

Georgia Sea Grant College Program Strategic Plan 2010-2013

October 2009

GEORGIA SEA GRANT'S VISION:

We envision a Georgia coast where healthy ecosystems and natural resources maximize the resilience and economic vitality of communities.

GEORGIA SEA GRANT'S MISSION:

To support research, education and outreach activities that promote environmental and economic health in coastal Georgia by helping improve public resource policy, encouraging far-sighted economic and fisheries decisions, anticipating vulnerabilities to change and educating citizens to be wise stewards of the coastal environment.

INTRODUCTION

Nothing conveys the dynamism of Georgia's coastal zone more convincingly than its tremendous tidal exchange. The difference between high and low tide in Georgia (six to eight feet) is the second greatest range on the US eastern seaboard. Twice a day, the tides completely submerge and expose Georgia's 378,000 acres of expansive salt marshes, which constitute more than one quarter of the remaining salt marshes on the east coast of the United States. In so doing, they nourish and sustain one of the most biologically productive ecosystems on earth.

Georgia's salt marshes vary from four to six miles in width and lie between the mainland and a series of eight barrier island complexes containing 13 barrier islands. Like all barrier islands, these protect our coastline from storm surges and tidal action. Unlike other barrier island complexes in the US, however, Georgia's are largely undeveloped. At the end of the 19th Century, a number of wealthy northern industrial families, among them the Carnegies, Vanderbilts and Rockefellers, purchased Georgia's "Golden Isles" as private hunting retreats. Jekyll, Cumberland, Ossabaw, Sea, Sapelo, St. Catherines and Wassaw Islands were all privately owned until the middle of the 20th century. Having so much land in private hands for such a long period of time kept it from being developed, which in turn left much of Georgia's coastal salt marshes relatively undisturbed.

Today state and federal governments own and manage most of Georgia's barrier islands as parks, sanctuaries or wildlife preserves. Because they have experienced relatively little degradation, Georgia's salt marshes are an ideal laboratory for ecosystem study. Two internationally recognized marine research centers, The University of Georgia's Marine Institute on Sapelo Island and the Skidaway Institute of Oceanography on Skidaway Island, are located on Georgia's coast.

SITUATION STATEMENT

Dynamism also characterizes the social aspects of our coastal zone. As the second fastest growing region in the state, Georgia's coastal population is projected to increase by 32% between 2000 and 2015. The attendant development, its impact on fragile coastal ecosystems, increased demands for water and waste treatment, and the building and maintenance of local infrastructure required to accommodate such growth are pressing issues that demand careful consideration and sound decisions.

In Savannah and Brunswick, coastal Georgia has two metropolitan areas with internationally significant ports, both of which are growing. Three major military installations are located on the Georgia coast. Fort Stewart, Hunter Army Airfield and Kings Bay Submarine Base together have a \$3 billion economic impact on the coastal Georgia economy. The jobs associated with these areas help support coastal economic growth, but few of them are highly skilled positions with commensurate pay levels. Likewise Georgia's thriving tourist and recreational fishing industries are major economic contributors, but the kinds of jobs they generate are not typically high paying positions requiring considerable training. A balanced economy requires a more diverse commercial landscape with more manufacturing, transportation, skilled trades and well-paid labor positions.

Although the recreational fishing industry and eco-tourism are on the rise, Georgia's seafood industry still struggles to maintain its presence on our coast after decades of setbacks. Faced with intense competition from foreign-caught imports and farm-raised products, the continuing fuel crisis, costly gear modifications required to satisfy conservation regulations, unaffordable insurance, and increasing overhead costs, Georgia's shrimpers, crabbers and fishers are finding it difficult to make ends meet. Even when harvesting a high-quality product in a sustainable manner, Georgia's commercial fishing communities still struggle to compete in a global marketplace: currently, 80% of all seafood in the United States is imported and more than one-third of all fish are mislabeled, according to a recent study. Finding a commercially viable niche is crucial to their continued survival and growth.

