

APPLICATION COVER PAGE – 1 OF 2 (PROJECT BASIC CRITERIA)

Section 1: Application Cover Page; Basic Criteria

Please use this page, or re-create as is.

1. **PROJECT TYPE:** *(As mandated by the RESTORE Act, funds may only be used for one or more of the allowable uses listed below, which the County cannot amend or change. Carefully review each criteria listed below and determine if your project will achieve one or more of the allowable uses below. Projects that do not meet at least one of the allowable uses below will not be considered for funding. Check all that apply.)*

✓ Restoration and protection of natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast Region.

✓ Mitigation of damage to fish, wildlife, and natural resources.

Implementation of a federally approved marine/coastal management plan, including fisheries monitoring.

✓ Workforce development and job creation.

Improvements to or on state parks in coastal areas affected by the Deepwater Horizon oil spill.

✓ Infrastructure projects benefitting economy or ecological resources, including port infrastructure.

Coastal flood protection and related infrastructure.

Planning assistance.

✓ Activities to promote tourism and seafood in the Gulf Coast region, for one or more of the following:

Promotion of tourism in the Gulf Region, including recreational fishing.

Promotion of the consumption of seafood harvested from the Gulf Coast region.

2. **CONTACT INFORMATION:** *(Include at least one name, phone number, email address, and organization name if applicable)*

- Organization: Monroe County Commercial Fishermen /dba/ Florida Keys Commercial Fishermen's Association
- Address: PO Box 501404
- City, State, Zip Code: Marathon, FL, 33050
- Contact Person
 - Name: Bill Kelly
 - Title: Executive Director
 - Phone: 305-619-0039
 - Email Address: FKCF1@hotmail.com

APPLICATION COVER PAGE – 2 OF 2 (PROJECT SUMMARY)

Section 2. Application Cover Page; Project Summary Information

Please utilize this sheet or re-create, but keep format as is.

3. Project Name: *(Provide a short, succinct title for the project)*

Essential Fish & Marine Mammal Habitat Restoration

4. Project Executive Summary: *(Provide a concise summary or abstract in the space below; do not exceed the space below.)*

The scope of this project is Keys-wide, however, special emphasis is being placed on beach and shoreline restoration of the Marquesas Keys, a known turtle nesting site for green and loggerhead turtles. Significant fouling of the sandy shorelines of these islands has resulted in turtles abandoning efforts to establish nesting sites. Observations by land and air indicate significant layers of rope, trap debris and plastics woven into impenetrable mats in some areas.

The restoration effort is planned for a five year period and would consist of an initial clean-up during the first and second years of the program, followed by monitoring and additional maintenance over the course of the remaining three years.

The goal is to effect a physical clean-up of environmentally and ecologically sensitive areas, resulting in improved essential habitat for fish, wildlife and marine mammals. Secondary benefits are beneficial throughout the community fostering improved tourism, enhanced fishing and environmental activities.

5. Range of Benefit: Does this project have a

Local benefit? Yes

Keys-wide benefit? Yes

Regional benefit? Yes

Gulf-wide benefit? Yes

(Provide the location of the project and a brief description of the area that is benefiting; do not exceed the space below.)

This project would directly benefit the Florida Keys from Key Largo to the Marquesas including shoreline areas on both the Atlantic and Gulf of Mexico sides of the islands. Benefits would accrue to all residents of the islands in improved fish and marine mammal habitat, general increases in tourism, increased recreational and commercial fishing activity and increased property values.

6. Project Cost: *(Provide the actual/estimated project cost, the amount being requested with this submission, and the amount of match committed to the project from any source. Please make clear the total project cost and the amount you are requesting. There is an opportunity to provide detailed cost/request/match information in the narrative section (see question 8.)*

• Total Project Cost:	\$ <u>5,000,000.00</u>	
• RESTORE Request Amount:	\$ <u>\$500,000.00</u>	*These funds must be secured within 1 year of project award.
• Secured Cash Match (committed funding from other sources):	\$ _____	
• In-kind Match value:	\$ <u>\$50,000</u>	
• Funding Gap:	\$ <u>4,450,000.00</u>	
• Anticipated Cash Match (potential funding from other sources)*:	\$ _____	

