

**WATER QUALITY PROTECTION PROGRAM CANAL RESTORATION ADVISORY
SUBCOMMITTEE**

Meeting Date: February 26, 2016

Time: 9:00 AM

**Monroe County Government Center
BOCC Room, 2798
Overseas Highway, Marathon, FL 33050**

Meeting Minutes

Member and Advisory Attendees: Gus Rios – FDEP; Commissioner George Neugent – Monroe County; Skip Haring – Layton; Billy Causey-NOAA FKNMS; Bill Sharp (alternate to John Hunt)- FWC; Steven Blackburn via phone conference-EPA. Susan Sprunt and Mike Forster- Islamorada; George Garrett – Marathon. Advisory: Rhonda Haag – Monroe County; Wendy Blondin and Greg Corning – AMEC.

Members not in Attendance: Jerry Ellis – Key Colony Beach, Charlie Causey – WQPP SC Member, and Alison Higgins, Key West.

Via Phone: Steven Blackburn – USEPA, Joanne Delaney from FKNMS, Maria Bezanilla U.S. Army Corps, Trisha Stone of SFWMD.

FIU Monitoring Program: Dr. Henry Briceno via telephone conference; Jason Howard.

1. Introduction, Pledge, and Approval of the December 11, 2015 Meeting Minutes, 9:05 a.m.

Gus Rios-called meeting to order at 9:05AM and introduced participants on the phone.

George Neugent moved for approval of the December 11, 2015 meetings minutes and Susan Sprunt seconded, all approved.

Rios – Identified a quorum was present, went over the agenda, referenced the public comment sign-in sheet, and asked for public comments.

2. Public Comment (3 min. each.)

None.

3. Update from the Village of Islamorada – Susan Sprunt

Sprunt – Presented video, which took a year to complete. Designed to be an informational and promotional video of canal restoration and involvement of homeowners. Video is also on YouTube, link is on Village of Islamorada website. Video will also be shown at water quality protection meeting next Wednesday. **Recap of video** – homeowners couldn't enjoy their backyards because canals were so bad. Canals were built without regard to water quality and circulation. 170 miles of canals in Florida Key. 300 impacted canals in the Keys. Demonstration project ranked 10 canals as poor in Islamorada. Treasure Harbor selected as top choice for demonstration project

because of homeowner association support and previous aerator system as a weed barrier. Three years of monitoring to see if installation will affect water quality.

Haag – Monroe County is working on a similar video.

B Causey – Will monitoring include if fish will move through curtain?

Sprunt – Screens were used before, would be an interesting thing to look out. Pilchard fisherman haven't said anything about not having the stock in there anymore, but she will follow up.

Rios – It will also be a part of the review process.

Blondin – DEP wants documentation of it, since it was a question that was asked.

4. Update from Marathon – George Garrett – 9:38 a.m.

Rios – Canal project in planning and permitting stages now. Two projects from DEP funding one in Tropical Bay Estates, and 89th Street in Marathon. Moving along with permitting. Needs to be completed and paid by June 30 to comply with the DEP grant deadline.

Garrett – Contracts from DEP should be in today. Permitting is already finished. DEP money will match what the City of Marathon has already spent. 30th Street. Garrett said it will be done on time. No mangrove issues at this site.

5. Monroe County Canal Projects and Related Issues –Wendy Blondin 9:40 a.m.

Blondin – #277 Culvert project partially funded by DEP. Mangrove issues, but great success from Corps with the subcommittee's help. Permitted on Jan. 27. Been out to bid and contractor was approved. Pre-construction meeting was Feb. 12. Blondin does not see an issue with starting construction last week in March, expects completion at end of May. Mangrove restoration will be done. Great news compared to last time. Important to keep grant funding moving.

Rios – Lots of progress in expediting the permitting process. We recently worked with the federal agencies (NOAA Fisheries and the USACOE) to expedite the Protected Resource Division (PRD) review required for the USACOE permits: B. Causey contacted NOAA and the USACOE (Maria) in Miami and we had a teleconference. Everyone worked as a team to make this project a priority and how to expedite these projects to meet the funding deadlines. The State ERP permits are issued much faster by the SFWMD, within 30 and 60 days in most cases.