Another mainstay of Georgia's traditional coastal economy, the pulp and paper industry, is in a state of flux. Before the collapse of the real estate market in 2008, it was assumed these vast timber holdings were worth more as "real estate" to be developed than they were as a natural resource to be harvested. Paper companies appeared poised to either sell or develop key areas of their prime coastal pine forests for up-scale golf communities marketed to wealthy second-home buyers and retirees. Now, the prospect of such developments seems less likely in the near term. In the meantime, recent advances in bio-fuel technology suggest these same pine forests might be used to create energy. For now, however, the future of Georgia's substantial coastal pulp and paper industry is an open book. Whatever development transpires, one thing is certain –

demands for water will continue to increase, and whether it is to accommodate a new industry or a new community model, water resources must be carefully managed.

GEORGIA'S RIVERS

Unlike citizens of many states, Georgians bear primary responsibility for the condition of their waterways. Georgia's rivers originate either within the state or just over its borders. This is both boon and challenge. It means Georgians are well positioned to protect their watersheds, but it also means they are to blame when unwise choices are made.

A major divide between the Flint and Ocmulgee Rivers separates Georgia's rivers into those that flow into the Atlantic and the Gulf of Mexico. The Chattahoochee and the Flint flow through western Georgia and merge to form the Apalachicola, which crosses the Florida panhandle to the Gulf. In recent years the acrimony between Georgia, Alabama and Florida over water rights has reached a feverish pitch. As Georgia's "thirstiest" consumer and fastest growing region, Metro Atlanta places increasing pressure on Lake Lanier (the large Chattahoochee impoundment north of the city) for its water. Water rights litigation is sure to place limits on the amount of water that Atlanta withdraws from the Chattahoochee system. When Atlanta's demands exceed supply, the city will likely turn to other river systems.

Of the five distinct river systems that drain to the Atlantic, the Altamaha is the largest. In fact, it is the second largest system east of the Mississippi. It begins in the foothills of North Georgia at the headwaters of the Ocmulgee and Oconee Rivers. These two rivers converge about 80 miles from the coast to form the Altamaha. This majestic river has extensive tidal swamps, marshes and bottomland hardwood forests. Tidal effects have been documented as far as 30 miles upstream, and brackish water has been noted as far as 22 miles upstream, although most saline and brackish vegetation is found in the lower three miles. Once a major highway for shipping timber downstream, the Altamaha has experienced few engineering modifications and has only two dams along its reach. The State of Georgia owns most of the tidal wetlands in the lower Altamaha, and the Georgia Department of Natural Resources (DNR) operates a wildlife management preserve in the brackish and freshwater areas.

Georgia's second largest river system is the Savannah. Widely used as an avenue of commerce since the early 1700s, this river has been dredged and channeled repeatedly. Levee systems built to control flooding have also contributed to this river's "domestication." Three major impoundments are located above the fall line at Augusta: Lakes Hartwell and Russell and the Clarke Hill Reservoir. These three bodies of water together support a wide range of recreational activities and development. Although the Savannah River has been heavily engineered, it still has an extensive vegetated floodplain in the freshwater tidal zone.

The three remaining river systems are significantly smaller than either the Savannah or the Altamaha. They are known as “blackwater” rivers, because unlike the other major rivers in the state, they arise in the coastal plain and do not contain the characteristic red clay that is found in the soil of the Piedmont. Instead, they derive their black coloration from the rich humic materials of the pervasive floodplain swamps that border them. These three rivers - the Satilla, the Ogeechee and the St. Marys - support far less development than other rivers in the state, because they are smaller in size and have no major impoundments.

Today, we have no way of knowing the extent to which Metro Atlanta’s growing water crisis will affect Georgia’s coastal watersheds. We will be wise, however, to anticipate the demand so we can be ready with sound management options.

OTHER CONSIDERATIONS

It’s also important to anticipate how variability associated with climate change will affect our coastal region. Changes in sea level, long-term droughts, rising mean temperatures and the prospect of an increasing number of tropical storms require careful planning based on good science.

Unlike thirty or even twenty years ago, most people – citizens, businesses, local governments, educators, regulators, developers, non-profit groups and organizations – now readily accept the fact that Georgia’s unique and expansive coastal environment is our economic and cultural golden goose. Protecting and preserving it is of paramount importance to the economic vitality of the region.

OUR STRATEGIC PLAN

In drafting a long-range strategic plan that reflects the social, environmental and economic realities of our coast, Georgia Sea Grant sought fresh input from a wide and inclusive constituency. From personal visits with knowledgeable coastal managers, scientists, educators, businesses and organizations, to broadly circulated surveys and public forums, Sea Grant gathered opinions from as many stakeholders as possible. Having gathered this input, we convened a 2 ½ -day workshop, facilitated by professionals from NOAA’s Coastal Services Center in Charleston, the result of which is the following strategic plan for our activities from 2010 to 2014. (See appendix for fuller description of the strategic planning process).

