

# Update on Canal Restoration Advisory Subcommittee Activities

## 2-12-14



# Canal Restoration Advisory Subcommittee Group Members

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- George Neugent - Monroe County
- Susan Sprunt – Islamorada Village of Islands
- John DeNeale – Key Colony Beach
- George Garrett – City of Marathon
- Skip Haring – City of Layton
- Charlie Causey – Florida Keys Environmental Fund
- Alison Higgins – Key West
- Billy Causey and Scott Donahue – NOAA FKNMS
- Steven Blackburn – USEPA
- John Hunt – FWRI
- Gus Rios - FDEP
- Annie McGreenery – FWRI (Non-voting staff)
- Rhonda Haag – Monroe County (Non-voting; staff support)
- Wendy Blondin – AMEC (Non-voting; consultant)



# Canal Management Master Plan Completion

- The Canal Management Master Plan (CMMP) was completed in September 2013
- The Phase 2 funding was provided by an EPA grant
- Basic conceptual framework for canal restoration and management including prioritization and development of feasible strategies to improve water quality
- All of the canals were ranked using a scoring criteria sheet for prioritization for need for water quality improvement
- Water Quality Ranking: 131 *Poor*, 180 *Fair*, 171 *Good*
- Monroe County Canal Restoration web link  
<http://www.monroecounty-fl.gov/index.aspx?NID=598>



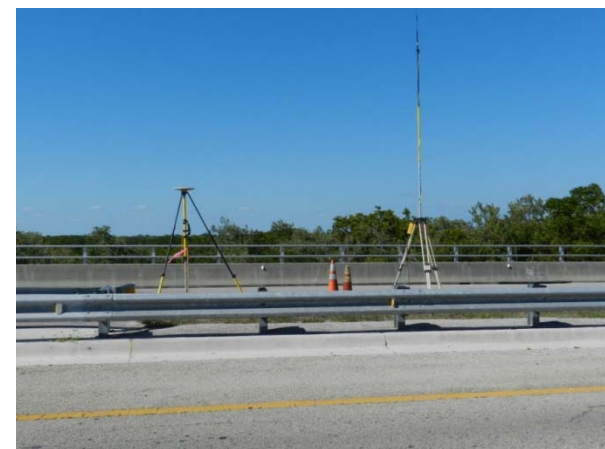
**Monroe County**  
Canal Management Master Plan (CMMP)



Prepared By:  
AMEC Environment & Infrastructure, Inc.  
Prepared For:  
Monroe County, EPA, the  
WQPP Steering Committee and WQPP Canal Restoration Advisory Subcommittee  
September 20, 2013

# “Waterways” Filming of Canal Restoration Efforts

- The producer of the FKNMS/NPS/EPA educational television show “Waterways” filmed the efforts being undertaken for canal restoration
- The video was released as Episode 269 in December 2013
- <http://www.youtube.com/waterwaystvshow>
- <http://floridakeys.noaa.gov/whatsnew/around/2013/waterwayscanals.html>



# Canal Restoration Demonstration Program

- The Canal Restoration Advisory Subcommittee recommended that the first step to implement the CMMP was a canal restoration demonstration program
- The objectives of the program are to:
  - Implement restorations of the CMMP identified technologies to evaluate the effectiveness of each technology and determine if additional technologies in a Phase 2 effort may be required to meet water quality standards
  - Obtain realistic permitting, scheduling, and cost information to be utilized for future restoration planning and grant application purposes
- Monroe County initiated the demonstration program by funding \$5 Million for canal restorations in Unincorporated Monroe County to implement at least one of each of the 5 technologies recommended in the CMMP
- The Village of Islamorada funded \$100,000 to join in the demonstration program



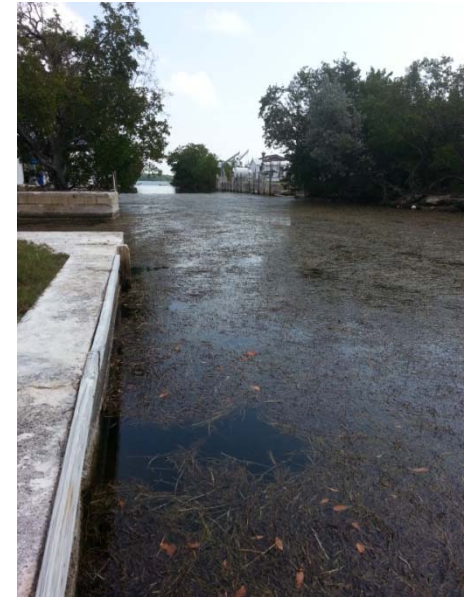
# Canal Restoration Demonstration Selection Process

- Selection process similar to CMMP ranking; however, it was more focused on selecting canals that have the worst water quality, can be easily permitted and constructed, have homeowner support, and construction costs within budget
  - Only canals identified by the CMMP with *Poor Water Quality* were selected
  - CMMP Ranking Numbers utilized to prioritize canals
  - Ranking sheets developed based upon criteria for
    - Ease of Permitting
    - Ease in Implementation
- The entire County was included in the selection process
- Key Colony Beach, Layton and City of Key West did not have any *Poor Water Quality* Canals. City of Marathon is anticipating future funding.



