RESTORE Funded Priorities List 3b
Project Proposal Planning Sheet and Guidance

The Florida Department of Environmental Protection is seeking project proposals for consideration of RESTORE Act funds to be distributed as grants to governmental entities and non-governmental organizations for Funded Priorities List 3b programs in Florida. Please submit your project proposal using the portal at https://survey.alchemer.com/s3/6527856/Deepwater-Horizon-Project-Portal. This sheet may be used to plan proposal information before entering information directly into the portal via the website. You may copy and paste the information for submittal through the portal. The Department will notify through GovDelivery and the Deepwater Horizon Program website when the portal is open. Once open, the Department will accept proposals for at least 30 days. Project proponents are strongly advised to become familiar with RESTORE FPL 3b Program FAQs before using this form. Required items marked with a red asterisk "*".

Florida FPL 3b Program: Gulf Coast Resiliency Program (GCRP) *

Project Details

Project Sponsor: Office of Resilience and Coastal Protection *

Project Title: Springs Coast Resiliency and Biodiversity Monitoring Network *

Existing DWH Portal ID Number: (*if applicable*) Click or tap here to enter text.

RESTORE Planning Framework Technique(s): * (*Select all that apply within the selected FPL 3b program*)

☒GCRP-Protect Natural Shorelines
☐GCRP-Land Acquisition
☐THRP-Restore Hydrologic Connectivity
☐THRP-Restore Natural Salinity Regimes
☐THRP-Land Acquisition
☐WQIP-Reduce Excess Nutrients and other Pollutants to Watersheds-Stormwater Management
☐WQIP-Reduce Excess Nutrients and other Pollutants to Watersheds-Erosion and Sediment Control
☐WQIP-Reduce Excess Nutrients and other Pollutants to Watersheds-Sediment Reduction
☐WQIP-Reduce Excess Nutrients and other Pollutants to Watersheds-Land Acquisition
☐WQIP-Reduce Excess Nutrients and other Pollutants to Watersheds-Non-potable Reuse

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RESTORE Comprehensive Plan Goal: Note: The portal will populate the Comprehensive Plan Goal automatically based on FPL 3b Program selected above. For your convenience, the goals are also listed here.

GCRP-Enhance Community Resilience

Use the space below to describe how the proposed project will address the comprehensive plan goal. (2,500 character limit)

This project will address the Enhance Community Resilience Comprehensive Plan goal. Long-term monitoring programs are critical early warning indicators of climate and anthropogenic effects on an ecosystem. Seagrass and hardbottom habitats are valuable ecosystems along the Gulf Coast and support many recreational and commercial industries as well as provide protection from extreme weather events and storm surges. Hardbottom habitats are known to serve as wave-breaks and protecting coastlines. These habitats are also vulnerable to the impacts of climate change, direct physical damage, and recreational use (Reigl et al., 2013). We aim to develop a long-term monitoring program of the hardbottom habitat located in St. Martins Marsh Aquatic Preserve (SMMAP), expand the water quality program, and expand the current seagrass monitoring program in SMMAP and the Nature Coast Aquatic Preserve (NCAP). Establishing baseline data through standardized monitoring is necessary to identify stressors to these habitats and inform management. This ecosystem-based approach of monitoring early-warning bioindicators of seagrass condition and characterizing the interconnectivity of seagrass and hardbottom communities will enhance community resilience by allowing the DEP-managing agency and the UF/IFAS researchers a better understanding of the integrated relationship in order to collectively set future goals, objectives, and measures for protection of the resources within the shallow, high-use areas of NCAP and SMMAP. The project will also serve to guide submerged resource monitoring beyond the study area. Creating an identification guide, collecting baseline data for hardbottom habitats, and measuring physiological and plant level bioindicators will serve all of Florida's Gulf Coast, as there are currently no resources for this. *

RESTORE Comprehensive Objective: *Note: The portal will populate the Comprehensive Plan Objective automatically based on FPL 3b Program selected above. For your convenience, the objectives are also listed here.*

GCRP-Promote Community Resilience

Use the space below to describe how the proposed project will address the comprehensive plan objective. (2,500 character limit)

