

POTENTIAL DEEPWATER HORIZON OIL SPILL RESTORATION PROJECTS: PROVIDING INFORMATION TO ASSIST WITH PROJECT ASSESSMENT

To help you propose projects to the State of Florida's Department of Environmental Protection (DEP), we developed this project submission form. You are not required to complete this form to submit a project. However, completion of the form will help DEP gather the information required to completely and accurately evaluate a project against the selection and evaluation criteria. Where appropriate in the form, please provide references to any additional supporting information.

Project Name: *(Include project number from DEP's existing list of submitted projects, if applicable.)*

Walton County Marine Fisheries Hatchery/Enhancement Center (WMEC) (DEP Project number: W-14)

Location for Project Implementation: *(For example, city and county, GIS coordinates if known.)*

Churchill Bayou, Walton County GIS Coordinates Latitude 30°23'13.14"N Longitude 86°14'28.68"W
(Near Churchill Bayou Road and Churchill Drive)

Brief Project Narrative: *(Describe what the project will do.)*

Walton County is working with the Florida Fish and Wildlife Conservation Commission (FWC), the Wildlife Foundation of Florida, the Northwest Florida State College (NWFSC), and the Choctawhatchee Basin Alliance of NWFSC (CBA) to develop a saltwater plant nursery and fish hatchery in Churchill Bayou (Walton County, Florida). This facility, known as the Walton County Marine Fisheries Hatchery/Enhancement Center (WMEC), will have a dual purpose; (1) serving as the primary Gulf Coast plant nursery for marine/estuarine aquatic plants needed for coastal restoration and (2) providing a recreational fish hatchery for restoring fishing activity (i.e., increase angler participation and the number of fishing trips) by providing hatchery production and eventual release of highly sought-after sportfish species such as red snapper, red drum, spotted seatrout, and Florida pompano. Facility design and construction are focused on the use of green technologies (LEED certification) to minimize negative environmental impacts. Hatchery production (up to 5,000,000 fish annually) is based on the use of intensive (i.e., indoor, tank-based) recirculating aquaculture systems that reduce water usage and effluent discharge. Similar to the process now used at FWC's Stock Enhancement Research Facility (SERF) in Manatee County, effluent is cleansed through a two-fold filtration process. The final stage consists of a filtration marsh composed of native coastal wetland plant species and on-site greenhouses for coastal wetland/dune plants and seagrasses. In this manner, nutrients from the aquaculture facility are recycled as plant biomass, which support ongoing regional coastal habitat restoration efforts. In the future, we anticipate expanding our plant nursery capabilities as to provide much-needed native coastal wetland plants for Gulf of Mexico habitat restoration projects. The project also proposes a much-needed state-certified water quality testing laboratory for the region to support not only any hatchery/nursery needs, but also CBA's volunteer water sampling program that assesses these water in State's numeric nutrient criteria. The laboratory will also be able to evaluate sediment, tissue and water for post oil derivatives (PAH), and heavy metals. NWFSC will utilize this laboratory in the potential development of a degree/certificate program for laboratory technicians. Students will intern in the lab in order to complete their requirements for this degree/certificate learning how to use different laboratory equipment, sampling techniques for water, tissue, and sediment. The facility will also provide classrooms and overnight accommodations that would host various educational programs and needed research projects. In addition, the site will serve as a hub for regional habitat restoration planning and will house a facility for curing oyster shell and creating oyster bags/modules for installation.

