

## **MONROE COUNTY, FLORIDA**

### **SUBMISSION TO DEP FOR NATIONAL FISH & WILDLIFE FOUNDATION (NFWF) FUNDING**

#### **Project Name:**

Cudjoe Regional Wastewater Treatment System

The purpose of the proposed Waste Water Treatment Facility (WWTF) for the Cudjoe Regional Service Area is to decrease the discharge of nutrients and other pollutants to improve water quality in the Florida Keys National Marine Sanctuary, consistent with the mission of state and federal entities, and NFWF obligations under the oil spill criminal settlement agreements. Upon completion, the WWTF will meet or exceed all standards required since the adoption of Advanced Water Treatment (AWT) regulations in 2010.

The proposed project is the final project in the Keys-wide centralized advanced wastewater treatment system that will protect the biodiversity, natural beauty and recreational opportunities of the Florida Keys that are important to Florida's tourism industry. Florida Key National Marine Sanctuary is a significant part of the nation's collective natural resources, and is the nursery for commercial and recreational fish species of Gulf-wide importance.

The Florida Keys, a chain of 800 islands spanning over 200 miles from the tip of the Florida peninsula into the Gulf of Mexico, are particularly vulnerable to stochastic events such as oil spills. A spill anywhere in the Gulf of Mexico is a threat. Moreover, new drilling in offshore Cuban waters has created a proximate risk not faced anywhere else in the Gulf or, indeed, the nation. Significant improvements to water quality will help reduce the risk future harm by restoring the resiliency of natural resources of Gulf-wide importance, which is consistent with NFWF criteria laid out in the oil spill criminal settlement agreements.

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

Applicant: Monroe County Board of County Commissioners

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**Project Location** (Include a map, if possible, and the city, county, longitude/latitude, and watershed):

The overall Cudjoe Regional Wastewater Treatment Service Area is located in the Lower Florida Keys, Monroe County, Florida, extending from Mile Marker (MM) 17 to MM 33. The Service Area is in the Florida Keys Watershed and is bordered on the north by Florida Bay and on the south by the Atlantic Ocean.

The following islands are located within the Service area (from north to south):

- No Name Key
- Big Pine Key
- Little Torch Key
- Middle Torch Key
- Big Torch Key
- Ramrod Key
- Summerland Key
- Cudjoe Key
- Upper Sugarloaf Key
- Lower Sugarloaf Key

#### MAP OF CUDJOE REGIONAL SERVICE AREA

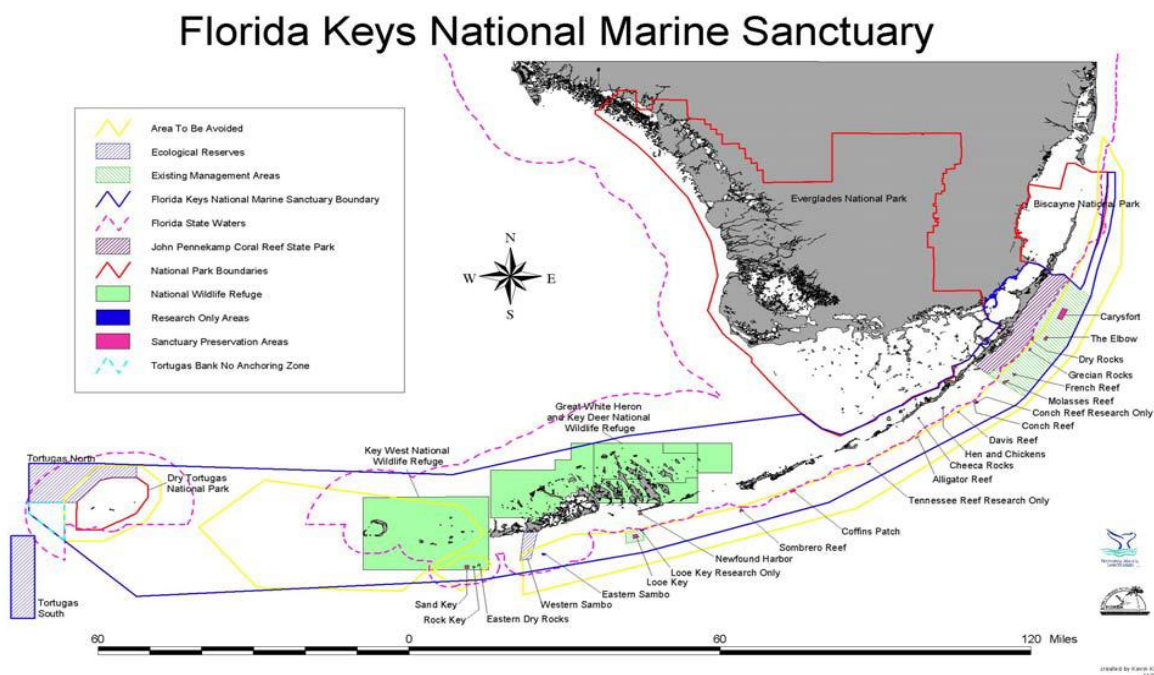


The Cudjoe Regional Service Area includes nearshore waters of the Gulf of Mexico and Atlantic Ocean, which are home to the largest living coral reef system in the U.S and the third largest in the world. The reef system provides habitat for 80 percent of fish species in the U.S., and most commercially valuable fish species depend on nearshore waters at some point during their development. The Cudjoe Regional Service Area and associated nearshore waters are a component of a complex ecosystem that supports over 6,000 species of

plants, fishes and invertebrates. In addition to valuable fish and wildlife habitat, nearshore and marine waters provide numerous recreational opportunities, such as boating, diving, swimming, snorkeling and fishing, supporting \$1.3B in tourism-related economic activity.

Wetlands, which include mangroves, buttonwood, salt marsh, tidal flats and freshwater marsh, comprise approximately 59.4 percent of the habitat within the 20,177-acre Service Area. Uplands make up approximately 40.6 percent of the Service Area and include pinelands, tropical hardwood hammocks and developed lands. The service area encompasses an additional 21,509 acres of benthic habitat comprised of hardbottom, seagrass and barren substrate.

All of the service area lies within Florida Keys National Marine Sanctuary (FKNMS); the service area also encompasses the fragmented boundaries of the Florida Keys Wildlife Refuges Complex, which includes the National Key Deer Refuge and the Great White Heron National Wildlife Refuge, which are home to 32 federally threatened and endangered species. (A map of the Florida Keys National Marine Sanctuary is provided below; it can be viewed here: <http://www.monroecounty-fl.gov/DocumentCenter/View/5320>).



The Cudjoe Regional Service Area is considered a pollutant source to nearshore coastal waters. The vast majority of the over 7,000 homes and business are not connected to AWT, but rather cesspits, septic tanks and outdated on-site package plans, which provide little to no treatment, allowing bacteria and nutrients to leech into nearshore waters, degrading water quality and threatening the rich biological communities of this unique marine ecosystem.

**Project Description** *(Describe all aspects of the project):*

The scope of the project is the construction of the Cudjoe Wastewater Treatment System, the final component of a federally and state-mandated centralized wastewater treatment system for the Florida Keys.

**A Facilities Plan inclusive of an Environmental Assessment has been completed.** (The document, *Cudjoe Regional Wastewater Treatment System Draft Facilities Plan, May 2012* can be found at this link: <http://www.monroecounty-fl.gov/DocumentCenter/View/5318>. It's a very large document.) The Facilities Plan and the Environmental Assessment attached to the Facilities Plan for the Cudjoe Regional Wastewater System explains the purpose and need for the federal action and the decision to be made by the Federal government. Authorizing legislation for the Florida Keys Water Quality Improvement Program (FKWQIP) is described and the Cudjoe Regional Service Area delineated. Relevant issues and related environmental documentation addressed during the scoping process are discussed.

This request is for \$50 million to support the implementation of this critical water quality project. When completed, the project will result in significantly reduced nutrient and bacteria loading to the Florida Keys National Marine Sanctuary, improved water quality in the Sanctuary, and compliance with mandatory state wastewater treatment standards and relevant federal and state regulatory standards.