This project will support the Promote Community Resilience Comprehensive Plan objective. Expanding current seagrass habitat and water quality monitoring programs and establishing a hardbottom habitat monitoring program will allow us to use best available science practices to inform managers. Vulnerability assessments of habitats are critical as the effects of climate change begin. By establishing baseline data through monitoring programs, the project will detect subtle changes in important estuarine ecosystems coinciding with anticipated effects of climate change. Identifying risks through monitoring also helps managers to identify strategies to improve resiliency through best management practices. This monitoring program will be used to track changes in ecosystem community dynamics, effects of extreme weather and sea level rise, habitat loss and fragmentation, and Harmful Algal Blooms (HAB). Additional stable isotope sampling of seagrass and invertebrates allows us to determine early warning indicators to seagrass and hardbottom habitat health. Understanding how these ecosystems work and

tracking changes can help us to best protect and conserve these habitats. Connecting the seagrass and hardbottom habitats through monitoring and research will be useful for all of Florida's Gulf Coast as state and regional managers work together to promote community resilience. *

Project Description: Provide a description of the project that includes each of the following: anticipated environmental benefits, environmental stressor(s) being addressed, general location, estimated cost, approximate timeline, partners, and other information that might be needed to provide the reader with a full understanding of the project. *(5,000 character limit)*

SMMAP staff and UF/IFAS researchers will be partnering together in SMMAP and NCAP to 1) establish a hardbottom habitat monitoring program and 2) collect samples and conduct analyses that will provide insights into the overall condition of seagrass meadows and characterize connectivity between seagrasses and hardbottom communities in the Springs Coast ecosystem from Citrus to Pasco Counties. The overall goal is to provide managers with information about key bioindicators that signal habitat condition and information about connectivity across habitat mosaics that characterize the Springs Coast ecosystem to prepare for the effects of climate change on coastal communities. The bulk of this proposal is to fund the necessary equipment to establish the hardbottom habitat monitoring program. The three-year budget request for this project is $1,272,960.10. This covers the cost of start-up equipment, funds to support the comprehensive data analyses, two UF interns, one UF graduate student, sample processing costs, travel-related expenses, and expenses to maintain this project for three years and accounts for inflation. This budget also covers the purchase of a Parker 25' vessel, which will be used to complete sampling throughout the three years and run dive operations. The addition of the boat will allow SMMAP staff to successfully cover the two aquatic preserves in the most fuel-efficient manner. A detailed version of this budget and an approximate timeline can be found in the attachments.

Currently, there is limited research published on the Springs Coast region's coastal benthic habitats. This underrepresented ecosystem is important to the local economy by supporting both commercial and recreational fisheries, aquaculture, and tourism. This diverse area also provides critical habitat, food sources, and nursery grounds for marine and aquatic species such as sea turtles, manatees, and sharks. Current monitoring in the Big Bend region is insufficient and leaves researchers limited in the ability to track any changes that may occur (Furman, 2020). Only seagrass habitats are monitored in conjunction with water quality, causing a gap in knowledge of other benthic habitats in this region. Establishing baseline data and increasing monitoring and research for hardbottom habitat in this area is critical in order to understand the ecosystem and determine steps for best management practices. This project will establish a hardbottom habitat monitoring program within the SMMAP and NCAP waters, as well as expanding the previously established water quality and seagrass monitoring programs to take on an ecosystem-based monitoring approach.
Shallow, hardbottom habitats are low relief (<1m) limestone outcroppings with a thin layer of sediment found in coastal and estuarine waters less than five meters in depth. These habitats are dispersed throughout seagrass beds and are dominated by macroalgae, sponges, corals, and octocorals (Bertelsen et al., 2009). As the only naturally occurring hard structures in this environment, hardbottom provide habitat for algae and sessile marine invertebrates to grow where seagrasses cannot. Hardbottom also functions as nursery, settlement, and feeding areas;

spawning sites; and natural shelter for several species (McCarthy et al., 2020). Additionally, hardbottom habitat aids in storm surge reduction and provides economic benefits to the neighboring communities (Reigl et al., 2013). Hardbottom habitat is interconnected with the seagrass habitat and dispersed throughout SMMAP and NCAP. Seagrass habitats are critical foraging grounds for sea turtles, manatees, fish, and invertebrates. They are also important carbon sinks, filter water by uptaking excess nutrients and settling suspended sediments and are vital to the ecology and economy in this area (Dawes, 2004). These functions help to create well-balanced ecosystems which are dictated by overall water quality health. Conducting benthic surveys of the hardbottom in this area would establish baseline community composition and assess the habitat for vulnerabilities.

