



WATER QUALITY PROTECTION AND CANAL RESTORATION
IN THE FLORIDA KEYS AREA OF CRITICAL STATE CONCERN
DEP STEWARDSHIP FUNDING PORTAL PROJECT REQUESTS

PROGRAM BACKGROUND AND PROGRESS TO DATE

AREA OF CRITICAL STATE CONCERN

For this State designation an area must have environmental or natural resources of regional or statewide importance where uncontrolled development would significantly degrade these resources.

- **Designation:** In 1975 the Florida Keys and the City of Key West were designated as **Areas of Critical State Concern** (ACSC) due to their environmental sensitivity and development pressures.
- **Legislative Intent:** Protect the natural environment and **improve the near shore water quality**.
- **Additional Designations:** All waters adjacent to the Keys' islands are designated **Outstanding Florida Waters** and are included within the federally protected **Florida Keys National Marine Sanctuary**.



ACSC HELPS PROTECT WATER QUALITY AND THE FRAGILE KEYS MARINE ECOSYSTEM

- **State oversight:** To balance development with environmental protection, the State's Administration Commission sets requirements and approves an annual ACSC Work Plan for Monroe and other Keys' local governments. The plan mandates specific water quality protection measures in the Florida Keys.
- **Wastewater Treatment System:** The State mandated the construction of a **centralized Advanced Wastewater Treatment** system to replace outdated septic systems and cesspits (to reduce nutrient loading to nearshore waters.) The system, which cost \$900M with approx. \$200M in State funding assistance, has been completed.
- **Canal Restoration Program:** To address poor water quality in impaired canals, the State Administration Commission amended the County's ACSC Work Plan to include a **10-year Canal Restoration Implementation program**.
- **Canal Management Master Plan (CMMP):** Monroe County developed a comprehensive technical analysis to help us meet the State's water quality requirements. The plan includes a water quality assessment of each canal, a water quality ranking for each canal, and appropriate restoration options. This plan serves as the **guidance document** for Monroe's restoration efforts.
- The **Florida Keys Stewardship Act** (2016) highlights the State's commitment to preserving the Keys' unique environmental resources and **authorizes continued state funding for Keys' water quality restoration** to comply with water quality standards.



WATER QUALITY CHALLENGES FROM CANALS

- The Keys have 500 man-made canals. Their poor design and configurations (too deep, no tidal flushing) collect and trap storm water runoff, debris and organic materials like dead seagrass resulting in canal waters with high nutrients, high salinity, low dissolved oxygen (DO), chronic eutrophication, and algal blooms.
- Water quality monitoring of Keys' canals has **confirmed pollution due to excessive nutrients and low levels of dissolved oxygen**. The failure to meet water quality standards put the Florida Keys on the Clean Water Act Section 303(d) of list of impaired waters.
- UM Study (2021) confirmed that poor water quality in canals **impairs protected nearshore waters and benthic health**.
- DEP and Monroe County developed the **Florida Keys Reasonable Assurance Document (FKRAD)**, outlining a commitment to implementing corrective actions to reduce pollution and restore water quality. The RAD is reviewed by DEP and updated biennially.
- FIU Report (2018) evaluated multiple restoration technologies used in our initial "demonstration projects" and concluded **these four principal technologies are highly effective**: culverts, backfilling, organic removal, and air curtains. These are the technologies that are implemented.



CANAL RESTORATIONS SUCCESS TO DATE

- **29 canal restoration projects** have been completed or are underway, using proven effective technologies.
- Funded with State Stewardship Act, federal RESTORE Act, and local funds.

CANAL RESTORATION PROJECTS SUBMITTED TO DEP STEWARDSHIP PORTAL

Building on its successful track record, Monroe County has submitted several canal restoration projects into the new DEP portal for Stewardship Act funding. These projects are prioritized based on their importance for the County, as detailed below:

A. CONSTRUCTION-READY PROJECTS (Design and Permitting Already Underway) – Request: \$6.4 Million

1. Priority 1 – Canal #82 Rock Harbor

- **Request Amount:** \$3 Million
- **Description:** This canal is among the worst in terms of water quality and requires an organic removal and backfill. Restoration of nearby canals has already been completed, so this project will finalize a neighborhood-wide restoration effort. Residents adjacent to this canal are currently paying for the operation and maintenance of an air curtain to be installed through a Municipal Service Benefit Unit (MSBU).

Poor Water Quality
from above

2. Priority 2 – Canal #266 Big Pine Key

- **Request Amount:** \$2 Million
- **Description:** This canal was part of an initial demonstration project for organic muck removal. It now requires a more comprehensive restoration involving backfilling and the installation of a larger capacity air curtain and pumps. Residents in this area are already contributing to the project's air curtain operating costs via an MSBU.



3. Priority 3 – Canal #255 Big Pine Key

- **Request Amount:** \$1.4 Million
- **Description:** Ranked #3 on the canal restoration master plan list, this project includes organic muck removal, backfilling, an air curtain, and an injection well. Community approval for an MSBU is already in place.

B. DESIGN, PERMITTING, AND PROCUREMENT PROJECTS – Request: \$600K

4. Priority 4 – Canals #470, #472, #474, #475, #476 Geiger Key

- **Request Amount:** \$230K
- **Description:** This group of canals within the same neighborhood requires a combination of organic muck removal, backfilling, and air curtain installation.

5. Priority 5 – Canal #283 Big Pine Key

- **Request Amount:** \$85K
- **Description:** Ranked #18 on the canal restoration list, this project involves organic muck removal, backfilling, and air curtain installation.

Below surface cloudy yellow
water indicates sulfur
metabolism and hydrogen
sulfide

6. Priority 6 – Canal #265 No Name Key

- **Request Amount:** \$85K
- **Description:** Ranked #21 on the canal restoration list, this project includes organic muck removal, backfilling, and air curtain installation.



7. Priority 7 – Canal #279 Little Torch Key

- **Request Amount:** \$100K
- **Description:** Ranked #22 on the canal restoration list, this project involves organic muck removal, backfilling, culvert installation, and an air curtain.

8. Priority 8 – Canal #258 Big Pine Key

- **Request Amount:** \$100K
- **Description:** Ranked #25 on the canal restoration list, this project includes organic muck removal, backfilling, culvert installation, and an air curtain.

C. DESIGN, PERMITTING, PROCUREMENT, AND CONSTRUCTION PROJECTS – Request: \$3 Million

9. Priority 9 – Canal #290 Big Pine Key

- **Request Amount:** \$1 Million
- **Description:** This original demonstration project is now in need of a more comprehensive restoration involving organic muck removal and backfilling.

10. Priority 10 – Canal #287 Big Pine Key

- **Request Amount:** \$2 Million
- **Description:** This project involves organic muck removal and backfilling. It builds upon the initial demonstration project with plans for a more extensive restoration.

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