Mobile Bay National Estuary Program

MTA Watershed Management Plan

Steering Committee Breakout Session #1

December 8, 2020 – 3:00-4:00 pm CST

Zoom Virtual Meeting

<u>Agenda</u>

Meeting Objectives:

a) Review Preliminary Identified Critical Issues and Areas
b) Solicit feedback to inform Identification of Critical Issues and Areas Chapter Development

1. **Review of Agenda**

2. **Welcome and Introduction**

3. **Watershed Management Plan (WMP) Overview Presentation**

4. **Open Discussion**

5. **Review of Action Items**

6. **Adjourn**

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Participants: From the Mobile Bay NEP: Roberta Swann, Christian Miller

From the Wood Project Team: Jeanette Kelson, Barry Vittor, Tim Thibaut, Rob Howell, Don Blancher, Mary Mullins Redditt

From the Steering Committee and Guest Experts: Fred Leslie/ADEM, Casi Callaway/Mobile Baykeeper, Jo Lewis/ADCNR, Forever Wild, Ryan Peek/Alabama Forestry Commission

Meeting Objectives:

a) Review Preliminary Identified Critical Issues and Areas
b) Solicit feedback to inform Identification of Critical Issues and Areas Chapter Development

1. **Review of Agenda –** (J. Kelson, 2 minutes)
   - Kelson reviewed agenda. No changes requested to agenda.
2. **Welcome and Introduction (J. Kelson, Members, 3 minutes)**
   - Project Manager Jeanette Kelson opened the meeting, explained that over 18-month project timeline, 5 Steering Committee Meetings will be held with 5 possible Breakout Meetings on specific Chapter/Topic as requested by Steering Committee Members who want to take deeper dive.
   - This is first such Breakout Meeting, following Steering Committee #2 on Conditions and the Critical ID of Issues and Areas.
3. **Watershed Management Plan (WMP) Overview Presentation**

   a) WMP project location, purpose, and status (J. Kelson, 5 minutes)
   - Kelson briefly reviewed key presentation points (see attached presentation) made in the previous two Steering Committee meetings to bring everyone on the call to the same foundation point for further discussion.

   b) Preliminary Identification of Critical Issues and Areas (B. Vittor/T. Thibaut, 10 minutes)
   - Barry Vittor presented the outline of the points reviewed in the previous session and turned it over to Tim Thibaut to present the more detailed presentation.
   - 303d List slide--the latest 2020 report from Alabama Department of Environmental Management (ADEM) also lists Hall's Creek on the 303D list. Outside the project area, but drains into the Tensaw River. All the 303d listings are due to acid deposition of mercury. Cold Creek and Chickasaw Creek in the report because, although outside the project area,

they drain into the project area. All 303d streams are in whole or in part under Fish Consumption Advisory by the Alabama Department of Public Health (ADPH) because of mercury contamination.

- Water Quality/Legacy Contaminant slide-- all sites listed are under state or federal regulation but need routine monitoring due to mercury, dioxin, heavy metals, etc. contamination.
- Water Quality/Land Conversion slide-- sedimentation is occurring and will continue to occur along the edges of the Delta as land is converted.
- Land Use and Watershed Condition-- reviews the human uses of land according to a Landscape Development Intensity (LDI) Index according to ground cover, impacting runoff that contains fuel, pesticides. Reviews LDI Index for various catchments. Impact most prevalent on the edges of all the 6 sub-basins where human activity is most prevalent.
- Prior Harvested Forest --reviews cutting in the 1980-90s. Most of the activity now ceased because in conservation easements. Vittor and Associates has delineated 8300 acres in the Delta. Recovering well and few invasive species, just not in the mature state of the prior logged areas.
- Conservation Coordination and Land Management--reviews 2019 work by Moffat & Nichol and the Alabama Forest Resources Center (AFRC) to review parcels in 500-acre blocks for possible additional land conservation/conservation easement work because it improves water quality downstream. HUC 12 land conversion slide shown. Edges of the Delta are being converted and are negatively impacting diversity of habitat for diverse fauna, such as the red bellied turtle.
- Wide variety of invasive plants and animals in the Delta have not been studied in any systematic way.
- Endangered species include those better known (red bellied turtle, manatee) and lesser known (black rail, Alligator snapping turtle). A lot of their life habitat needs are not well understood.
- Stream and riparian buffer destruction impacting poor water quality downstream. Land conversion from forested to agriculture an example of land conversion with these impacts.
- Hydrologic modification--a saltwater wedge into the Delta and altered upstream currents are side effects of the existing Mobile Ship Channel and of upstream impoundments (dams) which impact water flow and the flora and fauna downstream.
- Sea level rise (SLR) slide shows in pink where wetlands could migrate according to models. Are already seeing effect of SLR on the more frequent flooding of the Causeway.
- Hundreds of cultural sites have been identified along the edges of the Delta that are vulnerable to SLR. Already seeing some lost to erosion. Many have not been studied and could lose them without the benefit of knowing about them -- or more about them -- for the benefit of heritage.
- Human Uses slide shows public access sites, including 9 on the Alabama Birding Trail. Site #37 photo is shown which is not popular because of its degradation and the lack of financial resources for upkeep.

4. Open Discussion (M.M. Redditt, Members, Team, 35 minutes)

- Vittor mentioned intent for today's meeting to provide a general overview for the benefit of all, but anticipated this call may focus more on issues of Water Quality.
- Participants moved to open discussion.
- Facilitator Mary Mullins Redditt invited Casi Callaway to open up discussion since she had indicated at the last Steering Committee meeting an interest in diving more deeply into these chapter topics.
- Callaway noted the vast breadth and depth of all that the Vittor team is undertaking. Would like to see the scope of work for this so she can familiarize herself with all they are doing. First question is how the team is defining "industrial discharges". What is the difference between the 142 discharges and the 24 facilities? Thibaut says these are 24 specific individual permits for industrial discharge that are cross-referenced between the EPA Eco File and the ADEM E-file.
- Callaway would like to hear further discussion about the Discharge Information Zone (DIZ) and the findings of no impairments and how that relates to findings from ADEM. Vittor notes that DIZs are stipulated by ADEM under the National Pollutant Discharge Elimination System (NPDES) permit for industrial wastewater. Guidance from ADEM for studies requires hydrography, water quality, study of macro invertebrates, benthic communities, and sediments on the biota of that system. Don't look at fish, plankton, fish tissue study as a component of the DIZ. Have been doing these studies a long time. The Delta is so dynamic, and the estuarine species are so tolerant. See a lot of species in these bottom sediments and they reflect a typical estuarine community. Don't see dead zones for example. Discharges don't appear to be creating anything different than you would see in the Bay on the whole in the late summer-fall time period. Though you may see some dead zones in the embayments in the lower Delta, do not see these in the river systems.
- Fred Leslie offered to take some specific questions from Callaway on the DIZ studies to the Water Division to ensure we can get those answered.
- Ryan Peek echoes the concerns about land conversion and says this is something to monitor more closely in the future. Had his GIS person pull the coordinates for the WMP area and it looks as if 70% of the area is forested. 157 K of the 225 K acres is forested and believes most of the rest is surface water. Forestry Commission is interested in keeping these lands forested and getting with landowners on managing these lands in an ecologically sound manner.
- Vittor notes that where we are seeing the most rapid development is more upland than the edges of the Delta, primarily industrial on the west side and residential and farming on the east side. Notes that the rate of population and development growth in this watershed is far lower than in others.
- Callaway asks the Vittor team what they are seeing as the biggest impact to the Delta. Vittor notes that Legacy Pollutants are going to remain a concern and will need to be monitored. Not sure what more can be done to manage them as they are already under regulatory oversight and a number of them, such as mercury, are *in situ* and will remain with us indefinitely. Some are intractable but remain important, nonetheless.
- Roberta Swann asks Vittor what his opinion is on habitat change related to SLR. Vittor agrees that SLR is ongoing and we can already see its impacts related to conversion of uplands to wetlands. This body cannot manage that, but remains an important impact, as well. Swann notes that Dauphin Island Sea Lab is doing a decadal study based on a model of the Mobile Bay

Watershed with RESTORE funding prepared by Latif Kalin out of Auburn. Kelson notes that Kalin is also on the MTA WMP Project Team and those results are being taking into consideration.

