



engineers | scientists | innovators

Perdido Watershed Management Planning

Baldwin County, Alabama

3 December 2021

Team Introduction



Wade Burcham

Specialties

- Local Watershed Experience
- Naturalized Stabilization Measures
- Stormwater BMPs
- Hydrology & Flood Modeling
- Restoration Studies and Design
- Stream/Lake Restoration Studies & Design

- Located in Baldwin County
- 24+ years experience
- Invested in the health, resilience, and future of the Perdido Watershed
- Single point of contact

- The mission of the MBNEP is to promote wise stewardship of the water quality characteristics and living resource base of the Mobile Bay estuarine system.....
- Comprehensive Conservation Management Plan (CCMP) - a blueprint for conserving the estuary
- A non-regulatory program, brings together citizens; local, state, and federal government agencies; businesses and industries; conservation and environmental organizations; and academic institutions
- Engage groups to determine how to best treat the Bay, our associated coastal waters, and their surrounding watersheds to ensure their protection and conservation for our lifetimes and beyond



Roberta Swann

(Director)

- As Director of the Mobile Bay National Estuary Program (MBNEP), Roberta guides a management conference of over 100 community leaders in undertaking restoration, capacity building, and policy related initiatives to improve and protect Alabama's coastal resources.

Christian Miller

(Watershed Coordinator)

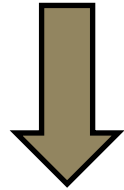
- Christian is the Watershed Management Coordinator for the Mobile Bay National Estuary Program, and is responsible for engaging partners supporting the development of comprehensive watershed management plans for all of coastal Alabama's intertidal watersheds. Christian also coordinates the MBNEP's Government Networks Committee (GNC) which works to engage local elected and municipal officials in protecting the natural resources that sustain coastal Alabama's economy and quality of life.



Characterize the Watershed Conditions
(existing, future, scenarios)



Identify Critical Issues

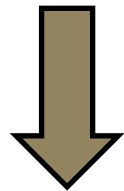


Create Management Measures
informed by Community Engagement

Educate (tabletop exercise – what if scenarios)

