



Apalachicola- St. Marks

Community-Based Watershed Plan

The Nature Conservancy in Florida

DECEMBER 2014

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The Nature Conservancy would like to thank all of the stakeholders from local, state and federal governments, NGOs, community groups and citizens who devoted their time, resources and support for this watershed planning process. Your desire and commitment to come together in the spirit of building a watershed community that will achieve more together than individually has created a solid foundation and legacy of collaboration and conservation for the Gulf. In particular, we would like to recognize the leadership demonstrated by the county governments in the Panhandle and Springs Coast to invest in a process that reaches across political and organizational boundaries and focuses on improving and protecting the watersheds today and for future generations.

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Executive Summary

The Deepwater Horizon Oil Spill has focused attention on opportunities to restore and enhance Gulf Coast ecosystems and communities. In Florida, funding opportunities associated with civil and criminal settlements of the Deepwater Horizon Spill provide an opportunity to address direct damage from the spill as well as long-standing water quality, habitat and coastal resilience restoration needs. A healthy environment is the foundation of healthy economies and communities. The Nature Conservancy (TNC) believes that identifying restoration needs and projects by watershed in collaboration with diverse community stakeholders is essential for achieving comprehensive and long-term success for Gulf Restoration.

In 2013 TNC initiated a facilitated community-based watershed planning process along Florida's Gulf Coast for the following six watersheds: Perdido Bay, Pensacola Bay, Choctawhatchee Bay, St Andrew and St Joe Bays, Apalachicola to St. Marks, and the Springs Coast. The Perdido, Pensacola and Choctawhatchee Bay watersheds also involved Alabama stakeholders. Similar planning efforts in the remaining Florida gulf coast areas have been led by other partners.

The community-based watershed planning provides a process for making thoughtful science-based decisions that help to both to assess already proposed projects and identify new projects that help solve recognized and documented problems in the watershed. Such a process involves understanding the priority issues facing each watershed (threats), the root causes creating each issue, and the major actions needed to address the root causes (solutions). Specifically, the process was designed to:

- **Develop watershed-based plans that identify the most pressing environmental issues affecting each watershed and solutions that address the issues, regardless of political jurisdiction and funding source.** Ideally, the plans will be 'living' documents used by all stakeholders to identify priority projects for funding that specifically address solutions to the identified issues and their root causes, documenting results to measure success, and updated as needed to help inform future activities needed to address watershed issues. The project list is designed to provide maximum flexibility for grouping projects to meet specific funding opportunity requirements and can be used to pursue project funding for RESTORE and non-RESTORE related funding programs (e.g., grants, Public Private Partnerships, etc.). The current project list is not comprehensive and further stakeholder input is needed to identify solutions necessary to resolve the watershed issues.

- **Create long term partnerships among stakeholders in each watershed and across the regions to maximize effectiveness of project implementation and funding efforts.** The stakeholders in each of the six watershed regions have voiced their desire to continue the coordination and outreach among diverse partners that this watershed planning process has supported and enhanced.
- **Provide a screening tool to evaluate the project priorities of these watershed plans for potential RESTORE funding by the communities, Florida Department of Environmental Protection (FDEP), Florida Fish and Wildlife Conservation Commission (FWC), National Fish and Wildlife Foundation (NFWF) and the Gulf Coast Restoration Council.** The project list can be used to pursue project funding for RESTORE and non-RESTORE related grants programs by clearly documenting the need for the projects in the context of how they will address solutions to critical watershed issues.

This first edition of the Apalachicola to St. Marks community-based watershed plan documents the results of the watershed planning process to date - the priority issues, root causes, major actions and initial set of priority projects - identified by the Apalachicola to St. Marks watershed stakeholders. The next steps are to identify additional projects to fill in gaps identified during the September 10, 2014 watershed meeting, refine the project maps as needed to more clearly define geographic extent of the projects (polygons rather than points), develop a science based selection process that prioritizes the projects proposed through this watershed process, and create a stakeholder organizational structure that will serve to continue the watershed planning and implementation work.

Introduction

As a result of the Deepwater Horizon oil spill, potentially billions of dollars will be coming to Gulf of Mexico communities for environmental and economic restoration. These funds will be coming through various pathways – Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast Act (RESTORE), National Fish and Wildlife Foundation’s (NFWF) Gulf Environmental Benefit Fund (GEBF), and the Natural Resource Damage Assessment (NRDA). Each of these pathways has its own particular process, goals and objectives. A brief overview of each is provided in Appendix A-Deepwater Horizon Related Funding Opportunities.

In 2013 Florida opened an online portal to receive project suggestions based on their stated priorities and, to date, has received over 1,200 suggested projects totaling over \$16 billion worth of work. As this was occurring, TNC and partners recognized the need for a thoughtful and strategic decision-making process to help assess existing and future projects in the context of addressing issues that are negatively impacting the environmental integrity of the landscape. In southwest Florida this context is being provided by the three National Estuary Programs (NEPs) in that area. In the Big Bend area, the process is being led by the Suwanee River Water Management District and partners. In the Panhandle and Springs Coast, this context is being provided by the Community Based Watershed Planning process facilitated by TNC. The process involves understanding the priority issues facing each watershed, the root causes creating each issue, and the major actions needed to address the root causes (solutions).

One of the core principles in the watershed planning process is that, although the Deepwater Horizon related funding was the spark for community discussions and information sharing, the priorities and projects identified through the process can be funded by non-Deepwater Horizon related sources as well. In addition, there is a need for integration and coordination between projects and funding sources to maximize the effectiveness and results of Gulf investments. This is recognized during public meetings at every level of government regarding the implementation of RESTORE and the other Gulf related funding opportunities. By harnessing all applicable funding sources and applying them to the most appropriate project, each community will maximize the number of projects that can be completed and, therefore, make the most progress in improving and protecting the long-term health of their watershed.

The community-based watershed process has been designed and adapted to facilitate communication among the diverse stakeholders. The process identifies a priority suite of projects necessary to improve and maintain the health of Gulf watersheds and matches priority projects with the most appropriate funding source(s). In addition to the Deepwater Horizon related

funding sources detailed in Appendix A, there are numerous other funding opportunities that could and should be leveraged as the Gulf of Mexico watersheds are restored that include, but are not limited to:

- o Federal/State Grants – stormwater projects, habitat creation and restoration, land acquisition, etc.
- o Public Private Partnerships (P3) – public infrastructure projects that include cost recovery mechanisms (e.g., sewer projects)
- o Wetland mitigation opportunities
- o Private foundations and contributors

The Apalachicola to St. Marks Community Based Watershed Plan documents the planning process, the initial set of priority projects, and next steps for the Apalachicola to St. Marks Watershed.

Planning Process

The Nature Conservancy organized and facilitated “watershed discussions” for the Apalachicola to St. Marks watershed with a variety of diverse community stakeholders that included federal, state and local governments, Non-Governmental Organizations (NGOs) and interested businesses, community groups and citizens. Several meetings were held during the development of this plan and the meeting dates and participants can be found in Appendix B–Stakeholder Participants.

The motivation for the community watershed planning is to help ensure a healthy and protected natural environment that supports a vibrant economy and community. The key objectives of this process are to:

- o **Develop watershed-based plans that identify the most pressing environmental issues affecting each watershed and solutions that address the issues, regardless of political jurisdiction and funding source.** Ideally, the plans will be ‘living’ documents used by all stakeholders to identify priority projects for funding that specifically address solutions to the identified issues and their root causes, documenting results to measure success, and updated as needed to help inform future activities needed to address watershed issues. The project list is designed to provide maximum flexibility for grouping projects to meet specific funding opportunity requirements and can be used to pursue project funding for RESTORE and non-RESTORE related funding programs (e.g., grants, Public Private Partnerships, etc.). The current project list is not

comprehensive and further stakeholder input is needed to identify solutions necessary to resolve the watershed issues.

- o **Create long term partnerships among stakeholders in each watershed and across the regions to maximize effectiveness of project implementation and funding efforts.** The stakeholders in each of the six watershed regions have voiced their desire to continue the coordination and outreach among diverse partners that this watershed planning process has supported and enhanced.
- o **Provide a screening tool to evaluate the project priorities of these watershed plans for potential RESTORE funding by the communities, Florida Department of Environmental Protection (FDEP), Florida Fish and Wildlife Conservation Commission (FWC), and the Gulf Coast Ecosystem Restoration Council and non-RESTORE funding programs such as the NFWF.** The project list can be used to pursue project funding for RESTORE and non-RESTORE related grants programs by clearly documenting the need for the projects in the context of how they will address solutions to critical watershed issues.

The Apalachicola to St. Marks Community Based Watershed Plan was developed using the following process. The process is ongoing and future steps are detailed in the Recommended Next Steps section. This process was not meant to duplicate the state's process for soliciting project ideas via their online portal. Rather it is specifically tailored to address the needs of the watershed as identified by the stakeholders during the community meetings facilitated by TNC.

- o Convene key stakeholders and determine the boundary of the watershed for the purposes of this planning effort. The boundary identified by the stakeholders for the Apalachicola to St. Marks includes the Ochlockonee River and Bay and St. Marks River areas. This is a much larger boundary than identified by the Northwest Florida Water Management District, which has separate SWIM Plans for each of these areas. At the first meeting of the Apalachicola to St. Marks community-based watershed the stakeholders decided that they preferred to work together in this larger region rather than in smaller watershed groups. The watershed extends into the States of Georgia and Alabama but stakeholders from Georgia and Alabama have not yet been part of the planning process. We recognize that representation from these states needs to be included as this watershed process continues.
- o Discuss stakeholders' vision for the watershed
- o Identify the priority issues that must be addressed, the root causes of the priority issues, and the major actions necessary to implement solutions for the root causes

- o Develop a suite of priority projects that will help resolve identified issues and root causes. TNC developed an online form to solicit projects from stakeholders. Stakeholders were also asked to identify performance metrics that can be applied to monitor and track success of the project, once implemented, as well as changes in the overall health of the watershed (e.g., improved water quality, increase in seagrass habitat, etc.).
- o Identify remaining needs and new projects to address gaps that are not addressed by the current proposed projects.
- o Integrate results of the plans into the stakeholder's processes implemented by their respective affiliations, i.e., RESTORE processes, County comprehensive plan implementation, NGO restoration plans.

Meetings for the Apalachicola to St. Marks watershed began in June 2013 and continued through October 2014. After each meeting, meeting notes were distributed to all participating stakeholders (Appendix C–Stakeholder Meetings Notes). The notes and comments received were used to develop this draft plan. This plan represents the first edition of the Apalachicola to St. Marks Community-based Watershed Plan. The plan will be updated as future meetings are conducted and to recognize progress on implementation of solutions.

1) Identifying Priority Issues, Root Causes, and Major Actions:

The first step in the watershed planning process was to hear stakeholder perspectives on what they envisioned for their watershed's future. To do so, the following question was e-mailed to stakeholders prior to the first meeting held for the Apalachicola to St. Marks watershed. It was also provided on slips of paper to be filled out during the meeting:

In a sentence, of just a word or few, what is your Vision for the Apalachicola to St. Marks Watershed's future (land / river / estuary / Gulf)? What do you hope it looks like in 10, 20, or 50 years and beyond?

During the meeting held on September 26, 2013, TNC facilitated a short brainstorming session as an introduction for everyone to hear and understand each other's thoughts and viewpoints on their vision for the Apalachicola to St. Marks watershed. A vision statement was not developed; this can be done at a later date as part of creating a long term organizational structure to manage the implementation of this plan.

The following are the unedited comments that were presented on paper and during the brainstorming and have been grouped by common themes:

o **Healthy habitats and resources**

- o Healthy forest conditions throughout the watershed maintained by BMP's to sustain healthy game populations thus encouraging recreational activities
- o Healthy productive river floodplain and bay for fishing industries (oyster, shrimp crab, fish)
- o Balance of conservation and economic development for years to come
- o A healthy sustainable ecosystem which balances economic prosperity and quality of life
- o Preservation of natural areas.
- o Restoration of recreation facilities (existing) to eliminate erosion around boat ramps and other infrastructure.
- o Promote BMPs for agriculture
- o Allow migration of natural systems to uplands or landward
- o Retain rural and natural landscapes to the greatest extent
- o Rebuild Apalachicola's oysters for an optimal, sustained fishery
- o Restore/enhance estuarine/Gulf issues
- o Healthy river, bay, estuary = clean and plentiful water and well-managed forests

o **Clean Water**

- o Clean and consistent water
- o Springs protection
- o Clean water i.e. sustainable, drinkable, fishable, 'recreatable' water
- o Clean water my grandchildren can drink
- o Less sediment
- o Stormwater, septic, solid waste in watersheds - enforce all laws and ordinances
- o Reduce sediments to achieve clean water

o **Educated and active community**

- o Healthy, vibrant ecology, economy, recreational opportunities and resource dependent industries
- o Plan ahead to mitigate hazards and changing conditions
- o Coastal resilience adaptation – people + nature + community engagement

- o Smart development – healthy balance
- o Economic prosperity
- o Balance the needs of people and environment
- o Rebuild Apalachee Bay – need both economic and environmental drivers
- o Future for future generations
- o Be proactive, not reactive, in fixing the known problems, predicting future problems and restoring and managing landscapes

The next step was to start identifying the Priority Issues, Root Causes, Major Actions facing the Apalachicola to St. Marks Watershed. Appendix D–Watershed Overview and General Issues contains a general description of the Apalachicola to St. Marks Watershed, a map of the watershed, and the high level issues it faces.