Estimated Project Costs: *(Describe the costs of the project, including any assumptions for contingency and ongoing operations and maintenance. Identify other available funding sources such as matching funds, in kind contributions or state or federal dollars. If possible, attach a schedule of anticipated costs, by year, over the anticipated project life.)*

Walton County / FWC / WFF Churchill Bayou Marine Enhancement Center

Rough Order-of-Magnitude Cost Breakdown - 10/24/2011

Prototype 2 Grow-Out Hatchery - Building Only *	\$15,000,000
Aquaculture Equipment *	\$4,000,000
Sitework (Land clearing, grading, utilities, ponds, parking lot, roads, walks, bridges, etc.) **	\$5,000,000
Greenhouses - 2 x 14,000 s.f. @ \$50/s.f.	\$1,400,000
Shell recycling center - Pole barn & asphalt paving area	\$50,000
Subtotal - Buildings & Site	\$25,450,000
Construction Contingency @ 5%	\$1,272,500
Construction Cost	\$26,722,500
Furniture, Fixtures & Equipment @ 2% of Construction Cost ***	\$1,544,450
Design fee @ 9% of construction cost	\$2,405,025

Total project cost	\$30,671,975
---------------------------	---------------------

* - Prorated cost based on 60,000 s.f. Prototype 2 building area, at slightly less \$/s.f. (\$250/s.f.) than Prototype 1 estimate (\$268/s.f.) An actual cost estimate can be performed once facility program and design has been determined.

** - Rough figure based on size of site vs. Pensacola hatchery

*** - Laboratory equipment, office & classroom furniture, kitchen equipment, dormitory beds, copiers, etc.

Anticipated Project Outcome with Respect to Screening Criteria

S1. Technically and administratively feasible: (Briefly describe the critical technologies involved and any relevant past experience with similar projects.)

–The proposed plant propagation model utilizes a flexible water conveyance system in which influent seawater from the bay, an on-site well, and from the on-site hatchery (effluent) are used to propagate coastal wetland/dune plants and seagrasses. In this manner, nutrient loadings within the bay and from the hatchery operation are maximized in an ecosystem management approach, using expertise gained at FWC’s Port Manatee facility during the past 20 years. A large (6-7 acre) salt marsh and companion 1 acre settlement pond serves as the primary area for coastal marsh plant grow-out, housing species such as cordgrasses (*Spartina* spp.), rushes (e.g., *Juncus roemerianus*), saltgrasses (e.g., *Distichlis spicata*) and succulents (e.g., *Batis maritima*). Two greenhouses (each 10K-14K square feet) will provide controlled environments for additional coastal wetland species, dune species (e.g., sea oats), and seagrasses (e.g., shoal grass). Using techniques developed within the southeastern U.S. by FWC, CBA and its partners, plants produced from the site are out-planted to restoration areas in the region, including salt marshes, seagrass beds, dunes, and eroding and unstable shorelines (i.e., Living Shoreline projects). This model includes using existing and planned nurseries at schools (CBA’s Educational Program: Grasses in Classes) within the region to maximize grow-out potential and to foster environmental education. The site will therefore produce millions of plants annually. Synoptic water quality sampling of regional marine/estuarine waters is a critical component of designing and monitoring fishery and fishery habitat restoration. The Choctawhatchee Basin Alliance and other entities have been instrumental in conducting water quality monitoring in the region but are dependent upon the lab associated with the Univ. of Florida for processing certain water sample parameters, thereby increasing cost and effort. Our partners associated with the Alliance have the expertise to design a state-certified water quality laboratory on site for regional use to monitor the success of the hatchery and plant propagation facility and ongoing regional marine/estuarine restoration programs. The laboratory will also process water collected via CBA’s volunteer water sampling program that assesses water in State’s numeric nutrient criteria. The laboratory will also be able to evaluate sediment, tissue and water for post oil derivatives (PAH), and heavy metals. NWFSC will utilize this laboratory in the potential development of a degree/certificate program for laboratory technicians.

The proposed hatchery is based on the use of intensive (i.e., indoor, tank-based) recirculating aquaculture systems that reflect the latest fish culture technology as well as reduce water consumption and effluent discharge (most of the water is re-used). This facility is built and operated in close collaboration and partnership with the Florida Fish and Wildlife Conservation Commission (FWC). FWC possesses the technical expertise and administrative experience necessary to successfully complete this project. The holistic approach coupling hatchery-reared fishery species released for stock enhancement with plant propagation and habitat restoration has been successfully accomplished by FWC and its partners through the Project Tampa Bay initiative.