Address through Development process

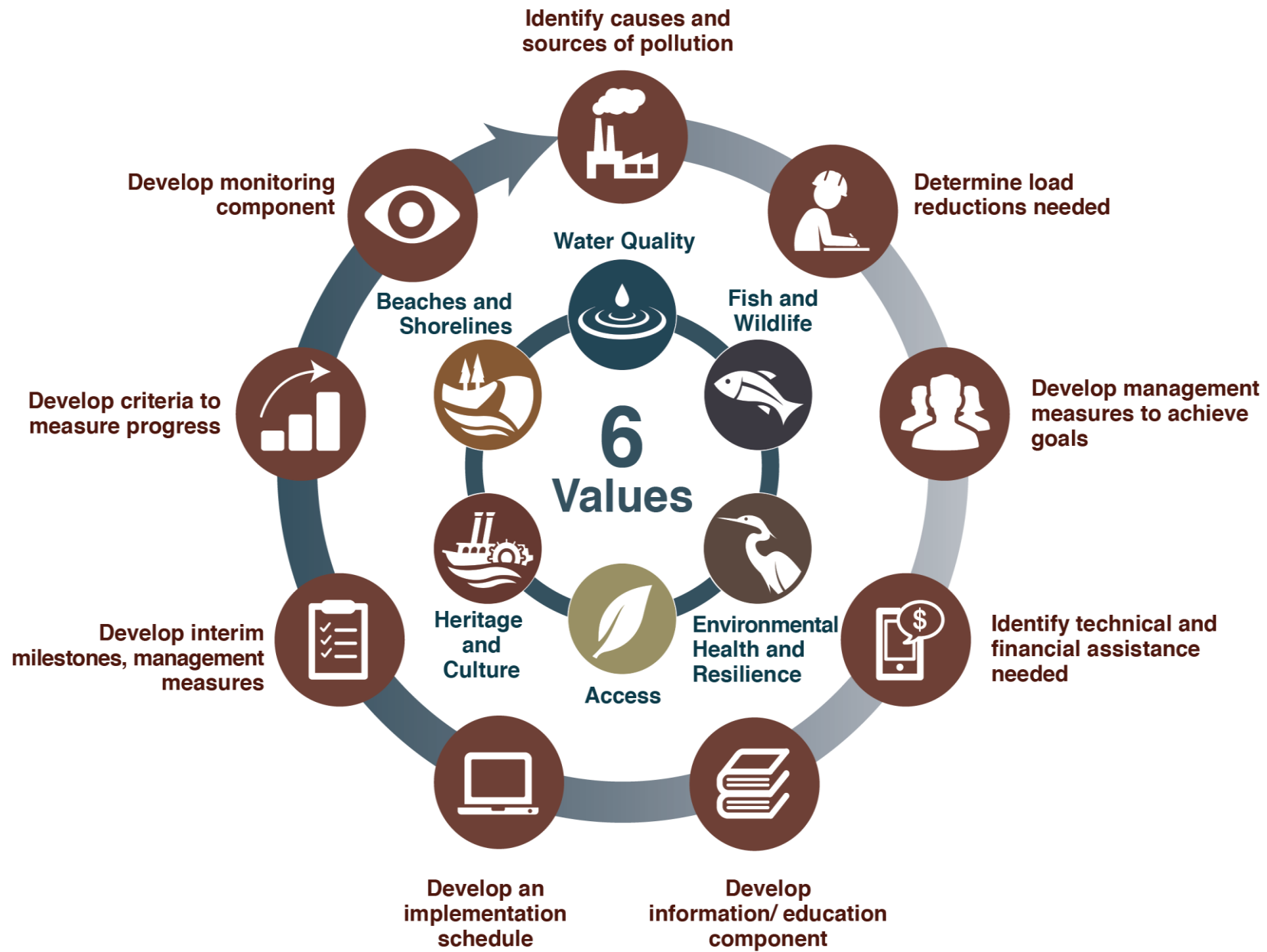
It's very difficult to change after 20% impervious



Prioritize and Refine Solutions

Ordinances, LID, Septic to Sewer Conversion, Site Specific Adaptation Strategies,
Extent of Service / Level of Service Policy, Infrastructure Inventory and Capital
Improvement Plans, Conservation Acquisitions, Future Flood Plain Planning,
Critical Infrastructure Elevation Assessment,





EPA 9 Key Elements



Mollie Taylor

Specialties

- 10 years experience
 - Led community and stakeholder engagement on the D'Olive and Gulf Frontal WMPs and the Dauphin Island Causeway Restoration
 - First-hand experience in Alabama coastal communities
- Stakeholder Engagement
 - Science Education
 - Watershed Management Planning
 - Monitoring Plan Development & Implementation
 - Ecological Assessment
 - Estuarine Habitat Quality
 - Green Infrastructure
 - Fisheries Independent Monitoring
 - Stream Assessments
 - BMP Effectiveness Studies
 - Vegetative Surveys



Tom Fendley

Specialties

- Stream Restoration
- Construction Management Service
- Stormwater BMPs/Runoff Reduction
- Watershed Management Studies
- Stormwater Design & Implementation
- Green Infrastructure/LID

- 38+ years experience
- Served as project director for multiple coastal Alabama projects and will ensure the project's exceptional quality, appropriate staffing, and adherence to the budget and schedule

Organizational Chart



PROJECT MANAGER Wade Burcham, PE Level of Participation: (30%)

Wade has been a Baldwin County Resident for 20 years and is invested in the health, resilience, and future of the Perdido Watershed. He will be your single point of contact.

- Local Watershed Experience
- Naturalized Stabilization Measures
- Stormwater BMPs
- Hydrology & Flood Modeling
- Restoration Studies and Design
- Stream/Lake Restoration Studies & Design



PROJECT DIRECTOR Tom Fendley, PE Level of Participation: (20%)

Tom has served as project director for multiple coastal Alabama projects and will ensure the project's exceptional quality, appropriate staffing, and adherence to the budget and schedule.