The following are the terms and definitions used for the watershed planning process:

- o Priority Issues: main themes of problems that were universal across the watersheds and need to be addressed
- o Root Cause: source(s) of the priority issues
- o Major Action: essential activity(ies) that needs to be accomplished to address the root causes of the priority issues.

During this portion of the process there was much discussion and numerous issues, root causes and major actions were identified. For purposes of facilitating the discussion, it was explicitly recognized that there is considerable overlap and inter-relationships between issues, root causes and major actions. As such, there is no one correct way to categorize them and the groupings that were made were done in order to present the information in a logical fashion. The following list is the high level groupings for the Priority Issues and Major Actions. For a complete listing of these, and their relationships with the Root Causes, please see Appendix E–Stakeholder Identified Priority Issues, Root Causes, Major Actions and Project Types.

The Priority Issues identified by the watershed stakeholders, each having one or more root cause, are:

- o Water Quality
- o Natural Resource Protection and Management
- o Education and Outreach
- o Coastal Community Resilience

The Major Actions identified by the watershed stakeholders are:

- o Protect, restore, create and/or manage natural habitat and resources and increase buffer areas
- o Increase cooperation and coordination for management, monitoring, funding, implementation, outreach, enforcement
- o Reduce impacts to groundwater and ensure adequate fresh water availability
- o Reduce and treat stormwater
- o Reduce nutrient loading
- o Reduce sedimentation
- o Increase economic diversification

2) Project Identification and Performance Measurement

The next step in the process was to begin to identify the priority projects that would initiate the implementation of major actions needed to address the identified root causes and priority issues. The process of identifying priority projects involves understanding and documenting how a project relates to identified root causes and priority issues. To aid in the prioritization of projects, each proposed project should include specific performance metrics that identify the expected results and quantify, if feasible, how those results relate to and address a root cause(s) and priority issue(s) identified in the watershed. Documented results will help inform future decision making and prioritization activities by tracking actual versus predicted results. These results will help inform communities and decision makers in the selection of future projects that show the most promise for return on investment based on desired outcomes.

Both short and long-term metrics must be identified to effectively monitor and evaluate the impact from implemented projects on the critical watershed issues they were designed to address. Short-term metrics focus on monitoring the success and effectiveness of the individual project efforts at addressing root causes (e.g., for a sediment stabilization project, what percent of the project area was successfully stabilized). Long-term metrics will focus on the impact of those projects on the priority watershed issues (e.g., return of stream channels, increase in water clarity/quality, increase in seagrass coverage, improved fish landings, etc.) It should be noted that direct correlations between specific projects and improvement in a priority issue or issues may sometimes not be possible, particularly when several projects need to be implemented to adequately address a priority issue.

However, these longer-term measures are important since they track the ultimate results the community and funders are seeking to achieve. Including effective metrics will also facilitate adaptive management as the predicted versus actual results can be evaluated to ensure implemented projects are achieving expected outcomes.

In order to be methodical and ensure that the highest priority projects were submitted, the following process was used:

- o In advance of the watershed meeting, stakeholders were asked to submit their top three priority projects using an online form developed by TNC specifically for this watershed planning process.
 - Each project submission included fields which tied the project to identified root causes and major actions, and
 - Each project submitter was asked to include specific performance measures that could be used to evaluate the success of the project itself as well as success of the project on addressing a root cause(s) and priority issue(s).
- o Jean-Paul Calixte with the Natural Resources Conservation Service partnered with TNC to develop a GIS-based map showing a point location of each project (Figure 1). The project locations were identified using latitude and longitude coordinates provided by the stakeholder proposing a project. It is important to note that many projects are not adequately represented by a single point since they span larger geographic areas and, in some cases, multiple projects within a proposed project. Future work on the watershed planning should strive to create accurate boundaries of each project represented by polygons on the map. The map was distributed to all stakeholders prior to the October 8, 2014 meeting of the Apalachicola to St. Marks and Pensacola Bay stakeholders.
- o At the watershed meeting, attendees broke out into groups to review the maps and spreadsheet of the proposed projects, to identify geographic and project type gaps, and to reconcile any questions on project locations. The attendees reconvened into one group and reported on their break out group findings regarding project gaps and next steps (Appendix C–Meeting Notes dated October 8, 2014).

Twelve projects totaling 13 different actions were submitted during the first round of project nominations (Appendix E – Project Table). Projects ranged from single focus projects such as stabilizing dirt roads, to multiple projects designed to restore a sub-basin within the watershed.

The following is a breakdown of suggested projects by major action:

- o Protect, restore, create and/or manage natural habitat and resources and increase buffer areas – 7
- o Increase cooperation and coordination for management, monitoring, funding, implementation, outreach, enforcement – 3
- o Reduce impacts to groundwater and ensure adequate fresh water availability – 2
- o Reduce and treat stormwater
- o Reduce nutrient loading
- o Reduce sedimentation – 1

Note that the above grouping is by main primary goal, but numerous proposed projects would have positive impact on more than one major action.

Figure 1. Apalachicola Bay to St Marks Watershed Project Map



One of the key principles behind the watershed planning effort is to develop the suite of projects necessary to improve the health of the watershed and protect it for future generations, regardless of potential funding sources. Once a comprehensive set of projects has been identified for each watershed, the projects can then be grouped, separated, and/or phased as necessary to apply for relevant funding sources. Potential funding sources include RESTORE, NFWF's Gulf Environmental Benefit Fund and other NFWF grants, federal and state grants (e.g., EPA 319, FEMA, NRCS, Florida Wildlife Legacy Initiative, and others). The project list will be refined as additional watershed meetings are held.

Current Status and Recommended Next Steps

As discussed above, the stakeholders have identified the priority issues facing the watershed, their understanding of the root causes creating those issues, major actions needed to address the root causes, and have begun to identify the projects necessary to implement the major actions.

In addition, TNC has been working with the stakeholders in the Perdido and Pensacola Bay watersheds to pilot the Resource Investment Optimization System (RIOS) to evaluate the model's usefulness to helping with the identification and priority setting for watershed projects. The RIOS model is being used to conduct spatial analysis to provide a science-based framework for spatially identifying what types of projects are best positioned to address multiple activities to help solve the issues of concern in the Perdido Bay and Pensacola Bay watersheds. RIOS, designed to support this type of stakeholder process, provides a planning tool to prioritize watershed and coastal projects by identifying where land protection, restoration, or improved management activities are likely to yield the greatest benefits for people and nature. RIOS is a free and open source software tool managed by the Natural Capital Project (NatCap), and co-developed by NatCap, TNC, World Wildlife Fund and the University of Minnesota. RIOS will help answer two core questions:

1. What set of investments (which activities, and where) will give the greatest returns towards multiple objectives?
2. How much improvement in objectives can we expect from making the set of investments identified through a scientific analysis?

Applying RIOS to the Perdido and Pensacola Bay watersheds as a pilot project will provide a demonstration for how the RIOS planning tool might support a stakeholder process for developing watershed plans in other Gulf coast counties and watershed groups across Florida

and beyond to help inform priorities related to future RESTORE funds, NFWF funds, or other opportunities. These pilot projects will also test and refine the new RIOS coastal module to support integrated watershed and coastal planning processes for multiple benefits.

1) TNC Recommendations

In order to complete the planning process TNC recommends the following actions:

- o Northwest Florida Water Management District updates the Apalachicola River and Bay (1996), Ochlockonee River and Bay (2012) and St. Marks River (2009) SWIM plans to ensure all priority issues are identified and addressed. This action is dependent on funding received to update the SWIM plans. The Ochlockonee River and Bay is included in the TNC facilitated watershed planning area. The SWIM Plan for this area is one of the most recently updated plans of all of the watershed plans for the watershed planning facilitated by TNC and, therefore, may not need updating. If updates are not funded then this watershed process will continue to use the existing SWIM plans until such time that updates are conducted.
- o In addition, a focus was placed on identifying ‘priority action areas’ (“hot spots”) that, if prioritized and restored, would make the most difference in restoring the watershed.
- o Complete the identification of priority projects by conducting a technical review of the current list of watershed projects and a “gaps” analysis to determine where and what type of projects are still needed to address the issues and root causes of each watershed.
- o Develop a science-based project prioritization process that uses the best available science to help make decisions on those projects that best address the issues.
- o Create a long-term organizational structure (i.e., estuary program) in each watershed to continue the watershed planning effort.
- o Pursue funding for the projects by matching each project and/or group of projects to potential funding sources (e.g., RESTORE, federal/state grants, public private partnerships, etc.).

2) The Path Forward

The following two proposals were submitted in November, 2014 in response to the initial round of RESTORE Council-Selected Restoration Component (Bucket 2) funding. If funded, these projects will significantly advance the watershed planning effort.

- o **Florida’s Northwest Florida Estuaries and Watersheds** – This project will advance the watershed planning process by continuing the stakeholder outreach, updating the

SWIM Plans of the Apalachicola to St. Marks region and other Panhandle SWIM Plans, funding the design and permitting of priority project(s) in each estuary, implementation of priority project(s), and monitoring project success.

- o **EPA's Gulf of Mexico Estuary Program** – This project will provide funding to create Estuary Programs for up to 12 estuaries in the Gulf of Mexico. All five Florida Panhandle watersheds (Perdido, Pensacola, Choctawhatchee, St Andrew/St Joe and Apalachicola to St Marks) are included in the proposal. This proposal would satisfy the last objectives of the watershed planning process stated above by creating the long term partnerships in each watershed via the creation of Estuary Programs.

Together, these proposals would create and support an effective, and much requested and needed, science and community-based process for long term restoration and management of the Gulf's remarkable natural resources and coastal communities. In addition to supporting the selection of these two proposals by the Gulf Coast Ecosystem Restoration Council, TNC will be conducting the following to continue the watershed planning process:

- o Convene additional watershed meetings to identify gaps where additional science or project identification is needed to address an identified issue.
- o Develop a science-based prioritization process for the projects identified by the stakeholders and detailed in each first edition of the watershed plans.
- o Work with the EPA to convene a workshop for the watershed stakeholders and representatives from Florida's Gulf Coast and Mobile Bay National Estuary Programs to facilitate the discussion on creating estuary programs in each of the panhandle and Springs Coast watersheds and learn about the various organizational structures of existing NEPs and lessons learned.
- o Present the results from the Resource Investment and Optimization System (RIOS) decision-support tool analyses to the watershed stakeholder groups. The results of the analyses will help to further evaluate the relative benefits and costs of the projects identified in the watershed planning process. This tool might then be used to advance project identification and implementation decisions in the other watersheds and regions in the Gulf.

Appendix A

Deepwater Horizon Related Funding Opportunities

RESTORE Act (Clean Water Act Fines) Allowed Uses of Funding:

<http://www.treasury.gov/services/restore-act/Documents/Final-Restore-Act.pdf>

- o Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region.
- o Mitigation of damage to fish, wildlife, and natural resources.
- o Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.
- o Workforce development and job creation.
- o Improvements to or on State parks located in coastal areas affected by the Deepwater Horizon oil spill.
- o Infrastructure projects benefitting the economy or ecological resources, including port infrastructure.
- o Coastal flood protection and related infrastructure.
- o Planning assistance.
- o Administrative costs of complying with the above

The RESTORE funds are divided into five components:

1. “Bucket 1” 35% of RESTORE funds divided equally among the five states. In Florida, these funds are allocated directly to, and will be spent by, the 23 Gulf of Mexico coastal counties.
2. “Bucket 2” 30% of RESTORE funds competitively awarded by the Gulf Coast Ecosystem Restoration Council for Gulf restoration projects. In Florida, the Governor decides which projects to nominate for consideration by the Restoration Council.
3. “Bucket 3” 30% of RESTORE funds allocated by formula to fund implementation of State Expenditure Plans (SEP). In Florida, the 23 Gulf Coastal Counties formed the Gulf Consortium to draft the SEP which the Governor reviews and submits to the Council for approval.
4. “Bucket 4” 2.5% NOAA Science Program (for Gulf of Mexico research and monitoring)
5. “Bucket 5” 2.5% State Centers of Excellence (for Gulf of Mexico research and monitoring)

NFWF GEBF (Criminal Penalties) Criteria:

<http://www.nfwf.org/gulf/Pages/fundingpriorities.aspx#.U6GfxPldWt4> and <http://www.nfwf.org/gulf/Pages/GEBF-Florida.aspx>

- o Restore and maintain the ecological functions of landscape-scale coastal habitats, including barrier islands, beaches and coastal marshes, and ensure their viability and resilience against existing and future threats
- o Restore and maintain the ecological integrity of priority coastal bays and estuaries
- o Replenish and protect living resources including oysters, red snapper and other reef fish, Gulf Coast bird populations, sea turtles and marine mammals
- o Natural resource restoration efforts on marine and coastal environments that improve water quality and other critical habitat elements, strengthen management of important fish and wildlife populations, and enhance the resiliency of coastal resources and communities by implementing outcomes-based projects that maximize environmental benefits

Natural Resource Damage Assessment (Environmental and loss of use payment):

http://www.dep.state.fl.us/deepwaterhorizon/about_restoration.htm

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- o The Oil Pollution Act of 1990 (OPA) makes parties responsible for oil spills liable to the public and the environment. The environment and the public have a right to be made whole again following an injury to natural resources from an oil spill incident. Natural Resource Damage Assessment (NRDA) is a legal process to determine the type and amount of restoration needed to compensate the public for harm to natural resources and their human uses that occur as a result of an oil spill incident or a hazardous substance release. Natural resources include land, air, water, fish, wildlife, biota, groundwater and drinking water supplies. Natural resources also include habitats and individual biological resources such as species or communities.

