

MEMORANDUM
Weeks Bay Watershed Management Plan

TO: File
FROM: Mike Eubanks
DATE: July 20, 2016
SUBJECT: Stakeholders Working Group Meeting #5
DISTRIBUTION: MBNEP, BCSWCD, Thompson Team, Stakeholders Working Group

1. The meeting was conducted on July 20, 2016, at the Baldwin County Central Annex II (on Palmer Street) between 8:30 and 10:20 AM. Copies of the agenda and attendees present are attached.
2. Bob Higgins initiated the start of the meeting with opening remarks and had everyone introduce themselves.
3. Mike Eubanks reported the overall project status.
 - a. An outline for the Watershed Management Plan has been drafted based on information from other watershed reports prepared for the MBNEP.
 - b. In relation to pathogens and nutrients, the windshield livestock and turf farm survey has been completed and coordinated with NRCS (approximately 2,750 cattle, 700 horses, 300 other type livestock, and 3,300 acres of turf farms); sewer service collection system survey complete except for Fairhope; septic tank inventory for 2002-2013 is complete; wildlife population estimates are being gathered from the USFWS and ADCNR.
 - c. The Thompson Team met with Marlon Cook a few weeks back to discuss his progress. Marlon Cook has completed the field work on Fish River and is almost finished with data analysis, e.g., generation of sediment curves for Latif's modeling.
 - d. The NPDES permit database has been updated (thanks to ADEM Mobile Field Office assistance – Dana Denson).
 - e. Baldwin County provided GIS data for the dirt road survey. Several roads have been paved since it was last updated, so the database has been updated with 2015 Google imagery. The dirt roads will be overlaid with different soil erodibility (K factor), slope, and wetland/stream layer maps to identify potential hot spots for field review. Google imagery was utilized to identify potential erosion and sedimentation sites in the watershed. Joey Koptis will provide the NRCS database of gullies. Emery Baya stated that the project is still in its early phases where the team is physically checking hot spots, and if anyone has knowledge of other erosion/sedimentation hot spots in the watershed, please inform us.
 - f. Information gathered for the Watershed Management Plan will be entered as much as possible into a GIS database to assist in the analysis process.

- g. Impervious surface information for the watershed has been downloaded from the National Land Cover Datasets for 2001, 2006, and 2011.
- h. NRCS historical aerial photos were gathered from 1949 and 1955 to portray the Weeks Bay Watershed. Thanks to Joey Koptis and Larry Morris for helping in this effort. An aerial mosaic constructed from the 1955 photos of the watershed was on display at the meeting for attendees to review.
- i. Census information, past and present, is being gathered to characterize the watershed area. Tract and block data will provide detailed population data for the watershed. In addition population projection data are being gathered to evaluate growth trends for areas within the watershed.
- j. John Carlton and Neil Johnston have been putting together a regulatory matrix. They are coordinating with MBNEP who is currently involved in a Sea Grant project gathering similar zoning and similar planning regulation information for municipalities in Mobile and Baldwin Counties. Christopher Grant will also be developing a similar matrix/questionnaire for planning regulations and identification of watershed growth areas for coordination with municipalities and the county. He plans to conduct some target meetings with appropriate planning folks at the county and city level in the coming weeks.
- k. Vittor and Associates is working on the wetland assessment. They are using the Baldwin County ADID wetland map (2005) as a starting point for the 2016 watershed wetland map, modifying the ADID where necessary based on LIDAR elevation data, soils data, and 2015 true color aerial imagery. The primary focus is on floodplain wetlands associated with the various streams, creeks, and rivers in the study area. Other wetland data sets such as NWI and Alabama GAP (2001) are providing supplemental information. These digital spatial data sets are being viewed and analyzed in GIS.
- l. SWAT modeling is progressing as Dr. Kalin has calibrated the Magnolia River model for flow, NO₃, and PO₄ on a daily timestep, while the other water quality constituents are calibrated on a monthly timestep. The Fish River model flow component has been calibrated (daily timestep), but is awaiting Marlon Cook's data to complete the calibration of those constituents.
- m. Ecology and Environment is working on the shoreline vulnerability assessment for the tidal areas of the watershed, as well as the sea level rise/climate change analyses. Sidebar discussions are continuing with MBNEP on the specific details of the sea level rise/climate change evaluations.
- n. A Low Impact Development/Green Infrastructure narrative is being developed to help determine implementation measures to better handle stormwater, particularly infiltration of rainfall close to where it falls.
- o. Caroline Garsed put together information about the history/culture/heritage of Weeks Bay Watershed. If anyone likes or knows history regarding the watershed area then their help