- Callaway anticipates impacts from the widening and deepening of the Mobile Ship Channel, although the Environmental Impact Study (EIS) prepared by the United States Army Corps of Engineers (USACE) found there would be no increased impacts. She questioned how to address this in the future before it happens again, but Vittor notes that there is already a saltwater wedge effect, so its continuation after channel expansion is intuitive. Don't know how to address this from future standpoint. Perhaps the beneficial use project that the Alabama State Port Authority (ASPA) and the USACE are working on now will address some of the habitat impacts.
- Don Blancher notes that when Moffat & Nichol was putting together the scope for this complex of watersheds, intentionally tried to group these sub-watersheds together since about 75% of the land in the project area is managed by state and federal ownership. Thought we would focus on land conservation and habitat conservation as achievable ways to improve the watershed. The legacy pollutants already have Record of Decision (ROD) or the Natural Resource Damage Assessment (NRDA) work has been completed. The uplands are important too, but those will be coming in future WMPs. Tried to focus and limit the number of issues we could and would be tackling in this complex of watersheds. Swann notes this was fully vetted through the Science Advisory Committee (SAC).
- Callaway notes her primary focus is on the industrial issues. When we are looking at SLR or Water Quality or Fish Consumption Advisories, how are these impacted by industrial discharge issues? For instance, how is leaving coal ash in place being taken into account with SLR and the flooding issues we are already seeing? Vittor notes that just because DIZs aren't showing impacts, doesn't mean there aren't legacy pollutants already in place. Important to note they are there, but hard to see how SLR will impact them. Are going to have to adapt to SLR as it occurs and don't think we can speculate at this point.
- Rob Howell notes that his background is legacy contaminants in the soil and groundwater, one of the reasons he is on this call. Notes that as Alabama Power is designing their plan for keeping coal ash in place, they are having to design based on SLR models. Says all the clients he is working with that have NPDES permits are designing with SLR in mind so they can continue to mitigate for any discharges they may have. And each constituent pollutant is different. For instance, with DDT, current state of the knowledge is that capping it in place is the safest way to ensure it causes no harm to the biota.
- Callaway's concern is that ADEM permits do not require that applicants take SLR into account. Fred Leslie notes that he is more heavily involved in the water quality monitoring and not as much on the permit side but will find out. Generally, he can say that while this is often in discussion, believe we are still trying to get our arms around that. He will ask Water Division more detail and let the group know.
- Blancher notes that the DIZ is only one component of toxic monitoring. Says monitoring toxins in the mixing zone is another. Over time, regulations have tightened to the degree that you couldn't have toxicity beyond the mixing zone. Blancher's firm (Moffat & Nichol) went from doing 2,000 tests a year to less than 50 when they closed their lab down in 2003. Vittor also closed his down in 2005. This is evidence of the degree to which toxic discharges have decreased. Very few testing labs in the county now as most have consolidated and travel. 1)

treating, 2) removing the contaminant from the product or 3) eliminating the product are three of the ways to address toxins. Have had clients completely eliminate products to eliminate the problem.

- Callaway says that Baykeeper regularly monitors and reviews permits. The latest Alabama Power permit from ADEM requires them to test only twice a year if they completely de-watered their coal ash ponds. This is a concern. Howell notes that they won't do this. They are building a whole new water treatment facility to handle it so would be testing much more than that. Callaway understands, but notes that the legal requirements for testing are not reasonable.
- Leslie notes that one area they have been able to make great gains in is nutrients. Have focused a lot more attention on this in the last several years and have been able to significantly reduce in-stream nutrients. Agrees with Blancher and Vittor that there have been a lot of improvements. Still, oversight is always good and then you have new challenges spring up such as SLR.

5. Review of Action Items (J. Kelson, 5 minutes)

- Kelson noted that the end of December will see the draft completed on the chapter ID of Critical Issues and Areas. ID of Management Measures is the next task. Will be a meeting of the Steering Committee prior to the completion of the ID of Management Measures task.
- Vittor notes that any questions should be sent along to Kelson or Redditt so that they can incorporate them in the ID of Critical Issues and Areas chapter before the end of December.
- Redditt noted action items from the call:

  --Callaway is interested in the Vittor scope of work; already outlined in this presentation;

  --Leslie offered to discuss with the Water Division how SLR is impacting permitting; and

  --Leslie offered to find out more about specific questions re the DIZ.

- Christian Miller notes that chapters will be released after they have been reviewed and are available for public consumption; piece-mealing out the chapters has not proved to be good practice in the past.

6. Adjourn

- The meeting was concluded after one hour, at 4 pm.

MOBILE-TENSAW DELTA WATERSHED MANAGEMENT PLAN

Steering Committee Breakout Session #1 – December 8, 2020

Agenda

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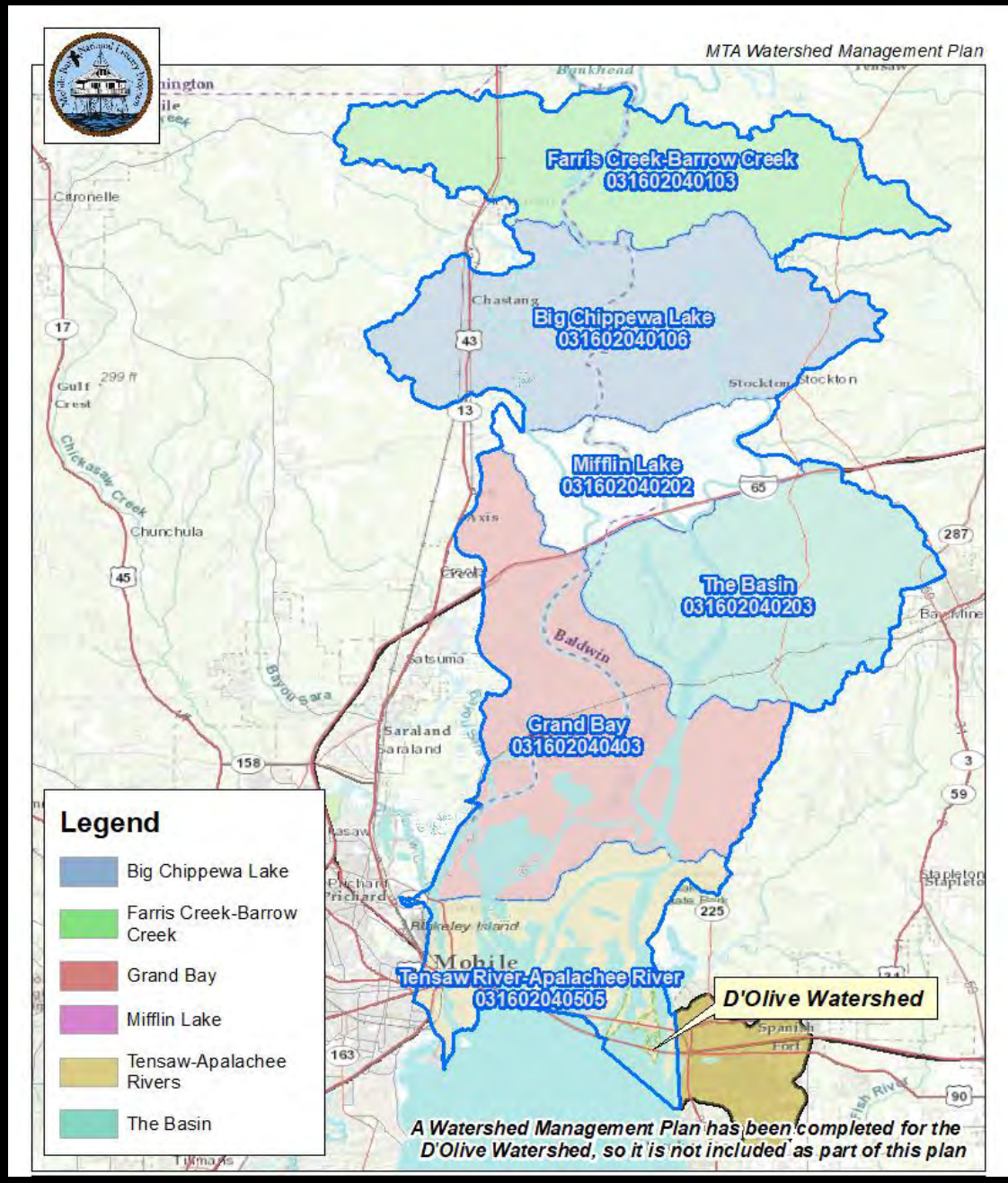
6. **Adjourn**

WELCOME AND INTRODUCTIONS

J. Kelson - Wood

MTA Watershed Boundary

HUC12 Subbasin	Area (Square Miles)
Farris Creek -Barrow Creek	62.3
Big Chippewa Lake	75.1
Mifflin Lake	28.7
The Basin	62.2
Grand Bay	80.4
Tensaw River – Apalachee River	42.4
TOTAL	351.1



Mobile River Basin

- » 43,662 sq. miles
- » The Mobile Bay watershed is the nation's sixth largest river system in total drainage area and first in ratio of discharge to area.
- » On average the Mobile Basin has the fourth largest freshwater inflow on the North American continent, at about 62,000 cubic feet per second.

Project Goals and Objectives

Assist the MBNEP with their mission of promoting wise stewardship of Mobile Bay's water quality and living resources, while working to improve the things people value most about the Alabama coast, and conforming to the EPA's key elements.

- EPA Partnerships
- EPA Characterize
- EPA ID Solutions
- EPA Implementation Strategy
- EPA Implementation
- EPA Progress Measures

What people value most about living in coastal Alabama…

Access to Water and Open Spaces

Coastlines
(Beaches and Other Shorelines)

Fish

Heritage and Culture

Environmental Health and Resilience

Water Quality

Project Scope and Status

- Schedule
  - Commencement in January 2020
  - 18-month duration
- Project Elements
  - Community Engagement
  - Characterization and Conditions
    - Climate Vulnerability Assessment
  - **ID of Critical Issues and Areas**
  - ID of Management Measures
    - Regulatory Review
  - Develop Implementation Strategies
    - Financing Alternatives
    - Monitoring Framework

WATERSHED CRITICAL ISSUES AND AREAS

Tim Thibaut – Barry A. Vittor & Associates, Inc.

