



Big Bend Coastal Conservancy

<http://bigbendcoastalconservancy.org/>

Project Name: REGIONAL ARTIFICIAL REEF PERMITTING PLAN FOR FLORIDA'S GULF COAST

Contact Information: (Include at least one name, phone number, email address, and organization name if applicable.)

Big Bend Coastal Conservancy

Director: Tony Murray

PO Box 33, St. Marks, FL 32355

850-228-4114

bigbendcoastalconservancy@gmail.com or Tony@BBCoastal.org

Project Location: (Include a map, if possible, and the city, county, watershed, longitude/latitude dec.deg, Parcel # if Applicable)

This project location is inclusive of the Gulf waters offshore of the following counties: Gulf, Franklin, Wakulla, Jefferson, Taylor, Dixie, Levy, Citrus and Hernando and Pasco. The waters off: Escambia, Santa Rosa, Okaloosa, Walton and Bay are well represented with artificial reef projects and the rapid drop-off of the shelf area with generally much deeper waters are not included in this proposal at this time.

Three presented point locations for GIS mapping purposes at ~100 contour levels are:

ID	Latitude	Longitude
BBCC 1	29°21'51.59"N	29°21'51.59"N
BBCC 2	28°58'53.54"N	84°14'43.52"W
BBCC 3	28°33'12.56"N	83°50'4.16"W

Watersheds within the impacted Gulf waters include:

St. Andrew Bay watershed

Apalachicola River and Chipola River watersheds

Ochlockonee and St. Marks river watersheds

Suwannee River watershed

Spring Coast watershed.

Aquatic Preserves that would benefit from the project include:

St Andrews Bay

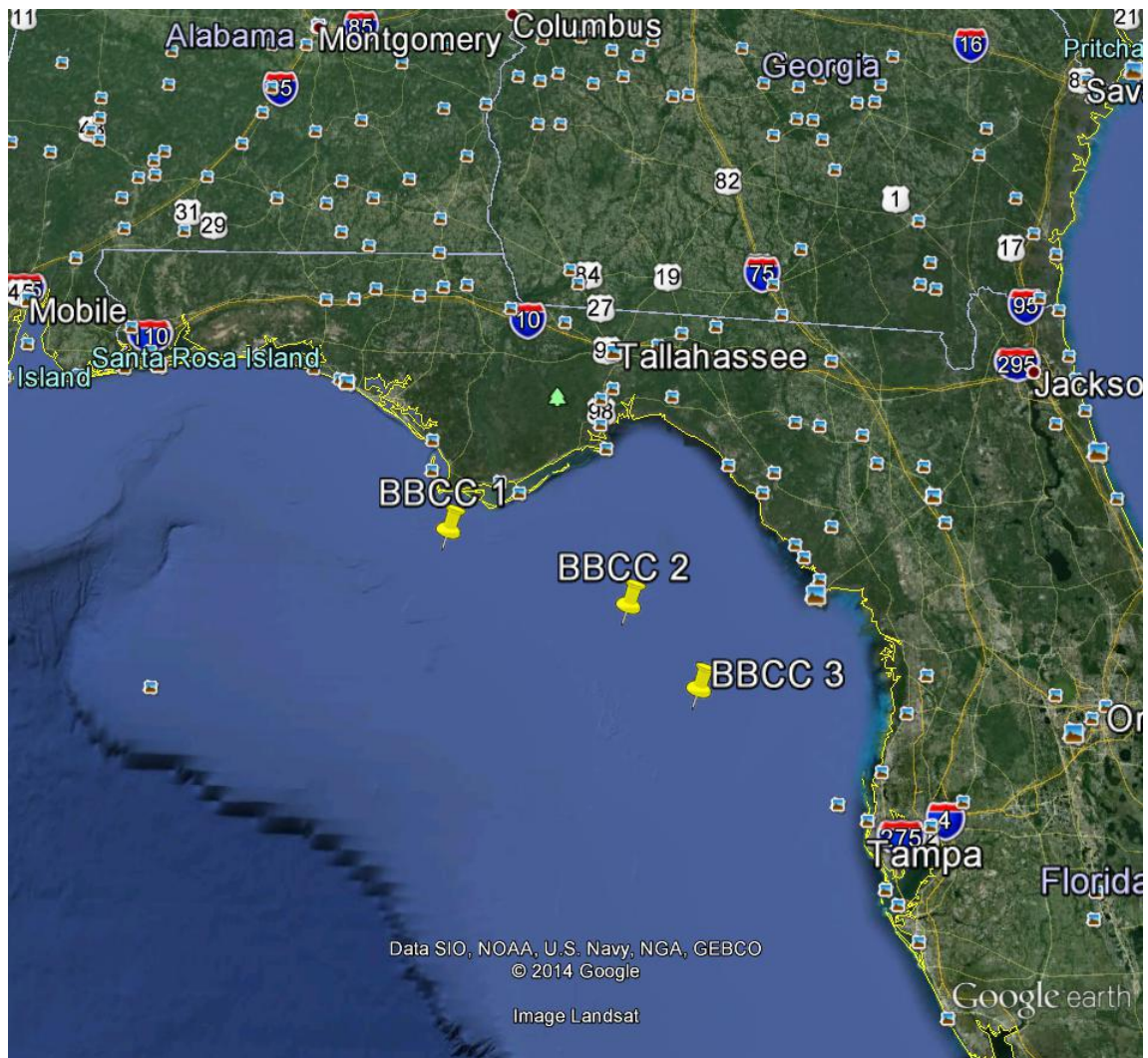
St Joseph Bay

Apalachicola Bay

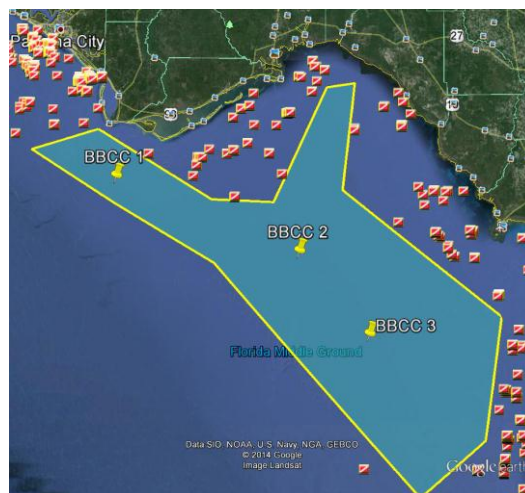
Alligator Harbor

Big Bend Seagrasses

St Martin Marsh



Google Earth View of the Panhandle and Big Bend Regional Artificial Reef Permitting Plan



3 general location points presented within area of interest at ~100' depth; these locations are presented only for general GIS/mapping purposes

Project Description: (Describe all aspects of the project)

Overview:

Construction of artificial reefs, when performed in a responsible manner, supply extensive benefits to both the ecology of the given area and also to the economy of the area. Artificial reef development is probably the single best reclamation process which meets all provided criteria for assisting the Gulf coast in the ecological and economic recovery process resulting from the Deepwater Horizon incident. Numerous artificial reef proposed projects have been submitted for the Gulf region for funding consideration within the RESTORE Act Florida Gulf of Mexico Restoration project process. What is lacking is a regional perspective of artificial reef development and site considerations. Funding for projects, typically from the Florida Fish and Wildlife Conservation Commission (FWC), are awarded to counties and local municipalities; and these counties focus on enhancing their local recreational fishing programs which is used to stimulate and support *their* immediate economic needs. It is critical to develop long term ecological enhancements at the regional level in order to support and enhance sustainable fisheries and regional habitats.

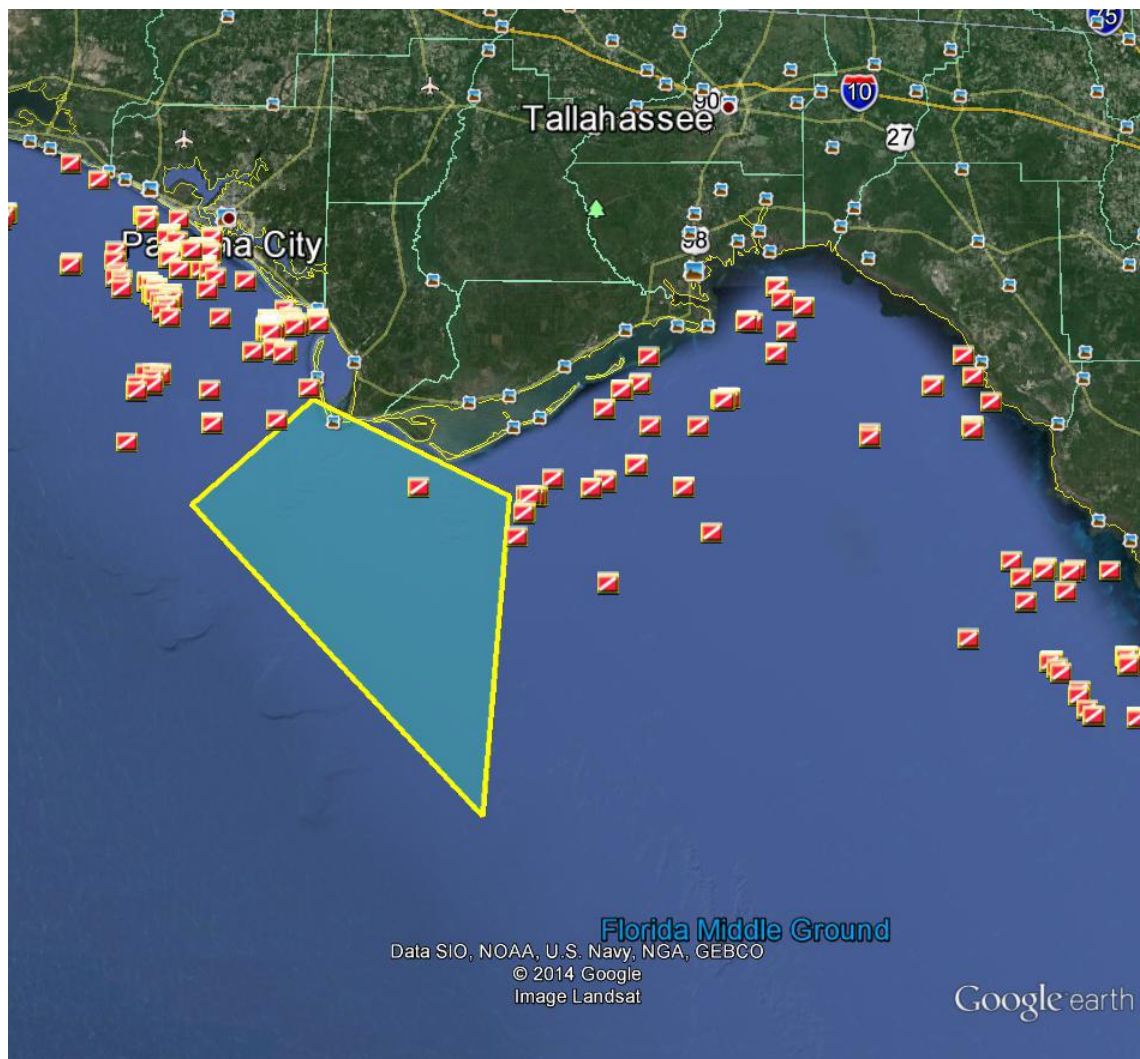
Paramount to this proposal is streamlining the process for addressing successful artificial reef permitting and concurrently working with underrepresented Gulf Coastal counties and municipalities to successfully obtain reef area permits in reasonable time frames. This initiative, or effort, will allow these counties and municipalities to be positioned to build and deploy artificial reefs to strengthen their economy and responsibly enhance Florida's coastal and marine resources. This proposal addresses a comprehensive reef permitting process from a regional perspective. Permits that are open (typically for a ten year time frame) are required for reefs to be installed. It is necessary, first and foremost, to have permitted reef sites open so that the reef construction and deployment can occur.