The project is grounded in the Florida Keys National Marine Sanctuary (FKNMS) and Protection Act of 1990, and in the Sanctuary's Water Quality Protection Plan (WQPP) initially codified into action by the EPA with reports in 1992 and 1993 which first identified the County's wastewater (as well as stormwater and canals) as contributors to water quality degradation. The first Sanctuary Management Plan was released in 1997, and has been continuously updated since that time. The most recent *2007 Sanctuary Management Plan* can be found here: <http://www.monroecounty-fl.gov/DocumentCenter/View/5327>. This document is also attached. (Additional links to the FKNMS Protection Act and early water quality protection plans are also included in the final section of this application.)

This project is consistent with the 2007 Sanctuary Management Plan, and has the support of the Florida Keys National Marine Sanctuary. The letter of support can be viewed here: <http://www.monroecounty-fl.gov/DocumentCenter/View/5331>

This project consists of a treatment facility and transmission/collection pipes, to service residents and commercial businesses located in the Cudjoe Regional Service Area. This system will connect 7,400 parcels to centralized Advanced Wastewater Treatment, meeting the advanced wastewater treatment standards as required by Ch 99-395 Laws of Florida (LOF) as amended by Ch 2010-205 LOF.

The total project cost is \$145 million. Monroe County has committed \$115M in local funds (including a significant portion of our current and future infrastructure dollars, forgoing other critical infrastructure needs.) Residents of the County are bearing 80% of the costs for this mandated water quality project. Even with NFWF funding, county residents will bear a significant, but more moderate 45% responsibility. *(Importantly we will be able to re-direct that valuable infrastructure funding to other critical infrastructure needs. Financial details are addressed in the response to following question.)*

The selected treatment process is a five-stage Bardenpho system capable of meeting Advanced Wastewater Treatment Standards of 5 parts per million Total Suspended Solids, 5ppm Biological Oxygen Demand, 3ppm total Nitrogen and 3 ppm Total Phosphorus. The proposed design capacity of the wastewater treatment facility is one MGD and the maximum anticipated flows will be 0.94 MGD, with a three-month average daily flow of 0.84 MGD. The wastewater treatment system has been designed to provide high level

disinfection such that reclaimed water can be made available for non-potable water use. Four, 90-ft injection wells will also be constructed at the WWTF site.

The system to be utilized is a combination of gravity and low pressure. Gravity sewers have been selected as the method of wastewater collection in densely populated areas. Low-pressure systems will be used to provide wastewater service to less densely populated areas. This technology is considered appropriate for the Cudjoe Regional Service Area because it is a very stable and consistent method of meeting the stringent nutrient removal standards.

Centralized wastewater will be provided to a majority of the population within the Cudjoe Regional Service Area. These centralized areas are referred to as “Hot Spot” areas. The Cudjoe Regional WWTF will address 12 of the 45 water quality *hot spots* in the Florida Keys (*Monroe County Sanitary Wastewater Master Plan, 2000*). “Hot spot” locations correspond with higher-density urban areas and higher ranks represent neighborhoods and subdivisions with the poorest sewage treatment and strongest need for central sewage facilities.

Monroe County has partnered with Florida Keys Aqueduct Authority through Inter-local Agreements to provide centralized wastewater conveyance and treatment strategies that will comply with the Monroe County Master Plan and the standards mandated by the Florida Legislature. The Monroe County Sanitary Wastewater Master Plan analysis of wastewater management alternatives concluded that it is more cost effective and environmentally sound to provide centralized wastewater collection and central Advanced Wastewater Treatment in most areas of the Keys than to upgrade or replace all existing on-site systems and existing treatment plants. (The link to the *Monroe County Sanitary Wastewater Master Plan, 2000* is here: <http://www.monroecounty-fl.gov/DocumentCenter/View/5317>). This plan is also attached.

There are a few decentralized areas where centralized sewer is not deemed cost-effective; these are termed “Cold Spot” areas. In Cold Spots within the service area, we will replace onsite systems with new Florida Department of Health (FDOH) approved Best Available Technology (BAT) systems and provide complete management of those systems. Cold Spots outside of the Cudjoe Regional Service Area will be addressed with onsite system upgrades. The proposed decentralized wastewater system will be centrally managed by the FKAA, as an U.S. Environmental Protection Agency (USEPA) Model 5 management entity.

**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*):

## **PROJECT COSTS:**

The Cudjoe Regional Wastewater Treatment System consists of 4 phased components:

- (1) A wastewater reclamation facility (approximately \$22M), *Designed, permitted, construction has begun*;

- (2) Transmission mains and collection systems to serve the hot spot areas in the inner islands, located from Upper Sugarloaf to Summerland (approx. \$36M), *Designed, permitted, construction to begin now;*
- (3) Transmission mains and collection systems to serve the hot spots areas of the Outer Islands, which include Lower Sugarloaf Key and Ramrod to Big Pine Key (approx. \$81M), *under contract for Design-Build; will be permitted as sections are design complete;* and
- (4) Onsite Wastewater Nutrient Reducing Systems for “cold spot” areas (approx. \$6M).

This is unified, fully integrative system. The plant will serve both the inner and outer islands. The outer islands will share the inner islands’ transmission mains. The project is fully permitted. The design-build contract for the collection system for outer islands will be permitted as it proceeds. (The project’s permits can be viewed here: <http://www.monroecounty-fl.gov/DocumentCenter/View/5325>.)

The collection systems will be constructed in parallel with the treatment plant. Construction will begin in the Spring of 2013 and will require 3 years to complete. The cost of the system: \$144,479,550.

**This request is for \$50M.** Monroe County has concurrently submitted this proposal for RESTORE Act Federal Council funding. However, NFWF is a preferred source for the following reasons:

- a) RESTORE funds are not yet available and the amount of potential RESTORE funding is unknown. It may be years, perhaps decades, before RESTORE funds are distributed. NFWF funding is already court-certified.
- b) RESTORE funds may not be used to reimburse costs already incurred. As Monroe County will proceed with this project beginning in 2013, RESTORE funds will be available only for the portion of the project not yet completed.
- c) NFWF funding will clearly benefit fish and wildlife, as well as reduce the risk of future harm from oil spills, consistent with the NFWF mission.

Allowing for the uncertainty in the time frame for potential RESTORE Act federal council funding, we will utilize NFWF and potential RESTORE Act support for the third phase component above (transmission mains and collections systems), since that is the component with the longest construction period (approximately 3 years to complete; and begins FY 2013).

The cost of this component is \$144,479,550 and this is the amount reflected in the Cost Appendix Sheet on final page of this submission.

|                |           |                    |
|----------------|-----------|--------------------|
| Year 1 (2013): | \$        | 50,495,873         |
| Year 2 (2014): | \$        | 74,474,545         |
| Year 3 (2015): | \$        | <u>19,509,132</u>  |
| <b>Total:</b>  | <b>\$</b> | <b>144,479,550</b> |

A brief description of the four project elements and construction contracts awarded as follows:

- Contract 1: Cudjoe Key Advanced Water Reclamation Facility  
Contractor: Wharton-Smith Inc.  
Contract Amount: \$21,872,000  
Acceptance of Plans and Specifications: January 31, 2013

The contract includes construction of a new 0.94 mgd, average annual flow, advanced water reclamation facility including but not limited to influent screening, flow equalization, 5-stage biological nutrient removal treatment, secondary clarification, tertiary filtration and disposal via shallow injection wells. Solids processing consists of rotary drum thickening, thickening solids storage and centrifuge dewatering.

