Suwannee River Water Management District

RESTORE Act Watershed Issues and Preliminary Projects

Introduction

SRWMD staff began coordination with DEP on the RESTORE Act in a conference call on February 5, 2012. DEP requested that SRWMD develop a preliminary list of issues by basin (watershed) and potential projects in each basin to potentially receive RESTORE Act funding.

Staff identified three issues; water supply in the Suwannee River basin, water quality impairment in rivers and springs, and altered hydrology and natural systems that are in need of restoration. Each of the issues has a list of potential projects with either planning-level costs or estimated costs. The total planning-level costs or estimated cost for all the projects is $114,567,800.

The projects information was taken from the District Five-Year Capital Improvement Plan, the Florida Forever Work Plan, local government project submittals, and staff knowledge of project needs. Staff has assigned a priority category of A, B or C to each project, with A being highest priority. Priority category is based on potential project benefits, project need, and existence of other funding sources. A map of the project locations is attached. The locations on the map are organized by issue and the project number.

Issue: Water Supply in the Suwannee River basin (including tributary basins)

Issue statement: The Governing Board of the SRWMD declared four water resource caution areas within the Suwannee River basin in 2010. Implementation of water supply projects within the Suwannee River basin is an important strategy to protect natural systems from harm. Protection of the Suwannee River estuary with an adequate flow of fresh water is critical. The Suwannee estuary supports a tremendous diversity and abundance of natural resources and fisheries, including marine aquaculture (clams) in the Cedar Key area.

Priority Category A Projects **$56,050,000**

1. **Surface-water capture, storage and use (multiple counties, upper and lower Suwannee River basins):**
    a. Construction of off-line reservoirs to capture high surface water flows from the Suwannee River and its tributaries to recharge the upper Floridan aquifer, release into the Suwannee River to maintain base flow during water shortages, and to provide for consumptive use to offset withdrawal of fresh groundwater. This project is needed to recover impacted water resources to flows and levels that are healthy and prevent future impacts to water resources.
    b. Total planning-level cost, including feasibility and preliminary engineering studies, is $50,300,000.

2. **Suwannee River Water Management District Headquarters Flood Mitigation/Aquifer Recharge (Suwannee County, Suwannee River Basin):**
   a. Mitigation of flooding problems at District headquarters through treatment of floodwaters and recharge of the aquifer.
   b. Planning-level cost is $750,000.

3. **Santa Fe River Basin Aquifer Recharge/Flood Mitigation projects (Bradford County, Santa Fe River Basin):**
   a. The District is working with Bradford County to develop aquifer recharge and flood mitigation projects, particularly to mitigate flooding and associated water quality issues in and around the City of Starke. The purpose of the projects is to capture and store high flows in the upper Santa Fe River basin and use the water for aquifer recharge and maintenance of flows during drought to support proposed minimum flows and levels for the Lower Santa Fe River.
   b. Planning-level cost is $5,000,000.

Priority Category B Projects **$13,500,000**

4. **Lake City Wastewater Management (Columbia County, Santa Fe River Basin):**
   a. Wastewater reuse facility upgrades, which may include distribution systems, water treatment system including constructed wetlands and aquifer replenishment at City spray field.
   b. Planning-level cost is $4,500,000.

5. **Reuse of reclaimed water from the City of High Springs (Alachua County, Santa Fe River Basin):**
   a. Store and transmit reclaimed water to a regional reclaimed water system for beneficial use for power plant cooling water to offset withdrawal of groundwater.
   b. Planning-level cost is $5,000,000.

6. **Reuse of reclaimed water from the City of Newberry (Alachua County, Waccasassa River Basin):**
   a. Reclaimed water storage, transmission and use to offset withdrawals of fresh groundwater.
   b. Planning-level cost is $4,000,000.

Priority Category C Projects **$2,956,000**

7. **Otter Spring and Hart Spring parks water supply systems (Gilchrist County, Suwannee River Basin):**
   a. Develop a regional water supply system for these popular parks to remove the effects of local withdrawals on the springs.
   b. Planning-level cost is $2,500,000.

8. **City of Alachua Water Conservation program (Alachua County, Santa Fe River basin)**:
   a. Minimization of water distribution system losses, saving about 20 million gallons of water per year.
   b. Estimated cost is $63,000.

9. **Town of Waldo Water Conservation program (Alachua County, Santa Fe River Basin)**:
   a. Minimization of water distribution system losses, saving about 5 million gallons of water per year.
   b. Estimated cost is $154,000.

10. **City of High Springs Water Conservation program (Alachua County, Santa Fe River Basin)**:
   a. Minimization of water distribution system losses, saving about 6 million gallons of water per year.
   b. Estimated cost is $58,000.