State of Florida Priorities:

http://www.dep.state.fl.us/deepwaterhorizon/projects_restore_act.htm

The State of Florida and its 23 Gulf Coastal Counties have a great deal of decision-making power for a significant amount of RESTORE funds. In order to provide focus for project recommendations, Florida identified the following priorities for RESTORE Act-funded projects:

- o Stormwater / Wastewater infrastructure projects
- o Community resilience / Living shorelines
- o Water quality projects including those which achieve water quality benefits provided by the preservation of buffer lands around military bases
- o Implementation of agriculture best management practices, or
- o Fish and wildlife habitat and management

Appendix B

Stakeholder Participants

Apalachicola to St. Marks Community-based Watershed Meetings

Stakeholders who attended one or more of the following meetings

June 12, 2013, September 26, 2013, October 8, 2014

Note: Affiliations reflect those noted at the time of attendance and may have since changed

ORGANIZATION	NAME
Apalachicola NERR/FDEP	Caitlin Snyder
Apalachicola NERR/FDEP	Kimberly Wren
Apalachicola Riverkeeper	Dan Tonsemiere
Army Corps of Engineers	Jason Lockwood
Army Corps of Engineers	Melinda M Witgenstein
Atkins	Eric Schneider
Baskerville-Donovan, Inc.	Lee Smith
Ecology and Environment	Paul Johnson
Ecology and Environment, Inc.	Rick Harter
FL Dept. of Environmental Protection	Jessica L. Kanes
Florida Department of Agriculture and Consumer Services, Division of Aquaculture	Lauren Kirikiti
Florida Department of Environmental Protection	Becky Prado
Florida Department of Environmental Protection	Brad Hartshorn
Florida Department of Environmental Protection	Charles Gauthier
Florida Department of Environmental Protection	Kendra Parsons
Florida Department of Environmental Protection	Lee Edmiston
Florida Department of Environmental Protection	Sally Mann
Florida Department of Environmental Protection	Bill Young
Apalachicola National Estuarine Research Reserve	Roy Ogles
Florida Fish and Wildlife Conservation Commission	Katie Konchar
Florida Fish and Wildlife Conservation Commission	Kent Smith
Florida Fish and Wildlife Conservation Commission	Mike Hanson

Division of Habitat and Species Conservation	Mary Gutierrez
Office of Conservation Planning Services	Ted Hoehn
Florida Wildlife Federation	Jay Liles
Franklin County	Alan Pierce
Franklin County	Cheryl Sanders
Franklin County	Robin Vroegop
Franklin County Seafood Workers Association & SMARRT	Shannon Hartsfield
Franklin's Promise Coalition	Joe Taylor
Gulf County	David Richardson
Gulf County	Kari Summers
Gulf County	Lee Collinsworth
Gulf County	Mark Cothran
Gulf County	Scott Warner
Gulf County	Towan Kopinsky
Gulf County	Ward McDaniel
Gulf County	Warren Yeager
Gulf County	Don Butler
Gulf County	Joanna Bryan
Gulf County	Tan Smiley
Gulf County BoCC	Brett Lowry
Jefferson County	Betsy Barfield
Jefferson County	Parrish Barwick
Jefferson County Economic Development Council	Julie Conley
Muller and Assoc. Inc.	Jim Muller
National Oceanic and Atmospheric Administration	Mark Thompson
National Oceanic and Atmospheric Administration	Laurie Rounds
National Wild Turkey Federation	Derek Alkire
National Wildlife Federation	Jessica Koelsch
National Wildlife Federation	Madison Walker
Northwest Florida Water Management District	Guy Gowens
Northwest Florida Water Management District	John B. Crowe, Jr.

NFWFMD	Paul Thorpe
Panacea Waterfronts	Becky Prado
Mathews Webster Consulting	Steven Webster
SCG Governmental Affairs	Bill Williams
Seagrass Recovery	Carter Henne
The Nature Conservancy	Anne Birch
The Nature Conservancy	David Printiss
The Nature Conservancy	Janet Bowman
U.S. Geological Survey, Florida Water Science Center	Eduardo Patino
UF Oyster Review Team	Andy Kane
US Department of Agriculture Forest Service	Paul Medley
US Department of Agriculture Forest Service (NFF)	Carl Petrick
US Fish and Wildlife Service	Channing St. Aubin
US Fish and Wildlife Service	Debbie DeVore
US Fish and Wildlife Service	Melody Ray-Culp
US Senator Nelson	Lynn Bannister
USDA/Natural Resource Conservation Service	Jean-Paul Calixte
USDA-NRCS	Brian McGraw
USFWS North Florida Refuges	Joe Reinman
Wakulla County	Dave Edwards
Wakulla County	Luis Serna
Wakulla County	Ralph Thomas
Wakulla County	Sheree Keeler

Appendix C

Stakeholder Meetings Notes

Apalachicola Bay to St Marks Region Community-Based Watershed Meeting

October 8, 2014 10:00-3:00 Eastern

Gulf County Robert M. Moore Administration Building (immediately adjacent to the courthouse)

Gulf County BOCC meeting room, 1000 Cecil G. Costin Sr. Blvd., Port St. Joe, Florida 32456

Hosted by Gulf County and Facilitated by The Nature Conservancy

AGENDA

Note times may be flexible to provide for more discussion, as needed.

Watershed Plan Objective: Create a unified holistic vision for the watersheds by collectively identifying and prioritizing a suite of projects and actions that solve the most pressing environmental issues affecting these watersheds and the Gulf, irrespective of the funding source or political jurisdiction.

Meeting Objective: Review and discuss projects submitted and propose project ideas that address the Springs Coast watershed plan issues and root causes.

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Time	Topic	Objectives
10:00-10:45 Anne Birch	<ul style="list-style-type: none">o Welcome/Introductions/ Public Comment	<ul style="list-style-type: none">o Greetings and overview on meeting agenda and process to finalize plans.o How this process is different from RESTORE/Deep Water Horizon funding processes
10:45-12:15 Jean-Paul Calixte, NRCS & Anne Birch	<ul style="list-style-type: none">o Projects in the Apal-St Marks Watershedo Break out table discussionso Full group discussion	<ul style="list-style-type: none">o Review projects identified by stakeholders who submitted pre-meeting information.o Identify and discuss potential project gaps based on Issues and Root Causes (Table 1 of plan)o Opportunities for project consolidation?
12:15-1:00 LUNCH		
1:00-2:15 Anne Birch	<ul style="list-style-type: none">o Projects assessment	<ul style="list-style-type: none">o Continue Morning Discussion on projects, if needed.o Major Actions (Issues) & Root Causes Missing?o Prioritization?
2:15 - 2:30 Anne Birch	<ul style="list-style-type: none">o Moving Forward	<ul style="list-style-type: none">o Review next steps in watershed planningo Q&A
2:30-2:45	<ul style="list-style-type: none">o Public Comment / Adjourn	

Apalachicola Bay to St Marks Region Community-Based Watershed Meeting

October 8, 2014 10:00-3:00 Eastern

Gulf County Robert M. Moore Administration Building (immediately adjacent to the courthouse)

Gulf County BOCC meeting room, 1000 Cecil G. Costin Sr. Blvd., Port St. Joe, Florida 32456,

Hosted by Gulf County and Facilitated by The Nature Conservancy

MEETING NOTES

This was a meeting of the Apalachicola to St Marks Community-Based Watershed planning process facilitated by The Nature Conservancy (TNC) and attended by 27 stakeholders. Thank you to Gulf County for their assistance with the meeting logistics. The meeting objective was to review the proposed projects stakeholders submitted to TNC's online form specifically for this phase of the watershed planning process (not RESTORE) and identify gaps in projects, look for opportunities for project consolidation, and discuss a project prioritization process. The proposed projects were to address the watershed's issues and root causes identified by the stakeholders during past meetings.

Anne Birch provided a PowerPoint that described the watershed planning process and status to date and reviewed the agenda for the meeting. Jean-Paul Calixte, Natural Resource Conservation Service, reviewed the maps he created showing the locations of the proposed projects submitted. The attendees broke out into groups to review the maps and spreadsheet of the proposed projects to identify geographic and project type gaps and reconcile any questions on project locations. The attendees reconvened into one group and reported on their break out group findings. The following are notes from the break out groups and follow-up discussion with the full group. The meeting attendees are listed on the last page of these notes.

The following are the notes from the meeting's discussions.

Corrections/Edits:

- o 7, move location into the Apalachicola Bay
- o 8, 9, 11, 12, 13 are outside of the geographic area – are these the correct coordinates?
- o Move #10 to Apalachicola River – any location in the Blountstown to Bristol area.
- o The following projects were included in the Choctawhatchee Bay spreadsheet/map in error and will be transferred to the Apal-St Marks. The project #'s correspond to the numbers assigned in the Choc. Bay spreadsheet.
 - #10 - Saltmarsh, Oyster, and Waterbird Habitat Enhancement (FL)

- #17 - St. Joe Timberland
- #19 - Box R Ranch
- #21 - Hydrological Restoration of Riparian Habitats within the Southern Portion of the Apalachicola River Watershed

Gaps identified:

- o Include Spring Creek Basin on the map
- o Consider including the entire watershed of the Aucilla River
- o Basic need for economic and social resiliency information - low income areas need projects that help local economies (ex. oyster and scallop fisheries)
- o Regional coastlines project across the counties - ex. sewer, stormwater, manhole inspections
- o National Forest restoration i.e., restoration of slash pine to wet prairie that can improve flow into streams and tributaries
- o Same restoration as above for Timber lands
- o Apalachicola Regional Stewardship Alliance work
 - in particular hydrological restoration, ex. Tate's Hell, St Marks National Wildlife Refuge, Ochlockonee Basin
- o Wakulla springshed projects
- o Stormwater projects – look at projects proposed by the Water Management District
- o Projects that address agricultural issues, not just for Jefferson County
- o Agricultural issues – BMP's
- o Environmental education
- o Dirt road stabilization
- o Sea Turtles and shorebird protection and management
- o Invasive species

Discussion Notes:

- o Question on how #10 will accomplish and related to downstream issues
- o Oyster fishery is a priority in Jefferson and Franklin Counties and expanding into Wakulla County
- o Bundle projects into types – the following are suggestions:

- Restoration: #'s 1 & 7
- Land protection: 2, 3, 5, 6
- Agricultural issues: 9, 11, 12
- o Need to look for opportunities for funding now versus long-term for immediate critical issues
- o Build relationships and trust to enable sharing of resources

Stakeholders Missing from the Group

The group identified the following stakeholder groups that have not attended meetings and may have an interest in the process and attending future meetings.

- o Apalachicola-Chattahoochee-Flint (ACF) River Basin Stakeholders
- o Apalachicola Regional Planning Council
- o Atkins
- o Chambers of Commerce in each county
- o Chipola River Keeper
- o Cities
- o Coastal Conservation Association
- o FDEP State Parks
- o FL Department of Children and Families (Vicki Abrams, NWFL region)
- o FL Department of Economic Opportunity
- o FL Department of Health
- o FL Department of Transportation
- o FL Division of Emergency Management
- o Florida Sea Grant
- o Friends of Wakulla Springs
- o Gulf Coast State College
- o Leon County and other non-coastal counties
- o Neil Land and Timber
- o Regional Work Force Boards
- o Riverway South

- o Seafood Management Assistance Resource and Recovery Team (SMARRT)
- o St Joe Deseret Ranch
- o State of Georgia
- o United Way
- o University of Florida Oyster Recovery Team
- o University of West Florida
- o Volunteer Florida
- o Wakulla Environmental Institute

Apalachicola Bay to St Marks Community-based Watershed Planning Meeting

September 26, 2013 1:00-4:00 ET

Gulf-Franklin-Wakulla-Jefferson Counties

Gulf County Emergency Operations Center Port St. Joe, FL 32456

Hosted by Gulf County and Facilitated by The Nature Conservancy

AGENDA

Meeting Objective: Create a unified holistic vision for the Apalachicola Bay to St Marks watersheds (Apalachicola Bay, Ochlockonee River and Bay and Apalachee Bay/St Marks) by collectively identifying and prioritizing a suite of projects and actions that solve the most pressing environmental issues affecting these watersheds and the Gulf, irrespective of the funding source or political jurisdiction.

