Monroe County
Canal Management Master Plan (CMMP)
Phase 1 Summary Report

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Prepared for:
Monroe County
and the
WQPP Steering Committee and Canal Subcommittee

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Executive Summary

Construction of residential canals in the Florida Keys was initiated in the mid-20th century, before resource managers fully understood their impacts on local water quality and broader coastal ecosystems. Many of the more than 500 canal systems currently present in the Keys were excavated to depths of fifteen feet or more in order to maximize production of fill material. Most were designed as long, multi-segmented, dead-end canal networks which maximize waterfront property but provide little or no tidal flushing and accumulate nutrients and decomposing organic material.

Water quality issues involving manmade canals have been evaluated by the U.S. Environmental Protection Agency (Kruczynski 1999), the Florida Keys National Marine Sanctuary (FKNMS 2007), and the Florida Department of Environmental Protection (FDEP 2008). As summarized in the Monroe County Comprehensive Plan (2011), these issues include anthropogenic pollutant loadings from on-site sewage disposal and stormwater runoff, and accumulation of non-anthropogenic materials such as senescent seagrass leaves and other organic flotsam ("weed wrack"), leading to elevated levels of nutrients, biochemical oxygen demand, hydrogen sulfide, and bacteriological water quality indicators such as fecal coliforms and enterococci.

Improvements in wastewater treatment and stormwater management practices are currently being implemented in many areas of the Keys. These improvements are an essential first step, but will not solve all the water quality problems in existing canals. Although many of these problems are linked to wastewater and stormwater discharges, others are due to the physical structure, depth, and orientation of canals, which can contribute to low flushing and the build-up of organic flotsam.

Recognizing these points, the Florida Keys National Marine Sanctuary (FKNMS 2007) developed a canal water quality improvement strategy that includes the following steps:

1. Evaluate and revise the existing 'hot spot' list of water quality problem areas;
2. Inventory and characterize canals, identifying those whose water quality problems are attributable mainly to physical structure, flushing rates and orientation;
3. Develop and evaluate improvement strategies;
4. Identify and compile a list of water quality improvement technologies;
5. Develop a community education and involvement program;
6. Conduct a canal system restoration pilot project; and
7. Implement improvement strategies in canals identified as 'hot spots'.

The Monroe County Sanitary Wastewater Master Plan (CH2MHILL 2000) and Monroe County Stormwater Master Plan (CDM 2001) have addressed item 1 of this strategy, and work on items 2 and 4 was initiated through the Monroe County Residential Canal Inventory and Assessment project, which provided an inventory of existing canals and a broad overview of potential treatment technologies (MACTEC 2003). Additional work on items 2 and 4, and the development of a conceptual framework for a comprehensive Canal Management Master Plan (CMMP) addressing items 3, 6 and 7, are the subjects of this report.

In March, 2012, the Canal Subcommittee of the FKNMS Water Quality Steering Committee initiated work on Phase 1 of the CMMP, using Water Quality Protection Program (WQPP) funds provided by the Florida Department of Environmental Protection (FDEP). Because these funds were available for only a short time (from March through June, 2012), the timeline of Phase 1 was compressed and its scope was limited to two objectives:

- develop a basic conceptual framework for canal restoration and management that is comparable to the frameworks used in the County's existing wastewater and stormwater master plans; and
- identify a short-list of high-priority canal restoration projects which can be implemented by the County and other WQPP participants over the next several years.

The work involved the following tasks:

- Task 1: Collate available information and summarize CMMP objectives;
- Task 2: Identify priority management issues;
- Task 3: Establish consensus-based goals for each priority issue;
- Task 4: Identify the highest-priority canals for potential implementation of restoration options;
- Task 5: Develop an initial short-list of restoration projects;
- Task 6: Establish an adaptive management process; and
- Task 7: Prepare the Phase 1 CMMP document.

This report represents the deliverable for Task 7 of the project, and provides a summary of the work conducted during Phase 1 of the CMMP development process.

Introduction

Construction of residential canals in the Florida Keys was initiated in the mid-20th century, before resource managers fully understood their impacts on local water quality and broader coastal ecosystems. Many of the more than 500 canal systems currently present in the Keys were excavated to depths of fifteen feet or more in order to maximize production of fill material. Most were designed as long, multi-segmented, dead-end canal networks which maximize waterfront property but provide little or no tidal flushing and accumulate nutrients and decomposing organic material.

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Kruczynski (1999) provided the following summary of water quality issues related to existing Keys canals:

- the water column of many canals over six feet deep is stratified and bottom waters are oxygen deficient;
- because they usually violate Class III Surface Water Quality Standards, canals were excluded from the State's previous Outstanding Florida Waters (OFW) designations;
- canal systems and basins with poor water quality are a potential source of nutrients and other contaminants to other nearshore waters;
- improving flushing of degraded canal systems may improve the water quality within the canal, but may also result in adding additional nutrients to the adjacent waters; and
- Seagrass beds located near the mouths of some degraded canal systems exhibit signs of undesirable nutrient enrichment and eutrophication, such as increased epiphyte load and growth of benthic algae.

Improvements in wastewater treatment and stormwater management practices are currently being implemented in many areas of the Keys. These improvements are an essential first step, but will not solve all the water quality problems in existing canals. Although many of these problems are linked to wastewater and stormwater discharges, others are due to the physical structure, depth, and orientation of canals, which can contribute to low flushing and the build-up of organic flotsam.

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Phase 1 of the Canal Management Master Plan

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Task 1.1 Summary of available information

As summarized in the Literature Cited section below, a total of 17 publications, and several Florida Department of Environmental Protection permitting files, were obtained from local, state and federal agencies, searches of online databases, and other sources. The documents were disseminated to the appropriate members of the AMEC project team for review, based on the subject material and team members' areas of expertise.

The available documents addressed three primary topic areas that are relevant to the development of a canal management master plan (CMMP) for the Florida Keys:

1) **Background information** on the water quality impairments that currently exist in canal systems and nearshore waters of the Keys, and steps that are being planned or undertaken to address them;

2) **Overviews of the current state-of-the-science** regarding water quality protection and restoration in manmade canals and other artificial basins; and

3) **Best management practices** (BMPs) and other management actions that have been used in other areas, and can be evaluated for potential use to protect and improve water quality in Keys canal systems.

Brief summaries of these topic areas are provided in the following sections.

Background Information

Information on the water quality impairments that currently exist in the project area, and steps that are being taken to address them, is provided in several of the documents listed above:

- As noted above, Kruczynski (1999) provided the following background information on a number of water quality issues and potential management actions in the canals and nearshore waters of the Keys:

- Water quality problems due to on-site sewage disposal practices and stormwater runoff have been documented in residential canals. Water quality parameters that are degraded include nutrient enrichment, fecal coliform contamination, and biochemical oxygen demand.

- Long, dead-end canal systems, deep canals of any length, and poorly flushed basins accumulate weed wrack and other particulate matter.

- The water column of many canals over six feet deep is stratified and bottom waters are oxygen deficient. Because they usually violate Class III Surface Water Quality Standards, canals were excluded from Outstanding Florida Waters (OFW) designation.

- Artificial aeration of canals does not eliminate the sources of excessive nutrients in canal waters but may result in better mixing which may facilitate nitrogen cycling.

- Improving flushing of degraded canal systems may improve the water quality within the canal, but will also result in adding additional nutrients to the adjacent waters.

- Canal systems and basins with poor water quality are a potential source of nutrients and other contaminants to other nearshore waters.

- Seagrass beds located near the mouths of some degraded canal systems exhibit signs of eutrophication, such as increased epiphyte load and growth of benthic algae.

- Vessel generated turbidity (re-suspended sediments) is a growing concern in many areas with high boat traffic including canals and open waters.

- There are no definitive studies on the geographic extent of the impact of human-caused nutrient enrichment. Scientists agree that canal and other nearshore waters are affected by human-derived nutrients from sewage. Improved sewage treatment practices are needed to improve canal and other nearshore waters. Impacts further from shore that may be due to human-derived nutrients may be reduced or eliminated by cleaning up nearshore waters.

Kruczynski (1999) also provided an overview of an earlier project that was conducted by the U.S. Environmental Protection Agency to evaluate water quality conditions in finger fill canals located in Florida and North Carolina (EPA 1975). The 1975 study found that, during the rainy season, canals with poor flushing characteristics often exhibited pronounced density stratification, with a deep layer of high-salinity water essentially trapped beneath an upper, lower-salinity layer. The resulting stagnation of the lower portion of the water column was found to encourage oxygen depletion and the release of nutrients from canal-bottom sediments. The study reported that canals greater than four to five feet deep regularly experienced violations of State water quality standards for dissolved oxygen (<4 mg/l).

- In 1999 Monroe County evaluated a group of stormwater-related water quality problem areas, which were summarized by CDM (2001) as part of the Monroe County Stormwater Master Plan. CDM (2001) identified the following eight locations as high-priority stormwater management problem areas, based on information from earlier surveys and site visits by trained personnel:

    - Campbell's Marina, Key Largo
    - Marathon Marina, Vaca Key
    - Boot Key Harbor drainage, Vaca Key
    - Alex's Junkyard, Stock Island
    - Oceanside Marina, Stock Island
    - Safe Harbor Area, Stock Island
    - Garrison Bight Marina, Key West, and
    - Key West Bight, Key West.

  Ten medium-priority stormwater management problem areas, and ten "other" problem areas were also identified in the CDM (2001) report.

- CH2MHILL (2000) provided an additional summary of known water-quality problem areas, focusing on wastewater-related sources and based on information from three earlier reports: a 1992 Phase I Report of the FKNMS Water Quality Protection Plan, a modified list of problem areas proposed by the South Florida Water Management District in 1996, and a Memorandum of Understanding (MOU) developed between Monroe County and FDEP in 1997 regarding future wastewater permitting practices and the elimination of existing cesspits. The CH2MHILL (2000) report identified and prioritized a total of 45 high priority water quality "hot spots", or problem areas that would be addressed in the near future by the installation of central community wastewater systems as part of the Monroe County Sanitary Wastewater Master Plan.

- As one component of the Florida Keys Carrying Capacity Study, which was funded by US Army Corps of Engineers and the Florida Department of Community Affairs, URS (2001) developed a Canal Impact Assessment Module (CIAM) which provides a comparative tool for evaluating the relative impacts of wastewater and stormwater discharges into tidally-flushed dead-end canals, and for assessing the relative impacts of wastewater and stormwater management decisions on nutrient concentrations in representative canals. (Pathogens and fecal coliforms were not included in the module, due to a lack of relevant data.) The CIAM was part of a larger carrying capacity analysis model (CCAM) that was developed to assist state and local jurisdictions to determine the ability of the Florida Keys ecosystem to withstand the potential impacts of additional land development activities.

The CIAM is based on a steady-state, spreadsheet-based tidal flushing algorithm that estimates pollutant concentrations in canals based on pollutant loads from stormwater and wastewater discharges and tidal fluxes from nearshore waters. To develop the algorithm, data acquisition efforts targeted previous canal water quality studies, nearshore water quality data, and the magnitude of tidal fluctuations. The module was applied to ten canal systems that were selected based on the availability of water quality data and the presence of representative sources of wastewater and stormwater pollutant loadings, including residential and commercial sources. Only canals with one opening were considered; plugged canals (with no openings) and canals with multiple openings were not evaluated.

The URS (2001) report provides the following overview of the strengths and limitations of the assessment module:

> *"The ClAM is set up as a canal-specific spreadsheet model. It assumes a long-term steady-state influx of pollutant loads and volumes. It does not include or account for a number of variables that may have a significant impact on observed canal water quality. Some of these potential factors include:*
>
> - *Sea level rise;*
> - *Water column stratification;*
> - *Wind effects;*
> - *Thermal gradients;*
> - *Surge tides associated with tropical storms or hurricanes;*
> - *Interactions between the benthic/sediment zone and the active water column;*
> - *Nutrient uptake/release by marine plants*
> - *Washed in seagrasses and similar sources;*
> - *Direct input of water volumes and pollutant loads attributable to precipitation or atmospheric dryfall deposition;*
> - *Water volume losses attributable to evaporation or transpiration; and*
> - *Direct pollutant inputs related to marine vessel discharges and illicit discharges.*

Based on the wastewater and stormwater management systems that existed at the time the CIAM was constructed, the module estimated that wastewater represented about 80% of the nutrient (TN and TP) load, 50% of the BOD load, and 25% of the TSS load entering the canal systems it evaluated. In terms of hydrologic inputs, wastewater represented about 25% with the remainder coming from stormwater.

Under a future "Smart Growth" scenario that was also evaluated using the CIAM tool, much of the onsite wastewater sources were assumed to be eliminated and the bulk of the pollutant loads to the canals became stormwater based. Under this scenario the wastewater portion of projected nutrient load fell to about 10% of the total, while BOD, TSS, and hydrologic loads were reduced to 5% or less of the total. On average, nutrient concentrations were approximately 50% lower in the Smart Growth scenario, BOD

concentrations were reduced by about a quarter, and TSS concentrations showed a minor reduction (6%).

Loads discharged from the canals to nearshore waters were also projected to be reduced in the Smart Growth scenario, but to a lesser extent. Exported nutrient loads were projected to fall by about 45%, BOD by about 20%, and TSS less than 5%. For all canals, model results predicted that pollutant concentrations would tend to be highest in their interior sections, located farthest from the canal mouth.

- Because of the unprecedented (for Florida) scope of the Carrying Capacity project, the project's co-sponsors requested the National Research Council (NRC) to provide a critical review of several of the project's draft work products. The NRC (2002) committee report did not address the canal assessment module. It did, however, provide the following broad overview of the Carrying Capacity project:

  > *"The contractors did an admirable job of working with the data available. Time and money constraints aside, however, the task was perhaps too ambitious an undertaking for the data and level of knowledge that currently exist for Florida Keys ecosystems. In its present stage of development, the CCAM is not ready to 'determine the ability of the Florida Keys ecosystem . . . to withstand all impacts of additional land development activities' as mandated by Florida Administration Commission Rule 28.20-100. Significant improvement of the CCAM is required in several key aspects if it is to be useful as an impact assessment tool.*
  >
  > *Endeavors such as the CCAM tend to obscure significant scientific uncertainty and project an unrealistic understanding of complicated environmental issues. What is needed and what the committee would like to express in this review, are expert opinion, common sense, and stakeholder consensus. The CCAM has important information to bring to the table, particularly where its modules have been based upon good and reliable scientific data. In the end, however, the decision to be made will be social not scientific. Once management has been implemented, science can make further progress toward understanding the natural system through modeling endeavors such as this one."*

  Regarding canal-related issues, the report noted that "canal water quality is an important issue for near-shore environments and is a major public concern" (NRC 2002). It also noted that "little detailed information is available concerning the depth and cross-section characteristics of canals, their flushing characteristics, or ambient water quality data."

  While these comments do not provide guidance on technical aspects of the CIAM, they do provide a valuable viewpoint on the importance of stakeholder consensus and social decision-making in the overall resource management process.

- The importance of stakeholder consensus and social decision-making have been emphasized further by the development and implementation of County-wide master plans for the management of wastewater and stormwater discharges in the Keys. Documents prepared by CH2MHILL (2000) and CDM (2001) have summarized these plans, which are now being implemented in a number of the highest-priority water quality

problem areas. As noted by URS (2001), the pollutant load reductions that will be achieved by the continued implementation of these plans are projected to lead to substantial water quality improvements in the existing canal systems.

- The Florida Keys National Marine Sanctuary (FKNMS 2007) published a seven-step canal management strategy, focused on reducing water quality problems in canals and reducing nutrient loading to other surface waters from canal systems, as part of its overall sanctuary management plan. The strategy notes that while many water quality problems in canals are linked to local stormwater and wastewater discharges, others can be due to a canal's structure and orientation. These physical features can lead to low flushing and the buildup of weed wrack, which consumes oxygen and releases nutrients as it decays. The FKNMS (2007) strategy proposes to inventory and characterize canals and investigate technologies to determine whether it would be worthwhile to implement corrective actions, such as weed gates and aeration systems, to improve water quality. It notes that plans for implementing improvements in canal circulation and flushing would have to be developed in coordination with plans for dealing with stormwater and wastewater pollution from cesspits and septic tanks.

- More recently, FDEP has funded the development of Reasonable Assurance (RA) plans for the surface waters of the Keys, as an alternative to the development of Total Maximum Daily Loads (TMDLs). RA plans were developed for the Upper, Middle and Lower Keys by CDM and URS (2008a, b, c), and an overall update was prepared by CDM (2011). The RA plans note that "halo zone" waters surround the Keys out to 500 meters offshore, and "nearshore" waters extend from 500 meters out to 12,100 meters offshore. These are classified as Class III waters (whose beneficial uses include recreation and the propagation and maintenance of a healthy, well balanced population of fish and wildlife) and Outstanding Florida Waters (OFW). The primary pollutants of concern for these waters are nutrients (nitrogen and phosphorus), and Florida water quality standards require that "in no case shall nutrient concentrations of a water body be altered so as to cause an imbalance of natural populations of flora and fauna." The reports note that, because far-field sources dominate the nutrient concentrations in nearshore waters, the recommended water quality target in the nearshore area is defined to be an insignificant increase in nutrient concentrations above natural background levels at 500 meters from shore. "Insignificant" in this case is defined as less than 10 µg/l for total nitrogen and less than 2 µg/l for total phosphorus, and background is defined as the Halo Zone condition in the absence of anthropogenic loads. Another recommended water quality target is that the nearshore ambient nutrient concentrations at 500 meters should average less than the ambient concentrations measured at the time of OFW designation. These water quality goals are relevant to the canal management process because canal management efforts are expected to support their achievement.

- The Little Venice neighborhood on Marathon Key was selected in the Monroe County Sanitary Wastewater Master Plan as the first phase of wastewater improvements for the Marathon area because of its high development density, inadequate cesspool and septic systems, and known water quality problems in the canals. Briceño and Boyer (2009) conducted the Little Venice water quality monitoring project, with funding support from EPA and FDEP, to detect changes in water quality as a function of the remediation

activities. The project included two phases. Phase 1was executed prior to remediation, from May 2001 to December 2003. Phase 2 began in June 2005, when construction of the wastewater collection system was mostly completed, and lasted until to May 2009. A "Before–After Control-Impact" (BACI) experimental design was used to assess changes due to remediation. Observations and sampling were performed in three remedied canals (112th St., 100th St. and, 97th St. canals), in one control (reference) canal lacking remedial actions (91st St. canal) and a near shore site for comparison purposes (Briceño and Boyer 2009).

Water samples were collected weekly for bacteriological analysis including enumeration of fecal coliforms (until November 2007) and enterococci. Weekly field parameters measured at both the surface and bottom of the water column at each station included: salinity, temperature, and dissolved oxygen (DO). Weekly water samples from each station were analyzed for total nitrogen (TN), total phosphorus (TP), and chlorophyll a (CHLA). Additionally, monthly grab samples were analyzed for ammonium, nitrate, nitrite, soluble reactive phosphate, silicate, and total organic carbon (Briceño and Boyer 2009).

Non-parametric Mann-Whitney tests indicated statistically significant ($p<0.05$) declines in TN and increases in TP, surface and bottom DO, and CHLA in almost all sites. These changes were partially related to region wide variability as well as local condition and/or remediation actions. State of Florida Rule 62-302.530, for Class III marine waters, specifies that DO "shall never be less than 4.0 mg/l". Prior to remediation, this threshold was exceeded in 57% and 67% of sampling events for surface and bottom water samples respectively. For Phase 2, the benchmark was exceeded 45% and 54% for surface and bottom DO, respectively. In spite of this improvement, low DO concentrations continue to be an issue of concern in Little Venice waters (Briceño and Boyer 2009).

The Florida impaired water rule states that an estuary is impaired if the annual mean CHLA concentration is greater than 11 µg/l. Using this as a benchmark, annual mean CHLA concentrations for all canals and the offshore site were well below State standards during both Phase 1 (1.33 µg/l) and Phase 2 (2.14 µg/l). The overall increase during Phase 2 was statistically significant (Briceño and Boyer 2009), presumably due to regional factors unrelated to the remediation effort.

The Florida State standard for single counts of fecal coliforms in Class III-Marine waters is 800 CFU per 100 ml; the EPA recommended standard for Enterococci is 104 CFU per 100 ml. During Phase 1, 0.4% of fecal coliform observations exceeded the State standard, and 6% of Enterococci counts exceeded the recommended EPA level. Fecal coliform analyses in Phase 2 indicated that 1% of observations exceeded the FL State standard. After 4 years into remediation (Phase 2), 4% of Enterococci counts exceeded the recommended EPA level, suggesting a slight improvement in water quality (Briceño and Boyer 2009).

Bacterial count distribution along the year corresponded to both climatic conditions and site location. Higher counts occurred in the rainy season. In addition, the heads of the canals, having longer residence times, had significantly greater bacterial numbers than

did the mouths. Stations in worse condition in Phase 1 experienced greater improvements following remediation, a result emphasized by Briceño and Boyer (2009) as having potentially important implications for other canal remediation projects.

Overall, Briceño and Boyer (2009) interpreted the water quality monitoring results as providing encouraging signs of improvement in water quality in Little Venice as an outcome of remedial actions advocated by the Monroe County, the Environmental Protection Agency, the Florida Department of Environmental Protection and the community of Marathon.

Current State-of-the Science and Recommended BMPs

A review of existing Monroe County Florida Keys site specific canal restorations included FDEP Permitting files: 15 permits related to installation of weed gates/barriers or aerators (list attached), Jolly Rogers Culvert Construction ERP #44-2694015, and Breezeswept Beach Estates Culvert Project ERP #44-0143157. Crane Point Hammock 1 acre pond suction dredge project is also of relevance. Several backfilling projects included: Indigo Reef, Sunset Acres, and Carrysfort. These restorations will be included in the GIS database.

The most recent national guidance on water quality protection and restoration in marinas and other manmade waterways involving recreational boating uses was provided by the US EPA (2001). Although it was not prepared specifically for canal systems, the management issues and BMPs covered in the document are highly applicable to manmade canals.

The guidance document is divided into sections that address the following topics:

- Sources of nonpoint source pollution and identification of pollutants of concern;
- Overview of management measures, BMPs, and the use of combinations of BMPs (BMP systems) to address water quality issues,
- Specific management measures for marinas and other manmade waterways; and
- Models that can be used to determine the dynamics of water flow and water quality variations in these systems.

The management measures discussed in the guidance document are considered by EPA to represent the best available, economically achievable practices or combinations of practices that can be used to address pollution sources related to marinas and other artificial waterways that are used for recreational boating. The BMPs recommended in the document are activities that can be used, alone or in combination, to achieve the management measures. The management measures address the following issues that are applicable to canal management in the Keys:

- Circulation and Flushing – site and design marinas and other manmade waterways such that tides and/or currents will aid in flushing of the site or renew its water regularly;

- Water Quality and Habitat Assessments – assess water quality as part of the siting, design and water quality management processes. Use siting and design features to protect against adverse effects on shellfish resources, wetlands, submerged aquatic vegetation, or other important riparian and aquatic habitat areas as designed by local, state, or federal governments;

- Shoreline Stabilization – where shoreline or streambank erosion is a nonpoint source pollution problem, shorelines and streambanks should be stabilized. Vegetative methods are strongly preferred unless structural methods are more cost-effective, considering the severity of wave and wind erosion, offshore bathymetry, and the potential adverse impact on other shorelines, streambanks, and offshore areas.

- Storm Water Runoff – implement effective runoff control strategies that include the use of pollution prevention and the proper design of areas that may generate stormwater-related pollutant loads;

- Fueling Station Design and Petroleum Control – design fueling stations to allow for ease in cleanup of spills. Reduce the amount of fuel and oil from boat bilges and fuel tank air vents entering surface waters.

- Liquid Material Management – provide and maintain appropriate storage, transfer, containment, and disposal facilities for liquid material such as oil, harmful solvents and paints, and encourage recycling of these materials;

- Solid Waste Management – properly dispose of solid wastes to limit their entry into surface waters

- Fish Waste Management – promote sound fish waste management through a combination of fish-cleaning restrictions, public education, and proper disposal of fish waste

- Sewage Facility Management and Maintenance – install pumpout, dump station, and adequate restroom facilities at marinas and other public use areas to reduce the release of sewage to surface waters. Design these facilities to allow ease of access, and post signage to promote use by the public. Ensure that sewage pumpout facilities are maintained in operational condition and encourage their use

- Boat Cleaning and Operation – for boats that are in the water, perform cleaning operations to minimize, to the extent practicable, the release to surface waters of (a) harmful cleaners and solvents and (b) paint from in-water hull cleaning. Manage boating activities where necessary to decrease turbidity and physical destruction of shallow water habitat

- Public Education – public education, outreach, and training programs should be instituted for to prevent improper disposal of polluting material.

BMPs recommended to address these issues include:

- **Circulation and flushing**:
    - Ensure that the bottom of the manmade waterway and its entrance channels are not deeper than adjacent natural waters or navigable channels
    - Consider design alternatives in poorly flushed waterbodies to enhance flushing
    - Use as few enclosed water sections or separated basins as possible to promote circulation within the entire basin
    - Consider the value of entrance channels in promoting flushing when designing or reconfiguring a manmade system
    - Establish two openings (rather than a single opening) at the most appropriate locations to promote flow-through currents
    - Consider mechanical aerators to improve flushing and water quality where basin and entrance channel configuration cannot provide adequate flushing
- **Water Quality and Habitat Assessments**
    - Use water quality sampling and/or monitoring to measure water quality conditions
    - Use a water quality modeling methodology to predict future water quality conditions.
    - Monitor water quality using indicators and/or rapid bioassessment techniques
    - Establish a volunteer monitoring program.
    - Conduct habitat surveys and characterize sites, including identifying any exotic or invasive species
    - Assess habitat function (e.g., spawning area, nursery area, feeding area) to minimize indirect effects.
    - Create new habitats or expand habitats in the waterway
    - Minimize disturbance of riparian areas
    - Where feasible, use dry stack boat storage
- **Shoreline Stabilization**
    - Use vegetative plantings, wetlands, beaches, and natural shorelines where space allows

- Where shorelines need structural stabilization and where space and use allow, riprap revetment is preferable to a solid vertical bulkhead.
- Where reflected waves will not endanger shorelines or habitats and where space is limited, protect shorelines with structural features such as vertical bulkheads.
- At boat ramps, retain natural shoreline features to the extent feasible and protect disturbed areas from erosion.

- **Stormwater Runoff Management for Marina Areas**
  - Sweep or vacuum around hull maintenance areas, roads, and driveways frequently
  - Sweep parking lots regularly
  - Plant turf or other vegetative cover between impervious areas and manmade basins
  - Construct new or restore former wetlands where feasible and practical.
  - Use porous pavement where feasible
  - Install oil/grit separators and/or vertical media filters to capture pollutants in runoff
  - Use catch basins where stormwater discharges enter a basin in large pulses
  - Add filters to storm drains that are located near work areas
  - Place absorbents in drain inlets
  - Use chemical and filtration treatment systems only where necessary

- **Fueling Station Design and Petroleum Control**
  - Use automatic shutoffs on fuel lines and at hose nozzles to reduce fuel loss
  - Remove old-style fuel nozzle triggers that are used to hold the nozzle open without being held
  - Install personal watercraft (PWC) floats at fuel docks to help drivers refuel without spilling
  - Regularly inspect, maintain, and replace fuel hoses, pipes, and tanks
  - Install a spill monitoring system

- Train fuel dock staff in spill prevention, containment, and cleanup procedures
- Install easy-to-read signs on the fuel dock that explain proper fueling, spill prevention, and spill reporting procedures
- Locate and design boat fueling stations so that spills can be contained, such as with a floating boom, and cleaned up easily
- Write and implement a fuel spill recovery plan
- Have spill containment equipment storage, such as a locker attached or adjacent to the fuel dock, easily accessible and clearly marked
- Promote the installation and use of fuel/air separators on air vents or tank stems of inboard fuel tanks to reduce the amount of fuel spilled into surface waters during fueling
- Avoid overfilling fuel tanks
- Provide "doughnuts" or small petroleum absorption pads to patrons to use while fueling to catch splashback and the last drops when the nozzle is transferred back from the boat to the fuel dock
- Routinely check for engine fuel leaks and use a drip pan under engines
- Avoid pumping any bilge water that is oily or has a sheen. Promote the use of materials that capture or digest oil in bilges. Examine these materials frequently and replace as necessary
- Extract used oil from absorption pads if possible, or dispose of it in accordance with petroleum disposal guidelines
- Prohibit the use of detergents and emulsifiers on fuel spills

- **Liquid Material Management**
  - Build curbs, berms, or other barriers around areas used for liquid material storage to contain spills
  - Store liquid materials under cover on a surface that is impervious to the type of material stored
  - Store minimal quantities of hazardous materials
  - Provide clearly labeled, separate containers for the disposal of waste oils, fuels, and other liquid wastes
  - Recycle liquid materials where possible

- Change engine oil using nonspill vacuum-type systems to perform spill-proof oil changes or to suction oily water from bilges
- Where possible, use low-toxicity or nontoxic materials (such as water-based paints and solvents) in place of more toxic products
- Follow manufacturer's directions and use nontoxic or low-toxicity pesticides
- Prepare a hazardous materials spill recovery plan and update it as necessary
- Keep adequate spill response equipment where liquid materials are stored

- **Solid Waste Management**
  - Avoid performing hull maintenance while boats are in the water, and use a reusable blasting medium
  - At boat ramps and other public use sites, place trash receptacles in convenient locations for patrons. Require patrons to clean up pet wastes and provide a specific dog walking area
  - Provide facilities for collecting recyclable materials
  - Encourage fishing line collection, recycling or disposal
  - Provide boaters with trash bags

- **Fish Waste Management**
  - Install fish cleaning stations at marinas and boat launch sites
  - Compost fish waste where appropriate
  - Freeze fish parts and reuse them as bait or chum on the next fishing trip
  - Encourage catch and release fishing, which does not kill the fish and produces no fish waste

- **Sewage Facility Management and Maintenance**
  - Install pumpout facilities and dump stations, using systems compatible with local needs
  - Provide pumpout service at convenient times and at a reasonable cost

- Keep pumpout stations clean and easily accessible, and consider having staff perform pumpouts
- Provide portable toilet dump stations near small slips and launch ramps
- Establish practices and post signs to control pet waste problems
- Avoid feeding wild birds in the marina
- Establish no discharge zones to prevent boat sewage from entering boating waters
- Regularly inspect and maintain pumpout stations and other sewage facilities
- Disinfect the suction connection of a pumpout station (stationary or portable) by dipping it into or spraying it with disinfectant
- Maintain convenient, clean, dry, and pleasant restroom facilities in public use areas
- Maintain a dedicated fund and issue a contract for pumpout and dump station repair and maintenance

- **Boat Cleaning and Operation**
  - Wash boat hulls above the waterline by hand. Where feasible, remove boats from the water and clean them where debris can be captured and properly disposed of
  - Attempt to wash boats frequently enough that the use of cleansers will not be necessary.
  - If using cleansers, buy and use ones that will have minimal impact on the aquatic environment
  - Switch to long-lasting and low-toxicity or nontoxic antifouling paints
  - Avoid in-the-water hull scraping or any abrasive process done underwater that could remove paint from the boat hull
  - Ensure that adequate precautions have been taken to minimize the spread of exotic and invasive species when boats are transferred from one waterbody to another
  - Minimize the impacts of wastewater from pressure washing
  - Restrict boater traffic in shallow-water areas

- Establish and enforce no wake zones to decrease turbidity, shore erosion, and shoreline damage

- **Public Education**

  - Use signs to inform waterfront property owners and marina patrons of appropriate clean boating practices

  - Establish bulletin boards for environmental messages and idea sharing

  - Promote recycling and trash reduction programs

  - Hand out pamphlets or flyers, send newsletters, and add inserts to bill mailings with information about how recreational boaters can protect the environment and have clean boating waters

  - Organize and present enjoyable environmental education meetings, presentations, and demonstrations and consider integrating them into ongoing programs

  - Educate and train marina staff to do their jobs in an environmentally conscious manner and to be good role models for marina patrons

  - Insert language into facility contracts that promotes tenants' using certain areas and clean boating techniques when maintaining their boats. Use a contract that ensures that tenants will comply with the marina's best management practices

  - Have a clearly written environmental best management practices agreement for outside contractors to sign as a precondition to working on any boat in the marina

  - Participate with an organization that promotes clean boating practices

  - Provide MARPOL placards

  - Paint educational signs on storm drains

  - Establish and educate marina patrons and other boaters about good fish cleaning practices

  - Provide information on local waste collection and recycling programs

  - Teach boaters how to fuel boats to minimize fuel spills

  - Stock phosphate-free, nontoxic cleaners and other environmentally friendly products

  - Place signs in the water and label charts to alert boaters about sensitive habitat areas

- Educate boaters to thoroughly clean their boats before boating in other waterbodies

- **Numerical Analyses and Models**

The EPA (2001) guidance document also includes brief reviews of, and suggestions on the use of, a variety of numerical models to address issues such as circulation, flushing and water quality dynamics in manmade waterways.
The models were selected based on the following criteria:

- They are in the public domain.
- They are available at a minimal cost from various public agencies
- They are supported to a varying extent by federal or state agencies. The form of support is usually telephone contact with a staff of engineers and programmers who have experience with the model and can provide guidance (usually free of charge).
- They have been used extensively for various purposes and are generally accepted within the modeling profession.
- Together they form a sequence of increasingly more technically complex models, taking additional phenomena into account in a more detailed manner.

The guidance notes that selection from among these models should be made on the basis of the model capabilities needed, which are summarized in **Table 1.1**.

Table 1.1 Attributes of numerical models recommended for use in analyzing water quality conditions marinas and other manmade waterways by US EPA (2001).

Model	Source	Complexity	Relative Cost to Implement	Water quality issues addressed
Tidal Prism Analysis	US EPA Region 4	Simple	Low	DO, fecal coliform bacteria
Tidal Prism Model	Virginia Institute of Marine Science	Mid-Range	Medium	DO, BOD, nutrients, phytoplankton, fecal coliforms
NCDEM DO	North Carolina Dept. of Environ. Health and Natural Resources	Mid-Range	Medium	DO
WASP	US EPA Region 4	Complex	High	DO, BOD, nutrients, phytoplankton, toxics fecal coliforms
EFDC Hydrodynamic	Virginia Institute of Marine Science	Complex	High	DO, BOD, temperature, salinity, nutrients, sediment, finfish, phytoplankton, shellfish, toxics, fecal coliforms, eutrophication

Additional information on numerical models that can be used to evaluate the circulation and flushing characteristics of manmade canal systems was provided by Goodwin (1991), who used a one-dimensional hydrodynamic model to evaluate the potential effects of installing tide gates in two dead-end canal systems located on the southwest coast of Florida. Flow simulations were carried out using a branched-network flow model (BRANCH) developed by the USGS. The model results indicated that tidal water-level differences between the two canal systems could be used to increase water circulation through the installation of one-way tide gate interconnections. Computations showed that construction of one to four tide gates would provide several beneficial water quality effects including reduced density stratification and associated dissolved oxygen depletion in canal bottom waters, increased localized rearation, and more efficient discharge of stormwater runoff entering the canals (Goodwin 1991).

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Task 1.2. Data deficiencies in the project geodatabase

The purpose of this section is to review the existing 2003 Monroe County Residential Canal Inventory and Assessment GIS database currently being updated by AMEC to determine if there are data deficiencies that will affect other work on Phase 1 of CMMP development. The purpose of identifying these data gaps is to make stakeholders aware of potential difficulties in canal technology selection/design elements and to assist in determining future data acquisition needs.

The identified data gaps in the existing updated GIS database for the Monroe County Canals are as follows:

1. Depth information for the canals – The attribute field for canal depth in the existing GIS database was based upon limited permit information, not actual as-built values. Actual canals depths are required to adequately evaluate if backfilling is an applicable restoration method and are required to accurately estimate backfilling costs. The depth data will also be necessary to evaluate circulation effectiveness for canal flushing alternatives.

2. Sediment/organic material thickness in canals – There currently are no available data sources concerning the thickness of accumulated sediment and/or organic material in the bottom of canals. This information is needed to evaluate if this accumulated material is contributing to degrading the water quality in the canals, to estimate the quantities that may require removal, and to determine the most cost effective restoration option(s). A qualitative evaluation of the weed rack accumulation may be performed for each canal by performing an inspection of the high definition aerials to describe the visible amount of weed rack in each canal. This approach will provide limited information that could be cross referenced against the known accumulation depths (if available) and then extrapolated for each canal. This approach may be more accurate than approximate methods based on energy and orientation of the canal mouth due to the complex and variable nature of ocean currents.

3. Canal specific water quality data – There is limited canal specific water quality data available in the Keys. The existing GIS database includes all currently available information, but it is limited to only a fraction of the canals (52/518). Also many sampled canals are only characterized by one event. Quantification of canal water quality improvements, especially related to restoration efforts, will be hard to document without canal specific water quality data.

Task 1.3. CMMP objectives

On April 13, 2012, the Canal Subcommittee met to initiate work on the Monroe County Canal Management Master Plan (CMMP) project. As part of that meeting, the subcommittee discussed Task 1.3, the development of an overall objectives statement for the CCMP.

The purpose of the objectives statement is to provide a very brief summary of the overarching goals of the canal management effort, capturing its overall intent in a few sentences that will be readily understandable to policymakers, resource managers and the interested public.

A draft objectives statement, which was taken with minor modification from the 2000 Monroe County Sanitary Wastewater Master Plan, was used as the starting point. After some discussion of wording changes that would make the statement more applicable to canal management issues, the subcommittee adopted the following objectives statement for the CMMP:

"The objective of the CMMP is to provide an ecologically sound and economically feasible funding and implementation strategy for improving and managing the environmental quality of canal systems in the Florida Keys. The plan will provide flexible and cost-effective solutions that improve canal management practices throughout the Keys and satisfy the existing and future needs of the community. It must address affordability and equity issues, reflect key stakeholder concerns, and satisfy environmental and regulatory criteria and guidelines."

Task 2: Priority management issues

As noted above, because of the short timeline associated with this first phase of the CMMP project, it is anticipated that this initial issues list will be a preliminary one. The objective is to identify a small group of high-priority canal management and restoration issues that will be sufficient to guide work during the first phase of CMMP development. It is anticipated that a more comprehensive priorities list, appropriate for inclusion in a broader plan whose scope would be comparable to the existing Sanitary Wastewater and Stormwater Master Plans, will be developed in a future phase of the project, if funding is available to support that larger work effort.

Based upon reviews of the Monroe County Comprehensive Plan, Monroe County Sanitary Wastewater Master Plan, Monroe County Stormwater Management Master Plan, Florida Keys National Marine Sanctuary Management Plans, Florida Keys Reasonable Assurance Documents (FKRADs), and other sources, the following management and restoration issues were identified as potential priorities:

- Water quality – nutrient loading, nutrient enrichment and eutrophication
- Water quality – dissolved oxygen/hypoxia
- Water quality – organic matter (e.g., weed wrack)
- Water quality – human pathogen levels
- Water quality – compliance with regulatory requirements (e.g., WQ criteria; WBID impairments; TMDL/Reasonable Assurance process; NNC when adopted)
- Sediment quality – anoxia; sulfides; sediment contaminants (TEL/PEL exceedances)
- Habitat quality – benthic community; intertidal community; shoreline stability and vegetation
- Physical characteristics – maximum depth; bathymetry; geometry; orientation
- Physical characteristics – circulation and flushing
- Physical characteristics – effects on local hydrology
- Public involvement in the canal management process

Following discussion of these items during an April 27, 2012, meeting with the Canal Subcommittee of the Water Quality Steering Committee, the following issues were identified as priorities for the first phase of the CMMP project:

- Water Quality – restore and maintain water quality conditions in canal systems to levels that are consistent with the State water quality criteria. Class III criteria are applicable which include fish consumption; recreation, propagation and maintenance of a healthy well balanced population of fish and wildlife.

- Water Quality – Organic Material – reduce the entry and accumulation of seagrass leaves and other 'weed wrack' in affected canals.

- Sediment Quality – improve anoxia, sulfide levels, and concentrations of potentially toxic anthropogenic sediment contaminants in canals.

- Habitat Quality—improve habitat for benthic and intertidal communities, and maintain adequate shoreline stability and vegetation.

- Public involvement in the canal management process.

It was agreed at the April 27, 2012 meeting that the physical characteristics of canals are important but they are more a cause of water quality problems and that improvement in circulation and flushing is a restoration technique. These issues were therefore not included in the final management issue list.

The possibility of ranking of the management issues was discussed; however, it was concluded that all of the selected issues were of equally high priority.

The above priority management issues will guide work on Tasks 3, 4 and 5 of the approved CMMP scope of work.

Task 3. Management goals for priority issues

As with the management issues identified in Task 2, because of the short timeline associated with Phase 1 of CMMP development, the management goals identified in this task are preliminary ones. Their purpose is to provide initial goal statements sufficient to guide work on Task 4 (which will identify priority canals for the potential implementation of restoration options) and Task 5 (which will develop an initial short-list of restoration projects). It is anticipated that more comprehensive goal statements may be developed in a future phase of the project, if funding is available to support that larger work effort.

Based on discussion with the Canals Subcommittee during the meeting held on April 27, 2012, the following initial goals were identified for the five priority management issues selected in Task 2. The goals are intended to be protective of living resources, technically defensible, quantifiable (where possible), readily measurable, and challenging but achievable.

