Florida Keys National Marine Sanctuary

floridakeys.noaa.gov
National Marine Sanctuary System

Olympic Coast
Greater Farallones
Cordell Bank
Papahānaumokuākea
Hawaiian Islands Humpback Whale
Monterey Bay
Channel Islands
American Samoa (U.S.) (Including Rose Atoll)

Wisconsin - Lake Michigan
Thunder Bay
Stellwagen Bank
Lake Ontario
Mallows Bay - Potomac River
Monitor
Gray’s Reef
Florida Keys
Flower Garden Banks

Scale varies in this perspective. Adapted from National Geographic Maps.
South Florida Ecosystem

Kissimmee River
Lake Okeechobee
Everglades wetlands
Florida Bay estuary
Florida coral reef
Florida Keys Ecosystem
Geology of the Keys

Porous limestone substrates

Upper Keys
Key Largo Limestone

Lower Keys
Miami Oolite

Cross-section of Key Largo Limestone on Key Largo

Photo: NOAA FKNMS
Florida Keys National Marine Sanctuary & Protection Act 1990

- Managed with State of Florida (FDEP)
- Area To Be Avoided (Large ships)
- No Oil Gas Exploration
- Water Quality Protection Program
- Marine Zoning
- Sanctuary Advisory Council
FKNMS Management Plan Strategies

- Channel/Reef Marking
- Education/Outreach/Media
- Law Enforcement
- Mooring Buoys
- Research & Monitoring
- Maritime Heritage
- Volunteer
- Marine Zoning
- Water Quality

Photos: NOAA FKNMS
1997 Management Plan
Goals & Science

- Improve water quality
- Protect habitat
- Conserve marine life

1996  Marine Zone Monitoring
1990  Water Quality Protection Program (WQPP)

Photos: NOAA FKNMS
Western Sambo Ecological Reserve 1997
- From mangrove shoreline to outer reefs
- Includes hardbottom, seagrass, patch reef habitat

Tortugas Ecological Reserve 2001
- Dry Tortugas National Park and Research Natural Area (RNA)
- Crossroads of major ocean currents, which carry marine larvae
- Deep reefs, sandy soft bottom

Photo: NOAA FKNMS
Long-term WQPP Monitoring in FKNMS

Water Quality Monitoring Program
Florida International University (FIU)

Seagrass/Benthic
Florida International University

Coral Reef Evaluation & Monitoring Program
FWC Fish and Wildlife Research Institute
Condition Report 2011 & Marine Regulatory Review

- Summary of current conditions
- Report card on water quality, biodiversity, etc.
- History of resources
- 2012 Marine Zone & Regulatory Review
- NEPA process
2019 Restoration Blueprint
Revised Management Plan

https://floridakeys.noaa.gov/blueprint/

Marine Zone and Regulatory Review
https://floridakeys.noaa.gov/review/welcome.html
2019 Restoration Blueprint & Revised Management Plan

Release of Blueprint -- August 20, 2019 Marathon Sanctuary Advisory Council Meeting

Federal Register August 30, 2019
(Written comments taken through Jan. 31, 2020)

Public Meetings (6 p.m. to 9 p.m.)
- Sept. 23 - Key West High School
- Sept. 30 - Marathon Middle High School
- Oct. 7 - Coral Shores High School
- Oct. 28 - University of Miami Alumni Center Coral Gables
- Nov. 4 - Holiday Inn, Fort Myers

Photo: NOAA FKNMS
Water Quality Protection Program (WQPP)

Florida Keys National Marine Sanctuary and Protection Act 1990 (Public Law 101-605)

- EPA and FDEP, Steering Committee + public
- Corrective actions for point and nonpoint sources of pollution
- Restoration and maintenance
  - populations of corals, shellfish, fish and wildlife
  - recreational activities in and on the water.