Numerous agencies oversee the permitting process for artificial reefs and consequently have presented barriers to allow for a permit to be processed in a timely manner. This process has effectively discouraged many small and poorer communities from pursuing reef building as part of their economic recovery. Some permits for artificial reefs in the Florida panhandle have languished for numerous years in the permit processing stages. This project will perform outreach and coordination with these agencies to streamline the permitting process.

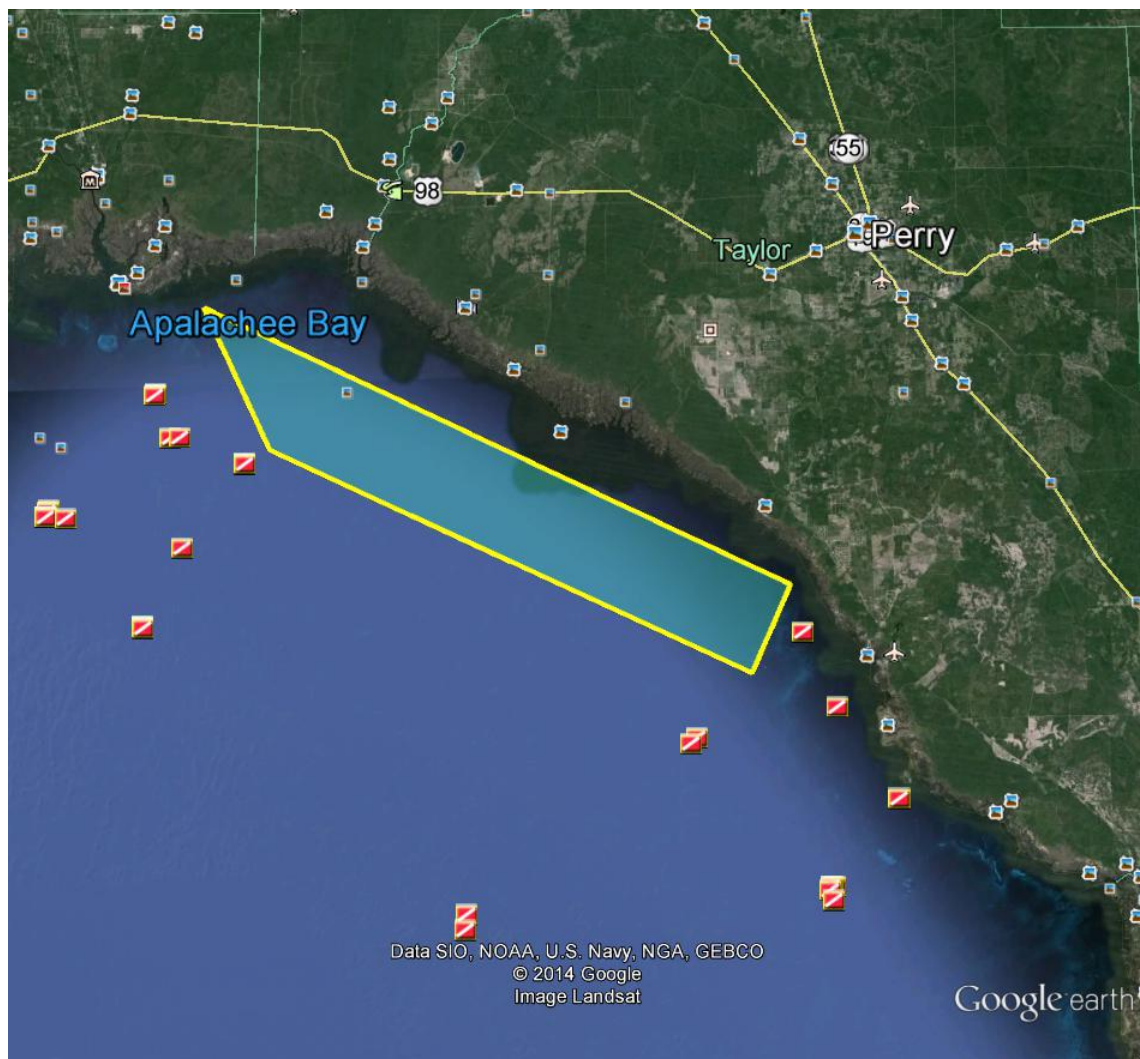
The Regional Artificial Reef Permitting Plan will be used to identify, guide and support both ecologically based and local economically based reef sites for permitting process. The objective is to assess, develop and implement a comprehensive program from a Florida Gulf regional perspective. This project will benefit all stakeholders within the impacted area.