# Canal Restoration Demonstration Selection Process

- Ranking performed for each applicable restoration technology
  - **Weed gates, air curtains** or other physical barriers to minimize additional organic accumulation in the canals
  - **Removal of accumulated organics** from within canals
  - **Culvert connections** to facilitate flushing
  - **Pumping systems** to facilitate flushing, and
  - **Backfilling** to remove deep stagnant zones.
  
- The process was approved by the Canal Restoration Advisory Subcommittee, the County and the Village
  
- Stakeholder meetings held and over 700 homeowner approval letters sent to funded demonstration project canal property owners



# Monroe County Top 15 Canals and BOCC Approved Canals for Demonstration Funding

	Weed Barriers	Organic Removal	Culvert Installation	Pumping	Backfilling
1	#266 Big Pine Doctor's Arm between Witters & Bailey Lanes <i>Same Canal – 2 categories</i>	#266 Big Pine Doctor's Arm between Witters & Bailey Lanes	#459 Geiger Key. Boca Chica Ocean Shores btw Boca Chica Rd & Jay Lane	#286 Big Pine Whispering Pines between Sands Road & Hibiscus Drive	#29 Key Largo Sexton Cov. Between Bunting & Pigeon Drives
2	#288 Big Pine Hollerich btw Hollerich & Hibiscus Drs	#290 Big Pine between Ave I and J	#277 Big Pine Tropical Bay between Watson and Sunset Rd	Alternate: #278 Big Pine Eden Pines Colony Pine Ave	#27 Key Largo Sexton Cove Estates Sexton Cove Rd
3	#297 Big Pine Ross Haven between Aves F & G	#297 Big Pine Ross Haven between Aves F & G	DEP Grant #472 Geiger Mobile Homes btw Caribbean Dr & Venus Ln	#47 Key Largo Bermuda Shores btw Shaw Dr & Bowie Lane	#37 Key Largo Key Largo Mobile Homes Taylor Dr
4	#287 Big Pine Atlantic Estates btw Hollerich and Atlantis Drs	#287 Big Pine Atlantic Estates btw Hollerich and Atlantis Drs			#92 Tavernier Hammer Point Park btw Fairwich & Guilford Cts
5		#288 Big Pine Hollerich btw Hollerich & Hibiscus Drs			



## Village of Islamorada Top 10 Canals and Village Approved Canals for Demonstration Funding

	<b>Weed Barriers</b>	<b>Organic Removal</b>	<b>Culvert Installation</b>	<b>Pumping</b>	<b>Backfilling</b>
1	#137 Plantation Key Treasure Harbor	#148 Lower Matecumbe Key Mate-Lido Beach	#157 Lower Matecumbe Beach	#120 Plantation Key Indian Key Waterways	#116 Plantation Key Tropical Atlantic Shores
2	#148 Lower Matecumbe Key Mate-Lido Beach	#147 Lower Matecumbe Key Mar Celeste Am.	#120 Plantation Key Indian Waterways		#137 Plantation Key Treasure Harbor
3	#116 Plantation Key Tropical Atlantic Shores	#145 Lower Matecumbe Matecumbe Ocean View			#143 Upper Matecumbe Key Palm Harbor
4	#132 Plantation Key Plantation Lake Estates	#157 Lower Matecumbe Beach			#145 Lower Matecumbe Matecumbe Ocean View
5	#147 Lower Matecumbe Key Mar Celeste Am.				#120 Plantation Key Indian Waterways
6	#143 Upper Matecumbe Key Palm Harbor				#110 Plantation Key Plantation Tropical Park

# Design and Implementation of Demonstration Canal Restorations

- Homeowner coordination will continue
- Final design and permitting
  - County projects initiated after BOCC approval in March
  - 4 months completion schedule to comply with EPA effectiveness monitoring grant
  - Permitting needs to be expedited
  - Geiger Key #472 DEP Grant project and Village of Islamorada Treasure Harbor pre-application meetings to be held in February
- County will bid the construction of the restorations
  - July/August 2014 estimated time frame
- Construction of restorations
  - Ranges from 2 weeks to 2 months
- Monitoring of effectiveness by FIU – 3 years
  - Baseline monitoring to start in March



# Canal Restoration Permitting

- The Steering Committee sent letters to the state and federal permitting agencies requesting a designated staff member be assigned to a permitting team to work on the selected canal restoration projects
- Meeting held 1-31-14 with DEP, SFWMD, FWC, USACE, NOAA Fisheries, FKNMS staff to discuss permit requirements and possible ways to expedite permits. There is a joint application process, but separate State (ERP) and federal permits are required for canal projects.
  - Goal was to identify permit requirements and to discuss ways to streamline the application review process
  - Each restoration technology was discussed and key issues identified