11. **City of Live Oak reclaimed water connection (Suwannee County, Suwannee River Basin)**:
   a. Connect existing golf course to the City's reclaimed water system, saving 37 million gallons per year of groundwater.
   b. Estimated cost is $25,000.

12. **City of Newberry water conservation (Alachua County, Waccasassa River Basin)**:
   a. Minimization of water distribution system losses, saving about 15 million gallons of water per year.
   b. Estimated cost is $58,000.

13. **City of Jasper water conservation (Hamilton County, Suwannee River Basin)**:
   a. Minimization of water distribution system losses, saving about 15 million gallons of water per year.
   b. Estimated cost is $98,000.

Issue: Water quality impairment in rivers and springs

Issue statement: Improvement of water quality in rivers and springs is critical to meeting numeric nutrient criteria, total maximum daily loads, implementation of basin management action plans, and protection of riverine and estuarine resources.

Priority Category A Projects **$7,750,000**

1. **Santa Fe River Basin Management Action Plan implementation (multiple counties):**
   a. The Santa Fe River and its associated springs are impaired for nutrients. In order to implement the adopted Basin Management Action Plan, this project proposes to

improve water quality and conserve water through a cost-share program to retrofit agricultural irrigation systems and fertigation systems.

b. Planning-level cost is $2,000,000.

2. **Lower Suwannee River Basin Management Action Plan implementation (multiple counties):**
   a. The Suwannee River and its associated springs are impaired for nutrients. The Basin Management Action Plan is pending adoption. This project proposes to improve water quality and conserve water through a cost-share program to retrofit agricultural irrigation systems and fertigation systems.
   b. Planning-level cost is $5,000,000.

3. **Cost Share Program for Implementing Best Management Practices for Agriculture in the Aucilla River Basin**
   a. The Aucilla River and its tributaries are impaired for nutrients and declining water levels. The development of a cost share program to assist agricultural operations in implementing best management practices (BMPs) would result in improving the water quality and reduce water usage. We are proposing that agricultural operations implement BMPs that encourage water reuse, conserve water, monitor moisture and nutrients, and reduce fertilizer and water requirements.
   b. Planning level cost is $750,000.

Priority Category B Projects **$8,500,000**

4. **Wastewater management systems for Hart and Otter Springs Parks (Gilchrist County, Suwannee River Basin):**
   a. Construction of wastewater transmission lines from both locations to remove RV sites and recreational facilities from septic systems adjacent to the both springs (water quality loading reduction/water quality improvement, located within the impaired Suwannee River basin).
   b. Planning-level cost is $2,500,000.

5. **Wastewater management system for Old Town (Dixie County, Suwannee River Basin):**
   a. Establishment of a wastewater system for the Old Town area in Dixie County in order to eliminate septic tanks along and near the Suwannee River.
   b. Planning-level cost is $6,000,000.

Priority Category C Projects **$391,000**

6. **Lantana Road water quality improvements (Lafayette County, Suwannee River Basin):**
   a. Reduce erosion and sedimentation into the Suwannee River, treat stormwater runoff, and stabilize river bank.
   b. Estimated cost is $41,000.

7. **City of Archer wastewater management system (Alachua County, Oklawaha River Basin):**
    a. Help the City of Archer establish a wastewater collection, treatment and reuse system.
    b. Estimated cost share is $350,000.

Issue: Altered hydrology and natural systems

Issue statement: Many wetlands and other surface waters have experienced hydrologic alteration by historic activities. Many natural systems have experienced anthropogenic degradation. Restoration is needed to improve hydrology to benefit natural resources, improve river and spring flows, protect estuaries, and reduce erosion and sedimentation into rivers.

Priority Category A Projects **$5,007,800**

1. **Mallory swamp hydrologic restoration (Lafayette and Dixie counties, Coastal Rivers Basin):**
    a. Construct dispersed water storage projects at strategic locations within Mallory Swamp to restore hydrology.
    b. Planning-level cost is $200,000.

2. **Restoring Oyster Reefs Through Reclamation of Shellfish Aquaculture Industry (Dixie and Levy counties, Waccasassa River and Coastal Rivers Basin):**
    a. Recent studies by UF IFAS scientists have shown a net 66% loss of natural oyster reefs in the Big Bend (Horseshoe Beach to Waccasassa Bay) in the past 30 years, resulting in greatly reduced oyster harvest and decline in associated ecological benefits. Using linked methods this multi-dimensional resource development project seeks to simultaneously restore degraded oyster reefs, and regenerate state-owned clam aquaculture leases. Restoring the reefs would provide opportunities for harvesting, entrain freshwater within the estuary, and restore the estuarine function of the area. Removing oyster encrusted bags previously intended to raise clams and using them to restore the oyster reefs would rejuvenate the clam industry.
    b. Estimated costs are $3,617,800.