% of project cost: 10%

% of project cost: _____

% of project cost: 1%

% of project cost: 89%

% of project cost: _____

APPLICATION PROJECT BUDGET

Section 3. Project Budget

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PROJECT BUDGET		FUNDING		
Activity/ Item	Cost	Anticipated RESTORE Funding	Cash Match	In-kind Match
Planning/Design/Permitting				
FWC and NOAA permits	\$0			
Public scoping meetings	\$3000	\$3000		
Project management	\$5,000	\$5,000		
Administration*:	\$0	\$0		\$2,000
Planning Subtotal:	\$13,000	\$13,000		\$2,000
Construction or Project Activity(ies)				
Vessel charters	\$325,000	\$325,000		
Field Supplies	\$13,250	\$13,250		
Waste Disposal	\$48,750	\$48,750		
Project management	\$35,000	\$35,000		
Administration*:	\$0	\$0		\$8,000
Construction Subtotal:	\$437,000	\$437,000		\$8,000
Monitoring				
Student Conservation Association	\$50,000	\$50,000		
Administration*:				
Monitoring Subtotal:	\$50,000	\$50,000		
Project Cost				
Total Administration*:	\$0			
TOTAL Project Cost:	\$480,000			

Estimated Costs by Year	
Year 1	\$380,000
Year 2	\$100,000
Year 3	
Year 4	
Year 5	
Year 6	

*Notes: Only complete the sections of the budget that are applicable for your project. Please refer to question 8 to provide further explanation of budget details. *The RESTORE Act places a total 3% cap on administrative expenses. We are uncertain at this point how this will be applied, how "administration" will be defined or assigned, or whether projects may even be able to include administration. We are waiting on further guidance from US Treasury rules to define this. Please keep this in mind as you develop your budget. Administrative costs typically include but may not be limited to overhead costs for basic operational functions (insurance, utilities), as well as costs associated with admin staff such as accountants, legal, etc.*

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Section 4. Application Narrative; Detailed Project Information

7. Project Description:

The Florida Keys National Marine Sanctuary consists of a widely diverse system of interconnected marine and coastal ecosystems and habitats. Stretching from Key Largo to the Dry Tortugas, the island archipelago contains vibrant coral reefs and live benthic habitats, seagrass beds, mangrove strands and sandy beaches, all of which provide essential fish and marine mammal habitat. The marine life and picturesque setting within this region not only attract thousands of tourists to the Keys each year but also supports an economically and socially important population of commercial fishermen. With their livelihoods tied to the renewable biological resources harvested from the sea, constituents of the Florida Keys Commercial Fishermen's Association (FKCFA) are a vast repository of knowledge pertaining to the waters and shorelines of the Keys and manifest a tangible incentive to preserve and protect the marine environment. The distribution of fishermen within the Keys community and the economic centrality of revenues associated with marine recreation and commerce support a Keys-wide initiative of habitat restoration.

Marine debris is a ubiquitous part of the shoreline and underwater seascape of the Florida Keys. Floating debris from distant sources in the Caribbean, passing ocean liners, freighters and other marine traffic and locally generated garbage, trap debris, and assorted plastics of all types have accumulated over decades. This debris is a blight on the aesthetic appeal of the Florida Keys as a natural area and tourist destination. Ropes and plastic debris also pose a direct threat to protected species like turtles, dolphins, manatees, seabirds and corals that ingest or entangle in debris (Guillory et al, 2001). Recently in the Marquesas several turtle nesting sites were abandoned due to rope obstructing their attempts to dig a nest and establish nesting sites. The Marquesas, more so than any other area in the Florida Keys archipelago, are in drastic need of remedial action to remove trap debris threatening turtles (Richie Moretti, The Turtle Hospital, Personal Communication).

Site selection is a critical component to any project proposing to execute environmental remediation and the holistic environmental impact of marine debris on marine systems is not fully known (Chiappone et al. 2004 and Wiig) Thus, there exists no Keys-wide baseline to illustrate or project areas of high incidences. While comparative densities of debris occurrence between sites are unknown, what is clear to researchers and resource managers alike is the pervasiveness of marine debris within the region. The difficulty in determining cleanup sites based on debris density is complicated not by the prospect of the nonexistence of debris in any given area but rather by the extent of its occurrence within the marine environment of the Florida Keys. Because debris exists throughout the Keys, our program strategically targets all of the islands with special emphasis on the beaches and shoreline of the Marquesas Keys and improvement of turtle nesting areas.