- Stream Restoration
- Construction Management Service
- Stormwater BMPs/Runoff Reduction
- Watershed Management Studies
- Stormwater Design & Implementation
- Green Infrastructure/LID



COMMUNITY/STAKEHOLDER ENGAGEMENT Mollie Taylor Level of Participation: (40%)

Mollie has led community and stakeholder engagement on the D'Olive and Gulf Frontal WMPs and the Dauphin Island Causeway Restoration. She has first-hand experience in Alabama coastal communities.

- Stakeholder Engagement
- Science Education
- Watershed Management Planning
- Monitoring Plan Development & Implementation
- Ecological Assessment
- Estuarine Habitat Quality
- Green Infrastructure
- Fisheries Independent Monitoring
- Stream Assessments
- BMP Effectiveness Studies
- Vegetative Surveys



WATERSHED ★ ★ CHARACTERIZATION Robert Dunn Level of Participation: (30%)

Bobby led watershed characterization for the D'Olive and Gulf Frontal WMPs. He is intimately familiar with the area and the process of developing successful WMPs that meet EPA requirements as well as client/stakeholder goals and objectives.

- USACE Permitting & Mitigation
- State 401 Water Quality Certification
- Applied Fluvial Geomorphology
- Watershed Planning
- Stream & Wetland Restoration
- Aquatic Resource Sampling & Management
- Geomorphic Assessment, Characterization, & Monitoring
- Natural/Ecological Resource Survey



STAKEHOLDERS



SET GOALS/ IDENTIFY SOLUTIONS ★ ★ Katie Fox, PE Level of Participation: (30%)

Katie has 13 years of experience in coastal civil and environmental engineering and compliance. She is an Alabama Department of Environmental Management Qualified Credentialed Inspector and a regular attendee of MBNEP Project Implementation Committee and Perdido Bay Estuary Program technical advisory board meetings.

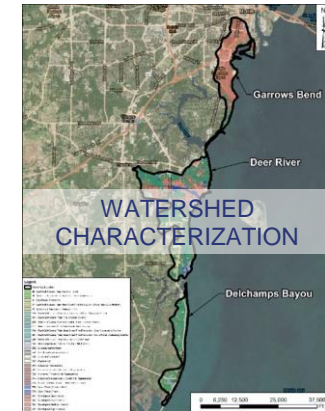
- Urban Stormwater Management Planning & Design
- Hydrology & Flood Modeling
- Stream/Lake Restoration Studies & Design
- Stormwater BMP
- Environmental Management
- Water & Natural Resources



DESIGN IMPLEMENTATION PROGRAM ★ ★ Mike Hardin, PhD PE, CFM Level of Participation: (25%)

Mike has extensive experience in watershed nutrient assessments, hydrologic and hydraulic modeling, stormwater quality enhancement designs, and BMP optimization and evaluation for several projects.

- Stream Restoration
- Water Quality Improvement
- Stormwater Runoff Reduction
- LID/Green Infrastructure
- Erosion & Sediment Control
- Field Assessment/Technical Studies
- Stormwater Management & Harvesting
- TMDL Estimates



ECONOMIST FOR ECOSERVICES VALUATION Bill Gaffigan, CVA (15%)

Bill has extensive experience in analyzing life-cycle costs for environmental liabilities and assets, including remedial, control, operating, development, and capital equipment costs as well as financial assurance components.



McCrary & Williams



Cypress Environmental



Stephanie Smallegan, PhD, PE

*Stars indicate MBE/WBE contributions



Indicates internal communication (within the Geosyntec Team)



Indicates external communication (between Geosyntec Team, MBNEP, and stakeholders)

This team recognizes the importance of public involvement early as the single-most important aspect of developing a successful WMP.

Why is public engagement critical to the process?

Those who live it know it.

Citizens, fishers, boaters, scientists, hunters, and others have a unique insight into the environmental challenges we face, what works, and what doesn't. **Stakeholder input is vital to developing long-term solutions to local challenges.**

Economic opportunities must be available.