- Contract 2: Cudjoe Regional Wastewater Inner Islands Collection and Transmission Systems  
Contractor: Giannetti Contracting Corporation  
Contract Amount: \$35,722,810  
Acceptance of Plans and Specifications: January 31, 2013

The contract includes all labor, materials, equipment, services, fittings, valves, connections, and appurtenances for the installation of a hybrid wastewater collection system and pressure transmission main for the islands of Upper Sugarloaf, Cudjoe and Summerland Keys. Two master lift stations, 26 neighborhood lift stations, 581 Simplex low pressure stations, 2 Duplex low pressure stations, 73,000 feet of gravity sewer and over 150,000 feet of transmission main are to be installed. Roadway removal and repair, dewatering, MOTs, restoration and miscellaneous appurtenances are required.

- Contract 3: Request for Proposals for Cudjoe Regional Wastewater Collection System, Design-Build project for Outer Islands ***(We anticipate utilizing requested funding for this program component.)***  
Contract Amount: \$80,884,740  
Acceptance of Plans and Specifications: January 31, 2013

This Design-Build contract includes finalizing the design and construction of the collection systems and transmission mains for the centralized services areas of Lower Sugarloaf and Ramrod north to Big Pine Key. Preliminary design reports and drawings have been developed that include collection system types and locations, horizontal pipeline locations and alignments, and neighborhood and transmission pump station locations. As sections are design complete, we will obtain permits.

- Cold Spot Onsite Treatment and Collection: \$6M  
Replacement of onsite systems (areas not scheduled to be provided with central sewer) with new Florida Department of Health (FDOH) approved Best Available Technology (BAT) systems. An EPA grant, in cooperation with DOH and DEP, is supporting this effort.

*Note regarding alternatives: For the alternatives review for the treatment plant see Appendix C of the Cudjoe Regional Wastewater Treatment System Draft Facilities Plan, May 2012. For the alternatives review for the collection system, see Appendix D of the Cudjoe Regional Wastewater Treatment System Draft Facilities Plan, May 2012. The link has been provided.*

## **FUNDING SOURCES:**

At this date, the project is proposed to be funded largely with local funding. In order to complete the project, Monroe County will be required to utilize all of its unobligated cash on hand (\$20M), assess local residents (\$40M), and divert \$55M of its infrastructure sales tax revenue to this single water quality infrastructure project. These sources—all local—make up 80% of the project's total cost. (The remaining 20% is State funding.)

With NFWF funding, the burden of this federally and state mandated project can be more equitably shared. This request for \$50M represents 34% of the projects total cost. The State's share would remain at 20%, and Monroe County's share would still be a significant but fairer 45%. NFWF funding would make more equitable the financial obligations of local, state and federal entities, and would enable the County to direct some of its committed funds to other critical and neglected infrastructure needs.

Monroe County's commitment of \$55M in infrastructure sales tax revenue to this single water quality project represents a significant portion of Monroe County's total funding available for all of its infrastructure projects for the next decade, and means that the County's will be significantly challenged to address its other critical and neglected infrastructure needs.

Should Monroe County receive \$50M, the County could then utilize \$50M in infrastructure funding to address other water quality projects (such as canal restoration and stormwater) and other critical infrastructure projects. Primary among our critical infrastructure needs are road and bridge improvements. The County owns 26 bridges, 16 of which are at or approaching the end of their 50-year design life span; each is also on a major evacuation route or provides the only access to its respective community. These same bridges will hold future wastewater utilities underscoring the need for them to be in safe and sound condition.

The chart below shows the funding plan with and without NFWF funding:

| <b>FUNDING SOURCES</b>                                                                                                                         | <b>FUNDING<br/>PLAN with NO<br/>RESTORE</b> | <b>FUNDING<br/>PLAN WITH<br/>RESTORE</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------|
| 1. Local unobligated County funds on hand:                                                                                                     | \$ 20M                                      | \$ 20M                                   |
| 2. Local Infrastructure Sales tax revenue:                                                                                                     | \$ 55M                                      | \$ 5M                                    |
| 3. System Development Fees to users levied as special assessments:<br><i>(\$4,500 per residential unit, set by Monroe County in April '08)</i> | \$ 40M                                      | \$ 40M                                   |
| 4. FY 12-13 State of Florida Appropriation subject ot line item 1592A:                                                                         | \$ 30M                                      | \$ 30M                                   |
| 5. RESTORE Act Federal Council Funding:                                                                                                        | 0                                           | \$ 50M                                   |
| <b>TOTAL:</b>                                                                                                                                  | <b>\$ 145M</b>                              | <b>\$ 145M</b>                           |
| <b>COUNTY CONTRIBUTION:</b>                                                                                                                    | <b>80%</b>                                  | <b>45%</b>                               |
| <b>STATE CONTRIBUTION:</b>                                                                                                                     | <b>20%</b>                                  | <b>20%</b>                               |
| <b>RESTORE CONTRIBUTION:</b>                                                                                                                   |                                             | <b>34%</b>                               |

**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]):*

Funding sources:

|                                       |                |
|---------------------------------------|----------------|
| (1) County Unobligated Funds:         | \$ 20M         |
| (2) Infrastructure Sales Tax Revenue: | \$ 55M         |
| (3) System Development Fees to Users: | \$ 40M         |
| (4) State of Florida:                 | <u>\$ 30M</u>  |
| <b>TOTAL</b>                          | <b>\$ 145M</b> |

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

The technology chosen for the Cudjoe Regional Wastewater System is a hybrid of gravity and low pressure collection systems. This is proven technology is utilized in service areas throughout the Keys. Gravity will be utilized in the densely populated areas, and low pressure will be utilized in the least populated areas.

In selecting this collection system, the effectiveness, costs of construction and the long term costs of operation of alternatives were evaluated. The presence of lime rock and the high water table here in the Keys, makes gravity systems very expensive to construct; however, once constructed, gravity is the simplest and least expensive system to operate. Per recent and on-going studies prepared by the various entities responsible for providing sewer service in the Keys, gravity systems may be as or more cost-effective than the alternatives. (For example, vacuum is utilized as a less expensive alternative, however, its installation requires greater precision, and if not installed properly on-going maintenance is costly.)

Gravity and low pressure systems for wastewater collections and treatment are currently being implemented in all service areas throughout the Florida Keys, and they are successfully meeting the 2010 AWT standards. Average estimated nutrient reductions throughout the Keys are on the order of 69 and 73 percent in Total Nitrogen (TN) and Total Phosphorus (TP) loadings, respectively, using Advance Water Treatment (AWT) standards. (WWTFs are required to treat effluent to AWT or BAT standards. For facilities that treat over 100,000 GPD, the AWT standards are five milligrams per liter (mg/L) BOD, five mg/L TSS, three mg/L TN, one mg/L (5:5:3:1); and for facilities treating less than 100,000 GPD the BAT standards are ten mg/L, ten mg/L, ten mg/L and one mg/L (10:10:10:1) respectively.)

Upon project completion, the entire Cudjoe Regional Service Area will meet the 2010 AWT standards. Based on calculations prepared for similar central wastewater districts within the Florida Keys, reductions in TN, TP, and Total Suspended Solids (TSS) loadings between 85-88, 79-81, and 77-91 percent, respectively, are anticipated for the Cudjoe Regional Service Area as a result of implementing the proposed wastewater improvements. The proposed WWTF would meet AWT standards and includes disinfection. (The Army Corps of Engineers' previously developed Florida Keys Carrying Capacity Study [FKCCS] model provided a means of quantifying the effects of wastewater improvement projects, specifically the reductions in nutrient loads, within the Sanctuary. An independent contractor from the team who originally developed the

FKCCS model coordinated with and assisted the South Florida Regional Planning Council in running the model for FKWQIP projects, specifically for Key Largo, Islamorada and Marathon. These similar wastewater districts provided the basis for calculating the anticipated range of nutrient reductions associated with construction of the Cudjoe Regional WWTF.)

Currently, there are approximately 7,400 properties in the Cudjoe Service area. The vast majority of this service area's residences and businesses rely on unregulated, uninspected, outdated onsite disposal with minimal treatment. (The exceptions are homes and businesses developed since 1999, and FDEP-permitted plants.)