Education to prevent the loss and discard of plastics is the most effective and long-term solution to reducing marine debris, but there is a pressing need to restore those shorelines and underwater habitats that have been degraded by the accumulation of marine debris. We propose to use Monroe County Restore Act Funds to initiate restoration of several remote shorelines and reefs by removing marine debris and lost traps. State and Federal Restore Act funds will be sought to maintain these activities over a 5-year period allowing us to take a long-term approach and effectively use the existing fleet of commercial fishing vessels to systematically identify and target those areas most at risk and in need of restoration. Restoration of habitat is a long process that requires both the primary activity and subsequent monitoring to ensure the restoration goals were sustained in the inherently dynamic shoreline and reef communities.

Proposed activities include the removal of all types of marine debris and restoring beach and shore lines to their natural condition. Special emphasis will be placed on restoration of shoreline and beach areas of the Marquesas Keys due to their more remote accessibility that has excluded them from other restoration efforts. The Marquesas Keys are also a primary nesting site for both green and loggerhead turtles and both species are currently listed under the Endangered Species Act as threatened.

On a broader Keys-wide effort, (FKCFA) will partner with academia and media sources to solicit public input on strategic target areas for directed debris removal. Where practicable, public participation would be encouraged to create awareness and develop community relationships addressing the ecological and environmental importance of our island habitat. Projects would be undertaken regionally for efficient use of vessels, manpower, debris accumulation and disposal and the most efficient use of resources. Proposed regional locations are Key Largo, Marathon, Lower Keys, Keys West and the Marquesas Keys.

The project will include activities related to physical debris removal, research and description of attributes related to debris sources and composition and result in the production of a suite of well documented proposals for public education and to identify activities (both man-made and natural) that cause it to accumulate.

8. Budget Narrative/Financial Flexibility/Cost-Effectiveness

The following information provides a breakdown of costs, broken down by source and in relation to funded activity. Just as isolating the expenditures provides for appropriateness and context of funding, looking at holistic trends across components provides insight. The majority of the funds requested will propagate two subsets of activity: physical debris removal and synthesize scoping, policy and management tools created via research components executed by the related participants. These two activities are contextually noteworthy in terms of the use of funds. The use of vessels and trucks for transportation, removal and hauling of marine debris are consistent with marine environmental remediation projects. The purchase of fuel and the costs for terminal disposal of trash and debris are similarly associated.

Funds requested for the project form the payment of salaries and expenses for cost of removal and research. Funds used for recovery and disposal utilization represent those that can be

expected in any debris removal program. Monies funding research components and outputs directly address an aspect which is presently lacking. Because these activities are forward looking and manifest scoping and planning attributes which are amendable to incorporation to both the policy making frameworks of resource managers, they are essential to the development of sustainability, self-perpetuation and mitigation of debris into the future. Furthermore, these research activities lay the groundwork for community-based management, with FKCFCA and FWRI operating the outputs and data base for future efforts.

- Bill Kelly, representing FKCFCA as Project Administrator, will provide 500 hours of work at \$40.00/hour to oversee all aspects of the project, including project management, supervision and grant oversight. Total: \$20,000.
- Bruce Irwin, FKCA Board of Directors and Project Manager, will provide 1,000 hours of work at \$40.00/hour for project management and facilitating the reporting requirement of the grant. Total: \$40,000.
- Fishery observers, Student Conservation Association interns will provide oversight and record the location, type and amount of debris collected. The SCA interns will participate in the shoreline restoration activities and verify progress. We anticipate 10 interns working 50 days each at a rate of \$100.00 per day. Total: \$50,000.
- Commercial vessel charters, 325 days of field work are anticipated at \$1000 per day with a captain and 3 member crew (4 persons total). At least 15 boats will be chartered for an average of 25 days each. Total: \$375,000.
- Field supplies include battery powered saws, gloves, construction grade disposal bags, field clothing and other miscellaneous supplies. Total: \$13,250.
- Waste disposal, we anticipate waste disposal costs of approximately \$150 per day for the 325 field days. Total: \$48,750.
- Public meetings, we anticipate 3 public scooping meetings at a cost of \$1000 each to secure a venue and advertise the meetings. Total: \$3000.

9. Technical Feasibility

Employing the vessels and experience of local commercial fishermen with in-depth knowledge of local hydrographic and topological conditions provides a solid foundation for efficiency of removal. These fishermen not only have experience operating vessels and navigating within the proposed sites, many of them have participated in previous marine debris removal exercises. Localization of efforts minimizes fuel expenditures and others operation costs and provides for social and community awareness and input.

Safety at sea and limiting additional environmental impacts are of primary importance. Commercial fishermen are knowledgeable of local waters, tidal issues, navigational routes, harmful sea life and other concerns that could pose serious safety threats to uneducated participants. Physically, they are up to the task of handling heavy materials continuously and in sub-tropical conditions.