- would be greatly appreciated. Contact Mike Eubanks if interested in being a part of the history/culture/heritage team.
- p. Phil McIntosh at Thompson Engineering is coordinating with FEMA representatives on their ongoing flood map updates for Baldwin County. Rick Wallace asked why we need to wait to hear back from FEMA and if the flood prone areas known by local watershed residents and municipalities can be identified now. Mike Eubanks said he will talk to Phil about the possibility. Rick Wallace and Dick Sute mentioned they have identified high water marks along Fish River for various hurricane and rainfall flood events, e.g., Hurricane Danny, Ivan, Katrina, and the April 2014 flood.
 4. Bob Higgins transitioned the conversation to discuss the objective and purpose of the meeting. The main objectives are to identify where we are and the potential implementation measure projects to be funded. Vision – to know where we were so from a flooding/water quality standpoint, can view what would happen if no action is taken. Baseline – do we have enough data to anticipate growth and impacts? Would be interesting to query potential growth and impacts to help counties figure out what needs to be done. Based on what the watershed may look like in 20+ years, what do you think should be done and can the models be utilized? Bob then asked the group what the steps are to make it happen, where are the areas projected for rapid growth rates, and can the information be modeled? From the March 2nd Workshop, what do you want on your lists, what data do you need, and can you identify what needs to be modeled?
 - a. Bob also asked if Mayors should be included? Ken Underwood stated that it would be a good idea and specifically mentioned Charles Murphy and Dane Haygood. Bob suggested setting up a meeting with them to discuss issues. Dane Haygood is the current chair of the Baldwin County mayors group.
 - b. Jennifer Fidler stressed the importance of keeping everyone on the same page as the watershed management plan development moves forward.
 - c. Dick Sute mentioned the importance of using the plan to talk to County Commissioners about the watershed since the majority of watershed is in the unincorporated areas of Baldwin County, not within municipal corporate limits. Christopher Grant responded that the data collected and implementation measures will also help convince Commissioners. Dick Sute brought up the topic regarding zoning. Bob Higgins said the purpose of the plan is to identify problems to get counties and municipalities to start working together or start conversation. Bob also stated, if we have models, why not use them to determine what to put in place? Sute stressed the importance of getting the county involved.
 - d. Amy Newbold brought to everyone’s attention the Government Network Committee meeting that is taking place September 16th and is organized by Christian Miller. It is a Mobile and Baldwin Counties Committee comprised of Commissioners, Mayors, and State representatives. Amy will discuss with Christian the possibility of briefing this group on the Weeks Bay Watershed Management Plan efforts and status.
 - e. Christopher Grant mentioned the idea of implementing conservation easements to manage waterways to control stormwater, which will remain as open space to help filter