B Causey – please send a letter of thank you to the corps.

Rios – that will be done.

Neugent – make them an honorary Conch.

Blondin - #287 combination of organic removal project and air curtain in Doctors Arm, Big Pine Key. Demolition of old weed barriers and moving things to compliance. Offshore air curtain is key to diverting seaweed away from the mouth of the canal. Took a while to answer all the questions with the project. Preconstruction meeting was held last Wednesday, construction to start early April. Project is a good way to teach how to get better and improve quicker. Wind vane added to shut off curtain and save electricity when seaweed entering canal isn't present, also helps remove weed which did cross barrier.

#266 and #290 - Hydraulic removal of five feet of decayed organic removal. Canals had barriers already. Rock is being added to help encourage sea bottom growth. We saw immediate water quality improvement with the Doctors Arm project. Showed pictures of before and after improvements, including increasing concentrations to DO 5 milligram/L which meets State standards, and may not have to wait six months to determine compliance /success. Homeowners were ecstatic that it doesn't smell anymore. Homeowners are saying this is a great success story.

#470/472 Geiger Key update. Came to conclusion that it was heavy seaweed that year, and not a continuing issue with seaweed loading. It met its goal with water quality improvement, Monroe County is proceeding.

Eden Pines – looking at various technologies because it is a very complex canal system.

Neugent – Florida Keys Stewardship Bill – it's moving through the process smoothly. Waiting to process of Senate and through legislature. Marathon, Islamorada, Key West, Layton, and FKCC were well represented. Bill will bring \$25 million a year for 10 year to be shared with municipalities going toward land acquisition. News should come through at 10:30 a.m. today. Raschein and Flores helping to move it forward.

Blondin – County involved with next demonstration projects including removal of organic material and backfilling. Looking through EPA grant for alternate technologies. Trying to find more economical ideas and options.

Be aware of sea level rise impact on canal restoration. This will be an item that will come up in the workshop, Haag would like any input on this if needed.

No permitting issues. Previously protected resources were an issue, but communication with the group, maybe all reviews could go through pre approval to take load off protection agency. Not sure if all restoration projects can be put into this, but it would speed the process up tremendously.

Rios – Although we were able to expedite the NOAA Protected Resource Division (PRD) review process for the projects facing loss of funding at the end of the fiscal year (canal project # 277 and the 89th street canal in Marathon), we still need to address the PRD review for future projects. Garrett put forth a motion to request a general permit from USACE for canal projects, to avoid each project to be reviewed on a case by case basis. It is recognized that developing the GP process will take time but, once it is in place, it will streamline the review of future projects.

Blondin – Explained there is already a USACE process moving forward to expedite the PRD review; we just jumped on the train then hope it will avoid the need to develop a separate GP process for canal projects. This will expedite review time for future projects. Outcome is still in review, Sabin was contact at permitting. This replaced the previous motion.

Rios – who will take the lead?

Blondin – right now it is no one. Canal subcommittee should keep eye on it especially on technologies.

Maria via phone – Back in December pre-consulted for several projects. There is an expedited permit review that satisfied Protected Resource Division. Qualified with 10 day project review. Didn't allow them to pre approve as many projects as they expected, so they are working on adding other things into it. It's not like getting a GP for canals. If it meets the criteria, it is a much faster process.

Rios – Do we have an expectation on time, hurdles? Thank you for helping expedite the USACOE permits for these projects so we can meet the FY deadline for the DEP funding.

Maria via phone – no, not really. Will check with Sabin to verify.

B Causey – Crystal River field trip clogged with debris. Saw apparatus to remove the debris. He has the card from Gator, if county goes out for open bid. Seeing people who are doing their own work and are excited about technologies.

Blondin – Needed detailed construction methods. We gave them organic removal, air curtains, and back filling.

Rios – This is positive development especially since last meeting.