Highlights for a successful Regional Artificial Reef Permitting Plan Implementation:

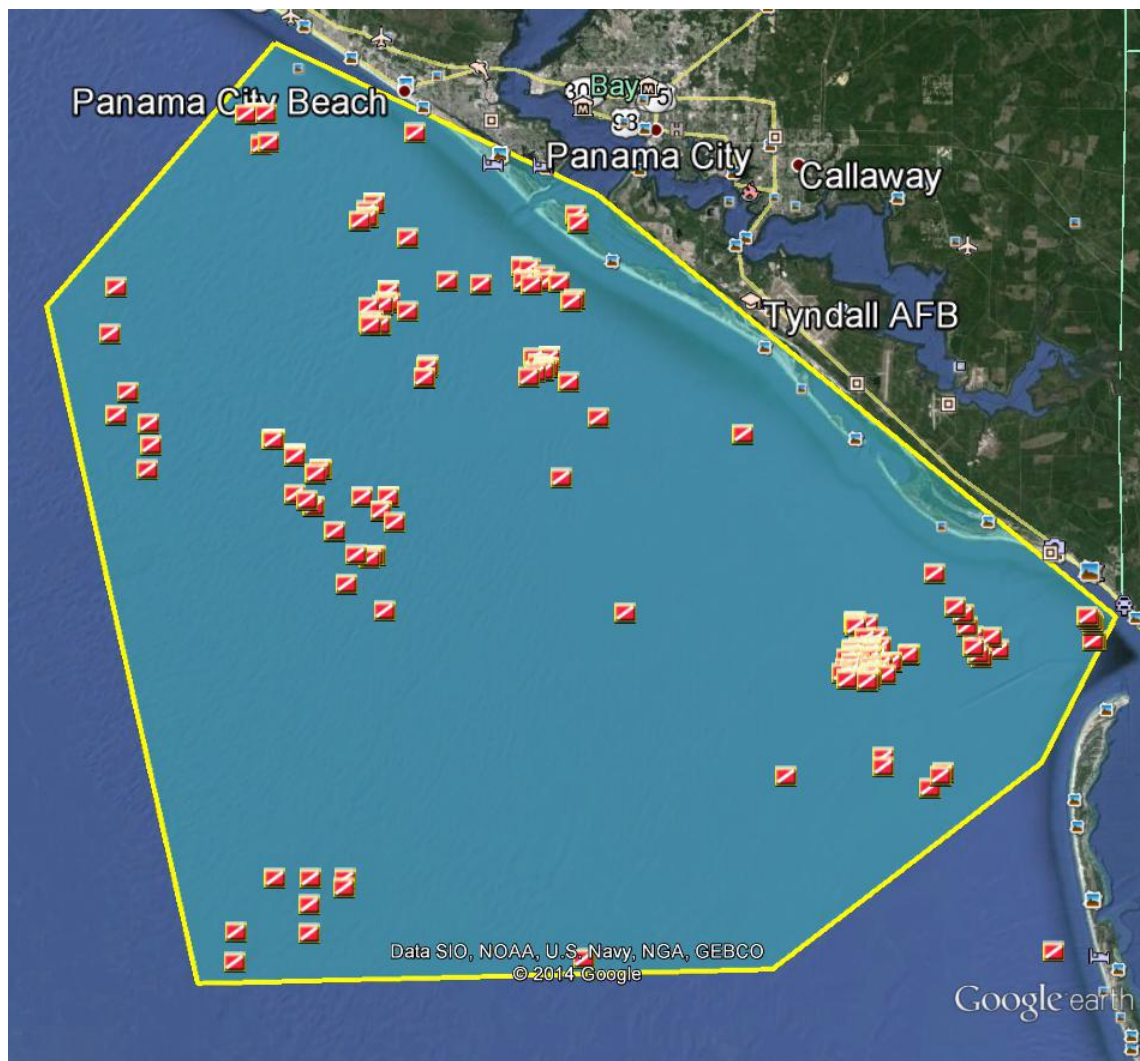
- Develop a comprehensive list and map of permitted site locations (including both open and closed permitted sites)
- Identify potential sites for reef development, including new areas, reopening closed areas and expanding open permits
- Identify municipalities and organizations to sponsor sites for permitting process
- Perform assessments of identified reef sites for permitting process
- Complete and submit selected site permitting paperwork to appropriate agencies
- Perform permitting process follow-through and assist sponsors with positioning for successful grant applications for forthcoming reef deployments.