Commercial fishermen operate a diverse fleet of vessels generally measuring from 13-60 feet in length. The larger vessels have carrying capacities of 40,000 pounds or more. The larger vessels are equipped with hydraulic haulers capable of lifting debris items weighing hundreds of pounds. Almost all are equipped with electrical generators, galleys, sleeping quarters and all of them have

USCG compliant marine sanitary devices for extended, multi-day operations.

The physical removal effort will consist of two phases: 1) littoral, beach/mangrove cleanup and 2) on-water marine debris cleanups per site. These activities will utilize a combination of shallow draft, flats boats and larger commercial vessels under the direction of captains of the FKCFA. The shallow drafting vessels, capable of maneuvering in less than two feet of water will be utilized for personal transport and debris collection in shallow areas including seagrass beds and shorelines. The larger vessels, equipped with winches and ample space to ferry personnel, will be utilized to transport loads of collected debris from project sites to onshore disposal sites.

The physical debris removal efforts will focus on insularly associated, shallow habitats composed of seagrass flats, mangrove stands and shallow reef lines. The utilization of the flats vessels will allow crew members and volunteers to access shallow and shoreline habitat that would be inaccessible by larger vessels and limit submerged habitat to high levels of foot traffic. This approach mimics similar methodologies utilized in previous successful trap and debris removal programs in the Keys.

Typically the program will consist of eight hour shoreline debris removals per site with as many trips as necessary to effect shoreline restoration. These efforts will include personnel contributions of approximately 50 people per site per day. Where necessary the cleanup crews will be transported from dock to removal sites via commercial vessels and smaller flats boats.

Members of FKCFA have participated in numerous coastal restoration efforts and both shallow and deep water clean ups throughout the Florida Keys including annual, industry funded initiatives, DEP 1999, FEMA 2008 and 2010. The 2010 operation specifically targeting trap debris from Hurricane Wilma (2005) produced these statistics: 18 days of operation, 109 boats utilized and 171 personnel engaged. This action resulted in the following retrieval statistics: 64,696 buoys, 1686 traps, 128,000 feet of rope, 162 plastic buckets, 2160 plastic bottles, 31 plastic hard hats, 8 pieces of plastic furniture and 1 television set (FKCFA & Cahaba Observer Reports).

10. Readiness for Implementation/Permitting Considerations

Since the project would take place during the closed spiny lobster and stone crab seasons both personnel and equipment would be readily available. Personnel with previous experience and administrative actions and partners from previous events of this type are immediately available to engage the project. Similarly, partners from previous programs such as Florida Keys National Marine Sanctuary and the Florida Fish and Wildlife Conservation Commission are in part responsible for issuing the permits and we would anticipate prompt approvals.

11. Project Completion Timetable

Physical debris removals will take place during the commercial spiny lobster and stone crab closed seasons (between June 1 and August 5) each of the five years. Research components associated with the analysis of the debris composition and categorization will commence in late August or early September of the year the program commences. A summary of the analyses of data collection and marine debris by types, amounts and sources will be disseminated annually

but not more than later 12 months after each project is completed.

12. Environmental benefits

Previous clean-up efforts conducted in cooperation with state and federal agencies have been limited in scope and were generally associated with removal of debris related to the trap fishing industry and consisting primarily of trap buoys, ropes, plastic funnels and the traps themselves. We know from experience there are vast amounts of plastic containers of all types lodged in mangrove strands that hold freshwater and therefore the potential for mosquito breeding and proliferation and transfer of harmful bacteria that could cause dengue fever or lime disease.

Restoration of beach and shore line areas in the Marquesas keys would serve to promote turtle nesting of threatened species such as green and loggerhead turtles.

13. Economic Benefits

Marine debris especially in shallow water areas damages the marine environment, creates visual pollution, imperils navigation, adversely affects tourism and recreation activities, creates marine resource user conflicts and poses public health and safety concerns. Within the context of a Florida Keys economy which is dependent upon revenues generated by marine commerce and recreation, these issues are particularly troublesome.

The context of tourism revenues to the Florida Keys economy underscores the importance of these issues. Tourist activities can be directly affected by marine debris (Spengler and Costa 2008). Residues from plastic, nylon, polystyrene and foam can impede water intake and bilge systems of vessels. Ropes, cords and monofilament lines can entangle in propellers and immobilize water craft. Rope and floating debris can accumulate, combining with other forms of flotsam potentially imperiling the execution of numerous water activities. Debris can also hinder the activities of recreational fishermen targeting gamefish in shallow water areas.