Blondin – This PRD review process is what takes so much time to process the permit applications.

Haag – Handed out canal restoration meeting draft – March 29 from 10 a.m. to 4 p.m. at Marathon's County Commission Group. She will send finalized copy to Rios and Blackburn. Length dependent on what needs to be covered. We need a long term plan on funding the projects. Need to

get in front of commissioners to see how to move forward in funding. Will this just be a discussion workshop, or commission meeting where decisions can be made? Asked committee's ideas for agenda.

Blondin – Topics include: Municipality support, funding mechanisms, identified issues related to demonstration projects, more formal mechanisms.

Municipalities agreed they will all be present.

Neugent – concerns about it changing to BOCC meeting, think it needs to be a workshop-more of an educational meeting. All municipalities should have a speaking role.

Haag – It will remain a workshop then. Will add slots for each municipality to speak on agenda.

Haag – All demonstration projects are underway. Last two should be finished in June. Completion of the \$5 million. Down to \$0. Stuck to tight budget and were able to add two extra projects.

Needs EPA, Blackburn, and DEP with follow up on the Florida Keys Reasonable Assurance Document (FKRAD).

Rios – Will send off agenda to Julie Espy of our Division of Environmental Assessment and Restoration to see if we can get someone to address the questions about the FKRAD. They have expertise since they implement the FKRAD and its requirements. Blondin already sent Julie the technical issues that need to be addressed.

Haag – Focus is if we keep showing progress, what will happen if we fail to restore canal water quality impairment identified in the FKRAD?

Rios – The Total Maximum Daily Load (TMDL) requirements could be imposed under the Impaired Waters Rule if the stakeholders do not complete the wastewater and stormwater projects or achieve the water quality targets by 2020. This means there may more stringent stormwater permitting requirements for the stakeholders. Basis is nutrient and other type of pollution, loading. Those reductions are expected to improve water quality. However, seaweed loading issues, canal orientation and depth etc., are not fixed by improving wastewater or stormwater treatment. So it is important that we continue to make progress with the canal projects to improve canal water quality by ceiling date of 2020.

B Causey – need testimonials, I think those are really powerful and it would be a good message for the commissioners.

Neugent – Projects have shown positive results. And, I hope that my colleagues will see this.

Rios – Recommends not only regulatory consideration, but also Florida Keys National Marine Sanctuary identifies water quality issues in the management plan. We have to bring in the comprehensive water quality plan to add that we have to work in the canals, not just storm water and sewer.

Blackburn via phone – canals came out as number one priority for the WQPP Steering Committee, in front of wastewater.

Haag – Long-term financing strategies – Need Lisa Tennyson to look at grants and other sources and Bob Shillinger, can we use tax dollars for restoration?

Neugent – Trying to change verbiage so we can use that for canal restoration.

Haag – There is no large funding for this. Canal program will have to work together to piece together a plan to get the money year-to-year.

Blondin – A lot of things will be co-shared so people can get it together ahead of time. Discussion will include what is done elsewhere in Florida and will discuss general tools and specific. Homeowner participation. Address operation and maintenance after two years. Bigger picture is long term funding mechanisms.

Sprunt – Add municipality attorneys as well.

Rios – C. Causey wants to add discussion of how to divvy it up.

Neugent – Needs template with maybe three options that can be tweaked. There are certain areas that have hand up to be next, formula will help with impact of who has to pay for this.

Forster - If homeowners commit, they move up in line.

Mullinex from public - homeowners need to know what is being proposed.

Neugent – Full transparency.

Rios – Under the demonstration program, the local governments are responsible for construction and installation of the technologies, but the responsibilities for long term maintenance goes to the canal property owners.

Sprunt – another year to figure out how to proceed after two years, but have been paying electric since it was installed.

Neugent – in future projects, we will participate as a partner, but then the residents need to make their contribution with maintenance, which needs to follow through.

Rios – We have to think about this will work long term.

Forster – it should either bring more people on board, or not.

Haag – find a couple realtors to see how it's changed in areas.