- **Issue 1. Water quality – Eutrophication and DO-Related Issues**

  Goal: Restore and maintain water quality conditions in canal systems to levels that are consistent with the State's current water quality criteria for Class III waters, whose designated uses include human recreation as well as the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. The State water quality standards are detailed in Florida Administrative Code 62-302.

- **Issue 2. Water quality – Organic Matter (e.g., Weed Wrack)**

  Goal: In canal systems whose location make them susceptible to receiving large inputs of seagrass leaves and other 'weed wrack' from nearshore waters, install cost-effective barriers to prevent or substantially reduce those inputs to levels that do not contribute to eutrophication, hypoxia, or other water and sediment quality issues within the canals.

- **Issue 3. Sediment quality**

  Goal: Reduce the incidence of anoxia, problematic sulfide levels and sediment toxicity in canals where these issues are present, and prevent these issues from developing in canal systems where they are not yet present.

- **Issue 4. Habitat quality**

  Goal: Protect aquatic and benthic canal habitats that currently support native flora and fauna, and improve water and sediment quality in other areas to levels that are capable of supporting them.

- **Issue 5. Public Involvement in the Canal Management Process**

  Goal: Create and maintain a constituency of informed, involved citizens who understand the environmental and economic issues involved in managing manmade canal systems

Task 4. Priority sites for restoration

An initial list of potential project sites and site-specific restoration concepts were developed using the information collated and evaluated in Task 1, as well as site visits that included visual inspections of canals and spot-collection of depth information and hydrographic (e.g., DO, water temperature, pH, and conductivity) data.

Two groups of canals were selected for site visits:

1. Canals in subdivisions that were identified as water quality problem areas by a working group convened by the South Florida Water Management District (SFWMD) in 1996; and
2. Canals identified as having water quality problems associated with weed wrack that were located in geographic areas not included in the SFWMD list.

The SFWMD priority list of water quality problem areas was identified by subdivision (not canal) and was included in the Monroe County Sanitary Wastewater Master Plan Technical Memorandum No. 4. For Group 1 it was necessary to determine which canal(s) in each of the subdivision are likely to have the most serious water quality problems, due to poor designs that limit circulation and flushing. This was accomplished by examining aerial photographs and information from the project geodatabase. A site visit was then performed to confirm that the most problematic canals within each subdivision had been identified. For group 2, aerial photographs taken during the winter of 2006 were examined to identify canals with significant weed wrack coverage at the water surface. A subset of these canals was then selected to provide additional geographic coverage across all of the keys. The canal systems that were evaluated using site visits are summarized in **Tables 4.1** and **4.2**.

Table 4.1 Group 1 (SFWMD 1996) canals evaluated using site visits during Task 4.

Subdivision Identified as Priority Water Quality Problem Area by SFWMD (1996) Working Group	Priority Canal Identified During Site Visit
LAKE SURPRISE/SEXTON COVE	24[1] KEY LARGO
CROSS KEY ESTATES	45 KEY LARGO
WYNKEN, BLYNKEN AND NOD	78 ROCK HARBOR
HAMMER POINT PARK	93 TAVERNIER
CONCH KEY	164 CONCH KEY
LITTLE VENICE	196 MARATHON
LITTLE VENICE	200 MARATHON
PORT PINE HEIGHTS	238 BIG PINE KEY
BOOT KEY HARBOUR	243 MARATHON
KNIGHT'S KEY CAMPGROUND	252 MARATHON
DOCTOR'S ARM	258 BIG PINE KEY
DOCTOR'S ARM	266 BIG PINE KEY
TROPICAL BAY	277 BIG PINE KEY
EDEN PINES COLONY	278 BIG PINE KEY
SANDS SUBDIVISION	286 BIG PINE KEY
CUDJOE GARDENS	329 CUDJOE KEY
BAYPOINT SUBDIVISION	433 SADDLEBUNCH KEYS
GULFREST PARK	437 BIG COPPITT

Note: [1] Canal ID number from project geodatabase

Table 4.2. Group 2 (elevated weed wrack) canals evaluated using site visits during Task 4.

Canal ID
163[1] LONG KEY/LAYTON
223 MARATHON
261 NO NAME KEY
307 SUGARLOAF KEY
471 KEY HAVEN

Note: [1] Canal ID number from project geodatabase

These potential project sites were then evaluated as a group and scored relative to one another using the following criteria.

1. **Severity of problem (scored from 0 to +10)**
   Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10.

2. **Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)**
   Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.

3. **Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)**
   Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.

4. **Public benefit (scored from -10 to +10)**
   The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.

5. **Public funding support (scored from -10 to +10)**
   Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding

support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.

6. **Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)**
   Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. Scoring ranges from 0 to +10, representing 0% to 100% likelihood of being eligible and competitive for external funding support.

7. **Availability of data to prepare project designs and grant proposals (scored from 0 to +10)**
   Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.

8. **Project "implementability" (scored from 0 to +10)**
   This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.

At the time the scoring was done, sufficient information was not yet available to score criteria 3, 5, 6 or 7. A score of zero was assigned for this initial ranking. (Information to score these criteria was gathered during Task 5, and utilized to develop the initial short-list of restoration projects.) To meet the requirements of Task 4, the remaining criteria were scored using the following methods:

Severity of the problem[1]:

DO	Hydrogen Sulfide	Site Score
Minimum DO > 4 mg/L	No hydrogen sulfide issue	0
Minimum DO >2 mg/L, <4 mg/L	No to slight hydrogen sulfide issue	5
Minimum DO <2 mg/L	Hydrogen sulfide issue	10

Note: [1]Overall site score is based on either the DO or hydrogen sulfide score, whichever is larger. Scores between 0 and 5 or between 5 and 10 can be given depending on severity of DO or hydrogen sulfide issues observed at site.

Potential to provide improvement:

Anticipated change in DO or hydrogen sulfide score	Site Score
Small to no effect	0
Moderate effect (+ or -)	+5, -5
Large effect (+ or -)	+10, -10

Public benefit (with number of affected users estimated using aerial photography):

Anticipated number of users affected[2]	Site Score
Minimum (positively or negatively)	0
Median (positively or negatively)	+5, -5
Maximum (positively or negatively)	+10, -10

Note: [2]Numbers of affected users were estimated based on the numbers of waterfront lots present on the canals listed in Tables 1 and 2. From that sample of canals, the one with the minimum number of lots was given a score of zero and the one with the maximum number was given a score of 10. Scores for other remaining canals were interpolated using percentiles (i.e., 10th percentile=1, 25th percentile=2.5, 50th percentile=5.0, etc.). In addition, two canals in areas with large numbers of recreational users (the Boot Key Harbor and Knights Key canals) were given scores of 10 to reflect their heavy recreational use.

Project "implementability":

Anticipated difficulty of implementation	Site Score
Significant difficulty	0
Moderate difficulty	5
Low difficulty	10

The prioritized list of canals that resulted from this process, and an initial set of potential restoration technologies that may be appropriate for each canal based on currently-available information, are shown in **Table 4.3**. The canals are listed in descending order, with higher priority locations (canals with higher overall site scores) located at the top of the table and the lower priority locations at the bottom.

Table 4.3. Canals ranked in priority order in Task 4 (higher overall score = higher priority).

Area Name	Canal Number	Potential Restoration Technologies	Overall Score In Task 4
Tropical Bay Estates	277	Weed wrack loading prevention	32.2

Area Name	Canal Number	Potential Restoration Technologies	Overall Score In Task 4
Doctors Arm	258	Weed wrack loading prevention	31.5
Sands Subdivision	286	Circulation pump (reduction in stormwater loading is appropriate)	28.7
Cross Key Estates	45	Backfilling and/or pumping to increase circulation	28.6
Knights Key Campground	252	Weed wrack loading prevention primary treatment; backfilling as a secondary treatment	28
No Name Key	261	Weed wrack loading prevention; maintenance of existing culvert at canal ends	27.4
Doctors Arm	266	Weed wrack loading prevention	27.4
Eden Pines	278	Culvert or pumping to increase circluation	27.0
Wynken, Blynken and Nod	78	Weed wrack loading prevention primary treatment; backfilling secondary treatment	26.3
Layton/Long Key	163	Backfilling or pumping to increase circulation	24.2
Port Pine Heights	238	Pumping to increase circulation	23.0
Bay Point	433	Culvert maintenance	22.8
Sugarloaf	307	Weed wrack loading reduction, pumping to improve circulation, backfilling	22.2
Conch Key	164	Culvert modification	22.2

Area Name	Canal Number	Potential Restoration Technologies	Overall Score In Task 4
Marathon	223	Weed wrack Loading prevention primary technology; potential need for secondary treatment of a circulation pump.	22.0
Boot Key Harbor	243	Increase in circulation by pumping or culvert. Depth information will be required to evaluate if backfilling is appropriate.	22.0
Key Haven	471	Circulation pump (reduction in stormwater loading is appropriate)	21.8
Gulfrest Park	437	Circulation pump	21.0
Little Venice	200	Circulation pump	20.6
Little Venice	196	Backfilling	15.1
Lake Surprise - Sexton Cove	24	Culvert to Lake Surprise	11.7
Hammer Point	93	Backfilling	10.8
Cudjoe Gardens	329	Existing culverts provide sufficient flushing; reduction in nutrient loading from future WWTP installation will additionally improve quality.	4.6

The initial set of potential restoration technologies that appear applicable to these canals include:

- Reductions in weed wrack loading (using bubble curtains, weed gates or other methods);
- Enhanced circulation (using culverts, pumps, or other means) to reduce hydraulic residence times and eliminate areas of water column stagnation;

- Removal of accumulated organic sediments, in areas where the sediments are contributing to the development of phytoplankton blooms, bottom-water hypoxia and excessive hydrogen sulfide production; and

- Backfilling to reduce canal depth, in areas where excessive depth is contributing to poor circulation, bottom-water hypoxia, and other canal management issues.

Task 5. Initial short-list of restoration projects

This is a key task of the Phase 1 CMMP, and is intended to provide a short-list of "early action" project sites and restoration activities for which implementation funds will be sought during the next one to two years. Items included in the deliverables for Task 5 include:

- A short-list of projects selected for immediate restoration implementation, potential sources of grant funding that could be pursued for these projects, and the information that will be needed to prepare those grant applications;
- A summary of each short-listed project, including information on the affected WBID, water quality impairments addressed by the project, a conceptual restoration design, estimated improvements associated with the project, and a preliminary budget and scope of work;
- Information on canal depth that is currently available from local sources, if that information is required for costing purposes;
- For each potential project, a checklist showing the grant application requirements that have already been fulfilled and a list of additional items that will need to be completed before a grant application can be submitted.
- A list of applicable state and federal grant opportunities and corresponding deadlines, along with information on the application deadlines for the larger state and federal grant programs during 2012 and 2013;

Refined Scoring Criteria

In order to develop the project short-list for Task 5, scoring criteria 3, 5, 6 and 7 from Task 4 were reviewed and refined as follows:

- **Criterion 3: Potential to provide impacts (positive or negative) within the halo or nearshore zones:**

Anticipated change in net loads	Site Score
Small to no effect	0
Moderate increase or decrease (+ or -)	+5, -5[1]
Large increase or decrease (+ or -)	+10, -10[1]

Note: [1] A positive score will be given to projects likely to cause a net reduction in the pollutant loads that are discharged to halo or nearshore zones. Negative scores to projects likely to cause a net increase in loads discharged to those zones. Scoring based upon the following: weed wrack prevention technologies = 0 (no net change); culverts and circulation pumps = negative, magnitude based upon current impairment level of canal; backfilling = positive, magnitude based upon potential improvement due to removal of sediments pre-backfill or covering of sediments.

- **Criterion 5: Public funding support**

It was determined that this criterion should be removed from Phase I, because the potential for public funding support would be equal for the canals included on the Task 5 short-list.

- **Criterion 6: Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)**

It appears likely that potential restoration sites would not be competitive for external grant funds if they have not yet upgraded their wastewater treatment systems, since funding agencies could be hesitant to approve grant funding for more advanced water quality restoration work at sites where these basic water quality improvement steps have not yet been taken. Therefore, canals were given a score of zero for this criterion, and eliminated from the Task 5 rankings, if they are not yet connected to the wastewater treatment system. Canals receiving direct, piped discharges of untreated stormwater (e.g., Key Haven 471) were also given a score of zero, regardless of their wastewater treatment status. Canals that are currently connected to the wastewater treatment system and had no visible untreated stormwater outfalls were given a score of 10.

- **Criterion 7: Availability of data to prepare project designs and grant proposals (scored from 0 to 10)**

Current data availability (percentage of data necessary to prepare grant proposals, permit applications, etc.)	Site Score
Little or no data available	0
Approximately 50% of necessary data are currently available	+5
Almost 100% of necessary data are currently available	+10

Short-List of Potential Restoration Projects

The results of the Task 5 scoring process are summarized in Table 5.1. The scoring sheets for each canal are included in **Appendix A**.

Table 5.1. Task 5 Canal Prioritization List (higher overall score = higher priority).

Subdivision Name	GIS Canal Number	Potential Restoration Technologies	Overall Task 5 Score
Wynken, Blynken and Nod	78	Primary=weed wrack loading prevention; secondary=backfilling	45.3
Cross Key Estates	45	Backfilling and/or pumping to increase circulation	41.6
Marathon	223	Weed wrack loading prevention	39
Bay Point	433	Culvert maintenance (plus evaluation of adequate culvert size)	37.8
Little Venice	200	Circulation pump	35.6
Gulfrest Park	437	Circulation pump	32
Boot Key Harbor	243	Increase in circulation by pumping or culvert. Depth information will be required to evaluate if backfilling is appropriate.	32
Little Venice	196	Backfilling	30.1
Key Haven	471	Circulation pump (reduction in stormwater loading is also appropriate)	26.8
Lake Surprise - Sexton Cove	24	Culvert to Lake Surprise	26.7
Hammer Point	93	Backfilling	25.8

The sites ranked 1 through 3 in **Table 5.1** were selected for engineering evaluation of restoration options. These included:

1. Wynken, Blynken and Nod, Rock Harbor – GIS Canal Number 78
2. Cross Key Estates, Key Largo – GIS Canal Number 45
3. Marathon – GIS Canal Number 223

An attribute table from a portion of the GIS database, a site condition summary, and aerial photographs for each these canals is included in **Appendix B**.

Restoration Project Summaries

Project Number: 1
Project Name: **Wynken, Blynken and Nod (**Canal ID: 78)
Project Type: Design, permitting, construction, construction management, and monitoring for weed gate system and removal of organics

Description of Project Area

Canal 78 is located in the Wynken, Blynken & Nod neighborhood in Key Largo, Florida immediately off of US-1 at Mile Marker 96. The canal is located within the halo zone of Water Body Identification (WBID) 6006A. Halo Zone WBID 6006A is defined by the waters located within 500 meters of the shoreline of Key Largo.

Impairments Addressed by the Project

The December 2008 Reasonable Assurance Document (RAD) developed for the Northern Keys identified WBID 6006A as being impaired for nutrients, in particular total nitrogen and total phosphorous. However, the December 2008 RAD also demonstrated that the WBID should be classified as category 4b, indicating that the waterbody is impaired but that the implementation of a Total Maximum Daily Load (TMDL) is not required because it is expected that the waterbody will achieve compliance with water quality criteria based on management activities that have been undertaken. In the case of WBID 6006A, implementation of advanced wastewater treatment throughout the watershed is expected to achieve the required water quality criteria for nutrients. An update to the RAD that was prepared in December 2011 indicated that the WBID is impaired for dissolved oxygen (DO). The DO impairment was not assigned a cause, since water quality monitoring did not identify concentrations of total nitrogen, total phosphorous, or biochemical oxygen demand that exceededwater quality criteria.

The canal system within the Wynken, Blynken & Nod subdivision was assessed on May 9, 2012. Water quality was determined to be poor based on DO measurements collected just below the water surface and at 11 feet below the water surface that exhibited concentrations of 2.3 mg/L and 3.3 mg/L, respectively. These values are below the FDEP standard for impaired water bodies of 4.0 mg/L. The total canal depth was noted as approximately 22 feet. The canal was also noted to be impacted by weed wrack which accumulated at the ends of the finger canals. The decay of the accumulated organics in the weed wrack will utilize DO,potentially leading to sediment anoxia and enhanced hydrogen sulfide production.

Remedial Technology Evaluation

The primary water quality issues within this system were identified as (1) prevention of additional weed wrack from entering the canal; (2) removal of accumulated organic sediments; and (3) reduction in canal depth to eliminate the deep stagnant water column. To keep additional organics (weed wrack) from entering the canal a physical weed wrack gate in conjunction with an air weed wrack gate would be added to the entrance of the canals. The removal of existing accumulated organics was evaluated. The cost estimation for was based on an assumed uniform canal depth of 22 feet, and an accumulated organics depth of 3 feet over 1/3 of the canal bottom. The organics are assumed to be non toxic. Specific canal profile data and accumulated organics data are required for a more detailed cost estimate for this site.

Backfilling of the canals was also evaluated assuming backfilling to a depth of 6 feet. Backfill material was assumed to be A-3 classified material and or clean construction debris from approved contractors. Clean construction debris is currently unavailable; therefore cost estimates for backfill only reflect purchased backfill. Depending on when the backfilling recommendations are implemented potential future backfill maybe available from the Cudjoe Key wastewater treatment plant.

Specific canal profile data and accumulated organics data are required for a more detailed cost estimate for this site.

An existing aeration system is present in this canal system and engineering evaluation to determine if it can be optimized to a recirculation system could also considered as a means to improve water quality with less cost.

A conceptual schematic of the evaluated technologies is included in **Appendix C** along with estimated costs for each technology. The costs were utilized to assist in final selection of a preferred alternative.

Preferred Remedial Alternative

A weed wrack gate is proposed for this project which is intended to provide a barrier to prevent floating or suspended organic material (weed wrack) from entering and accumulating within the canal. The gate is designed to allow for navigational access during normal operation.

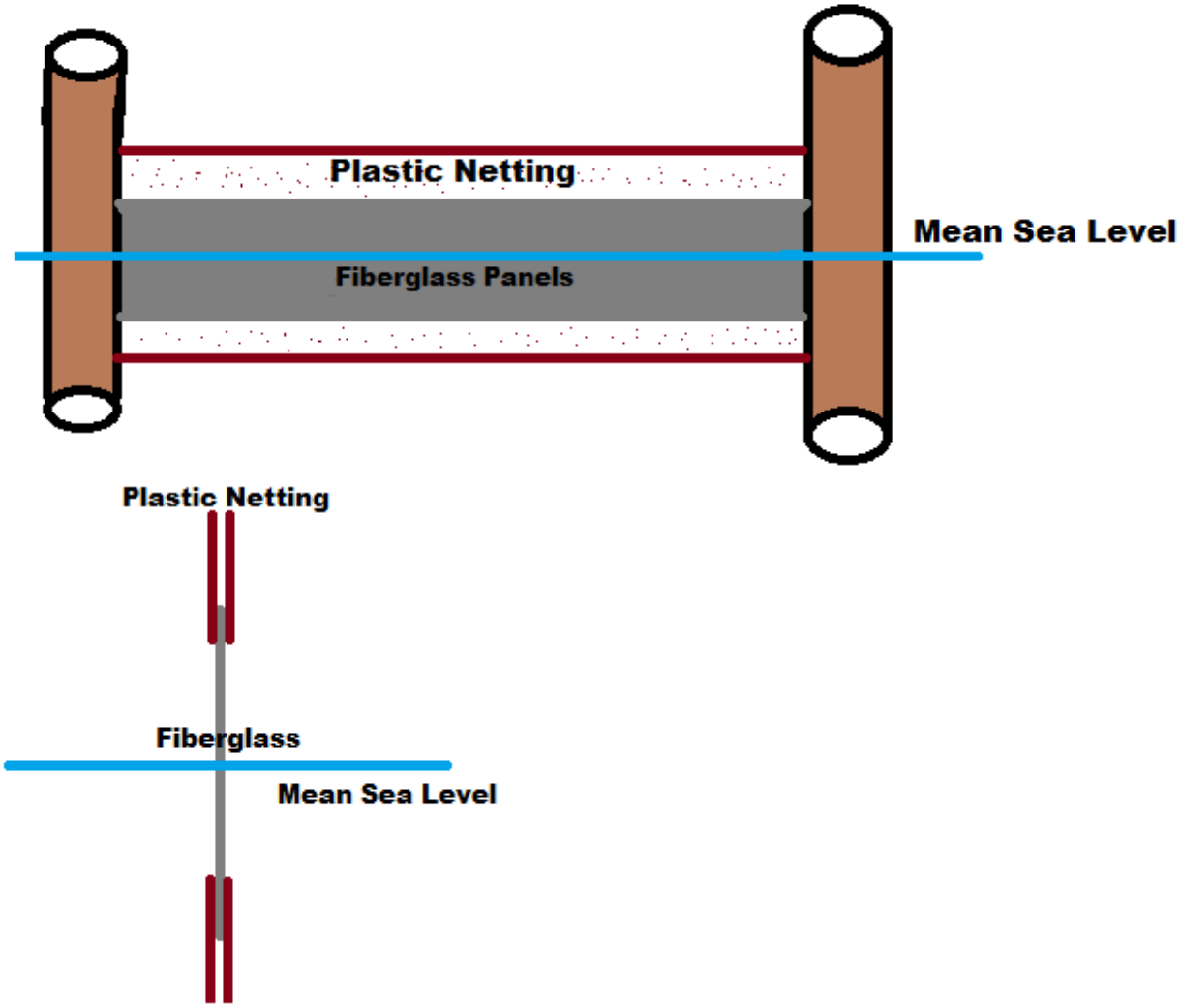
In addition to installation of a weed wrack gate, removal of organic material is also proposed for this canal.

Description of Conceptual Schematic for Preferred Remedial Alternative:

- Two 10-foot stretches of physical weed wrack gate shall be constructed on either side of the channel at the entrance of the canal.

- Each of the 10’ physical weed wrack gate sections will be comprised of (2) wooded or aluminum pilings that will be placed approximately 9’ apart. High- Strength Fiberglass Panels will be affixed to the pilings in order to block the flow of weed wrack. The fiberglass panels shall be oriented such that as mean sea level 2.5’ of fiberglass remains above the water and 2.5’ of

fiberglass remains below the water. Plastic netting shall be affixed to both sides of the fiberglass and offer continued weed wrack guarding above and below the limits of the fiberglass.



- The area between the ends of the physical weed wrack gate shall contain a 36' wide air weed wrack gate. Coarse bubble diffusers will be spaced at an interval of 2 feet. Diffuser mounts will be used to affix the coarse bubble diffusers to the air weed wrack gate lateral. The air weed wrack gate lateral line will rest approximately 1 foot above the bottom surface to allow for maximum boating clearance.

- A 36 URAI pump in conjunction with a 5hp motor will provide air through 3" PVC pipe to the air weed wrack gate. Calculations for determining these pump specifications were based on an assumed diffuser depth of 9'. This estimate is subject to change based on detailed design data.

- Removal of accumulated organics within the yellow shaded area of the Wynken, Blynken and Nod Conceptual Schematic figure (refer to **Appendix C**) should be completed using

Hydraulic Dredge. The cost for the disposal of the removed organics is based upon off-island disposal. Recycling options can be investigated.

Assumptions for Conceptual Schematic:

- Depth of accumulated organics: 3 feet over 1/3 of the canal bottom
- The bottom of the canal is 22 feet below the surface of the water at low tide.
- The accumulated organics are non toxic and may be dewatered for transplant.
- Air weed wrack curtain lateral at a depth of 9 feet (or less, if canal backfilling is conducted).
- Pump efficiency = 80%

Wynken, Blynken and Nod Preferred Alternative Cost Estimate

Weed Wrack Gate

Item #	UoM	Approx Qty	Item	Unit Price	Cost
1	EA	1.0	Furnish and Install Air/ Physical Seaweed Gate	$ 19,462.00	$ 19,462.00
				Subtotal	$ 19,462.00
				Contingency 20%	$ 3,892.00
				Sub total	**$ 23,354.00**
			Construction Administration		$ 5,000.00
			Final Design and Permitting		$ 10,000.00
			Total	**TOTAL**	**$ 38,354.00**

Organics Removal

Item #	Unit of Measure	Approx Qty	Item	Unit Price	Cost
1	LS	1.0	Removal of Organics-Mobilization	$ 50,000.00	$ 50,000.00
2	CY	3,376.4*	Removal of Organics-Hydraulic Dredge	$ 10.00	$ 33,764.00
3	CY	3,376.4*	Removal of Organics-Dewatering	$ 13.00	$ 43,893.00
3	Ton	319.1*	Transportation and Disposal of Accumulated Organics	$ 48.00	$ 15,315.00
				Subtotal	$ 142,972.00
				Contingency 20%	$ 28,594.00
				Sub total	**$ 171,566.00**
			Construction Administration		$ 25,735.00
			Final Design and Permitting		$ 42,892.00
			Total	**TOTAL**	**$ 240,193.00**

Notes: * preliminary estimate only – value needs field verification

The approximate cost to operate the air gate is $280/month assuming diffuser discharge depth of 9 feet.

Potential Benefits of Proposed Restoration Project

The proposed restoration project consisting of the construction of a weed wrack gate and removal of the accumulated organics by hydraulic dredging in selected areas will help to address the existing water quality impairments. The removal of the accumulated organics will help increase the DO within the waterbody by reducing the sediment oxygen demand (SOD) imposed by the accumulated organics. Given the highly organic nature of the sediment within the waterbody, it is possible that the SOD could be as high as 20 $g/m^2/d$ (Davis 1950). Given the area of the waterbody of 10,000 m^2 and an assumed natural SOD of approximately 5 $g/m^2/d$, it is estimated that a reduction in oxygen consumption of 15,000 g/d (33 lb/d) could be realized from removing accumulated organic material and preventing additional accumulation through the use of weed gates.

The proposed weed wrack gate addresses the DO impairment in a twofold manner. The gate will help to reduce future accumulations of organic sediments in the benthic zone of the waterbody, resulting in a prevention of high SOD as previously described. The gate will also help to aerate incoming and outgoing water. Therefore, the aeration induced by the air weed wrack gate will help to increase the DO of both the waterbody and the nearshore waters.

Potential Grant Programs

The project identified above is expected to have a positive effect on water quality within the canal and surrounding areas. Traditionally, water quality and habitat restoration efforts have focused on restoration of natural ecosystems impacted by human activity. Grant programs are typically geared toward these types of projects. For this reason, it will be critical to emphasize that projects aimed at water quality improvements within Keys canal systems are likely to provide equally significant improvements to the overall marine environment. By reducing areas of stagnation and hypoxia, canal water quality improvement projects will help to minimize nutrient releases from accumulations of decaying organic material and loss of suitable habitat for aquatic species. The following grant opportunities have been identified as potential funding sources for this project:

Grant Program	Agency	Deadline*	Required Minimum Match	Project Objective	Required Project Stage
Section 319	EPA/FDEP	May, 2013	40%	Reduce Non-point pollution	Conceptual
TMDL	EPA/FDEP	Mar/Jul/ Nov 2012/2013	50%	Reduce Non-point pollution	60% Design / Permitted
South Florida Coastal Program	USFWS	April, 2013	0% required (>0% encouraged)	Habitat Restoration	Conceptual
Community-Based Matching Grants Program	TNC / NOAA	April, 2013	50%	Habitat Restoration	Conceptual
National Coastal Wetlands Conservation Grant Program	USFWS	June, 2013	50%	Habitat Restoration	Conceptual
Urban Waters Small Grants**	EPA	January, 2013	$2,500	Water Quality Improvement	Conceptual

Notes: * *2013 deadlines are estimated and programs resources are not guaranteed*
** *This grant applies only if project is considered a demonstration*

Grant Application Checklist

Many of the requirements for the above grant programs are similar, although each grant application has its own format and should be reviewed and completed on an individual basis. Grant application guidance for each program is available in **Appendix D**. The elements below are provided as a quick reference to assist with assembling multiple applications:

- ☐ Applicant Contact Information
- ☐ Project Location Details
- ☐ Type of Project
- ☐ Project Objective
- ☐ Project Synopsis
- ☐ Project Description
- ☐ Expected Project Benefits
- ☐ Project Work Plan
- ☐ Project Monitoring Plan
- ☐ Project Budget
- ☐ Amount Requested
- ☐ Applicant Matching Amount
- ☐ Cooperating Partners/Match
- ☐ Benefits to Community
- ☐ Community Involvement
- ☐ Project Milestones
- ☐ Project Deliverables
- ☐ Project Team
- ☐ Required Forms
- ☐ Literature Cited
- ☐ Appendices

Information Necessary to Complete Applications

The project information in the checklist above can be obtained largely from the information provided in the project descriptions provided in the preceding section. More detailed information such as project milestones and deliverables will need to be developed from the available project information, and specific formats vary by grant program. Detailed budget information will need to be provided using the individual grant applications. Information on the project team will also need to be assembled prior to submittal.

Items that are included with this submittal can be utilized to provide the following checklist items:

- ☑ Project Location Details
- ☑ Type of Project
- ☑ Project Objective
- ☑ Project Synopsis
- ☑ Project Description
- ☑ Expected Project Benefits
- ☑ Project Work Plan
- ☑ Project Budget
- ☑ Project Milestones

Items that will need additional information to complete include the following:

- ☒ Applicant Contact Information
- ☒ Project Deliverables
- ☒ Amount Requested
- ☒ Applicant Matching Amount
- ☒ Cooperating Partners/Match
- ☒ Benefits to Community
- ☒ Community Involvement
- ☒ Project Team
- ☒ Project Monitoring Plan
- ☒ Required Forms
- ☒ Literature Cited
- ☒ Appendices

The agency applying for the grant will need to determine the amount of matching funds and cooperating partners available for the project. Requirements for funding match range from 0% to 50%, and additional points may be awarded for providing more than the minimum amount. Community involvement and benefit is also generally encouraged and will need to be considered when completing the applications.

Most applications require only conceptual plans and a reasonably well-developed budget. However, the TMDL grant program requires projects to be at the 60% design stage, permitted, and ready for construction. The projects described herein would need to be developed accordingly to meet the TMDL grant program requirements.

Specific forms are required for many of the applications and they provide specific details about how the information must be formatted. Generally, however, the information requested is very similar among grant programs.

Project Number: **2**
Project Name: **Cross Key Estates (**Canal ID: 45)
Project Type: Further data collection and design evaluation

Description of Project Area

Canal No. 45 is located within the Cross Key Estates neighborhood in Key Largo at Mile Marker 106. The canal is located within the halo zone Water Body Identification (WBID) 6006A. Halo Zone WBID 6006A is defined by the waters located within 500 meters of the shoreline of Key Largo.

Impairments Addressed by the Project

The December 2008 Reasonable Assurance Document (RAD) developed for the Northern Keys identified WBID 6006A as being impaired for nutrients (total nitrogen and total phosphorus). However, the December 2008 RAD demonstrated that the WBID should be classified as category 4b; indicating that the waterbody is impaired but that the implementation of a Total Maximum Daily Load (TMDL) is not required because it is expected that the waterbody will reach the water quality criteria based on management activities that have been undertaken. In the case of WBID 6006A, the management strategy anticipated to allow the waterbody to meet the water quality criteria is the implementation of advanced wastewater treatment throughout the watershed. An update to the RAD that was prepared in December 2011 demonstrated that the WBID is also impaired for dissolved oxygen (DO). The DO impairment was not assigned an anthropogenic cause, however, because water quality monitoring did not identify concentrations of total nitrogen, total phosphorous, or biochemical oxygen demand that exceeded water quality criteria.

During the May 9th, 2012 assessment, water in the canal displayed no visible flow and had a greenish tint indicating the presence of a phytoplankton bloom. Water quality was categorized as fair to poor based on DO concentrations measured just below the water surface and at 8 feet below the surface, which equaled 5.5 mg/L and 3.2 mg/L, respectively. The DO measurement collected at 8 feet below the water surface is below the FDEP standard (4.0 mg/L) for impaired

water bodies. The canal depth was noted to be greater than 20 feet. Weed wrack accumulation was not identified as a water quality issue in this canal system. However, organic material was noted in the sediment sample collected at the far end of the canal.

Remedial Technology Evaluation

The primary water quality management issues within this system were identified as (1) the need to reduce canal depth to eliminate the deeper stagnant portions of the water column (2) removal of accumulated organic sediments prior to backfilling; and (3) pumping to increase circulation. Removal of accumulated organic sediments and backfilling the canals to a low tide depth of 6 feet would help to improve water quality. Other potential restoration technologies for the ends of the finger canals would include enhanced water circulation through pumping.

Backfilling was evaluated as the technology to reduce the canal depth. Any accumulated organics should be removed prior to backfilling. Cost estimation for removal of accumulated organics and backfilling for the Cross Key Estates canal system is based on an assumed uniform canal depth of 20 feet, backfilling to a depth of 6 feet and an assumed depth of accumulated organics of 3 feet over 1/3 of the canal bottom. The organic muck is assumed to be non toxic. Backfill material will consist of A-3 classified material and or clean construction debris from approved contractors. Clean construction debris is currently unavailable; therefore a conservative cost estimate for backfill reflects only purchased backfill. Depending on when the backfilling recommendations are implemented potential future backfill maybe available from the Cudjoe Key wastewater treatment plant. **Specific canal profile data and accumulated organics data are required for a more detailed cost estimate for this site.**

Due to the long length (820 meters) and large number of finger canals (10) in this canal system, additional technologies may be necessary to increase circulation in the most inland portions of the canals. Installation of pumps at the end of each finger canal was selected for a preliminary cost estimate. Further engineering evaluation is required to determine if this is the most effective design. Pumping costs would be approximately $50/month/finger canal assuming a desired flushing time of approximately 4 days. It may be necessary to install the pump on an existing dock or construct a pump mount to facilitate unobstructed water conveyance.

A conceptual schematic of the evaluated technologies is included in **Appendix C** along with estimated costs for each technology. The costs were utilized to assist in final selection of a preferred alternative.

Preferred Remedial Alternative

No preferred alternative is presently offered for this canal system. Lack of engineering design data, uncertainty in the design assumptions, and high estimated costs are the basis for this decision.

Description of Conceptual Schematic Utilized for Remedial Costing:

Removal of accumulated organics within the yellow shaded area of the Cross Key Estates Conceptual Schematic figure (refer to **Appendix C**) will be performed via hydraulic dredge.

Shaded region will be backfilled to a depth of 6 feet at low tide using sand fill and or if available clean construction debris.

To increase circulation at the far ends of each finger canal, water could be circulated using a pump and 1hp motor discharged through 4" PVC pipe.

Assumptions for Conceptual Schematic:

- Depth of accumulated organics: 3 feet over 1/3 of canal bottom
- The bottom of the canal is 20 feet below the surface of the water at low tide
- The accumulated organics are non toxic and may be dewatered for transplant.

Organics Removal

Item #	Units	Approx Qty	Item	Unit Price	Cost
1	LS	1.0	Removal of Organics-Mobilization	$ 50,000.00	$ 50,000.00
2	CY	17,037*	Removal of Organics-Hydraulic Dredge	$ 10.00	$170,370.00
3	CY	17,037*	Removal of Organics-Dewatering	$ 13.00	$ 221,481.00
3	Ton	1,610*	Transportation and Disposal of Accumulated Organics	$ 48.00	$77,280.00
				Subtotal	$ 519,131.00
				Contingency 20%	$ 103,826.00
				Sub total	**$622,957.00**
			Construction Administration		$ 41,530.00
			Final Design and Permitting		$ 51,913.00
			Total	**TOTAL**	**$ 716,400.00**

Note: * preliminary estimate only – value needs field verification

Backfillng

Item #	Units	Approx Qty	Item	Unit Pric	Cost
1	Ton	377,614.5	Backfill	$ 3.00	$1,132,844.00
2	Ton	377,614.5	Trucking- Backfill	$ 6.25	$2,360,091.00
4	DAY	486.5	Backhoe and Operator (B-66)	$ 660.88	$ 321,485.00
5	DAY	486.5	Barge rental and Operator (30'x90')	$294.20	$ 143,114.00
6	DAY	486.5	Loader and Crew (B-3C)	$ 2,796.00	$1,360,114.00
7	EA	5.0	Sediment Control (boom) 100 feet	$ 3,300.00	$ 16,500.00
				Subtotal	$5,334,148.00
				Contingency 20%	$1,066,830.00
				Sub total	**$6,400,978.00**
			Construction Administration		$ 128,020.00
			Final Design and Permitting		$ 160.024.00
			Total	**TOTAL**	**$6,689,022.00**

Pumping to enhance circulation

Item #	Units	Approx Qty	Item	Unit Price	Cost
1	EA	10.0	Furnish and Install Seawater Pump	$ 16,047.00	$ 160,470.00
				Subtotal	$ 160,470.00
				Contingency 20%	$ 32,094.00
				Sub total	**$ 192,564.00**
			Construction Administration		$ 10,000.00
			Final Design and Permitting		$ 25,000.00
			Total	**TOTAL**	**$ 227,564.00**

Assumptions for Cost Estimate:

- Cost estimates for backfill will reflect only purchased backfill
- Assuming specific weight of backfill 115lb/cf
- Assumed pump efficiency of 62%
- Pumps would be installed at available locations on seawalls or docks

Benefits of Proposed Restoration Project

The proposed restoration project consisting of the removal of the accumulated organics by hydraulic dredge in the selected areas, backfilling, and the implementation of circulation pumps will help to address the existing water quality impairments.

The removal of the accumulated organics will increase the DO within the waterbody by reducing the sediment oxygen demand (SOD) imposed by the accumulated organics. Given the highly organic nature of the sediment within the waterbody, it is possible that the SOD could be as high as 20 $g/m^2/d$ (Davis 1950). Given the area of the waterbody of 44,000 m^2 and an assumed natural SOD of approximately 5 $g/m^2/d$, it is estimated that a reduction in oxygen consumption of 660,000 g/d (1,455 lb/d) could be realized from the hydraulic dredging activities.

The implementation of circulation pumps will help the waterbody achieve improved levels of DO by providing greater exchange with nearshore waters. Each pump was sized so that a flushing time of 4 days would be realized in accordance with EPA recommendations (Boozer 1979). It is proposed that the increased flushing, a 170 percent increase above the existing flushing induced by tidal forces, will increase the water quality within the waterbody to approximate that of the nearshore waters.

Grant Programs

None proposed at this time.

Project Number: **3**
Project Name: **Marathon** (Canal ID: 223)
Project Type: Design, permitting, construction, construction management, and monitoring for weed gate system

Description of Project Area

Canal 223 is located on Vaca Key in the City of Marathon, Florida northwest of the Marathon County Airport at Mile Marker 51. The canal is located within the halo zone of Water Body Identification (WBID) 6011A. Halo Zone WBID 6011A is defined by the waters located within 500 meters of the shoreline of Vaca Key.6006A.

Impairments Addressed by the Project

The December 2008 Reasonable Assurance Document (RAD) developed for the Northern Keys identified WBID 6011A as being impaired for nutrients, in particular total nitrogen and total phosphorous. However, the December 2008 RAD demonstrated that the WBID should be classified as category 4b; indicating that the waterbody is impaired but that the implementation of a Total Maximum Daily Load (TMDL) is not required because it is expected that the waterbody will reach the water quality criteria based on management activities that have been undertaken. In the case of WBID 6011A, the management strategy that is anticipated to allow the waterbody to meet water quality criteria is the implementation of advanced wastewater treatment throughout the watershed. An update to the RAD that was prepared in December 2011 demonstrates that the WBID is also impaired for dissolved oxygen (DO). The DO impairment was not assigned an anthropogenic cause, however, because water quality monitoring did not identify concentrations of total nitrogen, total phosphorous, or biochemical oxygen demand that exceeded water quality criteria.

During the May 15, 2012 assessment, the canal water displayed no visible flow and was visually determined to be moderately clear with algae suspended in the water column. The DO measurements collected just below the water surface and at 6 feet below the water surface exhibited concentrations of 3.7 mg/L and 3.9 mg/L, respectively; which is below the FDEP standard for impaired water bodies of 4.0 mg/L. Aerial photographs show large weed wrack mats blanketing the northern part of the canal. The weed wrack is likely to accumulate in the canal system and sink to the bottom. There the accumulated organics will decay and utilize DO, potentially leading to anoxia and enhanced hydrogen sulfide production. The canal narrows as it continues south, and terminates in a large stagnant basin which adds to the restriction in natural flushing. The canal depth was noted to be approximately 8 feet.

Remedial Technology Evaluation

The primary water quality management issues for this canal system were identified as (1) prevention of additional weed wrack from entering the canal; and (2) pumping to enhance circulation. The relatively shallow canal depth of 8 feet makes it a poor candidate for backfilling. Based upon the shallow depth, it was also assumed that a large volume of accumulated organics was not present. However, field verification through bottom profiling and sediment characterization should be performed to verify this assumption.

To keep additional organics (weed wrack) from entering the canal a physical weed wrack gate in conjunction with an air weed wrack gate would be added to the entrance of the canals. To increase circulation in the southern part of the canal, water should be pumped from near the entrance of the canal into the south end of the canal. It may be necessary to install the pump on an existing dock or construct a pump mount to facilitate unobstructed water conveyance from Florida Bay to the south portion of the canal. This pumping application was sized to provide improved circulation for the area south of the mangrove constriction. Post-installation monitoring would be helpful to assess the effectiveness of the implemented water quality treatment technology.

A conceptual schematic of the evaluated technologies is included in **Appendix C** along with estimated costs for each technology. The costs were utilized to assist in final selection of a preferred alternative.

