

Meeting Minutes

WATER QUALITY PROTECTION PROGRAM CANAL RESTORATION ADVISORY SUBCOMMITTEE

Meeting Date: June 14, 2013

Time: 9:00 a.m. – 12:00 p.m.

Location: Marathon Government Center, Board Meeting Room
2798 Overseas Highway, Marathon, FL 33050

Member and Advisory Attendees: Gus Rios - FDEP, Mayor George Neugent – Monroe County, John DeNeale – Key Colony Beach,; George Garrett – Marathon; Susan Sprunt – Islamorada; Alison Higgins – Key West (new member); Skip Haring – Layton (new member) .

Members not in Attendance: Steve Blackburn – EPA, and Billy Causey – NOAA, Charlie Causey – teleconferenced for a part of the meeting .

Advisory: Rhonda Haag – Monroe County, Wendy Blondin – AMEC.

Others: Barry Wray, Vicki Boguszewski and John MacDougall – all presenters.

Agenda

1. **Introduction** - Including New Members and Approval of the May 10 Meeting Minutes

Gus Rios opened the meeting at 9:00 a.m. He announced that Charlie Causey could not be in attendance, but would teleconference in for part of the meeting. The meeting minutes for May 10, 2013 were approved with no changes. Representatives from the City of Key West, Alison Higgins, and Layton, Skip Haring, were present. The members voted to accept them on the Subcommittee and welcomed them. All municipalities are now formally represented on the Committee.

2. **Presentations:** All presentations Limited to 10 Minutes / With 5 Minutes for Q&A

2A. Bio filter technology – Barry Wray with the Florida Keys Environmental Coalition. Mr. Wray provided a PowerPoint presentation on the use of filter feeders as a restoration technique. Mangroves filter water in natural areas, but not in canals if they are not present. He has built “condos” consisting of an engineered habitat that supports indigenous filter feeders. These filter feeders then naturally filter the water. There is a material called Bio-Rock that he uses that uses an electrolytic process that creates bio-rock that animals can attach to and live. It creates an alkaline environment that improves survivability. A pilot project is proposed to be located at MM 89.2, Indian Waterways (N. end of Plantation Key). Mr. Wray hopes to have this technology considered in the demonstration projects.

2B. Health Hazards in Canals - Vicki Boguszewski - Dept of Health.

Ms. Boguszewski provided a PowerPoint presentation and discussed that the body takes in toxins through body openings. Endocrine disruptors are in many canal waters in the Keys. They interfere with living organism’s endocrine systems and result in suppressed immune systems. Sewage is a polluter. There were two chemicals, arsenic and copper, that were found in slight exceedances in the sediment samples taken from the canals. She stated if we don’t restore the health of the canals we face the following:

- Continued risk of bacterial growth

- Continued risk of toxic exposure
- Continued risk of respiratory hazards
- Decline of property values
- Continued degradation of the ecosystem
- Continued decline of marine life

Benefits of taking action to restore the canals:

- Improved water and sediment quality
- Improved property values
- Reduction of health risk
- Reduction of ground contamination from displaced waters
- Potential improvement for flow in the overall aquatic ecosystem
- Potential restoration of marine life

2C. Changes in near shore biological diversity associated with residential canals in the Florida Keys and the Bahamas – John MacDougall. Mr. MacDougall provided a discussion on the Monitoring Impacts of Coastal Hypoxia in the Bahamas. He explained that canal eutrophication occurs in many Bahamian canals. The hypoxia events are caused by activity to the waters such as canal dredging. Eutrophication is the process by which a body of water acquires a high concentration of nutrients, especially phosphates and nitrates. These typically promote excessive growth of algae. Nutrient runoff and construction are the greatest threats to the coastal ecosystem. The monitoring work that is being done in the Bahamas’ canals by the University of Miami, which he is affiliated, is applicable to the monitoring of the Keys canals.

3. Update on the Phase 2 Canal Management Master Plan.

Update on the CMMP Phase 2 by Wendy Blondin, AMEC. Ms. Blondin stated that all canal site visits were completed under the CMMP contract. Dissolved oxygen (DO) is being used as a key indicator for water quality improvements. The large majority of the 502 canals had been visited. However, all canals were not able to be visited due to access issues. A discussion of how a water quality summary of Poor, Fair and Good was being determined for each canal was presented.