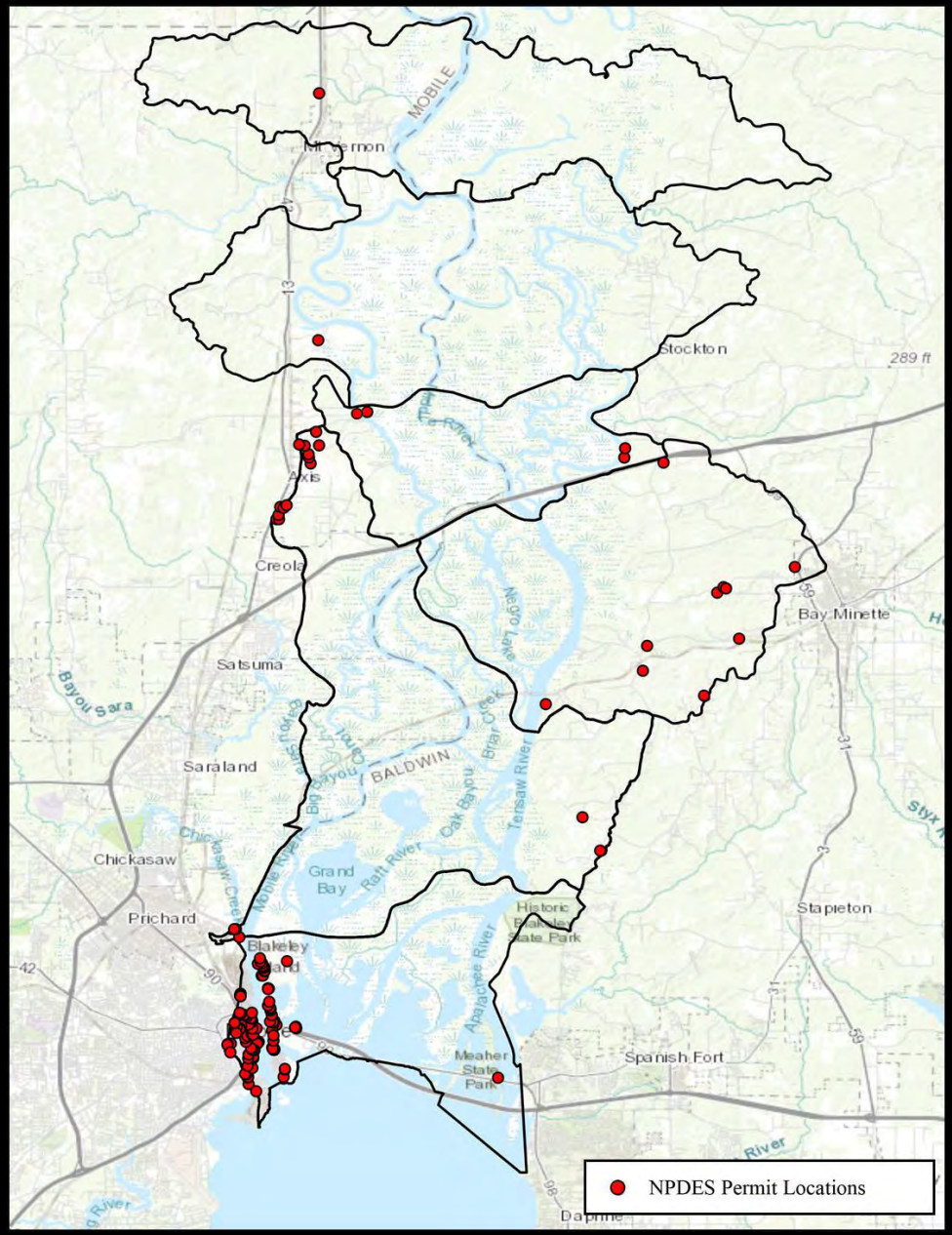
ID of Critical Issues and Areas

1. Water Quality
2. Conservation Coordination and Land Management
3. Ecological/Habitat
4. Hydrologic Modification
5. Climate Resiliency
6. Cultural Resources
7. Human Uses

NPDES Permits

» 143 NPDES permitted facilities

» 24 Industrial dischargers

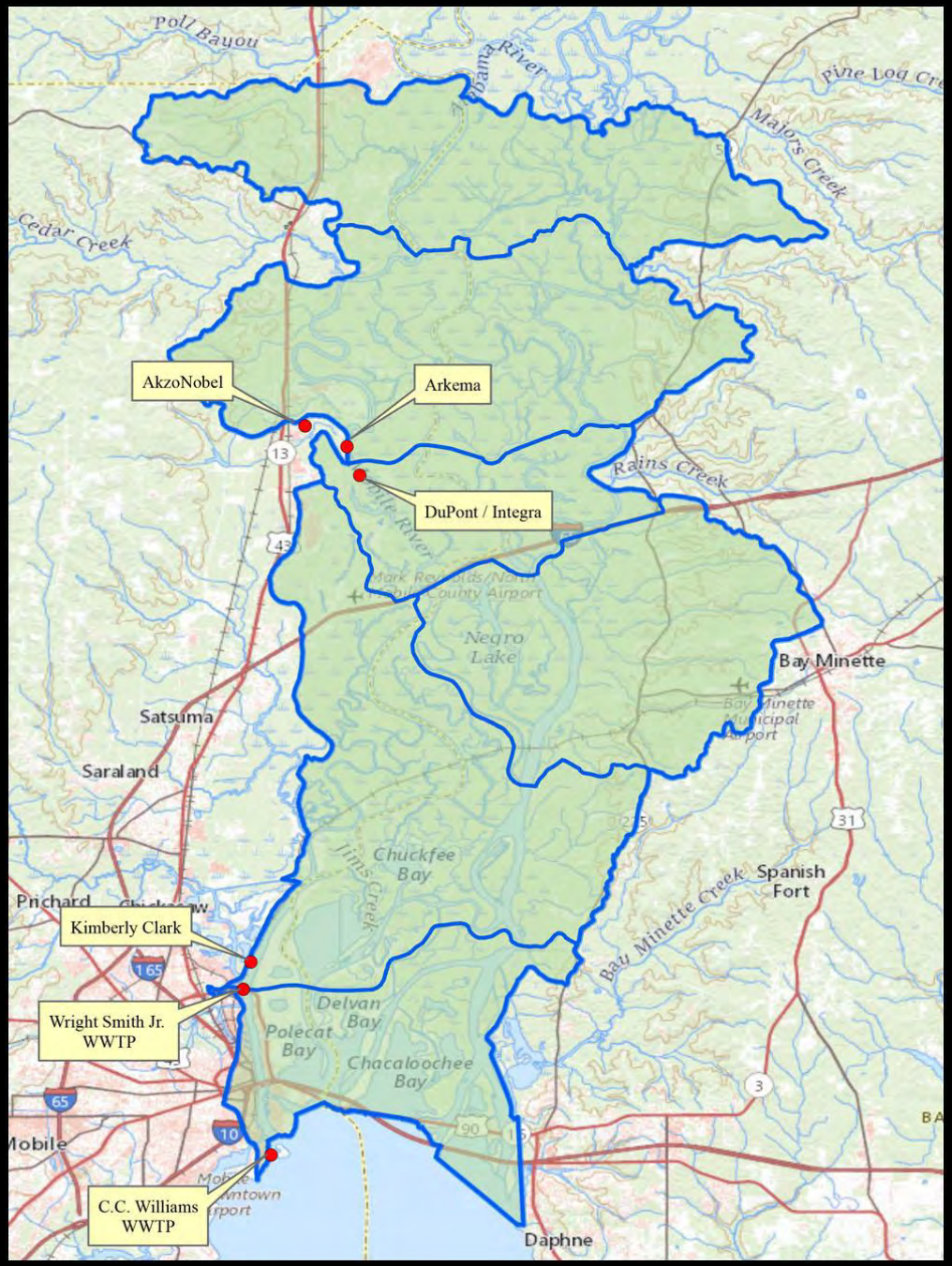


NPDES Permits

Discharge Information Zone Outfalls

» Sampling of water, sediment, and benthic macroinvertebrates

» Between 1992 and 2017, 14 DIZ surveys among four outfall sites found no effects on water quality or biological condition.