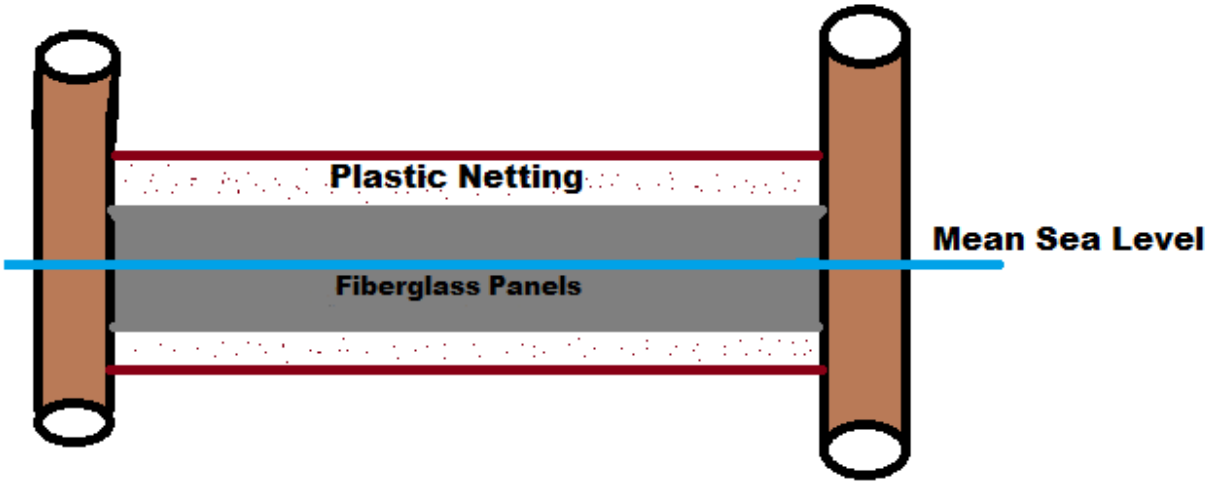
Preferred Remedial Alternative

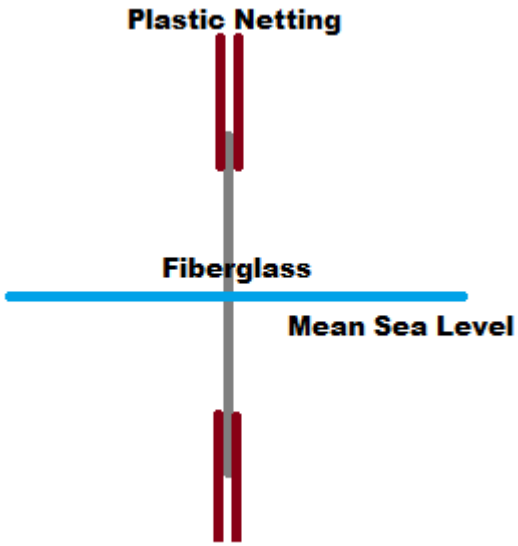
A weed wrack gate is proposed for this project which is intended to provide a barrier to prevent floating or suspended organic material (weed wrack) from entering and accumulating within the canal. The gate is designed to allow for navigational access during normal operation.

Description of Conceptual Schematic:

Two sections of physical weed wrack gate shall be constructed on both sides of the air weed wrack gate. The physical weed wrack gate on the NE side of the air gate will be approximately 80 feet in length and the physical weed wrack gate on the SW side of the air gate will be approximately 15 feet.

Physical weed wrack gate sections will be comprised of wooded or aluminum pilings that will be placed approximately 10' on center. High- Strength Fiberglass Panels will be affixed to the pilings in order to block the flow of weed wrack. The fiberglass panels shall be oriented such that as mean sea level 2.5' of fiberglass remains above the water and 2.5' of fiberglass remains below the water. Plastic netting shall be affixed to both sides of the fiberglass and offer extended weed wrack guarding above and below the limits of the fiberglass.





The gap between the ends of the physical weed wrack gate shall contain a 30' air weed wrack gate. Coarse bubble diffusers will be spaced at an interval of 1.5 feet. The universal diffuser mounts will be used to affix the coarse bubble diffusers to the air weed wrack gate lateral. The air weed wrack gate lateral line will rest approximately 1 foot above the bottom surface to allow for maximum boating clearance.

A 36 URAI pump in conjunction with a 5hp motor will provide air through 3" PVC pipe to the air weed wrack gate. Calculations for determining the pump specifications were based on an assumed diffuser depth of 7' which is 1' above the given depth of the canal bottom. This estimate is subject to change based on detailed design.

Marathon 223 Preferred Alternative Cost Estimate

Physical and Air Weed Wrack Gate

Item #	Units	Approx Qty	Item	Unit Price	Cost
1	EA	1.0	Furnish and Install Physical/ Air Weed Wrack Gate	$ 42,747.00	$ 42,747.00
				Subtotal	$ 42,747.00
				Contingency 20%	$ 8,549.00
				Sub total	**$ 51,296.00**
			Construction Administration		$ 8,000.00
			Final Design and Permitting		$ 15,000.00
			Total	**TOTAL**	**$ 74,296.00**

Assumptions for Cost Estimate:

-Assumed Motor efficiency of 85%

Monthly costs for the air weed wrack gate are approximately $220/month assuming diffuser discharge depth of 7 feet.

Benefits of Proposed Restoration Project

The proposed restoration project consists of the construction of a weed wrack gate to help address the existing water quality impairments. The proposed weed wrack gate addresses the DO impairment in a two-fold manner: by preventing the accumulation of organic material in the benthic zone of the waterbody; and by helping to aerate incoming and outgoing water.

Grant Programs

The project identified above is expected to have a positive effect on water quality within the canal and surrounding areas. Traditionally, water quality and habitat restoration efforts have focused on restoration of natural ecosystems impacted by human activity. Grant programs are typically geared toward these types of projects. For this reason, it will be critical to emphasize that projects aimed at water quality improvements within Keys canal systems are likely to provide equally significant improvements to the overall marine environment. The following grant opportunities have been identified as potential funding sources for this project:

Grant Program	Agency	Deadline*	Required Minimum Match	Project Objective	Required Project Stage
Section 319	EPA/FDEP	May, 2013	40%	Reduce Non-point pollution	Conceptual
TMDL	EPA/FDEP	Mar/Jul/ Nov 2012/2013	50%	Reduce Non-point pollution	60% Design / Permitted
South Florida Coastal Program	USFWS	April, 2013	0% required (>0% encouraged)	Habitat Restoration	Conceptual
Community-Based Matching Grants Program	TNC / NOAA	April, 2013	50%	Habitat Restoration	Conceptual
National Coastal Wetlands Conservation Grant Program	USFWS	June, 2013	50%	Habitat Restoration	Conceptual

Grant Program	Agency	Deadline*	Required Minimum Match	Project Objective	Required Project Stage
Urban Waters Small Grants**	EPA	January, 2013	$2,500	Water Quality Improvement	Conceptual

Notes: * *2013 deadlines are estimated and programs resources are not guaranteed*
** *This grant applies only if project is considered a demonstration*

Grant Application Checklist

Many of the requirements for the above grant programs are similar, although each grant application has its own format and should be reviewed and completed on an individual basis. Grant application guidance for each program is available in **Appendix D**. The elements below are provided as a quick reference to assist with assembling multiple applications:

- ☐ Applicant Contact Information
- ☐ Project Location Details
- ☐ Type of Project
- ☐ Project Objective
- ☐ Project Synopsis
- ☐ Project Description
- ☐ Expected Project Benefits
- ☐ Project Work Plan
- ☐ Project Monitoring Plan
- ☐ Project Budget
- ☐ Amount Requested
- ☐ Applicant Matching Amount
- ☐ Cooperating Partners/Match
- ☐ Benefits to Community
- ☐ Community Involvement
- ☐ Project Milestones
- ☐ Project Deliverables
- ☐ Project Team
- ☐ Required Forms
- ☐ Literature Cited
- ☐ Appendices

Information Necessary to Complete Applications

The project information in the checklist can be obtained largely from the information provided in the project descriptions provided in the preceding section. More detailed information such as project milestones and deliverables will need to be developed from the available project information. Specific budget information will need to be provided using the individual grant formats. Information on the project team will also need to be assembled prior to submittal.

Items that are included with this submittal can be utilized to provide the following checklist items:

- ☑ Project Location Details
- ☑ Type of Project
- ☑ Project Objective
- ☑ Project Synopsis
- ☑ Project Description
- ☑ Expected Project Benefits
- ☑ Project Work Plan
- ☑ Project Budget
- ☑ Project Milestones

Items that will need additional information to complete include the following:

- ☒ Applicant Contact Information
- ☒ Project Deliverables
- ☒ Amount Requested
- ☒ Applicant Matching Amount
- ☒ Cooperating Partners/Match
- ☒ Benefits to Community
- ☒ Community Involvement
- ☒ Project Team
- ☒ Project Monitoring Plan
- ☒ Required Forms
- ☒ Literature Cited
- ☒ Appendices

The agency applying for the grant will need to determine the amount of matching funds and cooperating partners available for the project. Requirements for funding match range from 0% to 50%, and additional points may be awarded for providing more than the minimum amount. Community involvement and benefit is also generally encouraged and will need to be considered when completing the applications.

Most applications require only conceptual plans and a reasonably well-developed budget. However, the TMDL grant program requires projects to be at the 60% design stage, permitted, and ready for construction. The projects described herein would need to be developed accordingly to meet the TMDL grant program requirements.

Specific forms are required for many of the applications and they provide specific details about how the information must be formatted. Generally, however, the information requested is very similar among grant programs.

References Cited

Davis, W.S. 1950. Brief History of Sediment Oxygen Demand Investigations; in Hatcher, K.J. Sediment Oxygen Demand. Institute of Natural Resources, University of Georgia. Athens, Georgia.

Boozer, A. C. 1979. A Review of the Impacts of Coastal Marina Siting, Construction, and Activities as Related to Water Quality Considerations, Publication No. 001-79, South Carolina Department of Health and Environmental Control, Bureau of Field and Analytical Services, Division of Biological and Special Services, Columbia, SC.

Task 6. Adaptive management process

Background

The objective of the task is to identify the steps that can be used to periodically assess the effectiveness of the restoration and management actions, measure progress toward goals, report that progress to stakeholders and funding entities, and (when necessary) redirect efforts in more productive directions.

Because of the short timeline available for Phase 1 of this project, the purpose of Task 6 is to provide a preliminary description of the adaptive management process in condensed form. It is assumed that a more comprehensive summary, appropriate for inclusion in a Keys-wide master plan, will be developed in Phase 2 of the project if funding becomes available.

A key role of adaptive management is to provide resource managers, administrators and stakeholders a logical framework in which technical information can be collected and used to guide management actions. The purpose is to target the use of limited resources in ways that ensure program effectiveness (NRC 2011). Adaptive management also seeks to improve coordination between strategy and operations, and ensure that scientific and engineering information is well-coordinated with decision-making and decision-support activities. EPA (2008) describes it as a "cycle of active strategy development, planning, implementation, and evaluation" that allows an entire resource management program to "learn and change based on the outputs of the adaptive management process".

The U.S. Department of Interior and Department of Commerce (DOI and DOC 2009), in a report providing recommendations on steps that could be taken to improve the Chesapeake Bay management effort, have summarized the process as follows:

- **Define Programmatic Goals**

- **Plan and Prioritize** – Management strategies and actions will need to be planned and prioritized to meet the adopted goals. Monitoring should begin prior to implementation or enhancement of management actions so baseline conditions are documented.

- **Implement –** Policies and actions are implemented through coordinated partner efforts that effectively align resources.

- **Monitor --** Monitoring is critical to document changes in ecological conditions, tracking of management actions, and progress toward performance measures.

- **Evaluate** – Indicators are used to synthesize monitoring data and assess changes in ecological and socioeconomic elements. Evaluation includes assessing effectiveness of management actions to achieve desired outcomes, adequacy of supporting science (models, monitoring, and research) to predict and detect ecosystem change, and partnership capacity to implement programs and actions.

- **Adjust** – Based on the outcomes of the evaluate step, both short- and long-term adjustments may need to be for management actions and partnership performance.

Short-term adjustments (1 year or less) may be made to management actions or strategies or partnership capacity to implement programs. Longer-term adjustments (1 year or more) may include modifying goals and management strategies and adjusting long-term monitoring programs.

The recommended process is summarized graphically in **Figure 6.1**.

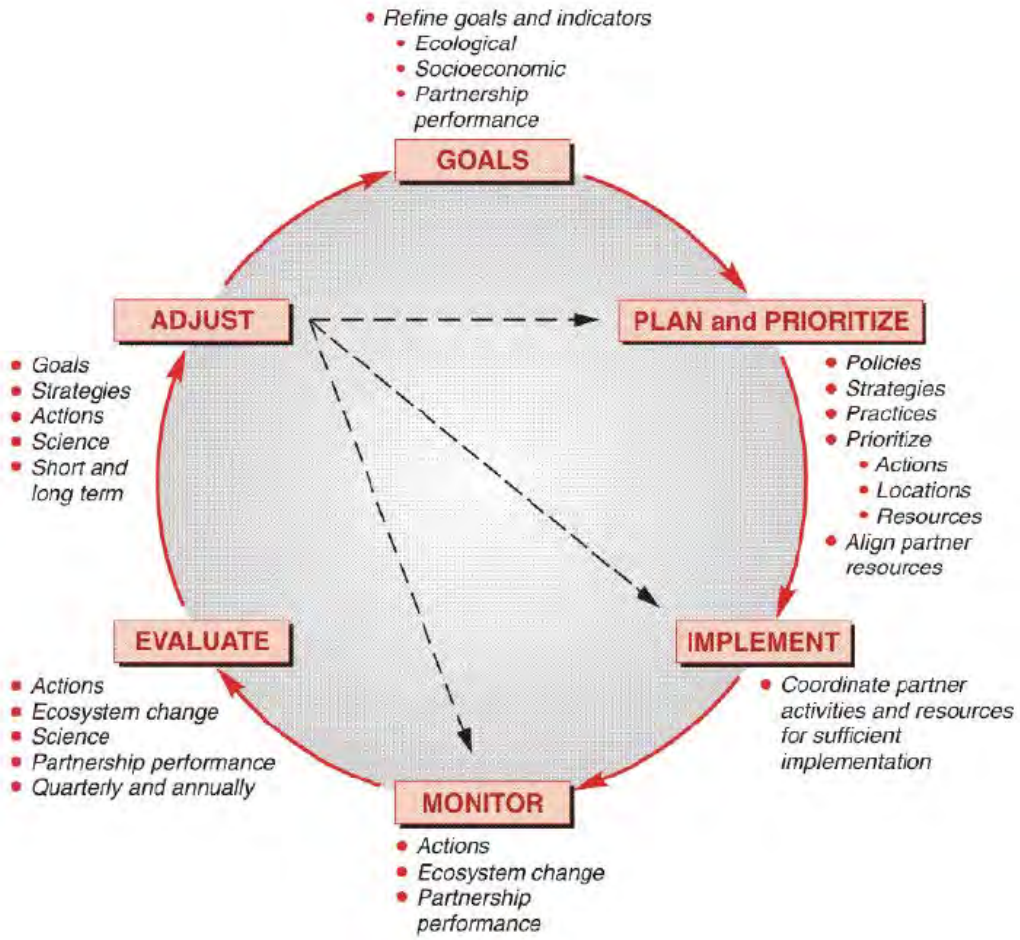


Figure 6.1. Adaptive management framework. (Source: DOI and DOC 2009)

For an ecosystem-scale program, DOI and DOC (2009) also note that the adaptive management framework will depend on supporting science and engineering elements, including:

- **Observations and monitoring –** provide the raw data that form the basis for all other science elements and adaptive management. Monitoring and observations are needed to define the status of ecosystem integrity, prepare models to forecast ecological conditions and test management scenarios, and document changes in management actions and ecosystem condition.

- **Information management** – ensures that the observations and monitoring data are of sufficient quality to be used for all the science applications, are accessible in databases to ensure long-term integrity, and systems are in place to provide rapid access to and application of the information.

- **Assessment and research** – monitoring data are assessed to define the extent of problems and track changes over time. Research is conducted to understand and explain the ecological conditions, examine the effectiveness of potential solutions, and develop models to test hypotheses and forecast outcomes of different management and socioeconomic scenarios.

- **Indicators** – selection of a full suite of variables to that can be measured and analyzed is crucial so scientists, engineers and managers can track ecological, socioeconomic and institutional trends and compare them to the objectives. The development of a clear set of measurable indicators and benchmarks allows tracking of restoration progress and the ability to report back to the public.

- **Communication Process** – provides the assessment and synthesis of scientific information to improve decision making for federal and state managers and policy makers, local governments and land-use planners, elected officials, and the general public. Products for Federal and state resource managers would be focused on helping them adjust management policies and actions based on an improved understanding of the ecosystem and effectiveness of management actions. Products for local governments and land-use planners would provide implications for a balance between economic growth and a sustainable ecosystem. Products for the general public would help them understand how their economic and social decisions affect, and derive benefit from, ecosystem goods and services. Products for elected officials would provide implications of how laws, policies, and budget decisions affect sustainability and ecosystem conditions.

- **Decision support tools** – improved decision-making will depend on delivering the information to each audience in a timely and user-friendly fashion.

Potential Application to the CMMP

The CMMP will obviously be carried out on a much smaller scale, and with substantially fewer resources, than the ecosystem-level management program described and evaluated by DOI and DOC (2009). However, the adaptive management approach shown in Fig. 1 can be used to guide CMMP development and implementation. This could be done by including the following components as explicit elements of the CMMP:

1. Define Programmatic Issues and Goals

Phase 1 of CMMP development has identified a preliminary set of priority management issues and goals:

- **Issue 1. Water quality – Eutrophication and DO-Related Issues**
  Goal: Restore and maintain water quality conditions in canal systems to levels that are consistent with the State's current water quality criteria for Class III waters, whose designated uses include human recreation as well as the propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

- **Issue 2. Water quality – Organic Matter (e.g., Weed Wrack)**
  Goal: In canal systems whose location make them susceptible to receiving large inputs of seagrass leaves and other 'weed wrack' from nearshore waters, install cost-effective barriers to prevent or substantially reduce those inputs to levels that do not contribute to eutrophication, hypoxia, or other water and sediment quality issues within the canals.

- **Issue 3. Sediment quality**
  Goal: Reduce the incidence of anoxia, problematic sulfide levels and sediment toxicity in canals where these issues are present, and prevent these issues from developing in canal systems where they are not yet present.

- **Issue 4. Habitat quality**
  Goal: Protect aquatic and benthic canal habitats that currently support native flora and fauna, and improve water and sediment quality in other areas to levels that are capable of supporting them.

- **Issue 5. Public Involvement in the Canal Management Process**
  Goal: Create and maintain a constituency of informed, involved citizens who understand the environmental and economic issues involved in managing manmade canal systems

These can be used to guide management actions for the remainder of Phase 1. If funding becomes available, they can be fleshed out and further refined in Phase 2 of the program.

2. Plan and Prioritize

An initial list of potential project sites and site-specific restoration concepts were developed using the information collated and evaluated in Task 1 of this project, as well as site visits that included visual inspections of canals and spot-collection of depth information and hydrographic (e.g., DO, water temperature, pH, and conductivity) data.

Two groups of canals were selected for site visits:

- Canals in subdivisions that were identified as water quality problem areas by a working group convened by the South Florida Water Management District (SFWMD) in 1996; and

- Canals known to have moderate to severe water quality problems associated with weed wrack.

In the subdivisions identified as water quality problem areas by the 19996 SFWMD working group, canals likely to have the most serious water quality problems, due to poor designs that limit circulation and flushing, were identified by examining aerial photographs and information from the project geodatabase. A site visit was then performed to confirm that the most problematic canals within each subdivision had been identified. To identify canals with potential weed wrack issues, high-resolution aerial photographs taken during the winter of 2006 were examined to identify those with significant organic flotsam coverage at the water surface.

The two groups of canal systems that were evaluated using site visits are summarized in the Task 4 summary above, in **Tables 4.1** and **4.2**. Those canals were then evaluated and prioritized using the criteria described in Task 4 and Task 5. The criteria were used in Task 5 to develop an initial short-list of project sites and restoration activities for which implementation funds may be sought during the next few years.

3. Implement

The operational elements of the CMMP will be guided by the leadership and direction of the members of the WQPP Steering Committee and its Canal Subcommittee, which include the following partners:

- U.S. EPA
- U.S. National Park Service
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- National Oceanic and Atmospheric Administration
- Florida Department of Environmental Protection
- South Florida Water Management District
- Florida Keys Aqueduct Authority
- Florida Department of Health
- Three individuals in local government in the Florida Keys
- Three citizens knowledgeable about the WQPP

In order to implement the CMMP, the state and federal agencies represented on the WQPP and the Canal Subcommittee will need to work cooperatively with the local governments and homeowner associations who will be the lead entities carrying out canal restoration and management activities. The results of those activities can then be evaluated by the Steering Committee and Canal Subcommittee, and the program's goals, objectives, strategies and operational procedures adjusted, using the steps outlined below.

4. Monitor

As noted by DOI and DOC (2009), monitoring is critical to document changes in environmental conditions and tracking of management actions and progress toward goals. Currently, it appears that no monitoring programs are in place to track changes in water, sediment or habitat quality within canal systems in the Florida Keys. Baseline bathymetric information also appears to be unavailable for most canals. For Phase 1 of the CMMP, a GIS-based database developed through a companion project, and the very basic field work that was done as part of Task 4 of this project, have been the primary sources of available information. If Phase 2 of the CMMP is funded, the development of a more robust monitoring program should be one of its primary work elements.

5. Evaluate

Evaluation includes assessing the effectiveness of management actions to achieve desired outcomes, adequacy of available information to detect changes in the managed resources, and the capacity of the management program and its partners to implement programs and actions. If Phase 2 of the CMMP receives funding, the development of a defined evaluation process should be one of its work elements. Formal evaluations using that process could then be performed periodically (e.g., every three to five years) by the Canal Subcommittee, with the results reported to the WQPP Steering Committee to provide regular updates to administrators and stakeholders on the effectiveness of the canal management program.

6. Adjust

As noted by DOI and DOC (2009), the outcomes of the evaluation step can be used to develop short- and long-term adjustments for management actions and partnership performance. Short-term adjustments may be made to management actions or strategies or partnership capacity to implement projects. Longer-term adjustments may include modifying goals and management strategies and adjusting long-term monitoring programs. As with the monitoring and evaluation steps, if Phase 2 of the CMMP is funded, the development of a defined adjustment process that will be applied to the canal management process should be included as one of its work elements.

References Cited

DOI (U.S. Department of the Interior) and DOC (U.S. Department of Commerce). 2009. Strengthening Science and Decision Support for Ecosystem Management in the Chesapeake Bay and its Watershed. A Revised Report Fulfilling Section 202f of Executive Order 13508. DOI and DOC. Washington, DC. 58 pp.

EPA (U.S. Environmental Protection Agency). 2008. Strengthening the Management, Coordination, and Accountability of the Chesapeake Bay Program. EPA, Annapolis, MD. 122 pp.

NRC (National Research Council). 2011. Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay: An Evaluation of Program Strategies and Implementation. National Academies Press, Washington, DC. 241 pp.

APPENDIX A

Task 5 Score Sheets

Task 5 Priority Canal Ranking

Subdivision Name	GIS Canal Number	Potential Restoration Technologies	Overall Score from Task 5	WWT present	Rank
Wynken, Blynken and Nod	78	Primany Weed wrack loading prevention; secondary treatment backfilling	45.3	yes	1
Cross Key Estates	45	Backfilling and/or Pumping to increase circulation	41.6	yes	2
Marathon	223	Weed wrack Loading Prevention primary technology.	39	yes	3
Bay Point	433	Culvert Maintenance (plus evaluation of adequate culvert size)	37.8	yes	4
Little Venice	200	Circulation pump	35.6	yes	5
Gulfrest Park	437	Circulation pump	32	yes	6
Boot Key Harbor	243	Increase in circulation by pumping or culvert. Depth information will be required to evaluate if backfilling is appropriate.	32	yes	7
Little Venice	196	Backfilling	30.1	yes	8
Key Haven	471	Circulation pump (reduction in stormwater loading is appropriate)	26.8	yes	9
Lake Surprise - Sexton Cove	24	Culvert to Lake Surprise	26.7	yes	10
Hammer Point	93	Backfilling	25.8	yes	11

Scoring criteria for potential restoration sites	Area Name	Bay Point
	Canal Number	433
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Culvert Maintenance (plus evaluation of adequate culvert size)
1) Severity of problem (scored from 0 to +10)	Score	5
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10.	Comments	DO was measured as < 4 mg/L > 2 mg/L. Existing culvert on north end is blocked.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	5
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	Efficiency of existing culvert once maintained should be evaluated to further assess the effectiveness
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	-2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Increasing flow through the canal could result in short term increased discharges of water from within the canal of poorer WQ than the nearshore zone
4) Public benefit (scored from -10 to +10)	Score	4.8
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	76 lots would incur benefit.
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, this subdivision has WWT
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	7
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	30% plans can be prepared with existing data. No survey data or as-builts plans are available.
8) Project "implementability" (scored from 0-10)	Score	8
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	Currently there is land access in a vacant lot for maintenance equipment; however, mangroves have colonized the culvert area and will require pruning.
Overall Score	Score	37.8
	Comments	

Scoring criteria for potential restoration sites	Area Name	Boot Key Harbor
	Canal Number	243
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Increase in circulation by pumping or culvert. Depth information will be required to evaluate if backfilling is appropriate.
1) Severity of problem (scored from 0 to +10)	Score	5
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10.	Comments	DO was < 4 mg/L but > 2 mg/L. Sediment sample could not collected. No odors or Weed wrack problems reported. Very significant algae problem.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	5
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	Width of canal system and low energy at the canal mouth will limit effectiveness of pumping. Closet location for a culvert is not the best location hydrologically.
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	-2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Increasing flow through the canal could result in short term increased discharges of water from within the canal of poorer WQ than the nearshore zone
4) Public benefit (scored from -10 to +10)	Score	10
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	A score of 10 was given due to heavy recreational use.
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT Present.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	3
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	30% plans can be prepared with existing data for pumping of improved circulation. Insufficient data is available to evaluate backfilling feasibility.
8) Project "implementability" (scored from 0-10)	Score	1
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	Multiple pumps will be needed and will increase costs. Culvert installation is under US #1 and the distance to the adjacent canal to provide flow through is at quite a distance and will require extensive access coordination and difficulty in construction.
Overall Score	Score	32
	Comments	

Scoring criteria for potential restoration sites	Area Name	Cross Key Estates
	Canal Number	45
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Backfilling and/or Pumping to increase circulation
1) Severity of problem (scored from 0 to +10)	Score	5
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Comments	DO < 4 mg/L but > 2 mg/L
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	7
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	This is a long deep canal (~20 feet) which has good fish population with the deeper zone and far ends of the canal only showing water quality impacts. Length and shape of the canal will limit effectiveness.
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	0
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Backfilling would improve the water quality discharging to the nearshore zone. Circulation pump could negatively impact the WQ in the nearshore zone for a short time interval.
4) Public benefit (scored from -10 to +10)	Score	8.6
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	243 parcels will incur benefit
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	3
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	30% plans can be prepared with existing data for pumping of improved circulation. Insufficient data is available to evaluate backfilling feasibility.
8) Project "implementability" (scored from 0-10)	Score	8
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	No major apparent issues
Overall Score	Score	41.6
	Comments	

Scoring criteria for potential restoration sites	Area Name	Gulfrest Park
	Canal Number	437
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Circulation pump
1) Severity of problem (scored from 0 to +10)	Score	5
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Comments	DO was measured as > 4 mg/L but > 2 mg/L) at 6 foot depth (~ bottom of canal).
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	3
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	Low energy at mouth will limit effectiveness of pump circulation
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	-2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Increasing flow through the canal could result in short term increased discharges of water from within the canal of poorer WQ than the nearshore zone
4) Public benefit (scored from -10 to +10)	Score	6
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	108 lots would incur benefit.
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	3
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	Insufficient data is available for 30% plans for circulation pumping.
8) Project "implementability" (scored from 0-10)	Score	7
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	Currently there is land access to install a pump; may need to install electric, no apparent permitting issues
Overall Score	Score	32.0
	Comments	Weed wrack loading does not appear to be an issue in this canal

Scoring criteria for potential restoration sites	Area Name	Hammer Point
	Canal Number	93
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Backfilling
1) Severity of problem (scored from 0 to +10)	Score	0
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Comments	DO was > 4.0 mg/L
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	2
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	Due to relatively high existing DO little improvement is anticipated.
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Backfilling should improve water quality discharging to the nearshore zone.
4) Public benefit (scored from -10 to +10)	Score	1.8
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	30 parcels will incur benefit
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	3
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	Insufficient data is available to evaluate backfilling feasibility.
8) Project "implementability" (scored from 0-10)	Score	7
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	No permitting issues but backfill would have to be barged in from Florida Bay.
Overall Score	Score	25.8
	Comments	The canal system currently displays fair to good water quality.

Scoring criteria for potential restoration sites	Area Name	Key Haven
	Canal Number	471
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Circulation pump (reduction in stormwater loading is appropriate)
1) Severity of problem (scored from 0 to +10)	Score	5
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Comments	DO was < 4 mg/L but > 2 mg/L. Minor sea weed loading issue. Organic muck present in bottom sediments which ddid not have an odor. Poor ciculation is major cause of poor water quality.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	7
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	Long canal length and irregular shape is limiting circulation. An increase in circulation through pumping will assist in removing stormwater loading; high energy at mouth will assist in flushing.
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	-2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Increasing flow through the canal could result in short term increased discharges of water from within the canal of poorer WQ than the nearshore zone
4) Public benefit (scored from -10 to +10)	Score	7.8
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	188 parcels will incur benefit
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	0
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT. Stormwater pipes discharge into this canal.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	7
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	30% plans can be prepared with existing data. No survey data or as-builts plans are available.
8) Project "implementability" (scored from 0-10)	Score	2
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	Multiple pumps are likely to be required due to numerous stormwater pipe outfalls into the different fingers of the canal system. Access for multple pumps will be difficult due to density of homes; electric likely required. no apparent permitting issues.
Overall Score	Score	26.8
	Comments	

Scoring criteria for potential restoration sites	Area Name	Lake Surprise - Sexton Cove
	Canal Number	24
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Culvert to Lake Surprise
1) Severity of problem (scored from 0 to +10)	Score	0
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Comments	DO above > 4 mg/L at the furthest point of the canal.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	4
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	Culvert cannot be located at the best location to increase flushing
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	-2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Increasing flow through the canal could result in short term increased discharges of water from within the canal of poorer WQ than the nearshore zone
4) Public benefit (scored from -10 to +10)	Score	7.7
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	187 parcel lots would incur benefit
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	7
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	30% plans can be prepared with existing data. No survey data or as-builts plans are available.
8) Project "implementability" (scored from 0-10)	Score	0
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	Extensive mangrove and seabed areas would have to be disrupted to get the culvert out to the main channel
	Score	26.7
Overall Score	Comments	Water quality appeared fairly good so that the improvement would be mininal and the environmental impact of installing the culvert would be significant.

Scoring criteria for potential restoration sites (For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Area Name	Little Venice
	Canal Number	196
	Potential Restoration Technologies	Backfilling
1) Severity of problem (scored from 0 to +10) Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Score	2
	Comments	The canal was observed to be deep; however, the canal displayed good flow and DO concentrations above the FDEP standard for impaired waters of 4.0 mg/L.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10) Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Score	2
	Comments	Backfilling would improve the conditions of the sediment
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10) Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Score	2
	Comments	Backfilling would improve the water quality discharging to the nearshore zone.
4) Public benefit (scored from -10 to +10) The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Score	4.1
	Comments	61 lots on canal
5) Public funding support (scored from -10 to +10) Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Score	
	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10) Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Score	10
	Comments	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10) Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Score	3
	Comments	Insufficient data is available to evaluate backfilling feasibility.
8) Project "implementability" (scored from 0-10) This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Score	7
	Comments	Access to the canal will not be difficult and there were no observed environmental permitting issues noted during the assessment
Overall Score	Score	30.1
	Comments	Canal 196 displayed good water quality

Scoring criteria for potential restoration sites	Area Name	Little Venice
	Canal Number	200
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Potential Restoration Technologies	Circulation pump
1) Severity of problem (scored from 0 to +10)	Score	5
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Comments	The canal was observed to be 8 feet deep; displayed low DO (< 4.0 > 2.0 mg/L), and although the water flows under the roadway the flushing appears restricted.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	5
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	increase in circulation will help improve water quality; however, the low energy at the mouth will limit effectiveness
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	-2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Increasing flow through the canal could result in short term increased discharges of water from within the canal of poorer WQ than the nearshore zone
4) Public benefit (scored from -10 to +10)	Score	3.6
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	53 lots on the canal system would incur benefit with improvement
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	7
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	30% plans can be prepared with existing data.
8) Project "implementability" (scored from 0-10)	Score	7
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	No observed environmental permitting issues noted during the assessment; site access for a pump appears available but will have to be confirmed
Overall Score	Score	35.6
	Comments	The energy at the mouth is the controlling factor for the circulation in this canal

Scoring criteria for potential restoration sites (For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	Area Name	Marathon
	Canal Number	223
	Potential Restoration Technologies	Weed wrack Loading Prevention primary technology.
1) Severity of problem (scored from 0 to +10)	Score	10
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	Comments	DO was < 4 mg/L but > 2 mg/L. Significant Weed wrack loading issue. Organic muck present in bottom sediments which had hydrogen sulfide odor.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	Score	6
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	Comments	Preventing weed wrack from entering the canal will improve water quality. Narrow middle section will prevent rapid flushing after loading reduction. Addition of a circulation pump may be needed. Evaluation of organic muck thickness and additional remedial benefit of its removal needs to be performed.
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	Score	0
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	Comments	Weed wrack prevention would have no effect on nearshore zone.
4) Public benefit (scored from -10 to +10)	Score	0
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	Comments	17 parcels will incur benefit.
5) Public funding support (scored from -10 to +10)	Score	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	Comments	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	Score	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	Comments	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	Score	7
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	Comments	30% plans can be prepared for weed curtain with existing data. No survey data or as-builts plans are available.
8) Project "implementability" (scored from 0-10)	Score	6
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	Comments	Wide canal width, presence of mangroves on one side of mouth, and site access for equipment are all issues.
Overall Score	Score	39.0
	Comments	This canal has a restrictive narrow middle section that will limit natural flushing

Scoring criteria for potential restoration sites		
	Area Name	Wynken, Blynken and Nod
	Canal Number	78
(For a criterion that cannot be scored due to a lack of relevant information, a value of zero will be assigned)	**Potential Restoration Technologies**	Primany Weed wrack loading prevention; secondary treatment backfilling
1) Severity of problem (scored from 0 to +10)	**Score**	7
Scoring is based upon whether the problem (which may involve water, sediment or habitat quality) is considered nuisance or serious, with values for nuisance problems or issues ranging from 0 to 5 and values for serious problems or issues ranging from 6 to 10	**Comments**	DO was < 4 mg/L but > 2 mg/L at 1 and 11 feet below water (canal depth is 22 feet). Weed wrack gets trapped at the end of the canals due to poor circulation related to 90 degree bends, collects garbage, and has an odor.
2) Potential to provide improvement and/or protection in water, sediment or habitat quality within the project canal (scored from -10 to +10)	**Score**	7
Scoring values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, for improvement and/or protection within the project canal. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the project canal.	**Comments**	Preventing Weed wrack from getting into the canal will greatly improve the water quality
3) Potential to provide improvement and/or protection in water, sediment or habitat quality within the halo or nearshore zone (scored from -10 to +10)	**Score**	2
Values from 0 to +5 represent low to moderate potential, while values from +6 to +10 represent above-average to high potential, to provide improvement and/or protection in the halo or nearshore zone. Analogous negative scores (0 to -10) can be applied for projects that would have deleterious effects within the halo or nearshore zone.	**Comments**	Weed wrack loading prevention would have no effect on nearshore; backfilling would improve discharge to nearshore waters.
4) Public benefit (scored from -10 to +10)	**Score**	4.3
The public benefit criterion is related to the number of users affected by the proposed project. A value of 0 means few or no users would be affected by the project, while a value of +5 means a moderate number of users would be positively affected. A +10 would indicate that a very large numbers of users would be positively affected. Analogous negative scores (0 to -10) can be applied for projects that would have negative effects on users.	**Comments**	65 parcels would incur benefit
5) Public funding support (scored from -10 to +10)	**Score**	
Willingness of local governments, homeowner associations, or individual property owners and commercial establishments along the canal to provide some level of funding support for the proposed restoration or remediation project. Scoring ranges from -10 to +10, with -10 indicating 100% opposition, 0 indicating neutrality, and +10 indicating 100% agreement with providing some level of funding support.	**Comments**	Funding to be evaluated after ranking
6) Likelihood of receiving external (e.g., grant-based) funding support (scored from 0 to +10)	**Score**	10
Estimated likelihood that the proposed project would be eligible and competitive for partial or complete funding through grants or other external funding sources. For Phase I scoring only canals where WWT has been implemented will be considered for the final scoring and selection. Scoring is either Yes WWT present = 10 or No WWT Not Present = 0.	**Comments**	Yes, WWT.
7) Availability of data to prepare project designs and grant proposals (scored from 0 to 10)	**Score**	7
Current availability of data and technical information that would be necessary to prepare design drawings and other scientific or engineering materials for the proposed project to the extent that would be necessary to apply for external grants, permits, etc. Scoring ranges from 0 to +10, representing the estimated percentage (0 to 100%) of the needed information that is currently available or could be obtained quickly and at minimal cost.	**Comments**	30% plans can be prepared with existing data. No survey data or as-builts plans are available.
8) Project "implementability" (scored from 0-10)	**Score**	8
This criterion accounts for factors such as cost, complexity of permitting issues, mitigation requirements, and potential complications with existing utilities or difficulty of access. Scoring ranges from 0 to +10, with 0 indicating significant difficulties in implementation and 10 indicating relative ease of implementation.	**Comments**	No issues evident; however backfilling will have to be done from a barge
Overall Score	**Score**	45.3
	Comments	

APPENDIX B

Attribute Table, Site Condition Summaries, and Aerial Photographs for Task 5 Selected Canals

Residential Canal Name	Subdivision Name	Potential Restoration Technologies	Water Quality Priority Score	Area (acres)	Length (meters)	Number of Mouths	Degree of Convolutions	Stormwater Treatment
45 KEY LARGO	Cross Key Estates	Backfilling and/or Pumping to increase circulation	46.6	10.8	820	1	16	
78 ROCK HARBOR	Winken, Blynken and Nod	Primany Weed wrack loading prevention; secondary treatment backfilling	45.3	2.5	290	1	4	
223 MARATHON		Weed wrack Loading Prevention primary technology.	39	6.0	70	1	4	Yes

Residential Canal Name	Wastewater Service Area	EDUs	Connection Status	WWT District	Weed Rack Loading	WBID	Impairment	Distance to WQ Monitoring Station (Km)	Monitoring Organization	Monitoring Parameters
45 KEY LARGO	KLWTD Service Area C	1047	Compliant	KLWTD	0.0%	6006A	Dissolved Oxygen	0.0	Nature Conservancy/FDEP	(DO,TEMP,SAL,ENT)/ Metals,Nutrients,&Biological
78 ROCK HARBOR	KLWTD Service Area I	684	Compliant	KLWTD	0.0%	6006A	Dissolved Oxygen	0.6	FDEP	Metals,Nutrients,&Biological
223 MARATHON	S. A. 5 Vaca Key East	2365	Compliant	Marathon	97.0%	6011A	Dissolved Oxygen	0.9	Environmental Monitoring & Assessment Program	Nutrients

Monroe County Canal Management Master Plan
Canal Condition Summary
Winken, Blynken, & Nod
Canal ID: 78

Canal No. 78 is located within the Winken, Blynken & Nod neighborhood on Key Largo. The canal system within the Winken, Blynken & Nod subdivision was assessed on May 9, 2012. AMEC's database listed canal No. 78 as having fair water quality. There may be a HOA associated within this subdivision. Field personnel confirmed the presence of sewers within the neighborhood. The surrounding land use for canal No. 78 is comprised of older mobile homes and newer single family homes. Canal No. 78 discharges into Rock Harbor at one location. The canal system displayed a slight odor. There was a 4 inch thick seaweed mat at the end of the assessed canal finger.

The canal was measured 40 feet wide and 22 feet below the water surface deep. Depth was measured from the water surface to the bottom. The canal banks were observed to be vertical seawalls. Canal walls were made of coral rock.

The water quality parameters were collected with a YSI multi-parameter meter from an elevated road above the canal finger. Dissolved oxygen (DO) was measured at two depth intervals, just below the surface and at 11 feet below the water surface. DO concentrations were measured below the FDEP standard for impaired water bodies of 4.0 mg/L for both measured intervals

During the May 9, 2012 qualitative assessment, the water at the end of the canal displayed no visible flow. Field personnel noted that the water within the canal was very dark and displayed low visibility.

Sediment was not sampled at this location due to logistics.

Field personnel observed no existing structures within canal No. 78 that would affect the flow of water in and out of the system. Field personnel noted the presence of multiple aerators within the canal system. There were no observed issues that would affect obtaining a permit.