The criteria used to determine the canal water quality, which will be a key component in ranking the need for water quality improvement in a canal, is shown below:

- DO > 4 mg/l + no negative biological characteristics = “good” canal
- DO > 4 mg/l + some negative bio characteristics = “fair” canal
- DO 3.0 – 4.0 mg/l + some positive bio characteristics = “fair” canal
- DO 3.0 – 4.0 mg/l + some negative bio characteristics = “poor” canal
- DO < 3.0 mg/l = “poor” canal

The field assessment forms that are being completed at each canal visited detail the observed DO and biological characteristics.

The work is scheduled to be complete by September 30, 2013.

4. Update on the Canal Bathymetric Survey

Update by Wendy Blondin and Group Discussion. Ms. Blondin provided a PowerPoint presentation. 164 miles of canals were surveyed for depth and sediment. 482 canals were surveyed, 20 weren't accessible. A reading was taken every 50' for canal depth. Profiles were done and the GIS database was updated. Anyone can click on their canal in the program set up by AMEC using Google Earth and see their canal attributes. This will be placed on the County's web site. Sediment characterization was performed so that we could understand the organic content of the canals. 7 of the 10 canals sampled for soil sediments had arsenic exceedances. One of 10 had a copper exceedance. However, it was noted that the exceedances were fairly small. Several disposal options were presented for the sediments if they are removed to reduce the amount of dissolved oxygen in the canals. Wendy noted that the data collected helped define the exact depths of the canals, and that some of the deeper canals were not deep everywhere. This information was welcome news in that it will mean less cost for backfilling of the canals that are too deep.

5. Canal Demonstration Projects

5A Canal Demonstration Project:

Update by Wendy Blondin and Group Discussion. Ms. Blondin provided a PowerPoint presentation on the status of the Canal Demonstration project. Work has just begun under their contract. It was discussed that a canal must be designated as having "poor water quality", as determined during the Canal Management Master Plan process, to qualify for one of the demonstration projects. There were more than 100 canals labeled "poor" through Monroe County and the municipalities of Islamorada and Marathon. Layton, Key West and Key Colony Beach had NO "poor" canals. George Garrett and Susan Sprunt said that they will review their "poor" canals and decide if they want to be included in further canal evaluation and canal restoration retrofits. The County demonstration funds are only for canals located in unincorporated Monroe County, and therefore AMEC will not be further evaluating "poor" canals in the municipalities unless the other municipalities ask to be included and provide funding. AMEC has 90 days to provide the list of recommended demonstration projects and technologies.

Wendy suggested the ranking criteria for demonstration projects include:

1. Only "poor" water quality canals
2. public benefit (# of homes on the canal)
3. sort by technology (3 of each technology be included at a minimum)
4. restoration cost
5. elimination of canals to other issues (i.e. plugged canals...)

No final decision was made regarding the ranking criteria to be used. Members agreed to revisit the subject at the next meeting. The top 20 canals identified by the above ranking will be further assessed through field engineering evaluations and meetings with homeowners to determine their interest and funding support. A final list of 15 top ranked canals will be provided to Monroe County for final selection.

Discussion ensued and was agreed upon that homeowners will be responsible for 100% of maintenance, and that this may be a factor in the selection of projects.

5B. Discussion on using crushed glass as clean fill

Ms. Haag brought a sample of crushed glass from the recycling plant in Broward County. The glass was crushed almost to the consistency of sand, not the large chunks seen at other places. Wendy will talk to Dr. Kathleen Sealey at the University of Miami to see if this will potentially work as a canal fill. She stated the grain size is important as it can either help or hinder natural flushing of the water.

5C. Discussion on Homeowner participation in funding canal restoration.

Mr. Causey phoned in his comments. He supports a 30-40% mandatory cash match from homeowners. There was further discussion on whether a cash match should be mandatory or not. Mayor Neugent said he couldn't speak for the commission, and that we needed consistency to any and all who want to participate. He stated policy directive is needed from the BOCC, and directed Rhonda to approach the BOCC for feedback. There is a BOCC meeting next week and Rhonda will seek guidance.