S2. Provides environmental benefits: *(Briefly describe the nature, magnitude, and timing of any environmental benefits attributable to the project and any potential environmental costs associated with implementing or maintaining the project, e.g., loss of a habitat or conversion of habitat from one type to another during implementation.)*

This project is providing restoration of human use of natural resources impacted by the Deepwater Horizon oil spill. Specifically, this project will focus on restoring fishing activity (i.e., increase angler participation and the number of fishing trips) by providing hatchery production and eventual release of highly sought-after sportfish species such as red snapper, red drum, spotted seatrout, and Florida pompano. Fisheries production is also accomplished by restoring critical Essential Fish Habitats (EFH) as well as through direct stock enhancement of keystone fishery species within the region. Plants will be produced for certain restoration projects within 6-9 months of site construction and fishes will be released within 18 months. The project involves the conversion of uplands to wetlands and infrastructure (hatchery, greenhouses). Water-borne nutrients (bay, well, hatchery effluent) will be converted into fish and plant biomass. Local salt marshes will receive direct project benefits by receiving plants, hatchery-reared fish, hydrologic restoration, and (in one case) filtered water from the project site.

Restoration of critical habitat will also be accomplished throughout the Choctawhatchee Bay with the production of seagrasses and dedicated oyster shell curing/bagging facility. CBA's Living Shorelines create essential habitat, reduce shoreline erosion, and prevent sedimentation by allowing sediment to be trapped along the shoreline. The resulting oyster reef and planted shoreline grasses provides essential habitat for many wildlife species.

S3. Does not conflict with any ongoing or planned response or remediation work: *(Briefly describe ongoing response activities in the project implementation area, if any, and why the project does or does not interfere with that work.)*

No, there is no planned response or remediation work. However, restoration of marine/estuarine habitats within Choctawhatchee Bay and other regional estuaries is ongoing through the programs of numerous local, state, and federal partners, including NGOs. This project will support these efforts by providing readily available plants and fish at no cost to the user group, technical expertise, and environmental education opportunities. The site will serve as a hub for regional restoration to foster partnerships and to leverage funding for fishery restoration.

S4. Complies with applicable and relevant federal, state, local, and tribal laws and regulations: *(No information is needed for this screening criteria.)*

Not applicable.

Anticipated Project Outcome with Respect to Evaluation Criteria

E1. Will restore, rehabilitate, or replace a natural resource or service¹ believed/demonstrated to have been injured as a result of the Deepwater Horizon oil spill or associated response activities: *(Briefly describe the nature of any relationship between the new/improved resources or services and those adversely impacted by the oil spill.)*

Within the coastal zone of the Gulf of Mexico, including the westernmost portions of panhandle Florida, marine/estuarine habitats such as salt marshes, seagrasses beds, oyster beds, and dunes were adversely impacted by the Deepwater Oil Spill. These habitats and associated species are highly sensitive to the effects of hydrocarbons, as evidenced by the reduction in species cover, density, abundance and diversity. This project proposes to restore and enhance these degraded habitats by providing the necessary plants and fishes. The site will also serve as a hub for regional restoration efforts, providing stockpiled oyster shell and on-site expertise.

This project is therefore providing restoration of human use of natural resources impacted by the Deepwater Horizon oil spill. Specifically, this project will focus on restoring fishing activity (i.e., increase angler participation and the number of fishing trips) by providing hatchery production and eventual release of highly sought-after sportfish species such as red snapper, red drum, spotted seatrout, and Florida pompano. Fisheries production is also accomplished by restoring critical Essential Fish Habitats (EFH) through Living Shoreline projects, O.Y.S.T.E.R. shell recycling programs than involve local communities in the enhancement of their natural resources, as well as through direct stock enhancement of keystone fishery species within the region.

The permanent facility and integrated restorative approach provided in this proposal will increase critical habitat (salt marsh and oyster reef habitat) that will contribute to the bay's and coastal dune lake's recovery from stressors resulting from the Deepwater Horizon oil spill. Providing critical habitat for impacted species utilizing these habitats not only helps these species but also provides essential ecosystem services. The construction of salt marsh and oyster reefs will help the bay to regain these services: fish and invertebrate habitat, shoreline protection, nutrient cycling, water filtration and storage.