303d Impaired Streams

ADEM 2018 List

Fish Consumption Advisories

» Chickasaw Creek

» Cold Creek Swamp

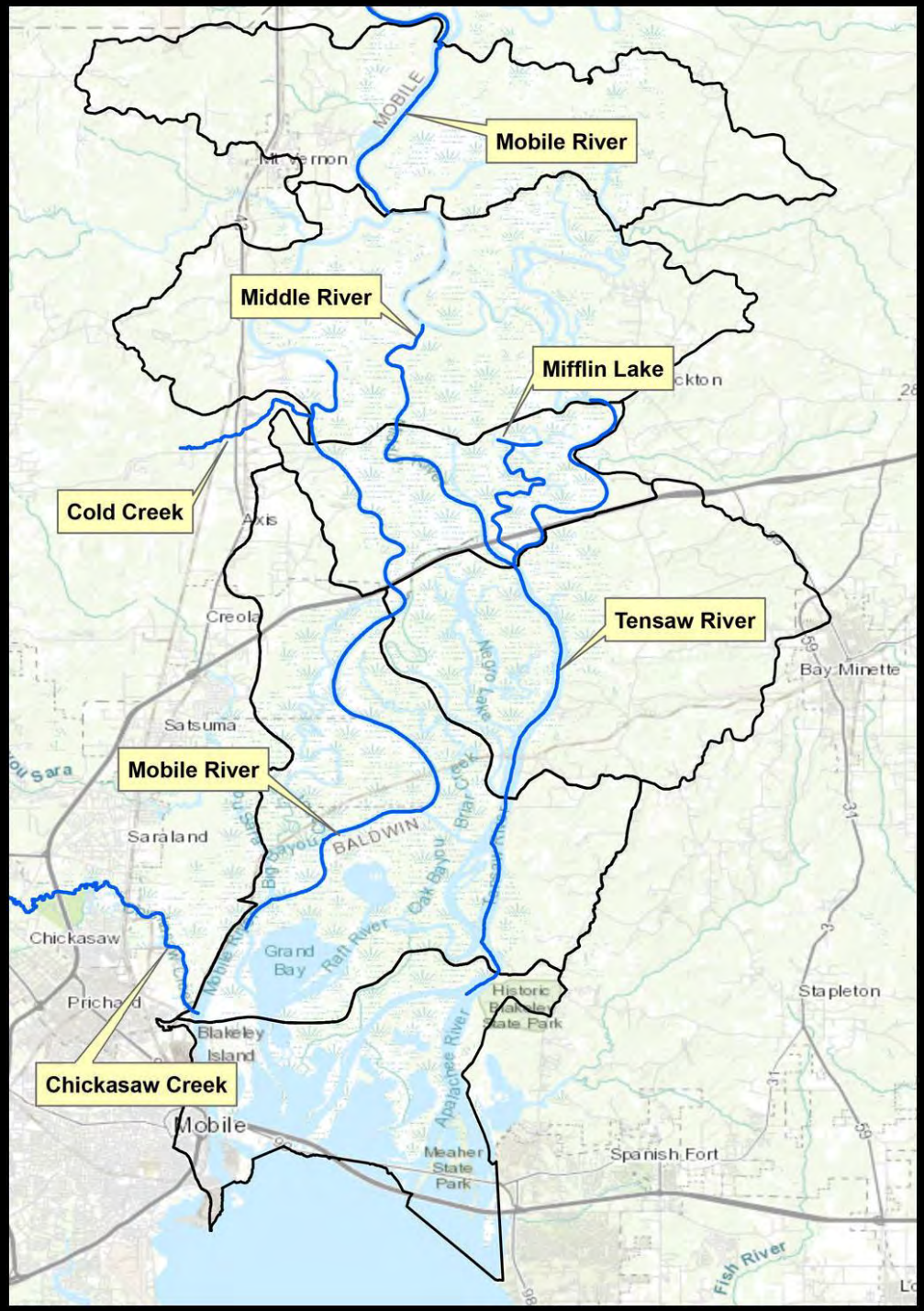
» Middle River

» Mifflin Lake

» Mobile Bay

» Mobile River

» Tensaw River

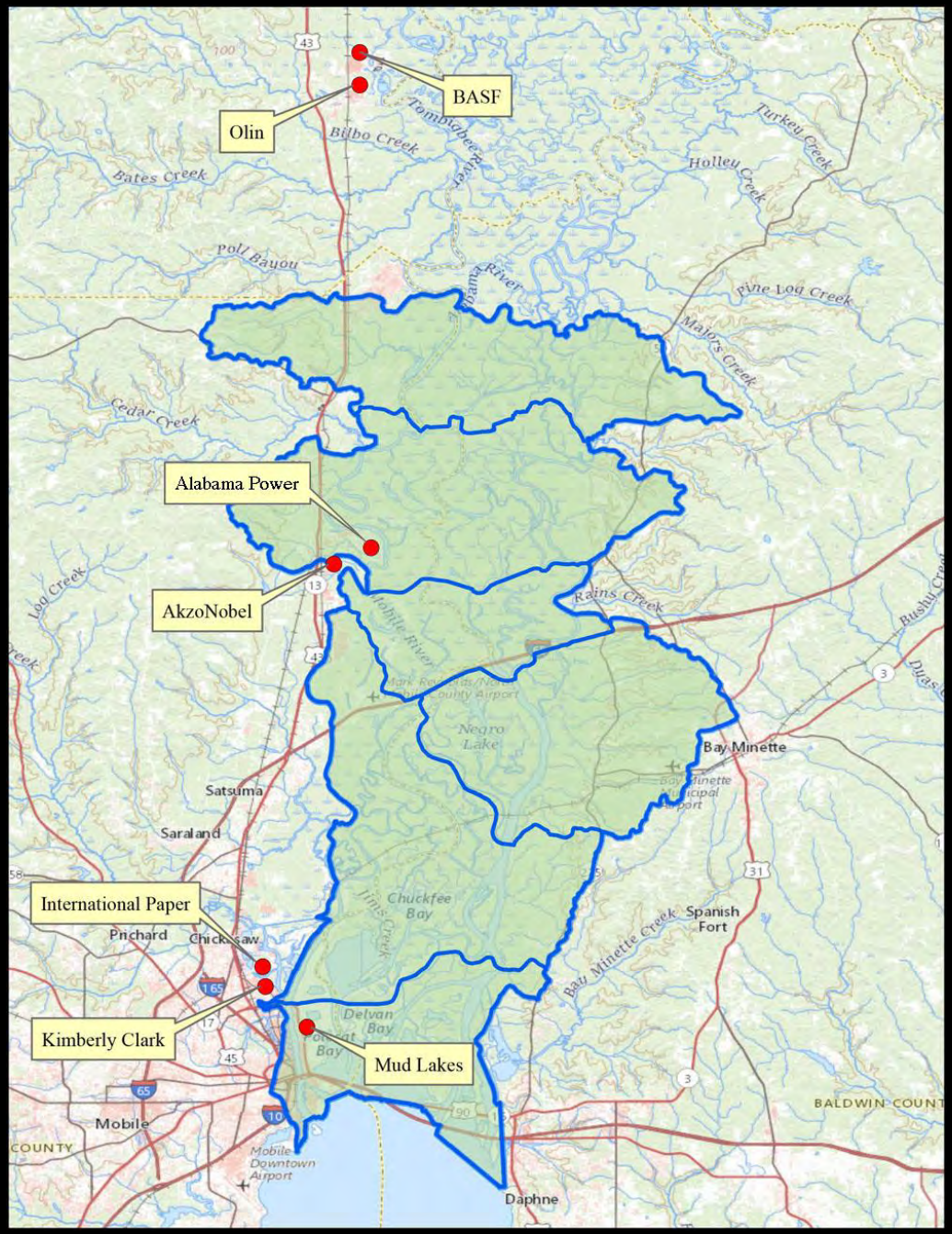


Critical Issues
Water Quality

Persistence of Legacy Contaminants

» Four Superfund Sites – BASF, Olin, AzkoNobel, and IP/Kimberly Clark

» Ar, Hg, DDT, Dioxin, PCB



Critical Issues
Water Quality

Impacts of land conversion on tributary stream discharge and pollutant loading to the Delta

Poly, Inc. 2019 Study

Impaired Streams:

» Halls Creek

» Aikin Creek

» Dennis Creek

» Martin Branch

» Red Hill Creek

» Spanish Fort Branch

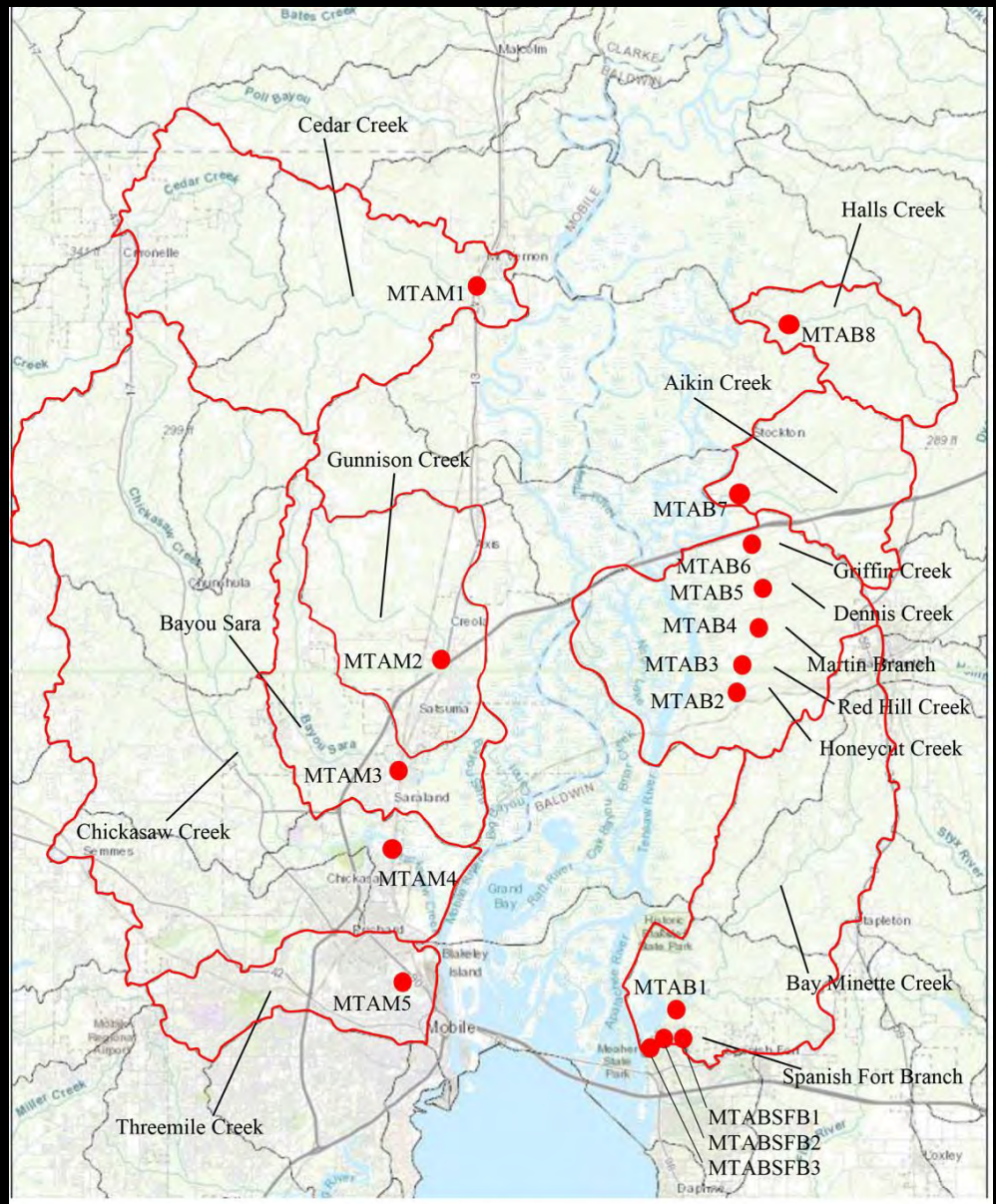


Figure 1.—Twelve-digit HUCs and monitored streams in the MTA Delta watershed in Mobile and Baldwin Counties.

