

Monroe County Selection of Demonstration Canals for CULVERT INSTALLATION

Canal ID: 277 Big Pine Key

Location: MM 31 Tropical Bay (3rd Addition) subdivision, Bayside

Summary of Water Quality Impacts: This canal system has multiple water quality impacts; Primary – Lack of flushing due to long multi-fingered canal system; also weed wrack entry, accumulated organics and deep stagnant zones due to average depth of -10.3 and max depth of -21.04.

Restoration Technology: Primary - Culvert connection at north end of Sunset Drive to Bogie Channel to assist with flushing (also will assist with weed wrack not getting trapped at the dead end of the canal); Secondary - Organic removal from canal bottom to eliminate on-going source of organic decomposition; Tertiary – backfilling (For the purpose of eliminating deep oxygen depleted impaired water quality zone)

Site Conditions: The canal faces due east and discharges into Bogie Channel. Private ownership of the lands below the high-water mark is not reflected in the plat book.

Existing Treatment: Culvert between 2 of the canal fingers; culvert appears undersized and possibly clogged.

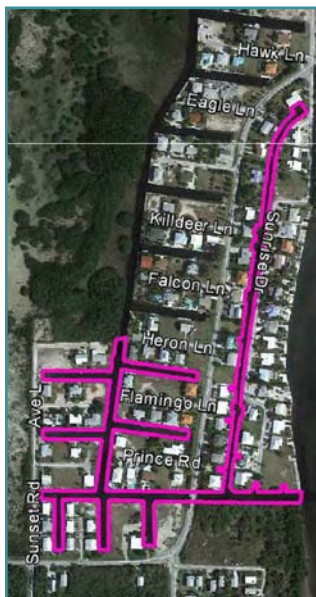
Homeowner Communication: Numerous homeowners have submitted letters to Monroe County stating their request for demo canal cleanup funding. Some have suggested canal bottom organics removal.

Water Quality Summary*

D.O. (mg/L / % Saturation)	Turbidity (NTU)	W.Q. Summary & CMMP Ranking	Demo Ranking
1.5 / 21% at 5 ft	0.89	Poor 111	63

Characteristics

Size (acres)	5.44
Average Depth (ft)	-10.32
Min Depth (ft)	-21.04
Degree of Stagnation	1.2
Number of Mouths	1
Organic Thickness (ft)	1.15
Parcels	88
WBID	6012A Impaired
WWT	FKAA/Cudjoe Regional - Not Completed
FKNMS Monitoring Station	1.52 miles



Abbreviations: Dissolved Oxygen (D.O.); Nephelometric Turbidity Unit (NTU); milligrams per liter (mg/L); Water Body Identification (WBID); waste water treatment (WWT); Feet (ft).

*Information presented in the 2013 Monroe County Canal Management Master Plan.

**Data collected during the 2013 Monroe County Canals Bathymetric Survey.