3. **Otter Springs restoration (Gilchrist County, Suwannee River Basin):**
    a. Otter Springs is a second magnitude spring and is the cornerstone recreational feature of the Otter Springs Park and Campground. The park is owned by the District and managed by Gilchrist County through a cooperating management agreement. Years of public use has taken its toll on the spring. Sediment from erosion has almost closed the main spring vent and is significantly reducing flow. Because of the decreased flow, the brown algae are able to attach to the substrate and choke out the other native species. The District plans to restore the spring by dredging the spring vent and stabilizing the shoreline.
    b. Planning-level cost is $450,000.

4. **Northern Dixie County Watershed Restoration (Suwannee River Basin):**
   a. Dispersed water storage to re-hydrate wetlands and lakes, provide storage of surface water and provide potential aquifer recharge.
   b. Planning-level cost is $100,000.

5. **Pot Spring Restoration (Hamilton County; Withlacoochee River Basin):**
   a. Pot Spring is a second magnitude spring along the Withlacoochee River on District lands. A combination of human use and river erosion has begun to erode the bank of the spring boil causing harm to both the spring and the existing wooden access platform. Project is to fix existing erosion problems and repair access platform at this popular spring.
   b. Planning-level cost is $450,000.

6. **Lower Aucilla River Hydrographic Survey (Jefferson and Taylor counties; Aucilla River Basin)**
   a. The Aucilla River drains a large basin in South Georgia and North Florida, including the waters from its spring-fed Wacissa tributary, into the Gulf of Mexico. There is a lack of that hydrographic data which restricts the development of a sound hydrological model of water flow which would allow calculation of minimum flows and levels for future water management for the area. Further, it restricts identification of the most promising areas for archeological research and other scientific studies of the area. The proposed project involves a hydrographic survey to map the water-related features of the area in the lower Aucilla River and its estuary.
   b. Planning level cost is $190,000.

Priority Category B Projects **$963,000**

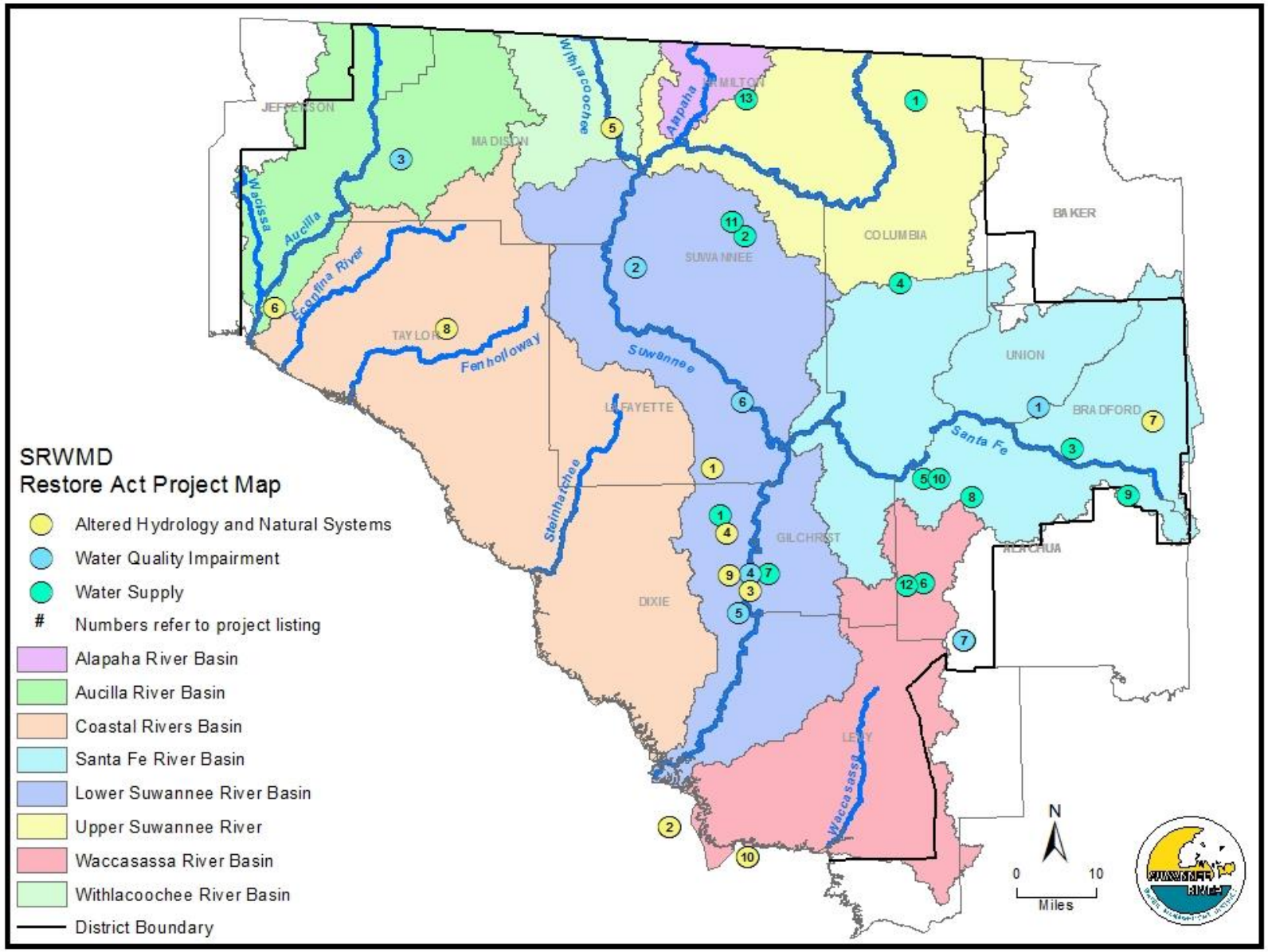
7. **Alligator Creek restoration (Bradford County, Santa Fe River Basin):**
   a. The City of Starke depends upon Alligator Creek for drainage of most of its incorporated area. Alligator Creek drains into Lake Rowell and, ultimately, into the Santa Fe River via the Sampson River. Alligator Creek was dredged several times prior to environmental regulation and again in 2005 to improve the drainage within the City of Starke. However, this dredging has destabilized the stream in many locations and caused continued erosion and water quality problems. Stream restoration is needed to protect this system from continued erosion and degradation but the funding of such a restoration has been cost prohibitive. In order to prevent some of the sediment load from going to Lake Rowell down Alligator Creek, the District, in cooperation with the Florida Fish & Wildlife Conservation Commission, plans to capture some of the sediment load via a sedimentation basin and re-establish the historic floodplain along a portion of the creek within the 47-acre parcel known as the Edwards Bottomlands. The restoration project will improve water quality by capturing and treating sediment-laden storm water and will improve habitat for fish and wildlife.
   b. Planning-level cost is $363,000.