- waterways. In order to consider, the City would have to be notified. Bob asked if it was implemented, what the impacts or results would be.
- f. Bob brought up the issue of poorly maintained subdivision stormwater ponds. Gerry McManus asked whether there is an annual inspection of stormwater ponds but does not think the Home Owners Association can financially support maintenance. He also stressed the importance of educating the public on these type stormwater management facilities. Neil Johnston commented on the legal responsibility of the Home Owners Association to operate and maintain stormwater detention ponds for their respective subdivisions. Many subdivisions don't realize or embrace the legal responsibilities that everyone owns the common areas in the subdivision and are responsible for their upkeep. Bob asked Seth Peterson how the county handles the stormwater ponds in the unincorporated areas of the county. Seth responded saying that the county has regulations in place for these ponds but the enforcement authority is unclear. Jennifer Fidler and Miriam Boutwell stated that the cities of Fairhope and Foley have regulations for operation and maintenance of subdivision stormwater ponds by the Home Owners Associations.
 - g. Bob then asked Joey Koptis what he thought from an agriculture standpoint of the most important watershed management measures: Joey stated that other than gullies, soil quality is vital and more people should practice cover crops in order to build the organic carbon levels back in the soil. These cover crops and increased organic carbon levels can increase rainfall infiltration by 27,000 gallons per acre. He also said that the livestock survey performed by Thompson was very helpful to identify some large cattle herds previously unknown to him – opportunity to dialogue with those farmers on the NRCS programs.
 - h. Bob turned back to Gerry McManus and asked about septic tanks. Gerry is unclear how many and which ones are working properly. The Baldwin County Sewer Service is offering a discount for people to switch from septic tanks to sanitary sewer service and so far have converted over 1,000 customers. Flyers are also sent out with EPA recommendations for proper care. They are trying to educate people since several septic tanks are failing. Teddy King mentioned that the health department had tried to get a requirement several years ago for septic tank owners to recertify every 5 years. That requirement did not pass then, but perhaps it might be worth trying again.
 - i. Gerry asked if it is possible to determine the different sources of bacterial pathogens. Scott Jackson said a bacterial source study had been done a few years ago by the NERR but no definitive conclusions could be drawn. Mike Eubanks stated that DNA testing is a possibility but is very expensive (about \$900 per sample).
 - j. Dick Sute asked whether there is a real bacterial pathogen issue within the watershed since many of the major contributors livestock, wildlife, and septic tanks are decreasing. Mike Eubanks responded stating that ADEM has developed a TMDL that recognized the bacterial pathogen as an issue for all of Fish River. Pathogens exceed the swimming

- standards. John Carlton pointed out that SSO's, animals, and runoff are also sources of pathogens and ADEM is still working to see which areas deliver more pollutants than others. According to the TMDL, Fish River bacterial levels must be reduced by 65% in order to meet standards. Emery Baya reminded everyone that Latif's model will include bacteria, but the level of accuracy for modeling this parameter is uncertain until the model is calibrated and some results are available.
- k. Dick Sute thinks it would be a good idea to have permanent testing stations where water quality would be checked weekly. John Carlton said it would be too expensive to determine all the hot spots and sources in such a large watershed. Amy Newbold also stated that monitoring would be costly. Volunteer water quality samplers (e.g., Alabama Water Watch) have helped in the past but the bacterial pathogen problem is remaining consistent. The watershed management plan will include some recommendations for future monitoring efforts.
5. Bob Higgins asked the Stakeholders what things need to be done that have not been talked about and used the example of Low Impact Development (LID) rules.
- a. Jennifer Fidler – there are several LID options people can choose.
 - b. Bob asked if LID was done county wide, what would happen and can it be modeled?
 - c. Amy Newbold - modeling LID practices is a great idea and a good potential to ask for grant money. She mentioned that Dr. Kalin had been contracted by MBNEP to evaluate effectiveness of several LID measures implemented in the Threemile Creek Watershed.
 - d. Jennifer Fidler thinks having recommendation and financial incentives would really help developers.
 - e. Emery Baya reminded everyone that LID is not one-size fits all. Since there are only a certain number of scenarios that can be modeled, what scenarios does the group want to see? Does there need to be another meeting to decide on what to tell Latif exactly what to model? Mike Eubanks said the decision needs to be made within the next four weeks.
 - f. Scott Jackson – there are numerous variables, need to identify main ones each municipality will want to look at. The model or some type of planning tool needs to be user friendly and simplified to assist in future planning decisions. Rick Wallace thinks water quality in Weeks Bay Watershed will not be the key decision factor for planning of all the municipalities and the county, and does not see them wanting to run the model. Scott Jackson responded stating that is where education plays a major role. Bob also emphasized the importance of having a Watershed Group to commit to the model annually that could affect development. Scott Jackson – the goal is to form strong, organized groups from this process to have voices and influence on the matter.
 - g. Emery Baya – Latif will perform a sensitivity analysis on the model. NOTE: Subsequent to the meeting Dr. Kalin provided the following information regarding the sensitivity analysis. “We perform sensitivity analysis to figure out the most sensitive model parameters. Calibration then focuses on those parameters. Imagine a model having 40 parameters. Out of these the model might be sensitive to only 5 of these. We then try to