The plan describes our projected goals and the strategies designed to achieve those goals in four focus areas:

1. Sustainable Coastal Development
2. Healthy Coastal Ecosystems
3. Safe and Sustainable Seafood Supply
4. Hazard Resiliency in Coastal Communities.

Georgia Sea Grant College Program STRATEGIC PLAN 2010-2014

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Sustainable Coastal Development

Communities that prosper over time balance resource use with resource protection. Coastal Georgia has abundant resources that attract tourists, business, industry and new residents to the area. Our challenge is to strategically protect the resources that are the basis of that attraction. To do so we must determine which resources are most critical and create the right mixture of incentives and regulation to protect them. Determining how much it would cost to replace services that our environment provides for free can bring economics to bear on decisions about resource use. When economic incentives are not enough, Sea Grant must support sound science designed to inform wise regulation.

GOAL 1: Coastal Georgia communities that make efficient use of land, energy and water and understand the important services these resources provide

We can no longer take for granted the services that the coastal environment provides to local communities – clean water and air, nurseries for our fisheries, beaches and rivers for swimming and fishing, and so much more. Determining the economic value of these services will help us make wiser decisions about resource use. Conservation usually offers the quickest and least expensive steps toward achieving sustainability.

STRATEGY: Support research and outreach activities that contribute to a valuation and understanding of the services provided by coastal ecosystems and guides land-use planning

STRATEGY: Support innovative research and extension activities regarding land-use and building and design practices that promote energy and water conservation and reduce development impacts on water quality, and promote the creation of tools that help communities grow in sustainable ways

GOAL 2: Georgia coastal communities that recognize the complex inter-relationships between social, economic and environmental values in coastal areas and work together to balance multiple uses and optimize environmental sustainability

Economic and social issues cannot be ignored in any approach we take toward achieving balanced resource use. Regulation may provide the only solution to some problems, but for others incentives and education work best. The best approaches take human nature into account. Georgia Sea

Grant supports a wide spectrum of programs that employ both carrot and stick.

STRATEGY: Create model ordinances, best management practices and business plans that enable the citizens of coastal Georgia to develop their economies in environmentally sound ways

STRATEGY: Build capacity to perform cost-benefit analysis of alternative and sustainable development practices

Healthy Coastal Ecosystems

The poem, "The Marshes of Glynn," by Sidney Lanier beautifully describes the dynamic, tidally pulsing ecosystem that is coastal Georgia, a system that supports rich commercial and recreational fisheries and a thriving tourist industry. But the productivity and vitality of this environment cannot be taken for granted. Human activities along the coast and hundreds of miles inland directly impact this system, altering the timing, magnitude and quality of its freshwater inputs, which in turn affects the marshes, estuarine waterways, fisheries and beaches that attract people to our state's coastal zone. In addition, sea level rise threatens to inundate the marshes described so lovingly by Lanier. Toxic compounds emanating from residential septic tanks and from industrial plants, including abandoned Super Fund sites, contaminate estuarine sediments and accumulate in the plants and animals of the food web. Georgia Sea Grant has been a leader in helping understand estuarine ecosystem function and the impacts of human activities on food-web structure. Georgia Sea Grant and its regional partners are well positioned to help promote and protect ecosystem health at appropriate local, state and regional levels.

GOAL 1: Scientific information in support of ecosystem-based approaches to managing the coastal environment

In order to insure continued vitality of our coastal ecosystems, we must understand the relations between freshwater and contaminant inputs and estuarine health. We first seek baseline data upon which trends in performance can be determined. We also require assessments of the minimum freshwater flow required from groundwater and riverine sources necessary to maintain estuarine habitats and their productivity. While tidal circulation may adequately dilute contaminant inputs in some estuarine regions, others areas may be especially vulnerable because of their naturally limited exchange with the open ocean. We also need to know how best to transform our new understandings and knowledge into sound management practices. Georgia Sea Grant will continue to support research that leads to increased knowledge about ecosystem health and accelerate the transfer of this information to decision-makers and resource managers in coastal communities.