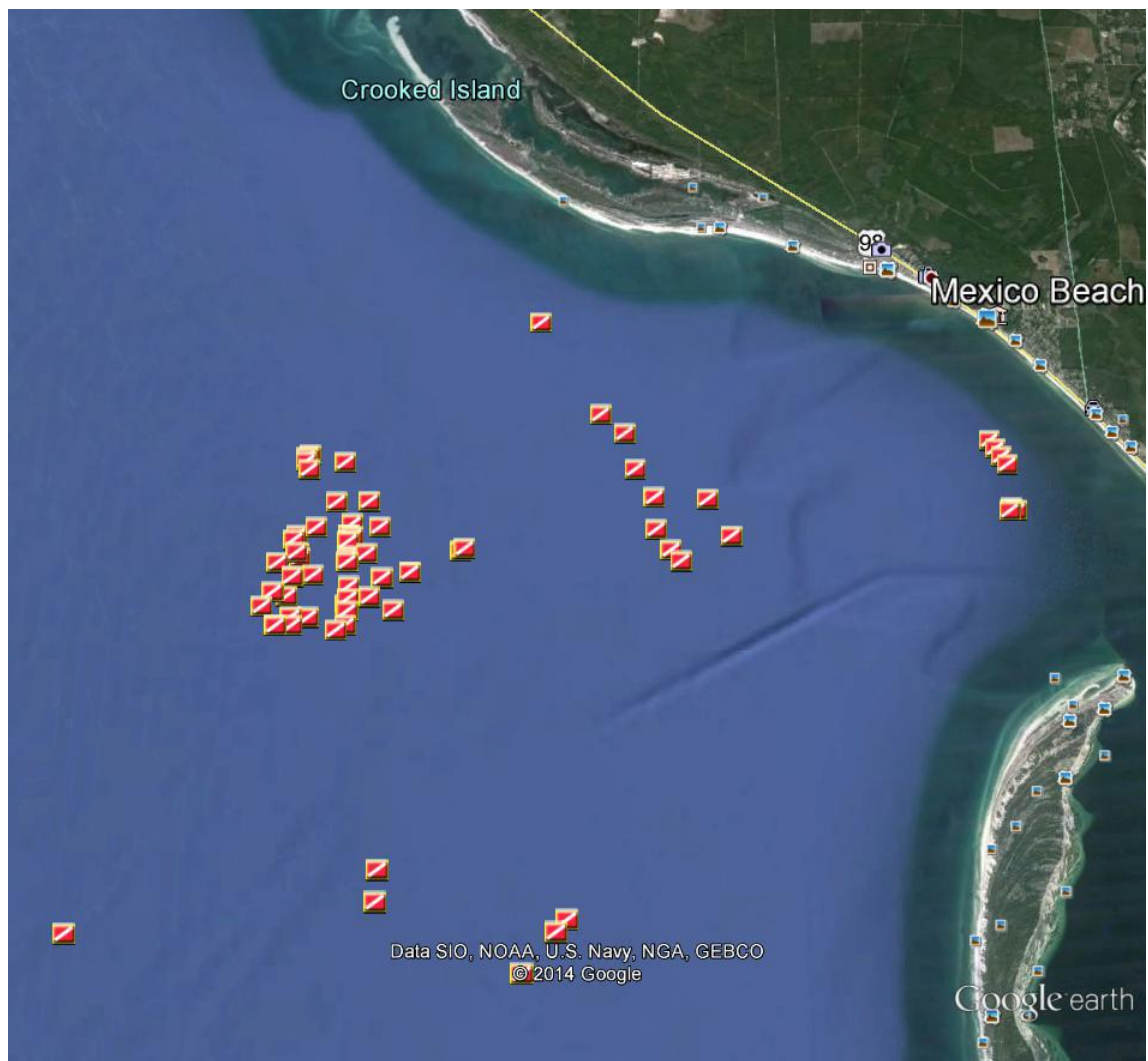
Area off Gulf and Franklin County which is underrepresented in artificial reef deployments