Due to anthropogenic climate change, this area will likely face many challenges in the near future including more frequent storms and algal blooms, fluctuations in water quality, and sea level rise. Sea surface temperature in the Gulf of Mexico is expected to increase 2°C by the end of the century, and in this region, the temperature is expected to increase up to 4°C (Liu et al., 2015). As coastal development increases in Citrus, Hernando, and Pasco Counties, the waters are increasingly threatened by run-off pollution and decreased input from freshwater sources (Hensley and Cohen, 2017). The Springs Coast region's estuarine and marine coastal waters are located between the Tampa Bay system in the south and the Apalachicola Bay system in the north. Both of those systems are currently facing major issues from climate change and development that have led to frequent harmful algal blooms (HAB) resulting in hypoxic conditions in these areas (Heil and Muni- Morgan, 2021). A study on hardbottom habitats in the GoM off Sarasota and Pinellas Counties following a major HAB event highlighted the importance of establishing baseline data before catastrophic water quality events occur (Colella, 2008). In the past 15 years there have been no recorded HAB events in SMMAP (FWC, 2022). This region has one of the lowest frequencies of HAB in the state; however, frequency of HAB is expected to increase due to climate change (Morey et al., 2017). As climate change predictions suggest the area will see an increase in HAB's, increased sea surface temperatures, and more frequent storms. Assessing the benthic habitat alongside water quality metrics will allow researchers to monitor biodiversity and productivity fluctuations under differing environmental conditions.

The proposed work builds on the SMMAP's current monitoring program, which consists of one continuous water quality monitoring station, bimonthly nutrient samples, and yearly seagrass and macroalgae surveys. By expanding the water quality monitoring and implementing a hardbottom habitat program we aim to close a vast research gap and establish baseline data for future research, monitoring, and management purposes.

Objective 1: Expand the current SMMAP water quality monitoring program. This study's goal would add one new continuous water quality station in SMMAP, as well as add parameters to an existing station. Both datalogger stations will have a YSI EXO2 sonde measuring temperature, specific conductivity, salinity, depth, dissolved oxygen, turbidity, total algae, fDOM, and pH. Both stations will also have a HOBO light/temperature probe. The datalogger stations will continuously record data on 15-minute intervals. We will also collect monthly nutrient grab samples for total nitrogen, phosphorus, and suspended solids assessments.

Objective 2: Establish a HAB and phytoplankton monitoring program. SMMAP researchers will be incorporating this monitoring program by collecting water samples monthly at each of the six survey sites and the two datalogger stations. The FLOWCAM technology and microscopy will

be used to identify phytoplankton communities and any potential HAB threats.
Objective 3: Establish a hardbottom monitoring program. This study will also survey the hardbottom habitats and the species that use them at these sites. SMMAP researchers will be conducting annual hardbottom habitat surveys in order to establish critical baseline data. This program will allow us to determine the abundance and diversity of sponges and corals present in this area and what they provide to the ecosystem. We will also be conducting fish monitoring surveys in the hardbottom habitat to determine what species are present and how they use this area.
Objective 4: Assess condition of seagrass meadows. UF researchers will collect physiological and plant-level bioindicators from seagrasses and macroalgae at all established seagrass sites in SMMAP and NCAP, as well as from the nine hardbottom sites. The goal of this is to provide earlier warning indicators of seagrass conditions and establish baselines which can be used to adjust management plans. The metrics measured will include C:N:P ratios, stable isotope ratios, shoot morphology (leaf length, leaves per shoot, and biomass per shoot), above-to-below ground biomass ratios, shoot growth rate for Thalassia testudinum only, and reproductive rates.
Objective 5: Characterize connectivity between seagrasses and hardbottom communities. UF researchers will be collecting connectivity indicators from all seagrass and hardbottom monitoring sites within SMMAP and NCAP. The metrics assessed for each replicate will include motile invertebrate community composition, stable isotope ratios for invertebrates collected, stable isotope ratios for primary producers (e.g., seagrass, macroalgae, phytoplankton, microphytobenthos) and sessile consumers (e.g., sponges, tunicates) excluding corals.
Objective 6: Provide comprehensive data analysis of water quality and aquatic preserve habitat condition using an adaptative management framework to guide future recommendations to restore the ecological integrity of the aquatic preserves. Using Florida's Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR), all data collected in this grant will be analyzed using a nonparametric multivariate approach in Gulf of Mexico Aquatic Preserves with and without well-documented impact occurrences to examine water quality responses and benthic habitat indicators. The data collected will be made publicly available on the SEACAR data discovery index.*

Is the proposed project identified in a federal, statewide, or regional plan or has a vulnerability assessment been performed for Coastal Resiliency-focused projects? Check all

that apply. *Note: If you did not select Gulf Coast Resiliency Program, the option to select vulnerability assessment will not be visible.*

☐Project is not identified in an existing plan or vulnerability assessment.