Our coast is an economic engine, creating significant wealth for our State each year through activities, such as trade through the Port of Mobile, recreational and commercial fishing, tourism, hunting, and coastal construction. **Many jobs depend on coastal water quality, healthy populations of fish and wildlife, and a mosaic of habitats that provides essential natural functions.**

Environmental stewardship is interconnected.

Residents, towns, cities, counties, businesses, industries, academia, community developers, and social services all have a vested interest in preserving the quality of life derived from Alabama's estuaries and coast. **Coalitions that bring together a diversity of stakeholder interests are critical to comprehensively addressing the challenges of balancing economic development with environmental protection.**

It happens in the river, in the sea, and on the street.

Involvement of citizens in carrying out activities aimed at improving our estuaries, bays, and surrounding watersheds is paramount to ensuring the long-term health and vitality of the Alabama's estuaries and coast. **Citizens must be actively engaged in balancing the many uses of our waters, so we can preserve these unique natural resources for all our needs.**

(CCMP 2019 Update)

Why is public engagement critical to the process?

- Integral to the success of these plans are partnerships built from the initial stages of the development process through implementation of WMP recommendations that may stretch out over a decade.
- The planning process reaches beyond geopolitical boundaries, bringing differing governing bodies together through intergovernmental task forces or public-private partnerships of watershed management authorities to act in concert to manage shared interests on a watershed scale.
- Engaging key stakeholders generates momentum to carry the finished watershed plans forward.
- Watershed engagement is promoted through activities such as volunteer water quality monitoring programs, community clean-ups, paddle trips, and watershed educational signage.

(CCMP 2019 Update)

Enable stakeholders to act in a cooperative and coordinated fashion to achieve goals

So what's next:

- Why participate?
 - It's critical to the success of the plan!
 - Those who live it know it.
 - Ensure all concerns are factored into the plan.
- How to participate?
 - Get the word out.
 - Planning is about to start to develop science-based, publicly supported measures to restore and protect our watershed.
 - Plan to participate in a public meeting
 - Continue to / or consider volunteering (water quality monitoring, clean ups, data gathering)

Our vision is to produce a Watershed Management Plan

- for the community
- creating a landscape of environmental and economic viability
- that promotes the protection and restoration
- of water quality and coastal ecosystems
- through strong local leadership and sustainable partnerships.


III. What are the Responsibilities of the Steering Committee?

- Guidance, Vision, and Oversight
 - Refine and help execute a Common Vision
 - Provide guidance and feedback
 - Interact with the team on strategy, community engagement, and shared measurement
- Leadership
 - Consider how your individual organization or those in your network can align with the Common Vision
 - Serve as a vocal champion for the effort in the community (especially your community)
- Process
 - Participate in-person in regularly scheduled meetings (every month)
 - Review pre-read materials prior to meetings and come prepared for engaged discussion, active listening, and respectful dialogue
 - Commit to 17-month membership in the Steering Committee

IV. Your Steering Committee

- Should these be the responsibilities of this steering committee?
- Are you willing to commit to these responsibilities?
- Are there gaps in the steering committee?



A vertical strip on the left side of the slide shows a coastal landscape with a body of water, green trees, and a small building in the distance.

Who are we missing? (steering committee members, others working in the area, other willing volunteers)

Who do we need to talk to? When? Where?

- 
- How to report issues
 - Public meeting, when and where?

COMMON GOALS

- Suggestions on future discussion topics
 - Next meeting?

Question 3

Detail your strategy for engaging the community throughout the planning process in order to educate, gather input, and to build buy-in resulting in successful plan implementation.

Engaging the community

Our community engagement strategy revolves around being accessible, resilient, adaptive, and transparent.

- Kick-off meetings and early engagement with the client, stakeholders, and the community
- Tools and experience to facilitate stakeholder engagement, particularly if distance engagement is required
- Many platforms and applications to build and support a tailored solution
- Specialize in telling a story AND gathering valuable feedback

Our team has the tools to disseminate **clear**, **concise**, and **engaging** community and stakeholder outreach, and efficiently gather valuable information from participants to support project implementation.