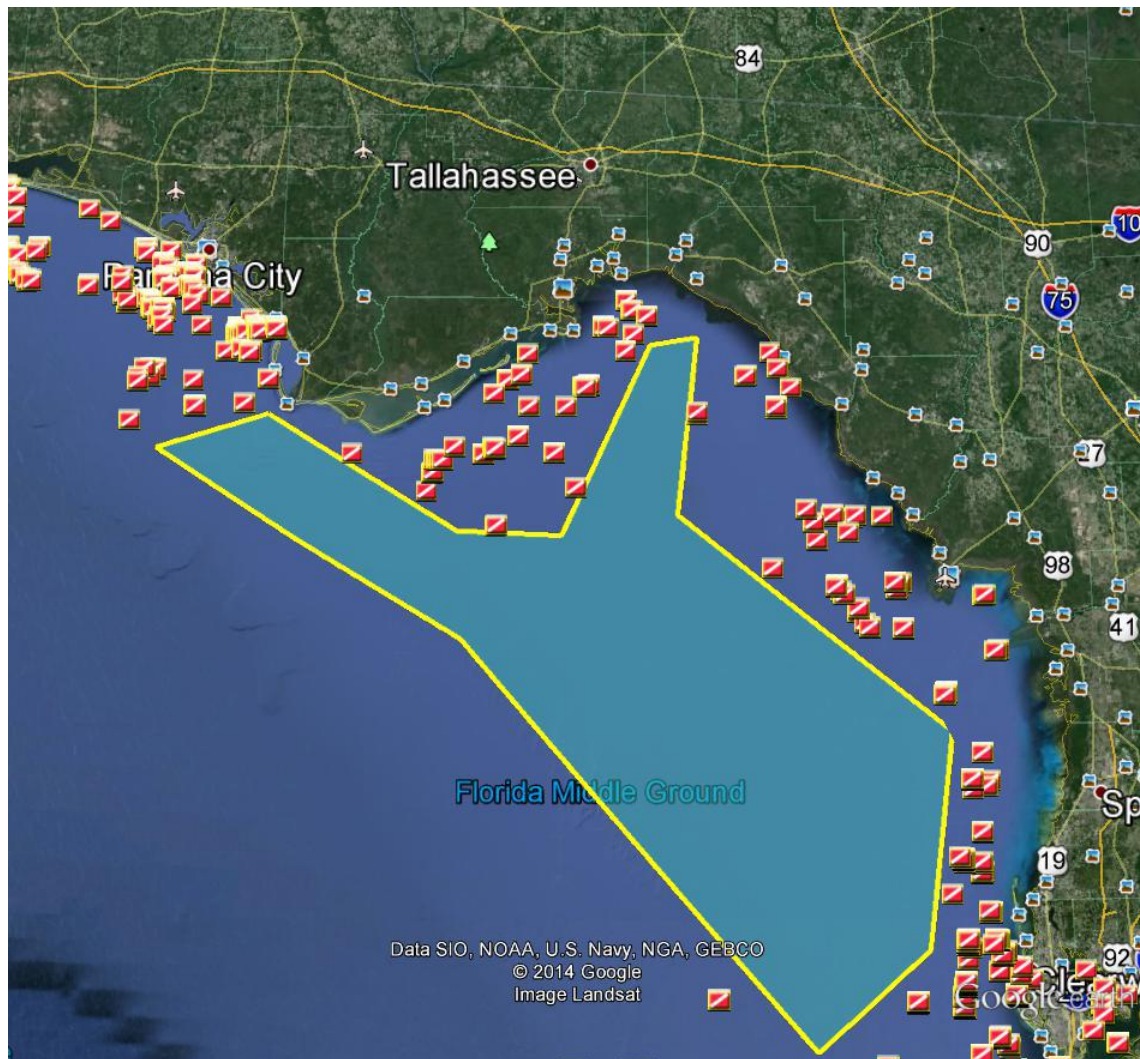
An area off of Wakulla, Jefferson and Taylor Counties of over 30 miles with seagrass and nearshore habitat areas that would ecologically support further offshore reef programs; note lack of reefs further off shore from this area



Artificial reefs high densities in nearshore and high accessibility offshore areas near Panama City and Mexico Beach areas



Artificial reefs high densities in nearshore and high accessibility offshore areas near Mexico Beach



Areas recommended for Regional Artificial Reef Permitting Projects; with reef sites marked
Note: Offshore Areas presented are to a depth of 120' for reef support for the Middle Grounds

Estimated Project Costs:

(Describe the estimated costs of the project, including any assumptions for contingency and ongoing operations/maintenance. Identify other secured funding sources such as matching funds, in-kind contributions or state/federal dollars. In addition, if possible, complete and submit the Cost Appendix Sheet associated with this Form)

The proposed cost for the Regional Artificial Reef Permitting Plan for Florida's Gulf Coast is \$1.9 million over the course of six years. Assumptions are that each coastal location that is chosen for offshore regional supportive permitting will be ~\$95,000; this project will be for finalizing 20 permitted areas; approximately 40 locations will be initially considered. Some locations/distances will be greater for some counties which will vary project costs per county area. This permitting submittal includes obtaining the required specific site assessments offshore. Funding is typically not supplied for required permitting through State & Federal agencies; which is why this permitting issue for underrepresented counties and for offshore reefs is of significance and importance to a successful regional artificial reef program.

