

FEAB August 2019

FEAB MEETING MINUTES

August 9th, 2019

3:00 p.m.

Fairhope Public Library Board Room, Fairhope, AL

Member Attendees: Gary Gover, Mike Shelton, Ben Frater, Jim Horner, Tony Pritchett, Jeanine Normand

City Council: Jimmy Conyers

City of Fairhope: Kim Burmeister, Planning and Zoning Department; Christina LeJeune, Planning and Zoning Department; Jessica Walker, Director of Economic and Community Development; Sean Saye, Fairhope Docks Manager

Honored Guests: James Watkins, Lee Faulk, Mike Nance, Amy Paulson

Minutes taken by: Kim Burmeister

FEAB MINUTES:

May 2019 minutes were approved.

June and July 2019 had no quorum.

DISCUSSION OF ITEMS:

New Member:

MOTION

Gary made a motion to accept Amy Paulson's membership to FEAB, pending council approval. Ben approved the motion, Jim 2nd. Motion approved unanimously.

Membership Discussion:

Jeanine said the FEAB by-laws should state that non-attendance (3 or more meetings) results in forfeiture of membership.

Gary said the by-laws need to be revised to better address non-attending member.

Note: according to Lisa Hanks, the by-laws currently state:

Sec. 2-82. - Membership.

(a) Members will usually be residents of Fairhope. They will be interested in the environmental issues. Employees of environmental agencies or companies having economic interests in environmental matters will be welcome to attend board meetings and comment on issues under study.

(b) **The board will consist of six (6) to ten (10) active members. Members may be nominated by the mayor, city council or by other members. Members will be appointed by the city council.**

(c) The city will assign a qualified employee to attend meetings and be responsible for taking meeting minutes to be distributed to members and other interested parties and maintain an up-to-date listing of members and their addresses. Other city employees with environmental responsibilities are urged to attend meetings.

(d) The board may have sub-committees, such as tree or recycling committees, which will each have its own chairman and appropriate objectives. Such sub-committees may meet separately as needed, but will report their activities in regular monthly board meetings.

(e) The city council will appoint one (1) councilman to attend board meetings and/or keep informed of board activities. At a minimum, the councilman will meet with the board chairman every three (3) months to keep apprised of environmental issues under consideration.

Greeno Road Overlay & use of watershed management plans

Gary mentioned the recent City Public Meeting discussing the proposal of an overlay district on Greeno Road. He said the watershed management plans should be used in these types of plans and developments. The City watershed plans (Volanta and Fly Creek) are currently on line for reference:

<https://www.fairhopeal.gov/departments/planning-and-zoning/publications-and-forms>

Gary said city needs follow up on how recommendations from these watershed plans are being used, including the Weeks Bay Watershed Study. The Weeks Bay Watershed Study was not a city project but relates to a significant area within the City of Fairhope.

Gary mentioned some recommendations which have been implemented:

1. Fly Creek – purchase of 108 acres (Triangle property)
2. Volanta – creation of bio-retention areas and out fall upgrades in Volanta Sports Park

Gary said the retention areas at Volanta Sports Park are likely in need of maintenance. Kim will copy Richard Johnson, Public Works Department, on this request for maintenance assessment.

Dyas Triangle Resolution:

Tony introduced a draft resolution:

MOTION

Resolution: That the City Council hereby authorizes Council President and at least one other City Council Member to initiate and coordinate a process to implement a use of the property plan in the Dyas Triangle to establish the Fly Creek Watershed Collaborative Group to engage key stakeholders specifically to explore, utilizing published data and research, the land and water recourses in the proximity of the City's property known as the Dyas Triangle.

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Jim approved the motion; Tony seconded the motion. Motion approved unanimously.

Jim said it is imperative that a vegetative survey be done of the triangle before any development or decisions are made on this property.

Jimmy said he has already mentioned to Council the desire for a vegetative inventory and the thought is that this will come with the Fly Creek /Eastern Shore Watershed assessment. Some information on survey of vegetation is listed in the 2012 City of Fairhope Fly Creek Watershed study.