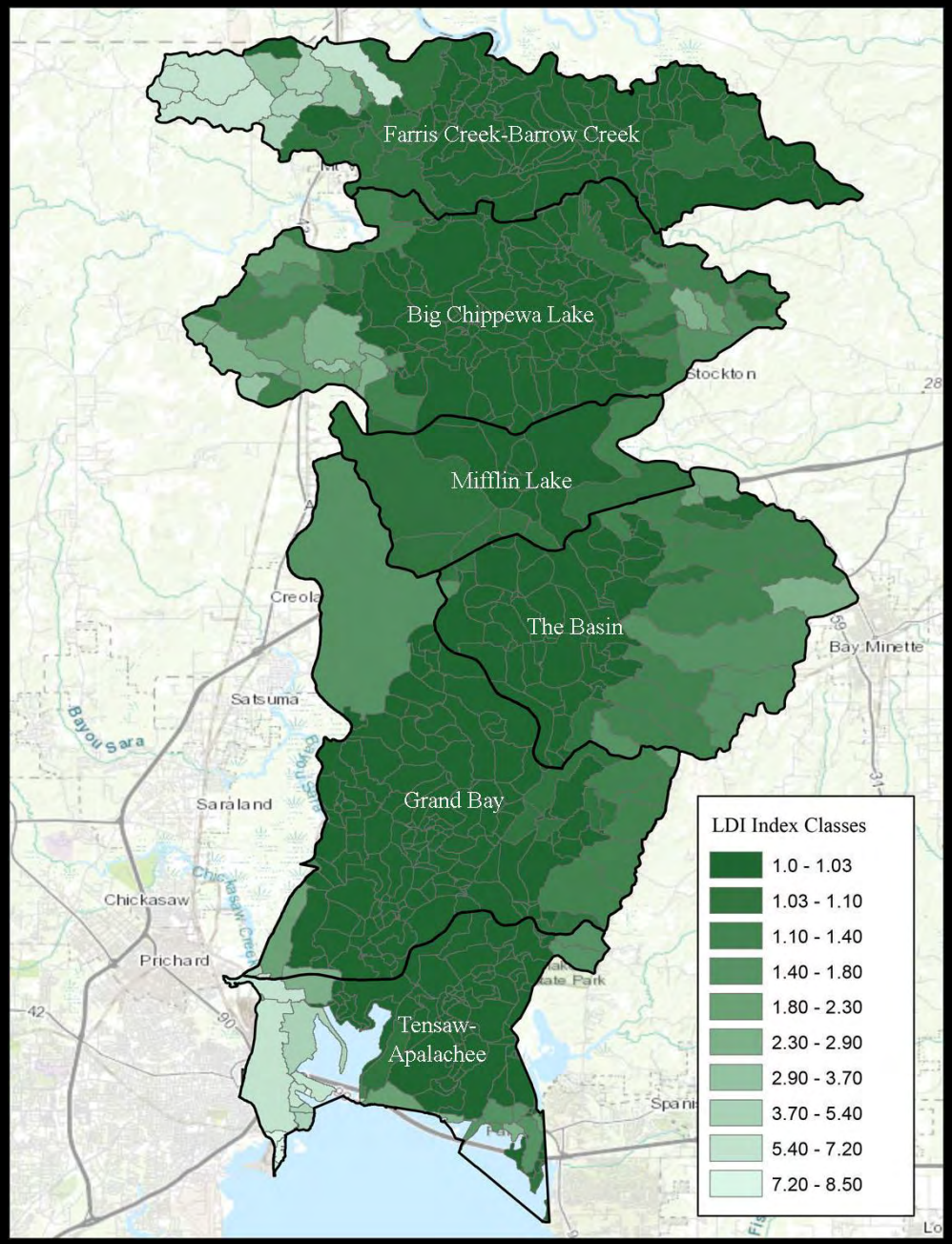
Land Use and Watershed Condition

Landscape Development Intensity (LDI) Index

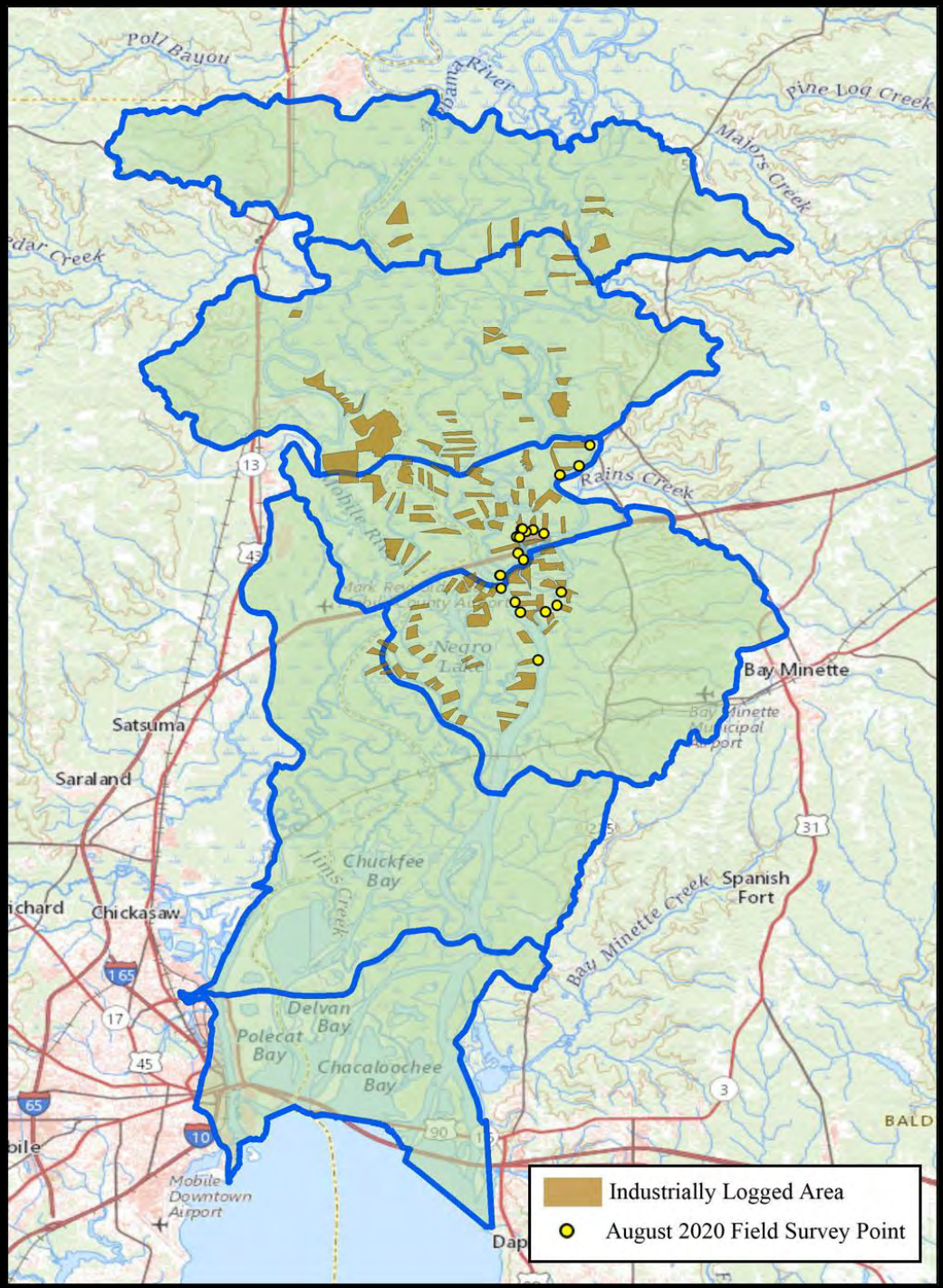
(Brown and Vivas, 2005)

Land Use	LDI Coefficient*
Water, Wetlands, Upland Forest	1.0
Upland Scrub-Shrub	1.5
Upland Range	3.5
Agriculture	4.5
Barren/Urban Open	5.0
Urban Low Density	6.9
Urban Medium Density	7.5
Urban Transportation	8.0
Urban High Density	9.0

*Calculated as the normalized natural log of empower densities.