Neugent – funding - Restore money coming and increased allotment from \$5 million to \$12.5 million. Not sure where funding will go, but Neugent says he, as voting member, will vote for canal restoration.

Haag – Need a long-term plan, think of it as wastewater project. Master plan was simply a visit and rate all the canals - poor, fair, good. But, we need a plan on how to implement it. Including cost of full restoration. Annual expenditures. Management program, staff of one. Schedule year to year. Needs to happen in a formal plan. End result is nice canals, is end benefit, all technicality aside. Seeking solicitation for engineering contracts, funding strategies to move projects forward. Homeowner approval process - 75% for approval projects may be thrown out, not need to sign a project letters (may need legal opinion). 50% binding MSTU and add vote for each of those areas.

Rios – This is a critical item.

Haag – Sea level rise needs to be considered, may need to discuss that those affected first might need it first.

Neugent – residents could possibly define their own jurisdiction of canal homeowners in the area.

Sprunt – benefit to residence, maybe not have them have to sit through the entire technical process. Two public input, one before and one at end.

Haag - Want to end it on a happy note. Homeowner value raise.

Forrester – can you confirm methodology used and earmark which technologies could be used for each area?

Blondin – need data to make short summery of successes. Some smaller than others, but bullets will be at workshop, but important thing will be cost/benefits.

Public – too much time to add technologies on agenda.

Rios – maybe have technical experts on hand, maybe not to speak, but to answer questions.

Garrett – Homeowner financing: how much goes to MSTU and government responsibility? Countywide response?

Rios – Add speakers from steering committee meeting.

6. Update on water quality and benthic monitoring programs 11 a.m. Blondin

Rios – before and after monitoring will need to be done to see benefits. Have we decided to wait until construction is done for a period of time to see the affects, but seeing restoration is having an immediate effect in some considerations? Does this affect funding? Frequently or less frequently.

Garrett – We had to monitor every project, based on a projects like that, but monitoring money was better spent on construction. Suggest that monitoring might not need to be done at all.

Rios – Henry Briceno to show activity update slides via telephone conference, handout was distributed to committee members.

Briceno – proposes biannual surveys based on need.

Blondin – Can we have the monitoring schedule re-evaluated if we can see documented benefits almost immediately instead of dragging the process out over years?

Haag – data needs to be in by March 29.

Rios – only 2014 data on website.

Briceno – it will be updated for next week.

Rios – need to consider wrapping up long term monitoring for canal projects that have been completed where the monitoring is already showing improvements in water quality. We need to make sure the EPA funding does not run out before we complete the other demo projects.

Briceno – gathering data to determine compliance with the State water quality standards. We can show data changes to DO and PH. Will provide presentation at the water quality steering committee meeting next week.

Jason Howard and James Fourqurean, FIU – seeing sediment characters data changing. seagrass.fiu.edu for presentation. Seagrass in canals is goal. Organic rich muck on East Side of Big Pine Key, typical of sediment. Muck depth is C28 to Geiger – three feet on average as of last month compared with control, shows differences.

Neugent – Any benefit by planting seagrass?

Howard – density is important, density is not right yet (soupy muck) to introduce seagrass to the canals. Muck won't allow it to take root, sand is good for seagrass. Distance from mouth of canal important, as well as water quality outside of canal. No recent change outside of canals from most recent data. Good N:P ratio is 30:1. In canals, more nitrogen to phosphorous. Key Largo – 6 inches of muck and used backfill Canal 29 – 30 feet deep, backfilled. A microalgae stabilizing on sediment of backfill, depth will help with light, now 3-7 feet deep. \$1.3 million of backfilling. Residents see major improvements. Nutrients are still impeding seagrass growth. Canal 30 was control.

Haag – Need to address outside of the mouth of the canal at some point, because the muck right outside isn't being touched and could move back in to already restored canals.

Howard – the microalgae is technically better than the muck, does help oxygenate the canals.