- ☐Basin Management Action Plan (BMAP)
- ☐Florida Trustee Implementation Group (FL-TIG) Restoration Plan
- ☐Minimum Flow Level (MFL)
- ☐Gulf Environmental Benefit Fund (GEBF) Restoration Strategy
- ☐State Expenditure Plan (SEP)
- ☐Surface Water Improvement Management (SWIM) Plan
- ☒Other (Please describe)
- ☐Vulnerability Assessment has been completed (Coastal Resiliency Program only)

If yes, use the space below to provide the name of plan(s) and link, or details on the vulnerability assessment that was performed (if available). *Note: The portal will omit this space if "project is not identified in an existing plan" is checked above.*

St. Martins Marsh Aquatic Preserve Management Area, Nature Coast Aquatic Preserve, Crystal River National Wildlife Refuge, Southwest Florida Water Management District

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Project-specific Methods: Describe the methods to be used in the project, and the reasons that the methods were selected.

All methods should be justified using best available science (provide citations); and methods may also be justified by other reasons (e.g., cost-effectiveness, technical feasibility).

Address how the chosen methods support project resiliency, or the extent to which the project is vulnerable to applicable climate risks under varying future scenarios, including but not limited to sea level rise, alterations in rainfall patterns, and/or potential increases in hurricane intensity. Consider how such risks might affect the benefits and duration of the project.

Include any design or other measures taken to mitigate climate risks and increase resiliency. *(5,000 character limit)*

Click or tap here to enter text.

Methods

Expand Continuous Water Quality Monitoring: One continuous water quality platform is currently in place on a channel marker in the SMMAP measuring salinity, specific conductivity, pH, temperature, dissolved oxygen, depth, and turbidity every 15 minutes using a YSI EXO3 multiparameter sonde. Through implementation of this grant, the datasonde will be replaced with a YSI EXO2 in order to add two sensors, chlorophyll a and fDOM. A buoy station will be added near a deeper hardbottom site. This site will be chosen based on proximity to the deep hardbottom sites and in line with the current datalogger station. The buoy will use the YSI EXO2 multiparameter sonde, and it will collect the same parameters. This station will also have a

weather monitor, which gives insight on weather patterns and extreme weather events. Weather monitoring is necessary for tracking changes around storm events.

Discrete Monthly Water Sampling: At each established hardbottom monitoring site (nine total) and the two continuous water quality monitoring sites, monthly grab samples with be taken for total nitrogen, total phosphorus, total suspended solids, and plankton collection. Dissolved oxygen, pH, salinity, specific conductivity, temperature, and light transmission in the water will be recorded at the time of collection. A LI-COR underwater sensor will also be used to measure photosynthetically active radiation (PAR) at each of the sites during sampling. The PAR data shows how much light is diffusing through the water compared to the surface which helps to better understand photosynthesis and net primary production. Water samples will be put on ice and sent to the LAKEWATCH Lab at the University of Florida for nitrogen and phosphorus analysis.

Plankton Identification: 20ml of plankton samples collected at each site will be preserved with glutaraldehyde 25% aqueous solution. Another 20ml will be preserved with Lugol's solution. The glutaraldehyde preserved phytoplankton samples will be analyzed by SMMAP staff using FLOWCAM image analysis. FLOWCAM Cyano is an imaging flow cytometer that automatically images phytoplankton samples and allows for a more streamlined identification process. The samples will be analyzed to identify species, determine community composition, and note any HAB. The samples preserved in Lugol's solution will be analyzed using microscopy.

Total Suspended Solid Sampling: SMMAP staff will collect one liter of water sample from each hardbottom site and the two datalogger stations. These samples will be used to measure Total Suspended Solids (TSS) which is correlated to turbidity but not interchangeable (Whitall, 2021). SMMAP staff will follow the EPA Standard Method 2540D to filter, dry, and weigh each TSS sample. Samples will be filtered using a 1.5µm filter and weighed. They will be dried at 200°C for one hour and weighed after. The difference will be used to determine the mg/L of TSS.