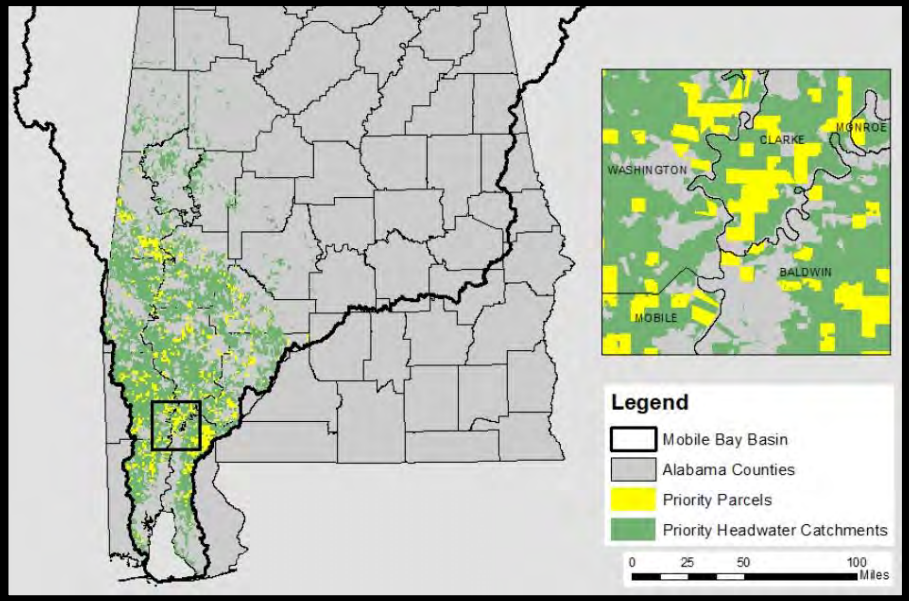
Prior Harvested Forest

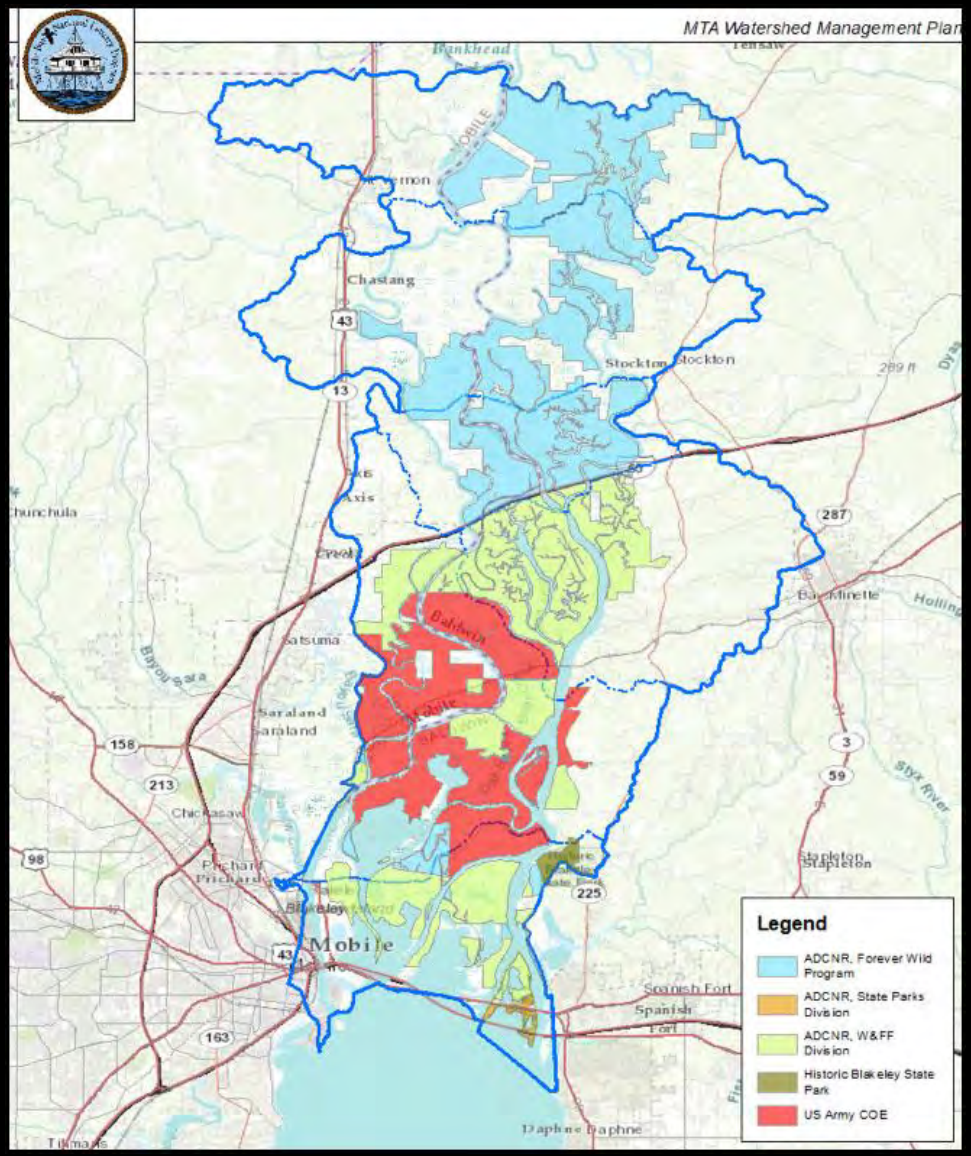


Critical Issues
Conservation Coordination and Land Management

Sensitive Habitat Acquisition and Management

Priority Headwater Parcels (Moffatt & Nichol, AFRC, 2019)





Critical Issues
Conservation Coordination and Land Management

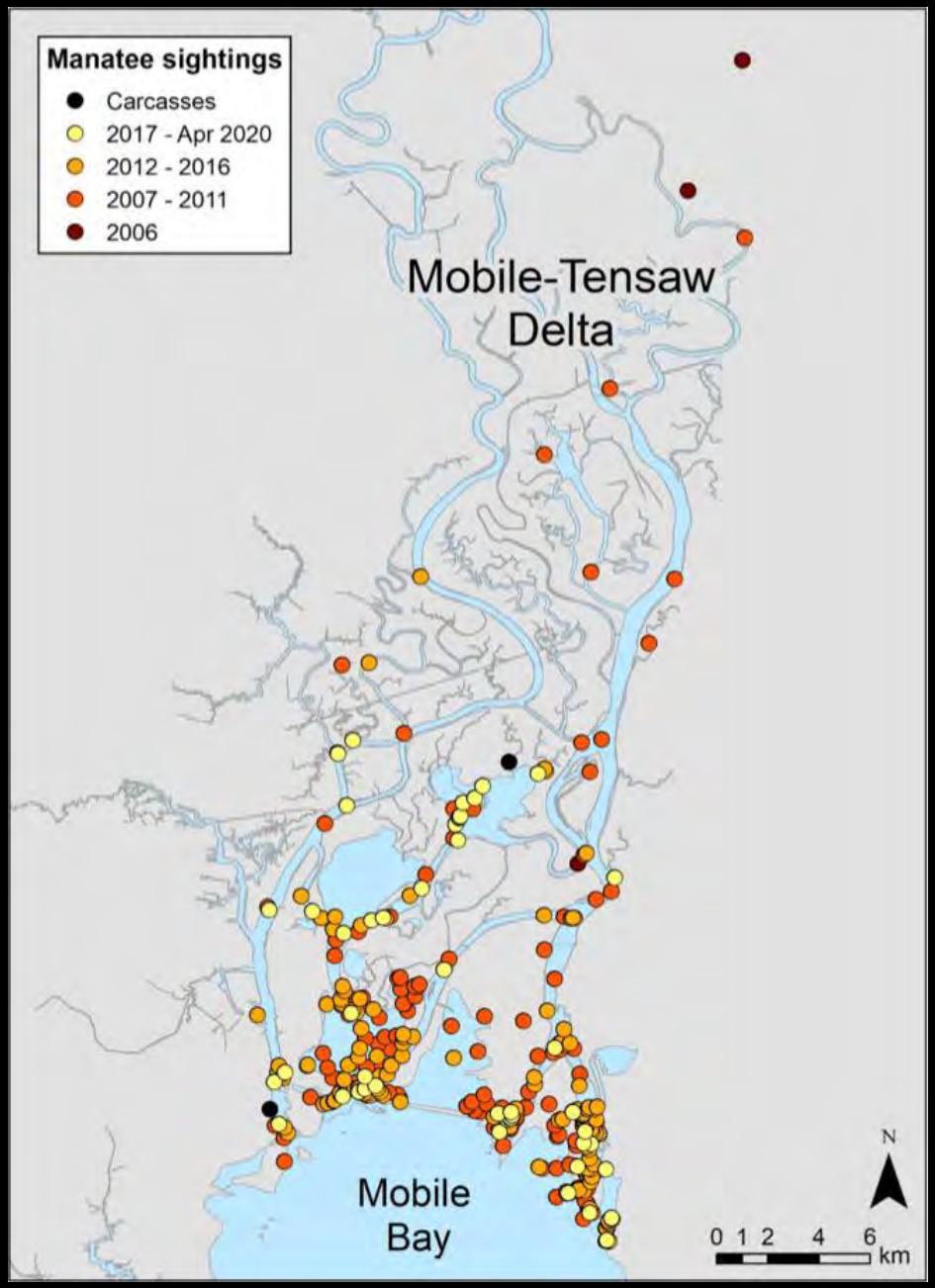
- » Upland land conversion
- » Inconsistent construction-phase erosion and sediment control and stormwater management ordinances
- » Lack of local government wetland/stream protection