Jimmy said there is a lot of misinformation being shared on the conservation easement idea. City would retain and manage property if there was a conservation easement on the property. Development restrictions would be approved by the Weeks Bay Reserve.

Mike said it would be good to have a biologist involved with any decisions relative to the triangle property.

Fairhope Docks

Sean Saye gave an update on Clean Marina standards for the Fairhope Docks.

He is working on the 15-page worksheet which gives gauges how close to compliance the facility is. Don Bates with the Harbor Board is working with him on this. Compliance and worksheet are simplified since there is currently no boat yard. Stormwater plans for the facility are complete. Sean is working on Standard Operating Procedures for the marina which will be a guidance document for chemical and pesticide use, among other things. The evaluation for Clean Marina eligibility is nearing completion and the facility is close to compliance of Clean Marina standards. If there is a boat yard in the future, a catch basin will be installed for pressure washing. Sand blasting will likely not be allowed.

Kim asked about full time occupied boats: Sean said there are currently 5 live a-boards at the marina.

Tony said obtaining Clean Marina certification will be a big credit to the City of Fairhope. Zeke's is currently the only other known Clean Marina in Baldwin County.

Maximum Residential Lot Coverage Standards

Jim would like to see changes in the Zoning Ordinance and building code standards as it relates to maximum allowances for lot coverage for residences:

Currently at 30% based on square footage

Proposed 40% total impervious surface footprint (to encourage pervious sidewalks, driveways, etc.)

Gary asked how this would be implemented.

Jim suggested sending to pertinent City department heads for consideration if the motion is approved. This would be:

Erik Cortinas, Building Official

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Hunter Simmons, Planning and Zoning Manager
Buford King, Development Services Manager.

MOTION

FEAB recommends a major change to the building code that would replace maximum land coverage by buildings on a residential lot of 37% of the total lot area. We recommend it become a maximum of 40% of total impervious surface of the total lot Area. The best way to control stormwater is at its source and this would be a good step in the at direction. Calculations for home sizes for three different lot sizes show that 37% is a very generous standard: Example of current allowance:

Lot Size:

75'x140= 3,850 s. f. house and side building

100'x200'=7,400 s. f. house and side building

145'x300'= 16,095 s. f. house and side building

There is currently a process to obtain exception. The 40% impervious surface would also give the builder more latitude by using pervious products for driveways and sidewalks.

Jim opened the motion; Tony seconded the motion. Motion passed unanimously.
Gary said it needs to be determined how these fit into non-traditional zoning areas like Planned Unit Developments (PUDs).

Global Environmental Impacts

Gary mentioned three things the City can do to address environmental impacts:

1. Promote population of trees
2. Promote tree protection on residential properties (current Tree Ordinance only regulates tree protection on non-residentially zoned areas)
3. Address sewer impacts to Mobile Bay: According to Gary, Mobile Bay Keeper recently cited Fairhope as the #3 threat to Mobile Bay:
Number one: Mobile, Number Two: Pritchard

Mike will study #1, promoting tree populations

Mike and Tony will study #2

Richard Peterson is working on #3 sewer impact / utility improvements

Gary thinks sewer infiltration into stormwater outfalls is a big part of the problem.
Kim said MS4 program requires City to assess (visually) 20-25% of all outfalls every year. Currently there are 630 delineated outfalls in the City of Fairhope (some are privately owned but are included in the visual assessment).

Tony asked if the City had any ordinances specifically prohibiting the filling of wetlands.
Kim mentioned the 2008 Wetland Ordinance which regulates within 20' of a wetland.

Beach Pollution, North Beach Park Pollution:

Gary provided information, attached, studies from 2012 and 2013.

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Motions presented and approved:

1. Acceptance of new member Amy Paulson
2. Dyas Triangle Use
3. Maximum lot coverage

Meeting adjourned at 4:15 p.m.