Water quality was determined to be poor based on the field assessment.

Possible treatment measures for enhancing water quality within the canal include installation of a seaweed gate that would prevent the seaweed from entering into the canal system and backfilling the canal to decrease the depth.

Source: FDOT, 2010 (aerial); NRCS, 2010; AMEC, 2012

N

1 inch = 150 feet

0 37.5 75 150 Feet

Monroe County Canal Management Master Plan

78 ROCK HARBOR

Drawn	Date
DLA	05/24/2012
Checked	Date
WCL	05/24/2012

amec

MIAMI, FL
Project # 6783-12-2396

Figure 9

Monroe County Canal Management Master Plan

Project Number: 6783-12-2396 Project Location: Monroe County

Canal ID: 78 Database Ranking: Fair Key/Community: Winke, Blinken, & Nod

Date: 5-9-12 Time:1240 Tidal Condition: High Tide (Slack) source: NOAA

Water depth (22'):

Water quality readings:

Monitoring Location	Depth	Temp (oC)	Conductivity ms/cm^3	pH	DO mg/l	DO %Sat	ORP
End	**0.25 m**	27.59	50.43	8.11	2.34	35.7	-25.3
	0.5 m						
	1 m						
	1.5 m						
	2 m						
	2.50 m						
	3 m						
End	**3.5 m**	27.24	50.64	8.21	3.3	49.8	-8
	4 m						
	4.5 m						
	5 m						
	5.5 m						
	6 m						
	6.5 m						
	7 m						

Monroe County Canal Management Master Plan
Canal Condition Summary
Cross Key Estates
Canal ID: 45

Canal No. 45 is located within the Cross Key Estates neighborhood on Key Largo. The canal system within the Cross Key Estates subdivision was assessed on May 9, 2012. AMEC's database listed canal No. 45 as having poor water quality. There is a condo association located within this subdivision. AMEC visually confirmed the presence of sewers within the neighborhood. The surrounding land use for canal No. 45 is comprised of residential homes. Canal No. 45 discharges into Blackwater sound at one location. The canal system displayed no noticeable odor.

The canal was measured 40 feet wide and between 12 and 20 feet below the water surface deep. Depth was measured from the side of the dock to the bottom of the canal. The canal banks were observed to be vertical seawalls.

The water quality parameters were collected with a YSI multi-parameter meter at a boat dock near the terminal end of a canal finger. Dissolved oxygen (DO) was measured at two depth intervals. DO concentrations were measured above the FDEP standard for impaired water bodies of 4.0 mg/L for the interval just below the water surface and below the DO standard for the interval approximately 8 feet below the water surface.

During the May 9, 2012 qualitative assessment, the canal water displayed no visible flow and was observed to have a green tint to the water column.

The sediment was sampled using a ponar dredge. The sediment sample consisted of algae, shells, and decomposed organic matter. The sediment sample displayed a distinct *sulfurish* odor.

There were no existing structures within canal No. 45 that were affecting the flow of water in and out of the system. Field personnel did not observe the presence of any treatment measures designed to enhance water quality within the canals. There were no observed environmental issues that would affect obtaining a permit.

Water quality was observed to be fair to poor based on the field assessment. During a subsequent visit to Cross Key Estates on May 23, 2012, the streets were flooded as a result of a recent storm event.

Possible treatment measures for enhancing water quality within the canal include installing a pump system to circulate water and backfilling.

Source: FDOT, 2010 (aerial); NRCS, 2010; AMEC, 2012

N

1 inch = 300 feet

0 75 150 300 Feet

Monroe County Canal Management Master Plan

45 KEY LARGO

Drawn	Date
DLA	05/24/2012
Checked	Date
WCL	05/24/2012

amec

MIAMI, FL
Project # 6783-12-2396

Figure 4

Monroe County Canal Management Master Plan

Project Number: 6783-12-2396 Project Location: Monroe County

Canal ID: 45 Database Ranking: Poor Key/Community: Cross Key Estates

Date: 5-9-12 Time:1100 Tidal Condition: High Tide (Slack) source: NOAA

Water depth (20'):

Water quality readings:

Monitoring Location	Depth	Temp (oC)	Conductivity ms/cm^3	pH	DO mg/l	DO %Sat	ORP
End	**0.25 m**	29.73	47.5	8.21	5.51	85.9	-15.4
	0.5 m						
	1 m						
	1.5 m						
	2 m						
End	**2.75 m**	30.07	48.66	7.89	3.24	50.7	-24.9
	3 m						
	3.5 m						
	4 m						
	4.5 m						
	5 m						
	5.5 m						
	6 m						
	6.5 m						
	7 m						

Monroe County Canal Management Master Plan
Canal Condition Summary
Marathon (subdivision not provided)
Canal ID: 223

Canal No. 223 is located on Marathon. The canal system on Marathon was assessed on May 15, 2012. Canal No. 223 was determined by aerial photographs as having a potential seaweed loading issue. A neighborhood organization does not exist for this subdivision. The surrounding land use for canal No. 223 is comprised of single family homes and motels. Canal No. 223 discharges into Florida Bay at one location. The canal system displayed no noticeable odor. Seaweed mats were observed floating within the canal system at the time of the May 15, 2012 assessment and again during a subsequent site visit on May 24, 2012. Representatives state that if the wind is predominately out of the north for an extended period of time, the canal fingers will accumulate substantial amounts of seaweed.

Canal measurements and parameters were collected near the inlet and at the terminal end of the canal. Near the inlet, the canal was visually estimated at 100 feet wide and measured 8 feet deep from the water surface. Depth was measured from the top of the seawall to the bottom of the canal. The canal banks near the inlet were observed to be vertical seawalls on one side and mangrove lined banks of the other. Seawalls are present on both sides of the canal near the terminal end.

The water quality parameters were collected with a YSI multi-parameter meter from the seawall near the inlet and at the terminal end of a canal finger. Dissolved oxygen (DO) was measured at two depth intervals at each location. The DO concentrations were measured below the FDEP standard for impaired water bodies of 4.0 mg/L for the depth intervals just below the water surface and 6 feet below the water surface.

During the May 15, 2012 qualitative assessment, the canal water displayed no visible flow and was visually determined to be moderately clear with algae suspended in the water column.

The sediment was sampled using a ponar dredge. The sediment sample consisted of silt, sand, seaweed, and algae. The sediment sample displayed a distinct *sulfurish* odor.

There were no existing structures within canal No. 223 that were affecting the flow of water in and out of the system; however, the canal narrows severely in the middle which will restrict flow. Field personnel did not observe the presence of any treatment measures designed to enhance water quality within the system. The presence of mangroves on one side of the canal may affect the ability to permit a treatment measure within that area.

Water quality was observed to be fair based on the field assessment.

Possible treatment measures for enhancing water quality within the canal include installing a bubble curtain or weed gate and a pump system that could improve circulation near the terminal end of the canal.

Source: FDOT, 2010 (aerial); NRCS, 2010; AMEC, 2012

N

1 inch = 200 feet

0 50 100 200 Feet

Monroe County Canal Management Master Plan

223 MARATHON

Drawn	Date
DLA	05/24/2012
Checked	Date
WCL	05/24/2012

amec

MIAMI, FL
Project # 6783-12-2396

Figure 15

Monroe County Canal Management Master Plan

Project Number: 6783-12-2396 Project Location: Monroe County

Canal ID: 223 Database Ranking: Seaweed Key/Community: Marathon

Date: 5-15-12 Time:1100 Tidal Condition: High Tide (Slack) source: NOAA

Water depth (8'):

Water quality readings:

Monitoring Location	Depth	Temp (oC)	Conductivity ms/cm^3	pH	DO mg/l	DO %Sat	ORP
Mouth	**0.25 m**	29.30	53.56	8.02	3.74	59.3	-72.5
End		29.62	53.35	7.97	3.42	54.2	-52.7
	0.5 m						
	1 m						
	1.5 m						
Mouth	**2 m**	29.59	54.1	8.15	3.93	62.5	-152
End		29.48	53.52	7.68	2.65	42	-180
	2.50 m						
	3 m						
	3.5 m						
	4 m						
	4.5 m						
	5 m						
	5.5 m						
	6 m						
	6.5 m						
	7 m						

APPENDIX C

Conceptual Design Calculations, Figures and Costs

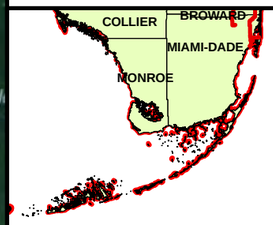
amec

AMEC - 2000 E. Edgewood Drive Ste #215 - Lakeland, FL 33803 - CA-5392 - (863) 667-2345

Notes:

1- Project No.: 6783122396.05
2- Data Sources -
3- The map shown here has been created with all due and reasonable care and is strictly for use with AMEC Project Number: This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. AMEC assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Location Map
Not to Scale



Monroe County
Wynken, Blynken and Nod
Conceptual Schematic

Explanation of Features

- Wood or Aluminum Pilings
- 36 URAI Pump/ 5HP Motor
- Optimized Recirculation
- Removal of Accumulated Organics
- Physical Seaweed Gate
- Air Seaweed Gate
- Potential Backfill Location
- 4" PVC Air Pipe

N

0 40 80 Feet

Date: 06/15/2012
Revised:MM
Checked By:WL

File Path: R:\MM\Monroe\MXD\WBN_2_Schematic_Conceptual.mxd

Notes:

1- Project No.: 6783122396.05
2- Data Sources - Aerial Imagery: Bing Hybrid Maps,
3- This map is intended to be used for planning purposes only. It is not a survey.

Date: 06/15/2012
Prepared By: MM
Checked By: WL

Explanation of Features

- Pump Outfall
- Pump Location Intake
- Sea Water Pipe
- Proposed Backfill Location
- Removal of Accumulated Organics

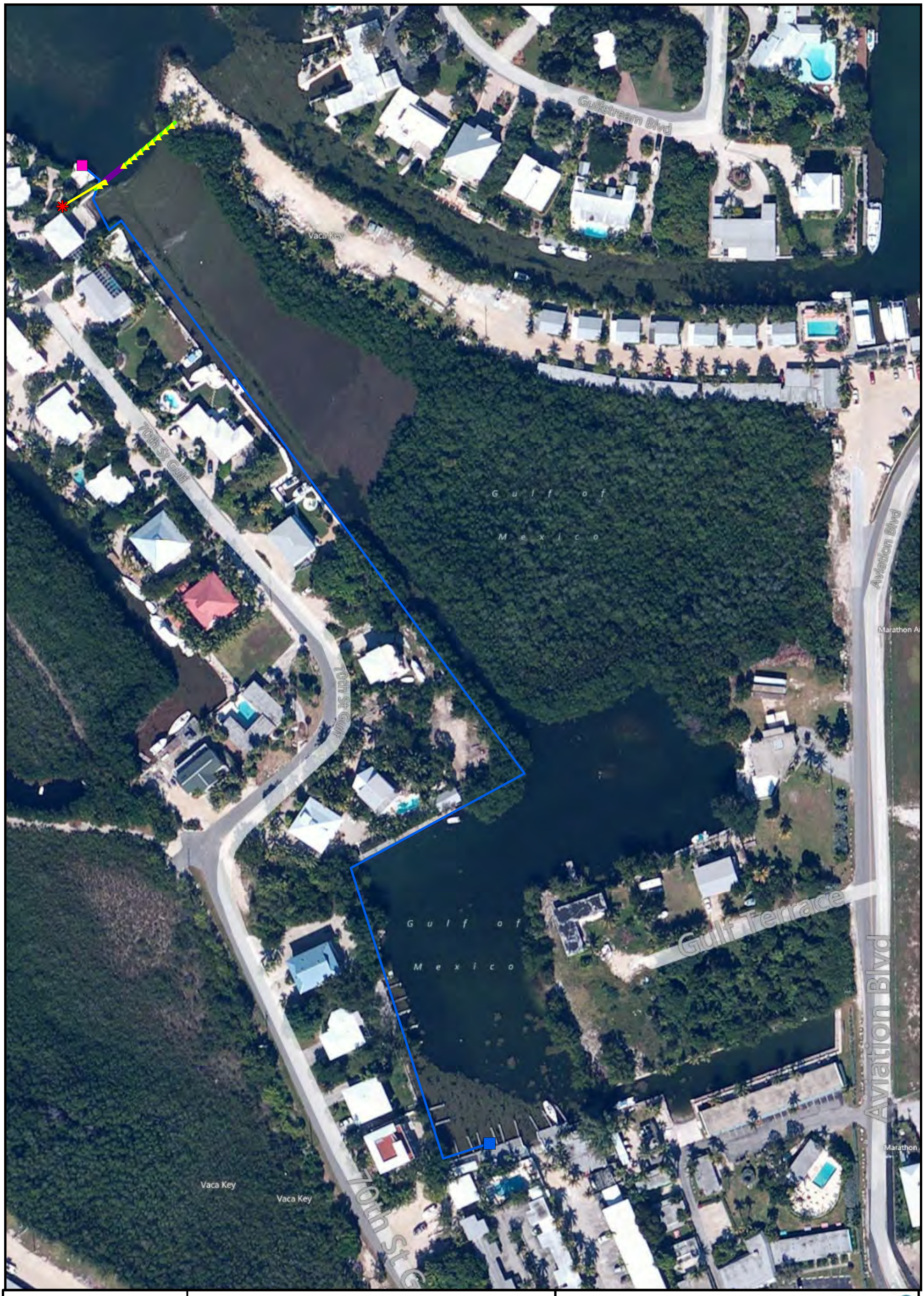
N

0 290 580 Feet

Monroe County
Cross Key Estates
Conceptual Schematic

AMEC - 2000 E. Edgewood Drive Ste #215 - Lakeland, FL 33803 - CA-0007867 - (863) 667-2345

File Path: R:\MM\Monroe\MXD\CKE_1_Schematic_Conceptual.mxd



Notes:
1- Project No.: 6783122396.05
2- Data Sources - Aerial Imagery: Bing Maps Hybrid
3- This map is intended to be used for planning purposes only. It is not a survey.

Date: 06/11/2012
Prepared By: MM
Checked By:

Explanation of Features

- Wood or Aluminum Pilings
- Pump Inflow
- Pump Outfall
- Proposed 36 URAI Pump/ 5hp Motor Location
- PVC Air Pipe
- Physical Seaweed Gate
- Air Seaweed Gate
- Pumping Water Pipe

N

0 100 200 Feet

amec

Monroe County
Marathon
Conceptual Schematic

AMEC - 2000 E. Edgewood Drive Ste #215 - Lakeland, FL 33803 - CA-0007867 - (863) 667-2345

File Path: R:\MM\Monroe\MXD\Marathon_3_Conceptual_Schematic2.mxd

Engineers Opinion of Probable Construction Cost for WBN

Physical and Air Seaweed Gate

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	EA	1.0	Furnish and Install Air/ Physical Seaweed Gate	$ 19,462.00	$ 19,462.00
				Subtotal	$ 19,462.00
				Contingency 20%	$ 3,892.00
				Sub total	**$ 23,354.00**
			Construction Administration		$ 5,000.00
			Final Design and Permitting		$ 10,000.00
			Total	**TOTAL**	**$ 38,354.00**

Removal of Accumulated Organics

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	LS	1.0	Removal of Organics- Mobilization	$ 50,000.00	$ 50,000.00
2	CY	3,376.4	Removal of Organics-Hydraulic Dredge	$ 10.00	$ 33,764.00
3	CY	3,376.4	Removal of Organics-Dewatering	$ 13.00	$ 43,893.00
3	Ton	319.1	Disposal of Accumulated Organics	$ 48.00	$ 15,315.00
				Subtotal	$ 142,972.00
				Contingency 20%	$ 28,594.00
				Sub total	**$ 171,566.00**
			Construction Administration		$ 25,735.00
			Final Design and Permitting		$ 42,892.00
			Total	**TOTAL**	**$ 240,193.00**

Backfilling

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	Ton	83869.133	Backfill	$ 3.00	$ 251,607.00
2	Ton	83869.133	Trucking- Backfill	$ 6.25	$ 524,182.00
4	DAY	167.7	Backhoe and Operator (B-66)	$ 660.88	$ 110,855.00
5	DAY	167.7	Barge rental and Operator (30'x90')	$ 294.20	$ 49,349.00
6	DAY	167.7	Loader and Crew (B-3C)	$ 2,796.00	$ 468,995.00
7	EA	2.0	Sediment Control (boom) 100 feet	$ 3,300.00	$ 6,600.00
				Subtotal	$ 1,411,588.00
				Contingency 20%	$ 282,318.00
				Sub total	**$ 1,693,906.00**
			Construction Administration		$ 84,695.00
			Final Design and Permitting		$ 101,634.00
			Total	**TOTAL**	**$ 1,880,235.00**

Engineers Opinion of Probable Construction Cost for Cross Key Estates

Pumping

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	EA	10.0	Furnish and Install Seawater Pump	$ 16,047.00	$ 160,470.00
				Subtotal	$ 160,470.00
				Contingency 20%	$ 32,094.00
				Sub total	**$ 192,564.00**
			Construction Administration		$ 10,000.00
			Final Design and Permitting		$ 25,000.00
			Total	**TOTAL**	**$ 227,564.00**

Removal of Accumulated Organics

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	LS	1.0	Removal of Organics- Mobilization	$ 50,000.00	$ 50,000.00
2	CY	17,037.0	Removal of Organics-Hydraulic Dredge	$ 10.00	$ 170,370.00
3	CY	17,037.0	Removal of Organics-Dewatering	$ 13.00	$ 221,481.00
3	Ton	1,610.0	Disposal of Accumulated Organics	$ 48.00	$ 77,280.00
				Subtotal	$ 519,131.00
				Contingency 20%	$ 103,826.00
				Sub total	**$ 622,957.00**
			Construction Administration		$ 41,530.00
			Final Design and Permitting		$ 51,913.00
			Total	**TOTAL**	**$ 716,400.00**

Backfilling

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	Ton	377,614.5	Backfill	$ 3.00	$ 1,132,844.00
2	Ton	377,614.5	Trucking- Backfill	$ 6.25	$ 2,360,091.00
4	DAY	486.5	Backhoe and Operator (B-66)	$ 660.88	$ 321,485.00
5	DAY	486.5	Barge rental and Operator (30'x90')	$ 294.20	$ 143,114.00
6	DAY	486.5	Loader and Crew (B-3C)	$ 2,796.00	$ 1,360,114.00
7	EA	5.0	Sediment Control (boom) 100 feet	$ 3,300.00	$ 16,500.00
				Subtotal	$ 5,334,148.00
				Contingency 20%	$ 1,066,830.00
				Sub total	**$ 6,400,978.00**
			Construction Administration		$ 128,020.00
			Final Design and Permitting		$ 160,024.00
			Total	**TOTAL**	**$ 6,689,022.00**

Engineers Opinion of Probable Construction Cost for Marathon 223

Pumping

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	EA	1.0	Furnish and Install Seawater Pump	$ 38,479.00	$ 38,479.00
				Subtotal	$ 38,479.00
				Contingency 20%	$ 7,696.00
				Sub total	**$ 46,175.00**
			Construction Administration		$ 8,000.00
			Final Design and Permitting		$ 25,000.00
			Total	**TOTAL**	**$ 79,175.00**

Physical and Air Seaweed Gate

Item #	UoM	Approx Qty	Item	Unit Price In Figures	Total Amount
1	EA	1.0	Furnish and Install Physical/ Air Seaweed Gate	$ 42,747.00	$ 42,747.00
				Subtotal	$ 42,747.00
				Contingency 20%	$ 8,549.00
				Sub total	**$ 51,296.00**
			Construction Administration		$ 8,000.00
			Final Design and Permitting		$ 15,000.00
			Total	**TOTAL**	**$ 74,296.00**

Appendix - Calculations

Cross Key Estates Pumping

$$T_f = (T_x V)/(V_f + Vp)$$

Where:

Tf: Flushing Time (hrs)
Tx: Tidal Period (hrs)
V: Stored Water Volume (acre-feet)
Vf: Tidal Prism Water Volume (acre-feet)
Vp: Volume Pumped (Acre-ft)

Vp	18.8	acre-ft	Required Total Flow	1065.6	gal/min
Tx	12.5	hours	Number of Pumps	10	
V	216	acre-ft	Required Pump Flow	106.6	gal/min
Tf	96	hours			
Vf	9.3	acre-ft			

Area	10.8	acres
Depth	20	feet
Tidal Range	0.86	feet

http://tidesandcurrents.noaa.gov/tides10/tab2ec3d.html
Largo Sound, Key Largo

Length of pipe	1679	ft
45 degree elbows equivalent 4"PVC	5.1	ft
90 degree elbows equivalent 4"PVC	13.1	ft
# 45 degree elbows	6	
# 90 degree elbows	1	
Equivalent Pipe Length	1722.7	ft
Pipe Diameter	4	inches
Hazen Williams		
z head loss	10	feet
friction loss	11.9	ft
Total Head	21.9	
C	145	

Hydraulic Horsepower Required
Power= HQ(SG)/(3956*pump efficiency)

Power	1.0	hp
Q	106.6	gal/min
Specific Gravity	1.025	
Head	21.9	ft
Assumed Pump Efficiency	0.62	
Assumed Motor Efficiency	0.85	
Selected Pump Size	1	hp

Cost to Operate

Electricity Cost from Florida Keys Coop	0.11	$/kW-hr
cost= (electricity*.7457kW/hp)*hp)/motor efficiency		
Cost	0.09	$/hr
Cost (monthly)	63.23	$/month

Marathon - Pumping

$$T_f = (T_x V)/(V_f + Vp)$$

Vp	16.4	acre-ft	Required Q	926.2	gal/min
Tx	25	hours			
V	72.8	acre-ft			
Tf	96	hours			
Vf	2.6	acre-ft			
Area	3.64	acres			
Depth	20	feet			
Tidal Range	0.71	feet			

http://tidesandcurrents.noaa.gov/tides10/tab2ec3d.html
Vaca Key, Marathon, Fl

Length of pipe	1720	ft
45 degree elbows equivalent 4"PVC	5.1	ft
90 degree elbows equivalent 4"PVC	13.1	ft
# 45 degree elbows	0	
# 90 degree elbows	7	
Equivalent Pipe Length	1811.7	ft
Pipe Diameter	10	inches
Hazen Williams		
z head loss	10	feet
friction loss	7.88	ft
Total Head	17.88	ft
C	145	

Hydraulic Horsepower Required
Power= HQ(SG)/(3956*pump efficiency)

Power	6.92	hp
Q	926.23	gal/min
Specific Gravity	1.025	
Head	17.88	ft
Assumed Pump Efficiency	0.62	
Assumed Motor Efficiency	0.85	
Selected Pump Size	60	hp

Cost to Operate

Electricity Cost from Florida Keys Coop	0.11	$/kW-hr

cost= (electricity*.7457kW/hp)*hp)/motor efficiency

Cost	0.67	$/hr
Cost (monthly)	448.89	$/month

Winken, Blynken, & Nod - Seaweed Gate

Depth below surface of bubble discharge	9.00	ft
depth from pump to bottom	16.00	ft
Desired Airflow at 10' below waters surface	200.00	cfm
Desired Airflow at 10' below waters surface	3.33	ft^3/sec
Area of 3" PVC pipe	0.05	ft^2
v=QA	4,074.37	ft/min
v=QA	67.91	ft/sec
acceleration head v^2/2g	71.60	ft
air static head	16.00	ft
pressure (acceleration)	0.04	psi
water pressure	3.90	psi
Total pressure	3.95	psi
Assumed Pump Efficiency	0.80	
Assumed Motor Efficiency	0.85	
Power= pQ/3.819* efficiency of pump	4.31	hp
Pump selected	5.00	hp
cost= (electricity*.7457kW/hp)*hp)/motor efficiency		
Electricity Cost from Florida Keys Cooperative	0.11	$/kW-hr
Cost	0.42	$/hr
Cost (monthly)	279.24	$/month

Marathon - Seaweed Gate

Depth below surface of bubble discharge	7.00	ft
depth from pump to bottom	14.00	ft
Desired Airflow at 10' below waters surface	200.00	cfm
Desired Airflow at 10' below waters surface	3.33	ft^3/sec
Area of 3" PVC pipe	0.05	ft^2
v=QA	4,074.37	ft/min
v=QA	67.91	ft/sec
acceleration head v^2/2g	71.60	ft
air static head	14.00	ft
pressure (acceleration)	0.04	psi
water pressure	3.03	psi
Total pressure	3.08	psi
Assumed Pump Efficiency	0.80	
Assumed Motor Efficiency	0.85	
Power= pQ/3.819* efficiency of pump	3.36	hp
Pump selected	5.00	hp
cost= (electricity*.7457kW/hp)*hp)/motor efficiency		
Electricity Cost from Florida Keys Cooperative	0.11	$/kW-hr
Cost	0.32	$/hr
Cost (monthly)	217.81	$/month

Cross Keys Estates - Organics Removal

canal area	469,086.4	ft^2
assumed percent impacted by organics	33.0%	
area to dredge	153,331.2	ft^2
assumed depth of accumulated organics	3.0	ft
volume of accumulated organics to be removed	459,993.6	ft^3
volume of accumulated organics to be removed	17,036.8	yd^3
Backfilling		
area to backfill	469,086.4	ft^2
fill required (current depth-proposed depth)	14.0	ft
current assumed canal depth	20.0	ft
proposed depth	6.0	ft
Backfill required	6,567,209.2	ft^3
Backfill required	243,230.0	yd^3
for backfill assuming 1yd^3=1.5525 tons	specific weight = 115 lb/cf	
Backfill required	377,614.5	tons

Winken, Blynken, & Nod - Organics Removal

canal area	91,162.1	ft^2
assumed percent impacted by organics	33.0%	
area to dredge	30,083.5	ft^2
assumed depth of accumulated organics	3.0	ft
volume of accumulated organics to be removed	90,250.5	ft^3
volume of accumulated organics to be removed	3,342.6	yd^3
Backfilling		
area to backfill	30,083.5	ft^2
fill required (current depth-proposed depth)	16.0	ft
current assumed canal depth	22.0	ft
proposed depth	6.0	ft
Backfill required	481,335.9	ft^3
Backfill required	17,827.3	yd^3
for backfill assuming 1yd^3=1.5525 tons	specific weight = 115 lb/cf	
Backfill required	27,676.8	tons

APPENDIX D

Grant Program Application Information

Community-Based Matching Grants Program
Grant Information

Community-based Restoration Matching Grants Program

TNC Global Marine Team & NOAA Restoration Center

Request for Proposals – Due April 13, 2012

TNC-NOAA Community-based Habitat Restoration Grants

The Nature Conservancy (TNC) and the National Oceanic and Atmospheric Administration (NOAA) are pleased to request proposals for their restoration matching grants program. This program is part of a national cooperative agreement between TNC's Global Marine Team and the Community-based Restoration Program of the NOAA Restoration Center.

The objectives of TNC and NOAA's Community-based Restoration Program (CRP) are to bring together interested groups, public, private, tribal and non-profit organizations to implement habitat restoration projects to benefit NOAA trust resources (coastal and marine species and their habitats). This innovative program recognizes the significant role that partnerships can play in making habitat restoration happen within communities, and acknowledges that habitat restoration is often best implemented through technical and monetary support provided at a community level. (For more information visit: http://www.habitat.noaa.gov/restoration/programs/crp.html and http://www.nature.org/ourinitiatives/habitats/oceanscoasts/howwework/habitat-restoration.xml).

Focus areas: NOAA and TNC are looking to support community-based restoration of a diversity of habitat types and no habitats are excluded. We will consider any innovative restoration project nationwide that supports NOAA trust resources, and particularly those projects that have a multi-species benefit or emphasize Ecosystem-Based Management. A focal area of particular interest, though not exclusive or limiting, is native shellfish (bivalve) restoration projects.

Projects throughout all USA states and territories are eligible to compete for these grants. Preference will be given to projects at priority sites identified through Marine Ecoregional Assessments and other TNC priority setting approaches at the state and territory level (contact TNC state or territory staff listed in Appendix II or NOAA/TNC Partnership Coordinator, Boze Hancock, see below).

Match Requirements: The NOAA-TNC national partnership provides seed money to individual projects that leverage funds and other contributions from the public and private sector to implement locally important habitat restoration that benefits living coastal and marine resources.

Non-federal match is required at the rate of 1:1. The 1:1 match can come from a variety of (non-federal) public and private sources and can include in-kind goods and services from project partners. Approved projects may use any unrecovered indirect costs as match (see budget section below). Neither federal funds nor federal funds passed through

state agencies are eligible to be used as matching funds. Mitigation funds or other funds mandated by a court action are also not eligible as match.

Global Marine Team Technical Support: As part of TNC's increased focus on restoration, The Global Marine Team will work with project sites and regional programs to leverage the impact of individual restoration projects through information exchange and coordination across projects. We can offer site and regional practitioners our expertise to assist with developing (i) projects aimed at shellfish restoration and the restoration of nursery habitats nationwide, (ii) linking projects towards achieving regional restoration success, and (iii) improving the measurement and monitoring of ecosystem services provided by the habitats restored.

NOAA's Community-based Restoration Program (CRP) Technical Support: Through NOAA's Restoration Center, CRP staff provides technical support to assist project proponents in the development and implementation of sound coastal restoration projects. Located strategically throughout the country (see Appendix 1), CRP field staff are available, as needed, to provide site-specific guidance on activities including project design and engineering, environmental compliance, and science-based project monitoring. In addition, CRP field staff work to enhance community engagement and collaboration among local entities to increase restoration success at the local and regional level and coordinate and gain public recognition for restoration efforts.

Administrative Requirements: Awards are expected to be announced in June 2012. Anticipated awards are contingent on notification of federal funding to The Nature Conservancy. Upon notification of an award, projects will be assigned a TNC Global Marine Team budget center number to use for project expenses, and will also be informed as to required financial and programmatic reporting requirements. This information will assist TNC in meeting Federal guidelines for reporting expenses and project status on a semi-annual basis.

Proposal Requirements and Submission: Specifications for TNC-NOAA Community-based Habitat Restoration Grants are detailed in the following pages. Proposals are due by **April 13, 2012**. Submission by e-mail is preferred. Submission by hard copy will be accepted if it is received by the close of business on the due date. If you submit a hard copy, please also submit an electronic copy on CD, to:

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bhancock@tnc.org (electronic submission is preferred)
The Nature Conservancy Global Marine Team
University of Rhode Island Narragansett Bay Campus
South Ferry Road
Narragansett, RI 02882-1197

For questions about the grants program or proposals please contact Boze Hancock, TNC-NOAA National Partnership Coordinator at 401-874-6121 (phone), or bhancock@tnc.org (email), or your local NOAA RC staff (Appendix 1).

If proposals are greater than 5MB please contact Boze Hancock regarding safe receipt of large email files.

NOAA-TNC Partnership

The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends. To achieve its global mission, TNC has increasingly focused its efforts on marine and estuarine conservation, an essential component of conserving global biodiversity, and is growing rapidly with support and leadership from the Global Marine Team. Effective conservation also requires us to explicitly consider and sustain the ecological linkages among terrestrial, freshwater, and marine systems.

TNC's conservation process has brought heightened awareness of coastal and marine ecosystems and the many species that require these habitats during part of their lives. This process has also highlighted the fact that many coastal and marine sites require restoration (see Appendix IV) to function properly. As a result, TNC's Global Marine Team has been vigorously promoting aquatic habitat restoration under the TNC/NOAA partnership.

Grants

This year, typical grants will be in the range of $25,000-$85,000. This will be a competitive process. The merits of each proposal will be weighed based on how closely the project aligns with the national partnership's evaluation criteria (see below).

TNC and NOAA reserve the right to select a limited number of projects that have demonstrated prior success with the proposed restoration technique and invite them to prepare scaled proposals for up to $250,000 to achieve larger restoration outcomes. Applicants are welcome to indicate if they consider that their proposal falls within this category and if higher levels of matching funds may be available. Reference of prior success and a brief (maximum 1 page) statement of the rationale for, and benefit of, scaling up for larger restoration outcomes can be included as an appendix to the proposal. This option will be considered only if sufficient funding is available.

Elements of Successful Project Proposals

Applicants should strive to meet as many of the following elements as possible (see also selection criteria below):

- Project is aligned with TNC's conservation planning framework. This means that the project location falls within a TNC priority conservation area identified in an Ecoregional Assessment or is identified as significant by alternative TNC conservation priority assessments, as indicated by TNC state or territory chapters (See appendix II). The assessment and TNC chapter and staff providing this information should be noted in the proposal. [Note that these analyses are not available in all U.S. and territorial geographies and therefore this can only be done where the information is available. Contact your state or territorial chapter of TNC (Appendix II) and / or Boze Hancock if you have questions regarding currently available analyses.]

- It should identify, or be prepared to address, short and long-term measures of success (see Monitoring below).

- Project implementation will result in tangible and measurable restoration of living coastal and marine resources.

- Project has clear restoration objectives, with measurable outcomes supported by a well-crafted monitoring plan that meets NOAA's minimum monitoring requirements (see Monitoring below).

- Project involves significant community engagement and support that is tied to the restoration activities. This should be done to ensure the community is aware of restoration activities, feels ownership in specific projects and can voice any concerns there may be, and to promote community stewardship.

- Project concept involves substantial interaction with the NOAA Restoration Center regional representative throughout its development. A list of the NOAA local contacts is provided in Appendix 1.

- Project involves partners.

- Project demonstrates a reasonable assurance that the appropriate permits can be obtained in a timely manner and the proposal includes a list of all necessary federal, state, tribal and local permits required to complete the project.

- Project demonstrates a reasonable assurance that there is ongoing protection for the restoration investment (e.g., fishery closures, conservation easements, or other habitat protection).

- Project must provide a minimum 1:1 non-federal match. Match above the required 1:1 level increases the competitiveness of proposed projects.

- Budget justification with sufficient detail to evaluate project cost effectiveness.

Proposal Contents

If the project qualifies, a proposal should be submitted to Boze Hancock in TNC's Global Marine Team***. Proposals should be no longer than five pages*** *(not including attachments).* ***You are also strongly encouraged to consult with a member of NOAA Restoration Center regional staff*** *(see appendix 1)****, State or Territory TNC staff*** *(see appendix II)****, and Boze Hancock at TNC, early-on in the proposal preparation process.***

Recommended format and minimum information to be provided in a project proposal includes:

BASIC APPLICATION INFORMATION

- Project name
- Contact person (address, phone, fax, email)
- Congressional District(s) and Representative(s)
- Regional NOAA contact staff person
- Project abstract. 1 paragraph (3 to 5 sentence) Project Abstract succinctly outlining major project goals and activities.

PROJECT DESCRIPTION

- Project location (include project zip code, and latitude/longitude if possible). Relevant maps should be included as appendices with site location(s) specifically indicated. Photos may also be included.
- Description of the conservation status of the site in a marine ecoregional assessment or other conservation assessment, and the TNC staff consulted.
- Land ownership (public or private).
- Anticipated benefits to species and habitat(s), including threatened and endangered species.
- A list of federal, state, tribal and local permits (e.g. see Permit Requirements and National Environmental Policy Act (NEPA) Requirements sections below).
- A list of involved partners (include partner contributions, if applicable, even if not used as match). Letters of partner support and pledges of match may be added to the appendix.
- Whether the project can be considered for increased funding and restoration outcomes (has previously demonstrated success with the restoration technique and is in a position to be scaled up for increased restoration outcomes, see 'Grants' above).

WORK PLAN

- Start and end date. Two year projects are preferred, including implementation of the restoration work and post-restoration monitoring.
- Identification of goals and description of long-term measures of success.
- Identification of measurable objectives/project-specific benchmarks for measuring short-term success (see Monitoring below).
- Restoration methodology and design considerations.
- Timeline for anticipated actions (e.g., design and permitting phase, pre-restoration monitoring, implementation, post-restoration monitoring).
- Identification of the mechanism that will be used to ensure that necessary environmental permits and consultations will be secured prior to the use of federal funds.
- Community engagement (may include hands-on training and restoration activities undertaken by volunteers, sponsorship from local entities, either through in-kind goods and services or cash contributions, public education and outreach, and/or support from state and local governments).
- A description of the anticipated outreach for the project (e.g., press releases, presentations, papers, publications, workshops and trainings, if applicable).

PROJECTED BUDGET AND NARRATIVE (included as Appendix 1 to the proposal, see Appendix III below for instructions)

- Completed *Projected Budget Template.*
- Grant amount requested.
- Match amount being provided (non-federal is required).

- Identify source(s) of match and indicate whether match is confirmed or pending.
- Justification for fund use (by funding category as listed in projected budget) and a budget narrative.
- Also, at the end of the narrative include the total project budget amount if it is greater than is the amount represented by the requested funds plus match and state whether these additional leverage funds are federal or non-federal.

Evaluation Criteria

Projects will be evaluated based on the following criteria:

- Technical merit, project feasibility and a relevant monitoring plan.
- Extent to which project benefits living coastal and marine resources.
- Extent to which the project will persist over the long-term, including any long-term maintenance plan for ensuring long-term sustainability of the site.
- Community involvement, education, and stewardship.
- Whether NEPA, ESA, or other regulatory compliance issues may reasonably be raised, and how likely they are to be expeditiously resolved to allow project implementation to begin as planned.
- Budget justification, project cost-effectiveness and availability of match.
- Degree of support from, and involvement with, the regional NOAA contact person.
- The extent of present and future support of TNC staff at these sites.

Preference will be given to projects containing:

- A statement from the local TNC Chapter regarding the site as a conservation priority in Marine Ecoregional Assessments or significance in alternative TNC conservation priority assessment.
- Essential Fish Habitat (EFH) as identified by NOAA Fisheries, and areas within EFH identified as Habitat Areas of Particular Concern (see: http://sharpfin.nmfs.noaa.gov/website/EFH_Mapper/map.aspx).
- Areas identified as critical habitat for federally or state listed estuarine and marine species.
- Areas identified as important habitat for marine mammals and turtles.
- Areas identified as important nursery habitats.
- Watersheds or other areas under special management by state coastal management programs.
- Other important commercial or recreational fish habitat.
- Habitat supporting native bivalve shellfish and associated species. For projects targeting habitats created by native bivalve species, quantification of a major ecosystem service provided by the restoration may be included in the monitoring plan.

Project Evaluation and Selection

Together, NOAA and TNC select projects that will receive support from this innovative national partnership. This selection process will take place in two steps. In the first step, TNC's Global Marine Team performs a preliminary review and narrows the project proposals submitted to those that most closely meet the qualifications and evaluation criteria. In the second step, NOAA Headquarters, the NOAA regional staff, and TNC will then review, evaluate, and select final projects with the goal of funding 8-12 projects.

Following project selection

Reporting Requirements

After the selection process, the Grantees that are awarded funding shall be required to file quarterly financial reports (for projects managed external to TNC), semi-annual

progress reports, a comprehensive final report, and a detailed monitoring plan. An initial and final fact sheet will also be required with the first progress report and final report for use by the project, TNC and NOAA.

Monitoring:
Applicants will be required to complete a 'Restoration Performance Monitoring and Evaluation' plan with parameters based on the NOAA restoration monitoring guidelines (see: http://www.era.noaa.gov/information/monitor.html). For each selected parameter (minimum of two), a baseline value, reference value, and a proposed target value must be identified prior to the implementation of restoration efforts. The Conservancy and NOAA will work together with the grantee to determine monitoring parameters and targets for successful applicants.

In addition to biological parameters, proposals may include relevant socio-economic monitoring in the work plan to quantify societal benefits derived from the restoration.

Applicant's Permit Requirements
Applicants must provide where relevant a list and status (obtained, application filed, when anticipate obtaining approval, or have not applied) of all necessary federal, state, tribal and local permits required to complete the project and the appropriate regulatory agency contact (name, title, phone) for each permitting agency. TNC will require copies of permit and compliance documentation once the documentation is secured.

Applicants will be required to meet all local, state and tribal environmental laws and Federal consistency requirements before project implementation.

National Environmental Policy Act Requirements
All proposals will be reviewed by NOAA regarding National Environmental Policy Act (NEPA) compliance. All projects must comply with NEPA before TNC will release funds. For more information on NEPA, please visit NOAA's website at http://www.nepa.noaa.gov.

Applicants will be required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist (e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, the presence of historic structures, and impacts to coral reef systems) in order for NOAA to make a NEPA determination on each proposal. For additional information on the NOAA Restoration Center NEPA process, please visit the Environmental Compliance section at: http://www.habitat.noaa.gov/partners/granteeresources.html

In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting an environmental assessment, if NOAA determines an assessment is required. Applicants will also be required to cooperate with NOAA in identifying and implementing feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal.

Once awards are approved we will also need to ensure that, for projects involving volunteers, each project manager has a management plan for them (e.g., liability waivers & procedures for conveying safety information to volunteers prior to conducting field work).

SCUBA Safety

For any Self-Contained Underwater Breathing Apparatus (SCUBA) diving activities described in the proposal, it is the responsibility of the recipient to ensure that SCUBA divers are certified to a level commensurate with the type and conditions of the diving activity being undertaken. Furthermore, it is the responsibility of the recipient to ensure that any SCUBA diving activities under this award meet, at a minimum, all applicable Federal, State, and local laws and regulations pertaining to the type of SCUBA diving being undertaken.

