</sup> Also, because RCE is a new focus area, SG may not be connected with the right audiences or partners working toward similar goals in resilient communities and economies. There may be other agencies that overlap, and do very strong work in topics within this focus area. One example is that the Department of Energy may be a much better agency to work on clean energy than SG. An additional threat to SG work is a retiring workforce.<sup>18</sup> With a retiring workforce, you may lose long term institutional knowledge and topical expertise.

### **Analysis, Conclusions**

In considering strengths, weaknesses, opportunities, and threats to Sea Grant's Resilient Communities and Economies focus area, some paths forward emerge. Where strengths and opportunities align, it makes sense for SG to continue to put forth efforts and resources in this direction. For example, SG occupies a social science niche and has a niche in local connections. This puts SG in a great position to address climate adaptations with regards to all potential impacts because each local community may have different needs, and addressing these needs will include collaboration across different fields

---

<sup>13</sup> Interview with Joshua Brown

<sup>14</sup> Sea Grant Feature Story

<http://seagrants.noaa.gov/News/FeatureStories/TabId/268/ArtMID/715/ArticleID/624/Norfolk-Neighborhood-Gets-a-Boost-from-Virginia-Sea-Grant-and-HUD.aspx>

<sup>15</sup> COP21, Paris Agreement

<sup>16</sup> Interview with Joshua Brown

<sup>17</sup> Interview with Joshua Brown

<sup>18</sup> Interview with Joshua Brown

including social sciences. Also, because SG has been investing in and building their climate change capacity, it makes sense that as the US moves forward to fulfill the COP21 Agreement, SG continues to grow its portfolio in climate science, adaptation, and mitigation.

Conversely, where weaknesses and threats align, SG should probably not continue to pursue these endeavors. One example that stands out in the portfolio is clean energy. Clean energy is included in the goals of this focus area, but there are very few projects or impacts in this category. In addition, other agencies, like the Department of Energy probably has much more expertise and funds to pursue clean energy goals. Therefore, when SG has plenty of directions in which they can produce meaningful impacts, it may be beneficial to the whole to drop this specific topic area. However, some instances where weaknesses and threats align may be mission-critical. In these cases, the organization should consider how it can strengthen its weaknesses to help mitigate the threats.

Additionally, there are some weaknesses that align with great opportunities, and therefore, work needs to be done to improve upon those weaknesses. For example, currently there seem to be few projects focusing on water allocation, water planning, or water law and policy. However, because of the dynamics within NOAA and elsewhere, the integrated water initiative has been identified as an opportunity. Depending on the role SG wants to hold in this initiative, SG needs to expand its water resources work beyond the water quality focus.

Another gray area is where strengths and threats align. If the strength is valuable to the mission, then SG needs to figure out how to mitigate the threats. If the threat cannot be overcome, then SG should think about moving in a different direction. Two of the identified threats--SG not being well-known outside of current networks and the retiring workforce--both relate to RCE being a new focus area. Sea Grant can use its strong and sizable networks to continue to broaden its reach to include strong partners related to RCE focus area, and SG can use their strong communication and outreach capabilities to continue to build their brand. They can also think strategically about the expertise they should look for in new hires as the workforce changes.