Next meeting is September 13th, 2019, Fairhope Library Board Room

FEAB CONTACT INFORMATION:

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CITY CONTACTS:

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Kim Burmeister, Planning and Zoning Department	kim.burmeister@fairhopeal.gov

Background

Based on completed studies and available monitoring data, there are multiple potential sources of pathogens, evidenced by the indicator bacteria, entering the recreational waters of Fairhope's North Beach Park. Sources such as waterfowl, seabirds, animal and human wastes in storm-water, runoff, and sediment contribute to fecal contamination at the municipal beach. The North Beach Park is the municipal facility where fecal beach pollution is having the greatest impact on public health and recreation. Additional assessment is needed to quickly and more specifically identify and locate the potential sources and controls of pollution of the recreational waters at the North Beach Park.

Observations and Recommendations

Observation 1: Storm water runoff is a major factor in fecal pollution of the North Beach Park recreational bay water. It conveys the contaminant and nutrient factors of pollution from whatever the sources are to the beach.

Observation 2: The gullies provide fundamental detention/retention/infiltration facilities for managing most of the storm water runoff affecting the North Beach Park.

Recommendation 1: Weirs and other gully features control the beneficial detention/retention/infiltration characteristics of the gullies to economically manage the storm water runoff flows and qualities affecting the North Beach Park. The City of Fairhope should be able to utilize the characteristics of the Stack Gully and the Big Mouth Gully to manage two thirds of storm water runoff that can potentially affect the North Beach Park swimming area. Study may be required to determine how the gullies can be improved to achieve results desired at the beach.

Recommendation 2: The drainage over the bluff in the “beach” sub-watershed merits further study to identify warranted improvements. The storm water runoff flows erode the bluff and the park, requiring considerable maintenance and repair. An effort is needed to determine feasible improvements that reduce erosion and flooding and increase detention and infiltration in the area of the bluff.

Recommendation 3: The duck pond needs further study to identify warranted improvements. The pond is in four segments plus a filtration pond. Only one of these five bodies of water is aerated to control mosquitoes which transmit certain diseases from birds to people. Storm water runoff carries silt into the filtration pond, reducing its effectiveness. The filtration pond may not be large enough to handle the outflow of the duck pond. A significant amount of unfiltered pond water spills directly to the bathing beach most of the time. The quality of the water in the duck pond needs to be monitored. Water should be tested for indicator bacteria and basic nutrients during the recreational water use season at monthly intervals for a period of three months. This would require three tests at a single site. Afterwards, ongoing testing should be a routine.

Addendum A– Rapid Assessment Work Plan Summary

Conduct a pollution source assessment of the North Beach Park, its two proximate watersheds, Stack Gully and Big Mouth Gully, and Fairhope's Municipal Pier:

A. Obtain suitable existing topographical maps of the park area and the watersheds, then:

Identify and show the ridge-line boundaries of the watersheds.

Identify and show the significant storm-water flows.

Identify and show significant land uses within the watersheds.

Identify and show the location and condition of existing storm-water conveyances and discharges.

Identify and show the location and condition of existing sanitary sewer conveyances.

Identify and show the location and volume of sewage overflows and spills reported in a recent twelve-month period.

Identify and show the significant warm blooded wildlife and pet populations.

Collect and analyze information from the Alabama Department of Public Health on the locations of on-site waste-water treatment systems and reports of failings and identify and show their locations.

Collect and analyze data on Fairhope's Municipal Pier pump out station; the estimated number of boats using the marina, the usage of the pump out station, and the volume of any spills in the recent twelve months, and identify and show the conveyance of collected sewage.

B. Perform gully walks and “windshield” surveys to identify and document significant characteristics of the watersheds with field notes and photographs.

Identify and show the location and condition of existing sanitary sewer conveyances:

The Water & Sewer Department indicates that this information is available and sensitive. There are no findings of significant issues with the existing sanitary sewer conveyances.

Identify and show the location and volume of sewage overflows and spills reported in a recent twelve-month period: The Water & Sewer Department 2011 spill report showed no spills in the watersheds affecting the North Beach Park. Spills can be considered a minor factor in the problem. Power outages with storm events would be a leading cause of spills and a justification for backup power at heavily burdened pumping stations. Such heavily burdened stations are outside the watersheds affecting the North Beach Park. During a heavy rain on September 30, 2012, a 450-gallon waste-water overflow did occur from a manhole near 768 Johnson Avenue in the study area.