Critical Issues
Ecological/Habitat

Exotic/invasive species effects and control

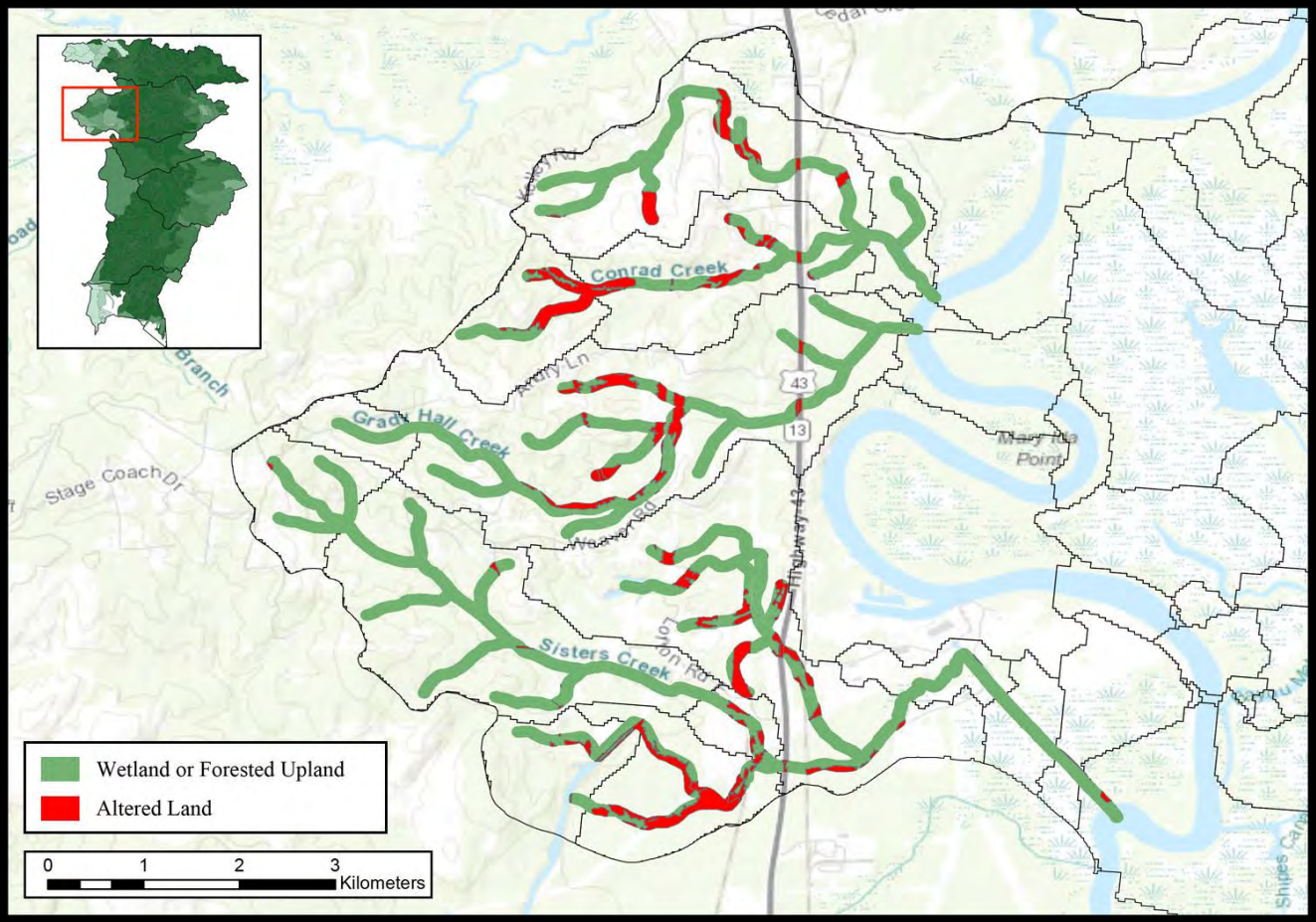
Critical Issues Ecological/Habitat

Protected and sensitive species management – Federal ESA Species and Alabama Species of Conservation Concern



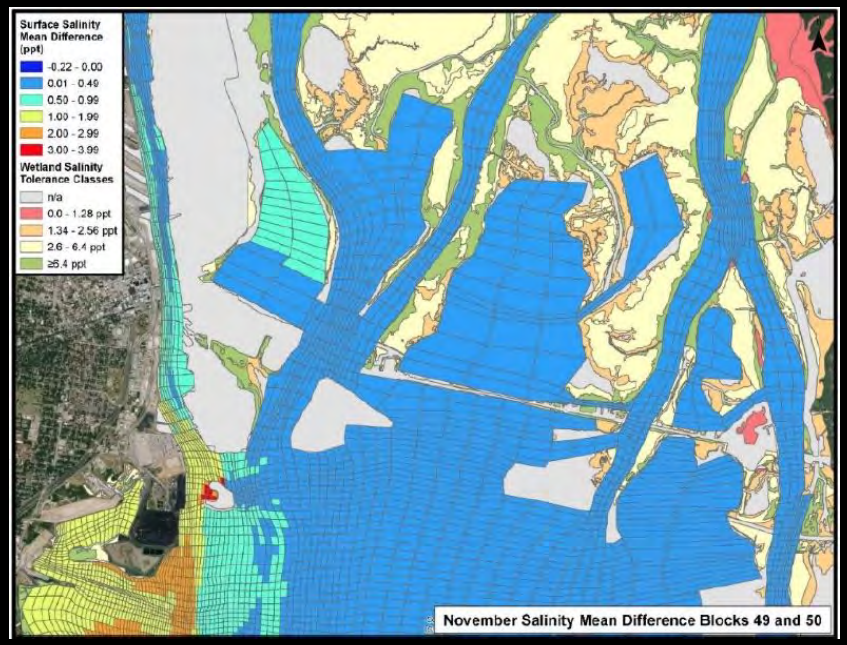
Critical Issues
Ecological/Habitat

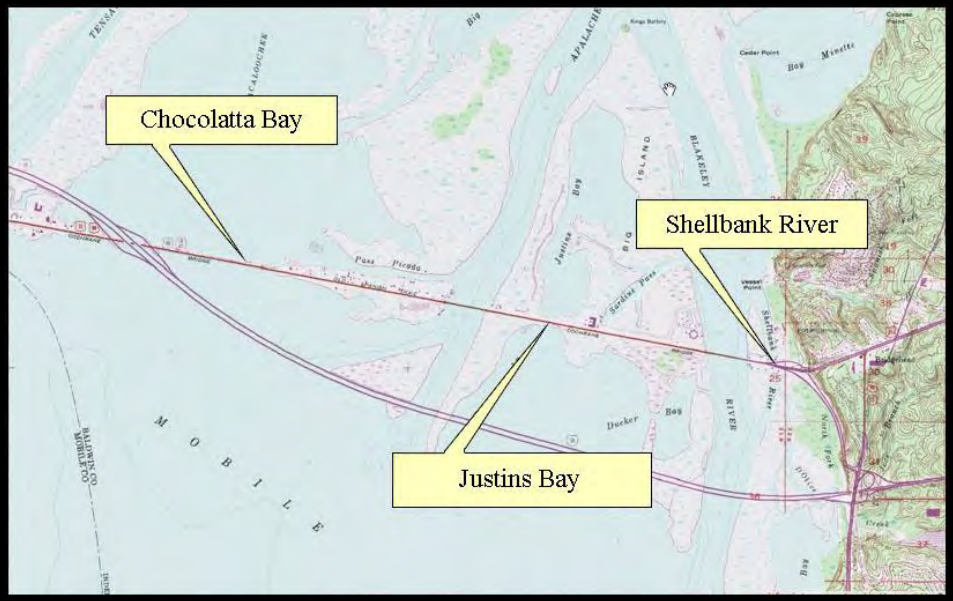
Stream and riparian buffer protection and restoration



Critical Issues
Hydrologic Modification

- » Mobile Ship Channel and turning basin expansion
- » Effects of the Mobile Bay Causeway
- » Effects of upstream impoundments