- calibrate only those parameters, for the rest we keep the default values. Sensitive parameters differ from watershed to watershed (or in general the system modeled) because the dominant processes might differ and each parameter is associated with a process (only in process based models like SWAT). Sensitive parameters list also gives clue on dominant processes in a system.”
6. Bob Higgins asked who Rick Frederick (MBNEP, outreach person) should talk to within the group regarding the watershed management plan. Suggestions included:
Young Farmers in Baldwin County, Baldwin County Realtors, Home Builders Association, AGC, Chambers of Commerce, Fire and Rescue, School Board, Road Builders Association, Home Owners Associations, Environmental Groups, Nongovernmental Organizations, Weeks Bay Advisory Committee, and representatives from each municipality.
 7. Mike Eubanks stated a few reminders bringing the meeting to a close. The possible SWG boat trip only had one person who expressed interest, but Mike Shelton had offered availability of some canoes and kayaks if more people expressed an interest. The 29th Annual Alabama Coastal Cleanup day will take place September 17th, 8am-noon (more information to be provided later).
 8. The next meeting of the SWG is scheduled for September 14, 2016 in the Baldwin County Central Annex (on Palmer Street), Robertsdale, AL, from 8:30 to 10:00 AM. The frequency of meetings will continue to be once every two months on the 3rd Wednesday of each month.

Action items and critical dates:

1. Items need to be included in Latif’s modeling need to be identified within about four weeks.
2. Christopher Grant will meet with the municipal and county planning staff members over the next few weeks to review current ordinances and subdivision regulations and to discuss their growth forecasts.
3. A joint meeting of the municipal and county planners will be held once the growth ideas from Christopher’s meetings are consolidated onto a single watershed map. This will occur in about four weeks. The output will be a potential growth forecast for the baseline flood and water quality models.
4. Individual meetings with other stakeholders to identify alternatives that ought to be included in the models also need to occur within the next four weeks.

Prepared by
Courtney Harkness and Mike Eubanks

Attachments:

- a. Meeting Agenda
- b. List of Attendees



Weeks Bay Stakeholder Work Group

Baldwin County Central Annex

8:30 – 10:00 am July 20, 2016

AGENDA

1. Opening remarks
2. Overall project status – Mike Eubanks
3. Potential recommendations for action and funding
4. Roundtable discussion
5. Next steps
 - a. Future Stakeholder Work Group meeting schedule
 - b. Subgroup meeting schedules re action plans

Next meeting: Wednesday, September 14th, 8:30 – 10 am,
Baldwin County Central Annex, Robertsdale

Weeks Bay Watershed Management Plan, Stakeholders Working Group

Meeting, July 20, 2016, List of Attendees

1. Larry Morris, Baldwin County Soil and Water Conservation District
2. Joey Koptis, USDA-NRCS, District Conservationist
3. Seth Peterson, Baldwin County Highway Department
4. Gerry McManus, Baldwin County Sewer Service
5. Amy Newbold, MBNEP
6. Ronnie Northcutt, Baldwin County Soil and Water Conservation District
7. Jennifer Fidler, Fairhope Department of Public Works
8. Dick Sute, Homeowner Interest, Fish River
9. Teddy King, Homeowner Interest, Magnolia River
10. Rick Wallace, Weeks Bay Foundation
11. Steve Heath, Homeowner Interest, Fish River
12. Shannon McGlynn, Alabama Department of Environmental Management
13. Amanda Locascio, Alabama Department of Environmental Management
14. Miriam Boutwell, Foley Community Development Director
15. Ken Underwood, Mayor of Magnolia Springs, Homeowner, Magnolia River
16. Mike Eubanks, Thompson Engineering
17. Courtney Harkness, Thompson Engineering
18. John Carlton, Thompson Engineering
19. Emery Baya, Thompson Engineering
20. Caroline Garsed, Thompson Engineering
21. Bob Higgins, Higgins and Associates
22. Scott Jackson, Ecology and Environment
23. Tim Thibaut, Vittor and Associates
24. Neil Johnston, Hand Arendall LLC