Due Diligence

Non-profit applicants external to TNC will be asked to provide copies of documents to ensure that the Awardee meets the criteria of a non-profit conservation organization and that the Awardee meets appropriate standards of capacity, competence, and financial accountability. These documents include but are not limited to the following: a certificate of good standing, a list of the names of all of its board members and principal officers, copies of Awardee's bylaws and articles of incorporation and financial statements. Awardee agrees to notify TNC immediately of any change in Awardee's corporate or tax status or operations, or if any official judicial, legislative, or administrative proceeding is instituted against Awardee that may affect the commitments and obligations agreed to in the award.

Appendix I

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Appendix II

TNC State and Regional Contacts

URL is provided where online reports provide initial guidance on TNC's priority conservation areas

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Some marine and many freshwater priority conservation areas (Portfolio Sites) are indicated at: http://maps.tnc.org/coredata

APPENDIX III

PROJECTED BUDGET TEMPLATE
COMMUNITY-BASED HABITAT RESTORATION PROJECT

BUDGET CATEGORIES	REQUESTED NOAA FUNDS	APPLICANT MATCH**	THIRD PARTY MATCH**	TOTAL	DESCRIPTION (elaborate in narrative)
Salaries					
Fringe Benefits					
Travel					
Supplies					
Contractual					
Other: (Specify)*					
Other: (Specify)					
Other: (Specify)					
Total Direct Costs					
Indirect Costs (see note 3 below)					
TOTAL*					

* Equipment purchases over $5,000 per item are not allowable under this RFP.
** Please indicate whether confirmed or pending.

NARRATIVE. Provide detail (by budget category) on how the funds requested, or provided as match, will be used to meet the goals of this project. Please include the following:

1) Specify where possible the sources of confirmed match or potential sources of match.
2) Also, at the end of the narrative include the total project budget amount if it is greater than what is represented by the NOAA requested funds plus match, and state whether these additional leverage funds are federal or non-federal.
3) Please identify Fringe Benefits rates used in Narrative.
4) This RFP allows for reimbursement of up to 23.13% in indirect costs. To recover indirect costs under this RFP, the organization must have an indirect cost recovery rate that is based upon either a) a negotiated indirect cost rate agreement with the U.S. government or b) a documented methodology for recovering indirect costs.

APPENDIX IV

DEFINITION OF RESTORATION & REPRESENTATIVE ACTIVITIES

TNC's definition of "restoration" closely mirrors that published by the National Research Council in their book on Restoration of Aquatic Ecosystems:

> "Restoration is defined as the return of an ecosystem to a close approximation of its condition prior to disturbance. In restoration, ecological damage to the resource is repaired. Both the structure and the functions of the ecosystem are recreated. Merely recreating the form without the functions, or the functions in an artificial configuration bearing little resemblance to a natural resource, does not constitute restoration. The goal is to emulate a natural, functioning, self-regulating system that is integrated with the ecological landscape in which it occurs. Often, natural resource restoration requires one or more of the following processes: reconstruction of antecedent physical hydrologic and morphologic conditions; chemical cleanup or adjustment of the environment; and biological manipulation, including revegetation and the reintroduction of absent or currently nonviable native species."

An illustrative, but not exhaustive, list of possible restoration activities to be funded under this national partnership might include:

- Restoring marsh, wetland, seagrass, or riparian communities through revegetation, invasive plant control, natural recontouring of the landscape, removing levees and artificial drainage systems, and related activities.

- Restoring natural shellfish reefs and beds in estuarine areas through introducing appropriate substrate for shellfish settlement and growth, creating adult spawner sanctuaries and/or seeding juvenile shellfish.

- Restoring habitat through re-introduction or enhancement of native populations of aquatic organisms and control of invasive plant and animal species.

- Working with landowners or managers to restore water clarity, quality, and natural flow of fresh and saltwater.

- Working with water managers to restore natural volumes and timing of freshwater flows through rivers and into estuarine and coastal areas, and to remove or reduce the impacts of barriers to the movement of aquatic organisms in rivers and estuaries.

Section 319
Grant Information

Florida Department of Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

TO: Applicants for Section 319 Grant funding for the FY13 Federal Fiscal Year

FROM: Kristine Papin Jones, Administrator, Nonpoint Source Management Section

DATE: March 19, 2012

SUBJECT: FY 2013 Application Guidance for the Section 319 Nonpoint Source Management Program Grant Proposal

The DEP Nonpoint Source Management Section (NPSM) is pleased to announce the solicitation for the FY 2013 Section 319 grant and welcomes you to apply for grant funds for your nonpoint source management projects.

The NPSM administers grant money received from the U.S. EPA through Section 319 of the Federal Clean Water Act. These grant funds are used to implement projects to manage nonpoint sources of pollution and restore our impaired waterbodies. Nonpoint source (NPS) pollution refers to diffuse sources of pollution. It is caused by rainfall moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. Nonpoint sources include stormwater runoff from urban areas and agricultural operations, failing septic tanks, and erosion. NPS pollution is the leading cause of water pollution in Florida today. Managing these sources is critical to meeting Total Maximum Daily Loads (TMDLs) of pollutants for impaired waters as required by the Clean Water Act.

In recent years, DEP has awarded Section 319 funds between $4 million and $5 million annually to local governments and others in Florida to implement projects designed to reduce the impacts of NPS pollution. Eligible grant recipients include state agencies, local governments, colleges, universities, non-profit organizations, public utilities, and state water management districts and priority is given to recipients actively engaging in the BMAP process. The majority of funding is used to support the construction of stormwater treatment facilities; however, funding has also been used for demonstration projects (for agricultural and urban best management practices (BMPs)), training opportunities, and education programs.

Upon selection and EPA approval, DEP and the Grant Recipient must enter into a contract. The contract is managed by DEP's Nonpoint Source Management Section and

the recipient's designated manager. Grant funds are administered on a cost-reimbursement basis. The grant period has been shortened by federal requirements and projects now must be completed within approximately three years. Grant funds become available approximately one and a half years after project selection. Descriptions of previously funded projects, proposal ranking information, and the new FY13 application form can be found on the Department's website at: http://www.dep.state.fl.us/water/ nonpoint/319h.htm

The schedule for the FY 2013 grant cycle is as follows:

- **May 25, 2012** - Project proposals are **due** to the Department for review and ranking.
- **Summer 2012 –** Projects will be evaluated for consideration.
- **September 30, 2012 –** Selected projects will be sent to EPA for approval in a draft Work Plan and status letters will be mailed to all applicants.
- **Spring 2013 –** EPA will provide comment and/or approval of the draft Work Plan.
- **Fall 2013 –** Federal funding will be provided to the state and contracts will be initiated for projects included in the Final Work Plan.
- **Spring 2014 –** Most contracts will be executed and in place. No costs may be reimbursed for work occurring outside the contract period.

This year's selection process and grant application has been altered from previous years. You will benefit by carefully reading this guidance, the application instructions, and the scoring sheet attached to this solicitation. Failing to abide by these instruction could result in your project being denied funding.

1. **Eligible and non-eligible costs:**
   - Section 319 funds may not be used for planning, engineering, design, or land acquisition.
   - Section 319 funds may not be used for monitoring unrelated to a project, conducting waterbody assessments, or preparing watershed plans.

2. **Required match:** Projects should include a minimum 40% non-federal match (that is, Section 319 funding may not exceed 60% of the total eligible project cost). Excluded from match are the following:
   - Alternative federal funding. While you are encouraged to seek out and obtain funding from all sources, including federal sources, federal funding and other federal in-kind services cannot count as match.
   - Land. Land acquisition cannot count towards match.

3. **Tasks and Budget Categories:** Applications must identify clearly the budget categories for each task described for both grant and match dollars. The task

description should answer questions about what the funding requested will be used for. Funding categories for 319 grants include:

- Salaries: You must include the table provided in the application identifying the positions that will be paid under the grant, their hourly rate is, and how many hours it is anticipated they will work on the project. You must clearly describe what the named staff will work on relating to the project. For example, if paying for a PE, you must explain what his responsibilities will be in order to justify the hours included in the application.
- Fringe Benefits: Provide the fringe benefit rate and the benefits included in the rate in the same table for salaries.
- Travel: You must explain who will be traveling, to where, and include those costs in the correct task.
- Contractual Services: If you will be hiring a subcontractor to complete a task (for example, completing all construction, or completing all design), state that in your task description and include the budget in the appropriate task.
- Equipment: Please state what equipment (including all items over $1,000) will be purchased and what they will be used for. They must be tied to a specific task. For example, if purchasing a monitoring well, it must be clearly stated in the monitoring task.
- Supplies/Other Expenses: Please state what supplies will be purchased or name other expenses expected to be incurred in order to complete the task.

An example of three task descriptions and associated budget is below.

TASK NUMBER: 1
TASK NAME: Final Design and Permitting
TASK DESCRIPTION (detailed): Grantee will be responsible for obtaining all necessary permits for construction of the project as described in Task 3. Grantee will contract out permitting work; however, Grantee's Environmental Engineer will spend approximately 25 hours reviewing necessary permit documents prior to submittal.
DELIVERABLES: Submission of copy of final design; copy of all required permits.

Position	Maximum Hours	Hourly Rate	Fringe Benefit (%)	Maximum Total Fringe per position	Maximum Total per position
Environmental Engineer	25	$23.95	14%	$83.83	$682.58
TOTAL	25	$23.95	14%	$83.83	$682.58

TASK NUMBER: 2
TASK NAME: Advertise Project for Bid
TASK DESCRIPTION (detailed): Grantee will bid the permitted project for construction, review and tabulate the bids, and select the contractor. The Grantee's Environmental Engineer will spend approximately 55 hours conducting the bid process. The Supervising Engineer will spend approximately 5 hours reviewing the bids and ensuring laws were properly followed. Additionally, supplies required include paper, postage, and ink in order to complete the bid.

Position	Maximum Hours	Hourly Rate	Fringe Benefit (%)	Maximum Total Fringe per position	Maximum Total per position
Environmental Engineer	55	$23.95	14%	$83.83	$682.58
Supervising Engineer	5	$44.59	28%	$64.43	$287.38

TOTAL	60	varies	varies	$148.26	$969.96

DELIVERABLES: Submission of copy of bid package and selection of contractor.

TASK NUMBER: 3
TASK NAME: BMP Implementation
TASK DESCRIPTION (detailed): Grantee will construct a settling pond, wetlands, and construction of a maintenance pathway in accordance with the drawing attached to this agreement and as modified during Task 1. A parking area shall be constructed within the Shady Tree Park, which is currently owned by the City in addition to the rehabilitation of an existing kayak launch, pedestrian bridge to allow residents better access to the facility to view the items installed in Task 4. Work will be conducted by a contractor.
DELIVERABLE: Provide to the Department stormwater inspection reports; photographs of completed project; as-built certification; and signed statement from Grantee's grant manager indicating construction has been completed in accordance with design.

PROJECT BUDGET BY CATEGORY and TASK:

Task No.	Category	Grant Funding	Match Funding	Match Source
1	Contractual	$0	$55,000	City of XYZ
	Salaries	$0	$682.58	City of XYZ
	TOTAL FOR TASK	$0	$55,682.58	City of XYZ
2	Supplies	$0	$150.00	City of XYZ
	Salaries	$0	$969.96	City of XYZ
	TOTAL FOR TASK	$0	$1119.96	City of XYZ
3	Contractual	$600,465	$387,480	City of XYZ
	TOTAL FOR TASK	$600,465	$387,480	City of XYZ

3. **Comprehensive Watershed Plan:** Section 319 funding is divided by EPA into "base" and "incremental" funding. Projects that are identified in or otherwise implement "comprehensive watershed plans," as defined below, are eligible for incremental funding. Projects not part of a comprehensive watershed plan are only eligible to receive base funding. We anticipate that nearly $4,000,000 of incremental funds may be available for FY13 while significantly less base funds are expected to be available.

EPA defines a comprehensive watershed plan as one that contains all nine elements listed below. Your application must identify the name of the watershed plan (or combination of plans) to which your project applies. The named plan must meet the elements listed below and identify the strategy in the plan that your project implements. Surface Water Improvement and Management (SWIM) Plans, National Estuary Program Management Plans, TMDL Implementation Plans, stormwater master plans, or other watershed plans are examples of plans that may qualify as comprehensive watershed plans for incremental funds. It is the plan that must meet all the nine elements, not your specific project. Do not send a copy of the plan with your submittal.

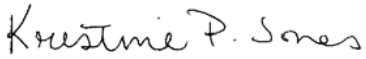
The nine elements of a comprehensive watershed plan are:

1. An identification of the causes and sources or groups of similar sources that will need to be controlled to achieve the load reductions estimated in this watershed-based plan.
2. An estimate of the load reductions expected for the management measures described under item (c) below.

3. A description of the NPS management measures that will need to be implemented to achieve the load reductions estimated under item (b) above and an identification of the critical areas in which those measures will be needed to implement this plan.
4. An estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon, to implement this plan.
5. An information/education component that will be used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the NPS management measures that will be implemented.
6. A schedule for implementing the NPS management measures identified in this plan that is reasonably expeditious.
7. A description of interim, measurable milestones for determining whether NPS management measures or other control actions are being implemented.
8. A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made toward attaining water quality standards and, if not, the criteria for determining whether this watershed-based plan needs to be revised or, if a NPS TMDL has been established, whether the NPS TMDL needs to be revised.
9. A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item (h) immediately above.

If you have any questions or need further information, please call me at (850) 245-8682 or email me at Kristine.P.Jones@dep.state.fl.us.

Sincerely,



Kristine Papin Jones
Administartor
Nonpoint Source Management Section
Florida Department of Environmental Protection
Phone: (850) 245-8682
Fax: (850) 245-8434
Email: Kristine.P.Jones@dep.state.fl.us

Attachment 1: FY13 Proposal Application with form fields (For a version without form fields use Attachment 4.
Attachment 2: Proposal Evaluation Form
Attachment 3: Supplemental Information for Section 319(h) FY 2013 Agricultural Project Applications
Attachment 4: Alternate FY13 Proposal Application Form without form fields (Submit only if you are unable to use Attachment 1.

South Florida Coastal Program
Grant Information

U.S. Fish and Wildlife Service
South Florida Coastal Program
Announcement of Financial Assistance
Fiscal Year 2012

PROGRAM OBJECTIVES

- To develop cooperative agreements that provide funding for technically sound and cost effective projects that restore or enhance degraded coastal wetlands, uplands, estuaries, and riparian corridors; including the removal of exotic vegetation from coastal areas; and promoting public awareness of south Florida's ecological issues; and
- To form partnerships in south Florida in joint effort to conserve, restore, and enhance coastal resources and habitat.
- To implement the Service's Strategic Habitat Conservation (SHC) framework focused on population objectives and take the next steps in our conservation work across a suite of challenging issues including the most compelling one of our time -- accelerating climate change.

PROJECT GOALS

- Ultimately result in on-the ground restoration or enhancement of coastal habitats, focusing on landscape level initiatives
- Improve habitat for fish and wildlife resources, including federally protected species
- Collaborate with partners to combine resources and increase effectiveness
- Leverage additional funding or other in-kind goods and/or services towards the total project cost
- Incorporate SHC (http://www.fws.gov/southeast/SHC/pdf/LandscapeConservationQA-10232008.pdf) into projects with consideration of potential climate change effects and resiliency of restoration activities to factors including, but not limited to, sea level rise.

Selected projects are funded from annual appropriations to the Coastal Program. Although project ideas may be developed and project descriptions may be submitted throughout the year, please bear in mind that our final funding allocations are typically distributed in mid-spring. Therefore, in order to be considered for funding in FY 2012, please ensure that project descriptions are submitted no later than **April 9, 2012**. Projects will be evaluated by staff in the South Florida Ecological Services Office and those selected will enter into cooperative agreements. During the cooperative agreement process, project contacts may be asked to provide additional details of the work to be accomplished.

If you are aware of a project idea or need but are unsure of how to best develop it into a full project description, please feel free to contact the Trust Resources Supervisor for guidance (see contact information below).

PROJECT INFORMATION

Project Title

Contact Information: Include name, affiliation, mailing address, telephone, fax, and e-mail address for each principal investigator and co-investigator. Clearly indicate who the applicant is and what form of entity it is (*e.g.*, Federal, state, or local government; academic institution; non-governmental organization; non-profit group; or citizen).

Biological Planning

Project Objectives: Outline the plan of action and detail how the proposed work will be accomplished. Projects may be multi-year in scope or a phased approach (up to 3 years). If a project will occur over more than 1 year, indicate specifically what accomplishments (including acres restored or enhanced) will be completed each year.

Project Benefits to Coastal Ecosystems: (1) Note target/umbrella species and, if available, specific population objectives for these species. Be sure to describe how any state or federally protected species will benefit from the project; (2) provide background information on any problems the project seeks to resolve and the project's relevance to south Florida's coastal ecosystem; and (3) outline the anticipated long-term and permanent results.

Conservation Design

Habitat Priority and Landscape Level Issues: Including how conservation practices to be implemented will address key habitat limiting factors and threats to the target or umbrella species.

Project Location and Description: Provide a figure of the project area (include latitude and longitude; section, township, and range; county), and clearly describe the approach and specific methods required to accomplish the project. Include the following: (1) geographic extent of the benefits, including those that go beyond the project boundaries (e.g., landscape level benefits); (2) type of habitat and amount of area to be restored or permanently protected (*e.g.*, linear feet of shore line, acres); and (3) background on any problems the project seeks to resolve and the project's relevance to south Florida's coastal ecosystems. Clearly quantify the amount of restoration (*e.g.*, acreage per habitat type such as wetlands, riparian, uplands, etc.) and indicate whether ownership of the project area is public or private.

Conservation Delivery

Contributing Partners: Identify each partner and what type of entity it is, define its role and responsibilities in completing the project, and clearly itemize what each will contribute (*e.g.*, funds, staff hours, volunteer hours, technical support) and the dollar value. Please list all partners associated with the project, even those not contributing financial assistance.

Project Costs: Indicate the total cost to complete the project and provide a detailed budget itemizing individual component costs, including all indirect and overhead costs. Indicate how much funding is being requested from the Coastal Program and what project components this funding will pay for. In addition, indicate the amount of cash and in-kind contributions each partner will contribute.

Statement of Products: Identify each product that will result from the project, in addition to quantifying the amount of restoration (in acres per habitat type, stream miles, linear feet of shoreline, etc.). For multi-year projects, please specify how many acres will be restored or enhanced during each year of the agreement.

Time Frame: Provide a detailed schedule of project implementation, duration, monitoring, reporting (semiannual and annual), and milestones. Identify anticipated completion date for each product.

Actions to Date (if any): Describe past or current activities that are relevant to the project, such as previously initiated or completed projects that could affect project initiation or offset the total project cost.

Permits: Projects that require Federal, state, local, or private authorization (*e.g.*, permits, permission to access or conduct activities on public or private lands) must demonstrate that they have or will have the necessary authorizations necessary to complete the project. Additional environmental compliance documentation may be requested from those projects selected for funding.

Outcome-based Monitoring

Describe monitoring plan; if available provide reference. Briefly summarize outcome-based accomplishment measure to be monitored relative to target species and population objectives.

OTHER INSTRUCTIONS

- Applicants are asked to submit one hard copy of each project description and one electronic copy (.DOC file) to the addresses below. The electronic files may be sent via email, but please pay attention to the file size and send multiple emails if necessary. Please limit project descriptions, excluding attachments, to five pages in length with fonts no smaller than 12 point;
- Other attachments should be limited to literature cited, aerial images, maps, project design schematics, and other figures;
- For more information or if you have any questions, please contact:

Craig Aubrey
Trust Resources Supervisor
U.S. Fish and Wildlife Service South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida, 32960
Phone: (772) 562-3909 (ext. 309)
Email: craig_aubrey@fws.gov

National Coastal Wetlands Conservation Grant Program
Grant Information

annually. It is not estimated to result in the expenditure by motor vehicle and motor vehicle equipment manufacturers, child restraint system manufacturers, and tire manufacturers of more than $109 million annually.

Authority: Sec. 3, Pub. L. 106–414, 114 Stat. 1800 (49 U.S.C. 30102–103, 30112, 30117–121, 30166–167); delegation of authority at 49 CFR 1.50.

Issued on: July 24, 2002.

Jeffrey W. Runge,

Administrator.

[FR Doc. 02–19200 Filed 7–29–02; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 84

RIN 1018–AF51

National Coastal Wetlands Conservation Grant Program

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: This final rule establishes the requirements for participation in the National Coastal Wetlands Conservation Grant Program authorized by the Coastal Wetlands Planning, Protection and Restoration Act (Act) and provides guidance for the Program's administration by the U.S. Fish and Wildlife Service (referred to as ''Service,'' ''we,'' and ''us'' within this rule). It replaces interim procedures and clarifies guidance for preparation, submission, and evaluation of proposed projects and administration of funded projects.

DATES: This rule is effective July 30, 2002.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Division of Fish and Wildlife Management and Habitat Restoration, Fish and Wildlife Service, U.S. Department of the Interior, Room 840, 4401 North Fairfax Drive, Arlington, Virginia 22203.

FOR FURTHER INFORMATION CONTACT: Sally Valdes-Cogliano, Division of Fish and Wildlife Management and Habitat Restoration, by telephone (703) 358–2201; fax (703) 358–2232; *e-mail<sally_valdescogliano@fws.gov>* or Gary Reinitz, Division of Federal Aid, by telephone (703) 358–2159; fax (703) 358–1837; *e-mail:gary_reinitz@fws.gov.*

SUPPLEMENTARY INFORMATION:

Background

What Is the National Coastal Wetlands Conservation Grant Program?

The Coastal Wetlands Planning, Protection and Restoration Act (16 U.S.C. 3951–3956) authorizes the Director of the Service to make matching grants to coastal States for acquisition, restoration, enhancement, management, and preservation of coastal wetlands. Grants are available annually on a competitive basis to coastal States. Funding for this Program comes from the Sport Fish Restoration Account, which is supported by excise taxes on fishing equipment, and motorboat and small engine fuels.

The primary goal of the National Coastal Wetlands Conservation Grant Program is the long-term conservation of coastal wetland ecosystems. It accomplishes this goal by helping States in their efforts to protect, restore, and enhance their coastal habitats. The Program's accomplishments are primarily on-the-ground and measured in acres.

Why Protect Coastal Wetlands?

Coastal wetlands provide essential fish and wildlife habitat. Coastal ecosystems comprise less than 10 percent of the Nation's land area, but support a much higher proportion of our living resources. Specifically, coastal areas support a high percentage of our threatened and endangered species, fishery resources, migratory songbirds, and migrating and wintering waterfowl.

In addition to wildlife benefits, wetlands provide substantial flood and storm control values and can reduce the need to construct expensive flood control structures. They make an important contribution to water quality by recharging groundwater, filtering surface runoff, and treating waste, and they provide natural areas important for recreational and aesthetic purposes. Uplands associated with wetlands provide food and cover to wildlife and buffer wetlands from soil erosion and contaminants. In the coterminous United States, more than half of the estimated original 221 million acres of American wetlands have been destroyed since European settlement. The concentration of the U.S. population in coastal areas is a continuing source of development pressure on the remaining coastal wetlands.

What Has the Program Accomplished?

Since the Service began awarding grants in 1992, we have awarded about $105 million to 25 States and 1 U.S. territory to protect and/or restore about 130,000 acres of coastal wetland ecosystems. The Program's emphasis on encouraging partnerships, supporting watershed planning, and leveraging ongoing projects has helped stretch program funds. The resource benefits of this Program have included habitat protection and restoration for migratory birds, shorebirds, waterfowl, endangered and threatened species, and fish and shellfish.

Why Do We Need This Rule?

The National Coastal Wetlands Conservation Grant Program is currently being administered using internal interim program guidance and the standard grant administration policies of our Federal Aid Program. We believe administration of the Program could be improved through regulations specifically tailored to meet the needs of the Program. Accordingly, the rule uses a plain English style, provides examples to illustrate concepts, and combines current guidance in one place. It should result in a streamlined proposal preparation, review and grant administration process.

Currently, we evaluate grant requests received from the State agencies on an annual schedule. In the last few years, the number of proposals received annually by the Service National Office has ranged from 29 to 36. A review panel consisting of Service personnel representing the coastal Regions of the Service and specific program areas (for example, the Fisheries and Habitat Conservation, Endangered Species, and Refuges Programs) reviews and ranks all proposals. Based on the rankings of the panel, recommendations are sent to the Director of the Service, who makes the final determination of which projects will receive grants. The basic schedule and procedures will not change significantly with this rule.

The criteria for selecting proposals in this final rule have been modified from the interim guidance. For example, a new criterion has been added to give credit to projects that provide benefits to migratory birds. Also, we have expanded the discussion of each criterion to clarify project scoring. The changes were based on comments provided by Service personnel who have reviewed National Coastal Wetlands Conservation Grant proposals. These criteria can be found in the rule portion of this document.

Summary of Comments and Recommendations

In the proposed rule that was published August 20, 2001 (66 FR 43555), we requested that interested parties submit any comments they might have. We particularly sought

comments from the affected State agencies. The comment period was from August 20, 2001, to October 4, 2001.

We received comments from nine State government agencies. These comment letters provided suggestions and comments on a wide range of topics. We have considered all the comment letters received during the comment period and have made minor changes to improve and clarify the rule in response. Summaries of the major comments or issues follow.

Issue 1: Do we need to extend the period for the development of the grant agreement?

Response: We agree that a longer period for development of the grant agreement is appropriate. Resolving all the compliance issues that need to be addressed before a grant agreement is signed can be difficult. We are revising § 84.42 so that funds allocated for a grant will be held until December 31 of the following year.

Issue 2: What is the relationship between the goals of the National Coastal Wetlands Conservation Grant program and the Long-term and Annual Performance Goals of the Service?

Response: Long-term conservation of coastal wetlands is the primary goal of the Program. The results can be quantified in terms of acres enhanced, protected, and/or restored. (See § 84.10 for the goal statement.) When States conserve their wetlands resources using this program we all achieve benefits to habitat and wildlife. The discussion of performance measures in the rule in § 84.30(a)(2)(v) has been clarified to explain where to find the Service's Long-term and Annual Performance Goals and the relationship of these goals to the Grants Program.

Issue 3: Should the annual grant schedule be changed?

Response: The schedule in the rule reflects the current operating schedule for the Grants Program. We examined the effects of moving deadlines but have decided to maintain the current schedule.

Issue 4: Is the definition of ineligible activities too restrictive? Do we need to distinguish between planning activities for stand-alone grants, and planning as a minimal part of a grant objective?

Response: The focus of this Grant Program has always been on-the-ground accomplishments—through land acquisitions, easements, restoration and enhancement activities—and its accomplishments are measured in acres. We have modified the description of ineligible activities in § 84.20(b) to clarify that planning activities of a minimal nature and necessary to complete the project could be allowable.

Issue 5: The definition of a ''substantial proposal'' should include that it is consistent with State and Regional watershed plans. Consistency should be encouraged and rewarded in the grant scoring process.

Response: We agree that project proposals should take into account watershed plans. One of the ranking criteria in § 84.32 is specifically designed to give credit to proposals that demonstrate the value of the proposal in connection with wider planning efforts.

Issue 6: For the purposes of this rule, how should we define maritime forests?

Response: The current definition is not intended to include all kinds of maritime forests that might be included from a strictly biological perspective. It is, instead, focused on protection of the maritime forests characteristic of the southeastern United States. This area was considered to be, when the Coastal Wetlands Planning, Protection and Restoration Act was passed, extremely beneficial in protecting the coast and also under severe development pressure.

Issue 7: Should regionally threatened wetland types be given the same priority as nationally decreasing wetland types?

Response: The Coastal Wetlands Planning, Protection and Restoration Act states that the Director of the Service should give priority to coastal wetlands conservation projects that are consistent with the National Wetlands Priority Conservation Plan developed under Section 301 of the Emergency Wetlands Resources Act (16 U.S.C. 3921). This Conservation Plan, which was published in 1991, categorized wetland types into declining, stable, and increasing. Types that were declining nationally do need to receive priority under the National Coastal Wetlands Conservation Grant Program scoring system.

We recognize that certain important wetland types can be declining regionally even if they are not declining nationally. For this reason, we included in this rule the possibility of regionally decreasing types receiving credit in the scoring system if the case for regionally declining types is well-documented (see § 84.32(a)(1)(i)).

Issue 8: How should we define long-term conservation? Should we handle restoration and acquisition differently?

Response: Long-term conservation is a requirement established by the Act for this program. This rule requires that projects provide conservation for at least 20 years. In selecting this number we looked at the requirements of other programs. For this one criterion, acquisition projects may have some advantage over restoration projects, but this is one criterion among many and we do not want to establish separate ranking criteria for acquisition and restoration.

Effective Date

This rule is effective upon publication. In accordance with 5 U.S.C. 553(d)(3), we believe that we have good cause for making this rule effective upon publication to ensure that the rule is in effect during the next funding cycle for the National Coastal Wetlands Conservation Grant Program. This rule will benefit those entities seeking grants under this Program. This rule provides helpful information to grant applicants in preparing their applications and will help ensure that the Service applies fair and consistent standards in reviewing the grant applications.

What Are the Environmental Effects of This Regulation?

This final rule is a regulation of an administrative and financial nature. Therefore, the action is categorically excluded under 516 DM 2, Appendix 1.10 from any environmental documentation pursuant to the National Environmental Policy Act (NEPA). However, subsequent actions involved with acquisition, restoration, or enhancement will require further compliance with NEPA on a case-by-case basis.

Compliance with NEPA and other environmental laws and Executive Orders such as the Endangered Species Act, Coastal Barrier Resources Act, Coastal Barrier Improvement Act, Coastal Zone Management Act, Executive Orders on Floodplains (E.O. 11988) and Wetlands (E.O. 11990), other applicable executive orders on historic/cultural resources, prime and unique farmlands, and the Clean Water Act will be satisfied before we approve grant agreements for any project.

Does This Rule Have Any Information Collection Requirements?

This rule's information collection requirements include those necessary to fulfill applicable requirements of 43 CFR part 12, and these have been approved by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et. seq.*). This section of the Code of Federal Regulations provides the uniform administrative requirements for grants and cooperative agreements to States and local governments. The required forms include a grant agreement form, USFWS Form 3–1552 (OMB control number 1018–0049); an amendment to the grant agreement form, USFWS Form 3–1591 (OMB control

number 1018–0049); the Federal Aid Grant Application Booklet, which was approved by OMB on January 18, 2001, (OMB control number 1018–0109); the NEPA Compliance Checklist, USFWS Form 3–2185 (OMB control number 1018–0110); and the Summary Information for Ranking National Coastal Wetlands Grant Program Proposals, USFWS Form 3–2179 (OMB Control Number 1018–0111). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Required Determinations

Regulatory Planning and Review

In accordance with the criteria in Executive Order 12866, this rule is a significant regulatory action. OMB makes the final determination of significance under Executive Order 12866.

This rule will not have an annual effect of $100 million or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. A cost-benefit and economic analysis is not required. The entities affected by this final rule are State natural resource agencies. The primary intended effect is to augment State efforts to conserve their coastal wetland resources. The program is completely voluntary; States choose whether to submit proposals for matching grants. New funds available each year are determined as a percentage of monies received by the Sport Fish Restoration Fund. However, the total receipts for a given year for this program are limited by the Coastal Wetlands Planning, Protection and Restoration Act to $15 million. Receipts for the last few years have been in the $10 million to $13 million range. This last grant cycle included $13 million in new money and $1.5 million available as carryover from previous years.

This rule will not create inconsistencies with other agencies' actions. The Service is charged with administering the National Coastal Wetlands Conservation Program by the Coastal Wetlands Planning, Protection and Restoration Act. This Program supports and augments State efforts to conserve their resources. States voluntarily choose to participate, and no other Federal agencies have responsibilities associated with this Grant Program. Some Federal agencies have participated voluntarily on specific projects as cooperators with the State agencies.

This rule will not affect entitlements, user fees, loan programs, or the rights and obligations of their recipients. It will affect this specific grant program. The Service has been giving out matching grants to States under the National Coastal Wetlands Conservation Grant Program since 1992. If we continue to operate with interim procedures and general Federal Aid grant administration, the same amount of grant assistance will be given to coastal States. The main effect that we expect from this rulemaking is a streamlined proposal preparation and review and grant administration process.

This rule will not raise novel legal or policy issues. As stated above, the Service has been awarding grants to States and administering this Program under the authority of the Coastal Wetlands Planning, Protection and Restoration Act since 1992. However, the purpose of this new rule is to improve the process.

Regulatory Flexibility Act

This final rule will not have a significant economic effect on a substantial number of small entities as defined under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). By law, the only eligible recipients of this grant program are coastal State and territory government agencies. Operating with interim guidance, we have given out grants since 1992. This rule should not result in a major change to the Program. The Coastal Wetlands Planning, Protection and Restoration Act specifies an annual cap of $15 million that can be allocated to this program. An initial Regulatory Flexibility Analysis is not required. Accordingly, a Small Entity Compliance Guide is also not required.

Small Business Regulatory Enforcement Fairness Act

This rule is not a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. This final rule will not have an annual effect on the economy of $100 million or more; will not cause a major increase in costs or prices for consumers, individual industries, Federal, State or local government agencies, or geographic regions; and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

As stated above, the maximum amount, by law, that can be directed to this Grant Program is $15 million per year. This Program is directed exclusively at State governments. This rule might provide some contracting work at a local level for restoration projects, creating a minor positive effect on the local economy. All land purchased under this Program is paid at fair market value from willing sellers. The land involved is a relatively small amount spread over the 10 to 15 States and territories that typically receive grants in a given year. All lands acquired will be put under long-term conservation protection by the States. Some of the grants are for restoration work on lands already owned by the States.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), this final rule will not significantly or uniquely affect small governments and will not produce a Federal mandate of $100 million or greater in any year, i.e., it is not a ''significant regulatory action'' under the Act. A Small Government Agency Plan is not required. As stated above, this rule pertains to a grant program directed at State governments. In a few cases, local governments have chosen to partner in a grant project proposed by the State. Participation in the Program is entirely voluntary. The Program income is limited to $15 million per year by the Coastal Wetlands Planning, Protection and Restoration Act.

Takings

In accordance with Executive Order 12630, this final rule does not have significant takings implications. A takings implication assessment is not required. The rule specifies that all acquisitions under this Program are from willing sellers. No private property will be taken from unwilling owners for the furtherance of this Program, and just compensation will be provided to willing owners.

Federalism

In accordance with Executive Order 13132, the final rule does not have significant Federalism effects. The rule allows eligible coastal States to make decisions regarding the selection of properties for acquisition, plan restoration projects, and take protective measures.

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. To the extent of our knowledge, no legal cases have ever been associated with this grant

program. The rule should actually serve to reduce the possibility of litigation by establishing specific requirements for participation in the National Coastal Wetlands Conservation Grant Program and guidance for its administration by the Service. The rule will establish a clear legal standard for affected conduct.

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), E.O. 13175, and part 512, chapter 2 of the Department of the Interior Manual, we have evaluated potential effects on federally recognized Indian tribes and have determined that the effects are minimal. The Coastal Wetlands Planning, Protection and Restoration Act specifies the States that can participate in this Grant Program. The Act does not provide for grants directly to Indian tribes. Tribes have, in a few cases, participated as cooperators on projects.

Energy Supply, Distribution or Use (Executive Order 13211)

On May 18, 2001, the President issues Executive Order 13211 on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. While this rule is a significant action under Executive Order 12866, it is not expected to significantly affect energy supplies, distribution, and use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

How Does the Intergovernmental Review of Federal Programs Work?

This National Coastal Wetlands Conservation Grant Program is covered under Executive Order (Order) 12372 ''Intergovernmental Review of Federal Programs'' and 43 CFR Part 9 ''Intergovernmental Review of Department of the Interior Programs and Activities.'' Under the Order, States may design their own processes for reviewing and commenting on proposed Federal assistance under covered programs.

Coastal States and territories that have chosen to participate in the Executive Order process have established Single Points of Contact (SPOCs). Applicants from jurisdictions that do not participate do not need to take any action regarding E.O. 12372. All other applicants should alert their SPOCs early in the application process. This step will insure that applicants find out about any SPOC requirements. If you as an applicant are required to submit materials to the SPOC, indicate the date of this submittal (or the date of contact if no submittal is required) on the Standard Form 424.

List of Subjects in 50 CFR Part 84

Coastal zone-wetlands, Environmental protection-natural resources, Fisheries, Grant administration, Grant programs-natural resources, Intergovernmental relations, Marine resources, Natural resources, Reporting and recordkeeping requirements, and Wildlife.

For the reasons discussed in the supplementary information, we are amending subchapter F of chapter I, title 50 of the Code of Federal Regulations, by adding a new part 84, to read as follows:

PART 84—NATIONAL COASTAL WETLANDS CONSERVATION GRANT PROGRAM

Subpart A—General Background

Sec.

Subpart B—Applying for Grants

Subpart C—Project Selection

Subpart D—Conditions on Acceptance/Use of Federal Money

Authority: 16 U.S.C. 3951–3956.

Subpart A—General Background

§ 84.10 What is the purpose and scope of this rule?

The regulations in this part establish the requirements for coastal State participation in the National Coastal Wetlands Conservation Grant Program authorized by Section 305 of the Coastal Wetlands Planning, Protection and Restoration Act (Pub L. 101–646, title III; 16 U.S.C. 3954). The primary goal of the National Coastal Wetlands Conservation Grant Program is the long-term conservation of coastal wetlands ecosystems. It accomplishes this by helping States protect, restore, and enhance their coastal habitats through a competitive grants program. Results are measured in acres protected, restored, and enhanced.

§ 84.11 How does the Service define the terms used in this rule?

Terms used have the following meaning in this part:

Coastal barrier. A depositional geologic feature that is subject to wave, tidal, and wind energies; protects landward aquatic habitats from direct wave attack; and includes all associated aquatic habitats such as adjacent wetlands, marshes, estuaries, inlets, and nearshore waters. These can include islands; spits of land connected to a mainland at one end; sand bars that connect two headlands and enclose aquatic habitat; broad, sandy, dune beaches; or fringing mangroves. Coastal barriers are found on coastlines including major embayments and the Great Lakes of the United States and its territories.

Coastal Barrier Resources System. A defined set of undeveloped coastal areas, designated by the Coastal Barrier Resources Act of 1982 (Pub. L. 97–348) and the Coastal Barrier Improvement Act of 1990 (Pub. L. 101–591). Within these defined units of the System, Federal expenditures are restricted to discourage development of coastal barriers.

Coastal States. States bordering the Great Lakes (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin); States bordering the Atlantic, Gulf (except Louisiana), and Pacific coasts (Alabama, Alaska, California, Connecticut, Delaware, Florida, Georgia, Hawaii, Maine, Maryland, Massachusetts, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Oregon, Rhode Island, South Carolina, Texas, Virginia, and Washington); and American Samoa, Commonwealth of the Northern Mariana Islands, Guam, Puerto

Rico, and the Virgin Islands. (Louisiana is not included because it has its own wetlands conservation program authorized by the Coastal Wetlands Planning, Protection and Restoration Act and implemented by the Corps of Engineers with assistance from the State of Louisiana, the Environmental Protection Agency, and the Departments of the Interior, Agriculture, and Commerce.)

Coastal wetland ecosystems. Ecosystems that consist of multiple, interrelated coastal land features. They include wetlands in drainage basins of estuaries or coastal waters that contain saline, brackish, and nearshore waters; coastlines and adjacent lands; adjacent freshwater and intermediate wetlands that interact as an ecological unit; and river mouths and those portions of major river systems affected by tidal influence—all of which interact as an integrated ecological unit. Shorelands, dunes, nearshore islands, barrier islands and associated headlands, and freshwater wetlands within estuarine drainages are included in the definition since these interrelated features are critical to coastal fish, wildlife, and their habitats.

The definition of a coastal wetland ecosystem also applies to the Great Lakes and their watersheds, where freshwater plays a similar hydrologic role. The Great Lakes coastal wetland ecosystem is made up of multiple interrelated coastal landscape features along the Great Lakes. The Great Lakes coastal wetland ecosystem includes wetlands located adjacent to any of the Great Lakes including Lake St. Clair and connecting waters, and mouths of river or stream systems draining directly into the Great Lakes. Shorelands, dunes, offshore islands, and barrier islands and associated headlands are included in the definition since these interrelated features are critical to Great Lakes fish, wildlife, and their habitats.

Coastal Wetlands Act or Act. The Coastal Wetlands Planning, Protection and Restoration Act of 1990 (16 U.S.C. 3951–3956).

Eligible applicant. Any agency or agencies of a coastal State designated by the Governor. It is usually a State natural resource or fish and wildlife agency.

Enhancement. The manipulation of the physical, chemical, or biological characteristics of a wetland (undisturbed or degraded) site to heighten, intensify, or improve specific function(s) or to change the growth stage or composition of the vegetation present.

Fund. A fund established and used by a coastal State for acquiring coastal wetlands, other natural areas, or open spaces. The fund can be a trust fund from which the principal is not spent, or a fund derived from a dedicated recurring source of monies including, but not limited to, real estate transfer fees or taxes, cigarette taxes, tax checkoffs, or motor vehicle license plate fees.

Grant. An award of financial assistance by the Federal Government to an eligible applicant.

Long-term conservation. Protecting and restoring terrestrial and aquatic environments for at least 20 years. This includes the hydrology, water quality, and fish and wildlife that depend on these environments.

Maintenance. (These activities are ineligible under the program; the definition is included to distinguish these activities from acquisition, restoration, enhancement, and management.) Maintenance includes those activities necessary for upkeep of a facility or habitat. These activities include routine, recurring custodial maintenance such as housekeeping and minor repairs as well as the supplies, materials, and tools necessary to carry out the work. Also included is nonroutine cyclical maintenance to keep facilities or habitat improvements fully functional. Cyclical maintenance is major maintenance or renovation activities conducted at intervals normally greater than 1 year.