Goals for the meeting products:

- o Gulf Consortium adopts the watershed approach as part of the state's RESTORE expenditure plan, rolling up this and other watershed plans to be a critical element of the state plan
- o Stakeholders continue to collaborate within and across jurisdictions to implement the watershed plan, seeking funding from public and private grants and other sources
- o Stakeholders establish internal priorities consistent with the watershed plan

Draft Agenda

1:00-1:30

- o Welcome and introductions
- o Overview of the meeting goals and agenda
- o Vision ideas for the watersheds

In a sentence, or just a word or few, what is your VISION for the future state of the Apalachicola to St. Marks Watersheds (land / river / estuary / Gulf)? What do you hope it looks like in 10, 20, or 50 years and beyond?

1:30-2:30

- o Review the watershed impacts/issues from the first meeting and agree on a list of impacts that must be addressed and use the list to help filter proposed projects (see page 2 for issues identified during the July 12 meeting).
- o Identify the root causes of each impact/issue in order to develop projects that fix the source of the problems.

- o Identify the types/categories of projects according to root cause that will be used to filter proposed projects.

3:00-3:30

- o Discuss the type of metrics that could be used to monitor success for each category
short term - such as number of homes hooked up to sewer, miles of dirt roads stabilized
long term - such as water quality improvements

3:30-3:45

- o Briefly review the existing projects in the watershed that have already been submitted to FDEP
Geographic extent of this watershed planning process and looking upstream

3:45-4:00

- o Public Comment, Wrap-up and Next Steps

Issues/Challenges identified by the NWFWMD and meeting stakeholders during the June 12, 2013 Apalachicola to St Marks Watersheds meeting (Gulf, Franklin & Wakulla Counties)

- o Estuarine freshwater needs
- o Inadequate rural and coastal community wastewater management, causing elevated bacteria levels in the bay and impacting shellfish resources
- o Fisheries management
- o Stormwater runoff and nonpoint source pollution
- o Loss of shoreline and littoral habitat due to shoreline alteration, armoring, and erosion
- o Widespread hydrologic impacts to coastal wetlands
- o Coastal and tributary floodplain alteration and habitat loss
- o Water flow
- o Water quality
- o Septic/sewer
- o Agricultural practices
- o Land management
- o Land protection
- o Restoration and protection of the estuarine systems

The following were some specific areas identified:

- o Apalachicola = Nutrients, fecal coliform and total suspended solids
- o Chattahoochee = Dissolved oxygen
- o Chipola River = fecal coliform, turbidity
- o Ochlockonee = dissolved oxygen, bacteria (shellfish), nutrients from urban and agricultural runoff

Apalachicola Bay to St Marks Community-based Watershed Planning Meeting

September 26, 2013 1:00-4:00 ET

Gulf-Franklin-Wakulla-Jefferson Counties

Gulf County Emergency Operations Center Port St. Joe, FL 32456

Hosted by Gulf County and Facilitated by The Nature Conservancy

MEETING NOTES

VISION BRAINSTORMING

A short brainstorming session was held as a way for everyone to hear and understand each other's thoughts and viewpoints on their vision for the Choctawhatchee Bay watershed. A vision statement was not developed; this can be done at a later date. The following question was emailed to stakeholders prior to the meeting and provided on slips of paper to be filled out during the meeting: *In a sentence, of just a word or few, what is your Vision for the St. Andrew Bay and St. Joe Bay watersheds' future (land / river / estuary / Gulf)? What do you hope it looks like in 10, 20, or 50 years and beyond?*

The following are the ideas presented during the meeting brainstorming session:

- o Restore/enhance estuarine/Gulf issues
- o Healthy river, bay, estuary = clean and plentiful water and well-managed forests
- o Retain rural and natural landscapes to the greatest extent
- o Rebuild Apalachicola's oysters for an optimal, sustained fishery
- o Promote BMP for agricultural operations
- o Economic prosperity
- o Balance the needs of people and environment
- o Stormwater, septic, solid waste in watersheds - enforce all laws and ordinances
- o Rebuild Apalachee Bay – need both economic and environmental drivers
- o Reduce sediments to achieve clean water
- o Healthy, vibrant ecology, economy, recreational opportunities and resource dependent industries
- o Plan ahead to mitigate hazards and changing conditions
- o Coastal resilience adaptation – people + nature + community engagement
- o Smart development – healthy balance
- o Be proactive, not reactive, in fixing the known problems, predicting future problems and

restoring and managing landscapes

- o Allow migration of natural systems to uplands or landward
- o Future for future generations

The following are the ideas that were presented on the slips of paper and are written verbatim as provided:

- o Better
- o Healthy forest conditions throughout the watershed maintained by BMP's to sustain healthy game populations thus encouraging recreational activities
- o Healthy productive river floodplain and bay for fishing industries (oyster, shrimp crab, fish)
- o Balance of conservation and economic development for years to come
- o A healthy sustainable ecosystem which balances economic prosperity and quality of life
- o Preservation of natural areas.
- o Restoration of recreation facilities (existing) to eliminate erosion around boat ramps and other infrastructure.
- o Springs protection
- o Clean water i.e. sustainable, drinkable, fishable, 'recreatable' water
- o Clean water my grandchildren can drink
- o Less sediment
- o Promote BMPs for agriculture
- o Clean and consistent water

Issues and Root Causes Discussion

The stakeholders agreed that for the purposes of this discussion the definition of 'Agriculture' would not include Silviculture or aquaculture.

The following lists the issues and root causes identified during the meeting:

Water quantity (e.g., Estuarine freshwater input, springs)

- o Over allocation water upstream (Apalachicola, Ochlockonee)
- o ACOE management (ACF)
- o Ag consumption in GA & AL & FL
- o Improper Silviculture – overly dense forest stands

- o Surface water and groundwater removal industrial and residential use (e.g. Atlanta)

Water Quality (includes springs)

- o WMD and statewide policy – legacy policies – ID priority projects
- o Ditches = aging developments, unnatural runoff, Ag/Silviculture/Mosquito Control drainage
- o Drainage
- o Stormwater runoff carrying fertilizer etc.
- o Ag/Silviculture practices (NRCS ‘hot spot maps’ to ID practices to improve – Green Links & CEAP)
- o Nonpoint source
- o Septic – (low lying & karst ecosystem areas – All Co.)
 - lack of public policy
 - installation location
 - lack maintenance
 - elevated bacteria levels in the bay and impacting shellfish resources
 - inadequate standards
 - inspections to ID septic tank failures (expense, knowledge of need to inspect)
 - economics/capacity to retrofit
 - beach areas need retrofit to sewer
- o Increasing Population
- o Houseboats – direct discharge
- o Sewer
 - Rapid infiltration not appropriate in all locations
 - Lack adequate treatment
 - Aging infrastructure
 - Inadequate location spray fields
 - Proper siting treatment facilities

- elevated bacteria levels in the bay and impacting shellfish resources
- o Sedimentation
 - Degraded forest ground cover
 - Unpaved roads and stream crossings
 - Ag runoff
 - Stabilization upland development
 - Lack enforcement BMP
 - Inadequate buffer zones adjacent waters and wetlands (riparian)
 - Shell resource management
 - Lack habitat (all fresh/estuarine)
 - Coordination programs to address issues/resource needs (e.g. relay programs)
 - Community capacity issues – barrier to success

Fisheries management

- o Change from demand/enforcement/regulation system to fisheries supply system
- o Overharvest (Apalachicola Bay oyster)
- o Lack of Shellfish statewide Management plan (oyster – harvesting and ecol. Values – understand nursery)
- o Need increased enforcement
- o Lack monitoring harvested oysters compliance regulations
- o Lack monitoring multiple species

Coastal and tributary floodplain alteration and habitat loss, including loss of shoreline, littoral, stream bank habitats

- o shoreline alteration
- o armoring
- o erosion
- o abuse by users (upland and in water)
- o lack of adequate setback enforcement

- o Ag practices – cattle grazing in stream banks and inappropriate areas
- o Development in floodplain/Land use changes
- o Non-native invasive species (aquatic and upland)
- o No management plan for floodplain
- o Water quantity management - altered natural hydrologic flow
- o New or expanded navigational channel
- o Lack of adequate restoration and protection of the estuarine systems (seagrass, emerging marshes, oysters, nearshore reefs)

Aquifer recharge – karst

- o Water quantity
- o Land use
- o Water bottling spring water
- o Lose of/improper management of intact forest/natural area buffers
- o Lack rain/CC

Insufficient natural land management, e.g., Forest health/Altered fire regimes/Fish & wildlife habitat (private and public – includes urban), and land protection

- o Difference opinion management goals
- o Lack capacity (e.g., federal, private)
- o Lack knowledge how to manage
- o Increasing regulations (e.g. smoke management)
- o Keeping working forests working – keep highest and best use
- o Navigation in rivers potential future dredging (spoil management)
- o snagging (only for federal navigation areas)
- o impacts to T&E species/critical habitat

The following were some specific impairments and areas identified:

- o Apalachicola = Nutrients, fecal coliform and total suspended solids, flow
- o Chattahoochee = Dissolved oxygen
- o Chipola River = fecal coliform, turbidity
- o Ochlockonee = dissolved oxygen, bacteria (shellfish), nutrients from urban and agricultural runoff

Opportunities identified during the Issues/Root Causes discussion were:

- o Stewardship development – balancing economics with environment
- o Education/Outreach of community – start early
- o Human capacity (whole and healthy community is needed first) – sustainable community, job opportunities, poverty issues, etc. (consider demographics)
- o Research & monitoring – baselines absent, clearinghouses for information, unknown impacts, collaboration
- o Military base buffering and operations
- o Port expansions – spoil management, buffer zones potential impacts to shellfish harvest

Apalachicola Bay to St Marks Community-based Watershed Planning Meeting

June 12, 2013 9:00-12:00 EST

Gulf County Emergency Operations Center

1000 Cecil G. Costin, Sr. Blvd, Building 500, Port St. Joe, FL 32456

Hosted By Gulf County and Facilitated by The Nature Conservancy

AGENDA

Meeting Goals:

- o Provide an overview of the water quality/quantity and resource issues in the Gulf, Franklin and Wakulla County area.
- o Develop a unified vision for a watershed scale plan and corresponding projects in the Gulf, Franklin, Wakulla County area.
- o Begin the identification of specific projects to meet this vision that direct resources that improve the system's water quality and quantity, restore and conserve habitats and living marine resources, and help to support and increase the region's economy and jobs.

Draft Agenda

- o Welcome and introductions – Commissioner Warren Yeager and Anne Birch
- o Overview of the planning goal and process - Anne
- o Watershed status and overview
 - Paul Thorpe, NFWFMD
 - Kent Smith, FWC
- o Discussion of how the three counties want to organize (i.e., the size of the watershed).
- o Attendee's project ideas and discuss of how projects integrate with watershed needs
 - Projects submitted to DEP for NRDA/RESTORE/NFWF funding (identify/eliminate duplicates)
 - Depending on time, the next step will be to start identifying projects that will address the needs and achieve the unified vision of the watershed.
- o Plan development process
- o Other entities need to be at table
- o Next Steps

Note: There were no notes distributed after this meeting. The September 26, 2013 Meeting Agenda above includes a brief summary.

Appendix D

Watershed Overview and General Issues

This Appendix is excerpts from the Florida Department of Environmental Protection’s “Learn about your Watershed” website <http://www.protectingourwater.org/watersheds/map/perdido> and the Northwest Florida Water Management District’s Perdido Bay SWIM Plan (2012). Figure 2 is a map of the Perdido Bay watershed from the SWIM plan. A copy of the SWIM Plan can be obtained by contacting the Northwest Florida Water Management District at (850) 539-5999.

Apalachicola Bay to St Marks Overview

This Appendix is excerpts from the Florida Department of Environmental Protection’s “Learn about your Watershed” websites <http://www.protectingourwater.org/watersheds/map/apalachicola/> and http://www.protectingourwater.org/watersheds/map/ochlockonee_stmarks/st_marks_river/.

Figure 2 is a map of the Apalachicola River and Bay, Figure 3 of the Ochlockonee River and Bay, and Figure 4 of the St. Marks River watershed from their respective SWIM plans. A copy of these SWIM plans can be can be downloaded from these web links

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<http://www.nfwmd.state.fl.us/water-resources/swim/apalachicola>

<http://www.nfwmd.state.fl.us/water-resources/swim/ochlockonee>

<http://www.nfwmd.state.fl.us/water-resources/swim/st-marks>

Apalachicola River and Bay Watershed

- o Size of Basin: 3,067 square miles
- o Counties: The majority of the watershed lies within Jackson, Calhoun, Franklin, and Liberty Counties, and smaller areas lie within Gulf, Bay, Washington, and Gadsen Counties
- o Major Water Features: Apalachicola Bay, East Bay, St. George Sound, Money Bayou, Dead Indian Lagoon, and Alligator Harbor
- o Rivers: Apalachicola, Chattahoochee, Flint River (within Georgia), Chipola, Styx, Crooked, Brothers, Jackson, Saint Marks, and East Rivers

The Apalachicola River headwaters actually begin in Georgia with the Chattahoochee River, north of Atlanta. The river is renamed the Apalachicola where it crosses the Georgia-Florida border and is joined by the Flint River. The majority of the watershed lies within Georgia, a small portion is in Alabama, and

only about 20 percent lies within Florida. Not only is this basin biologically unique because of its origin in the Appalachian Mountains, it also contains one of the most diverse, productive, and economically important natural systems in the southeastern United States. The Apalachicola watershed is home to a great diversity of wildlife species and many endemic plant species. The watershed has the greatest number of freshwater fish species in Florida, with 86 species identified. It also provides habitat for 315 bird species and 52 mammalian species, many of which are threatened or endangered.

