

**George Junkin's Meeting Notes From
Wednesday, 27 June 2007
South Bethany Water Quality Committee Meeting**

Meeting was held at Ron Wuslich's home at 2:00PM

In attendance from the committee were

- Al Allenspach
- Gary Jayne
- George Junkin
- Al Rae
- Ron Wuslich

We had one guest, Muns Farestad, from the University of Delaware. Muns is one of the leaders in the volunteer water quality monitoring program.

We expected to also have Joe Farrell, Resource Management Specialist with the University of Delaware Sea Grant. Joe Farrell has knowledge of some of the history of work done on Anchorage Canal, including the Maxted study, a 10 week Citizen Monitoring Program study in 1995, a concurrent bacteria study in Anchorage and Petherton canals, a Nutrient Load study establishing the watershed boundaries, and has some information regarding the recent modifications to the Anchorage Canal catchment basin. However Joe thought that the meeting was in Lewis not South Bethany.

Muns filled us in on the Volunteer Water Quality Monitoring Program.

One set of readings do not need any water to be sent to the lab for processing. The volunteer does all of the work. The volunteer takes the reading once a week before 10AM on preferably the same day every week. The effort takes about 30 minutes each time. The one time cost for the equipment is about \$100. The cost for chemicals and expendables is about \$80/year. The readings that are taken are:

- Water Temperature
- Salinity
- Dissolved Oxygen
- Secchi Disk to measure water clarity
- Date and Time of day
- Weather
 - Cloudy, sunny, raining etc.
 - Air Temperature

Another set of readings requires that the water samples be sent to the lab. They include a determination of the levels of

- Nitrogen
- Phosphorus
- suspended solids (such as phytoplankton)

- bacterial.

For the bacteria readings the sample must be processed within 6 hours. For the others it is about a day or so. For some of the measurements the water is put through a filter and then the filter is frozen for processing at a later date. Right now they have a large backlog of frozen data that will be processed when more time is available in the winter. As I recall they do not take much data in the winter.

Al Rae and George said that the SBPOA is more than willing to supply volunteers. They also said SBPOA could donate dollars (hundreds not thousands) to support the effort. Muns appreciated the offer. He will get back to us. I think the issue is him managing the volunteers, processing the water samples and managing the data. He wants enough volunteers but not too many.

Muns monitors site SB10 which I believe is the Russell Canal. Lyoyd monitors SB07 which is at his dock on Layton Canal.

We discussed the Tidal Pump and Muns thinks it is a very good idea. Probably the thing that will do the most for improving the circulation and dissolved oxygen in our canals.

George showed his sketch of the forebay. Muns did not know much about forebays.

We talked about the 1990 reports that twice measured about 100 Enterococcus colonies/100ml at the west end of the Anchorage Canal. This was above the action level of 52, however Muns said 100 is actually very low. When we talked about the 2001 report that listed Fecal coliforms in the 10,000 to >800,000 colonies/ml, he said that was very high. He said that when it rains we will get bacteria into our canals. even if we stop the storm water from coming in at Anchorage. We have people living right on the canals. When it rains we will get bacteria washed into our canals.

Ron kept pushing for defining “what is the committee’s first step?” George resisted saying that he was not knowledgeable enough yet to know.

Ron wants to have a meeting with Ron Greer and Ron Cole to find out what DNREC and DelDOT are going to do about our problem. George said that Ron’s statement has to be rephrased. We need to have a meeting with Ron Greer and Ron Cole and possible other stake holders to find out what our options are to fix our problem. Muns asked “Can you define the problem?” After a lot of discussion we came to the conclusion that our committee’s objectives should be to make our canals “Fishable and Swimable”.

Ron chased us out at about 4:30 since he had a CAC meeting to go to. Muns thanked us for having him. He like the way we were trying to address the issues and that we cared. I believe we have a lot more learning to do so that we can become effective in obtaining whatever it is that we need.

I took a cut at a plan.

Straw Man Plan

All actions are not necessarily serial. A lot can go on in parallel

- Document the water Quality in our canals
- Document Sources of pollution entering our canals
 - Stormwater Runoff
 - From 65 acres north of us
 - Rt. 1 itself
 - McDonalds
 - Sea Colony
 - Etc.
 - From 55 acres through 50 grates along Rt. 1
 - From SB flood mitigation efforts
 - From roof down spouts directly into the canals
 - From roof down spouts on soil adjacent to canal
 - From rain water on impervious surfaces.
 - From rain falling directly on the canals through the polluted air
 - Little Assawoman Bay
 - From farming
 - From Development
 - Etc.
 - People living on the canals
 - Shower directly into canals
 - Shower on soil adjacent to canals
 - Fertilizer
 - Weed killer
 - Boat antifouling paint
 - Gas/Oil
 - Grass clippings
 - Bulkheads made from pressure treated lumber
 - Etc.
- Develop candidate approaches to mitigate each of the above
 - Candidates that help all Categories
 - Fill the canals and make them into bioretention wetlands
 - Tidal Pump
 - Stormwater Runoff
 - Treat the sources
 - Rapid Sand Filtration Systems (Delaware or Austin Sand Filter)
 - Media Filter – StormTreat™ System retention device. (\$10,000 to \$40,000 per acre treated)
 - Extended Detention Basin (~\$10,000 per acre)
 - Infiltration Basin (~\$10,000 per acre)
 - Wet Basin (~\$30,000 per acre)

- Infiltration Trench (~\$20,000 per acre)
- Biofilter (~\$30,000 per acre)
- Multi-Chamber Treatment Train (MCTT) (~\$30,000 per acre)
- Oil Water Separator (~\$30,000 per acre)
- Rain barrels for roof run off
- Treat the resulting flow
 - Fill the canals and make them into bioretention wetlands
 - Pipe to a constructed artificial wet land south of South Bethany
 - Pipe to the little Assawoman Canal
 - Pipe to the ocean
- Little Assawoman Bay
 - Support the PCS
 - I think this is too big for us to try to address
 - However the tidal pump will help them and us by bringing ocean water into the system
- People living on the canals
 - There is a lot we can do here. We have control here. If we are not willing to fix this then why should we expect other stake holder to help us improve the water quality in our canals
- Obtain funds to study the candidates and to identify more candidates
 - Chris Bason's proposal is a start
 - Gary's lobbyist has some ideas
 - Randy Greer and Randy Cole may have some ideas
- Develop the candidates that we want to implement
- Get funds to implement.