Other Funding:

(Indicate if the project is submitted for any potential funding or if it may be used to leverage additional funding, if so, please describe the funding source [e.g. State/Federal Grants])

This project has not been submitted for any other potential funding; however upon this project being initiated and with permits successfully obtained, additional leveraging of funds and support for the project will be readily available. For example, the FWC has yearly announcement of funding opportunities for artificial reef construction. An open artificial reef permitted area is required for submittal of an application for these grants. Also, specifically noted is that FWC has submitted for \$50,000,000 funding artificial reefs in Florida in the RESTORE Act Florida Gulf of Mexico Restoration project process and within their proposal it is stated they will work only in areas with open permits.

Technical Feasibility: (Describe the technologies involved and any relevant past experience or proven success with similar projects)

All aspects of this project are not only feasible but when broken into their component parts; can be readily performed; especially with the active support/assistance of State and Federal agencies. The technical feasibility aspects are presented in the following six (6) areas:

1. *Develop a comprehensive list and map of permitted site locations (both opened and closed permits):*

Technical feasibility highly achievable. State and federal regulatory agencies have historical and current data that can be obtained and compiled into a comprehensive compendium for map development. This overview assessment will provide a clearer regional picture of the impacted areas for planning purposes.

2. *Identify potential sites for reef development from a regional perspective, including new reef areas, reopening and expanding closed permit areas and also expanding open permit areas.*

Technical feasibility highly achievable. Stakeholders, including content and technical experts, will assist in this stage of the project. Site criteria will include issues such as ecological fisheries enhancement, deployment feasibility and local economic impact.

3. *Identify municipalities and organizations to sponsor sites for permitting process:*

Technical feasibility highly achievable. Stakeholder solicitation for sponsorship for reef site permitting will be obtainable through outreach and education of potential entities.

4. *Perform assessment of identified reef sites for permitting process.*

Technical feasibility highly achievable. Sites that have been identified based on appropriate selection criteria will have the required assessment work performed. This work will include assessment of bottom conditions for presence of live bottom, composition and depth of sediments, depth and consistency of substrata. A technical report will be issued for each assessment area with recommendations made on the appropriateness for reef construction for the specified area.

5. *Complete and submit selected site permitting paperwork to appropriate agencies.*

Technical feasibility highly achievable. Sites meeting appropriate selection criteria plus having acceptable site assessments and sponsorship will be advanced to the permitting stage. Permits will be submitted on behalf of the sponsoring local municipality.

6. *Perform follow-through on the permitting process and assist sponsoring agency with positioning their presented program for successful reef deployments.*

Technical feasibility highly achievable. The successful openings of artificial reef permitted sites will position sponsors to take local ownership of their sites to enhance both the local economy of the area

along with focusing on the regional ecological health of the Gulf waters through successful reef deployments.

The Big Bend Coastal Conservancy has the expertise and knowledge to successfully implement this Regional Artificial Reef Permitting Plan for Florida's Gulf Coast. Personnel within the BBCC have extensive experience in successfully obtaining site permits, assessing for site suitability for reef development and also with reef design and construction. The process presented can be accomplished through a multi-year roll-out process. This multi-year approach to obtaining permits will allow all stakeholders to achieve both economic gain and ecological enhancement for an extended period. There is a critical need for open artificial reef permits – to support a regionally productive program - specific strategic locations need to be identified, assessed and opened; this process can best be achieved through this regional approach for maximum benefit for the impacted Gulf region.

Conflicts or Complements to Existing Efforts:

(Describe any ongoing activities in the project implementation area, if the project is part of another plan, and why the project does or does not interfere with that work. Please consider how the project may complement existing local, regional, and state efforts/plans/objectives)

This project complements all existing artificial reef projects in the Gulf through bringing these established reef systems into a larger management perspective. Specifically, what makes this proposal unique is that it will assist in supplementing ecological voids; voids which have to be addressed from a regional perspective. Typically, reefs are proposed from a city or county municipality to specifically enhance their recreational fishery needs, as is presented in the large number of permitted areas off Panama City and Mexico Beach. This project will focus on enhancing habitat for species to boost their breeding success, their fry's/fingerling's survivability and can also be in areas of their migratory pathways. The overall goal of this permitting process is to increase the quality and quantity of artificial reef habitat at all life-stages for numerous species of fishes; including associated species such as sea turtles and marine mammals.

Numerous local artificial reef agencies are available for support from a City and/or County perspective; and these organizations with active and robust artificial reef programs will be valued stakeholders in supporting and developing this regional program.

The only anticipated conflicts would be if the permits were to get caught up in the regulatory review process and not accepted/approved in a reasonable length of time once they are submitted. Those time frames would be within the agencies which oversee these programs.

Complies with Federal, State, Local, and Tribal Laws/Regulations:

(Describe any concerns or potential conflicts)

There are few if any concerns or potential conflicts anticipated with Federal, State, Local and Tribal Laws/Regulations. These permits will comply with all Federal, State, Local and Tribal Laws/Regulations; which is the fundamental purpose of the permitting process. For consideration, a process could be emplaced for some of the specific reef systems for ecological enhancement that would not have the locations published. The current work of Lindbergh, et. al is in the process of documenting the positive effects that unpublished artificial reef have to significantly enhance fisheries.