8. **Rose Spring Run Restoration (Taylor County, Coastal Rivers Basin):**
   a. As part of City revitalization, restoration of a channelized spring run (Rose Spring Run/Creek) to provide water quality, flood attenuation and natural system benefits as part of a downtown revitalization project.
   b. Planning-level cost is $600,000.

Priority Category C Projects **$19,450,000**

9. **Hart Springs Restoration (Gilchrist County, Suwannee River Basin):**
   a. Restore stream banks along the spring run to reduce erosion and sedimentation.
   b. Planning-level cost is $450,000.

10. **Cedar Key – Waccasassa Bay Acquisition and Restoration Project (Levy County, Waccasassa River basin):**
    a. The State of Florida and the U. S. Fish and Wildlife Service have made very large investments in the protection of the Big Bend region of Florida's Gulf Coast. Beginning with the St. Marks National Wildlife Refuge and continuing south to the Waccasassa Bay Preserve State Park, approximately 250,000 acres have been placed in public ownership along the Gulf of Mexico. In addition, the City of Cedar Key has installed a centralized sewer system and made substantial improvements to its stormwater system in order to protect the quality of the adjacent shellfish waters. The potential development of the 3,817 acre project area is a significant risk to water quality in the Waccasassa Bay. Public acquisition of this area will complete a continuous protected corridor joining the Lower Suwannee National Wildlife Refuge, Cedar Key Scrub State Reserve, Waccasassa Bay Preserve State Park, and a portion of the Cedar Keys National Wildlife Refuge. This additional protection will help to mitigate for impacts suffered elsewhere in the Gulf. This project addresses one of the most significant gaps in this coastal protection framework.
    b. Estimated cost is $19,000,000.


SRWMD
Restore Act Project Map
Altered Hydrology and Natural Systems
Water Quality Impairment
Water Supply
Numbers refer to project listing
Alapaha River Basin
Aucilla River Basin
Coastal Rivers Basin
Santa Fe River Basin
Lower Suwannee River Basin
Upper Suwannee River
Waccasassa River Basin
Withlacoochee River Basin
District Boundary
JEFFERSON
MADISON
HAMILTON
SUWANNEE
COLUMBIA
BAKER
UNION
BRADFORD
TAYLOR
LAFAYETTE
GILCHRIST
ALACHUA
DIXIE
LEVY
Withlacoochee
Alapaha
Aucilla
Econfina River
Fenholloway
Suwannee
Santa Fe
Steinhatchee
Waccasassa
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Miles