The water flows of the Chattahoochee and Flint Rivers define the Apalachicola River's physical and biological characteristics. The Apalachicola River is one of four alluvial rivers in the Florida Panhandle. Its discharge accounts for 35 percent of the total freshwater runoff from Florida's west coast. Some areas along the river have bluffs over 150 feet tall, while its floodplain, the largest in Florida, is composed of bottomland hardwood and cypress/tupelo swamps.

For many years, the bay has supported the largest oyster-harvesting industry in Florida, as well as extensive shrimping, crabbing, and commercial fishing.

The Chipola River, the main tributary to the Apalachicola River, originates in southern Alabama and goes underground for a short distance at Marianna, Florida. The river flows out of the limestone highlands and empties into a low, swampy area fed mostly by blackwater tributaries. The Chipola watershed provides habitat for a number of threatened and endangered animal and plant species. Jackson Blue Spring is the watershed's only first-magnitude spring, with an average discharge of 122 million gallons per day.

The New River watershed drains about 503 square miles of low, wet forest in coastal Liberty and Franklin Counties. The river's headwaters lie in the Apalachicola National Forest, and the river flows through Tate's Hell Swamp, a vast, forested plain that was extensively ditched, drained, and cleared for silviculture in the mid-1960s and late 1990s. The river is very darkly stained, making it one of the "blackest" of the blackwater streams. After its confluence with Crooked River, the stream becomes wider and estuarine in character and is called the Carrabelle River.

The Apalachicola River plays an integral role in the ecology of Apalachicola Bay. This estuary serves as the interface between the freshwater uplands and the Gulf of Mexico. The bay is bounded by four barrier islands: St. Vincent Island, St. George Island, Cape St. George Island, and Dog Island. Apalachicola Bay is an exceptionally important nursery area for fish and shellfish in the Gulf of Mexico and a major foraging area for offshore fish species. It is also a major stopping point and foraging area for migratory birds. For many years, the bay has supported the largest oyster-harvesting industry in Florida, as well as extensive shrimping, crabbing, and commercial fishing.

The Apalachicola-Chipola watershed's population density is relatively low, with a significant influx of seasonal vacationers in the lower portion of the watershed. Few lands in the watershed have been developed; the dominant land cover is pine plantations, followed by wetlands. A considerable amount of land is publicly owned, including the Apalachicola National Forest and lands at Lake Seminole, as well as state-owned lands.

A number of waterbodies in the Apalachicola-Chipola watershed are designated as Outstanding Florida Waters (OFWs): Alligator Harbor Aquatic Preserve; Chipola River; most of the Apalachicola River; Apalachicola Bay; portions of Fourmile Creek; Dr. Julian G. Bruce St. George Island State Park; Cape St. George State Reserve; Apalachicola Bay Aquatic Preserve; Apalachicola National Estuarine Research Reserve; St. Marks National Wildlife Refuge; and, Apalachicola National Forest.

Apalachicola Bay was designated as a state Aquatic Preserve in 1969 to preserve its biological resources. The Apalachicola National Estuarine Research Reserve (ANERR), established in 1979, is one of 25 sites designated by the National Oceanic and Atmospheric Administration (NOAA). The St. Vincent National Wildlife Refuge, established in 1968, is a 12,358-acre undeveloped barrier island offshore from the mouth of the Apalachicola River. In 1984, the United Nations Educational Scientific and Cultural Organization (UNESCO) designated the lower Apalachicola watershed as a part of the Central Gulf Coastal Plain Biosphere Reserve; the designation reflects international recognition of the watershed's scientific and educational value.

Ochlockonee River and Bay Watershed

- o Size of Basin: The two watersheds cover approximately 3,600 square miles of north Florida and south Georgia. The Ochlockonee watershed's total area is 2,416 square miles, with approximately 1,080 square miles in Florida. The Apalachee-St. Marks watershed drains 1,204 square miles.
- o Counties: Leon and Wakulla Counties, significant parts of Gadsden and Jefferson Counties, and smaller parts of Liberty and Franklin Counties
- o Major Water Features: Ochlockonee River, Ocklawaha Creek, Bradwell Bay, Sopchoppy River, Ochlockonee Bay, St. Marks River, Wakulla River, St. Marks Spring, Wakulla Springs, Apalachee Bay, Munson Slough, Ames Sink, Spring Creek, Spring Creek Springs System, Lake Munson, Lake Jackson, Fred George Sink, Meginniss Arm Branch, Jackson Heights Branch, Lake Lafayette Chain of Lakes, and Lafayette Creek

The Ochlockonee River originates in Worth County, Georgia, and receives flow from innumerable tributaries along its 206-mile course southward to Ochlockonee Bay. Forty-five percent of the total watershed lies within Florida.

The main tributaries of the Ochlockonee River in Florida are Telogia Creek, Little River, and Sopchoppy River. Most of these rivers and streams are alluvial. River and stream flow is a combination of runoff from rainfall, ground water seepage, and springs.

There are more than 300 lakes in the Ochlockonee watershed, totaling 24,261 acres. Karst features are more evident east of the Ochlockonee River, and many lakes in this area are formed in solution basins and swampy depressions. Lake Iamonia, one of the larger lakes in the region, is grass filled and contains only small, open water areas. It drains through sinkholes or empties during periods of drought. The lake has an intermittent connection to the Ochlockonee River and receives flows from the river during high water.

From the Florida-Georgia state line, the Ochlockonee River flows across northwestern Leon County and eastern Gadsden County before it reaches the Lake Talquin Reservoir, the area's largest lake. It is an impoundment of the Ochlockonee River built in 1929 for power generation; however, the lake has become more important for recreational purposes. Numerous fish camps and homes are located on the lake.

Flows are tidally influenced in the Ochlockonee River near the coast, the Sopchoppy River, and Crooked River. The coastal area also contains coastal dune lakes, flatwood lakes, and river floodplain or oxbow lakes along the Ochlockonee River. Coastal dune lakes form from sand dunes that were once part of relict shorelines along coastal and near-coastal areas. An example is Tucker Lake, in the southern part of the Ochlockonee watershed in Franklin County. The region's flatwood areas contain numerous shallow ponds that form in poorly drained areas. Oxbow lakes form where river channel meanders become isolated over time. There are several notable oxbow lakes along the Ochlockonee River, such as Bone Bluff Lake, Silver Lake, and Red Lake.

St. Marks River Watershed

- o Size of Basin: The two watersheds cover approximately 3,600 square miles of north Florida and south Georgia. The Ochlockonee watershed's total area is 2,416 square miles, with approximately 1,080 square miles in Florida. The Apalachicola-St. Marks watershed drains 1,204 square miles.
- o Counties: Leon and Wakulla Counties, significant parts of Gadsden and Jefferson Counties, and smaller parts of Liberty and Franklin Counties
- o Major Water Features: Ochlockonee River, Ocklawaha Creek, Bradwell Bay, Sopchoppy River, Ochlockonee Bay, St. Marks River, Wakulla River, St. Marks Spring, Wakulla Springs, Apalachee Bay, Munson Slough, Ames Sink, Spring Creek, Spring Creek Springs System, Lake Munson, Lake Jackson, Fred George Sink, Meginniss Arm Branch, Jackson Heights Branch, Lake Lafayette Chain of Lakes, and Lafayette Creek

- o Rivers: Apalachicola, Chattahoochee, Flint River (within Georgia), Chipola, Styx, Crooked, Brothers, Jackson, Saint Marks, and East Rivers

In contrast to the Ocklockonee watershed, the St. Marks River watershed is not continuous for most of its course. However, the southern coastal drainage system is composed of local streams draining coastal regions. The main stem of the St. Marks River is the only somewhat continuously connected portion of the watershed.

The headwaters of the St. Marks River lie in the Tallahassee Hills of northeastern Leon County. The St. Marks remains swampy and poorly defined as it flows southward to the Cody Scarp. From just north of the Leon-Wakulla County line, the St. Marks River enters the Woodville Karst Plain and is fed by Floridan aquifer springs, becoming wider and clearer as more ground water enters from spring flows.

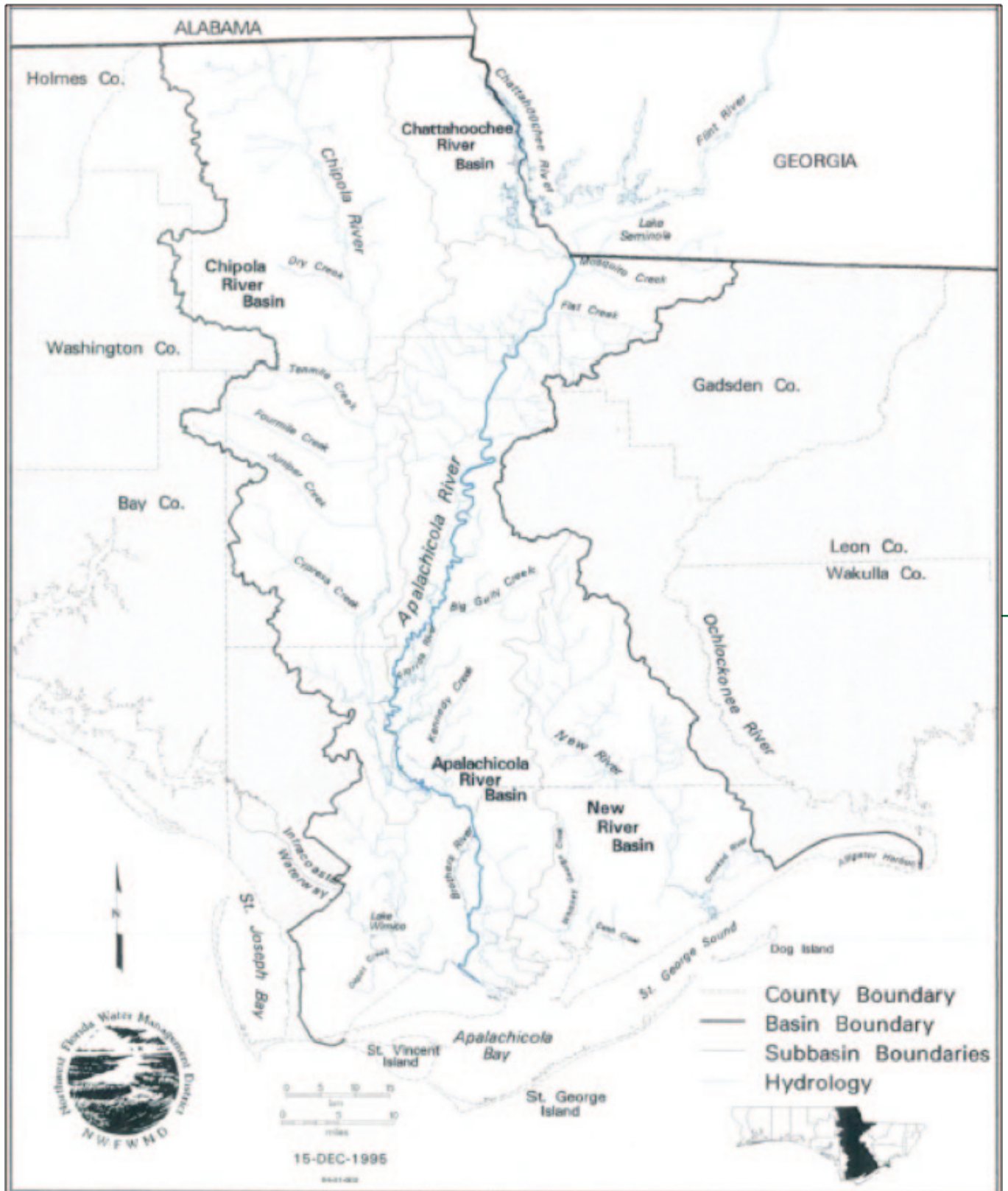
Near the Leon-Wakulla County line, the St. Marks River flows southward to Natural Bridge, where it disappears into a sinkhole, eventually re-emerging at St. Marks Spring as a spring-run river that is considerably larger, with different chemical characteristics than the stream that disappeared at Natural Bridge. Several springs rise and disappear underground in this area.

In east-central Wakulla County, the St. Marks joins with the Wakulla River, its largest tributary. The Wakulla, a classic spring-run river, originates at Wakulla Springs and flows south for approximately 10 miles to its confluence with the St. Marks River. From there, the St. Marks River widens and flows in a dredged channel to Apalachee Bay, approximately 3 miles to the south. Tidal effects extend upstream in both the St. Marks and Wakulla Rivers for about 6 miles from the river mouth.