# Canal Restoration Permitting Agency Feedback

## ■ SFWMD ERP

- General Permit available for environmental restoration or enhancement. Will permit as restoration with no mitigation. Permit fee \$250.00
- Conceptual permits available. Construction authorizations for multiple projects can be grouped into one permit.
- The applicant can be government entity and land owner where the project is physically located. Responsible entity for operation and maintenance must be identified.
- For specific construction methodologies, a Water Use Permit for dewatering authorization may be required concurrent with the ERP
- Time clocks for reviewing ERP permit applications
- SFWMD encourages pre-application meetings and site visits with sufficient lead time



# Canal Restoration Permitting Agency Feedback

## ■ US Army Corps of Engineers (USACE)

- Standard permit required. Nationwide permits in the Keys only available for Sanctuary (FKNMS) restoration projects where the FKNMS is co-applicant
- The USACE requires consultation with NOAA Marine Fisheries Service (NMFS) for construction work in tidal waters
  - Ecological surveys and biological assessments may be required: the Endangered Species Biological Assessment (or ESBA) and the NMFS Endangered Species Act (ESA) check list are required
  - Review time for consultations estimated at 4-6 months
  - Sea weed barriers/gates may have to go to the USFWS as a formal consultation due to concern for access restrictions for manatees
  - Discussed agency consultation backlog and long timeframes for permit approvals
- The applicant(s) can contact the applicable agencies directly (i.e. NMFS, USFWS, FKNMS, etc.) and preemptively obtain the authorizations/approvals to submit as part of the application package



# Update on DEP Grant S0679 for Design and Permit of a Culvert Restoration/Sediment Testing

- Monroe County in association with AMEC was awarded a grant from DEP to design and permit a culvert restoration in Geiger Key (Canal #472 – 3<sup>rd</sup> ranked demonstration project)
- Sediment sample collection from the two demonstration canals for organic removal (#266 and #290) to assist in final design



# Update on Geiger Key Design and Permitting

- Field work completed in December 2013
  - Topographic and bathymetric survey
  - Benthic and threatened and endangered species surveys
  - Geotechnical soil borings
  - Tidal study
  - Engineering site condition survey
- Deliverable submitted January 31, 2014
- Pre-application permitting meetings to be performed by February 28, 2014
- Goal is to complete design and permit applications by June 16, 2014



# Update on DEP Grant Sediment Characterization

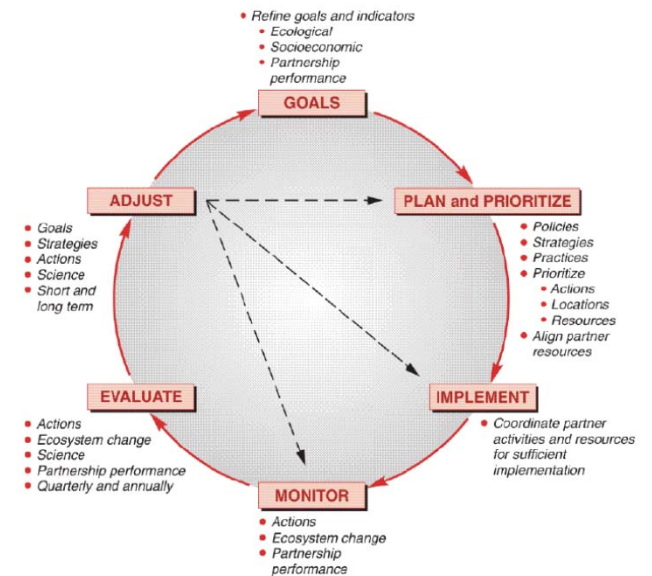
- Nine samples collected in each canal for detailed field logging and laboratory testing to refine volumes needed to be removed
- Laboratory Testing
  - Physical Testing
    - Organic Content/Grain Size Distribution
  - Polymer Testing for dewatering
  - Chemical Testing
    - Organochlorine Pesticides and PCBs
    - Chlorinated Herbicides
    - Metals (As, Ba, Cd, Cr, Cu, Pb, Se, Ag, Hg)
    - Polynuclear Aromatic Hydrocarbons
    - Total Petroleum Hydrocarbons
- Report submitted January 31, 2014 and data will be utilized in final designs





# Next Steps

- Evaluate effectiveness of restorations
- Modify CMMP and restoration implementation process as needed
- Identify additional sources of funds to implement more restorations
- Implement Best Management Practices in canals
- Public outreach and education



## One Grant Opportunity: EPA Environmental Education Model Grant

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University of Florida, Monroe County Extension Service submitted an application in partnership with

- Monroe County SeaGrant faculty
- Monroe County Sustainability Director
- Monroe County School District
- Village of Islamorada
- City of Marathon, and
- NOAA

Project: Florida Keys Citizen Education, Water Quality Monitoring, and Canal Restoration

Two Programs

- Florida Keys Water Watch
- Canal Master Plan Education Program