The Cudjoe Regional Wastewater Treatment system will bring all of these homes and businesses on-line with centralized wastewater compliant with 2010 AWT standards, and result in an immensely beneficial impact on nearshore water quality. The use of NFWF funds to assist in the construction of this project is the best means to reduce this nutrient source and protect the Sanctuary.

**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]):*

This project will reduce nutrient and bacteria loading to the Florida Keys National Marine Sanctuary (FKNMS), improve water quality in the Sanctuary, in support of the goals and objectives of the FKNMS Water Quality Protection Program, Florida Keys Water Quality Improvements Act (FKWQIA) and the Florida Keys Water Quality Improvement Program (FKWQIP, US Army Corp, 2006) whose purposed is to improve water quality in the Sanctuary, and in compliance with relevant federal and state regulatory requirements and mandates. (The FKWQIP Management Plan can be viewed here: <http://www.monroecounty-fl.gov/DocumentCenter/View/5316>)

Additionally, **a draft Environmental Assessment (EA) for this project has been completed as part of the Facilities Plan.** The EA is part of the Facilities Plan, but for ease of reference the EA alone can be referenced at this link: <http://www.monroecounty-fl.gov/DocumentCenter/View/5314>)

**Environmental Setting.** The Florida Keys National Marine Sanctuary was designated by Congress in 1990, in order to protect the complex marine ecosystem that supports a variety of spectacular, unique, and nationally significant mangrove islands, seagrass meadows and extensive living coral reefs. This ecosystem is the marine equivalent of a tropical rain forest in that it supports high levels of biological diversity, is fragile and easily susceptible to damage from human activities, and possesses great value to humans if properly conserved.

The Florida Keys ecosystem contains one of North America's most diverse assemblages of flora and fauna. The ecosystem supports over 6,000 species of plants, fishes, and invertebrates, including the nation's only living coral reef. The coral reef tract, arching in a southwesterly direction for 220 miles from the southern tip of Florida, is the third largest in the world and a unique system of coral reefs in the continental U.S.

The ecosystem includes one of the world's largest seagrass beds, which are among the richest, most productive, and most important submerged coastal habitats. Seagrasses provide food and habitat for commercially and recreationally important species of fish and invertebrates, and are an integral component of tropical coastal environments.

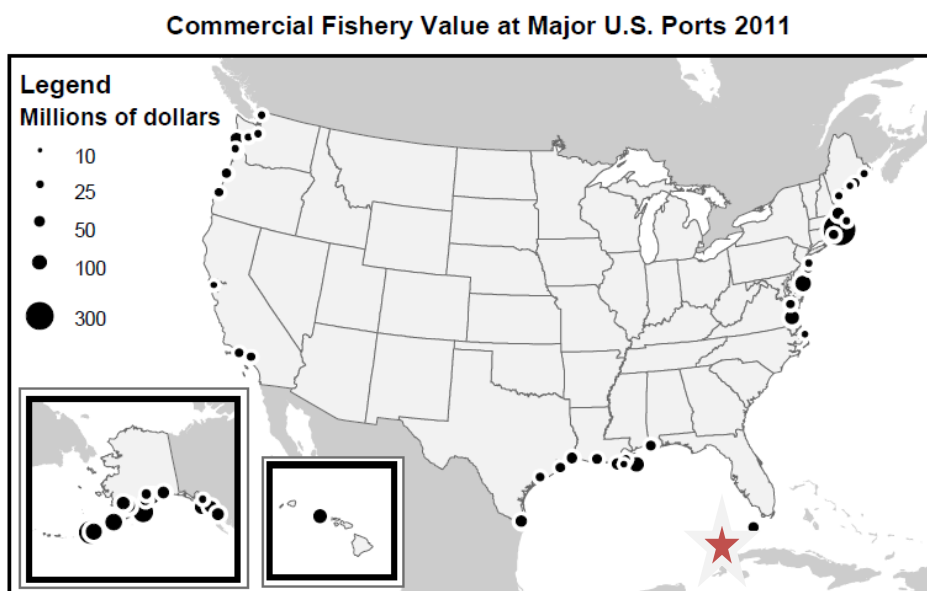
Mangroves comprise the third important component of the Florida Keys ecosystem, with red mangrove trees fringing the 1600 islands and 1800 miles of shoreline within the Sanctuary. Mangroves provide habitat for juvenile fishes and invertebrates, stabilize sediments, and produce prop-root surfaces for attached organisms such as oysters, sponges, and algae.

This unique ecosystem provides unparalleled support to fisheries and essential habitats throughout Florida and the Gulf of Mexico. According to NOAA's Florida Keys National Marine Sanctuary Revised Management Plan (2007), it provides critical spawning habitats to over 520 species of recreational and commercial migratory, endemic, coastal & pelagic finfish and shellfish.

**According to the US Army Corps' Florida Keys Water Quality Improvement Program (FKWQIP) Environmental Impact Statement (2004), the Keys' waters provides habitat for 80 percent of the fish species in the U.S., and most commercially valuable fish species depend on Monroe County nearshore waters at some point during their development (p. 42).** (The FKWQIP Environmental Impact Statement can be viewed at this link: <http://www.monroecounty-fl.gov/DocumentCenter/View/5315>)

Monroe County is the only port in the entire state of Florida to rank among the nation's top 50 ports in landings tonnage or landings value. We are home to the 13th most valuable port the nation and the 5th most valuable port in the Gulf of Mexico, according to NOAA's Fisheries of the United States, 2011, dated August 2012. (This document can be viewed here: <http://www.monroecounty-fl.gov/DocumentCenter/View/5326>).

A map of ports of major value, from this report is below, and shows Monroe County as the only major U.S. commercial fishing port in the State of Florida:



**Environmental Impact.** Improved water quality is the single most significant environmental impact of this project. Eutrophication (an outcome of excess nutrients in the water), of nearshore waters is a documented problem for the Sanctuary's waters. Water quality is critical to maintaining the marine ecosystem of the Sanctuary, and influences the coral reef and the organisms dependent on the reef.

Before centralized wastewater treatment implementation began, the Keys' waters were experiencing nutrient loading from approximately 23,000 private onsite systems and 246 small wastewater treatment plants. These systems included septic tanks, cesspools, and package treatment facilities and shallow injection wells for sewage disposal. When improperly operated and maintained, these systems allow bacteria and nutrients to leach into nearshore waters. In some nearshore areas where water quality is monitored, beaches have been posted for health advisories due to fecal coliform bacteria contamination of surface waters after moderate rainfall events.

Numerous scientific studies have documented the contribution of failing septic tanks and cesspools to the deterioration of canal and nearshore water quality in the Florida Keys. In addition, research has suggested that increased nutrient loadings from wastewater into canals and nearshore waters are one of the major contributors to the decline of water quality within the Sanctuary.

In general, nutrient pollutants from the Florida Keys have greater nearshore affects than offshore affects due to dilution by tides and currents (Kruczynski 1999, Szmant and Forrester 1996). The relationship between fecal contamination and nutrient enrichment of nearshore waters and septic tanks has been reviewed in many studies, including Lapointe and Clark (1992) and Paul *et al.* (1995 and 1997). These studies generally concluded that septic tank use increases the nutrient contamination of ground water and consequently, shallow nearshore waters, and that transport of contaminant from septic tanks can occur in hours or days (ten hours for Key Largo and 53 hours for the middle Keys). Several authors (Lapointe and Clark 1992, Lapointe and Matzie 1996 and Lapointe and Matzie 1997) have concluded that nutrient enrichment at offshore reefs is possible following heavy rains and/or high wind events.

The FKWQIP was created in response to regulatory requirements and in the interest of protecting public health and water quality. At the federal level, the Sanctuary and Protection Act of 1990 directed the USEPA and the State of Florida to develop a water quality protection plan for the Sanctuary. Locally, the Monroe County 2010 Comprehensive Plan mandates nutrient loading reductions in the marine ecosystem by the year 2010 and that wastewater systems meet more stringent Florida Statutory Treatment Standards. It is important to note that the Monroe County 2010 Comprehensive Plan is currently being updated to reflect the state's newly-extended 2015 deadline for advanced wastewater treatment.