Yearly Seagrass Monitoring: In SMMAP, there are 25 seagrass sites monitored yearly that were established in 1997. At each site, four one-meter by one-meter quadrats are randomly thrown, and the percent coverage of each seagrass and macroalgae species present is recorded. Total percent cover is also recorded, and any motile invertebrates (e.g., scallops, urchins) are counted. NCAP also has 100 established sites that have been monitored since 2020, mirroring the SMMAP methodology. The yearly seagrass monitoring occurs separate from this grant, but the data collected will be used in conjunction with this project. Seagrass monitoring is done using snorkel techniques, not SCUBA. Historical seagrass data from SMMAP and NCAP can be found on the FDEP Statewide Ecosystem Assessment of Coastal and Aquatic Resources- Data Discovery Interface (SEACAR).

Hardbottom Transect: The hardbottom transects will be completed biannually between August through October and March through May, weather dependent. A 10-meter transect tape will be laid out and a 0.25-m^2 quadrat will be used along the transect. The quadrat will be placed at every one-meter interval so that each transect has ten total quadrats. Nine sites were selected based on depth, proximity to the established seagrass sites, proximity to the dataloggers, and availability of hardbottom habitat. Photographs will be taken of each quadrat for spatial analysis later. Divers will also document each species of sponge and coral present and estimate

percent coverage for macroalgae, seagrass, sessile invertebrates, and mobile invertebrates present in the quadrat at the time the photograph is taken. Height of sponges and corals will be recorded and measured using calipers. For unknown sponge species, small tissue samples and photographs will be collected for spicule analysis and identification in the lab. This process will be repeated at every site; snorkel will be used at sites less than one meter and SCUBA will be used at sites greater than one meter. All snorkel and SCUBA operations will be conducted under standard operating and safety protocols as established by FDEP policy and the SMMAP team. On the surface, water quality spot checks will be performed using a handheld YSI ProDSS. All hardbottom transect methods were chosen based on feasibility and the current best available science practices.

Quadrat Photo Analysis: After taking photos of each quadrat per site, the photos will be uploaded from the SD card to a computer. The photo will then be uploaded into Coral Point Count with Microsoft Excel extensions (CPCe). CPCe can quickly calculate the statistical coverage of coral and sponges in an area (Kohler, 2006). The program uses random point analysis which allows the user to measure length and find the area of selected benthic features. This program will be used to label species and determine percent coverage to evaluate the abundance, mean, and standard deviations of species present as well as find species diversity in each quadrat. All the data analysis will be completed using Microsoft Excel.

Seagrass Bioindicator Sampling: UF/IFAS researchers will be collecting seagrass and algae samples throughout SMMAP and NCAP. These samples will measure C:N:P ratios, stable isotope ratios (C and N), shoot morphology (leaf length, leaf with, leaves per shoot, and biomass per shoot), shoot growth rate (*Thalassia testudinum* only), above-to-below ground biomass ratios, and reproductive rates. This will collect information about physiological and plant-level bioindicators in order to provide earlier warning indicators of seagrass condition and establish baselines against which future sampling efforts can be compared.

Characterize Connectivity: UF/IFAS researchers will collect samples to study the strength and direction of connectivity among habitats and across species. They will collect the following metrics from both hardbottom and seagrass habitats:

- Motile invertebrate community composition
- Stable isotope ratios for all invertebrate species collected during invertebrate sampling
- Stable isotope ratios for primary producers (e.g., seagrasses, macroalgae, phytoplankton, microphytobenthos, mangroves) and sessile consumers (e.g., sponges, tunicates) except for species where destructive sampling is not permitted (e.g., corals)
- CNP and stable isotope (C and N) ratios of sediments underlying seagrass meadows

Fish Surveys: Using two cameras facing opposite directions on a tripod, the tripod will be placed centrally along the transect at each site to record fish species presence. The tripod will be placed in the water for 30 minutes to record and then removed from the water afterwards. Footage will be analyzed using the MaxN method, counting the maximum number of the same species in the frame at one time and recording each species present (Cappo, 2003). Fish surveys are being done to identify the extent of use of the hardbottom and seagrass habitats by different species.