Management. (Includes habitat management only.) Habitat management includes vegetation manipulation and restoration of habitat to support fish and wildlife populations. Creation of wetlands where they did not previously exist is not included in the definition of management.

Maritime forest. Maritime forests are defined, for the purposes of this regulation, as broad-leaved forests that occur on barrier islands and along the mainland coast from Delaware to Texas. Examples are primarily characterized by a closed canopy of various combinations of live oak (*Quercus virginiana*), upland laurel oak (*Quercus hemisphaerica*), pignut hickory (*Carya glabra*), southern magnolia (*Magnolia grandiflora*), sugarberry (*Celtis laevigata*), and cabbage palm (*Sabal palmetto*). Shrubs and smaller trees typical of the understory include live oak, upland laurel oak, pignut hickory, red mulberry (*Morus rubra*), wild olive (*Osmanthus americanus*), American holly (*Ilex opaca*), yaupon (*Ilex vomitoria*), beautyberry (*Callicarpa americana*), bumelia (*Sideraxylon* spp.), and small-flowered pawpaw (*Asimina parviflora*). The herb layer is generally rich and diverse, typically including partridgeberry (*Mitchella repens*), coralbean (*Erythrina herbacea*), small-leaved milk pea (*Galactia microphylla*), tick trefoils (*Desmodium* spp.), and spikegrass (*Chasmanthium sessiliflorum*). Vines are represented by muscadine grape (*Vitis rotundifolia*), Virginia creeper (*Parrhenocissus quinquefolia*), and various briers (*Smilax* spp.).

This natural community type becomes established on old coastal dunes that have been stabilized long enough to sustain forests. In time, the accumulation of humus contributes to moisture retention of soils, while the canopy minimizes temperature fluctuations by reducing soil warming during the day and heat loss at night. Because of the underlying deep sands, maritime forests are generally well-drained.

Maritime forests have become prime resort and residential property because of their relatively protected locations along the coast. Although this community type originally occurred in virtually continuous strips along the Atlantic and Gulf Coasts, residential developments and infrastructure encroachments have severely fragmented most occurrences.

National Wetlands Inventory. A Service program that produces information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitat. The program's strongest mandates come from the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), which directs the Service to map wetlands, conduct wetlands status and trends studies, and disseminate the information produced.

National Wetlands Priority Conservation Plan. A plan developed by the Service for the U.S. Department of the Interior at the direction of Congress through the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901). The plan provides the criteria and guidance for identifying wetlands that warrant attention for Federal and State acquisition using Land and Water Conservation Fund appropriations.

Operations. (These activities are ineligible under the program; the definition is included to distinguish these activities from acquisition, restoration, enhancement, and management.) Operations include activities necessary for the functioning of a facility or habitat to produce desired results. These include public use management and facility management.

Program. The National Coastal Wetlands Conservation Grant Program. A program administered by the Service

that awards Federal grants through a competitive process to State agencies for projects to acquire, restore, manage, or enhance coastal wetlands.

Project. One or more related activities necessary to fulfill a stated objective to provide for the long-term conservation of coastal wetlands including the lands and waters, hydrology, water quality, and wetland-dependent wildlife. These activities can include acquisition, restoration, enhancement, or management of coastal wetlands.

Restoration. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded wetland.

§ 84.12 What are the information collection, record keeping, and reporting requirements?

(a) Information collection requirements include:

(1) An Application for Federal Assistance (Standard Form 424);

(2) A proposal, following the guidance of OMB Circular A–102 and the Federal Aid Grant Application Booklet (OMB Control Number 1018–0109), that includes statements of need and objective(s); a description of expected results or benefits; the approach to be used, such as procedures, schedules, key personnel and cooperators, location of the proposed action, and estimated costs to accomplish the objective(s); identification of any other actions that may relate to the grant; and a description of public involvement and interagency coordination;

(3) Discussion of ranking criteria, including a completed summary information form (USFWS Form 3–2179);

(4) Assurances of compliance with all applicable Federal laws, regulations, and policies (SF 424B or SF 424D); and

(5) Documents, as appropriate, supporting the proposal; for example, environmental assessments (including the NEPA compliance checklist, USFWS Form 3–2185) and evaluations of effects on threatened and endangered species.

(6) A grant agreement form if the proposal is selected for an award (USFWS Form 3–1552); and

(7) A grant amendment form if the agreement is modified (USFWS Form 3–1591).

(b) Record-keeping requirements include the tracking of costs and accomplishments related to the grant as required by 43 CFR 12.60, monitoring and reporting program performance (43 CFR 12.80), and financial reporting (43 CFR 12.81). The project report should include information about the acres conserved, with a breakdown by conservation method (for example, acquired, restored, or both) and type of habitat (list habitat types and include the acreage of each). Are the results of the project being monitored? Is there evidence that the resources targeted in the proposal (for example, anadromous fish, threatened and endangered species, and migratory birds) have benefited?

(c) Reporting requirements include retention and access requirements as specified in 43 CFR 12.82 and authorized by OMB through the Federal Aid Grant Application Booklet (OMB Control Number 1018–0109).

Subpart B—Applying for Grants

§ 84.20 What are the grant eligibility requirements?

(a) Eligible grant activities include:

(1) Acquisition of a real property interest in coastal lands or waters from willing sellers or partners (coastal wetlands ecosystems), providing that the terms and conditions will ensure the real property will be administered for long-term conservation.

(2) The restoration, enhancement, or management of coastal wetlands ecosystems, providing restoration, enhancement, or management will be administered for long-term conservation.

(b) Ineligible activities include but are not limited to:

(1) Projects that primarily benefit navigation, irrigation, flood control, or mariculture;

(2) Acquisition, restoration, enhancement, or management of lands to mitigate recent or pending habitat losses resulting from the actions of agencies, organizations, companies, or individuals;

(3) Creation of wetlands by humans where wetlands did not previously exist;

(4) Enforcement of fish and wildlife laws and regulations, except when necessary for the accomplishment of approved project purposes;

(5) Research;

(6) Planning as a primary project focus (planning is allowable as a minimal component of project plan development);

(7) Operations and maintenance;

(8) Acquiring and/or restoring upper portions of watersheds where benefits to the coastal wetlands ecosystem are not significant and direct; and

(9) Projects providing less than 20 years of conservation benefits.

§ 84.21 How Do I Apply for a National Coastal Wetlands Conservation Grant?

(a) Eligible applicants should submit their proposals to the appropriate Regional Director of the U.S. Fish and Wildlife Service. Proposals must be complete upon submission, and must include the information outlined in § 84.22 to be complete.

(1) Service Regional Federal Aid Offices' responsibilities for administration of this grant program include: Notifying the States of the program, its requirements, and any changes that occur; determining the State agencies designated by the Governor as eligible applicants; ensuring that only eligible applicants apply for grants; coordinating with various Service programs to ensure that sound and consistent guidance is communicated to the States; determining proposal eligibility and substantiality; and determining 75 percent match eligibility and notifying the States of approved and disapproved proposals.

(2) Service Divisions of Ecological Services in the regions and field and Fisheries and Habitat Conservation in the national office provide technical assistance and work with Federal Aid to encourage State participation in this process.

(3) Send your proposals to the appropriate Regional Offices, as follows:

Coastal states by service regions	Regional contact information
American Samoa, California, Commonwealth of the Northern Mariana Islands, Guam, Hawaii, Oregon, and Washington (Region 1).	Regional Director (Attention: Federal Aid), U.S. Fish and Wildlife Service, Eastside Federal Complex, 911 NE 11th Avenue, Portland, Oregon 97232–4181, (503) 231–6128.
Texas (Region 2)	Regional Director (Attention: Federal Aid), U.S. Fish and Wildlife Service, P.O. Box 1306, 500 Gold Avenue, SW, Albuquerque, New Mexico 87103, (505) 248–7450.
Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin (Region 3)	Regional Director (Attention: Federal Aid), U.S. Fish and Wildlife Service, Bishop Henry Whipple Federal Building, 1 Federal Drive, Fort Snelling, Minnesota 55111–4056, (612) 713–5130.

Coastal states by service regions	Regional contact information
Alabama, Florida, Georgia, Mississippi, North Carolina, Puerto Rico, South Carolina, and the Virgin Islands. Louisiana is not eligible to participate under Section 305 of 16 U.S.C. 3954, because Louisiana has its own separate program. (Region 4).	Regional Director (Attention: Federal Aid), U.S. Fish and Wildlife Service, 1875 Century Boulevard, Suite 324, Atlanta, Georgia 30345, (404) 679–4159.
Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Virginia (Region 5).	Regional Director (Attention: Federal Aid), U.S. Fish and Wildlife Service, 300 Westgate Center Drive, Hadley, Massachusetts 01035–9589, (413) 253–8508.
Alaska (Region 7)	Regional Director (Attention: Federal Aid), U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, Alaska 99503, (907) 786–3435.

(b) The Program operates on an annual cycle. Regional Federal Aid Offices request proposals from the States in early April. Proposals must be received by the Regional Director on or before a due date set in early June in order to be considered for funding in the following fiscal year. Check with your Regional Office each year for the exact due dates. Regions review proposals for eligibility and substantiality. Regions may rank eligible and substantial proposals and submit them to the national office of the Service in Washington, DC, by a date set in late June. A Review Panel coordinated by the Service's National Office of Fisheries and Habitat Conservation reviews and ranks proposals in early August using the criteria established in this rule. The Director selects the proposals and announces the grant recipients at the beginning of the new fiscal year (October 1).

(c) More than one agency in a State may submit proposals to the Service if the Governor determines that more than one agency has responsibility for coastal wetlands.

(d) A project proposal that includes several separate and distinct phases may be submitted in phases, but any succeeding phases must compete against other proposals in the year submitted. Obtaining money for one phase of a project will not be contingent upon acquiring money for another phase of that same project.

(e) The Federal (Program) share will not exceed $1 million per project.

(f) The percentage of non-Federal match (cash or in-kind) must not be less than 25 percent of the total costs if the State has a designated fund or not less than 50 percent without a fund.

§ 84.22 What needs to be included in grant proposals?

Proposals must include the following:

(a) Application for Federal Assistance (Standard Form 424);

(b) A Statement of Assurances of compliance with applicable Federal laws, regulations, and policies (either Standard Form 424B or 424D); and

(c) A project statement that identifies and describes:

(1) The need within the purposes of the Act;

(2) Discrete, quantifiable, and verifiable objective(s) to be accomplished during a specified time period;

(3) Expected results or benefits, in terms of coastal lands and waters, the hydrology, water quality, or fish and wildlife dependent on the wetlands;

(4) The approach to be used in meeting the objectives, including specific procedures, schedules, key personnel, and cooperators;

(5) A project location, including two maps: A map of the State showing the general location of the proposal, and a map of the project site;

(6) Estimated costs to attain the objective(s) (the various activities or components of each project should be broken down by cost and by cooperator);

(7) If the request is more than $100,000 (Federal share), the applicant must submit a Form DI–2010, certifying that the grant money will not be used for lobbying activities;

(8) A concise statement, with documentation, of how the proposal addresses each of the 13 numeric criteria including a summary using FWS Form No. 3–2179 (see § 84.32);

(9) A description of the State trust fund that supports a request for a 75 percent Federal share in sufficient detail for the Service to make an eligibility determination, or a statement that eligibility has been previously approved and no change has occurred in the fund;

(10) A list of other current coastal acquisition, restoration, enhancement, and management actions; agency(ies) involved; relationship to the proposed grant; and how the proposal fits into comprehensive natural resource plans for the area, if any; and

(11) Public involvement or interagency coordination on coastal wetlands conservation projects that has occurred or is planned that relates to this proposal (Specify the organizations or agencies involved and dates of involvement.).

Subpart C—Project Selection

§ 84.30 How are projects selected for grants?

Project selection is a three-step process: proposal acceptance, proposal ranking, and proposal selection.

(a) *Proposal acceptance.* (1) The Regional Federal Aid Offices decide whether a proposal should be accepted for consideration by determining if the proposal is complete, substantial, and contains activities that are eligible. Proposals that do not qualify are immediately returned to the State. Revision and resubmission of returned proposals is allowable during this period, which is in June (check with your Regional Office for the exact dates each year). If any of the factors of completeness, substantiality, or eligibility are not met, the Regions should not forward the proposal to the Washington Office.

(2) To be considered for acceptance, the proposal must be substantial in character and design. A substantial proposal is one that:

(i) Identifies and describes a need within the purposes of the Act;

(ii) Identifies the objective to be accomplished based on the stated need;

(iii) Uses accepted principles, sound design, and appropriate procedures;

(iv) Provides public conservation benefits that are cost effective and long-term, i.e., at least 20 years; and

(v) Identifies obtainable, quantified performance measures (acres enhanced, restored, or protected) that help achieve the management goals and objectives of the National Coastal Wetlands Conservation Grant Program. Through this program, the States' efforts and leadership will help the Service meet its Long-Term and Annual Performance Goals as expressed in the Service's Annual Performance Plan.[1]

(3) The grant limit is $1 million. Proposals requesting Program awards

[1] The Service's Annual Performance Plan can be found on the Service's homepage at *http://www//.fws.gov/r9gpra.* For more information you might also contact the Budget Office at 202–208–4596 or the Planning and Evaluation Staff at 202–208–2549.

that exceed $1 million will be returned to the appropriate State. Similarly, individual projects that have clearly been divided into multiple proposals for submission in one grant cycle to avoid this limit will be returned to the appropriate State. The State can revise and resubmit the proposal so that the request does not exceed the $1 million limit.

(b) *Proposal ranking.* Once a proposal is accepted by the Region, the Regional Federal Aid Office sends the proposal to the National Federal Aid Office, which works with the National Office of the Fish and Wildlife Management and Habitat Restoration Program for distribution to a Review Panel. The Review Panel includes representation from our coastal Regions and from other Service Programs, for example, the Endangered Species Program. The Fisheries and Habitat Conservation Program is responsible for coordinating the review and ranking of proposals according to the established criteria, a process that usually involves a national meeting.

(c) *Proposal selection.* The Review Panel's recommendations are forwarded to the Director of the Service for a final review and project selection. The Director announces the selection by October 1.

§ 84.31 An overview of the ranking criteria.

(a) The primary objective of the proposal will be to acquire, restore, enhance, or manage coastal wetlands to benefit coastal wetlands and the hydrology, water quality, and fish and wildlife dependent upon them. The Program will not provide grants, for example, for construction or repair of boat ramps or docks for recreational purposes and construction or support of research facilities or activities. The purpose of the ranking criteria is to provide a means for selecting the best projects—those that produce the maximum benefits to coastal wetlands and the fish and wildlife that depend on them.

(b) *Proposal ranking factors.* (1) *Ranking criteria.* As explained in § 84.32, we will evaluate proposals according to 13 ranking criteria. These criteria have varying point values. Proposals must address each of these 13 criteria.

(2) *Additional considerations.* Even though the criteria provide the primary evaluation of proposals, we may factor additional considerations into the ranking decision at the national level. In case of a tie, we will use these additional considerations to rank proposals having identical scores.

(c) The criteria in § 84.32 are not listed in priority order.

(d) Points are assigned on the basis of a completed project, rather than current conditions, e.g., count 50 acres of estuarine emergent wetlands if 50 acres of that habitat type will be restored when the project is completed.

(e) A range of points rather than a set point value allows the reviewer to distinguish between, for example, a proposal that provides some foraging habitat for a threatened species versus one that provides critical nesting habitat of several endangered species. Scoring guidance is included with the individual criteria.

(f) A total of 64 points is possible under the scoring system.

(g) If a grant proposal is not selected, the State may resubmit it for reconsideration in subsequent fiscal years. Resubmission of a grant proposal is the responsibility of the applicant.

§ 84.32 What are the ranking criteria?

(a) The U.S. Fish and Wildlife Service will rank proposals using the 13 criteria listed below. In the following list, a description of each criterion is followed by examples and the points they would receive for that criterion.

(1) *Wetlands conservation.* Will the project reverse coastal wetland loss or habitat degradation in decreasing or stable coastal wetland types? Will it conserve wetlands to prevent losses of decreasing or stable wetland types? (Maximum: 7 points)

(i) The majority of the project area (over 50 percent) is nationally decreasing coastal wetland types,[2] or the majority is regionally decreasing wetlands types in which the case for regionally decreasing is well-documented (Up to 7 points). The nationally decreasing types are estuarine intertidal emergent; estuarine intertidal forested; estuarine intertidal scrub-shrub; marine intertidal; palustrine emergent; palustrine forested; and palustrine scrub-shrub. Describe the wetlands using terms listed above. Include a breakdown showing the percentage of the proposal's total and wetland acreage in decreasing types. Provide National Wetlands Inventory codes/information if available. Information about these can be found on the National Wetland Inventory's web site at *http://wetlands.fws.gov.*

(ii) The majority of the project area (over 50 percent) is nationally stable coastal wetlands types [2] (Up to 5 points). The nationally stable types are estuarine intertidal non-vegetated and estuarine subtidal. Describe the wetlands using the terms listed above. Include a breakdown showing the percentage of the proposal's total and wetland acreage in stable types. Provide National Wetlands Inventory codes/information if available.

(iii) Wetlands benefited are less than 50 percent of the project area. (Up to 3 points)

(iv) If the project would benefit wetlands in the upper portion of the coastal watershed, but does not demonstrate significant and direct benefits to coastal wetlands, the proposal will not receive any points. (0 points)

(v) We will award a full 7 points to proposals that document that over 50 percent of their project area would be, upon project completion, decreasing coastal wetland types. A combination of decreasing and stable types that is over 50 percent of the project area could receive an intermediate score of 4, 5, or 6 points, depending on the balance between decreasing and stable types. If wetlands are 50 percent or less of the project area, use the following guide for allocating points: 25 to 50 percent of the project area is decreasing or stable wetlands, 2, 3, or 4 points; 5 to 24 percent, 1 or 2 points; and less than 5 percent, 0 points.

(2) *Maritime forests on coastal barriers.* Will the proposal significantly benefit maritime forests on coastal barriers? The coastal barrier does not need to be a unit of the Coastal Barrier Resources System. (Maximum: 7 points)

(i) The proposal documents significant benefit to maritime forests on a coastal barrier. Describe the forest in sufficient detail so reviewers can determine whether it meets the definition of ''maritime forest.'' (Up to 7 points)

(ii) The proposal does not benefit maritime forests on a coastal barrier. (0 points)

(iii) For this criterion most scores should be either 0 or 7. If questions arise about the significance of the benefit or whether the forests meet the strict definition, an intermediate score could be given.

(3) *Long-term conservation.* Does the project ensure long-term conservation of coastal wetland functions? The project must provide at least 20 years of conservation benefits to be eligible. (Maximum: 7 points)

(i) Once the project is complete, the project will provide continuing coastal wetlands benefits in perpetuity (100 years or longer). (7 points)

[2] These designations are based on the National Wetlands Priority Conservation Plan. For more information about the plan, or to receive a copy of the document, refer to the contact information provided in § 84.21.

(ii) Once the project is complete, the project will provide continuing coastal wetland benefits for 50–99 years. (3 to 6 points)

(iii) Once the project is complete, the proposal will provide continuing coastal wetlands benefits for 20–49 years. (1 to 3 points)

(iv) The proposal should show how the project will be maintained and the benefits sustained over time. Proposals must include adequate documentation of long-term conservation of coastal wetland values, such as a 25-year easement, to receive points for this criterion. If part of the project's benefits will be perpetual (owned in fee title, for example) and part is estimated to last 20 years, reviewers should weigh the different elements of the project and give an intermediate score.

(4) *Coastal watershed management.* Would the completed project help accomplish the natural resource goals and objectives of one or more formal, ongoing coastal ecosystem or coastal watershed management plan(s) or effort(s)? Describe the management plan or effort(s). (Maximum: 3 points)

(i) The project supports the natural resource goals of identified formal, ongoing coastal ecosystem or coastal watershed management plans or efforts. Describe the management plan(s) and/or effort(s) and explain how this project relates to its objectives. A plan that very specifically identifies the site will receive more points than a plan containing many generic references. (Up to 3 points)

(ii) The project does not support the natural resource goals and objectives of a formal, ongoing coastal ecosystem or coastal watershed management effort. If the proposal benefits the upper portions of coastal watersheds, but provides no significant and direct benefits to the coastal wetlands ecosystems, the proposal will not receive points. (0 points)

(5) *Conservation of threatened and endangered species.* Will the project benefit any federally listed endangered or threatened species, species proposed for Federal listing, recently delisted species, or designated or proposed critical habitat in coastal wetlands? Will it benefit State-listed threatened and endangered species? (Maximum: 5 points)

(i) The project will provide, restore, or enhance important habitat (e.g., nesting, breeding, feeding, nursery areas) for federally listed or proposed endangered or threatened species that use the coastal area project site for at least part of their life cycle. The project will benefit recently delisted species and habitat conservation plans developed under the auspices of the Endangered Species Act. List the species and their status (e.g., threatened or endangered) and provide documentation (e.g., cite recovery plan, attach letter from species expert) of current or recent species occurrence in the coastal area project site. Describe the importance of the habitat. (Up to 5 points)

(ii) The project will provide, restore, or enhance important habitat for State-listed threatened and endangered species. (Up to 2 points)

(iii) The project will not provide, restore, or enhance important habitat for federally or State-listed or proposed endangered or threatened species in the coastal area project site for any part of their life cycle. If the proposal provides benefits to threatened and endangered species in the upper portion of the coastal watershed, but provides no significant and direct benefits to threatened and endangered species using coastal wetlands ecosystem habitat, the proposal will not receive any points. (0 points)

(iv) The combined scores of subparagraphs (a)(5)(i) and (a)(5)(ii) of this section cannot exceed the 5-point maximum.

(6) *Benefits to fish.* Will the project provide, restore, or enhance important fisheries habitat? (Maximum: 5 points)

(i) The project will provide, restore, or enhance important habitat (i.e., spawning, nursery, juvenile, or foraging habitat) for specific species that use the coastal area project site for at least part of their life cycle. These species may include anadromous, interjurisdictional, or other important species. List species, habitat types, and benefits to each species. (Up to 5 points)

(ii) The project does not document current or future benefits to fish species and their habitat. (0 points)

(iii) The more specific the information is on the use of the area and the importance of the habitat, the greater the points. An area specifically identified as critical for conservation in a fisheries management plan will, for example, receive more points than one which is not.

(7) *Benefits to coastal-dependent or migratory birds.* Will the project provide, restore, or enhance important habitat for coastal-dependent or migratory birds?

(i) The project will provide, restore, or enhance important habitat (i.e., breeding, staging, foraging, wintering/summering habitat) benefits for at least part of the life cycle of coastal dependent or migratory birds. List the species and habitat types, and describe the benefits to each. (Up to 5 points)

(ii) The project will not significantly benefit coastal-dependent or migratory birds. (0 points)

(iii) We will give maximum points to projects that benefit coastal-dependent species identified in the North American Waterfowl Plan or listed as species of management concern.[3] Proposals should also include information that demonstrates how the project will contribute to the regional goals developed under the U.S. Shorebird Conservation Plan, the North American Waterbird Conservation Plan, Partners in Flight, the North American Waterfowl Management Plan, or other bird conservation initiatives. Proposals that fail to do so will not receive maximum points. Indicate if the proposed area has been specifically identified by any program or agency for its migratory bird values.

(8) *Prevent or reduce contamination.* Will the project prevent or reduce input of contaminants to the coastal wetlands and associated coastal waters, or restore coastal wetlands and other associated coastal waters that are already contaminated? (Maximum: 5 points)

(i) The project will prevent significant inputs of contaminants or will provide significant improvements to the quality of the coastal wetland and associated waters through protection from contaminants or restoration, including assimilation of nutrients and nonpersistent toxic substances. Describe the types and sources of possible or current impairment to the coastal wetland and other associated coastal waters (e.g., to water quality, sediments, flora, or fauna). Describe how contaminant inputs or residues will be prevented, reduced, or eliminated. Preventing contaminants by precluding residential development through acquisition will not normally warrant full points unless the applicant can be shown that significant contamination would have occurred otherwise. (Up to 5 points)

(ii) The proposal will not significantly prevent impairment or improve the quality of the coastal wetland and associated coastal waters. If the proposal provides positive water quality benefits in the upper portions of watersheds, but provides no significant and direct positive water quality benefits to coastal wetland ecosystems, the proposal will not receive points. (0 points)

(iii) Show direct links between contamination and wildlife and aquatic habitats. To receive full points, you

[3] For more information about species of management concern, visit the website migratorybirds.fws.gov or contact the Division of Migratory Bird Management at 703–358–1714.

should provide documentation of the linkage. Reviewers may consider the extent of contaminants prevention/reduction when assigning points. Proposals having the potential to produce an attractive nuisance (e.g., acquiring and/or restoring a wetland that will be attractive to wildlife and that also has the potential to accumulate high levels of persistent toxic metals or hydrocarbon compounds) will not receive points.

(9) *Catalyst for future conservation.* Is the project proposal designed to leverage other ongoing coastal wetlands protection projects in the area, such as acquisition of areas to add to already acquired coastal lands, or provide impetus for additional restoration? (Maximum: 4 points)

(i) The project will be essential (e.g., key to completion or implementation of a greater conservation plan) to further advance or promote other coastal projects under way. Explain why. (Up to 4 points)

(ii) The project proposal does not demonstrate a positive impact on other coastal projects. (0 points)

(iii) To receive the maximum number of points, the proposal should be essential to the initiation or completion of a larger project. Examples may include acquisition of key in-holdings within a larger protected area, funds necessary to acquire fee simple interest in properties where a conservation easement has already been secured, and funds necessary to complete restoration activities to a protected area.

(10) *Partners in conservation.* Will the proposal receive financial support, including in-kind match, from private, local, or other Federal interests? (Maximum: 4 points)

(i) The proposal includes the State applicant plus one or more non-State financial partners. (Up to 4 points)

(ii) The proposal includes only financial support from the State applicant. (0 points)

(iii) A written description of commitment of funds or in-kind match from the partners must accompany the proposal. (This requirement is in addition to signing the Assurances Form.) The purpose of this criterion is to promote partnerships with private, local, or other Federal agencies rather than to increase the dollar amount of the matching share. Therefore, no specific minimum amount is indicated here. At least two partners, in addition to the State applicant, should have committed money to the project to receive maximum points.

(11) *Federal share reduced.* Does the proposal significantly reduce the Federal share by providing more than the required match amount? In the case of a Territory or Commonwealth that does not require match funds, does the proposal include financial support from sources other than the Territory or Commonwealth? (Maximum: 5 points)

(i) The State, territory, or commonwealth applicant must have a non-Federal funding source (in-kind match does not count for this criterion) that reduces the Federal share. (Up to 5 points)

(ii) The maximum Federal share is requested by the proposal. (0 points)

(iii) The purpose of this criterion is to increase the amount of money from non-Federal sources. This increase decreases the need for Federal match dollars, so that Federal dollars can help more projects. Documentation of each partner's financial commitment must accompany the proposal to receive points. If the State itself provides the excess match, the State should receive credit for reducing the Federal share. Each 5 percent above the required State match would be approximately equal to 1 point. The following two examples, using both a 50 and 75 percent Federal match share, define a 10 percent increase in a State's match amount.

(A) Example 1–50—Percent Federal Match

If the total project costs are $100,000, then the required State match share is $50,000.

If the State or a partner provides an additional cash contribution equal to 10 percent of the $50,000, $5,000. This is defined as a 10 percent increase in the State match.[4]

(B) Example 2–75—Percent Federal Match

If the total project costs are $100,000, then the required State match share is $25,000.

If the State or a partner provides an additional cash contribution equal to 10 percent of the $25,000, $2,500. This is defined as a 10 percent increase in the State match.[4]

(12) *Education/outreach program or wildlife-oriented recreation.* Is the project designed to increase environmental awareness and develop support for coastal wetlands conservation? Does it provide recreational opportunities that are consistent with the conservation goals of the site? (Maximum: 3 points)

(i) The proposal includes a site-specific, substantive education/outreach or wildlife-oriented recreation program. (Up to 3 points)

(ii) The proposal does not include a substantive education/outreach or wildlife-oriented recreation program. (0 points)

(iii) The proposal must describe what makes this program substantive and link it closely with the specific site to receive full points. Programs supported by activities or funds from partners should be encouraged over use of project dollars. Project proposals may include substantive education/outreach components necessary for the completion of the project. However, these should be activities that complement or support the primary goal of the project.

(13) *Other factors.* Do any other factors, not covered in the previous criteria, make this project or site particularly unique and valuable? Does the project offer important benefits that are not reflected in the other criteria? The following list includes examples of projects that provide benefits not reflected in other criteria. (Maximum: 4 points)

(i) The project might provide significant benefits to, for example: rare or threatened habitat types; biodiverse habitats; rare and declining species; and the local community.

(ii) The project would be particularly cost-effective, providing very significant resource benefits for the cost.

(iii) The project would assist in the prevention or control of invasive species.

(iv) The project would provide important cultural or historical resource benefits.

(v) The project would provide other benefits.

(vi) Reviewers should not assign points to resource values covered by other criteria. The proposal should provide a short narrative to support claims to *Other Factors* points.

(b) *Additional considerations.* We will factor the following considerations into the ranking process if two or more proposals have the same point totals. The tie-breaking factors are as follows:

(1) The project would prevent the destruction or degradation of habitat from pending sale of property, from adverse effects of current activities such as draining of wetlands, or from natural processes such as erosion at excessive rates;

(2) The project would protect unique and significant biological diversity;

(3) The project has lower costs per acre conserved; and

(4) In the project proposal the State or third party provides lands as opposed to using lands already owned by the State

[4] From sources other than Federal agencies. Natural Resource Damage Assessment funds may in some cases be defined as ''non-Federal.'' See discussion under § 84.46 on *What are the cost-sharing requirements?*

or third party as part of the State matching share.

(c) All proposals must include the information described in paragraphs (b)(1)–(4) of this section. If a tie occurs between two or more proposals, the reviewers need to have this information available immediately to decide which proposal or proposals should be recommended for selection.

Subpart D—Conditions on Acceptance/Use of Federal Money

§ 84.40 What conditions must I follow to accept Federal grant money?

(a) The audit requirements for State and local governments (43 CFR part 12), and

(b) The uniform administrative requirements for grants and cooperative agreements with State and local governments (43 CFR part 12).

§ 84.41 Who prepares a grant agreement? What needs to be included?

The coastal State and the Fish and Wildlife Service work together to develop a Grant Agreement (Form 3–1552) upon completion of the review by the Regional Director to determine compliance with applicable Federal laws and regulations. The Grant Agreement includes the grant title, the grant cost distribution, the agreement period, other grant provisions, and special grant conditions. If a Coastal Barrier Unit is affected, the Service must conduct internal consultations pursuant to Section 6 of the Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act, prior to providing any grant monies to that State.

§ 84.42 What if a grant agreement is not signed?

Monies that have been allocated for a grant will be held until December 31 of the following year. If a grant agreement has not been signed by the State and the Service and, therefore, the money has not been obligated for the approved grant by that date, the funds automatically are returned to the Program account in Washington.

§ 84.43 How do States get the grant monies?

Funding to States is provided on a reimbursable basis. See § 84.47 for information on what costs can be reimbursed. The Service may reimburse the State for projects completed, or make payments as the project progresses. For construction work and labor, the Service and the State may jointly determine, on a case-by-case basis, that payments may be made in advance. We will minimize the time elapsing between the transfer to the State and the State's need for the funds, and the time period will be subject to a specific determined need for the funds in advance. Except for extenuating circumstances, a reasonable time period to advance funds to a State is up to 3 days. OMB Circular A–102, Parts II and III, 43 CFR part 12, and 31 CFR part 205 provide specific information on methods and procedures for transferring funds.

§ 84.44 What is the timetable for the use of grant money?

Once money is granted to the coastal States, the money is available to those States for the time designated in the grant agreement. If a State needs more time, the State must apply for an extension of time by amending the grant agreement. If the Service does not extend the time, the unobligated monies return to the Service for expenditure on future grants. Also, if a State cannot spend the money on the approved project, the State must notify the appropriate Regional Director as soon as possible so that the money can revert back to the Service for future grants.

§ 84.45 How do I amend a proposal?

Following procedures in 43 CFR 12.70, you must submit a signed original and two copies of the revised SF 424, the revised portion of the project statement if appropriate, and an explanation of the reason for the revision to the Regional Director (Federal Aid).

§ 84.46 What are the cost-sharing requirements?

(a) Except for certain insular areas, the Federal share of an approved grant will not exceed 50 percent of approved costs incurred. However, the Federal share may be increased to 75 percent for coastal States that have established and are using a fund as defined in § 84.11. The Regions must certify the eligibility of the fund in order for the State to qualify for the 75 percent matching share.

(b) The following insular areas: American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands, have been exempted from the matching share, as provided in Pub. L. 95–134, amended by Pub. L. 95–348, Pub. L. 96–205, Pub. L. 98–213, and Pub. L. 98–454 (48 U.S.C. 1469a). Puerto Rico is not exempt from the match requirements of this Program.

(c) The State may provide materials (e.g., heavy equipment) or other services as a noncash match for portions of the State's matching share. The State may also provide the value of land, including the land proposed for restoration, enhancement, or management as a noncash match, provided that the land is necessary and reasonable for completing the project. For example, if a State proposes to manage a contiguous wetland of 100 acres, and already owns 10 of the 100 acres, the State can apply the current value of the 10 acres, provided that the 10 acres are necessary to manage the entire 100 acres. If the 10-acre wetland were not contiguous and no connection could be made that the 10 acres were needed to manage the proposed wetland, the State could not use the 10 acres as a noncash match. Review 43 CFR 12.64 for determining the value of in-kind contributions.

(d) The requirements in 43 CFR 12.64 and Service Manual Part 522 FW 1.13 [5] apply to in-kind matches or cost-sharing involving third parties. Third party in-kind contributions must represent the current market value of noncash contributions furnished as part of the grant by another public agency, private organization, or individual. In-kind matches must be necessary and reasonable to accomplish grant objectives.

(e) Coastal States must commit to their matching share of the total costs by signing the Application for Federal Assistance (SF 424), the Assurances (SF 424B or SF 424D), and the Grant Agreement (Form 3–1552).

(f) No Federal monies, non-Federal monies, in-kind contributions, or National Fish and Wildlife Foundation grant program monies that will be or have been previously used to satisfy the matching requirement of another Federal grant can be used as part of the coastal State's matching share.

(g) The coastal State is responsible for ensuring the full amount of that State's matching requirement, either with State funds or from contributions toward the proposal from other agencies, groups, or individuals. Sources other than State applicant funds must be documented and approved as eligible.

(h) Total Federal contributions (including all Federal sources outside of the Program) may not exceed the maximum eligible Federal share under the Program. This includes monies provided to the State by other Federal programs. If the amount of Federal money available to the project is more than the maximum allowed, we will reduce the Program contribution by the amount in excess.

[5] From the Fish and Wildlife Service Manual, available on-line at *http://www.fws.gov/directives/index.html.*

(i) Natural Resource Damage Assessment funds that are managed by a non-Federal trustee are considered to be non-Federal, even if these monies were once deposited in the Department of the Interior's Natural Resource Damage Assessment and Restoration Fund, provided the following criteria are met:

(1) The monies were deposited pursuant to a joint and indivisible recovery by the Department of the Interior and non-Federal trustees under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Oil Pollution Act (OPA);

(2) The non-Federal trustee has joint and binding control over the funds;

(3) The co-trustees agree that monies from the fund should be available to the non-Federal trustee and can be used as a non-Federal match to support a project consistent with the settlement agreement, CERCLA, and OPA; and

(4) The monies have been transferred to the non-Federal trustee.

§ 84.47 What are allowable costs?

(a) Allowable grant costs are limited to costs necessary and reasonable to achieve approved grant objectives and meet the applicable Federal cost principles in 43 CFR 12.62 (b).

(b) If a project or facility is designed to include purposes other than those eligible under the Act, the costs must be prorated among the various purposes.

(c) If you incur costs before the effective date of the grant, they cannot be reimbursed, with the exception that we can allow preliminary costs, but only with the approval of the appropriate Regional Director. Preliminary costs may include costs necessary for preparing the grant proposal, such as feasibility surveys, engineering design, biological reconnaissance, appraisals, or preparation of grant documents such as environmental assessments for compliance with the National Environmental Policy Act.

§ 84.48 What are the procedures for acquiring, maintaining, and disposing of real property?

(a) Acquisition, maintenance, and disposal of real property must follow the rules established in 43 CFR 12.71 and 50 CFR 80.14.

(1) Title to real property acquired under a grant or subgrant must be vested in the State or subgrantee, including local governments and nonprofit organizations. States must submit documentation (e.g., appraisals and appraisal reviews) to the Regional Director who must approve it before the State becomes legally obligated for the purchase. States will provide title vesting evidence and summary of land costs upon completion of the acquisition. The grant agreement and any deed to third parties (e.g., conservation easement or other lien on a third-party property) must include appropriate language to ensure that the lands and/or interests would revert back to the State or Federal Government if the conditions of the grant were no longer being implemented.

(2) In cases where the interest obtained is less than fee simple title, the interest must be sufficient for long-term conservation of the specified wetlands resources.

(3) Real property acquired with National Coastal Wetlands Conservation Grant funds must continue to serve the purpose for which it was acquired. If acquired property is used for reasons inconsistent with the purpose(s) for which acquired, such activities must cease and any adverse effects on the property must be corrected by the State or subgrantee with non-Federal monies in accordance with 50 CFR 80.14.

(4) The State or subgrantee may not dispose of or encumber its title or other interest in real property without prior approval of the appropriate Regional Director of the Service. Real property includes, but is not limited to, lands, buildings, minerals, energy resources, timber, grazing, and animal products. If real property is sold, the State or subgrantee must compensate the Service in accordance with 43 CFR 12.71(c)(2).

(5) If rights or interests obtained with the acquisition of coastal wetlands generate revenue during the Grant Agreement period, the State will treat the revenue as program income and use it to manage the acquired properties. If the State sells or leases real property, the State must treat the proceeds as program income and return the money to the Federal Aid program regardless of the grant period.

(6) Inconsistent use that is not corrected can be grounds for denying a State future grants under this Program.

(b) A coastal State is responsible for design, supervision, and inspection of all major construction projects in accordance with accepted engineering standards.

(1) The coastal State must have adequate rights to lands or waters where restoration or enhancement projects are planned to ensure protection and use of the facilities or structures throughout their useful life.

(2) The construction, enlargement, or rehabilitation of dams are subject to Federal standards for dam design. If requested, the State must provide to the Regional Office written certification that any proposed changes to a dam meet Federal standards.

(3) The coastal State must operate and maintain facilities, structures, or related assets to ensure their use for the stated project purpose and that they are adequately protected.

(c) Acquisition, property records, maintenance, and disposal of equipment must be made in accordance with 43 CFR 12.72.

§ 84.49 What if the project costs more or less than originally expected?

All requests for additional monies for approved coastal wetland grants will be subject to the entire review process along with new grants. Any monies left over after the project is complete, or if the project is not completed, should be returned to the Washington Office for use in following years. If a State has lands it wishes to acquire, restore, or enhance in close proximity to the original project, and the Region deems that spending project monies in these areas would provide similar benefits, the Region may use unspent balances to pay for these projects with prior approval from the Washington Office. States must provide adequate justification and documentation to the Regions that the lands acquired, restored, or enhanced are similar to those in the original proposal and provide similar benefits to fish and wildlife.

§ 84.50 How does a State certify compliance with Federal laws, regulations, and policies?

(a) In accepting Federal money, coastal State representatives must agree to and certify compliance with all applicable Federal laws, regulations, and policies. The applicant will need to submit a Statement of Assurances (either SF 424B or SF 424D) signed and dated by an authorized agency representative as part of the proposal.

(b) Compliance with environmental and other laws, as defined in the Service Manual 523 FW Chapter 1,[6] may require additional documentation. Consult with Regional Offices for how this applies to a specific project.

Dated: March 29, 2002.

Paul Hoffman,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 02–19065 Filed 7–29–02; 8:45 am]

BILLING CODE 4310–55–P

[6] The Fish and Wildlife Service Manual, see footnote 3 for availability.

TMDL
Grant Information

FORM #: 62-305.900
RULE #: 62-305.300(1)
FORM TITLE: TMDL WATER QUALITY GRANT APPLICATION

TMDL WATER QUALITY RESTORATION GRANT PROPOSAL APPLICATION

PROJECT NAME:

PROJECT FUNDING:	**TMDL Grant**	**$**	**_____%**
	Matching Funds	**$**	**_____%**
	Total Project Cost	**$**	**_____%**

LEAD ORGANIZATION:
End of Fiscal Year:
FEID Number:

CONTACT PERSON:
ADDRESS:
PHONE:
FAX:
EMAIL:

COOPERATING ORGANIZATIONS AND CONTACT PERSON (THOSE PROVIDING FUNDING OR IN-KIND SERVICES):

PROJECT ABSTRACT:

PROJECT LOCATION AND WATERSHED CHARACTERISTICS:

Water Body Name:
Hydrologic Unit Code(HUC):
Project Latitude:
Project Longitude:

Land Uses within the Watershed (acres and percentages of total):

Land Use	Acres	%
Land Use Totals (Acreage and %)		

TMDL STATUS OF WATER BODY AND PROJECT:
Name of Impaired Water:

Status of Impaired Water:
Status of BMAP:

POLLUTION REDUCTION STRATEGY:

PROJECT OBJECTIVE(S):

PROJECT DESCRIPTION (PLEASE LIST ALL TASKS AND DELIVERABLES):
NOTE: Typical tasks will include: Land acquisition, design, permitting, bidding, BMP construction, BMP monitoring, grant administration, quarterly progress reports, draft final report, final report.