George Garret said we shouldn't wait to do a canal restoration based on match \$. Mayor Neugent mentioned the RESTORE act funds would be helpful if the County receives them. Rhonda mentioned previous homeowner comments such as affluent neighborhoods may benefit from a required match, that out-of-town owners may not be willing to pay for canal restoration, and that any unproven technologies may be difficult to get match dollars from canal homeowners. Wendy stated that mechanical methods can be faster, but also more expensive. She reminded the group that the demonstration projects were meant to implement successful and proven techniques so that we gain a better understanding of the costs, permitting and standards. This information will be useful for future grant applications.

Public Comment: Jim Rhyne said he is interested in natural methods for canal improvements – not mechanical.

5D. Permitting Issues

Gus and Wendy had met with the permitting agencies, which include USACE, NOAA and DEP. Gus said that use of a blanket permit had not been decided yet. DEP offers pre-application meetings though. Different agencies have different requirements. The USACE needs a designated representative, as does the Sanctuary. DEP has already assigned a designated staff member. The DEO office at the State comments on permits too. It was decided that a team of regulatory staff need to meet and work together. Susan Sprunt will take the lead. Gus will assist. Gus will bring this topic to the July 10th Steering Committee meeting. Gus is to suggest developing a letter to the permitting agencies to request that they designate experienced permitting staff to work on the Keys canal projects. The idea is to convene a permitting team who will become familiar with the Keys canal restoration projects and who could provide joint pre-application meetings in order to expedite and streamline the permitting process. He will take this suggestion to the Steering Committee for their endorsement.

Mayor Neugent made a motion that the Committee include municipal representatives from all cities. Motion passed. Alison Higgins is the official representative of Key West and Skip Haring is the official representative of Layton.

Mayor Neugent said that if RESTORE funds come through, all municipalities will be included in the restoration projects..

5E. Water Quality Monitoring Program to Determine Restoration Success

There may be funds available from EPA to fund a water quality monitoring program to measure the “before” and “after” effects of canal restoration. A baseline survey will need to be conducted prior to construction of the projects. No further details are available at this time.

6. Public Outreach and Target Audiences

Update by Rhonda Haag and Group Discussion. Wendy is inputting all of the citizen questionnaires and comments into the canal GIS database. Gus Rios made a motion to include them on the County canal page website, George Garrett seconded it. Rhonda will not be scheduling separate public meetings for citizen input right now – it was deemed too early in the process. Rhonda may issue a Question and Answer fact sheet for the website.

7. Public Comment

Rick Lopez – He lives at MM103 in Bermuda Shores on a plugged canal. He is willing to help in any way possible.

Curtis Brown – BPK – He lives in Whispering Pines. He wants to clean and restore the canals. He said the first step after restoration is to avoid new pollution and new debris coming into the canals by using the technologies. Homeowners can’t afford to remove the muck. Assessments for the 30-40% contribution match may be doable, but they must be done properly. There are issues on who owns the canal bottoms. He is in full support of the demonstration projects.

Terry Peters – MM 86 Treasure Harbor. Homeowners back in 1986 used to fish in the canals. Then in the 1990’s conditions worsened, from development, runoff, etc. In 2005, their homeowners assessed themselves and installed aerators. They put in \$35,000 of their own money. The water below the 7’ depth is still a dead zone though. There were decreases in carbon dioxide and increases in oxygen levels in the aerated portions. Oxygen went from .08 up to 2.15 mg/l. The systems help with the sulfur smell. He will volunteer information on an aerator system. Their aerators run 24/7. They have 24 bubbler units, most in the deeper areas. Martin Moe helped. They used Vertex Corp from Pompano. It will be years though before they see further improvements. They want our help. Their average monthly electric bill for the pumps is \$150-\$170/month.

Jim Ryan – Islamorada homeowner and Marathon businessman. He owns Bio Rock, which was discussed in a presentation earlier. He wants to know how the demonstration projects will get ranked. How will they be measured to see if they work? Will monitoring be done?

Deb Curly – Cudjoe – she has 4 feet of muck in her canal, and she wants help with restoration.

8. Next meeting date, place, agenda topics.

Friday, July 12, 2013, 9:00 a.m. – noon at the Marathon government center.

It was also noted that the WQPP Steering Committee is meeting Wednesday, July 10 at 9:00 a.m. in Marathon at the County Government Center, BOCC room

Agenda topics: Permitting team, City participation, ranking criteria, citizen’s match.