STRATEGY: Facilitate efforts to assess and improve water quality including the development of new technologies

STRATEGY: Support innovative research and outreach activities to promote an understanding of the freshwater and aquifer input requirements of Georgia coastal ecosystems

STRATEGY: Support research and outreach activities to better understand the impact of remote and local watershed management activities on the timing, magnitude and quality of freshwater inputs to the Georgia coast

GOAL 2: Increased use of ecosystem-based and ecosystem- services approaches to managing land, water and living resources in the coastal area

Realizing that natural ecosystems provide services to society the value of which can be calculated in dollars enables new approaches to planning economic growth. Ecosystem services-based management permits cost-benefit comparisons to be made for alternative planning scenarios, potentially enabling economic growth, without compromising ecosystem performance. Ecosystem services-based management is a new approach, however, and it is necessary to educate coastal residents, resource managers, elected officials, businesses and industries about its potential. Georgia Sea Grant is well positioned to support basic research in the development and application of ecosystem services-based management in coastal Georgia and in communicating the value of the approach to coastal communities.

STRATEGY: Support research and outreach to assign and map credible values to ecosystem services and share understanding and knowledge gained with a wide variety of coastal audiences

STRATEGY: Provide educational programs for K-12, resource managers, planners and the general population that promote the understanding of coastal and ocean environments and encourage stewardship

GOAL 3: Restored productivity and function of degraded ecosystems

While Georgians can be proud of the overall health of our coastal ecosystems, it is clear that many areas have seen severe, negative impacts from various human activities. New technologies are required to identify impaired waters and marshes and to restore their function, if possible. Georgia Sea Grant is well poised to partner with various state and local agencies to develop new restoration approaches and even to mitigate the effects of human activities before the impacted areas are further degraded.

STRATEGY: Support research and outreach activities to improve the effectiveness of remediation and restoration of impaired habitats and to identify new restoration approaches and technologies

Safe and Sustainable Seafood Supply

Historically, the most important components of Georgia's fisheries have been shrimping, the trapping of blue crabs and recreational fishing. Although these

three remain paramount, change has come. Imported seafood threatens the economic viability of shrimping and crabbing, and diminished public access to waterways constrains recreational fishing. However, developments in aquaculture and mariculture promise a brighter future for dormant shellfish fisheries, and demand for local and sustainably harvested seafood may give new life to shrimping and crabbing fisheries.

GOAL 1: A sustainable supply of local seafood to meet public demand

Oystering was once a way of life for many coastal Georgians, but the once-abundant beds are now depleted. However, new methods being developed by Sea Grant-funded research may bring a thriving shellfish industry back to our coast. A resurgence of shellfish, however, is just one part of a larger vision for the future of Georgia's fisheries. That vision needs to include new strategies for shrimp and blue crabs, protections for the infrastructure that supports those fisheries, and assurances that the state's waterways remain easily accessible for recreation and commercial fishing.

STRATEGY: Promote shellfish aquaculture and mariculture

STRATEGY: Help develop a shared vision of Georgia and/or regional sustainable fisheries

STRATEGY: Protect waterfronts critical to water-related business and industry and ensure public access to waterways

GOAL 2: A healthy Georgia seafood industry that harvests, produces, processes and markets seafood responsibly and effectively

While many fisheries around the world must contend with depleted or collapsed fish stocks, Georgia's fisheries face a different problem – globalization. Shrimp and crabs along the Georgia coast cannot be harvested at a cost that is competitive with imports, many of which are grown or harvested in an unsustainable manner. Innovations in niche markets and other new marketing strategies must be explored. Capitalizing on increasing demand for local, sustainably harvested seafood is one avenue Sea Grant is exploring.

STRATEGY: Support research on the economics of Georgia fisheries and the marketing of local seafood

GOAL 3: Informed consumers who understand the importance of ecosystem health and sustainable harvesting practices to the future of Georgia fisheries, who appreciate the health benefits of seafood consumption and who understand how to evaluate the safety of the seafood they buy

As always, the safety of seafood from saltwater to table is a primary Sea Grant concern. Our partner, UGA's Marine Extension Service has long been the leader in providing state-mandated seafood safety training to commercial fishers and seafood processors and inspectors. Recent changes in regulations will increase effort in that critical program. In addition to ensuring safe processing, we need to determine the degree to

which Georgia's seafood, particularly recreational species, is contaminated by toxins and pathogens in our coastal waters and to convey any necessary health advisories to the public.

