PENSACOLA
& PERDIDO BAYS
ESTUARY PROGRAM

PPBEP 2022-2023 Community Grant Recommended Projects

Project Name	Applicant	Requested	Proposed Award
EscaRosa OysterCorps	Franklin's Promise/Conservation Corps of the Forgotten and Emerald Coasts	$49,998.99	$49,998.99

Summary: OysterCorps EscaRosa expands existing programs in Santa Rosa and Escambia Counties, working to enhance and protect coastal resources in Pensacola and Perdido Bays by meeting the priorities of improving water quality, habitat restoration, promoting community resilience, and building awareness of the watershed. The funding will serve to expand Franklin's Promise Coalition's (FPC) OysterCorps program by continuing oyster shell collection and expanding restoration efforts by utilizing shell collected for habitat restoration. Native plant propagation will be expanded to include *Spartina patens* and planting efforts to increase marsh restoration. OysterCorps will produce oyster prisms in preparation for a future living shoreline project to be constructed in Santa Rosa Sound. Engagement of high school students will also be expanded to incorporate *Spartina patens* into the native nursery program initiated in the previous grant. This project will address the grant priorities of protecting and enhancing coastal resources and improving water quality by collecting/recycling oyster shells, growing native marsh plants, implementing living shoreline and marsh restoration projects, and by educating participants through hands-on work experience. Furthermore, the funds will provide needed labor force to aid in restoration efforts throughout the watersheds. Members will have the opportunity to participate in active restoration, project design, material construction, and reef construction. Recycled shells will be utilized to build reef structures (oyster prisms, oyster pillows, bags, etc.). Restored coastal habitat helps protect shorelines from erosion, creates habitat for sensitive species, and improves overall water quality.

Project Name	Applicant	Requested	Proposed Award
Empowering Students to Take Action: Aquatic Care Team	Navarre Beach Marine Science Station	$19,615.63	$19,615.63

Summary: The Santa Rosa County School District's Navarre Beach Marine Science Station (NBMSS) promotes conservation of Gulf Coast marine ecosystems by empowering students to become ocean stewards through service, experiential learning, scientific inquiry, and innovative technologies. Future water quality restorations in Santa Rosa Sound will need baseline data to compare post-implementation monitoring to measure success, however, few data are available on water quality and ecological indices in the Navarre area. To fill this gap, Aquatic Care Team students will gain proficiency with scientific methods to measure environmental variables of habitat and water quality to create a long-term dataset for this region, which will be input into the Gulf Coast Ocean Observation Systems (GCOOS) database. 50 high school students attending dual-enrolled college courses will work with investigators and water quality experts to develop, implement, evaluate, and communicate their findings. High school students will participate in field data collections on 24 days during the year at multiple sampling sites in Santa Rosa Sound and conduct basic laboratory analyses at NBMSS. By the end of the school year, students will summarize and communicate

their findings to county commissioners and staff. In addition, the information from the sampling studies will be presented to the broader community at local outreach events and a science symposium. The $19,615.13 in grant money requested for this project will be used to purchase equipment and supplies for nutrient monitoring. Additionally, a large portion of visitors are from out of town. Learners on field trips will also enjoy the exhibit, and free trips will target underserved students. An interactive adult forum on sea level rise will engage adults in critical thinking about prioritizing community resilience.

Project Name	Applicant	Requested	Proposed Award
Manatees and Meadows: Protecting Manatees and Their Habitat Through Outreach	National Wildlife Federation	$22,678.15	$22,678.15

Summary: "Manatees and Meadows" (a.k.a. panhandlemanatee.org) protects manatees and their habitat by educating waterway-users, coastal residents, and visitors about manatees and their primary habitat and food source, seagrass. Manatees are a native, threatened species being sighted with increasing frequency in Pensacola and Perdido Bays (PPB). Seagrasses are an important habitat for manatees as well as other estuarine species; therefore, this project will benefit a variety of marine life. Manatees and seagrasses are at risk of injury from motorboat propeller blades, which scar both. We will conduct targeted outreach to boaters, distributing information on protecting manatees and seagrasses. Boaters and several other target audiences in the community also receive information on reporting manatee sightings. School groups also receive basic information on manatees. An easy-to-remember website (panhandlemanatee.org) was created to report manatee sightings and access information on protecting manatees and seagrass. Outreach materials include items specific for boaters (tote bags, polarized sunglasses, koozies, boating guides) and for other audiences (magnets, stickers, brochures, coloring sheets). Outreach and education takes place at boat ramps and marinas; fishing piers; festivals and events; condominiums, hotels, and rental properties; coastal neighborhoods; and school groups in the PPB area, using trained interns and volunteers. Manatee sightings gathered through Community Science provide baseline information on when and where manatees occur in the PPB area, which is then shared with the public, better informing awareness and increasing protection. NWF launched this project June 2021 and has received overwhelmingly positive community response. We seek to continue and expand the project through mid-2023.