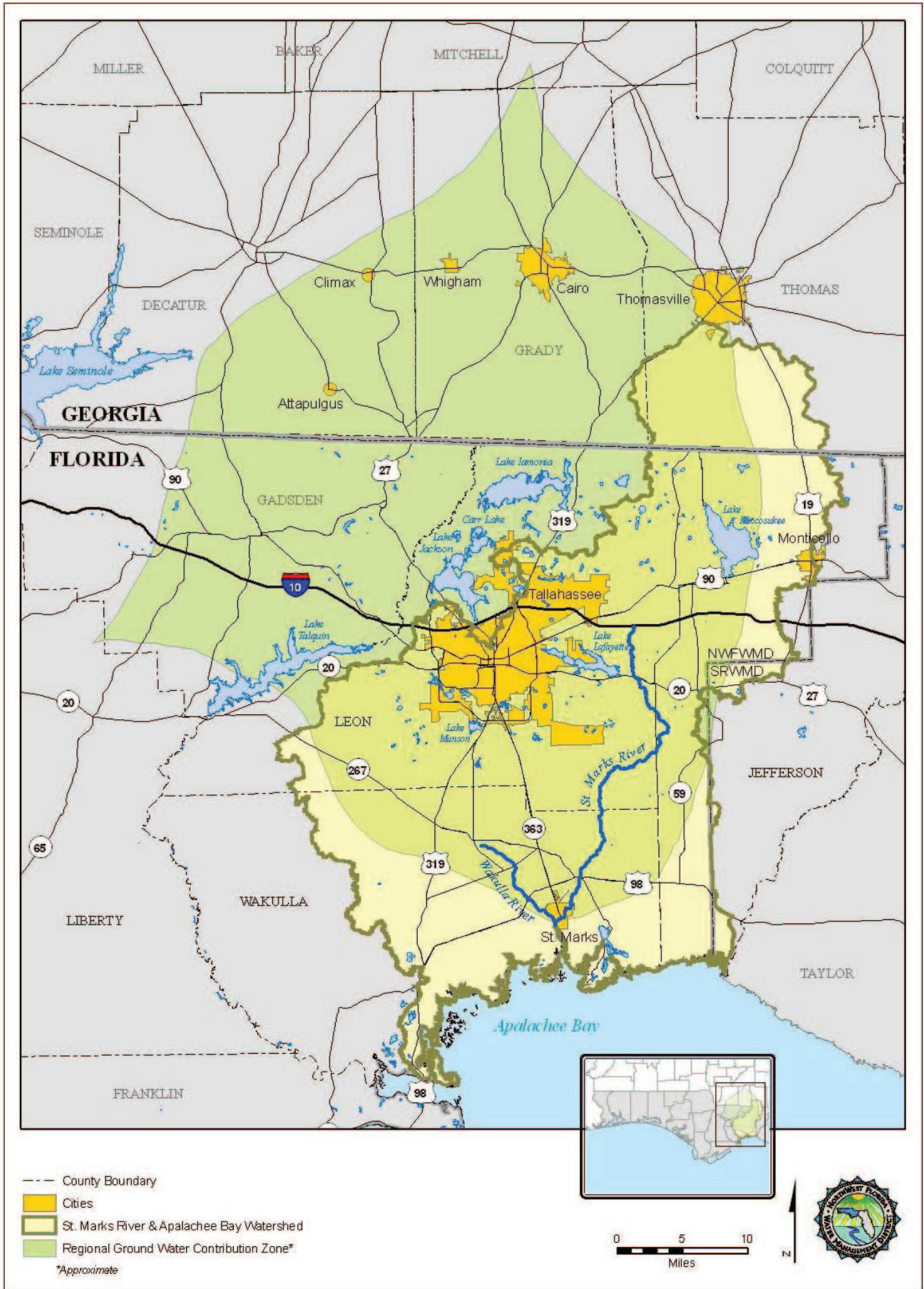
42

There are 329 lakes in the St. Marks watershed, totaling 11,892 acres. Lake Miccosukee, one of the largest, is grass filled and contains only small, open water areas. It is connected by small streams to a wetland area and sinkhole to the south. Lake Lafayette is an area of freshwater marsh and limited open water on the eastern side of Tallahassee. It consists of four separate parts: Upper Lake Lafayette, Lake Piney Z, Alford Arm, and Lower Lake Lafayette. Its watershed includes the eastern part of the city, as well as unincorporated residential and undeveloped areas east and northeast of the city. Like other lakes in the region, it periodically drains through sinkholes. Water levels are partially maintained by a series of man-made dikes that divide the lake into three segments.

In the Woodville Karst Plain, there are hundreds of small lakes and ponds. These are deeper and steeper than those in the Tallahassee Hills and may have formed in collapsed sinkholes. There are also several larger, shallow lakes that formed in solution depressions in the southern part of the St. Marks watershed. The larger natural lakes in this area include Lake Ellen and Otter Lake in Wakulla County. In the St. Marks National Wildlife Refuge, several large shallow impoundments are manipulated to provide waterfowl habitat. The largest include East Pool and Stoney Bayou Pool.







Appendix E

Stakeholder Identified Priority Issues, Root Causes, Major Actions and Project Types

Priority Issues: 1. Water Quality 2. Natural Resource Protection, Restoration And Management 3. Education And Outreach 4. Coastal Community Resilience	
Major Actions (formerly called Issues. Revised to Major Action needed to address a priority issue)	Root Causes to be addressed The root causes were grouped into the bolded bullet headings. The root causes as stated during the stakeholder meetings are under these headings and have not been altered.
Reduce Sedimentation	<p>Erosion</p> <ul style="list-style-type: none"> o degraded forest ground cover o unpaved roads and stream crossings <p>Ineffective or unused BMPs, regulations & development codes</p> <ul style="list-style-type: none"> o agricultural runoff o stabilization upland development o lack enforcement BMP o inadequate buffer zones adjacent waters and wetlands (riparian) o shell resource management o coordination programs to address issues/resource needs (e.g. relay programs) o community capacity issues – barrier to success <p>Loss of vegetation, riparian buffers, and/or wetlands (also a major action)</p>
Reduce Nutrient Loading	<p>Domestic Wastewater</p> <ul style="list-style-type: none"> o septic – (low lying & karst ecosystem areas – All Co.) o lack of public policy o installation location o lack maintenance o elevated bacteria levels in the bay and impacting shellfish resources o inadequate standards o inspections to ID septic tank failures (expense, knowledge of need to inspect) o economics/capacity to retrofit o beach areas need retrofit to sewer o houseboats o sewer- rapid infiltration not appropriate in all locations o lack adequate treatment o aging infrastructure o inadequate location spray fields o proper siting treatment facilities o elevated bacteria levels in the bay and impacting shellfish resources

<p>Reduce and Treat Stormwater</p>	<p>Ineffective or unused BMPs, regulations & development codes</p> <ul style="list-style-type: none"> o WMD and statewide policy – legacy policies – ID priority projects o agriculture/silviculture practices (NRCS ‘hot spot maps’ to ID practices to improve – Green Links & CEAP) <p>Ineffective stormwater systems</p> <ul style="list-style-type: none"> o ditches = aging developments, o unnatural runoff, o agriculture/silviculture /mosquito control drainage o stormwater runoff carrying fertilizer etc.
<p>Protect, Restore, Create and Manage natural resources and increase buffer areas</p>	<p>Ineffective or unused BMPs, regulations & development codes</p> <ul style="list-style-type: none"> o change from demand/enforcement/regulation system to fisheries supply system o overharvest (Apalachicola Bay oyster) o lack of Shellfish statewide Management plan (oyster – harvesting and ecol. Values – understand nursery) o need increased enforcement (e.g., setbacks) o lack monitoring harvested oysters compliance regulations o agriculture practices – cattle grazing in stream banks and inappropriate areas o no management plan for floodplain o lack capacity (e.g., federal, private) o increasing regulations (e.g. smoke management) o armoring o keeping working forests working – keep highest and best use o shoreline alteration o development in floodplain/Land use changes o lack monitoring multiple species o abuse by users (upland and in water) o lack knowledge how to manage o difference opinion management goals o new or expanded navigational channel o potential future dredging (spoil management) o snagging (only for federal navigation areas) o impacts to T&E species/critical habitat <p>Loss of vegetation, riparian buffers, and/or wetlands</p> <ul style="list-style-type: none"> o non-native invasive species (aquatic and upland) o water quantity management - altered natural hydrologic flow o lack of adequate restoration and protection of the estuarine systems (seagrass, emerging marshes, oysters, nearshore reefs) <p>Erosion</p>
<p>Reduce impacts to groundwater and ensure adequate fresh water availability</p>	<p>Water Supply</p> <ul style="list-style-type: none"> o water bottling spring water o lack of rain/CC <p>Ineffective or unused BMPs, regulations & development codes</p> <ul style="list-style-type: none"> o land use/management (e.g., loss of/improper management of intact forest/natural area buffers)

<p>Increase cooperation and coordination for management, monitoring, funding, implementation, outreach, enforcement</p>	<p>Note: this Major Action was identified during other watershed meetings and are inserted here as a placeholder in the event the Choctawhatchee stakeholders address this Major Action as they identify projects</p>
<p>Increase Economic Diversification</p>	<p>Note: this Major Action was identified during other watershed meetings and are inserted here as a placeholder in the event the Apalachicola to St Marks watershed stakeholders address this Major Action as they identify projects.</p>

Appendix F

Watershed Project List

Note: Due to space limitations the following information provided by the stakeholders on their projects was omitted from the table.

- o Alignment with Federal RESTORE Priorities
- o Alignment with Federal RESTORE Objective
- o Alignment with State RESTORE Priorities

A complete table of the information submitted for each project is available upon request to Anne Birch at abirch@tnc.org.

Project Map #	1
Latitude	29.915556
Longitude	-84.510833
Project Title	Saltmarsh, Oyster, and Waterbird Habitat Enhancement (FL)
Location Description	The Florida State University Coastal and Marine Laboratory (FSUCML) is located on St. James Island, Franklin County in northwest Florida, about 45 miles south of Tallahassee and the Florida State University campus. The project lies along the FSUCML shoreline and on sovereign submerged lands within Saint George Sound. While the project would occur within an area of approximately 25+ acres, the actual project footprint will cover ~2.5 acres, including approximately 0.25 acre of salt marsh, 1.25 acres of oyster reef (0.5 created, 0.75 enhanced), and 1 acre of waterbird nesting habitat.
Project Description	The FSUCML shoreline is highly impacted due to dredging that occurred during the 1960s to create a boat basin, ramp, and navigational channel. We intend to augment ecosystem services by improving salt marsh, oyster reef, and waterbird nesting habitat. Among the critical ecosystem services provided by these habitats are the provision of refugia for ecologically and economically important species. Sediment stabilization, carbon sequestration, and protection from storm surge are additional benefits that will ultimately improve the health and resilience of the coastal system. Both the execution of the project as well as its long-term monitoring will enhance shoreline protection and essential fish and avian habitat while creating important research, education and public outreach opportunities. 1) Enhancement and subsequent expansion of salt marsh habitat requires proper elevation. The FSUCML shoreline is low in some areas due to erosion and artificially high in other areas due to the deposition of dredge material. Dredge casts, consisting of limestone and sedimentary rock of varying size, cover portions of the shoreline and prevent the growth and expansion of salt marsh habitat.

	<p>The plan for improving elevations involves (1) removing the debris and dredge casts, and (2) re-contouring as necessary to match the elevation of the adjacent, healthy salt marsh. Native salt marsh and dune species (e.g., <i>Spartina alterniflora</i>, <i>Batis maritima</i>) will be planted to enhance the taxonomic and functional diversity of the habitat. 2) Site preparation for the construction of oyster reefs includes: (1) a thorough site survey marking locations of existing and proposed reef locations and (2) temporary removal of live oyster clumps from the restoration site to a safe location while reef construction occurs. Oyster reefs (~14 new, 4 enhanced) will be constructed by volunteers using coir and/or plastic-mesh bags filled with oyster shell. Constructed reefs will be linear in shape and extend ~8-12 inches above the substrate, mimicking natural reef profiles. Corridors between reefs will facilitate water flow, delivery of nutrients, and movement of aquatic wildlife. Oysters removed during site preparation will be placed on newly constructed reefs. 3) Many species of shorebirds and waterbirds use coastal regions as breeding, wintering and migratory sites; however habitat destruction, degradation and alteration have impacted the quality and availability of these limiting habitats. Least terns (<i>Sternula antillarum</i>), a state of Florida threatened species which requires open, sandy areas free from disturbance and predators, have abandoned a nesting area along the FSUCML shoreline due to the growth of tall grasses and other vegetation. The proposed restoration of ~1 acre of tern nesting habitat includes: (1) removing vegetation, debris, and dredge cast and (2) construction of fencing along property boundaries to reduce access and limit disturbance and predation.</p>
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Increase cooperation and coordination for monitoring, funding, implementation, outreach.
Root Causes	Environmental changes / issues, Erosion, Lack of environmental awareness, Loss of vegetation, riparian buffers, and/or wetlands
Proposed Metric(s)	<p>“1) Salt Marsh Enhancement monitoring will be conducted annually during the peak growing season using the adjacent healthy saltmarsh as a reference site. A minimum of 10 stations randomly located within the restored saltmarsh and within the adjacent healthy saltmarsh (20 stations total) will be sampled. At each sampling location, a 1 m² quadrat will be placed on the substrate and the number of shoots present within the quadrat will be counted. Visual estimation of the percent vegetation coverage within the quadrat will be measured using the Braun-Blanquet scale. Success will be achieved when measurements within the restored marsh are within 20% of the natural reference site. 2) Oyster Reef Restoration and Enhancement monitoring will be conducted following the universal and restoration goal-based metrics detailed in Brumbaugh et al. 2014. Among these metrics, we will measure (1) reef height, (2) reef areal dimension, (3) oyster density, (4) oyster size-frequency distribution, (5) water quality measurements (i.e., temperature, salinity, and dissolved oxygen), and (6) habitat enhancement for resident species.3) Waterbird Nesting Habitat Enhancement monitoring will be conducted twice a week beginning the first week of April and continuing through August. Monitoring will occur at various times of day for a minimum of 10 minutes. The number of individuals per species, behavior patterns, weather conditions, and evidence of disturbance by humans or predators will be recorded.”</p>
Project Contact Name	Katie Konchar
Project Cost	=<\$500,000