STRATEGY: Educate fishermen, processors, packers, regulators, restaurants, stores and consumers about the seafood they buy and sell and the manner in which it is harvested, including sustainable fisheries issues and seafood safety concerns

STRATEGY: Help determine the level of toxins and pathogens in Georgia seafood and assess changes in contamination levels, consumption patterns and associated risk as they occur

Hazard Resiliency in Coastal Communities

Living and conducting business in the coastal zone means increased exposure to climate-related risk. Whether or not global climate change alters weather patterns in Georgia, coastal storms, erosion and flooding will continue to alter shorelines. These and other natural hazards have major implications for human safety, economic vitality and the environmental health of coastal habitats. Georgia Sea Grant, in partnerships with federal, state and local agencies and other southeastern Sea Grant programs, will use its integrated research, communication and outreach capabilities to help local citizens and governments plan for hazardous events so as to reduce their vulnerability, strengthen their resiliency and increase their ability to adapt to a changing coastline.

GOAL 1: Widespread understanding of the climate-related risks associated with living, working and doing business along the Georgia coast

New tools and more accurate models are becoming increasingly available to assist local communities in assessing their vulnerability to many types of hazardous events, such as storm surges. With modern topographic imagery, elevation accuracy has increased from about 10 feet to better than a foot. New GPS tools enable coastal erosion rates to be measured and sediment budgets to be created and monitored over time. Georgia Sea Grant is well positioned to support the research necessary to examine vulnerability of coastal communities to hazards and to work with government officials, the public and other stakeholders to assist in developing successful adaptation strategies.

STRATEGY: Support research and accurate coastal modeling related to shoreline erosion and flooding in order to help communities assess their vulnerability to climate-related hazards

STRATEGY: Increase public awareness of the consequences of climate change and sea level rise and introduce strategies for adapting to these disturbances

THE GEORGIA SEA GRANT APPROACH

Georgia Sea Grant allows citizens to focus academic expertise on coastal issues and problems. Funded by the NOAA's National Sea Grant program and matched by state support, research is focused on coastal resources issues identified by Georgia stakeholders and is performed by researchers at the state's colleges and universities. Some problems are best addressed at the regional level in collaboration with other programs, and Sea Grant's network of programs in all coastal states efficiently matches expertise and resources to problems at all scales.

In Georgia the process begins with citizen input. This "on the ground" identification of the state's most pressing issues forms the basis of a formal Request for Proposals (RFP) delivered to the state's colleges and universities. Proposals submitted in response to the RFP are peer-reviewed and selected by an independent panel.

At Georgia Sea Grant, however, research is not done for its own sake. Finding solutions is as important as answering questions. Grant proposals must include a plan for translating research results into outreach programs that address issues and problems. The resulting outreach can take the form of Extension, Communications or Education. Methods and audiences vary among these three forms but central to each is making the vast knowledge of the state's colleges and universities available to coastal stakeholders.

Extension

Maintaining rapport with diverse stakeholders is important when dealing with pressing issues on the coast. Sea Grant's partner, The University of Georgia's Marine Extension Service (MAREX), has been working with coastal citizens since the 1970s and has a strong history of collaboration, especially with fishing communities. Marine Extension faculty and staff offer neutral information tailored to specific audiences. In addition to local connections, collaborative networks have been built along the Atlantic and Gulf coasts. The trust embodied in these long-term relationships makes extension agents particularly valuable when dealing with controversial issues. Their knowledge, networks, experience and reputation will continue to be an invaluable asset as Sea Grant helps envision a healthy future for Georgia's coastal resources.

MAREX has three facilities on the Georgia coast: a marine education center and aquarium in Savannah; a shellfish laboratory, also, in Savannah; and an advisory station, including a workshop, dock and extension agent offices, in Brunswick. The Brunswick station originates the majority of Sea Grant extension activity. Staff expertise includes sustainable development, coastal septic issues, seafood safety, water quality, commercial and recreational fisheries and fishing gear design.