Sponge Identification: Using snorkel or SCUBA, a small sponge tissue sample will be collected from unknown species in quadrats at each site and placed in a small collection bag. Any sampled sponge will be photographed to aid identification. Tissue samples will be kept on ice for transfer to the lab and then preserved in 95% ethanol. Sponges will be identified first by their external characteristics; any unknowns are identified by their spicule structure. To identify spicules, preserved samples are placed in a tube with undiluted bleach overnight. The bleach-soaked spicules will be rinsed four times with deionized water and centrifuged after each rinse, removing the excess fluid with a micropipette (Goodwin et al., 2021). Once the sample has been rinsed, it is placed on a glass slide and examined under a microscope. Spicules will be identified using literature and online sponge identification guides.

SCUBA Operations: For depths greater than one-meter, SCUBA will be used. Protocols from the FDEP will be followed for dive operations, and every dive member will be properly certified. For safety during underwater operations, divers will be in pairs with two researchers in the water and two researchers on the boat. Dive operations will all be conducted off the SMMAP boat and FDEP boat safety procedures will be followed. *

Does the project require ongoing operation and maintenance? ☒Yes ☐No

For projects that will require ongoing operation and maintenance, describe the project sponsor's capacity to manage the proposed project, as strong operation and management capabilities, including financial resources, will be needed to assure the long-term success of the project. This is not intended to discourage participation by small or disadvantaged communities. *Note: The portal will omit this space if "no" is selected above for ongoing operation and maintenance. (1,500 character limit)*

SMMAP and NCAP staff currently run long-term monitoring water quality and seagrass programs. These successful programs have been running in SMMAP for over 20 years and in NCAP since establishment in 2020. SMMAP staff has been responsible for monitoring over 1 million acres of submerged land within SMMAP and the Big Bend Seagrasses Aquatic Preserve (BBSAP). The expansion of both these programs and addition of hardbottom monitoring will be undertaken by experienced staff. The staff will be able to continue to monitor these habitats with the use of the equipment purchased from this grant. Funding for the future will come from the operating budget of the FDEP Office of Resilience and Coastal Protection Aquatic Preserves program.

Project-specific Risk: Using best available science, summarize risks and uncertainties associated with the overall project, along with proposed measures to mitigate such risks and uncertainties. In general, risks and uncertainties should be considered in both the near- and long-term, and with respect to the anticipated lifespan of the proposed project. *(5,000 character limit)*

SCUBA Operations For depths greater than one-meter, SCUBA will be used. Protocols from the FDEP will be followed for dive operations, and every dive member will be properly certified. For

safety during underwater operations divers will be in pairs, with two researchers in the water and two researchers on the boat. All snorkel and SCUBA operations will be conducted under standard operating and safety protocols as established by FDEP policy and the BBSAP team. *

Project Support: Indicate the level of public support, if known, and/or the potential for socio-economic benefits or unintended adverse impacts that may affect public support for the project. *(1,500 character limit)*

There are no known conflicts associated with this program. Evaluating vulnerability and implementing best management practices to protect the ecosystem has the potential for socio-economic benefits in the region.

Funding Request

Amount of RESTORE funds requested for project planning (e.g., Engineering, Design, Permitting): Enter "$0" if the project is fully designed and permitted, or if no FPL3b funds are requested for project planning. Additional information may be requested if funds are requested for implementation. $1,272,960.10 *

Amount of RESTORE funds requested for project implementation (e.g., Construction, Land acquisition): Enter "$0" if the project will use RESTORE funds for planning activities only**:** $0 *

Is it anticipated that the project will include leveraging? ☒Yes ☐No ☐Undetermined

If yes, provide information on leveraging opportunities below. If multiple sources of leveraged funding are anticipated, provide information for each source of leveraged funding. See the FAQs document for an explanation of the types of leveraging. Only funds designated as Co-funding are factored into the total cost of the project*. Note: The portal will omit this space unless the response is checked yes to the leveraging question above.*

Source	Name of agency organization providing leveraging opportunity	Amount of leveraged funds	Type of leveraged funds	Status of leveraged funds
1	Florida Department of Environmental Protection-NCAP	249,000/year	Adjoining	Proposed
2	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Choose an item.
3	Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.	Choose an item.

Briefly describe the leveraged funding opportunities identified above. Provide context If specific information is known about project components that will be or have been funded through leveraging opportunities: *(750 character limit)*

The above funds are the operating costs of NCAP's water quality and seagrass monitoring program as well as the staff salaries that will be participating in the project. These projects are already funded and will adjoin the proposed project. The funds will be leveraged for each of the three years of this grant funding, the 2nd and 3rd year do not have official budgets currently.