With the implementation of centralized wastewater, average estimated reductions in wastewater loading to nearshore waters in the Florida Keys due to implementation of FKWQIP are approximately 69 and 73 percent in TN and TP loadings, respectively, using AWT standards.

Importantly, FKWQIP projects, including the Cudjoe system, are consistent with the effort of the Comprehensive Everglades Restoration Plan (CERP), and in combination with CERP, would cumulatively benefit the restoration, protection, and preservation of water resources in South Florida. The CERP covers 16 counties in central and South Florida, including the Everglades and the Keys, addresses water quality through the multi-step Everglades Construction Project, and also focuses on species diversity and habitat protection.

## **Proposed Project**

**Cudjoe Regional Service Area.** The purpose of the proposed Wastewater Treatment Facility (WWTF) for the Cudjoe Regional Service Area is to decrease the discharge of nutrients and other pollutants and consequently improve water quality in the Sanctuary, consistent with the mission of state and federal entities. The Cudjoe Regional Service Area is the final area to be addressed with centralized wastewater system. It is estimated 7,000 onsite systems are presently being used in this service area.

The Cudjoe Regional Service Area includes nearshore waters of the Gulf of Mexico and Atlantic Ocean, which are home to the largest living coral reef system in the U.S. The reef system provides habitat for 80 percent of fish species in the U.S., and most commercially valuable fish species depend on nearshore waters at some point during their development. In addition to valuable fish and wildlife habitat, nearshore and marine waters provide numerous recreational opportunities, such as boating, diving, swimming, snorkeling and fishing. In addition, wetlands comprise approximately 59.4 percent of the habitat within the 20,177-acre Service Area. Wetlands include mangroves, buttonwood, salt marsh, tidal flats and freshwater marsh.

A number of recent scientific studies have documented the contribution of failing septic tanks and cesspools to the deterioration of the canal and nearshore marine water quality in the Florida Keys. The studies attribute increased algal blooms, seagrass die-off, and the decline in coral reef ecosystems health to inadequate wastewater treatment. Scientists concur that one of the principal sources of water quality degradation in the Sanctuary is the elevated level of nutrients in surrounding canals and nearshore water.

Fecal contamination of nearshore waters due to untreated or poorly treated wastewater has also been examined in the Service Area. Six canal sites between Lower Sugarloaf Key and Big Pine Key were sampled for viral pathogens and microbial indicators. Six indicators of fecal pollution were assessed in canals at the sites (Griffin *et al.* 1999). Contamination results varied greatly within the Service Area.

**Project Environmental Benefits.** The benefits of centralized wastewater treatment include water quality improvements due to decreased nutrient and other contaminants into nearshore waters of the Sanctuary. Continued runoff of untreated wastewater, continued degradation of water quality and continued non-compliance with state and federal mandates is anticipated until advanced wastewater treatment is implemented in all areas of the Florida Keys.

Reductions in TN, TP, and TSS loadings between 85-88, 79-81, and 77-91 percent, respectively, are anticipated for the Cudjoe Regional Service Area as a result of implementing the proposed wastewater improvements, based on calculations prepared for similar central wastewater districts (Marathon, Islamorada and Key Largo) within the Florida Keys. The proposed WWTF would meet AWT standards and includes disinfection.

The proposed project is designed to protect the biodiversity and natural beauty of the Florida Keys National Marine Sanctuary, a significant part of the nation's collective natural resources.

**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):*

**Economic:** Monroe County is the only county on the Gulf coast with a barrier reef. The coral reef tract in the Florida Keys is the third largest in the world, and the only living reef in the continental US. This reef

environment generates more than 70,000 jobs and \$6 billion dollars in economic activity annually, according to a study published in 2005 by the University of Miami. (*Towards Sustainable Multispecies Fisheries in the Florida, USA, Coral Reef Ecosystem, Bulletin of Marine Science, 2005; Ault, Jerald, et al.*)

**Tourism:** The quality of life for tourists in the Florida Keys relies on a healthy marine ecosystem and can be negatively impacted by water quality degradation. The Florida Keys marine environment supports Monroe County's number one industry: tourism.

Each year, \$1.3 billion is spent in marine outdoor activities by almost 3 million visitors; it provides 58% of all jobs. (FKNMS Revised Management Plan, 2007; Sanctuary Biennial Report Part 2 to Congress 2013)

Water related activities, including snorkeling, diving, fishing, and other activities support 33,000 jobs in the Florida Keys. (NOAA, FKNMS Socioeconomics Factsheet).

From 2007 to 2008, more than 400,000 visitors and residents of the Florida Keys engaged in over 2M person-days of recreational sports fishing. These recreational fishers spend \$262M in Monroe County, approximately \$103M of which was directly spent on fishing items (NOAA, FKNMS Socioeconomics Factsheet).

Approximately 739,000 visitors and residents participated in 2.8 million days of diving in the Florida Keys between 2007-2008; \$51.7M was spent at diving/snorkeling operations. Moreover, divers spend a total of \$450M in Monroe County, Florida Keys, supporting more than 7,500 jobs. (NOAA, FKNMS Socioeconomics Factsheet).

**Recreational and Commercial Fishing:** The Florida Keys ecosystem is home to 520 fish species, including over 260 species of reef fish, as well as spiny lobster, stone crabs, and queen conch that support valuable commercial and recreational fishing economic activity. The Keys are considered 'fishing capital of the world', generating hundreds of world records and billions of dollars of economic impact, in addition to providing well-known habitats and spawning grounds for many of the commercially and recreationally-harvested fish species that populate the Gulf.

With the highest number of recognized International Game Fish Association (IGFA) all tackle, saltwater line class, and saltwater flyrod "World Record Game Fish" records, Monroe County is the global center of recreational and sport fishing.

We are home to the 13th most valuable port the nation and the 5th most valuable port in the Gulf of Mexico, according to NOAA's Fisheries of the United States, 2011, dated August 2012. Monroe County is the only port in the entire state of Florida to rank among the nation's top 50 ports in landings tonnage (14M pounds) or landings value (\$56M).

**Environmental Justice:** Nearly 25 percent of population within the Service Area is made up of individuals regarded as either low income or over 65 years of age. Approximately 7.7 percent of the population was living below the poverty level in 2008, and the portion of residents over the age of 65 is estimated to be approximately the same as that of the county and state (14.7 percent and 17.6 percent, respectively). This segment of the population often lives on fixed incomes and, while their income may not be below the poverty level, they are affected by cost of living changes. These factors suggest that while the majority of the residents within the Service Area are above poverty levels, there are considerable impacts to residents associated with the costs of the Cudjoe Regional Wastewater System, raising potential environmental justice concerns.

**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]):*

The design of the Cudjoe Regional Wastewater system incorporates a number of features to mitigate the effects of storms or long term sea level rise. The plant tankage and equipment are above FEMA base flood elevations and the control building is elevated. These features mitigate both storm surge events and long term rise in sea level. Backup electrical power is provided for the plant and major transmission pump stations. Neighborhood and individual property pump stations are provided with connections for backup power which is provided by the operator on an as needed basis. All pump systems are sealed to minimize storm water incursion and are designed to operate submerged. There is sufficient spare hydraulic capacity to handle additional flows due to inevitable incursion during storm surges.

The strength and stability of the local economy is integral to community resilience. The 3 million annual visitors to the Florida Keys provide the basis of the tourism industry on which the economy relies. Tourism is based on clean water and beaches as well as the abundant fish and wildlife that characterize this popular vacation destination. Consequently, potential economic impacts of the proposed project must be considered when evaluating community resilience.

The project provides a significantly lower cost alternative to homes and businesses (about \$7,500) than if these individual homes and businesses had to meeting the federal and state standards individually (between \$18,000-\$22,000). The collective savings to the 7,000 property owners and residents in this service as a result of this project (which is about \$87M assuming each property saves an average of \$12,500) also bolsters community resilience.