TASK 1:

DELIVERABLES:
SCHEDULE:

TASK 2:

DELIVERABLES:
SCHEDULE:

TASK 3:

DELIVERABLES:
SCHEDULE:

TASK 4:

DELIVERABLES:
SCHEDULE:

ETC

ESTIMATED POLLUTANT LOAD REDUCTION:

BMP's Installed		TSS kg/yr	TP kg/yr	TN kg/yr	BOD kg/yr	Other kg/yr	Other kg/yr
Pollutant Loads	Pre-Project						
	Post-Project						
	Load Reduction						
	% Reduction						
		TSS kg/yr	TP kg/yr	TN kg/yr	BOD kg/yr	Other kg/yr	Other kg/yr
nt L	Pre-Project						

	Post-Project						
	Load Reduction						
	% Reduction						
		TSS kg/yr	**TP kg/yr**	**TN kg/yr**	**BOD kg/yr**	**Other kg/yr**	**Other kg/yr**
Pollutant Loads	Pre-Project						
	Post-Project						
	Load Reduction						
	% Reduction						
		TSS kg/yr	**TP kg/yr**	**TN kg/yr**	**BOD kg/yr**	**Other kg/yr**	**Other kg/yr**
Pollutant Loads	Pre-Project						
	Post-Project						
	Load Reduction						
	% Reduction						

MODEL USED: Allowable models include Spreadsheet Tool for Estimating Pollutant Load (STEPL, 2007), Nonpoint Source Loading Management Model (NPSLMM, 2008) and Watershed Management Model (WMM, 2006). The STEPL model is available for download at http://it.tetratech-ffx.com/stepl/ while the other models are on the TMDL Grant web site.
EMCS USED IN MODEL: Please use the Event Mean Concentrations (EMCs) listed in Attachment 1 in the model to estimate pre- and post-project pollutant loads and load reductions.

PROJECT MILESTONES:

Task	Activity	Start	Complete
1	Land Acquisition		
2	Design and Permitting		
3	Bidding		
4	BMP Construction		
5	BMP Effectiveness Monitoring		
6	Public Education		
7	Draft and Final Reports:		

PROJECT BUDGET:

Project Funding Activity	Grant Amount	Matching Contribution	Match Source *
Land Acquisition			
Design and Permitting			
Bidding			
BMP Construction			
BMP Effectiveness Monitoring			
Public Education			
Draft and Final Reports:			
Total:			
Total Project Cost:			
Percentage Match:			

***If a stormwater utility or other dedicated recurring fee is contributing, put that information in the following table.**

DEDICATED STORMWATER FUNDING INFORMATION:

Match Source Name	Description	ERU/Fee

OTHER FUNDING (Not Match):

Agency	Activity	Amount
	Total:	

REFERENCES CITED:

NOTE: PLEASE SUBMIT ALL APPENDICES IN A SEPARATE WORD DOCUMENT. THIS MAY INCLUDE MAPS, FIGURES OR ANY OTHER INFORMATION YOU WOULD LIKE TO INCLUDE WITH YOUR APPLICATION

ATTACHMENT 1 - EMC VALUES FOR MODELING POLLUTANT LOADS

LAND USE CATEGORY	TYPICAL RUNOFF CONCENTRATION (mg/l)						
	TOTAL N	TOTAL P	BOD	TSS	COPPER	LEAD	ZINC
Low-Density Residential[1]	1.61	0.191	4.7	23.0	0.008[4]	0.002[4]	0.031[4]
Single-Family	2.07	0.327	7.9	37.5	0.016	0.004	0.062
Multi-Family	2.32	0.520	11.3	77.8	0.009	0.006	0.086
Low-Intensity Commercial	1.18	0.179	7.7	57.5	0.018	0.005	0.094
High-Intensity Commercial	2.40	0.345	11.3	69.7	0.015	--	0.160
Light Industrial	1.20	0.260	7.6	60.0	0.003	0.002	0.057
Highway	1.64	0.220	5.2	37.3	0.032	0.011	0.126
Agricultural							
Pasture	3.47	0.616	5.1	94.3	--	--	--
Citrus	2.24	0.183	2.55	15.5	0.003	0.001	0.012
Row Crops	2.65	0.593	--	19.8	0.022	0.004	0.030
General Agriculture[2]	2.79	0.431	3.8	43.2	0.013	0.003	0.021
Undeveloped / Rangeland / Forest	1.15	0.055	1.4	8.4	--	--	--
Mining / Extractive	1.18	0.15	7.6[3]	60.0[3]	0.003[3]	0.002[3]	0.057[3]

1. Average of single-family and undeveloped loading rates
2. Mean of pasture, citrus, and row crop land uses
3. Runoff concentrations assumed equal to industrial values for these parameters
4. Value assumed to be equal to 50% of single-family concentration

APPENDIX 2. MONITORING TO DETERMINE TREATMENT EFFECTIVENESS

If this project is approved for funding, the applicant will be required to monitor the effectiveness of the stormwater BMP. BMP effectiveness data is required to demonstrate the environmental benefits of a project. The general monitoring requirements are set forth below. Please note that the final scope of work in the contract may include more specifics on particular monitoring requirements.

Within six months before the completion of the project, the applicant will submit a detailed monitoring plan to the department for review and comment. The monitoring plan will specify the sampling locations, sampling instruments, and parameters to be sampled. The monitoring will include sampling of from seven to ten (10) storm events as described below. If possible, monitored events will be discrete rainfall events generally consisting of greater than 0.20 inches and less than 1.5 inches or rain. However, we want to monitor the real world to determine true efficiency. Therefore, remember this is a GENERAL guideline with respect to the storm event. Actual rainfall may vary depending on the type of BMP, the contributing drainage area, the amount of impervious area, and the time of concentration.

Monitoring will be conducted at two locations: inflows and outflows.

Monitoring will include the following parameters:

- Daily rainfall (to nearest 0.01 inch) measured at the sampling location with verification from the local weather station. Rainfall data should be provided for at least the week proceeding monitoring and day(s) of monitoring.

- Flow using approved flow activated flow meters

    - Parameters as specified below

Parameter	Detection Limit	Method
Total Cadmium	1 ug/l	Composite*
Total Chromium	5 ug/l	Composite*
Total Copper	5 ug/l	Composite*
Total Zinc	10 ug/l	Composite*
NO2+NO3	0.1 mg/l	Composite*
TKN	0.3 mg/l	Composite*
Total Ammonia	0.05 mg/l	Composite*
Or Total N		Composite*
Total Phosphorus	0.05 mg/l	Composite*
Ortho Phosphate	0.05 mg/l	Composite*
TSS	1 mg/l	Composite*
Oil/Grease	1 mg/l	Composite*
Fecal coliform	N/A	Grab** if possible

*Flow weighted composite samples will be taken over the storm hydrograph. Typically, the samples will be composited over the inflow hydrograph at the inflow and for up to a 36 hour period at outflow station, depending upon the time of concentration and flow into and out of the BMP. Each composite will include at least six evenly distributed sub-samples.

**Grab samples to be collected within the drainage area time of concentration at influent and effluent stations described above.

The applicant should estimate the pollutant removal efficiency of the stormwater BMP by calculating the percent reduction in the event mean concentration (EMC) for the period of record [1-(Average Inflow EMC/Average Outflow EMC)]. For BMPs with multiple inflow (and/or outflow) points, the pollutant contributions for each inflow should be flow weighted. See the National Stormwater Best Management Practice database at http://www.bmpdatabase.org/ and Development of Performance Measures, Determining Urban Stormwater Best Management Practice Removal Efficiencies, 1999 by URS Greiner Woodward Clyde, ASCE and EPA at http://www.bmpdatabase.org/task3_1.pdf

From ASCE Data base

3.1 Efficiency Ratio

Definition

The efficiency ratio is defined in terms of the average event mean concentration (EMC) of pollutants over some time period:

$$ER = 1 - \frac{\text{Average outlet EMC}}{\text{Average inlet EMC}} = \frac{\text{average inlet EMC} - \text{average outlet EMC}}{\text{average inlet EMC}}$$

EMCs can be either collected as flow weighted composite samples in the field or calculated from discrete measurements. The EMC for an individual event or set of field measurements, where discrete samples have been collected, is defined as:

$$EMC = \sum ViCi / \sum Vi$$

where,

V: volume of flow during period i
C: average concentration associated with period i
n: total number of measurements taken during event

The arithmetic average EMC is defined as,

$$averageEMC = \sum EMCj / m$$

where,

m: number of events measured

In addition, the log mean EMC can be calculated using the logarithmic transformation of each EMC. This transformation allows for normalization of the data for statistical purposes.

Mean of the Log EMCs = $\sum Log(EMCj) / m$

Estimates of the arithmetic summary statistics of the population (mean, median, standard deviation, and coefficient of variation) should be based on their theoretical relationships (Appendix A) with the mean and standard deviation of the transformed data. Computing the mean and standard deviation of log transforms of the sample EMC data and then converting them to an arithmetic estimate often obtains a better estimate of the mean of the population due to the more typical distributional characteristics of water quality data. This value will not match that produced by the simple arithmetic
average of the data. Both provide an estimate of the population mean, but the approach utilizing the log-transformed data tends to provide a better estimator, as it has been shown in various investigations that pollutant, contaminant and constituent concentration levels have a log-normal distribution (NURP, 1983). As the sample size increases, the two values converge.

Assumptions
This method

- Weights EMCs from all storms equally regardless of relative magnitude of storm. For example a high concentration/high volume event has equal weight in the average EMC as a low concentration/low volume event. The logarithmic approach tends to minimize the difference between the EMC and mass balance calculations.
- Is most useful when loads are directly proportional to storm volume. For work conducted on nonpoint pollution (i.e., inflows), the EMC has been shown to not vary significantly with storm volume. This lends credence to using the average EMC value for the inflow but does not provide sufficient evidence that outflows are well represented by average EMC. Accuracy of this method will vary based on the BMP type.
- Minimizes the impacts of smaller/cleaner storm events on actual performance calculations. For example, in a storm by storm efficiency approach, a low removal value for such an event is weighted equally to a larger value.
- Allows for the use of data where portions of the inflow or outflow data are missing, based on the assumption that the inclusion of the missing data points would not significantly impact the calculated average EMC.

Comments
This method

- Is taken directly from nonpoint pollution studies and does a good job characterizing inflows to BMPs but fails to take into account some of the complexities of BMP design. For example, some BMPs may not have outflow EMCs that are normally distributed (e.g., a media filter that treats to a relatively constant level that is independent on inflow concentrations).
- Assumes that if all storms at the site had been monitored, the average inlet and outlet EMCs would be similar to those that were monitored.

ATTACHMENT 3 - GRANT APPLICATION INSTRUCTIONS

The DEP Bureau of Watershed Restoration administers state funds allocated to the TMDL program for the reduction of urban nonpoint source pollutant loadings to impaired waters. These grant funds are used to implement projects (Best Management Practices or BMPs) to reduce urban stormwater pollutant loadings from existing drainage systems without treatment and from lands developed before the implementation of the state's stormwater treatment rules. Nonpoint source pollution is the biggest cause of water pollution in Florida today, and reducing stormwater pollutant loadings is critical to meeting Total Maximum Daily Loads (TMDLs) established for impaired waters.

1. Project Name: Provide the name of the project. For example, Lake Greenwood Urban Wetland Stormwater Retrofit

2. Project Funding: Provide the total project costs, the matching funds, and the amount of TMDL grant funding requested. Provide the % for matching funds and TMDL grant funds.

3. Lead Organization: This is the entity that is applying for the grant funds and with which DEP will enter into a contract for the project. Also, provide the date on which the Lead Organization's Fiscal Year ends (i.e., December 31, September 30, June 30) and the Lead Organization's Federal Employment Identification Number (FEID)

4. Contact Person: Provide the name and contact information for the person from the Lead Organization that will serve as the project/contract manager.

5. Cooperating Organizations: Provide the name and contact person for any entities that are providing matching funds or in-kind services on the project.

6. Project Abstract: Provide an abstract of the project that includes the name of the water body to which the stormwater BMP discharges, the status of the impaired water body (i.e., BMAP adopted, TMDL adopted, verified list), the number of acres in the drainage area to be treated, the BMPs to be implemented, and the anticipated load reductions.

7. Project Location and Watershed Characteristics: Provide the requested information for the drainage area that will contribute stormwater to the retrofit project.

8. TMDL Status of Water Body: Provide the requested information. Status of impaired water body means one of the following, as applicable: TMDL Adopted, on Adopted Verified List of Impaired Waters, on Planning List of Impaired Waters, on 1999 Consent Decree list. Status of Basin Management Action Plan (BMAP) means one of the following, as applicable: BMAP Adopted, BMAP in development, no BMAP

9. Pollution Reduction Strategy: Summarize the actions, both structural and nonstructural, that will be undertaken as part of the project to reduce stormwater

pollutant loadings to impaired waters. Please state if the project is specifically listed in a Surface Water Improvement and Management (SWIM Plan), National Estuary Program Comprehensive Conservation and Management Plan (CCMP), BMAP, or other watershed or stormwater master plan.

10. Project Objectives: Provide the objectives of the project. For example, the objective of this project is to reduce stormwater pollutant loads to Dirty Lake, an impaired water body with an adopted TMDL, and to educate the public about effective stormwater treatment.

11. Project Description: Provide a brief, but complete, description of each task to be undertaken as part of the project. For each task, include the specific deliverables that will result from the task, and the start date and end date for the task. Some tasks may actually occur before the grant application is submitted such as land acquisition, project design, permitting, etc.

12. Estimated Pollutant Load Reduction: Using the models listed and the Event Mean Concentrations listed in Attachment 1, provide stormwater pollutant load estimates for the existing condition, the condition after the BMP is installed, and the resulting load reductions.

13. Project Milestones: List your tasks from Number 11 and their start and end dates.

14. Project Budget by Category: Provide your budget, for both grant funds and matching funds, by the categories listed. You may add additional categories, as needed.

15. Dedicated Stormwater Funding Information: If matching funds are being provided by a dedicated stormwater funding source, such as a stormwater utility fee, MSBU, MSTU, or infrastructure sales tax, please provide the requested information.

16. Budget by Task: Provide your budget, for both grant funds and matching funds, by task. Tasks should correspond to those listed in Items 11 and 13.

17. Other Funding: List other funding sources that do not serve as matching funds.

18. References Cited: Please list any references cited in your project description

Urban Waters Small Grants
Grant Information

Federal Agency Name: U.S. Environmental Protection Agency, Office of Water, Immediate Office

Funding Opportunity Title: Urban Waters Small Grants

Announcement Type: Request for Proposals (RFP)

Funding Opportunity Number: EPA-OW-IO-12-01

Catalog of Federal Domestic Assistance (CFDA) Number: 66.440

Dates: Hard copy proposals must be received by the EPA Regional Contact (See Section IV.B.2 of this RFP) by **4:00 P.M. Eastern Standard Time (EST) January 23, 2012**. Proposals submitted electronically via http://www.grants.gov must be received by **11:59 P.M. EST January 23, 2012**. Late proposals will not be considered for funding. Questions must be submitted in writing via e-mail and must be received by the Agency Contact identified in Section VII by **January 16, 2012**. Written responses will be posted on EPA"s website at: http://www.epa.gov/urbanwaters/funding.

Following EPA's evaluation of proposals, all applicants will be notified regarding their status. Final applications will be requested from those eligible entities whose proposal have been successfully evaluated and preliminarily recommended for award. Those entities will be provided with instructions and a due date for submittal of the final application package.

Note to Applicants: If you name subawardees/subgrantees and/or contractor(s) in your proposal to assist you with the proposed project, pay careful attention to the information in Section II.C CONTRACTS AND SUBAWARDS.

SUMMARY:
The U.S. Environmental Protection Agency (EPA) is soliciting proposals from eligible applicants for projects that will contribute to improved water quality in urban areas. The goal of the Urban Waters Small Grants is to fund research, studies, training, and demonstration projects that will advance the restoration of urban waters by improving water quality through activities that also support community revitalization and other local priorities. In general, projects should promote a comprehensive understanding of local water quality issues; identify and support activities that address these issues at the local level; engage, educate and empower communities surrounding the urban water body; and benefit surrounding communities including those that have been adversely impacted by the water pollution issues affecting the urban water body.

The funding provided under this announcement supports the following goals of the Fiscal Year (FY) 2006 – 2011 EPA Strategic Plan: Goal 2: Clean and Safe Water, Objective 2.2: Protect Water Quality, Sub-objective 2.2.1: Improve Water Quality on a Watershed Basis. In addition, funding provided under this announcement supports the following goals of the FY 2011 – 2015 EPA Strategic Plan: Goal 2: Protecting America"s Waters, Objective 2.2: Protect and Restore Watershed and Aquatic Ecosystems. Information on the FY 2006 – 2011 EPA Strategic Plan is available at http://nepis.epa.gov/Adobe/PDF/P1001IPK.PDF and information on the FY 2011 – 2015 EPA Strategic Plan is available at http://www.epa.gov/planandbudget/strategicplan.html.

The total estimated funding available for the awards under this competition is up to approximately $3.8 million, with $1.8 million currently available and up to an estimated additional $2 million anticipated in FY 2012. Funding is contingent upon Agency funding levels, the quality of proposals received, and other applicable considerations.

EPA Regional Offices will award the cooperative agreements for projects resulting from this announcement. Approximately three to four cooperative agreements are anticipated to be awarded by each EPA Regional Office with funds currently available. Pending receipt of FY 2012 funds, it is anticipated that each EPA Regional Office may award up to approximately four additional cooperative agreements for projects resulting from this announcement. Applicants may not request more than $60,000 in federal funding – proposals requesting more than $60,000 in federal funds will not be reviewed. While there is no minimum, EPA suggests applicants request at least approximately $40,000 in federal funds. A minimum non-federal cost share / match of $2,500 is required (see Section III.B for information on the cost share / match requirement). It is anticipated that funded cooperative agreements will have a two-year project period.

I. FUNDING OPPORTUNITY DESCRIPTION

A. BACKGROUND

Many urban waters are impaired by pathogens, excess nutrients, and contaminated sediments that result from sanitary sewer and combined sewer overflows, polluted runoff from urban landscapes and contamination from abandoned industrial facilities. Under the Urban Waters Program, EPA is seeking to support communities in their efforts to access, improve, and benefit from their urban waters and the surrounding land. This program also recognizes that certain communities, including minority, low income and those with indigenous populations, are and have been particularly burdened by polluted urban waterways and have not reaped the benefits that healthy, accessible waters can bring.

The objective of EPA‟s Urban Waters Program is to protect and restore America‟s urban waterways. It is also expected that the awards under this program will help promote addressing environmental justice considerations by:

- Addressing water quality issues in communities, such as those containing minority, low income, or indigenous populations, that have been adversely impacted by polluted urban waters; and

- Involving these communities and others in performance of the project including the design, planning and performance of activities that contribute to water quality restoration.

Healthy and accessible urban waters can help grow local businesses and enhance educational, recreational, employment and social opportunities in nearby communities. By promoting public access to urban waterways, EPA will help communities become active participants in restoration and protection. By linking water to other community priorities, such as economic development,

EPA will help to sustain that involvement. By more effectively leveraging existing programs, EPA aims to support projects and build partnerships with a variety of federal, state, tribal, and local partners that foster increased connection, understanding, and stewardship of local waterways.

B. URBAN WATERS SMALL GRANTS

The goal of the Urban Waters Small Grants being competed under this opportunity is to fund research, studies, training, and demonstration projects that will advance the restoration of urban waters by improving water quality through activities that also support community revitalization and local priorities. EPA‟s Urban Waters Small Grants RFP intends to fund proposals for water quality projects located in urban areas. It is anticipated that projects funded under this announcement will promote a comprehensive understanding of local water quality issues; identify and support activities that address these issues at the local level; engage, educate, and empower communities surrounding the water body; and benefit surrounding communities including those that have been adversely impacted by the water pollution issues affecting the urban water body.

In order to achieve the objectives of the program, proposals should address the following elements:

1. Leads to the environmental restoration of an urban water body.

    i. Water Quality Restoration
    Proposals should describe how the project will contribute to environmental restoration of an urban water body. The description should include the characteristics of the project area that identify it as “urban”, using supporting information (such as total population relative to adjacent areas, population density, land use or density of created structures, etc.). The proposal should also describe the urban water body, which may include any body of water, all or an important part of which flows through or is located in the urban project area (e.g., wetlands, rivers, lakes, bays, estuaries, reservoirs, canals, etc.), and describe how the planned work addresses important water quality threats or impairments.

    ii. Relevance to Community Priorities
    Proposals should describe how the proposed project makes water quality restoration of the urban water body relevant to community priorities, which may include public health, social and economic revitalization, and livability goals. Community priorities may be demonstrated through available community information (e.g., documented community interests, community plans, surveys, polls, studies, etc.). The description should include how the project uses community priorities as a way to engage local residents and sustain their engagement over the time horizon required for water quality improvement beyond EPA Urban Waters Small Grants funding.

    iii. Success Potential/Feasibility

Proposals should describe how the proposed project uses a creative or effective approach to restore water quality within the urban area. The description should discuss the readiness of the project (in particular, the project‟s success potential or feasibility).

2. Partnerships.

   Proposals should identify appropriate and necessary partnerships to successfully conduct the project. Effective partnerships are very important to urban waters work. Partnerships between organizations focused on water quality, environmental justice concerns and other community priorities can greatly benefit from one another‟s experience. In their proposals, applicants should demonstrate their ability to identify appropriate and necessary partnerships to successfully conduct the project including how they plan to involve surrounding communities that have been adversely impacted by the water pollution issues affecting the urban water body (e.g., minority, low income or indigenous populations) in the design, planning, and performance of the project.

   Partnerships should include organizations that have the skills, expertise and networks related to environmental justice, community revitalization and other local priorities. Some examples of key partners include local residents, industry businesses, academic institutions, non-profit organizations, communities surrounding the urban water body, and other suitable partners to work on urban water issues. If a working partnership already exists or is under development, the proposal should identify all parties involved, as well as provide a clear description of the roles of each partner in the project‟s components/tasks and how each partner will contribute to the success of the project.

   If a working partnership exists, partnership letters of commitment should be included in the proposal package. Letters of commitment should describe the extent to which the partner will engage with the applicant to help effectively perform the project. If a partnership does not yet exist, proposals should describe how the applicant plans to engage partners and establish working partnerships to successfully complete the project. If the applicant does not intend to have partners, then an explanation should be provided on how it will effectively perform the project without partners. Please do not send letters of endorsement, recommendation, or support; they will not be considered.

3. Benefits to Community.

   Proposals should address how the project will benefit communities surrounding the urban water body that have been impacted by the water pollution issues affecting the urban water body. This includes communities comprised of minority, low income, or indigenous populations, as well as others that may be adversely impacted by the urban water body's water pollution issues. For example, proposals should describe community impacts related to the water pollution, which may include but are not limited to economic, health and environmental conditions as well as how the proposed project will benefit the surrounding communities.

As discussed in Section I.D, the statutory authority for the cooperative agreements to be funded under this announcement is Section 104(b)(3) of the Clean Water Act (CWA). Examples of projects that are eligible for funding under this announcement include, but are not limited to, those that:

- Foster collaboration and/or coordinate a partnership among diverse stakeholders, including industry, environmental groups, upstream and downstream interests (actors), etc., to develop a plan or study. (*Funds cannot be used to implement such a plan).

- Develop educational programs to provide training and recognition to schools, business, and homeowners on how to implement practices that reduce the amount of water pollution and/or stormwater entering the water body, or promote low-impact design (LID) and/or green infrastructure practices.

- Map trails and other walkways along water bodies to identify gaps or areas where additional connectivity is needed (e.g. identify properties for potential acquisition or maintenance).

- Establish a baseline monitoring program for routine water quality monitoring and support and /or establish monitoring to identify areas of concern and possible places where restoration efforts can be effectively targeted.

- Provide education and training related to preparing community members for anticipated jobs in green infrastructure, water quality restoration, or other water quality improvement projects (i.e., green jobs).

If the proposal includes a demonstration project, the applicant must describe how it meets the requirements set forth for demonstration projects, as discussed in Section I.D.

Examples of projects that are **not** eligible for funding under this announcement include, but are not limited to those that:

- Construct community access points such as overlooks, boat launches, and recreation areas;

- Implement stormwater infrastructure improvements, including installation of low-impact development and green infrastructure;

- Carry out community clean-ups;

- Construct habitat for birds and other wildlife along the water body;

- Construct connections between open space to provide corridors for birds and other wildlife; and

- Restore stream banks.

Proposals will be evaluated using the criteria outlined in Section V. Selections and awards will be made by EPA Regional Offices. Under this competition, only one proposal can be submitted per applicant. If an applicant submits more than one proposal, EPA will contact them before the review process begins to determine which one will be withdrawn. For the purposes of this RFP, EPA considers governmental units to be a single applicant per the definition of *Grantee* in 40 CFR 31.3 and they may submit only one proposal to EPA. The Agency will not accept proposals from more than one agency of the same governmental unit. However, applicants may list other eligible applicants as partners on proposals even if the partner also submits a proposal to EPA. Hard copy proposals must be submitted to the appropriate Regional Office, as described in Section IV. For all submittals (hard copy or electronic), the cover page of the Proposal Narrative (see Section IV.C) must include the appropriate Regional Office for the proposal. If an applicant is uncertain which Region to submit their proposal, they should contact Ji-Sun Yi by email at urbanwaters@epa.gov.

C. ENVIRONMENTAL RESULTS AND LINKAGE TO STRATEGIC PLAN

The funding provided under this announcement supports the following goals of the FY 2006 – 2011 EPA Strategic Plan: Goal 2: Clean and Safe Water, Objective 2.2: Protect Water Quality, Sub-objective 2.2.1: Improve Water Quality on a Watershed Basis. In addition, funding under this announcement supports the following goals of the FY 2011 – 2015 EPA Strategic Plan: Goal 2: Protecting America"s Waters, Objective 2.2: Protect and Restore Watershed and Aquatic Ecosystems. Information on the FY 2006 – 2011 EPA Strategic Plan is available at http://nepis.epa.gov/Adobe/PDF/P1001IPK.PDF and information on the FY 2011 – 2015 EPA Strategic Plan is available at http://www.epa.gov/planandbudget/strategicplan.html.

All proposed projects should demonstrate the linkage to both EPA Strategic Plans and include specific statements describing the environmental results of the proposed project in terms of well-defined outputs and, to the maximum extent practicable, well-defined outcomes that will demonstrate how the project will contribute to the overall goals listed above.

Environmental results are a way to gauge a project"s performance and are described in terms of outputs and outcomes. Environmental outputs (or deliverables) refer to an environmental activity, effort, and/or associated work product related to an environmental goal or objective, that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative, but must be measurable during a cooperative agreement funding period.

Examples of anticipated environmental outputs from the cooperative agreements to be awarded under this announcement include, but are not limited to:

- Core partnership is established representing community interests with those living and working in the community, affected by the project, up- and downstream stakeholders and key local, state and federal departments and agencies with regulatory jurisdiction or programmatic assistance.

- Number of outreach education and presentations to residents, businesses, green industry workforce and local/state officials conducted to improve understanding of water quality and community health and environmental issues, and to understand management practices suitable to reduce pollution identified in the management plan.

- Maps are prepared illustrating all properties, current use and types of ownership. Maps are prepared illustrating designated or maintained trails, common paths, sidewalks, and railroad, pipeline and other right-of-ways for potential access.

- Number of new locations and indicators identified for monitoring, number of new volunteer training workshops conducted, and arrangement of laboratory analysis and preparation of a Quality Assurance Project Plan (QAPP).

- Number of green job trainings to improve the knowledge and experience in water quality improvement techniques provided to under-employed and unemployed residents. Number of workshops, educational materials, and other assistance applied during training.

Environmental outcomes are the result, effect, or consequence that will occur from carrying out an environmental program or activity that is related to an environmental or programmatic goal or objective, and are used as a way to gauge a project‟s performance and take the form of output measures and outcome measures. Outcomes may be environmental, behavioral, health-related, or programmatic in nature. Outcomes must be quantitative and may not necessarily be achieved within a cooperative agreement funding period. Outcomes may be short-term (changes in learning, knowledge, attitude, skills), intermediate (changes in behavior, practice, or decisions), or long-term (changes in condition of the natural resource).

Examples of anticipated outcomes from the cooperative agreements to be awarded under this announcement include, but are not limited to:

- Local and state ordinances are enacted / enforced to manage and resolve significant threats identified in the Urban Watershed Management Plan. Environmental and community improvements are undertaken by partners with responsibilities under the management plan.

- Interest is generated and technical support is provided to X number of homeowners, business and community interests to design rain gardens, and other “green” practices that provide direct pollutant removal. As a result of this outreach campaign, X number of low-impact development educational sites are installed.

- „Greən‟ or open space, safe community access to waterways and surroundings are dedicated for public use; local or municipal maintenance is provided to improve community environment and safe access to waterways.

- Knowledge and awareness of baseline conditions are established, areas of concern are identified, and results are transferred to help educate community decisions makers, residents and state and federal agencies.

- Hands-on training and installation of demonstration projects provides a larger workforce knowledgeable of rain gardens and other practices leading to a direct improvement on water quality.

As part of the Proposal Narrative, an applicant will be required to describe how the project results will link the outcomes to both of the Agency‟s Strategic Plans. Additional information regarding EPA‟s discussion of environmental results in terms of outputs and outcomes can be found at: http://www.epa.gov/ogd/grants/award/5700.7.pdf.

D. STATUTORY AUTHORITY

The statutory authority for the cooperative agreements to be funded under this announcement is Section 104(b)(3) of the CWA, 33 USC §1254(b)(3). CWA Section 104(b)(3) restricts the use of these cooperative agreements to the following: conducting or promoting the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects (including health and welfare effects), extent, prevention, reduction, and elimination of water pollution. Projects that are demonstrations must involve new or experimental technologies, methods, or approaches. EPA expects that the results of the project will be disseminated so that others can benefit from the knowledge gained in the demonstration project. A project that is accomplished through the performance of routine, traditional, or established practices, or a project that is simply intended to carry out a task rather than transfer information or advance the state of knowledge, however worthwhile the project might be, is not considered a demonstration project. For proposals that include demonstration projects, the applicant must describe how the project meets the above requirements. Implementation projects are not eligible for funding under this announcement.

II. AWARD INFORMATION

A. AMOUNT OF FUNDING

The total estimated funding available for the awards under this competition is up to approximately $3.8 million, with $1.8 million currently available and up to an estimated additional $2 million anticipated in FY 2012. Funding is contingent upon Agency funding levels, the quality of proposals received, and other applicable considerations.

EPA Regional Offices will award the cooperative agreements for projects resulting from this announcement. Approximately three to four cooperative agreements are anticipated to be awarded by each EPA Regional Office with funds currently available. Pending receipt of FY 2012 funds, it is anticipated that each EPA Regional Office may award up to approximately four additional cooperative agreements for projects resulting from this announcement. Applicants may not request more than $60,000 in federal funding – proposals requesting more than $60,000 in federal funds will not be reviewed. While there is no minimum, EPA suggests applicants

request at least approximately $40,000 in federal funds. A minimum non-federal cost share / match of $2,500 is required (see Section III.B for information on the cost share / match requirement). It is anticipated that funded cooperative agreements will have a two-year project period.

In appropriate circumstances, EPA reserves the right to partially fund a proposal by funding discrete portions or phases of a proposed project. If EPA decides to partially fund a proposal, it will do so in a manner that does not prejudice any applicants or affect the basis upon which the proposal or portion thereof, was evaluated and selected for award, and therefore maintains the integrity of the competition and selection process.

EPA reserves the right to make no awards under this announcement, or make fewer awards than anticipated. In addition, EPA reserves the right to make additional awards under this announcement, consistent with Agency policy and guidance, if additional funding becomes available after the original selections are made. Any additional selections for awards will be made within six months after the original selection decisions.

B. TYPE OF FUNDING

It is anticipated that cooperative agreements will be funded under this announcement. When a cooperative agreement is awarded, EPA will have substantial involvement with the project workplans and budget. Although EPA will negotiate precise terms and conditions relating to substantial involvement as part of the award process, the anticipated substantial federal involvement for a project selected may include:

1. Close monitoring of the recipient"s performance to verify the results proposed by the applicant;
2. Collaboration during the performance of the scope of work;
3. In accordance with the applicable regulations at 40 CFR Parts 30 and 31, review of proposed procurements;
4. Review of qualifications of key personnel (EPA does not have authority to select employees or contractors employed by the recipient);
5. Review and comment on tasks/deliverables and reports prepared under the cooperative agreement(s) (the final decision on the content of these reports rests with the recipient); and
6. Upon request by the recipient and subject to the availability of personnel, EPA will provide the recipient with access to EPA scientific expertise, sampling protocols, publicly available data, and other forms of technical assistance.

C. CONTRACTS AND SUBAWARDS

1. Can funding be used for the applicant to make subawards, acquire contract services, or fund partnerships?

EPA awards funds to one eligible applicant as the recipient even if other eligible applicants are named as partners or co-applicants or members of a coalition or consortium. The recipient is accountable to EPA for the proper expenditure of funds.

Funding may be used to provide subgrants or subawards of financial assistance, which includes using subawards or subgrants to fund partnerships, provided the recipient complies with applicable requirements for subawards or subgrants including those contained in 40 CFR Parts 30 or 31, as appropriate. Applicants must compete contracts for services and products, including consultant contracts, and conduct cost and price analyses, to the extent required by the procurement provisions of the regulations at 40 CFR Parts 30 or 31, as appropriate. The regulations also contain limitations on consultant compensation. Applicants are not required to identify subawardees/subgrantees and/or contractors (including consultants) in their proposal. However, if they do, the fact that an applicant selected for award has named a specific subawardee/subgrantee, contractor, or consultant in the proposal EPA selects for funding does not relieve the applicant of its obligations to comply with subaward/subgrant and/or competitive procurement requirements as appropriate. Please note that applicants may not award sole source contracts to consulting, engineering or other firms assisting applicants with the proposal solely based on the firm's role in preparing the proposal.

Successful applicants cannot use subgrants or subawards to avoid requirements in EPA grant regulations for competitive procurement by using these instruments to acquire commercial services or products from for-profit organizations to carry out its assistance agreement. The nature of the transaction between the recipient and the subawardee or subgrantee must be consistent with the standards for distinguishing between vendor transactions and subrecipient assistance under Subpart B Section .210 of OMB Circular A-133 , and the definitions of subaward at 40 CFR 30.2(ff) or subgrant at 40 CFR 31.3, as applicable. EPA will not be a party to these transactions. Applicants acquiring commercial goods or services must comply with the competitive procurement standards in 40 CFR Part 30 or 40 CFR Part 31.36 and cannot use a subaward/subgrant as the funding mechanism.

2. How will an applicant‟s proposed subawardees/subgrantees and contractors be considered during the evaluation process described in Section V of the announcement?

Section V of the announcement describes the evaluation criteria and evaluation process that will be used by EPA to make selections under this announcement. During this evaluation, except for those criteria that relate to the applicant's own qualifications, past performance, and reporting history, the review panel will consider, as appropriate and relevant, the qualifications, expertise, and experience of:

(i) an applicant's named subawardees/subgrantees identified in the proposal if the applicant demonstrates in the proposal that if it receives an award that the subaward/subgrant will be properly awarded consistent with the applicable regulations in 40 CFR Parts 30 or 31. For example, applicants must not use subawards/subgrants to obtain commercial services or products from for-profit firms or individual consultants.

(ii) an applicant's named contractor(s), including consultants, identified in the proposal if the applicant demonstrates in its proposal that the contractor(s) was selected in compliance with the competitive Procurement Standards in 40 CFR Part 30 or 40 CFR 31.36 as appropriate. For example, an applicant must demonstrate that it

selected the contractor(s) competitively or that a proper non-competitive sole-source award consistent with the regulations will be made to the contractor(s), that efforts were made to provide small and disadvantaged businesses with opportunities to compete, and that some form of cost or price analysis was conducted. EPA may not accept sole source justifications for contracts for services or products that are otherwise readily available in the commercial marketplace.

EPA will not consider the qualifications, experience, and expertise of named subawardees / subgrantees and/or named contractor(s) during the proposal evaluation process unless the applicant complies with these requirements.

III. ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS

States, local governments, territories, Indian Tribes, and possessions of the U.S. (including the District of Columbia), public and private universities and colleges, public or private nonprofit institutions, intertribal consortia, and interstate agencies are eligible to apply. Individuals, for-profit commercial entities and all federal agencies are not eligible to apply. Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act 1995 are not eligible to apply.

The term "interstate agency" is defined in CWA Section 502 as "an agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or any other agency of two or more States, having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator."

An intertribal consortium is a partnership between two or more tribes that is authorized by the governing bodies of those tribes to apply for and receive assistance (see 40 CFR 35.502.). The intertribal consortium is eligible only if the consortium demonstrates that all of its members meet the eligibility requirements and authorize the consortium to apply for and receive assistance in accordance with 40 CFR 35.504 at the time of proposal submission. An intertribal consortium must submit with its proposal to EPA adequate documentation of the existence of the partnership and the authorization of the consortium by its members to apply for and receive the grant (see 40 CFR 35.504.).

Nonprofit organizations may be asked to provide documentation that they meet the definition of a nonprofit organization in OMB Circular A-122, now at 2 CFR Part 230. The OMB Circular A-122 is available at http://www.whitehouse.gov/omb/circulars_a122_2004/. Interstate agencies may be asked to provide a citation to the statutory authority, which establishes their status.

B. COST SHARING / MATCH REQUIREMENTS

For this RFP, EPA has determined that **an applicant must provide a minimum of $2,500 as the non-federal cost share / match.**

The non-federal cost share / match may be provided in cash or can come from in-kind contributions, such as use of volunteers and/or donated time, equipment, expertise, etc., and is subject to the regulations governing matching fund requirements described in 40 CFR 30.23 or 40 CFR 31.24, as applicable. In-kind contributions often include salaries or other verifiable costs and this value must be carefully documented. In the case of salaries, applicants may use either minimum wage or fair market value. Cost share / match must be used for eligible and allowable project costs. Cost share / matching funds are considered grant funds and are included in the total award amount and should be used for the reasonable and necessary expenses of carrying out the workplan. All grant funds are subject to federal audit. Any restrictions on the use of grant funds (examples of restrictions are outlined in Section III.D of this announcement) also apply to the use of cost share / match. Other federal grants may not be used as cost share / match without specific statutory authority. **In order to be considered for funding, all applicants must describe in their proposal submission how they will contribute the appropriate cost share / match requirement.**

Indian Tribes may be exempt from this cost share / match requirement if fulfilling the cost share / match requirement would impose undue hardship. Tribal governments wishing to be exempt from the minimum $2,500 cost share / match requirement must submit a one-page written request via e-mail to the Agency contact identified in Section VII with justification within 30 calendar days from the date of issuance of this announcement. EPA will notify the potential applicant of its decision within 10 business days of receipt of the written request. If the cost share / match exemption is approved, the proposal will be reviewed for threshold eligibility as satisfying the $2,500 cost share / match.

C. THRESHOLD ELIGIBILITY CRITERIA

Proposals must meet the following threshold criteria in order to be considered for funding. Only proposals that meet all of these criteria will be considered eligible and evaluated against the ranking factors in Section V of the announcement. Applicants deemed ineligible for funding consideration as a result of the threshold eligibility review will be notified within 15 calendar days of the ineligibility determination.

1. An applicant must meet the eligibility requirements in Section III.A of this announcement.
2. Proposals must **substantially comply** with the proposal submission instructions and requirements set forth in Section IV of this announcement or else they will be rejected. Where a page limit is expressed in Section IV.C.3 with respect to the Proposal Narrative, pages in excess of the page limitation will not be reviewed. Section IV.C.3 establishes a 10-page, single-spaced Proposal Narrative page limit that includes the cover page.
3. Proposals must be in compliance with CWA 104(b)(3) and include projects that conduct or promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. Projects that are demonstrations must involve new or experimental technologies, methods, or approaches. A project that is accomplished through the performance of routine, traditional, or

established practices, or a project that is simply intended to carry out a task rather than transfer information or advance the state of knowledge, however worthwhile the project might be, is not considered a demonstration project. For proposals that include demonstration projects, the applicant must describe how the project meets the above requirements. Implementation projects are not eligible for funding under this announcement.

4. Proposals requesting federal funds in excess of $60,000 will not be reviewed.
5. Applicants must demonstrate in their proposal how they will provide the minimum required non-federal cost share/match of $2,500 as described in Section III.B.
6. Proposals must be received by EPA or received through Grants.gov, as specified in Section IV of this announcement, on or before the proposal submission deadline published in Section IV of this announcement. If submitting a hard copy proposal, applicants are responsible for ensuring that their proposal reaches the designated person / office specified in Section IV of the announcement by the submission deadline.
7. If the applicant chooses to submit a hard copy of the proposal, it must be submitted by hand delivery, express delivery service, or courier service. **Hard copy proposals submitted by any type of regular U.S. Postal Service mail will not be considered. EPA will not accept faxed or emailed submissions.**
8. Proposals received after the submission deadline will not be considered unless the applicant can clearly demonstrate that it was late due to EPA mishandling or because of technical issues attributable to grants.gov. For hard copy submissions, where Section IV requires proposal receipt by a specific person / office by the submission deadline, receipt by an agency mailroom is not sufficient. Applicants should confirm receipt of their proposal with the appropriate Regional EPA contact listed in Section IV.B.2 as soon as possible after the submission deadline; failure to do so may result in your proposal not being reviewed.
9. Only one proposal per applicant can be submitted under this RFP. If an applicant submits more than one proposal, EPA will contact them before the review process begins to determine which one will be withdrawn.