Total estimated cost of project: $1,272,960.10 *

Proposed Project Readiness to Proceed

Status of Project Design*: ☐Not Started/Not Applicable ☐30% ☒60% ☐90% ☐100%

Status of <u>implementation</u> project permitting/environmental compliance. *Note: The options below will only be visible in the portal if the funding request above includes funds for implementation. Leave blank in this planning sheet if the funding request is for planning projects only.*

☐Not Started
☐Permit Applications Submitted
☐Some Permits Approved
☐All Required Permits Approved

Proposed project start date: 1 June 2023 *

Proposed project end date: 10 December 2026 *

List any information regarding the design, permitting, or timing of the project that may be useful to the reviewer.

The project timeline can be moved around, the biological sampling in the seagrass and hardbottom habitats does need to be conducted in April through September. This also accounts for weather events. The first three months of the proposed grant period will be for acquiring the equipment for all the monitoring programs. Equipment purchases will be made as soon as possible so that the items with longer shipping times will be here by the start of the first hardbottom surveys. Once that equipment arrives, we can begin the water quality monitoring and sampling. The water quality sampling will be done monthly, the dataloggers will record continuously after implementation. The hardbottom biannual transects will be conducted starting in April through May. They will take place again in August through September. The transects are not expected to take over a month however storms and other weather events must be considered. Seagrass monitoring season is from May through early July, weather dependent. After the biological sampling is completed, the data would be analyzed in the following months. This will be repeated for three years. In the final year, the two months after the final hardbottom monitoring will be used to compile and analyze all data to be given in a final report. Once the grant period is completed SMMAP team will continue to monitor the

hardbottom sites, with a goal to expand to north into the Big Bend Seagrasses Aquatic Preserve and further south through NCAP.

Proposed Project Location

Indicate the county and watershed where the project will primarily be implemented or administered. If the project will occur in more than one county or watershed, please provide narrative details in the space at the end of this section.

County: *Note*: *Only counties marked with a "*****" are eligible for funding under the Gulf Coast Resiliency Program.* Citrus* *

HUC-8 (cataloguing unit) Watershed: A mapping tool is available to assist with locating hydrologic unit code (HUC-8) watershed information. Watersheds that are not eligible for Gulf Coast Resiliency Program are noted in the pick list. (Peace-Tampa Bay) Tampa Bay (Crystal-Pithlachascotee) *

Can the project be considered a "regional project", meaning it will be implemented in more than one county, municipality, water management district, or a combination thereof?*

☒Yes ☐No ☐Undetermined

Provide a brief narrative description of location of the project.

This project will take place in both the St. Martins Marsh and Nature Coast Aquatic Preserves. These aquatic preserve waters are along the Citrus, Hernando, and Pasco counties. *

Additional Information

Will the project provide benefit to, or be located within a state-designated financially disadvantaged community?* *Check all that apply.* Rural Economic Development Initiative (REDI) communities are described in Chapter 288.0656, Florida Statutes, (F.S.). Fiscally Constrained County is defined in 218.67(1), F.S.

☐ REDI. If checked, provide the name of the community(s) within the associated Rural Area of Economic Opportunity: Click or tap here to enter text.

☐ Fiscally Constrained County per 218.67(1), F.S.

☐ Yes, another designation by State (describe): Click or tap here to enter text.

☒ No, or Not Applicable

Contact Information

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Optional: You may upload up to 3 documents with your submission. Each file can be up to 50 megabytes in size. If you have larger files, the files can be split in to multiple, smaller files or you can coordinate transmission of uploads by contacting Restoration.Projects@dep.state.fl.us. Extensions allowed are: pdf, zip, png, gif, jpg, jpeg, doc, xls, docx, xlxs, pdf, txt, mov, mp3, and mp4.

Please visit the RESTORE FL3b portal at
https://survey.alchemer.com/s3/6527856/Deepwater-Horizon-Project-Portal
to submit your proposal.

References

Bertelsen, R. D., Butler IV, M. J., Herrnkind, W. F., & Hunt, J. H. (2009). Regional characterisation of hard-bottom nursery habitat for juvenile Caribbean spiny lobster (Panulirus argus) using rapid assessment techniques. *New Zealand Journal of Marine and Freshwater Research*, *43*(1), 299 312.

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