**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):*

As a result of declining nearshore water quality in the Keys, a number of federal, state, and local laws and regulations have been implemented to improve wastewater management, monitor water quality, assist in financing water quality improvements, and establish new water quality monitoring standards.

This project is pursuant to and in furtherance of water quality laws and regulations at all levels and consistent with numerous guiding documents. In particular, the Monroe County 2010 Comprehensive Plan, as well as Florida EO 98-309 and FAC. 99-395, mandates that nutrient loading levels be reduced in the marine ecosystem of the Keys by the year 2015. Specific actions include eliminating cesspools, failing septic systems, and other substandard on-site sewage systems as well as requiring all wastewater discharge be treated to Florida Statutory Treatment Standards. In response to the mandated water quality improvements, a number of master plans were prepared by Monroe County and municipalities within Monroe County, including the Monroe County Sanitary Wastewater Master Plan (attached.)

The proposed project is part of the FKWQIP (link has been provided) and therefore directly supports federal, state, and local objectives for improvement of water quality in the Keys. The program is a direct result of the Florida Keys Water Quality Act of 2001 that directed the USEPA and the State of Florida to develop a water quality protection plan for the Sanctuary.

Controversial issues associated with the FKWQIP are the cost of program implementation, the means of recovering initial capital investment, and the means of generating revenues to support maintenance and operational activities. New urban development in the Florida Keys is limited by the ROGO, consequently the number of new users would increase too slowly to share the cost of new and improved wastewater infrastructure.

Under both State of Florida statutes and Monroe County ordinances, residents of the Florida Keys are required to replace existing cesspools and failing septic tanks with adequate wastewater treatment facilities. A significant portion of the population in the Keys is classified as low-income and/or fixed income. Many of the typical measures of affordability are based on median family income which does not adequately reflect the abilities of those least able to afford the capital costs associated with the installation of new treatment systems or connecting to a new public sewer system.

If the Cudjoe project were not to proceed, each resident would be required to implement his/her own, individual wastewater improvements in the form of on-site treatment systems sufficient to meet the county 2015 wastewater treatment requirements. Estimated costs for these on-site treatment systems ranges from \$18,000 to \$22,000 per household, and monthly costs range from \$63 to \$118 (FEMA 2002). Due to a lack of discretionary income, low income and fixed income residents would be adversely impacted by these costs.

With the project, the average total cost to individual property owners in the Cudjoe system will be \$7,500, a much lower, though not insignificant cost. Each owner will be assessed a fee of \$4,500. Additionally, each property will incur an average lateral connection cost of \$3,000.

**Complies with Federal, State, Local, and Tribal Laws/Regulations** *(Describe any concerns or potential conflicts):*

The following is a chronological compilation of the local, state and federal laws and regulations to which the Cudjoe Regional Wastewater Treatment project is pursuant:

- ✓ In 1990, in recognition of the importance of the Florida Keys ecosystem and the degradation of the ecosystem due to direct and indirect physical impacts, Congress passed the Florida Keys National Marine Sanctuary and Protection Act (PL 101-605) directing the US EPA and the state of Florida to develop a Florida Keys National Sanctuary Water Quality Protection Program. The Sanctuary is administered by NOAA and is jointly managed with the State of Florida.
- ✓ In 1997, Monroe County developed its Year 2010 Comprehensive Plan mandates that nutrient loadings to the marine ecosystem be reduced by the year 2010 and that wastewater systems meet more stringent Florida Statutory Treatment Standards. (Currently, the Monroe County 2010 Comprehensive Plan is being updated, and will reflect the state's newly-extended 2015 deadline for advanced wastewater treatment.)
- ✓ In 1998, the Florida Governor issued Executive Order (EO) 98-309, directing local and state agencies to coordinate with Monroe County in the implementation of their Year 2010 Comprehensive Plan to eliminate cesspools, failing septic systems, and other substandard On-Site Wastewater Treatment Systems (OWTS).

- ✓ Also in 1998, the Florida legislature amended the enabling legislation of the FKAA to reinforce FKAA's involvement in wastewater for Monroe County. Monroe County enters into a MOU with FKAA requesting that FKAA exercise its authority to finance, construct, and operate wastewater systems in the Keys.
- ✓ In 1999, the Florida Legislature granted authority to adopt stricter permitting and enforcement for areas in the state that have been designated as Areas of Critical State Concern (Florida Keys designated in 1999, FS 380.0552), Outstanding Florida Waters (waters and canals of the Keys designated in 1999, FAC 62-302.700), and Class II Shellfish Harvesting Waters (waters of the keys so designated in 2000, FAC 62-302.400), all of which have been so designated for the Florida Keys. (Through the mechanisms at its disposal, DEP has made water quality in the area of the Florida Keys an issue of utmost priority.)
- ✓ In 1999, FL 99-395 establishes new requirements for all sewage treatment including new AWT standards, reuse and disposal facilities, and all on-site systems in Monroe County, set statutory effluent standards and associated compliance schedules. The Governor's cabinet amended the 1997 Five Year Work Program to accelerate the pace of the wastewater program, identify hot spots, and initiate cesspool identification outside hot spot areas. Monroe County passes ordinance 031-1999 to comply with the Governor's revised Five-Year Work Program.
- ✓ In 2000, Monroe County completed its Monroe County Sanitary Wastewater Master Plan. (This is attached.) The Cudjoe Regional Wastewater System will address 12 of the 45 water quality hot spots in the Florida Keys identified in this document.
- ✓ In 2001, with Public Law 106-554, The Florida Keys Water Quality Improvement Act, the US Congress authorized the Corps to provide technical and financial assistance to improve the water quality of the Florida Keys National Marine Sanctuary. This would be done through the Florida Keys Water Quality Improvement Program.
- ✓ In 2004, the Programmatic Environmental Impact Statement was prepared by the Corps for the proposed FKWQIP and published in the Federal Register. The PEIS provides a framework to address potential environmental impacts associated with design and implementation of the FKWQIP. The PEIS was prepared in accordance with the NEPA, the CEQ regulations implementing NEPA (40 CFR 1500-1508), and FEMA regulations (44 CFR Part 10, Environmental Considerations). These laws and regulations require the Corps to consider and address issues when funding any federal action.
- ✓ In 2006, The Corps, in partnership with the local municipalities in Monroe County, developed and completed the Florida Keys Water Quality Improvements Program (FKWQIP) Final Program Management Plan, a comprehensive plan to develop and implement wastewater and storm water improvements as the means for improving water quality in the National Marine Sanctuary. (This is attached.)
- ✓ In 2010, a project-specific EA for the Cudjoe Regional Treatment System was developed and tiers off from the PEIS for the FKWQIP, and thereby incorporates the PEIS by reference, in accordance with 40 CFR Part 1508.28. All environmental regulatory requirements have been addressed in the EA for Cudjoe as part of the NEPA process, as described in individual sections pertaining to protected species, habitats, wastewater treatment, and other relevant issues. The Notice of

Availability for the Federal Finding of No Significant Impact for the Draft Cudjoe Regional Facilities Plan was published in the Florida Administrative Weekly on April 29, 2011.