D. FUNDING RESTRICTIONS

All costs incurred under this program must be allowable under the applicable Office of Management and Budget (OMB) Cost Circulars: A-87 (States and local governments), A-122 (nonprofit organizations), or A-21 (universities). Copies of these circulars can be found at http://www.whitehouse.gov/omb/circulars/. In accordance with EPA policy and the OMB circulars, as appropriate, any recipient of funding must agree not to use assistance funds for lobbying, fund-raising, or political activities (i.e., lobbying members of Congress or lobbying for other federal grants, assistance agreements, or contracts). Funds cannot be used to pay for travel by federal agency staff. Proposed project activities must also comply with all state and federal regulations applicable to the project area. It is the responsibility of the applicant to ensure compliance.

IV. APPLICATION AND SUBMISSION INFORMATION

A. APPLICATION PACKAGES

Grant application forms, including Standard Forms (SF) 424 and SF 424A, are available at http://www.epa.gov/ogd/grants/how_to_apply.htm and by mail upon request by calling the Grants and Interagency Agreements Management Division at (202) 564-5320.

B. FORM OF APPLICATION SUBMISSION

Applicants have the option to submit their proposals in **one** of two ways: 1) electronically via www.grants.gov **or** 2) hard copy and CD by overnight delivery, hand delivery, or courier service to the EPA contact identified in Section IV.B.2. Proposals that are submitted via regular U.S. Postal mail, FAX or e-mail **will not** be considered. All proposals must be prepared, and include the information, as described in Section IV.C. CONTENT OF PROPOSAL SUBMISSION, regardless of mode of submission.

As discussed in Section I.B, selections and awards will be made by EPA Regional Offices. For hard copy submissions (electronic submittals are sent through grants.gov), the appropriate EPA Regional Office to send the proposal to is determined by the geographic location of the project, not the location of the applicant. For example, if the proposed project takes places in Louisiana, the proposal should be submitted to EPA Region 6 (see Section IV.B.2). If the project location is served by two or more EPA Regions (for example, the project is located in both Pennsylvania (served by EPA Region 3) and New Jersey (served by EPA Region 2)), the applicant must submit the proposal to the appropriate EPA Regional Office based on where the majority of the work will take place. Only one proposal per applicant can be submitted. For all submittals (hard copy or electronic), the cover page of the Proposal Narrative (see Section IV.C) must include the appropriate Regional Office for the proposal. If an applicant is uncertain which Region to submit their proposal to, they should contact Ji-Sun Yi by email at urbanwaters@epa.gov.

1. Grants.gov Submission

Applicants who wish to submit their materials electronically through the Federal government"s Grants.gov web site may do so. Grants.gov allows an applicant to download an application package template and complete the package offline based on agency instructions. After an applicant completes the required application package, it can submit the package electronically to Grants.gov, which transmits the package to the funding agency.

The electronic submission of your proposal must be made by an official representative of your institution who is registered with Grants.gov and is authorized to sign applications for Federal assistance. For more information, go to http://www.grants.gov and click on "Get Registered" on the left side of the page.

Note that the registration process may take a week or longer to complete. If your organization is not currently registered with Grants.gov, please encourage your office to designate an Authorized Organization Representative (AOR) and ask that individual to begin the registration process as soon as possible.

To begin the proposal process under this grant announcement, go to http://www.grants.gov and click on the "Apply for Grants" tab on the left side of the page. Then click on "Apply Step 1:

Download a Grant Application Package" to download the compatible Adobe viewer and obtain the application package. **To apply through Grants.gov you must use Adobe Reader applications and download the compatible Adobe Reader version (Adobe Reader applications are available to download free on the Grants.gov website).** For more information on Adobe Reader, please visit the Help Section on grants.gov at http://www.grants.gov/help/help.jsp or. http://www.grants.gov/aboutgrants/program_status.jsp.

Once you have downloaded the viewer, you may retrieve the proposal package by entering the Funding Opportunity Number, **EPA-OW-IO-12-01**, or the CFDA number that applies to the announcement (CFDA 66.440), in the appropriate field. You may also be able to access the proposal package by clicking on the Application button at the top right of the synopsis page for this announcement on http://www.grants.gov (to find the synopsis page, go to http://www.grants.gov and click on the "Find Grant Opportunities" button on the left side of the page and then go to Search Opportunities and use the Browse by Agency feature to find EPA opportunities).

Proposal Submission Deadline

Your organization"s AOR must submit your complete proposal electronically to EPA through Grants.gov (http://www.grants.gov) no later than **11:59 PM EST January 23, 2012.**

Please submit *all* of the proposal materials described below.

Proposal Materials

The following forms and documents are required to be submitted under this announcement:

I. Application for Federal Assistance (SF-424).

II. Budget Information for Non-Construction Programs (SF-424A).

III. Proposal Narrative - prepared as described in Section IV.C of this announcement.

The proposal package *must* include all of the following materials:

I. Standard Form (SF) 424, Application for Federal Assistance

Complete the form. There are no attachments. Please be sure to include the organization fax number and e-mail address in Block 5 of the Standard Form SF 424.

Please note that the organizational Dun and Bradstreet (D&B) Data Universal Number System (DUNS) number must be included on the SF-424. Organizations may obtain a DUNS number at no cost by calling the toll-free DUNS number request line at 1-866-705-5711.

II. Standard Form SF 424A – Budget Information:

Complete the form. There are no attachments. The total amount of Federal funding requested for the project period should be shown on line 5(e) and on line 6(k) of SF-424A. If indirect costs are included, the amount of indirect costs should be entered on line 6(j). The indirect cost rate (i.e., a percentage), the base (e.g., personnel costs and fringe benefits), and the amount should also be indicated on line 22.

III. Proposal Narrative

Prepare the Proposal Narrative in accordance with the instructions in Section IV.C.3 of this announcement. The document should be readable in PDF or MS Word and consolidated into a single file.

Proposal Preparation and Submission Instructions

Documents I through III listed under Proposal Materials above should appear in the "Mandatory Documents" box on the Grants.gov Grant Application Package page.

For documents I and II, click on the appropriate form and then click "Open Form" below the box. The fields that must be completed will be highlighted in yellow. Optional fields and completed fields will be displayed in white. If you enter an invalid response or incomplete information in a field, you will receive an error message. When you have finished filling out each form, click "Save." When you return to the electronic Grant Application Package page, click on the form you just completed, and then click on the box that says, "Move Form to Submission List." This action will move the document over to the box that says, "Mandatory Completed Documents for Submission."

For document III, Proposal Narrative, you will need to attach electronic files. Prepare your proposal narrative as described in Section IV.C.3 of the announcement and save the document to your computer as an MS Word or PDF file. When you are ready to attach it to the application package, click on "Project Narrative Attachment Form," and open the form. Click "Add Mandatory Project Narrative File," and then attach your proposal narrative (previously saved to your computer) using the browse window that appears. You may then click "View Mandatory Project Narrative File" to view it. Enter a brief descriptive title of your project in the space beside "Mandatory Project Narrative File Filename;" the filename should be no more than 40 characters long. If there other attachments that you would like to submit to accompany your proposal narrative, you may click "Add Optional Project Narrative File" or use the "Other Attachments" form and proceed as before. When you have finished attaching the necessary documents, click "Close Form." When you return to the "Grant Application Package" page, select the "Project Narrative Attachment Form" and click "Move Form to Submission List" The form should now appear in the box that says, "Mandatory Completed Documents for Submission."

Once you have finished filling out all of the forms/attachments and they appear in one of the "Completed Documents for Submission" boxes, click the "Save" button that appears at the top of the Web page. It is suggested that you save the document a second time, using a different name, since this will make it easier to submit an amended package later if necessary. Please use the

following format when saving your file: "Applicant Name – FY12 – Urban Waters Small Grants – 1st Submission" or "Applicant Name – FY 12 Urban Waters Small Grants – Back-up Submission."

Once your proposal package has been completed and saved, send it to your AOR for submission to U.S. EPA through Grants.gov. Please advise your AOR to close all other software programs before attempting to submit the proposal package through Grants.gov.

In the "Application Filing Name" box, your AOR should enter your organization"s name (abbreviate where possible), the fiscal year (e.g., FY12), and the grant category (e.g., Urban Waters Small Grants). The filing name should not exceed 40 characters. From the "Grant Application Package" page, your AOR may submit the application package by clicking the "Submit" button that appears at the top of the page. The AOR will then be asked to verify the agency and funding opportunity number for which the application package is being submitted. If problems are encountered during the submission process, the AOR should reboot his/her computer before trying to submit the proposal package again. [It may be necessary to turn off the computer (not just restart it) before attempting to submit the package again.] If the AOR continues to experience submission problems, he/she may contact Grants.gov for assistance by phone at 1-800-518-4726, or e-mail at http://www.grants.gov/help/help.jsp, or contact Ji-Sun Yi at 1-202-566-0730, or e-mail at urbanwaters@epa.gov.

Proposal packages submitted thru Grants.gov will be time/date stamped electronically.

If you have not received a confirmation of receipt from EPA (*not from Grants.gov*) within 30 days of the proposal deadline, please contact **Ji-Sun Yi as indicated above.** Failure to do so may result in your proposal not being reviewed.

2. Hard Copy and Compact Disc (CD) Submission

Two hard copies of all required documents listed in Section IV.C, CONTENT OF APPLICATION SUBMISSION, and an electronic version on a CD, are required to be sent by express delivery service, courier service, or hand delivered to the appropriate EPA Regional contact mailing address listed below. States / territories served by each Region are provided in parentheses. These Regional contacts are listed for the sole purpose of where applicants should send their hard copies. Please do not contact Regions with questions regarding this announcement. To help ensure that responses are consistent and made available to all potential applicants, all questions must be submitted in writing via email to urbanwaters@epa.gov, as specified in Section VII.

As noted above, the proposal must be submitted to the appropriate EPA Regional Office that serves the project location. If the project location is served by two or more EPA Regions (for example, the project is located in both Pennsylvania (served by EPA Region 3) and New Jersey (served by EPA Region 2), the applicant must submit the proposal to the appropriate EPA Regional Office based on where the majority of the work will take place. Only one proposal per applicant can be submitted. The cover page of the Proposal Narrative (see Section IV.C) must include the appropriate Regional Office for the proposal. If an applicant is uncertain which

Region to submit their proposal, they should contact Ji-Sun Yi, by e-mail at urbanwaters@epa.gov.

Please mark all submissions: **ATTN: FY12 URBAN WATERS SMALL GRANTS RFP**. The electronic version copied on the CD may be in PDF or MS Word format. Annotated resumes (preferably no more than two pages each) may need to be scanned so that they can be submitted electronically as part of the CD. Proposal submissions sent by hard copy with CD must be received by the appropriate Regional Office identified below by **4:00 P.M. EST January 23, 2012.**

Hard copy proposal submission contacts:

Region 1 (CT, MA, ME, NH, RI, VT)
Caitlyn Whittle
U.S. EPA Region 1
5 Post Office Square
Suite 100 (OEP06-1)
Boston, MA 02109-3912
(617) 918.1748
whittle.caitlyn@epa.gov

Region 2 (NJ, NY, PR, Virgin Islands)
Cyndy Kopitsky
U.S. EPA Region 2
290 Broadway, 24th Floor
New York, NY 10007-1866
(212) 637.3832
kopitsky.cyndy@epa.gov

Region 3 (DC, DE, MD, PA, VA, WV)
Catherine King
U.S. EPA Region 3 (3WP10)
1650 Arch Street
Philadelphia, PA 19103
(215) 814.2657
king.catherine@epa.gov

Region 4 (AL, FL, GA, KY, MS, NC, SC, TN)
Franklin Baker
U.S. EPA Region 4 (9T25)
61 Forsyth Street, SW
Atlanta, GA 30303
(404) 562.9757
baker.frank@epa.gov

Region 5 (IL, IN, MI, MN, OH, WI)

Peg Donnelly
U.S. EPA Region 5 (WQ-16J)
77 West Jackson Boulevard
Chicago, IL 60604
(312) 886.6109
donnelly.peggy@epa.gov

Region 6 (AR, LA, NM, OK, TX)
Adele Cardenas
U.S. EPA Region 6 (6WQ)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
(214) 665.7210
cardenas.adele@epa.gov

Region 7 (IA, KS, MO, NE)
Jennifer Ousley
U.S. EPA Region 7 (WWPD/WPIB)
901 N. 5th Street
Kansas City, KS 66101
(913) 551.7498
ousley.jennifer@epa.gov

Region 8 (CO, MT, ND, SD, UT, WY)
Stacey Eriksen
U.S. EPA Region 8 (8EPR-EP)
1595 Wynkoop Street
Denver, CO 80202-1129
(303) 312.6692
eriksen.stacey@epa.gov

Region 9 (AZ, CA, HI, NV, Guam, Northern Mariana Islands)
Jared Vollmer
U.S. EPA Region 9 (WTR-3)
75 Hawthorne Street
San Francisco, CA 94105
(415) 972.3447
vollmer.jared@epa.gov

Region 10 (AK, ID, OR, WA)
Mary Lou Soscia
U.S. EPA Region 10
Oregon Operations Office (OOO)
805 S.W. Broadway, Suite 500
Portland, OR 97205
(503) 326.5873

soscia.marylou@epa.gov

C. CONTENT OF APPLICATION SUBMISSION

Applicants must read the following section very closely. A complete proposal package must include the following three documents described below:

1. **Signed Standard Form (SF) 424, Application for Federal Assistance**.
Complete the form. There are no attachments. Please be sure to include organization fax number and e-mail address in Block 5 of the SF 424.

Please note that the organizational Dun and Bradstreet (D&B) Data Universal Number System (DUNS) number must be included on the SF 424. Organizations may obtain a DUNS number at no cost by calling the toll-free DUNS number request line at 1-866-705-5711 or by visiting the website at www.dnb.com.

2. **SF 424A, Budget Information for Non-Construction Programs**.
Complete the form. There are no attachments. The total amount of federal funding requested for the project should be shown on line 5(e) and on line 6(k) of the SF-424A. If indirect costs are included, the amount of indirect costs should be entered on line 6(j). The indirect cost rate (a percentage), the base (e.g., personnel costs and fringe benefits), and the amount should also be indicated on line 22. If indirect costs are requested, a copy of the Negotiated Indirect Cost Rate Agreement must be submitted as part of the application package. In Section B, Budget Categories column (1) should be filled out for federal funds, column (2) should be filled out for non-federal cost share/match, if applicable.

3. **Proposal Narrative**

> **NOTE: The Proposal Narrative (including cover page) must be limited to no more than 10 single-spaced, typewritten 8.5x11-inch pages (a page is one side of paper). Pages should be consecutively numbered for ease of reading. It is recommended that applicants use a standard 12-point type with 1-inch margins. While these guidelines establish the minimum type size recommended, applicants are advised that readability is of paramount importance and should take precedence in selection of an appropriate font for use in the proposal. Additional pages beyond the 10-page single-spaced limit will not be considered.** Supporting materials (such as annotated resumes, letters of commitment, documentation of community priorities, grant forms, etc.) do not have to be within the page limit. Documentation pertaining to Quality Assurance/Quality Control is also not covered by the page limit.

The **Proposal Narrative, including items 1-2 below,** must be typewritten and must include the information described below. If a particular item is not applicable, clearly state this.

1. **Cover Page** including:
    i. Name of Applicant;

    ii. Regional Office for the Proposal;

iii. Urban Project Area and Name of Urban Water Body;

iv. Project Title (the project title should reflect the main project outcome/objective and should be 15 words or less);

v. Key personnel and contact information (i.e., e-mail address and phone number);

vi. Total project cost (specify the amount of federal funds requested, the non-federal cost share / match, and the total project cost); and

vii. Abstract (the abstract should begin with one or two sentences describing the main objective of the proposal. It should also include a listing of the main tasks to be accomplished, and a description of the anticipated outputs and outcomes. The entire abstract should be 250 words or less).

2. Project description containing:

a) Technical Approach – The technical approach should include a description of how the project addresses the following elements as discussed in Section I.B of this announcement.

i. Water Quality Restoration – Refer to Section I.B.

ii. Relevance to Community Priorities – Refer to Section I.B.

iii. Success Potential/Feasibility – Refer to Section I.B.

b) Partnerships – Refer to Section I.B.

c) Benefits to Community – Refer to Section I.B.

d) Environmental Results and Measuring Progress -

i. Stated Objective/Link to EPA Strategic Plan - List the objective of the project and describe the linkage to the EPA Strategic Plans (see Section I.C of this announcement). The Urban Waters Small Grants support the following goals of the FY 2006 – 2011 EPA Strategic Plan: Goal 2: Clean and Safe Water, Objective 2.2: Protect Water Quality, Sub-objective 2.2.1: Improve Water Quality on a Watershed Basis. In addition, the Urban Waters Small Grants support the following goals of the FY 2011 – 2015 EPA Strategic Plan: Goal 2: Protecting America‟s Waters, Objective 2.2: Protect and Restore Watershed and Aquatic Ecosystems.

ii. Results of Activities (Outputs) - List the products/results which are expected to be achieved from accomplishment of the project activities and an approach for tracking your progress toward achieving the expected project output(s) (examples of outputs can be found in Section I.C of this announcement).

iii. Anticipated Environmental Improvement (Outcomes) - List the anticipated environmental improvements to be accomplished as a result of the project activities. These improvements are changes or benefits to the environment which are a result from the accomplishment of project outputs. Describe an approach for tracking your progress toward achieving the expected project outcome(s) (examples of outcomes can be found in Section I.C of this announcement).

e) Milestone Schedule – Provide a projected milestone schedule that covers each year of the total grant period request and provides a breakout of the project activities into phases with associated tasks and a timeframe for completion of tasks. The project start date will follow award acceptance by the successful applicants.

f) Transfer of Results – Provide a description of how the applicant will transfer the results of the project to state, tribal, and local governmental agencies, other community and watershed organizations, public and private organizations, and/or other interested stakeholders. For example, the applicant could create opportunities for sharing best practices and lessons learned in the form of meetings, web casts, or other mechanisms.

g) Detailed Budget Narrative – Provide a detailed budget and estimated funding amounts for each project component/task. Identify the requested federal dollars, demonstrate how the non-federal cost share / match will be met and provide a total project cost. This section provides an opportunity for narrative description of the budget or aspects of the budget found in the SF 424A (i.e., personnel, travel, contractual, other). All subgrant funding should be located under the "other" category. Helpful tips on writing a budget may be found at http://www.epa.gov/ogd/recipient/tips.htm.

i. Total costs must include separate breakdowns for federal costs and non-federal cost share / matching components (a minimum $2,500 non-federal cost share / match is required). Explain if and how partners will contribute to the required cost share / match. Attach letters of commitment from intended cost share / match partners, to your proposal. Letters

of commitment are not counted in the page limit and should be submitted on applicable letterhead. Describe cost-effectiveness, reasonableness of costs, and value of in-kind contributions. If applicable, include any travel for applicant staff to attend any necessary meetings throughout the proposed project period, including having one representative from the recipient organization attend the Urban Waters Small Grants National Training Workshop (see Section VI.K of this announcement for additional information). Describe itemized costs in sufficient detail for EPA to determine the reasonableness and allowability of costs for each project component/task.

ii. When formulating budgets for proposals, the applicant must not include management fees or similar charges in excess of the direct costs and indirect costs at the rate approved by the applicant‟s cognizant audit agency, or at the rate provided for by the terms of the agreement negotiated with EPA. The term "management fees or similar charges" refers to expenses added to the direct costs in order to accumulate and reserve funds for ongoing business expenses, unforeseen liabilities, or for other similar costs that are not allowable under EPA assistance agreements. Management fees or similar charges may not be used to improve or expand the project funded under this agreement, except to the extent authorized as a direct cost of carrying out the scope of work.

h) Programmatic Capability/Specialized Experience
   i. Organizational Experience – Provide a brief description of your organizational experience related to the proposed project, and your infrastructure as it relates to your ability to successfully implement the proposed project.

   ii. Staff Expertise/Qualifications – Provide a list of key staff and briefly describe their expertise/qualifications and knowledge, and describe your resources or the ability to obtain them to successfully achieve the goals of the project. Include an estimate of the number of full-time equivalent (FTE) workers (based on 2080 hours per year/FTE). List proposed partner entities, and describe their roles, and whether they will participate as subgrantees. Annotated resumes of applicant‟s key staff (no more than two pages each) are also encouraged and are not included in the page limit.

i) Past Performance – Briefly describe federally and/or non-federally funded assistance agreements (an assistance agreement is a grant

or cooperative agreement and not a contract) similar in size, scope, and relevance to the proposed project that your organization performed within the last five years (no more than three such agreements and preferably EPA agreements) and:

i. Describe whether, and how, you were able to successfully complete and manage those agreements.

ii. Describe your history of meeting the reporting requirements under those agreements including submitting acceptable final technical reports.

iii. Describe how you documented and/or reported on whether you were making progress towards achieving the expected results (i.e., outputs and outcomes) under those agreements. If you were not making progress, please indicate whether, and how, you documented why not.

Note: In evaluating the applicant‟s past performance, the Agency will consider the information supplied by the applicant in its proposal, and may also consider relevant information from other sources including Agency files (e.g., Grantee Compliance Database) and prior/current grantors (e.g., to verify and/or supplement the information provided the by applicant). If you do not have any relevant or available past performance information, please indicate this in the proposal and you will receive a neutral score for these factors under Section V. Failure to provide any past performance information, or to include a statement in the proposal that you do not have any relevant or available past performance or reporting information, may result in a zero score for these factors (see also Section V).

j) Quality Assurance/Quality Control (QA/QC) (not included in the page limit) – If you plan to collect or use environmental data or information, explain how you will comply with the Quality Assurance/Quality Control requirements (see Section VIII.A QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) of this announcement for additional information).

NOTE: The applicant should also provide in its Proposal Narrative any additional information, to the extent not already identified above, that addresses the selection criteria found in Section V.

D. SUBMISSION DATES AND TIMES

Proposals submitted by hard copy with CD must be **received** by the appropriate EPA Regional Office contact identified in Section IV.B.2 by **4:00 P.M. EST January 23, 2012.** Proposals

submitted electronically via http://www.grants.gov must be **received** by **11:59 P.M. EST January 23, 2012**. Late proposals will not be considered for funding.

E. CONFIDENTIAL BUSINESS INFORMATION

EPA recommends that you do not include confidential business information ("CBI") in your proposal. However, if CBI is included, it will be treated in accordance with 40 CFR 2.203. Applicants must clearly indicate which portion(s) of their proposal they are claiming as CBI. EPA will evaluate such claims in accordance with 40 CFR Part 2. If no claim of confidentiality is made, EPA is not required to make the inquiry to the applicant otherwise required by 40 CFR 2.204(c)(2) prior to disclosure. The Agency protects competitive proposals from disclosure under applicable provisions of the Freedom of Information Act prior to the completion of the competitive selection process.

V. Application Review Information

A. SELECTION CRITERIA

All eligible proposals, based on the Section III threshold eligibility review, will be evaluated based on the evaluation criteria and weights below (100-point scale). Points will be awarded based on how well and thoroughly each criterion and/or sub-criterion is addressed in the proposal package.

1) Technical Approach (30 points)	Under this criterion, applicants will be evaluated based on the extent and quality to which the proposal demonstrates how the project addresses the following elements as described in Section I.B: a) Water Quality Restoration – How well the proposal identifies the project area as "urban" and how well the proposed project will contribute to future environmental restoration of the urban water body. Restoration efforts include addressing important water quality threats or impairments. (15 points) b) Relevance to Community Priorities – How well the proposed project makes water quality restoration of the urban water body relevant to community priorities and strives to engage local residents in a sustainable way. (5 points) c) Success Potential/Project Feasibility – How well the proposed project demonstrates a creative or effective approach to restoring water quality within the urban area and is prepared to begin work. (10 points)

2) Partnerships (8 points)	Under this criterion, applicants will be evaluated based on their ability to demonstrate appropriate and necessary partnerships to successfully conduct the project (as described in Section I.B) including whether they have provided a clear description of the roles of specific partners in the project's components/tasks, and how these partnerships will contribute to the success of the proposed projects, and the extent to which communities surrounding the urban water body (including but not limited to minority, low income, or indigenous population communities) are participating in the project. (8 points)
3) Benefits to Community (7 points)	Proposals will be evaluated based on the extent to which they demonstrate how they will benefit communities surrounding the urban water body (as described in Section I.B) that have been impacted by the water pollution issues affecting the urban water body. This includes communities comprised of minority, low income, or indigenous populations, as well as others that may be adversely impacted by the urban water body"s water pollution issues. (7 points)
4) Milestone Schedule/Detailed Budget/Transfer of Results (15 points)	Proposals will be evaluated based on the extent and quality to which the proposal demonstrates the following: a) Clearly articulated milestone schedule for project tasks. (5 points) b) Reasonableness of the budget and estimated funding amounts for each project task. Applicants will be evaluated based on: the adequacy of the information provided in the detailed budget; whether the proposed costs are reasonable and allowable; and how well the applicant demonstrated cost-effectiveness and value of the project. Total project costs must include both federal and required cost share / match (non-federal) components. (5 points) c) How well the applicant will transfer the results of the proposed project to state, tribal, and local governmental agencies, other community and watershed organizations, and/or other interested stakeholders. (5 points)

5) Environmental Results (20 points)	Proposals will be evaluated based on the following elements: a) The extent and quality to which the proposal demonstrates potential environmental results, anticipated outputs and outcomes, and how the outcomes are linked to EPA's Strategic Plans (see Section I of announcement). (10 points) b) The extent and quality to which the proposal demonstrates a sound plan for tracking progress toward achieving the expected outputs and outcomes (examples of outputs and outcomes are provided in Section I.C of the announcement). (10 points)
6) Programmatic Capability/Specialized Experience (10 points)	Under this criterion proposals will be evaluated based on the applicant"s ability to successfully complete and manage the proposed project taking into account the applicant"s: a) Organizational experience related to the proposed project, and their infrastructure as it relates to their ability to successfully implement the proposed project. (5 points) b) Staff experience/qualifications, staff knowledge, and resources, or the ability to obtain them, to successfully implement the proposed project. (5 points)
7) Past Performance (10 points)	Under this criterion, applicants will be evaluated based on their ability to successfully complete and manage the proposed project taking into account their: a) Past performance in successfully completing and managing federally and/or non-federally funded assistance agreements (an assistance agreement is a grant or cooperative agreement and not a contract) similar in size, scope, and relevance to the proposed project performed within the last five years (no more than three, and preferably EPA agreements). (4 points) b) History of meeting reporting requirements under federally and/or non-federally funded assistance agreements (an assistance agreement is a grant or cooperative agreement and not a contract) similar in size, scope, and relevance to the proposed project performed within the last five years (no more than three, and preferably EPA agreements) and submitting acceptable final technical reports under these agreements. (3 points)

	c) Extent and quality to which they documented and/or reported on their progress towards achieving the expected results (e.g. outcomes and outputs) under federally and/or non-federally funded assistance agreements (an assistance agreement is a grant or cooperative agreement and not a contract) performed in the last 5 years (no more than three, and preferably EPA agreements), and if such progress was not being made, whether the applicant adequately documented why not. (3 points) Note: In evaluating applicants under this criterion, the Agency will consider the information supplied by the applicant in its proposal, and may also consider relevant information from other sources including Agency files (e.g. Grantee Compliance Database) and prior/current grantors (e.g., to verify and/or supplement the information provided by the applicant). Applicants who have no relevant or available past performance information will receive a neutral score for these factors (i.e., 2 points for subcriterion a), 1.5 points for subcriterion b), and 1.5 points for subcriterion c)). Failure to provide any past performance information, or to include a statement in your proposal that you do not have any relevant or available past performance information, may result in a zero score for the factors.

B. REVIEW AND SELECTION PROCESS

Each Regional Office will review proposal submissions for proposed projects located in its associated geographic region. A proposal where the project location is served by two or more Regional Offices will be reviewed by the Regional Office to which the proposal was submitted to as described in Section IV.B.

All proposals received by EPA in hard copy or via grants.gov by the submission deadline will first be screened by EPA Regional staff against the threshold criteria in Section III of the announcement. Proposals that do not pass the threshold review will not be evaluated further or considered for funding.

All eligible proposals will then be evaluated by a Regional review panel, which will be composed of EPA staff, and which may also include representatives from other federal agencies that are part of the Urban Waters Federal Partnership. Evaluations will be based on the 100-point scale described in Section V.A above. Proposals will be ranked based on the reviewers‟ scores, and the scores and rankings will be provided to the EPA Regional Selection Official(s) for final funding decisions. In making the final funding decisions, the Regional Selection Officials may also consider geographic diversity, project diversity, and funding availability.

VI. AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

Following EPA‟s evaluation of proposals, all applicants will be notified regarding their status. Final applications will be requested from those eligible entities whose proposal has been successfully evaluated and preliminary recommended for award. Those entities will be provided with instructions and a due date for submittal of the final application package.

EPA reserves the right to negotiate and/or adjust the final grant amount and workplan prior to award, as appropriate and consistent with Agency policy including the Policy for Competition of Assistance Agreements, EPA Order 5700.5A1. An approvable final workplan narrative is required to include:

1. Workplan components to be funded under the cooperative agreement;
2. Estimated work years and the estimated funding amounts for each workplan component;
3. Workplan commitments for each workplan component and a timeframe for their accomplishment;
4. Performance evaluation process and reporting schedule in accordance with §35.115 of 40 CFR; and
5. Roles and responsibilities of the recipient and EPA (for cooperative agreements only) in carrying out the workplan commitments.

In addition, successful applicants will be required to certify that they have not been Debarred or Suspended from participation in federal assistance awards in accordance with 40 CFR Part 32.

Any additional information about this RFP will be posted on EPA‟s Urban Waters website at http://www.epa.gov/urbanwaters/funding. Deadline extensions or other modifications will be posted on this website and www.grants.gov.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

The general award and administration process for this RFP is governed by regulations at 40 CFR Part 30 (Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations), 40 CFR Part 31 (States, Tribes, interstate agencies, intertribal consortia and local governments), and 40 CFR Part 35, Subpart A (“Environmental Program Grants for State, Interstate, and Local Government Agencies”) and Subpart B (“Environmental Program Grants for Tribes”). These regulations can be found at http://www.epa.gov/epacfr40/chapt-I.info/chi-toc.htm. A description of the Agency‟s substantial involvement in the cooperative agreements will be included in the final assistance agreement.

C. NON-PROFIT ADMINISTRATIVE CAPABILITY CLAUSE

Non-profit applicants that are recommended for funding under this announcement are subject to pre-award administrative capability reviews consistent with Section 8b, 8c and 9d of EPA Order 5700.8 - Policy on Assessing Capabilities of Non-Profit Applicants for Managing Assistance Awards (http://www.epa.gov/ogd/grants/award/5700_8.pdf). In addition, non-profit applicants that qualify for funding may, depending on the size of the award, be required to fill out and submit to the Grants Management Office the Administrative Capabilities Form with supporting documents contained in Appendix A of EPA Order 5700.8.

D. SUBAWARD AND EXECUTIVE COMPENSATION REPORTING

Applicants must ensure that they have the necessary processes and systems in place to comply with the sub-award and executive total compensation reporting requirements established under OMB guidance at 2 CFR Part 170, unless they qualify for an exception from the requirements, should they be selected for funding.

E. CENTRAL CONTRACTOR REGISTRATION (CCR) AND DATA UNIVERSAL NUMBERING SYSTEM (DUNS) REQUIREMENTS

Unless exempt from these requirements under OMB guidance at 2 CFR Part 25 (e.g., individuals), applicants must:

1. Be registered in the CCR prior to submitting an application or proposal under this announcement. CCR information can be found at https://www.bpn.gov/ccr/;
2. Maintain an active CCR registration with current information at all times during which it has an active Federal award or an application or proposal under consideration by an agency, and
3. Provide its DUNS number in each application or proposal it submits to the agency. Applicants can receive a DUNS number, at no cost, by calling the dedicated toll-free DUNS Number request line at 1-866-705-5711, or visiting the D&B website at: http://www.dnb.com.

If an applicant fails to comply with these requirements, it will, should it be selected for award, affect their ability to receive the award.

F. UNLIQUIDATED OBLIGATIONS

An applicant that receives an award under this announcement is expected to manage assistance agreement funds efficiently and effectively and make sufficient progress towards completing the project activities described in the work-plan in a timely manner. The assistance agreement will include terms/conditions implementing this requirement.

G. INTERGOVERNMENTAL REVIEW

This program may be eligible for coverage under E.O. 12372, "Intergovernmental Review of Federal Programs." An applicant should consult the office or official designated as the single point of contact in his or her State for more information on the process the State requires to be

followed in applying for assistance, if the State has selected the program for review. Further information regarding this can be found at http://www.whitehouse.gov/omb/grants/spoc.html.

H. DISPUTE PROCEDURES

Assistance agreement competition-related disputes will be resolved in accordance with the dispute resolution procedures published in 70 FR (Federal Register) 3629, 3630 (January 26, 2005) which can be found at: http://www.epa.gov/ogd/competition/resolution.htm. Copies may also be requested by contacting the Agency contact in Section VII.

I. COPYRIGHTS

In accordance with 40 CFR 30.36 for institutions of higher education, hospitals, and other non-profit organizations, or 40 CFR 31.34 for other recipients, EPA reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, for Federal Government purposes copyrighted works developed under a grant, subgrant or contract under a grant or subgrant. Examples of Federal purpose include but are not limited to: (1) Use by EPA and other Federal employees for official Government purposes; (2) Use by Federal contractors performing specific tasks for the Government; (3) Publication in EPA documents provided the document does not disclose trade secrets (e.g. software codes) and the work is properly attributed to the recipient through citation or otherwise; (4) Reproduction of documents for inclusion in Federal depositories; (5) Use by State, tribal and local governments that carry out delegated Federal environmental programs as "co-regulators" or act as official partners with EPA to carry out a national environmental program within their jurisdiction; (6) Limited use by other grantees to carry out Federal grants provided the use is consistent with the terms of EPA"s authorization to the grantee to use the copyrighted material.

J. REPORTING

In general, recipients are responsible for managing the day-to-day operations and activities supported by the assistance funding, to assure compliance with applicable federal requirements, and for ensuring that established milestones and performance goals are being achieved. Performance reports and financial reports must be submitted semi-annually and are due 30 days after the reporting period. The final report is due 90 days after the assistance agreement has expired. Recipients will be required to report direct and indirect environmental results from the work accomplished through the award. In negotiating assistance agreements, EPA will work closely with the recipient to incorporate appropriate performance measures and reporting requirements in the workplan consistent with 40 CFR 30.51, 31.40, and 40 CFR Part 45. In addition, it is anticipated that by the end of the assistance agreement performance period, grantees will provide a report to describe the project as a success story that helps other communities across the country learn from their experience.

K. NATIONAL TRAINING WORKSHOP

Urban Waters Small Grants recipients will be required to attend an EPA-sponsored Urban Waters Small Grants National Training Workshop. It is anticipated that the workshop will take place over a period of up to 2 days during the first year of the cooperative agreement performance period. One representative from the recipient organization should plan to attend. The purpose of this training is to help the recipient with strategic planning and cooperative agreement management, as well as afford grantees numerous opportunities to network with other Urban Waters community representatives. The workshop location has not yet been determined. The recipient will be allowed to use cooperative agreement funds to pay for one person"s travel and lodging to attend the National Training Workshop. If the recipient wishes to use cooperative agreement funds for travel expenses to the National Training Workshop, these costs must be included in the submitted proposed budget.

VII. AGENCY CONTACTS

Note to Applicants: In accordance with EPA's Assistance Agreement Competition Policy (EPA Order 5700.5A1), EPA staff will not meet with individual applicants to discuss draft proposals, provide informal comments on draft proposals, or provide advice to applicants on how to respond to ranking criteria. Applicants are responsible for the contents of their proposals. However, consistent with the provisions in the announcement, EPA will respond to questions from individual applicants regarding threshold eligibility criteria, administrative issues related to the submission of the proposal, and requests for clarification about the announcement. Questions must be submitted in writing via e-mail and must be received by the Agency Contact identified below by **January 16, 2012** and written responses will be posted on EPA"s website at http://www.epa.gov/urbanwaters/funding.

Agency Contact
Ji-Sun Yi
Phone Number: (202) 566-0730
E-mail: urbanwaters@epa.gov

In addition, EPA will host two national Information Sessions regarding this announcement via webinar, based on the schedule below. EPA will attempt to answer any appropriate questions in these public forums. Registration information for both Information Sessions can be found at http://www.epa.gov/urbanwaters/funding.

Wednesday, December 14, 2011 at 2:00 p.m. (EST)

Thursday, January 5, 2012 at 2:00 p.m. (EST)

Questions and answers from these Information Sessions will also be posted at http://www.epa.gov/urbanwaters/funding.

VIII. OTHER INFORMATION

A. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Quality Assurance/Quality Control requirements apply to these grants (see 40 CFR 30.54 and 40 CFR 31.45). QA/QC requirements apply to the collection of environmental data. Environmental data are any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology. Environmental data include information collected directly from measurements, produced from models, and compiled from other sources such as databases or literature. Successful applicants should allow sufficient time and resources for this process. EPA can assist successful applicants in determining whether QA/QC is required for the proposed project. If QA/QC is required for the project, the successful applicant may work with the EPA QA/QC staff to determine the appropriate QA/QC practices for the project. See Section VII., AGENCY CONTACTS for Agency Contact information for referral to an EPA QA/QC staff.

The successful applicant must ensure all water quality data generated in accordance with an EPA approved Quality Assurance Project Plan, either directly or by subaward, is transmitted into the Agency"s Storage and Retrieval (STORET) Data Warehouse annually or by project completion using either WQX or WQXweb. Water quality data that are appropriate for STORET include physical, chemical, and biological sample results for water, sediment and fish tissue. The data include toxicity data, microbiological data, and the metrics and indices generated from biological and habitat data. The Water Quality Exchange (WQX) is the water data schema associated with the EPA, State and Tribal Exchange Network. Using the WQX schema partners map their database structure to the WQX/STORET structure. WQXweb is a web-based tool to convert data into the STORET format for smaller data generators that are not direct partners on the Exchange Network. More information about WQX, WQXweb, and the STORET Warehouse, including tutorials, can be found at http://www.epa.gov/storet/wqx/

B. DATA SHARING

All recipients of these assistance agreements may be required to share any data generated through this funding agreement as a defined deliverable in the final workplan.

C. DATA ACCESS AND INFORMATION RELEASE

The Office of Management and Budget (OMB) Circular A-110 has been revised to provide public access to research data through the Freedom of Information Act (FOIA) under some circumstances. Data that are (1) first produced in a project that is supported in whole or in part with Federal funds and (2) cited publicly and officially by a Federal agency in support of an action that has the force and effect of law (i.e., a regulation) may be accessed through FOIA. If such data are requested by the public, the EPA must ask for it, and the grantee must submit it, in accordance with A-110 and EPA regulations at 40 C.F.R. 30.36.

D. EXCHANGE NETWORK

EPA, states, territories, and tribes are working together to develop the National Environmental Information Exchange Network, a secure, Internet- and standards-based way to support electronic data reporting, sharing, and integration of both regulatory and non-regulatory environmental data. States, tribes and territories exchanging data with each other or with EPA,

should make the Exchange Network and the Agency's connection to it, the Central Data Exchange (CDX), the standard way they exchange data and should phase out any legacy methods they have been using. More information on the Exchange Network is available at www.exchangenetwork.net.

E. URBAN WATERS FEDERAL PARTNERSHIP

The Urban Waters Program supports the goals and principles of the Urban Waters Federal Partnership (www.urbanwaters.gov) which is a partnership of eleven federal agencies working to reconnect urban communities with their waterways by improving coordination among federal agencies and collaborating with community-led revitalization efforts to improve the nation‟s water systems and promote their economic, environmental and social benefits. The Urban Waters Federal Partnership closely aligns with and advances the work of the White House‟s place-based efforts, including the Partnership for Sustainable Communities (http://www.sustainablecommunities.gov/aboutUs.html), to revitalize communities, create jobs and improve the quality of life in cities and towns across the nation. The Urban Waters Federal Partnership also advances the work of President Obama‟s America‟s Great Outdoors Initiative. EPA‟s approach to protect and restore America‟s urban waters is outlined in the Urban Waters Strategic Framework, available at http://www.epa.gov/urbanwaters/StrategicFramework.pdf. This Strategic Framework strives to meet the following five Intended Outcomes: Improved connection to Urban Waters, understanding of urban waters and their potential, sense of public ownership of urban waters, protection and restoration of urban waters, and community revitalization.

F. UNFUNDED PROPOSALS

Subject to the availability of funds, funding authorities, and other considerations, the U.S. Forest Service (an Urban Waters Federal Partnership agency) may consider for funding proposals not selected for funding by EPA under this RFP.