Collectively, the Florida Keys are ranked as the #1 commercial seaport in the State of Florida and #2 in the South Atlantic (NOAA, State of the Nation's Fisheries 2011). We represent enormous economic value to the State and more importantly to the County as the second largest revenue and jobs provider next to tourism. Maintaining healthy mangrove and estuarial shorelines are essential to healthy larval populations of fish and crustaceans.

Reliable harvest of sustainable resources such as spiny lobster, stone crab and finfish are vital to the Keys economy. Fish processors, restaurants and hotels depend on these products to satisfy both tourist and local demand. Ex-vessel values of these species are calculated at \$100 million annually and multipliers generally used by University of Florida Sea Grant and other economists place the value at \$600 million dollars annually to the local Florida Keys economy.

A directed and sustained commercial fishing industry has existed in the Keys for over 80 years providing an economic cornerstone and a component of the region's identity. The commercial fleet directly supports over 1,600 families in the Florida Keys and more than 3,500 persons in directly related businesses.

Monies expended for payroll in the performance of the project would, for the most part, be paid

to residents of Monroe County, FL. It is reasonable to expect those funds would contribute to the local economy and also provide employment opportunities to men and women in the commercial fishing industry during a typically closed season.

14. Community Economic and/or Environmental Resilience Benefits

Long-term benefits of this type of program are significant both economically and environmentally. Clean beaches, shorelines and ecologically friendly areas are enormous visual and physical attractants to tourists from all venues. These same efforts provide Essential Fish habitat (EFH) to numerous commercially and recreationally important marine species. Enhancement of these same areas provides safe havens and nesting sites for marine mammals such as green and loggerhead turtles.

15. Complements to Existing Efforts/Public Acceptance

While similarity exists between the FWC Trap Retrieval Program and those of this proposal, there is minimal overlap in terms of the scope of the work. The Trap Retrieval Program works to remove commercial traps and recreational fishing gear during times of the year when the commercial trap fisheries are closed. Thus, other forms of debris are excluded. The trap retrieval program also works in much deeper waters than the sites selected by this project limiting geographical overlap. The FKCFA program involves a broader scope with goals of removing and cataloguing all solid marine debris encountered from the selected sites.

16. Compliance with Federal, State, Local Regulations

The abilities and supportive capacities of constituent organizations are integral to the success of the project. Several aspects of debris removal and disposal require regulatory permits. Collaborators and supporters of the project have experience in requesting, receiving and in many cases participating in approved clean-up events. These entities consist of State and Federal regulatory agencies, nongovernmental organizations and academic institutions all of which have a history of approving permits for these actions. The execution of the physical cleanup during closed stone crab and lobster seasons eases the acquisition of Florida Fish and Wildlife Conservation Commission approval to remove abandoned gear in that any trap present during the closed season for that species is considered derelict.

17. Project Management Capacity

Project management consists of FKCFA representatives partnering with the Florida Fish and Wildlife Conservation Commission's (FFWCC) Fish and Wildlife Research Institute (FWRI) headquartered in Marathon, Florida and the Student Conservation Association. FKCFA would take management responsibility for field operations and physical clean-up efforts. The association has a broad base of experience in coastal restoration efforts and debris removal both above and below water, near shore and off, and shoreline restoration.

FWRI marine scientists and biologists would coordinate data collection, provide data summaries and maintain a data base for analyses of debris types, locations, origins, areas of consistent accumulation, factors in distribution and accumulation such as tidal flows, eddies, tropical storms, hurricanes and other natural events.

Members of the Student Conservation Association, a world-wide accredited and insured

academic association, would provide at-sea observers to document and record recovered debris by location, volume, weight and type.

The expected outputs of these components include: a geo-referenced data input template, a prototype database template, spatial mapping and quantification of debris type and recommendations for marine debris disposal and minimization. Together these products will be utilized to provide the FKCFA and policy makers with scoping tools and planning mechanisms to further execute strategies to remove, mitigate and prevent marine debris and its accrual. The spatial mapping and quantification of the debris will be utilized with other research objectives to create educational materials for dissemination to collaborators and the wider keys community.

18. Additional Information

Marquesas Keys, located 30 miles west of Key West, Florida and measuring approximately 4 miles in diameter. The Marquesas Keys consist of a total of 9 islands encompassing 2.541 square miles.



Typical shoreline and mangrove fouling in the Marquesas Keys.



Recovery methods and transfer to larger vessels for delivery to disposal sites.