E2. Is located in, or nearby, resources or services injured by the deepwater horizon spill: *(Briefly describe where the project would be implemented with respect to past/ongoing remediation work.)*

Choctawhatchee Bay is located in Okaloosa and Walton Counties and is identified as a Northwest Florida Water Management District Surface Water Improvement and Management (SWIM) priority water body. The coastal dune lakes are found in Walton County within about two miles of the coast. According to the Florida Natural Areas Inventory, Walton County's coastal dune lakes are imperiled globally because of rarity and *critically* imperiled in the state of Florida because of *extreme* rarity. They are also indispensable to our coastline as wetland systems that filter and store water, provide habitat for a wide variety of unique flora and fauna, and exist as a natural estuarine transition between the Gulf and upland areas. Their water levels fluctuate substantially since they create transitory interchanges with the Gulf of Mexico. Both Choctawhatchee Bay and Walton County's Coastal Dune Lakes were impacted by the Deepwater Horizon oil spill because of their connection to the Gulf of Mexico. Sensitive habitats within the watershed include seagrass beds, tidal marshes, oyster beds and coastal scrub.

¹ In this form, "Services" (or "natural resource services") refers to the functions performed by a natural resource for the benefit of another natural resource and/or the public. Services can be "ecological services" – physical, chemical or biological functions that one natural resource provides for another (such as provision of food) – or "human services" – the use of natural resources used by humans that provide value to the public (such as hunting and fishing).

E3. Is ready for implementation, e.g., design, permitting, and necessary impacts assessments have been completed: *(Briefly describe where in the permitting process the project stands along with an estimated date of when the project can be implemented if it is not currently ready.)*

The project will start within 90 days after funds are available. The first implementation phase (i.e., hatchery building and set up of production tanks) should be completed in approximately 18 months.

Permits or environmental compliance needed: (e.g., ESA section 7, CWA 404 permit, state permits, NEPA – CATEX, EA, EIS) aquaculture certificate (state through DOACS), consumptive water use permit (state through FDEP/WMD), State of Florida environmental resource permit (state through FDEP/WMD), NPDES (National pollution discharge elimination system, federal/state through FDEP/WMD), stormwater pollution prevention plan (federal/state through FDEP/WMD), clean water act permit 404 (USACE), federal wetlands permit (USACE), ESA section 7 consultation (USACE/NMFS/USFWS), building permits (county/city).

Local living shoreline projects will need joint permits from ACOE and FDEP.

E4. Is cost effective: *(Briefly describe why you think the project is cost effective. Discuss whether this project is more cost effective than alternative projects which would provide similar resource or service benefits.)*

The site will produce millions of plants and fish annually which have high economic value. Regional restoration project costs are substantially reduced by providing plants at no cost to users. The site can produce these organisms in perpetuity at relatively low cost. The proposal involves fostering partnerships with existing regional entities already conducting restoration activities and will increase the efficient use of limited resources. By involving the local community in the process of restoration, education, and monitoring, costs are kept minimal.

E5. Has a high potential for long-term success as demonstrated by incorporating established/reliable methods and technologies: *(Briefly describe if/how critical methods and technologies that will be used to implement the project could be considered reliable or proven.)*

The model for this proposal is built upon decades of successful technique development by FWC and its many partners regarding fish and plant propagation, out-planting/release of native organisms to the wild, and fate tracking of those organisms. Project Tampa Bay serves as an example of this type of project. This project therefore has a very high likelihood of success as it is designed using well-tested techniques. Angler activity and participation—for both visiting and resident anglers—is strongly influenced by the perception of high sportfish abundance and pristine, scenic fishing areas. Walton County, FWC and other project partners will develop a strong public outreach and communications strategy (at the state and national levels) to promote the increase in high-quality fishing opportunities generated by the Walton County Marine Fisheries Hatchery and Enhancement Center.