Identify and show the significant warm blooded wildlife and pet populations: The 1400 household-equivalents within the watersheds affecting North Beach Park are estimated to have 800 pets, half cats and half dogs. The number of strays is estimated to be 700, mostly cats. Racoons, opossums, squirrels, birds, and all other typical wildlife are present. The population of ducks and geese in the North Beach Park reached several hundred during the study period. Such populations can be excessive and need to be monitored. Large numbers of seagulls are occasionally present in the area of the swimming beach and warrant attention. Birds can pass the following diseases to humans: salmonellosis, arizonosis, chlamydiosis, colibacillosis, avian tuberculosis, cryptococcosis, cryptosporidiosis, allergic alveolitis, histoplasmosis, eastern equine encephalitis, and West Nile virus.

Collect and analyze information from the Alabama Department of Public Health on the locations of on-site waste-water treatment systems and reports of failings and identify and show their locations: Teddy King of the Baldwin County office of the Alabama Department of Public Health has reviewed the records for the subject watersheds. There are no records of on-site waste-water systems in the watersheds. These systems can be considered a minor factor in the problem.

Collect and analyze data on Fairhope's Municipal Pier pump out station; the estimated number of boats using the marina, the usage of the pump out station, and the volume of any spills in the recent twelve months, and identify and show the conveyance of collected sewage: The manager of the Yardarm Marina reports that there are two live-aboard slip tenants and four other tenants who make weekly use of boats. These tenants use the free, self-service pump out system to handle boat waste-water. No records are kept. There is essentially no transient boating traffic. There have been no spills. The pump out system is emptied after each use by pipes into the holding tank at the public toilet on the pier. The pump out system can be considered a minor factor in the problem.

B. Perform gully walks and “windshield” surveys to identify and document significant characteristics of the watersheds with field notes and photographs: The watersheds were examined by car and on foot and salient features were recorded in 45 photographs in August and September 2012.

BEACH FECAL POLLUTION – JUNE 2012 STATUS

REPORT: Mobile Bay Watershed Pathogen Assessment and MS4 Compliance Evaluation

CH2MHILL, December 2012

The purpose of this technical memorandum is to summarize findings of a review of available data and to provide recommendations for further bacteriological assessment within the Mobile Bay watershed to address closures at the City of Fairhope municipal beach and to assist the City in compliance with current and future stormwater permit (MS4) requirements.

Preliminary Conclusions and Recommended Additional Assessment Activities

Based on the various land uses in the watershed draining into Mobile Bay and a review of available monitoring data, it is evident that there are multiple potential sources of pathogens, as is evident by the indicator bacteria, flowing into the Bay and reaching the waters adjacent to the municipal beach. Additional assessment is needed to pinpoint areas where enterococci levels are elevated on a consistent basis and to further identify the specific sources for contamination in these areas. It is important to understand that since enterococci bacteria are in the environment due to natural conditions, such as wildlife, some sources of contamination can be controlled only minimally or not at all by the City. Additional assessment and research to identify sources should focus on areas where the City has the potential to implement corrective measures that will reduce enterococci levels in Mobile Bay.

Action Plan

CH2M HILL recommends that the City follow the action plan outlined below. Where portions of this action plan have already been performed, the results should be documented and evaluated as a part of the overall strategy.

1. Conduct a “rapid” assessment of each drainage area. Rapid assessments are composed of stream walks and windshield surveys that include videos and photographs of the watershed. Adjacent land uses, and location and condition of existing culverts and discharges are recorded. By design, rapid assessments can be completed quickly and efficiently.
2. Collect and analyze additional data from the following sources:
 - ADPH/Baldwin County DPH data regarding the locations of installations of onsite wastewater treatment systems and of systems reported to be failing since electronic data collection began in 2003 and any hard copy files available for systems installed prior to the implementation of electronic

data also need to be reviewed to determine the conditions associated with the sampling event and initial conclusions that can be drawn from associated data. For example, if elevated levels are detected during dry weather conditions, it can be presumed that the enterococci derive from either human host or wildlife excreting waste into a watercourse.