Readiness for Implementation:

(Describe if the project has had any design or permitting work started or completed [attach permits or design work]. Please address any issues that may delay start or finish of the project)

The project is ready to initiate within a short amount of time. Requests for information on current open permits (and their duration that they are open) have been requested from FWC. Delays in the project could be experienced if any of the permitting agencies such as Army Corp of Engineers, National Marine Fishery Service or any State/Federal agencies do not process the submitted permit in a timely manner. One role of the Big Bend Coastal Conservancy would be to act as a liaison and facilitator of this permitting requirement.

Environmental Benefits:

(Describe the nature, magnitude, and timing of any environmental benefits attributable to the project. If possible, describe potential environmental performance measures [e.g. pollutant reduction]. Please address any potential environmental impacts associated with implementing or maintaining the project [e.g. loss of a habitat or conversion of habitat from one type to another during implementation])

The environmental benefits of a regional artificial reef site permitting plan are vast and well documented. The National Artificial Reef Plan (amended): Guidelines for Siting, Construction, Development, and Assessment of Artificial Reefs (US Department of Commerce, NOAA; February 2007) outline many of the benefits for habitat enhancement, fisheries management and economic gain associated with the well placed artificial reefs. The overarching message is clear, the effective management of permitted sites has the ability to greatly improve and enhance fisheries habitat and ecological niches for invertebrate and vertebrate species. Regional plans improve the overall health of the whole ocean region. Robust and vibrant ecosystems can withstand environmental stress and recover more quickly than fragile and stressed ecosystems.

Regional artificial reef permitting will allow for regional planning based on targeted habitat enhancement. Regional approaches allow for identifying areas/depths of water based on environmental parameters (turbidity, salinity, dissolved oxygen, water temperature, contaminants and fishing pressure) these can be designed to serve the needs for specific species and target enhancement of specific habitats.

The approach to regional artificial reef site permitting is validated based on the State of the National Artificial Reef Plan (amended): Guidelines for Siting, Construction, Development, and Assessment of Artificial Reefs (US Department of Commerce, NOAA; February 2007) at the federal level and the State of Florida Artificial Reef Strategic Plan (Florida Fish and Wildlife Commission Division of Marine Fisheries, 2003). This proposal will actively supports and allows for the much needed comprehensive approach for the ecological enhancement of our Gulf waters.

Economic and Social Benefits:

(Describe the economic and social benefits including those related to the project's improved ecosystem services and any estimates on jobs created or preserved)

The driving factor in many artificial reef deployments has been for socioeconomic gains. A regional artificial reef site plan will allow for permitted sites to open in regions where local economic stimulation can assist an economically depressed region. Opening reef permitted areas promotes economic growth as well as alleviating fishing pressure on more popular and congested fishing destination. Recreational fishing is a strong economic driver bringing much needed revenue and employment to many coastal communities of the Gulf region of Florida. This is supported by *The National Survey of Fishing, Hunting,*

and Wildlife-Associated Recreation, produced by the U.S. Fish and Wildlife Service (USFWS) Wildlife and Sport Fish Restoration Program, providing a broad overview of the status and trends of fishing in the United States, and highlights the national significance of recreational angling in Florida. Anglers in Florida represent 27% of the total trips, 27% of resident trips, and 28% of nonresident trips in the United States (USFWS 2007). It is clear that for every \$1 spent on artificial reefs in the Florida Panhandle, the economic benefit of artificial reef expenditures returns \$138. Such revenue can revitalize depressed rural economic of the impacted zone bringing much needed funding and benefits to these regions.

Community Resilience:

(Describe if the project assists Florida's ability to anticipate, withstand, or recover from hazards or threats [e.g. hurricane preparedness, establishing living shorelines])

As presented, artificial reef development is probably the single best reclamation process which meets all provided criteria for assisting the Gulf coast communities in their recovery process. By their nature, artificial reefs increase biodiversity and upon being established, increase recreational fishing opportunities. Community resilience has both an economic aspect and ecological aspect. Reefs have continually demonstrated how they support the economic resilience of local communities. Ecologically, reefs serve as fixed sampling points for establishing monitoring programs for water quality and habitat assessment. Monitoring programs can include assessing the presence, numbers and affects of lionfish in an area; red tide affects in an area; and/or assessment of chemical constituents such as petroleum, as released in the Deepwater Horizon event. Properly constructed artificial reefs can withstand hurricane forces within the ocean; but offer no shoreward physical barriers. Artificial reefs greatest attribute for supplying community resilience is through the economic and ecological long-term gains they offer.

Public Acceptance:

(Describe any known or potential public approval or opposition to the project)

Artificial reef development has overall public approval; some discussions/concerns have been raised on the balance between the recruitment of fish to newly established reefs and then these fish being targeted by anglers. This concept is balanced with the overall net benefit of the reefs to the ecological health of the area. On the whole, public support is favorable to continue and advance artificial reef program development.

Additional Information you wish to provide:

(Please include any maps, designs, drawings, photos or background resources that may assist in completely and accurately understanding the project. If these are too large to attach here, please email them to Restoration.Projects@dep.state.fl.us)