E6. Is likely to provide benefits rapidly following implementation: *(Briefly describe the anticipated change in benefits anticipated over time.)*

The restoration benefits associated with this project can be broken down in the following categories:

1. Restore the loss of fishing activity: (a) Proven impacts from FWC's Project Tampa Bay on recreational anglers success and perceptions of the quality of the fishery; (b) Providing non-regulatory means for addressing commercial/recreational catch allocations (a critical FWC strategy for ensuring sustainable fisheries); (c) Potential for commercial fisheries to purchase genetically wild hatchery fish from the facility for commercial grow-out (reducing pressures on wild stocks, adding a sustainable revenue stream, and benefiting local restaurants with a continuous supply of locally important food species).
2. Changing perceptions of visitors and resident anglers: (a) The investment in hatchery and marine restoration sends a strong signal that the Gulf fishery is being properly managed for long-term benefit of the resource and people; (b) Visitors will once again believe that the Gulf is a viable and desirable angling destination.
3. Job development: (a) Sustainable community jobs within the region related to commercial, recreational, and food-base fishery production; (b) Increase fishing tourism-related jobs; (c) Construction-related jobs (all feasible contracts to be let in the county and city); (d) Tourism dollars to the community based on end-destination visits to the facility (the facility, in phase 2, is designed as a end-destination that fits with the city's plans for waterfront development and destination visits); and (e) Creation of new jobs for hatchery production, habitat restoration, and visitor/end-destination jobs related to education and outreach.
4. Integration with community development goals: (a) Actively partnering with the community to create an tourist friendly end-destination in alignment with waterfront development goals and long-term economic strategies for growth; (b) Working with the local colleges, universities, and school systems to develop the next generation of marine science professionals trained in marine ecosystem management (critical to Florida's long-term environmental success); and (c) Working with the city and county to align all marine restoration goals and projects.
5. Developing the future conservationists and anglers: Through education and outreach, develop the next generation of anglers and conservation-minded Floridians that will support and sustain resource restoration.

E7. Has a high likelihood of public acceptance: *(Briefly describe evidence to support the given answer based on surveys or results and assessments from past projects. Known or likely opposition to a project should be recognized.)*

Savvy residents and visitors to the Gulf coast are aware that fish and their habitats are critically linked. Restored and enhanced fishery habitats will produce fish for our fisheries. Saltwater sportfish hatcheries are extremely popular and have a high degree of public acceptance. Florida has the nation's largest recreational fishing industry, contributing in excess of \$5 billion annually to the state's economy and supporting one of the largest saltwater fishing-related tourism industries in the world. Close to half of the estimated recreational fishing trips in Florida are made by visitors to the state—i.e., additional tourism dollars. The \$1.4 billion that resident and non-resident saltwater anglers spend preparing for and conducting saltwater fishing trips in Florida produces an estimated \$119.7 million in indirect business taxes.

By working with local groups, such as CBA, public acceptance is virtually ensured. CBA programs (monitoring, restoration, education, and research) emphasizes citizen awareness and involvement through pro-active practices and projects. By engaging the public in the process of assessing the health, restoring critical habitat, and education the community about best management practices, CBA's programs bridge communication between governmental officials and affected citizens. Engaging citizens in the collection and sampling program and in the actual bagging of oyster shell and building of oyster reefs, results in continued citizen support and commitment to the over all CBA mission (sustaining the Choctawhatchee watershed while allowing optimum utilization of these resources).

WE WANT YOUR INPUT!

Submit this form via email to Rebecca Wintering at Rebecca.Wintering@dep.state.fl.us . If you have any questions or concerns about the process for submitting a project, please contact Rebecca Wintering at:

Rebecca Wintering
Environmental Specialist III
3900 Commonwealth Boulevard, MS 235
Tallahassee, FL 32399
Rebecca.Wintering@dep.state.fl.us

A current summary of projects is accessible through the Florida DEP's website at <http://www.dep.state.fl.us/deepwaterhorizon/projects.htm> (click on "View the list of restoration project ideas").