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Project Name	Applicant	Requested	Proposed Award
Escambia County Coastal Landscaping Workshop & Plant Giveaway	Escambia County	$13,200	$13,200

Summary: Escambia County, in partnership with the UF IFAS Escambia Extension office, is seeking $13,200 to host coastal landscaping workshops and a free plant giveaway to improve resident awareness and access to native coastal plant species. The Perdido Key Coastal Demonstration Garden was funded by the 2021-2022 Community Grant Program and installed in April 2022. The garden has attracted interest from area residents about native coastal species and where to find them. This project would provide coastal residents across the Pensacola and Perdido Bays watersheds with more detailed information about the care and maintenance of coastal landscapes through free workshops and send participants home with free plants to install in their yards and gardens. Additional volunteer workdays at the demonstration garden will engage additional residents and help promote project goals and objectives. The coastal demonstration garden has also highlighted the need for locally available coastal plants. As part of this project, staff will update the landscaping guide created in 2022 and include a list of local nurseries who carry native species. Project staff will also work to educate local nurseries across the watersheds and engage two nurseries to stock target species to increase access for area residents. This project supports the long-term goal to convert the under-utilized Community Center into an environmental center that supports the education goals of the Perdido Key Habitat Conservation Plan and is a continuation of the Perdido Key Coastal Demonstration Garden project.

This project will:
• Educate 200 residents on the importance of using native species in coastal landscaping and best planting/care practices
• Provide 800 free plants to area residents
• Update the 2022 Perdido Key Landscaping Guide to include additional resources and nursery information
• Engage 2 local nurseries to stock native coastal species

Project Name	Applicant	Requested	Proposed Award
Zooplankton Ecology and Water Quality Monitoring of Perdido Bay	University of West Florida	$39,326.75	$39,326.75

Summary: Zooplankton include microscopic organisms and the immature stages of many larger organisms. They generally have limited mobility and largely travel with the currents and tides of the water they inhabit. Zooplankton abundance, size, and species composition can be greatly influenced by the parameters of the surrounding water, such as dissolved oxygen, chlorophyll and nutrient concentrations, salinity, and suspended solids. As such, zooplankton can serve as important bioindicators of ambient water quality. During a series of workshops and presentations hosted by PPBEP and researchers at the University of West

Florida (UWF) and the University of Florida (UF), local citizens and members of local community science groups expressed concerns about the water quality of Perdido Bay and its associated tributaries and a decline in many encrusting organisms that have a larval zooplankton stage. By monitoring ambient water quality and collecting and analyzing zooplankton samples, potential trends and links between these metrics may be discovered and allow for better management and restoration of the system. This project will collect data on a number of ambient water quality parameters (nutrient and chlorophyll concentrations, salinity, temperature, oxygen, pH, and water clarity measures) and zooplankton abundance, size, and composition at 18 sampling sites within Perdido Bay and its tributaries. These sites include locations where long-term monitoring has occurred as well as new sampling sites to address other areas of concern. This study would not only investigate stakeholder concerns, and add to the long-term monitoring dataset, but also provide data needed to create suitability models for restoration.