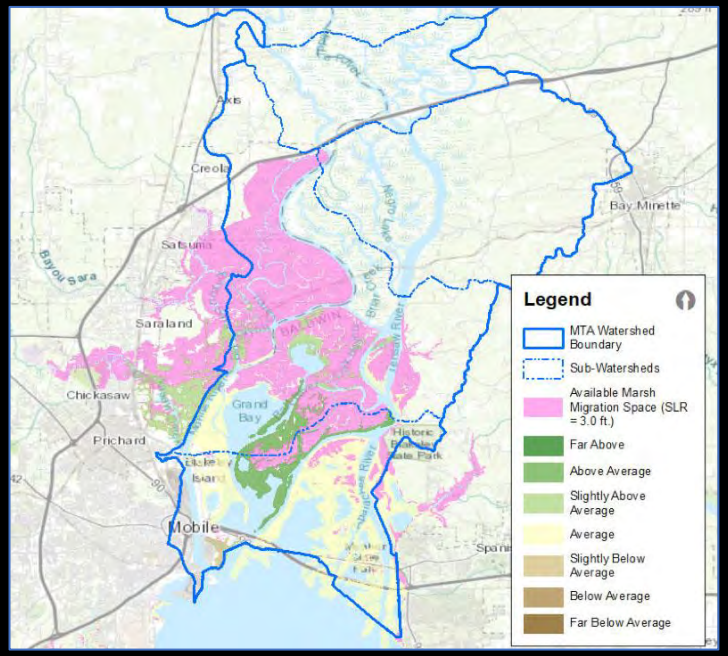
Critical Issues
Climate Resiliency

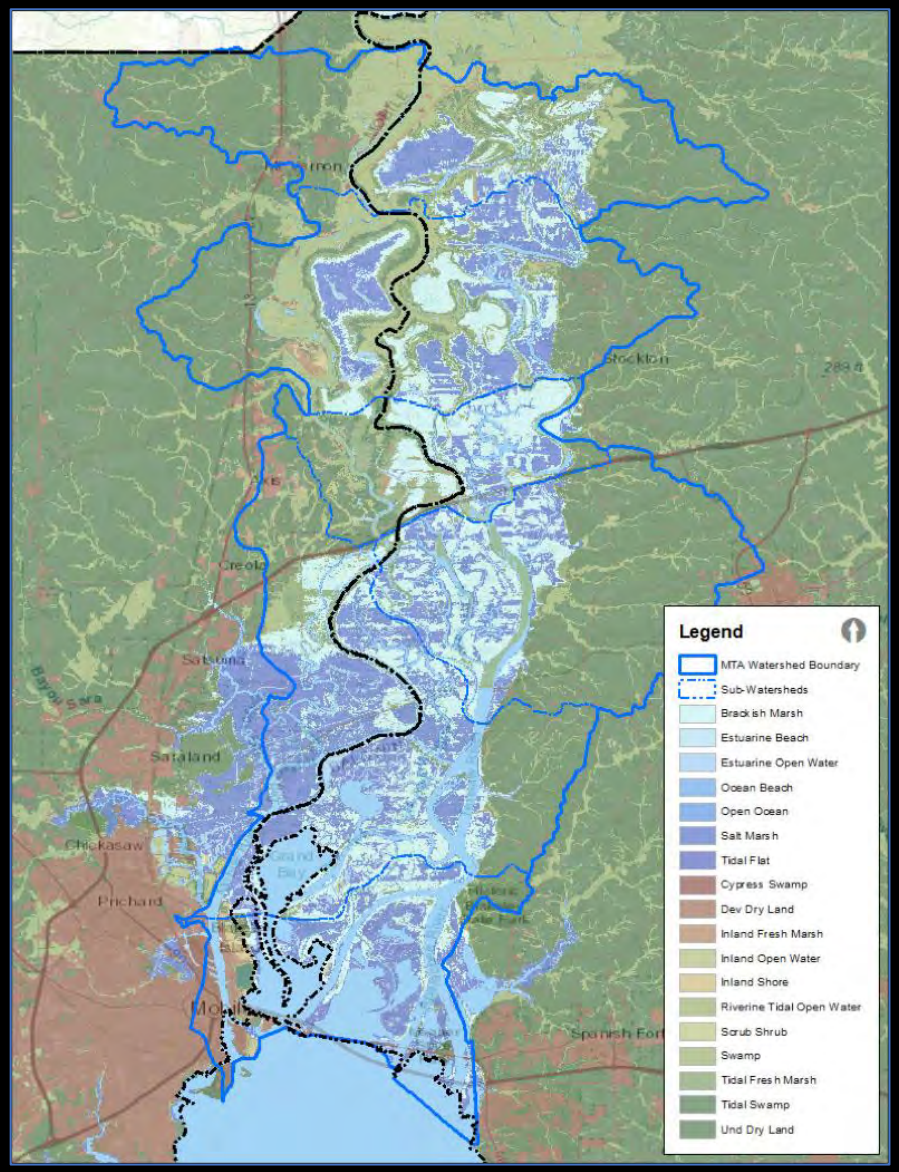
Climate Resiliency

» Effects of SLR inundation on plant communities

» Wetland migration potential

» Infrastructure resiliency and modification needs





Critical Issues
Cultural Resources

- » SLR impacts on recorded sites
- » Potential impacts on listed historic properties
- » Loss or degradation of sites that may have been identified but not evaluated

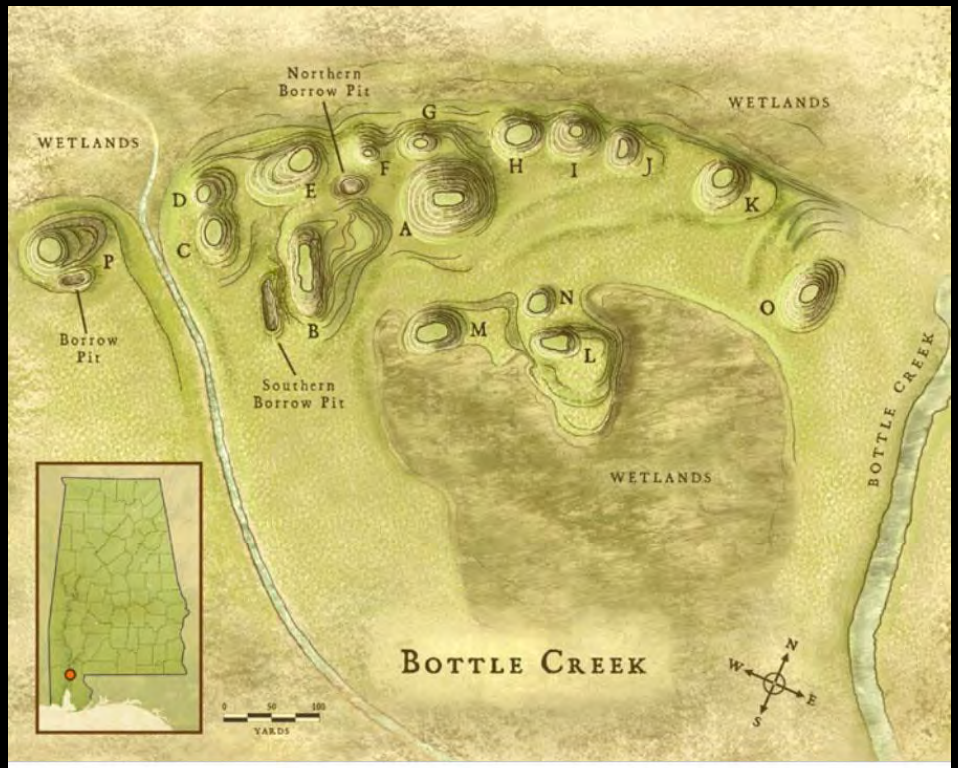


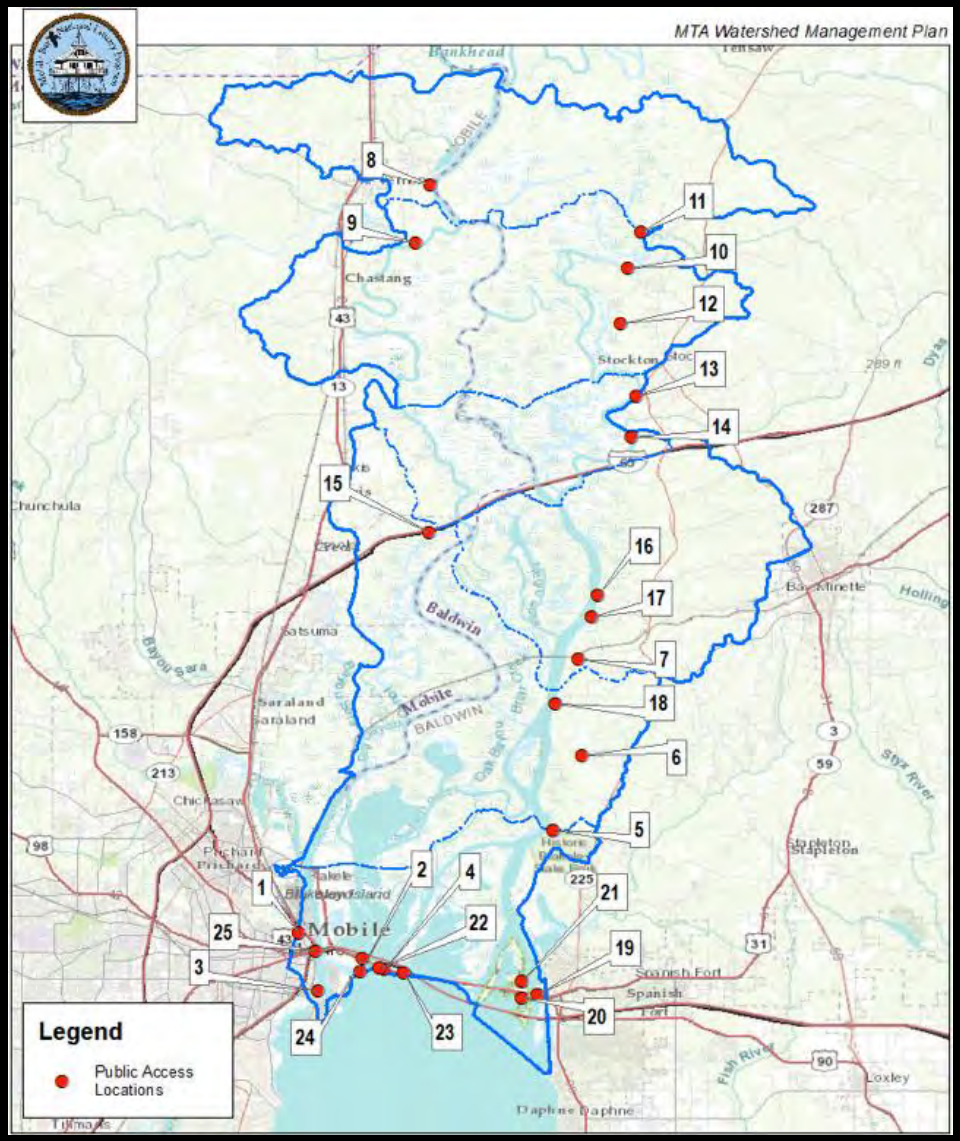
Figure 4.9.1.2. Bottle Creek Site
(Source: Encyclopedia of Alabama: http://encyclopediaofalabama.org/article/m-8580)

Critical Issues
Human Uses

» Public access for recreation

» Financial support for management and maintenance of public lands

» Resiliency of transportation infrastructure



Open Discussion

(Facilitator: M.M. Redditt)

Review of Action Items

(Facilitator: J. Kelson)

Thank You!!

Thank You!!

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Thank You!!

Thank You!!