- **National Environmental Policy Act of 1969.** Early identification of issues was conducted as part of the FKWQIP, of which the Cudjoe Regional wastewater project was a component. Scoping, a Notice of Intent to prepare a draft PEIS, and a draft and final PEIS were all released for the FKWQIP between September 2002 and September 2004.
- Environmental information on the Cudjoe Regional WWTF project has been compiled and an EA has been prepared and released for public and agency review. The project is in compliance with the National Environmental Policy Act.
- **Endangered Species Act of 1973.** Coordination with the USFWS under Section 7 of the ESA will occur during the NEPA review of the Draft EA. The Draft EA will constitute the Corps' Biological Assessment and Section 4.6 addresses the affects to threatened and endangered species. Section 7 coordination will be completed prior to construction. Because construction activities are terrestrial and there would be no adverse impacts to marine resources, the Corps has determined there would be no affect to federally-listed threatened or endangered species or critical habitat under the jurisdiction of National Marine Fisheries Service. No further coordination with NMFS is required. The project will be in compliance with the Act.
- **Fish and Wildlife Coordination Act (FWCA) of 1958.** The FKWQIP PEIS has been coordinated with the USFWS and the protection of sensitive ecological resources, federal land resources, protected species and critical habitat have been addressed in Sections 3.5, 3.6, 4.5, and 4.6 of this Draft EA. Coordination under the FWCA will be conducted during the NEPA review of the Draft EA. This project is in full compliance with the Act.
- **National Historic Preservation Act of 1966 (Inter Alia) (PL 89-665, the Archeology and Historic Preservation Act [PL 93-291] and Executive Order 11593).** A review of the Master Site Files was completed for the proposed WWTF site and is addressed in Sections 3.9 and 4.9 of this Draft EA.
- **Clean Water Act of 1972.** All state water quality standards will be met. The project is in compliance with this Act. There are no wetlands on the proposed facility sites therefore, a 404 Permit is not required.
- **Clean Air Act of 1972.** The Service Area is in a Clean Air Act compliance area. No air quality permits would be required for this project. To comply with Section 309 of the Act, this Draft EA will be reviewed by concerned agencies including the USEPA, other stakeholder agencies, and the public.
- **Coastal Zone Management Act of 1972.** A federal consistency determination in accordance with 15 CFR 930 Subpart C has been included in this Draft EA as Appendix A. The consistency review, delegated to the state of Florida, was performed during the public review of this Draft EA. The state has determined that at this stage, the project is consistent with the Florida CZMP.

- **Farmland Protection Policy Act of 1981.** Implementation of the proposed project would not impact any prime or unique farmland. The proposed project is in compliance with the Act.
- **Wild and Scenic River Act of 1968.** No designated wild and scenic river reaches would be affected by project related activities.
- **Marine Mammal Protection Act of 1972.** No construction work would be conducted in the water. Therefore, project related activities would not result in take as defined by Marine Mammal Protection Act.
- **Estuary Protection Act of 1968.** Implementation of the proposed WWTF and associated infrastructure would decrease or eliminate nutrient and contaminant seepage from cesspools and septic systems within the Service Area and consequently decrease pollutant loadings into adjacent estuarine habitats. This project is in full compliance with the Act.
- **Fishery Conservation and Management Act of 1976.** The proposed project has been coordinated with the National Marine Fisheries Service and is in compliance with the Act.
- **Submerged Lands Act of 1953.** The proposed project would not occur on submerged lands of the State of Florida. This Act is not applicable.
- **Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990.** A review of the Coastal Barrier Resource System (CBRS) maps shows that three designated CBRS units lie within the Cudjoe Regional Service Area (FL-50, FL-52 and FL-54). Construction of the proposed central WWTF and all of the infrastructure and transmission lines needed to convey wastewater to the facility will occur outside the boundaries of these CBRS units. However, several decentralized cold spots, located on Summerland Key, Big Torch Key and No Name Key, are within the CBRS units. The project will be in compliance with these Acts.
- **Rivers and Harbors Act of 1899.** The proposed work would not obstruct navigable waters of the United States. The proposed project is in full compliance.
- **Anadromous Fish Conservation Act.** Anadromous fish species would not be affected. The project has been coordinated with the National Marine Fisheries Service and is in compliance with the Act.
- **Migratory Bird Treaty Act and Migratory Bird Conservation Act.** Migratory birds do not currently use the proposed WWTF site and therefore would not be affected by proposed activities. The project is in compliance with these Acts.
- **Marine Protection, Research and Sanctuaries Act.** The term "dumping" as defined in the Act (33 U.S.C. 1402[f]) does not apply to this project. Therefore, the Marine Protection, Research and Sanctuaries Act does not apply to this project.
- **Resource Conservation and Recovery Act of 1976.** A preliminary records search completed for the Service Area during the preparation of this Draft EA found limited potential for hazardous, toxic or radioactive waste substances to be encountered during

implementation of the proposed project. Hazardous waste for this project is addressed under Sections 3.16 and 4.16 of this Draft EA. The project is in compliance.

- **Toxic Substances Control Act of 1976.** No substances regulated under this Act and related laws have been identified in project lands. The project is in compliance.
- **Magnuson-Stevens Fishery Conservation and Management Act.** No adverse affects to Essential Fish Habitat (EFH) are anticipated by implementing the proposed project. Implementation of the proposed WWTFs and associated infrastructure would decrease or eliminate nutrient and contaminant seepage from cesspools and septic systems within the Service Area and consequently decrease pollutant loadings into adjacent marine and estuarine habitats, therefore benefiting EFH. This Draft EA will be coordinated with the NMFS for concurrence. The project is in full coordination of the Act.
- **E.O. 11990, Protection of Wetlands.** There are no wetlands on the proposed WWTF sits. Overall, implementation of the proposed WWTF and associated infrastructure is anticipated to benefit wetland habitat throughout the Service Area by decreasing or eliminating nutrient and contaminant seepage from cesspools and septic systems. This project is in compliance with the goals of this Executive Order.
- **E.O. 11988, Flood Plain Management.** The project has been evaluated in accordance with this Executive Order. This project is in compliance.
- **E.O. 12898, Environmental Justice.** Executive Order 12898 requires the Federal Government to achieve environmental justice by identifying and addressing disproportionately high adverse affects of its activities on minority or low-income populations, and by involving potentially affected minorities in the public coordination process. Environmental justice is specifically addressed in Sections 3.13 and 4.13 of this Draft EA. The project is in compliance with the Executive Order.
- **E.O. 13089, Coral Reef Protection.** This Executive Order applies to coastal projects that might directly or indirectly impact coral reefs. The Executive Order refers to "those species, habitats, and other natural resources associated with coral reefs." This project will not adversely impact coral reefs or coral reef resources and may, in fact, benefit these resources by improved water quality of the nearshore waters adjacent to the Service Area. The project complies with this Executive Order.
- **E.O. 13112, Invasive Species.** Much of the vegetation within the WWTF footprints consists of non-native invasive species, which will be removed within the immediate footprint as a consequence of construction of the impoundment. Construction equipment will use standard measures to avoid the spread of invasive species. This project will not authorize, fund, or carry out any action that might spread or introduce invasive species. Therefore, this project complies with the goals of this Executive Order.

**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 Cudjoe Regional Wastewater Treatment System consists of 4 fully integrated components: (1) a wastewater reclamation facility to be constructed at the Cudjoe Solid Waste Transfer Station; (2) transmission mains and collection systems to serve the hot spot areas in the inner islands; (3) transmission mains and collections systems to serve the hot spots areas of the Outer Islands; and (4) onsite treatment upgrades and collection system for “cold spot” areas.

Planning and design has been completed (selection and securing of the site, system to be implemented, engineering, planning documentation, connection and pre-treatment ordinances, user charge fees, public participation has been documented.)

Permitting is complete. The facility and the transmission mains for the inner islands are already fully permitted. The outer island project is contracted as design-build and the permits will be applied for as needed (mostly FDEP collection system permits by neighborhood.) (A link to the permits has been provided.)

The funding plan is complete (discussed in detail in a previous question).

Contracts have been executed. The collection systems will be constructed in parallel with the treatment plant. Construction will begin in the Spring of 2013 and will require 3-5 years to complete. Contracts for all project components have been executed (and are described in a previous question.)