Engagement Strategies that WORK!

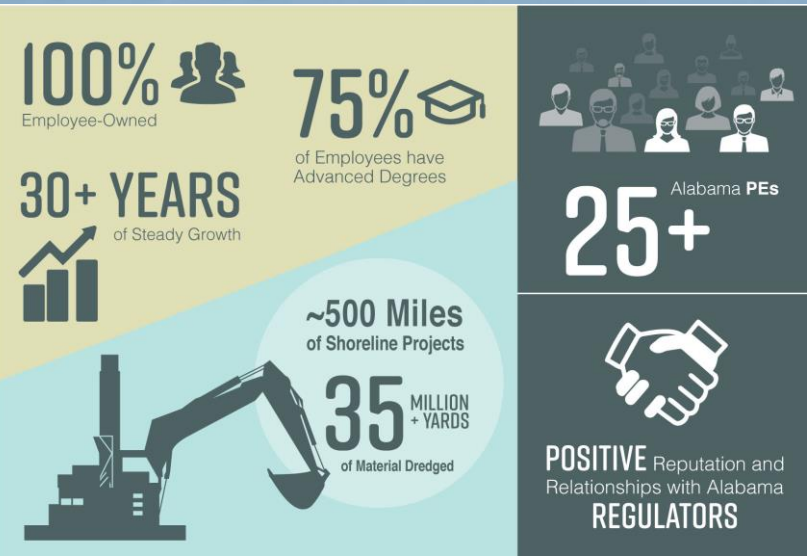


Build Community
Buy-in



Gather Input

Educate



Question 1

Given the unique elements of this watershed, including the impacts to water quality originating from outside the Watershed's planning area, what do you foresee being the biggest challenge to address and detail your vision for implementing this watershed planning effort.

SMART Goals:

- Specific (simple, sensible, significant).
- Measurable (meaningful, motivating).
- Achievable (attainable, community support).
- Relevant (reasonable, results-based).
- Time bound (time-based, time limited, time/cost limited, timely, time-sensitive).

Identify Solutions

Determine load
reductions needed

Develop management
measures to achieve goals

One that provides the
"most bang for your buck"

One that addresses as
many of the six things that
people value most

One that is SMART

Caution!
Exegetic not Eisegetic

Biggest challenge

Biggest Challenge

Do no harm to your neighbor

Improved Regulations



Vision for implementing watershed planning effort

Define Opportunities

- Improve water quality inspection implementation and program
- Develop plan review and inspection policy with checklist
- Develop enforcement policy and procedural flow chart
- Develop violation action policy and table
- Develop violation notification letter template
- Require training for stormwater plan reviewers
- Require stormwater management inspections by Qualified Credentialed Inspectors/Professionals
- Require biannual good housekeeping inspections and training on publicly owned properties
- Allow and encourage pervious parking options
- Increase multifunctional green space and landscaped areas in new developments
- Review ordinances, codes, criteria, policies, standards, regulations, and plans to identify barriers to
- LID implementation and revise
- Develop incentives to promote infill and redevelopment
- Require a natural resource inventory with plan submission
- Allow Runoff Reduction Method to provide a mechanism to credit volume reduction and thereby provide an economic incentive for LID and Better Site Design Practices.
- Incentivize natural state land preservation
- Require runoff reduction practices through retaining a first flush volume or removing 80-percent total suspended solids
- Require stream protection by using an extended detention of the channel protection volume
- Require downstream analysis at a point where the subject area comprises 10-percent of the total drainage area and at each confluence to that point
- Utilize sub-watershed ordinances to address development issues that will cause further damage to identified problems

Educate

- Elected Officials
- Developers
- Regulators
- Home Owners
- Commercial
- Engineers

Promote

- Elected Officials
- Developers
- Regulators
- Home Owners
- Commercial

Open Discussion and Questions