4. Consider performing a study of municipal wastewater collection and conveyance infrastructure to detect deteriorating lines that allow exfiltration of untreated wastewater; develop and implement a plan to repair these lines.
5. When identified and practical, develop and implement remedial strategies to correct the confirmed causes. Post monitoring to detect the degree of decrease in enterococci is needed to ensure that the problem(s) associated with that site are corrected. Document problem areas where corrective measures are not feasible or within the City's control.
6. When sources of elevated levels of enterococci are not obvious from monitoring and assessment activities, use microbial source tracking to determine if a higher proportion of the bacterial indicators are from human or nonhuman hosts. If from human hosts, conduct further assessment to identify locations of illicit connections, leaking wastewater conveyance infrastructure, or failing onsite wastewater treatment systems. If the majority of pathogens are from nonhuman hosts, identify land use and land cover activities that are potential sources of the contamination.
7. Determine the extent of contamination in beach soil. The level of indicator bacteria in beach soil should be tested. If levels exceed regulatory standards for incidental contact and recreation, additional analysis is needed to determine whether the primary indicator bacteria primarily originated from a human or nonhuman source. If the results indicate that a significant portion is from a human host, conduct a field survey and condition analysis of onsite disposal systems within the area. If the results are nonhuman, conduct a field survey over a period of two weeks during a high traffic season to assess the most likely source of contamination and develop restrictions or clean up measures to address the identified source(s).
8. When multiple potential sources of enterococci are identified for a site or if no potential source is identified for a site that has consistent elevated levels of enterococci, additional assessment through microbial source tracking may be appropriate at that site to determine sources. Microbial source tracking is a scientific method that tracks indicator bacteria to its original hosts, which are species warm-blooded animals. Once the hosts species are identified corrective measures, when possible, can be implemented to minimize levels of bacterial contamination entering waterways. The extent

REPORT: Quantitative Determination of Fecal Pollution Sources at Fairhope Municipal Beach

Yucheng Feng, Jia Xue, R. Udenika Wijesinghe and C. Wesley Wood, May 2012

This is a preliminary report for the first phase of the study to determine fecal pollution sources at the Fairhope municipal beach. The objective for this phase was to determine whether and to what extent humans and bovines contribute to fecal pollution at the municipal beach.

Summary

- Very high concentrations of enterococci were found in water samples collected after significant rainfall events. Stormwater and surface runoff contributed to the elevated levels of enterococci at the municipal beach.
- Elevated levels of enterococci were found consistently in water samples collected from Site 4, the duck pond. Thus the duck pond may contribute to the fecal contamination at the municipal beach.
- General Bacteroidales markers were detected in all water samples. There was a positive correlation between enterococci and general Bacteroidales marker concentrations.
- Significant amounts of human-specific markers were found on one sampling day at Sites 1, 2, 3 and 5 during the 13-week sampling period, indicating the presence of human fecal sources.
- Based on the SYBR green qPCR assay, fecal contamination from cattle appeared to be minimal during the study period. We are in the process of developing a more sensitive cattle-specific assay.
- The positive correlation between enterococci and turbidity at Site 2 suggests that the sediment may be a source of enterococci in the water at the municipal beach.
- High concentrations of general Bacteroidales markers were not associated with quantifiable concentrations of human-specific markers in 91% of the water samples. Other fecal sources, such as waterfowl, seabirds, and animal wastes in stormwater and runoff, may also contribute to the fecal contamination at the municipal beach.