## **Project Schedule**

Tasks completed:

- ✓ September 2012: Request for Proposals (RFP) for the all three pieces go out.
- ✓ October 2012 : RFPs for Treatment Plant and Inner Islands collection/transmission returned (bids opened)
- ✓ November 2012: Treatment plant & Inner collection /transmission system contractors selected
- ✓ November 2012: Outer Area Design-Build proposals received
- ✓ December 2012: Contracts approved
- ✓ January 2013: Official groundbreaking

Tasks yet to be completed:

- 1<sup>st</sup> Qtr 2013:
  - Initiate construction of Treatment Plant & Inner Islands collection/transmission system
- 2<sup>nd</sup> Qtr 2013:
  - Final design of outer Islands collection / transmission system started to include phased construction packages
- 3rd Qtr 2013:
  - Outer Island collection / transmission system construction start
- January 2015:
  - Treatment Plant ready to receive flow
- April 2015:
  - Inner Islands collection / transmission complete; connections underway

- December 2015: Outer islands collection and transmission system complete; connections underway. *(Due to the uncertainty of the timing for RESTORE Act federal council funding, and the fact that the project component has the longest completion time, we will utilize RESTORE federal council funding for this project component.)*

**Public Acceptance** *(Describe any known or potential public approval or opposition to the project):*

The topics of wastewater degradation in the Florida Keys National Marine Sanctuary and the need to reduce nutrient loading in the nearshore waters of the Keys is the highest priority of regulatory agencies and citizens alike, and the implementation of centralized advanced wastewater treatment is a strategy that is accepted and supported by the public.

The public has been involved, informed, and invited to participate throughout the development process of each of the following:

- FKNMS Water Quality Protection Program (Phase 1, 1992; Phase 2, 1993)
- Monroe County Sanitary Wastewater Master Plan, approved in 2000
- Florida Keys Water Quality Improvement PEIS, 2004
- Florida Keys Water Quality Improvement Program PMP, 2006
- Florida Keys National Marine Sanctuary Management Plan, 2007
- Cudjoe Regional Wastewater System, Draft Environmental Assessment, 2010
- Cudjoe Regional Wastewater System, Facilities Plan, 2012

The public involvement process during the development of several of these action plans are described below:

The Florida Keys National Marine Sanctuary was congressionally mandated in 1990 and the first Florida Keys National Sanctuary Water Quality Protection Plan was released in 1992/3 and has been updated revised periodically, with the most recent publication, the FKNMS Management Plan, dated 1997. Throughout those years between 1990 and plan's release, there were numerous public scoping meetings and abundant opportunities for verbal and written comments to the plan's multiple drafts and revisions. Since then the Plan has been revised twice, and is currently being revised once again, continuing the same level and opportunities for public involvement.

Public involvement was an integral component of the Monroe County wastewater planning process and the development of the MCSWMP. Public involvement activities conducted as part of this master plan included over 30 meetings with key stakeholders and the public, hosted by the FKAA and the county between 1998 and 2000. Public forums in the Upper, Middle, and Lower Keys were held to allow key stakeholders and interested citizens of Monroe County the opportunity to participate in, and influence, the outcome of the Master Plan. Interaction with the public throughout the development process significantly assisted in the development of the contents of the Master Plan. Numerous public involvement efforts were implemented as part of the Master Plan development process and are outlined below.

- Public forums and workshops
- Meetings with civic, business, and environmental groups throughout the Keys
- Preparation and distribution of project fact sheets and brochures
- Media coordination
- Production of two videos
- Development of a project web site

Interested citizens and key stakeholders directly influenced the development of the decision and evaluation processes, identified key issues to be addressed, and defined the elements of the MCSWMP guiding Monroe County to achieve compliance with the Florida Statutory Treatment Standards of 2010. Comments provided by participants generally expressed concerns regarding:

- Implementation costs
- Extent of improved water quality
- Implementation approaches
- Alternative wastewater conveyance/treatment technologies
- Measure of project performance
- County responsiveness to public input

Public Involvement for the Corps' PEIS: Applicable regulatory agencies, affected stakeholders, and interested members of the Keys community were provided opportunities to participate in the decision-making process during the development of the Draft EA. The Notice of Intent (NOI), scoping letter, and the responses to the scoping process can be found in Appendix G of the PEIS. A public meeting was held in Marathon, Florida, on February 27, 2003 to solicit comments and input on issues to be addressed during the NEPA documentation process. Issues raised at this public meeting are listed below.

- Need for federal funding to support wastewater infrastructure development in the Keys
- Engineering and environmental issues associated with specific projects
- Cost of implementing wastewater improvements to residents of the Keys

Cudjoe EA: Under the NEPA, federal agencies are required to determine the scope of issues to be addressed for a project and identify the significant issues related to the *Proposed Action*. Accordingly, the Corps prepared a Draft Environment Assessment document that evaluated the environmental consequences of constructing the Cudjoe Regional Wastewater System. This process is called "scoping." Public meetings for various stakeholders, interested parties, and Lower Keys residents were held on December 8, 2008 and December 11, 2008.

**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):*

The application submission form had difficulty accepting maps, charts, photos or background resources into the fillable spaces. As an alternative, we included links to our maps, plans and guiding legislation and documents. The links are embedded throughout the application in the relevant sections, but are also summarized and listed here:

- Facilities Plan For Cudjoe Regional Wastewater System (2012)  
Part 1: <http://www.monroecounty-fl.gov/DocumentCenter/View/5318>  
Part 2: <http://www.monroecounty-fl.gov/DocumentCenter/View/5332>  
Part 3: <http://www.monroecounty-fl.gov/DocumentCenter/View/5334>
- Environmental Assessment For Cudjoe Wwtf (2010)  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5314>

- Project Permits From Florida Department Of Environmental Protection And Department Of Transportation  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5325>
- Map of Cudjoe Regional Wastewater Service Area  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5330>
- Florida Keys Water Quality Improvement Program Management Plan (2006)  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5316>
- Florida Keys Water Quality Improvement Programmatic Environmental Impact Statement (2004)  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5315>
- Monroe County Sanitary Wastewater Master Plan (2000)  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5317>
- National Marine Sanctuary Management Plan (2007)  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5327>
- Map of the National Marine Sanctuary  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5320>
- Support Letter from the Florida Keys National Marine Sanctuary  
<http://www.monroecounty-fl.gov/DocumentCenter/View/5331>
- Fisheries of the United States, 2011, NOAA, National Marine Fisheries Service  
<http://www.monroecounty-fl.gov/index.aspx?NID=582>
- Support letter from U.S. Congressman, 26<sup>th</sup> District, Florida, Joe Garcia  
<http://fl-monroecounty.civicplus.com/DocumentCenter/View/5329>

| <b>Cost Appendix Sheet</b>                   |                         |
|----------------------------------------------|-------------------------|
| <b>Cost Item</b>                             | <b>Cost Estimate</b>    |
| <b>Planning</b>                              |                         |
| Contracts                                    |                         |
| Feasibility                                  |                         |
| Engineering, Design, Land Rights, & Bid Prep |                         |
| Restoration Plan                             |                         |
| Site Visits & Cost of Site Selection         |                         |
| Administration, Overhead, and Indirect       |                         |
| Other                                        |                         |
| <b>Planning Subtotal:</b>                    | <b>\$0.00</b>           |
| <b>Construction</b>                          |                         |
| Contracts                                    | <b>\$144,479,550.00</b> |
| Administration & Mobilization/Demobilization |                         |
| Other                                        |                         |
| <b>Construction Subtotal:</b>                | <b>\$144,479,550.00</b> |
| <b>Monitoring</b>                            |                         |
| Contracts                                    |                         |
| Data Collection                              |                         |
| Monitoring Administration                    |                         |
| Other                                        |                         |
| <b>Monitoring Subtotal:</b>                  | <b>\$0.00</b>           |
| <b>Project Cost</b>                          |                         |
| Supervision                                  |                         |
| <b>Subtotal:</b>                             | <b>\$144,479,550.00</b> |
| Contingency                                  |                         |
| <b>TOTAL:</b>                                | <b>\$144,479,550.00</b> |

| <b>Estimated Costs by Year</b> |                        |
|--------------------------------|------------------------|
| <b>Year 1</b>                  | <b>\$50,495,873.00</b> |
| <b>Year 2</b>                  | <b>\$74,474,545.00</b> |
| <b>Year 3</b>                  | <b>\$19,509,132.00</b> |
| <b>Year 4</b>                  |                        |
| <b>Year 5</b>                  |                        |
| <b>Year 6</b>                  |                        |