Photo: NOAA FKNMS
Water Quality Protection Program (WQPP)

WQPP Steering Committee
interagency/stakeholders/public comment

Management Committee
+ EPA office

Technical Advisory Committee

Canal Restoration Subcommittee
https://www.monroecounty-fl.gov/598/Canal-Restoration

Sanctuary Advisory Council (public body/representative on Steering Committee)
Wastewater Upgrades Monroe Co. Ch. 99-395, Laws of Florida 2010

- Eliminate Cesspits

- Upgrade Onsite systems to Aerobic Treatment Units or Comparable

- Upgrade Treatment Plants to Advanced Wastewater Treatment (AWT) or Best Available Treatment

- Disposal by Reuse, Deep- or Shallow-Injection Well
No Discharge Rules in Sanctuary Waters

• **2002 No Discharge Rule (EPA-FL)**
  EPA/State of Florida discharge/marine heads in state waters

• **2010 NOAA Federal Regulation**
  no discharge in federal waters

• **Enforcement**
  FWC, USCG and NOAA Office of Law Enforcement

Photo: NOAA FKNMS
Impaired Waters Rule – 62-303 F.A.C.
Water Quality Standards – 62-302 F.A.C

Numeric Nutrient Standards 2012

Class III Designated Use

All surface waters = Class III

Uses = fish consumption, recreation, healthy well balanced population of fish & wildlife

Photo: NOAA FKNMS
Clean Water Act (EPA/FDEP)

Impaired Waters Rule– Class III Designated Use

Data & Information

- Reasonable Assurance Plan/Document (Rap/RAD) (Local stakeholders)
- Total Maximum Daily Loads (TMDLs) with Basin Action Management Plan

FDEP Watershed Assessment

Waterbody ID units (WBIDs) *using* Monitoring Plan based on Nutrient Targets (2008 Florida Keys RADs)

1 – Based on above Background levels in Halo Zone
2 – Outstanding Florida Waters 1985 averages
2008 Florida Keys = Impaired for *nutrients*

**Reasonable Assurance Documents/Plan (RAD) 2008**

**RAD** — list of actions such as wastewater upgrades required by Florida law plus stormwater improvements

**Assessment Category 4b**
— impaired, but does not require TMDLs because water will attain water quality standards due to existing proposed measures

Photo credit: Key Largo Wastewater Treatment District
2008 RAD Description of Water Quality Far-field Sources

**Water Quality** in Florida Keys *is affected by:*

**Far-Field Sources in Nearshore Waters** (from 500 to 12,100 m)

- Naturally occurring nutrient loads and anthropogenic storm sources located outside the Keys
- Far-field sources are not within the control of the residents of the Florida Keys
Water Quality in Florida Keys Halo Zone (waters coast to 500 meters of shore) are incrementally affected by nutrient loads from

- wastewater and stormwater on developed properties
- natural stormwater on undeveloped land
RAD Waterbody ID Units & Commitments

Signed Agreements or Letters of Commitment were received from all participants.

2011 RAD Update FDEP
Florida Keys RAD/RAP Process

Impaired Waters Rule– Class III Designated Use

Data/Information

2008 Florida Keys Reasonable Assurance Plan/Documents *

FDEP Watershed Assessment Waterbody ID units (WBIDs) using Monitoring Plan

2011 RAD Update based on Monitoring/Data = Watershed Assessment *

2018 RAD based on Monitoring/Data Watershed Assessment 4-b *

*Public Input/Meetings
2018 Reasonable Assurance

- 42 restoration projects completed
  ~90% of the Keys is on AWT
- Waterbodies (WBIDs) in assessment category 4b — plan in place to address nutrient impairments
- Establish New Monitoring program, Data will be reported in 2020 RAD update
Fishing for Funding Sources

$ Local/Federal/State $

- Local Taxes/Tax Districts
- State Revolving Loans/Grants
- Federal/State Grants
  - Miami-Dade EPA Federal Loan Awarded Miami-Dade in April 2019

Photo: NOAA FKNMS
Funding Sources

Local/Federal/State

EPA’s $99.7 Million WIFIA loan to Miami-Dade County will:

- Redirect treated wastewater from ocean outfalls
- Increase availability of reclaimed water for potential reuse
- Better protect ocean health
- Save taxpayers up to $15.7 million

EPA.gov/wifia
FDEP Contacts

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Program Administrator
Water Quality Assessment Program
Watershed Assessment Section
http://www.dep.state.fl.us/water/watersheds/assessment/index.htm

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Questions?

Thank You!

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