Howard – 137 and 137 – decrease of carbon load. Not much of change, but this technology is supposed to take more time

Howard – 472 top and bottom sediment. Heavily wind influenced. After canal was opened, seagrass and life was abundant, closure it went back to the original state. Muck has started creeping back up. Changes is densities compared control with muck and mangrove snapper.

Howard – 266 – sampled shortly after completion. No floating rack after completion. For most of canal, a nice dense sand (that was placed). Sees that the outside rack would immediately come back in should there be a storm or the gate is shut off. County air curtain was not installed yet, new better one will be installed, right now is just old one.

FIU – benefit is FIU PH.D students not only works on these projects, but work on their own, too. Muck that is accumulating should continue to decompose. Like Howard found out bubbles that come up in canals are 2 percent or so of methane in sub terrain groundwater.

7. Filter Feeder Habitats as an alternative technology for canal restoration – Presentation Barry Wray and Patrick Rice, FKEC and FKCC, noon.

Overview – how to use indigenous organisms to help filter water habitats.

Rice – Filter feeders have been used for years to help filter for water quality. Natural environment was changed with canal dredging with ecological impact. Research shows that filter feeders for remediation technology is maturing with time especially in third world countries. We think this could be a pilot project to help along with the restoration projects. Project in FKCC lagoon. Filtration can be done by sea squirts, sponges, bivalves like oysters, layered horizontally, waste from filter feeders then creates food for other fish, etc. in water column. Can filter 20,000 gallons of water a day. Help remove phytoplankton in water column when

Wray – Engineering – we know that bubblers, etc. are working, if we add filter feeders to canals, then we can filter what the aerators are producing. Can be placed at docks to consume the organic matter. Habitats construction 3 feet long by 2 feet wide and 2 feet tall – attractive for filter feeders to attach to, and float in canal by floats. Haven't had to be removed because of storms. *Can create alkaline environments to create reef (debunked by B Causey)*. \$90/square foot might be able to go down to \$50. Timeline: 4-6 months to build and grow program. Active in spring and summer. \$175,000 to do two canals in Islamorada with bubblers. Divers at FKCC could be used. Installation would be done by FKCC and FKEC. Installed on private property. FKCC would find property owners.

Rice – Aeration is key to force water through these things. Acts like a mangrove would. Biomass can re-culminate after an event (like heavy rainfall).

Sharpe – Needs more scientific rigor for something to consider.

Rice – That's why we need pilot project to show the scientific rigor.

Rios – During last year or two the WQPP issued requests for proposals for EPA funding to research the effectiveness of alternative technologies for canal restoration. program to submit requests for. Didn't even get one application for that when it was put out. There may be money in that fund still?

B Causey – Special studies set up by EPA, they are supposed to ask very specific questions. Watch for those special studies to come out. Come next Wednesday to meeting and let the group know. A well designed project will answer questions scientifically.

Rios – take advantage of opportunities for funding in other vehicles, too. Maybe approach permitting folks and homeowners. Maybe the county, or municipality can help with funding.

Wray – not trying to gain anything but cleaner canals.

8. Public Comment

Blondin – her last meeting, but will still be available for helping if needed. (Lots of thanks from everyone for her dedication to helping the projects.)

Stewart Shackler Sugarloaf Shores Property Owners Association – we want to work with projects and we feel like we have a unique situation 384 and 388. Two canals are dredged right to culvert. Water is not flushing because red mangroves have choked out the culverts. May flow with just mangroves pulled. Will benefit everyone on the bay system, not just the canal property owners. The association is very motivated to get this done and want to stay on the radar. Want to see this high on the list and the community is behind it.

Richard Steffin – Eden Pines – understand funding issues, lives in middle of 18 lots, 9 homes, 6 are part-time residents. That canal is important to us and begin restoring these canals. Been living here for 16 years, there has been a lot of talk about it, but nothing has been done.

9. Next meeting date; place; agenda topics; adjourn

March 29 is committee meeting.

March 2 is water quality protection meeting.

April 22 – Tamiami Trail Ribbon Cutting

Next meeting date idea tentatively April 29?

Meeting adjourned at 12:50 p.m.