Project Map #	2
Latitude	29.842864
Longitude	-85.13958
Project Title	St. Joe Timberland
Location Description	Located in Gulf and franklin counties north of Lake Wimico. The Latiture/Longitude reprerents the middle of the subject property
Project Description	Located in Franklin and Gulf counties, Florida, this project is part of a vast ecosystem that begins hundreds of miles away in the Chattahoochee National Forest in Georgia at the headwaters of the Apalachicola River. The project area contains a large expanse of floodplain forest. The project area is an important element in conserving the nationally and internationally recognized biological diversity of the Apalachicola River and Bay ecosystem. This ecosystem has been designated as a United Nations International Biosphere site for its vital role in sustaining ecological diversity. The area's outstanding wildlife habitats, including floodplain swamp, floodplain marsh, bottomland forest, and pine flatwoods support significant populations of both rare and common wildlife, including the red-cockaded woodpecker, Barbour's map turtle, southern bald eagle, and northern bobwhite. The area provides excellent opportunities for wildlife viewing, nationally recognized paddling opportunities, and other fish and wildlife-based public outdoor recreation opportunities such as hunting, fishing, camping, horseback riding, bicycling, and hiking.
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Reduce nutrient loading., Reduce and treat stormwater., Reduce sedimentation., Increase cooperation and coordination for monitoring, funding, implementation, outreach., Reduce impacts to groundwater.
Root Causes	Environmental changes / issues, Lack of environmental awareness, Loss of vegetation, riparian buffers, and/or wetlands, Water supply
Proposed Metric(s)	"The projects success will be measured by the number of acres acquired. The impact will be the protection of the areas rich biological diversity."
Project Contact Name	Gary Cochran
Project Cost	>\$1 million

Project Map #	3
Latitude	29.76
Longitude	-85.1
Project Title	Box R Ranch
Location Description	Middle of subject property
Project Description	<p>. Box-R is located in Franklin County, Florida and is part of the St. Joe Timberland Florida Forever Project. Box-R is located approximately 2.5 miles northwest of Apalachicola, 9.5 miles southeast of Port St. Joe, and 37 miles southeast of Panama City. The northern boundary of Box-R has 4.5 miles frontage on the Jackson and Apalachicola Rivers. Vegetation of the subject parcels consist of Pinelands, Mixed Wetland Forest, Shrub and Brushland, Shrub Swamp, Hardwood Swamp, Freshwater Marsh and Wet Prairie, Cypress Swamp, and Bay Swamp. There are also smaller areas of Mixed Pine-Hardwood Forest and Hardwood Hammocks and Forest. Box-R is part of a vast ecosystem that begins hundreds of miles away in the Chattahoochee National Forest in Georgia where the headwaters of the Apalachicola River begin. The area contains a large expanse of floodplain forest. The area is also an important element in helping conserve the nationally and internationally recognized biological diversity of the Apalachicola River and Bay ecosystem that has been designated as a United Nations International Biosphere site for its vital role in sustaining ecological diversity. The area's outstanding wildlife habitats, including floodplain forests, sawgrass marshes, and pine flatwoods support significant populations of both rare and common wildlife.</p>
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Reduce sedimentation., Reduce impacts to groundwater.
Root Causes	Environmental changes / issues, Invasive species, Lack of environmental awareness, Limited economic diversity, Loss of vegetation, riparian buffers, and/or wetlands, Quantity and timing of freshwater flow, Water supply
Proposed Metric(s)	"The project will be judged by the number of acres acquired, thereby help protect the unique environmental ecosystem of the area."
Project Contact Name	Gary Cochran
Project Cost	>\$1 million

Project Map #	4
Latitude	29.79787778
Longitude	-85.04456389
Project Title	Hydrological Restoration of Riparian Habitats within the Southern Portion of the Apalachicola River Watershed
Location Description	The latitude and longitude point supplied above represents the approximate midpoint of a polygon that includes the Apalachicola River Wildlife and Environmental Area (WEA) and the Box-R Wildlife Management Area (WMA). The 86,140 acre Apalachicola River WEA is located in southeastern Gulf and southwestern Franklin Counties of Florida. The 11,216 acre Box-R WMA is located in southwestern Franklin County, Florida.
Project Description	The Apalachicola River Wildlife and Environmental Area and the Box-R Wildlife Management Area help protect a significant percentage of the coastline in the Apalachicola River watershed. In addition they encompass over 97,000 acres of wildlife habitat critical to sustaining a range of imperiled species and their habitats. In addition, these lands help protect the watersheds water quality, its coastal and marine resources and help support the local economies of the surrounding area. These management areas were heavily impacted by past silvicultural practices negatively affecting hydrological regimes and water quality. This project will conduct: 1) Hydrologic assessments to include historical hydrological patterns, current conditions and identify required restoration activities; 2) Implement identified restoration activities; 3) Monitor and evaluate restoration activities; and 4) Modify restoration projects to meet hydrologic restoration objectives as needed.
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Reduce sedimentation.
Root Causes	Loss of vegetation, riparian buffers, and/or wetlands, Quantity and timing of freshwater flow
Proposed Metric(s)	“Success of this project will be measured by the reintroduction of a natural hydrologic regime on both areas. This will be measured through monitoring: 1) The natural sheet flow of water through appropriate natural vegetation communities. 2) Periodicity and duration of inundation of appropriate natural vegetation communities. 3) Shift in plant compositions.”
Project Contact Name	David B. Johnson
Project Cost	=<\$1 million

Project Map #	5
Latitude	30.160505
Longitude	-84.052238
Project Title	Flint Rock
Location Description	Project is contiguous with the northern boundary of the extreme eastern portion of the St. Marks NWR. Project is south of (and with road frontage directly on) U.S. Hwy 98 about midway between the town of St. Marks, Florida, and the confluence of the Wacissa and Aucilla rivers. The lat/long point represents about the midpoint of the project area.
Project Description	The ca. 16,000 acre Flint Rock project is located in Jefferson and Wakulla counties, Florida, and is contiguous with the St. Marks NWR along the latter's northern boundary. The project serves as part of the watershed that feeds the Apalachee Bay estuarine system and the Big Bend Seagrasses Aquatic Preserve, that are critically important to the Gulf's seafood and tourism industries. The project will help protect and sustain salt marshes, oyster reefs and sea grass beds that are the foundation of a healthy Gulf, will allow connectivity for inland migration of species and communities as sea level rises and will increase the Gulf's overall resilience to future natural and human-caused disasters. The project will compensate for impacts to water quality through protection and restoration of historic longleaf pine and other upland and wetland natural communities and reestablishment of the natural hydrology of the area that will benefit water quality and quantity, seasonal timing and historic flow patterns. The project will provide a permanent means of protecting and restoring estuarine ecosystems and freshwater sources for recreationally and commercially important finfish (e.g., speckled sea trout, redfish, black drum, snapper, grouper, mullet) and shellfish (e.g., oysters, pink shrimp, scallops, blue crabs, stone crabs) that form part of the economic life-blood of the region and the underpinnings of the ecology of the near-shore Gulf. It will help to restore, recover and expand the impacted natural resource-based economy by protecting a sustainable system of lands and waters that will stabilize, maintain and enhance the seafood industry and tourism – including ecotourism and wildlife viewing opportunities – throughout the region. The project offers benefits that include increased protection of Florida's wildlife, the protection, restoration and maintenance of the quality and natural functions of Florida land, water and wetland ecosystems, and help ensure that sufficient quantities of water are available to meet the current and future needs of natural ecosystems – including estuaries – and the public. The lands in the project are in just two, willing seller ownerships and are immediately available for acquisition making the project feasible and likelihood of success high. The St. Marks NWR has an approved Boundary Expansion that includes the project area.
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Reduce nutrient loading., Reduce sedimentation., Increase cooperation and coordination for monitoring, funding, implementation, outreach., Reduce impacts to groundwater.

Root Causes	Contamination, Environmental changes / issues, Erosion, Invasive species, Lack of adequate funding, Lack of communication among diverse stakeholders, Lack of environmental awareness, Limited economic diversity, Loss of vegetation, riparian buffers, and/or wetlands, Quantity and timing of freshwater flow, Water supply
Proposed Metric(s)	“Monitor yearly for improved water quality using established parameters; Determine species/community change, track sea level rise and other climate related change, CO ₂ sequestration by forestlands; Measure turbidity and monitor yearly; EPPC Category 1 invasive exotics, treatment of infestations. Monitor by regional CISMAs; Increase in acres protected/year vs. previous five years (2009-2013); Number of visitors to environmental education programs and informational/interpretive signs installed. Conduct surveys on visitor experiences; New jobs added/maintained (e.g., military bases), hunting/ fishing licenses sold, fisheries productivity (e.g., shellfish harvesting), acres of timberland with forest product revenue, ecotourism expenditure; Base line of vegetative cover, riparian corridors, seagrass beds, etc. Monitor yearly for changes. Number/size of clear cuts and forest restoration on working lands and Silvicultural BMPs; Use flow (cubic feet/second) and stream velocity devices. Aerial and remote imagery to measure variability in seasonal and headwater wetlands; Acres of recharge lands for Floridan, intermediate and surficial aquifers. Recharge rate (inches/year) multiplied by acres of variable recharge type (soil, geology, depth to aquifer) estimate gallons of water recharged. Acres of total watershed/headwater wetlands and riparian areas for municipal water supply. District plans for well fields and areas targeted for alternative water supply.”
Project Contact Name	Richard Hilsenbeck
Project Cost	>\$1 million

Project Map #	6
Latitude	30.151541
Longitude	-84.147329
Project Title	St. Marks National Wildlife Refuge Expansion (Sam Shine)
Location Description	Sam Shine Track
Project Description	Purchase of this 8,117 acre tract would, along with the above Nature Conservancy Tract, secure the Refuge boundary and provide water quality and quantity benefits southwards to Apalachee Ba
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas.
Root Causes	Environmental changes / issues, Loss of vegetation, riparian buffers, and/or wetlands, Quantity and timing of freshwater flow, Water supply
Proposed Metric(s)	secure the Refuge boundary and provide water quality and quantity benefits southwards to Apalachee Ba
Project Contact Name	Preston Robertson
Project Cost	>\$1 million

Project Map #	7
Latitude	28.673056
Longitude	-84.961944
Project Title	Academic and Community Partnerships to Monitor Oyster Resource Restoration: Engagement for Coastal Health and Community Resiliency
Location Description	This project focuses on Apalachicola Bay, Franklin County, Florida. Project efforts will be focused within the bay proper, bounded to the north at the iHead of the Bayi by the Apalachicola River and East Bay, and to the south by St. George Island. St. George Sound is the eastern boundary for the bay and project area; St. Vincent Sound and Indian Lagoon represent the western boundary for the bay and project area. The GPS coordinates provided mark the center of Apalachicola Bay. AP Bay is a productive, shallow estuary that maintains an iconic Gulf oyster fishery. The AP Bay oyster industry employs over 2,500 people, and supports one of Florida’s few remaining heritage seafood fisheries that, until the past two years, contributed approximately 90% of Florida’s and 13% of the nation’s oyster harvest. AP Bay is one of Florida’s treasures associated with priceless Gulf beauty, world-class seafood, and exceptional recreational fisheries and tourism. AP Bay is NOAA’s largest designated National Estuarine Research Reserves based on its diversity of fauna and unique habitats. Critical habitats in the project region include some of the richest biodiversity in all of North America.
Project Description	This project builds upon existing partnerships and focuses on ecological restoration of Apalachicola Bay (AP Bay) oyster resources, and is applicable on a regional scale to serve the greater Gulf coast community, and to other habited coastlines that are vulnerable to anthropogenic or natural stressors or disasters. Ecological restoration in AP Bay is needed as a result of environmental change and degraded critical natural resources. This multidisciplinary project brings together unique expertise to address the ecological restoration needs of the region sustainably. The proposed efforts are timely based on ca \$10M of nmatching support already provided through NRDA, Federal disaster support and NFWF to restore a portion of AP Bay oyster bars in 2014-2019. This project will build on those ongoing initiatives. Overarching objective of this project uses adaptive management approach to make use of knowledge gained through data collection to refine restoration targets and metrics to meet the long-term goal of a sustainable ecosystem and fishery resource. The project also depends on stakeholder involvement with all aspects of the restoration research – that provides training and employment, leadership development, and capacity building – leading to greater networking and community resiliency. The following specific aims will be addressed: Specific Aim 1: Discern and report oyster bar restoration outcomes in AP Bay through a science-directed monitoring program that evaluates shelling implementation, reef stability over time, and spat settlement and growth. Data from initial years will be critical to guide out-year restoration and monitoring efforts. Specific Aim 2: Monitor oyster recruitment to various size classes; determine live:dead ratios that can indicate susceptible size classes to specific diseases, predation and shell damage. BACI approach will be used to include before & after metrics from restored and control oyster reefs to determine level of success. Specific Aim 3: Monitor oyster health, disease and productivity as related to water quality, management and restoration activities.