Project Name	Applicant	Requested	Proposed Award
No-Till Seed Drill Rental Program	Blackwater Soil and Water Conservation District	$50,000	$ 50,000

Summary: Blackwater SWCD would like to start a no-till seed drill rental program for local landowners. The purpose of this program is to encourage and assist farmers with the implementation of no-till crop production systems, cover crops, and overseeded pastures. By increasing the utilization of these types of conservation practices, we will be able to improve soil health, reduce erosion, and enhance water quality. Many farmers are interested in applying these conservation strategies but lack the needed equipment to carry them out. This program will provide them with the opportunity of renting this equipment for a minimal fee. The no-till seed drill rental program will provide local farmers with the opportunity to rent this piece of equipment and use it to plant wheat, rye, millet, and other small grains in a cover cropping system and to overseed pastures with clover. These practices increase vegetative cover of soils. The goal of the program is to increase the use of these conservation practices in our area and improve soil health, lessen soil disturbance, reduce erosion and resulting sedimentation, diminish phosphorus loss from fields, and lower in some cases fertilizer inputs. All of these things will improve water quality in surrounding waterways and ultimately our bays.

Project Name	Applicant	Requested	Proposed Award
Streambank erosion in the Pensacola Bay and Perdido Bay watersheds	University of West Florida	$43,550	$31,550

Summary: This project will use rigorous scientific methods to generate data on streambank erosion in the Pensacola and Perdido Bays (PPB) watersheds to inform decision-making by the PPBEP. This first part will conduct repeat measurements of streambank profiles at 30 sites in the PPB watersheds to calculate annual streambank erosion rates. It will also record site characteristics, including land use, to evaluate factors controlling the erosion rates in the area. This information is crucial for management of sediment issues in PPB, including restoration efforts, because bank erosion has been shown to be a major source of sediment in many fluvial systems. This part offers "bang for the buck" because some baseline data have already been collected by one of the PIs (Liebens) and Liebens is committed to participate with students at UWF in longer-term monitoring of sites established by this project.

Partial Funding - The Selection Committee proposes partial funding that does not include the following survey effort:

The second part will engage students to assess the community's awareness of the importance of streambank erosion, and sediment issues in general, for the health of aquatic ecosystems. Assessing community awareness of these issues is important for sustaining any efforts by the PPBEP or other relevant stakeholders to manage streambank erosion and sediment movement in the watershed, as human actions can have a strong influence on these watershed processes.

Project Name	Applicant	Requested	Proposed Award
Peripheral Oyster Mapping in Santa Rosa Sound and Urban Bayous of Pensacola Bay	Northwest Florida State College	$33,730	$23,630.48

Summary: The project will map the distribution and estimate the relative abundance of peripheral oysters within several water bodies of the Pensacola Bay system: Santa Rosa Sound, Bayou Grande, Bayou Chico, and Bayou Texar. Satellite imagery will be utilized to identify natural vegetated shoreline, anthropogenic hardened shoreline (seawall, rock rip rap, etc.), and anthropogenic structures such as docks and bridges. Each water body will be divided into several regions based on location and connectivity to freshwater inputs and open water bays. Within each region a subset of each shoreline type and anthropogenic structure that may serve as a substrate for peripheral oysters will be randomly selected. The selected shoreline sections and anthropogenic structures will be visually assessed for the presence of peripheral oysters and classified by relative density based on the criteria utilized in the mapping and monitoring of peripheral oysters by Sarasota County. Past efforts of mapping peripheral oyster have largely focused on those found within the tidally influenced areas of these peripheral habitats. In addition to assessing the oysters in the tidal zone of these peripheral habitats, still images and videos will be used to assess the vertical

distribution and abundance of oysters on vertical structures such as seawalls and dock pilings. Still images and videos of peripheral oysters will be analyzed to calculate actual oyster density and size distributions. This information will be mapped in ArcMap and interpolated to create maps of relative peripheral oyster distribution and abundance associated with the shoreline and anthropogenic structures extending into the water from the shoreline in these water bodies. The mapping and monitoring of peripheral oysters is seldom documented, despite their importance in filtering water and providing a source of food and habitat for numerous aquatic species, particularly in highly altered locations. Information regarding these peripheral oysters in the Pensacola Bay system can contribute to a better overall understanding of the abundance and population dynamics of oysters in this estuary. This protocol for assessing peripheral oyster distribution and abundance can also serve as a template for future surveys in other water bodies in both the Pensacola and Perdido Bay systems. During the collection of oyster data, notes on potential changes in shoreline type and the presence of other encrusting bivalves, such as mussels, will also be noted. This information can be utilized to update and supplement other shoreline mapping efforts within the Pensacola Bay system.

Partial Funding - The Selection Committee proposes partial funding with the remaining unallocated funding.