The City of Fairhope, Alabama, is in the process of assessing the locations and sources of elevated levels of pathogens within watersheds draining into Mobile Bay and affecting the recreational use of the municipal beach. The beach monitoring program, which the Alabama Department of Environmental Management (ADEM) and the Alabama Department of Public Health (ADPH) carry out, has detected enterococci bacteria levels that violate water quality criteria for incidental body contact and recreational waters at three monitoring stations along the beach shoreline. These monitoring results have resulted in beach closures during peak recreational seasons. In addition to the beach closures, ADEM finalized a total maximum daily load (TMDL) for Mobile Bay in 2010. The current TMDL only applies to the near shore area of the bay and requires a 97 percent reduction in nonpoint source enterococci loads. This 97 percent reduction will result in enterococci being reduced to 94 colonies/100 ml in Mobile, which provides a margin of safety of 10 colonies/100 ml for meeting water quality criteria. The TMDL does not require load reductions from point sources, such as the City's Water Reclamation Plant, within the watershed.

There are seven watersheds within the area affecting the municipal beach: Rock Creek, Fly Creek, Volanta Gully, Big Mouth Gully, Stack Gully, Tatumville Gully, and Point Clear Creek. Two of these, Big Mouth Gully and Stack Gully, are the most immediate to the North Beach Park.

Enterococci occur naturally and are found in the digestive tracks and waste from warm-blooded species. Along with fecal coliform and *Escherichia coli* (*E. coli*), which is a form of fecal coliform, and enterococci are used as indicators of fecal contamination to assess levels of bacteria as they relate to the protection of human health. Water quality assessments for coastal waters use enterococci, due to their resilience and ability to survive in brackish and saltwater. The water quality standard for enterococci, which is set by ADEM and based on federal regulations established by the U.S. Environmental Protection Agency (EPA), for coastal waters classified for recreation and incidental contact is met when enterococci bacteria do not exceed a geometric mean of 35 colonies/100 ml nor a maximum of 104 colonies/100 ml in any single sample. The State water quality criteria for fish and wildlife streams is based on *E. coli* and is 487 colonies/100 ml from June through September and 2,507 colonies/100 ml from October through May. The survival rate of enterococci in the natural water environment varies and is dependent on and influenced by multiple factors including salinity, pH, temperature, nutrients, and light exposure. Based on these and other conditions, they can survive outside of their host environment for a few days or several weeks. They can also survive for extended periods in sediment. Evidence exists of the relationship between gastrointestinal illness and estimates of fecal indicator organisms at marine beaches. Sources such as waterfowl, seabirds, animal, and human wastes in stormwater, runoff

Recommended Next Steps Action Plan

1. Designate the responsible City parks official responsible for the suitability of the North Beach Park as a recreational facility.
2. Designate a steering committee to guide the action plan until the monitoring plan is an established procedure.
3. Designate a project manager to design and implement the monitoring plan.
4. Put a “place holder” line item in the City's FY 2013 budget to support the action plan and the design and implementation of the monitoring plan.
5. Conduct a “rapid” assessment of the North Beach Park and its two proximate watersheds, Stack Gully and Big Mouth Gully. (Rapid assessments are composed of stream walks and windshield surveys that include videos and photographs of the watershed. Adjacent land uses, and location and condition of existing culverts and discharges are recorded. By design, rapid assessments can be completed quickly and efficiently.)
6. Recommend closure of the duck pond. The pond consistently shows elevated levels of indicator fecal bacteria. The pond discharges directly into the swimming waters. The pond is a key contributing factor in supporting a resident population of one to two hundred ducks and geese that host harmful fecal pathogens. The pond hosts other occasional nuisances, such as snakes, snapping turtles, and alligators.
7. Collect and analyze additional data for the Stack Gully and Big Mouth Gully watersheds from ADPH data regarding the locations of installations of onsite wastewater treatment systems and of systems reported to be failing since electronic data collection began in 2003 and any hard copy files available for systems installed prior to the implementation of electronic recordkeeping.
8. Collect and analyze data regarding the Fairhope Pier pump out station, the estimated number of boats using local marinas, and the number of boats using pump out station.
9. Based on the results of the rapid assessment and additional data collection and analysis, develop an initial monitoring plan. Develop the plan based on the CH₂MHILL considerations for the monitoring plan and the EPA Beach Sanitary Survey program.