	<p>Specific Aim 4: Establish a water quality monitoring program involving citizens, state agencies, academia and regional resources, guided by scientific experts, regional managers and outside oyster restoration partners, to monitor critical fishery areas in AP Bay the Big Bend region of Florida's Gulf coast. Specific Aim 5: Develop capacity building, leadership opportunities, environmental literacy outreach, and communications with regional stakeholders. Specific Aim 6: Implement and optimize landscape-scale, stakeholder-powered shell reclamation program ("Buy it Back" Program) associated with regional oyster harvest resale. This project provides a model for monitoring critical variables associated with sustainable restoration, and facilitates resiliency for both communities and the unique ecosystem resources.</p>
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Increase cooperation and coordination for monitoring, funding, implementation, outreach.
Root Causes	Environmental changes / issues, Lack of adequate funding, Lack of communication among diverse stakeholders, Lack of environmental awareness, Limited economic diversity, Quantity and timing of freshwater flow
Proposed Metric(s)	<p>WATER QUALITY: Regional database for long-term monitoring, research & citizen engagement; adaptive management strategies to account for current climatological, hydrological and hydraulic conditions. Activity metrics: Water quality and flow related to restoration goals; online database for QA and shared access.RESOURCE PROTECTION: % hard-bottom restored, monitored and sustained; self- and agency-regulation; sustainably managed fishery based on recruitment exceeding mortality & adaptive management. Activity metrics: Refinement of science-based management tools; # acres and % oyster reefs restored and monitored.PUBLIC EDUCATION: % graduation; # partnerships within and between communities sustained; reduction in illegal harvest; # cu yds "buy-it-back" substrate acquired for restoration efforts. Activity metrics: Certificate/training/environmental literacy programs; leadership training opportunities; project-related community initiatives.COMMUNITY RESILIENCY. % new employment; # harvest licenses; sustained community-based networks/organizations; Resiliency network mapping. Activity metrics: Training/certificate/environmental literacy/monitoring; leadership training through engagement with scientists, managers & project partners: UF Oyster Recovery Team, Franklin's Promise Coalition, Gulf Restoration Corps, CareerSource Gulf Coast, SMARRT, Franklin Co Seafood Workers Assoc, Franklin Co Dealer's Assoc, and the City of Apalachicola, in concert with FWC, DACS and ANERRS.</p>
Project Contact Name	Andrew Kane
Project Cost	>\$1 million

Project Map #	8
Latitude	30
Longitude	-83.8733
Project Title	Storm-water Contamination Reduction Paving Plan
Location Description	Jefferson County Wide
Project Description	<p>1. Storm-water Drainage Reduction Paving Plan – projected budget estimate \$750,000: This project provides for thirty-five(35) wetland area, stream and river road crossings, (300 feet each direction), to be stabilized and paved removing over 95% runoff currently effecting the Apalachee Bay Watershed Area. Reduction of runoff has been experienced in three separate counties over the past eighteen years. This project would include the evaluation, road preparatory work, installation of water runoff and control, application of road base and shaping and finally application of permanent hard surface material. All work possible would be completed in-house to stretch any funding to its fullest; while creating dedicated in-kind activity from the county. ** This project is expandable to each of the Big Bend Counties by increasing the number of crossings which each county has a large number of roadway crossings in the environmentally sensitive wetland areas.</p>
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Reduce nutrient loading., Reduce and treat stormwater., Reduce sedimentation.
Root Causes	Contamination, Domestic wastewater, Environmental changes / issues, Erosion, Ineffective or unused BMPs, regulations & development codes, Ineffective stormwater systems, Invasive species, Lack of adequate funding, Lack of environmental awareness, Loss of vegetation, riparian buffers, and/or wetlands
Proposed Metric(s)	Success will be measured by reduction of fill material entering into our wetland areas and ultimately into the Gulf of Mexico. Contamination reduction.
Project Contact Name	Parrish Barwick
Project Cost	=<\$1 million

Project Map #	9
Latitude	31.161605
Longitude	-84.801893
Project Title	WATER SUPPLY ALTERNATIVES DEVELOPMENT FOR ACF AGRICULTURAL IRRIGATORS
Location Description	Spring Creek Sub-Basin (HUC 03130010), lat/long is center of sub-basin
Project Description	<p>In the Apalachicola-Chattahoochee-Flint (ACF) System, a significant concern is that inadequate freshwater inflow to Apalachicola Bay could cause substantial ecological and economic impacts. Freshwater inflows to the Bay can be improved by increasing flows upstream, which can, in part, be attained by decreasing water withdrawals from the ACF. This project will reduce water withdrawals in the ACF region by 1.6 billion gallons in a drought year by transferring agricultural withdrawals to alternative sources that do not affect instream flows. In the lower part of the basin, farmers are highly reliant on the Upper Floridan aquifer, and in a large part of the ACF, this aquifer is interconnected with the surface water system. Upper Floridan withdrawals affect instream flows by partially intercepting baseflow. In this area (known as Subarea 4), modeling estimates the average impact of groundwater withdrawals on instream resources to be about 40% of the withdrawal volume (i.e., a withdrawal of 1 million gallons reduces water instream by 400,000 gallons). Alternative water sources are available for ACF agricultural withdrawals. The Claiborne and Clayton aquifers are present, but generally have not been tapped due the higher cost of deeper wells. Recent droughts have increased interest in the deeper aquifers, and some new wells are being drilled in these aquifers in the region. Little information is available to assess the capacity of the deep aquifers to support higher levels of use. A recent assessment of the Claiborne indicates that sustainable yield is available to support additional use, but a more thorough assessment is needed. This project will: (1) Evaluate and prioritize agricultural withdrawals in the project area for transfer to alternative sources, (2) implement source transfers for 20 agricultural withdrawals by installing deep aquifer (Clayton or Claiborne) wells to replace current withdrawals, and (3) collect data from the new wells to support better assessment of deep aquifer health. The project will reduce drought year use by 1.6 billion gallons, demonstrate the implementation of source transfers for use in other parts of the ACF, and support assessment of alternative aquifer sources. The project area is the Spring Creek Basin (HUC 03130010) with a focus in two HUC-12s for which modeling indicates the greatest potential impact of Upper Floridan withdrawals on surface water resources. These HUC-12s (031300100801 and 031300100802) are in Decatur and Seminole Counties, just upstream of Lake Seminole and the Florida-Georgia border. Irrigated agriculture is highly concentrated in Spring Creek, with approximately 1500 groundwater withdrawals and 100 surface water withdrawals, which are used to irrigate over 150,000 acres of land. The project will be led by the Georgia Water Planning and Policy Center at Albany State University. The Center works with stakeholders in the ACF and beyond to solve water problems and plan for a sustainable future.</p>

Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Increase cooperation and coordination for monitoring, funding, implementation, outreach., Reduce impacts to groundwater.
Root Causes	Lack of adequate funding, Quantity and timing of freshwater flow, Water supply
Proposed Metric(s)	Gallons of water to be withdrawn from alternative sources, number of wells installed that replace ACF withdrawals/Upper Floridan wells in lower ACF, estimate of impact on surface water flow (based on modeling estimates) - These metrics will show project impact on freshwater flows and water supply.
Project Contact Name	Mark Masters
Project Cost	>\$1 million

Project Map #	10
Latitude	30.444444
Longitude	-84.55555
Project Title	Fluvial Geomorphologic Assessment for Apalachicola River
Location Description	106.5 miles of the Apalachicola River and its floodplain
Project Description	<p>Geomorphologic Assessment and Pilot Restoration Projects for the Apalachicola River. A scope of work submitted by the Apalachicola Riverkeeper and G. Mathias Kondolf, PhD (fluvial geomorphology and environmental planning): A first step to identifying, assessing, and planning restoration actions is a geomorphologic assessment of the river. Geomorphologic processes underlie the essential ecological processes that support a healthy river and estuary. While there have been excellent studies completed by the US Geological Survey and others, to date the available published data has not been synthesized with field measurements in a restoration framework to inform future restoration actions. Such a geomorphologic assessment is needed to understand the river system in light of historical geomorphologic, hydrologic, and ecological changes and altered processes, and to establish a scientifically-sound basis for prioritizing projects. Projects that will lead to sustainable improvements should be prioritized, but some projects that will require maintenance may still be worthwhile because of their benefits to important species. In the spirit of adaptive management, one or more initial pilot projects should be undertaken in the first year and monitored to provide better understanding of system response to interventions. These initial projects might be termed "low-hanging fruit", ideally restoration projects that would recover the river ecological functions with the most immediate results for the investment, and which lend themselves to monitoring and evaluation, to better inform future projects. With the solid foundation of the assessment upon which to identify, assess, and prioritize restoration projects, the Apalachicola River should be better positioned to receive significant funding for ecologically effective and attainable restoration. The assessment proposed here encompasses analysis of historical channel changes, sedimentological sampling, and geomorphological field observations using state-of-the-art techniques (Kondolf and Piggay 2003). After the geomorphologic assessment and identification of potentially suitable restoration projects as described in this proposal, the individual projects should be studied in more detailed, complementing the geomorphologic analysis with hydraulic modeling (not included in this proposal).</p>
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Reduce sedimentation., Increase cooperation and coordination for monitoring, funding, implementation, outreach.
Root Causes	Environmental changes / issues, Erosion, Ineffective or unused BMPs, regulations & development codes, Loss of vegetation, riparian buffers, and/or wetlands, Quantity and timing of freshwater flow
Proposed Metric(s)	Monitoring prior to restoration and following restoration of priority projects is necessary.
Project Contact Name	Dan Tonsmeire
Project Cost	≤\$500,000

Project Map #	11
Latitude	30
Longitude	-83
Project Title	Agriculture Management Best Practices
Location Description	Jefferson County Boundaries and surrounding areas
Project Description	3. Agriculture Management Best Practices (Cost Share program with SRWMD and EPA) – projected budget estimate \$348,000. Jefferson County is mainly agricultural in all its forms. Each form whether row crop, hay, orchard, cattle, dairy or equine uses water and produces waste water. This project attempts to reduce the amount of water used (pulled from our declining aquifer) and treat the waste water before it enters the drainage and recharge system that either feeds the aquifer or the Gulf of Mexico. The project approach is one of educating about the financial and environmental benefits of applying several proven techniques, then assisting the farmers with financial and technical assistance to implement the most appropriate techniques, and providing on-going monitoring and technical support.
Major Actions	Protect, restore, create and/or manage natural habitat and resources, and increase buffer areas., Reduce nutrient loading., Reduce sedimentation., Increase cooperation and coordination for monitoring, funding, implementation, outreach., Reduce impacts to groundwater.
Root Causes	Contamination, Erosion, Ineffective stormwater systems, Lack of communication among diverse stakeholders, Water reuse, Water supply
Proposed Metric(s)	Success will be measured by reduction in the amount of water used and waste water produced. Reduction of waste water before it enters the drainage and recharge systems that feeds the aquifer or the Gulf of Mexico.
Project Contact Name	Parrish Barwick
Project Cost	=<\$500,000

Project Map #	12
Latitude	30
Longitude	-53
Project Title	Agriculture Center Facilities
Location Description	Forty acre property West of Monticello
Project Description	2. Agriculture Center Facilities (EXPO, Livestock, Market) – projected budget estimate \$175,000. The idea of this is to use the undeveloped field of the current IFAS Ag-Center that is located on the South side of Mahan Drive (I-90) and East of the site buildings and pecan trees. It would include installing two access drives off of I-90, installing gates, improving the grounds for water runoff management and leveling, and the installation of an open pavilion. This would be a multi-use outdoor facility for small Ag-Expo (e. g. organic growing day), seasonal market days and outdoor demonstrations, lectures and educational programs related to environmental needs for our watershed rich areas in the Southeastern United States.
Major Actions	Increase cooperation and coordination for monitoring, funding, implementation, outreach.
Root Causes	Ineffective or unused BMPs, regulations & development codes, Lack of communication among diverse stakeholders, Lack of environmental awareness
Proposed Metric(s)	Impact and success will be measured by participants involved with educational programs increasing knowledge and awareness of coastal watershed impacts. Generational improvement of environmental needs within our watershed rich area. The number of participants will be tracked and documented showing the increases in participation and thus knowledge of our environmental needs.
Project Contact Name	Nick Flynt
Project Cost	=<\$500,000

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