Every research project funded by Georgia Sea Grant must include an outreach plan created in collaboration with MAREX. This requirement ensures that the research is designed to meet stakeholder needs and that outreach meets a high professional standard. Beyond the extension of Sea Grant research, MAREX submits a proposal to Georgia Sea Grant each funding cycle to support additional outreach projects. It also partners with other state and federal agencies to offer outreach programs designed to resolve coastal resource issues and problems. Georgia Sea Grant and MAREX endeavor to make their partnership as seamless as possible.

Communications

Like Extension, Communications is an important part of Georgia Sea Grant's plan. Approximately 60% of its activity supports administrative and extension functions of the program through expertise in writing, editing, graphics, publications and other media. Communications also handles public and press relations. It also initiates its own outreach activities. In this grant cycle it, for example, Communications is working with the Southeastern Building Trade Association to offer an accredited continuing education course in the economics of sustainable building to coastal contractors. The course will reach over 1000 contractors.

Like MAREX, Georgia Sea Grant Communications submits a proposal each grant cycle in which it specifies the support activities and initiatives it will perform.

Education

Again, Georgia Sea Grant looks to MAREX as its primary partner for educational programs. Georgia Sea Grant funds three post-graduate education internships that support day-to-day instruction at MAREX's education center and aquarium in Savannah. The center teaches 15,000 students a year and offers K-12 as well as teacher instruction in ocean and estuarine science. Instruction ranges from classroom field trips to intensive two-week camps that prepare teachers to take ocean science back to their classrooms.

Georgia Sea Grant also funds an educator based at the MAREX facility who works with COSEE – Southeast to make curriculum and training in ocean science available to teachers in the region.

In addition, Georgia Sea Grant is currently working with the Savannah Music Festival to bring children's entertainer Roger Day to elementary schools to perform a program of songs, commissioned by Georgia Sea Grant, about the importance of Georgia's coastal environment. Georgia Sea Grant will create lesson plans to accompany Day's visits and the program will reach 17,000 elementary students.

ENSURING A WISE INVESTMENT

The effectiveness of Georgia Sea Grant is evaluated by the national program and on a project-to-project basis. Each project must aspire to achieve a specific societal benefit and identify performance measures that can be used to determine whether or not it succeeded. This focus on results ensures that resources stay directed toward solutions to problems important to citizens.

Appendix: 2009 Strategic Planning Process

Overview

Georgia Sea Grant asked NOAA's Coastal Services Center (CSC) to help design a process that would arrive at a long-range strategic plan that reflects the knowledge, needs and experience of coastal stakeholders, our advisory board and Sea Grant and MAREX staff. The CSC's Ann Weaver worked with Georgia Sea Grant in planning the process, and she and Heidi Recksiek facilitated a culminating workshop that gathered final input for the plan. With their help, we implemented an inclusive, multi-step process that embodies the vision of stakeholders, our advisory board and Sea Grant and MAREX staff.

Planning Process Steps

- A. Over the course of many years, Sea Grant and Marine Extension agents met with individual stakeholders to discuss their needs and concerns.
- B. In 2007, the Georgia Coastal Research Council performed an extensive literature search of stakeholder needs assessments and other studies designed to identify coastal resource issues.
- C. In 2008, in partnership with the Georgia Coastal Research Council (GCRC) and the South Atlantic Regional Research Plan (SARRP), Georgia Sea Grant designed a web-based survey based on the findings of the above literature search. Survey solicitations were distributed to as many stakeholders as possible (e.g., coastal managers, planners, public and elected officials, scientists, educators, businessmen and women, NGO's, port authorities, etc.).
- D. Members of the Sea Grant and MAREX staff used a pilot program developed by NOAA's CSC to assess the needs of the SG/MAREX audience, identify organizational strengths and weaknesses, and anticipate emerging issues and methods in each of the four Sea Grant focus areas. Individual responses were aggregated in a series of staff meetings, the end being to strategically select various niches in which SG/MAREX will seek to fill in the future.
- E. A one-day Strategic Planning Workshop was held in Savannah on September 22. The 15-member advisory board and over 60 stakeholders were invited. Results of the survey, literature review and organizational self-assessments were presented to stakeholders and the advisory board. This information informed the deliberations of the participants who identified and prioritized potential SG/MAREX activities in each of the four focus areas.
- F. In the two days following the stakeholder workshop, Sea Grant and MAREX staff met to craft a mission statement, goals and strategies to achieve the vision that emerged from stakeholders and advisory board. That work forms the basis for this strategic plan.