

Fiscal Year 2019-20 Five-Year
Water Resource Development Work Program

Proposed October 25, 2019



NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

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Introduction

Water Management Districts are required by section 373.709, Florida Statutes (F.S.), to evaluate water resources to ensure existing sources of water are adequate to supply water for all existing and future reasonable-beneficial uses and to sustain the water resources and related natural systems for a 20-year planning period. A Regional Water Supply Plan (RWSP) is developed when a District determines that water supplies in a region are not sufficient to meet the region's needs in a sustainable manner. RWSPs include a technical analysis of current and future demands, evaluate available sources, and identify water resource development projects and water supply development projects to meet those demands.

The District is also required to prepare a Five-Year Water Resource Development Work Program (Work Program) as a part of its annual budget reporting process, pursuant to subsection 373.536(6)(a)4., F.S. The Work Program must describe the District's implementation strategy relating to its water resource development and water supply development (including alternative water supply development) components over the next five years. Further, the Work Program must:

- Address all the elements of the water resource development component in the District's approved RWSPs, as well as the water supply projects proposed for District funding and assistance;
- Identify anticipated available District funding and additional funding needs for the second through fifth years of the funding plan;
- Identify projects in the Work Program which will provide water;
- Explain how each water resource and water supply project will produce additional water available for consumptive uses;
- Estimate the quantity of water to be produced by each project;
- Provide an assessment of the contribution of the District's RWSPs in supporting the implementation of minimum flows and minimum water levels and water reservations; and
- Ensure sufficient water is available to timely meet the water supply needs of existing and future reasonable-beneficial uses for a 1-in-10-year drought event and to avoid the adverse effects of competition for water supplies.

This Work Program covers the period from fiscal year (FY) 2019-20 through FY 2023-24 and is consistent with the planning strategies of the District's RWSP. The District has one RWSP, briefly summarized below and depicted in Figure 1. For additional information about the District's RWSP, please see www.nfwfwater.com/Water-Resources/Water-Supply-Planning.

- Region II RWSP includes Santa Rosa, Okaloosa and Walton counties. The draft 2019 RWSP provides estimates and projections for the 2020-2040 planning period. The primary concerns are the availability and water quality in the Floridan aquifer, mainly in coastal areas. Public review and Governing Board consideration of plan approval is included in the FY 2019-20 Work Program.

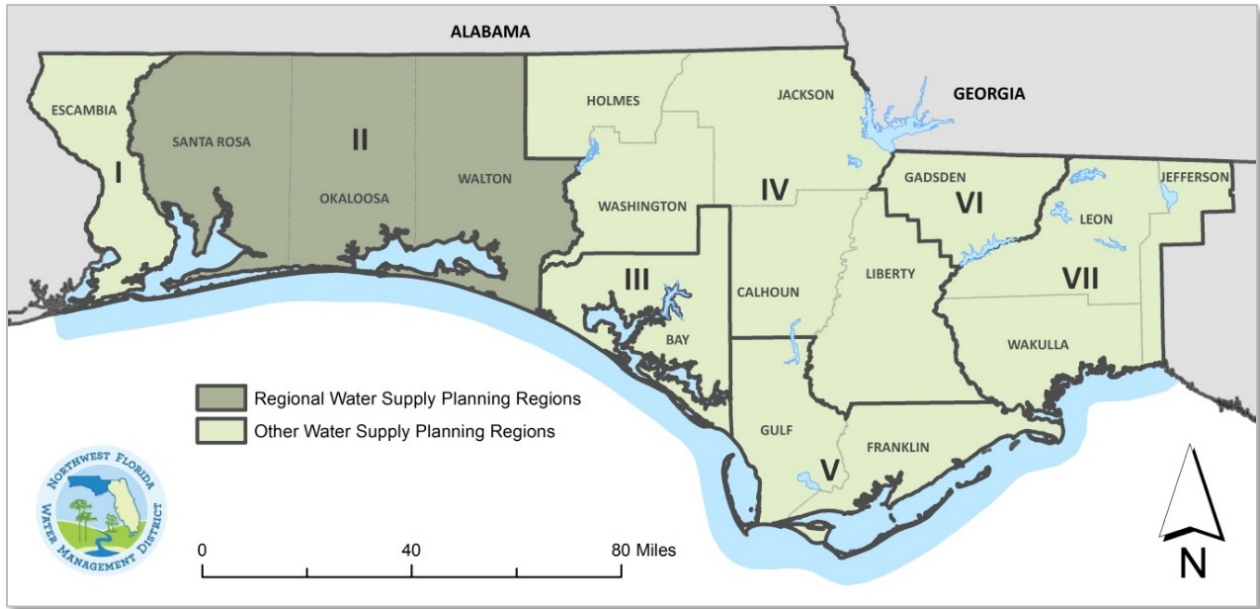


Figure 1. Map of NFWMD Water Supply Planning Regions

This Work Program is presented in two sections: Water Resource Development and Water Supply Development, followed by summaries of districtwide water supply activities and of funding resources.

Work Program Summary

The Work Program presented herein is adequate to ensure water is available to timely meet the water supply needs of existing and future reasonable-beneficial uses for a 1-in-10-year drought event and to avoid the adverse effects of competition for water supplies. Over the next five years, this Work Program outlines the District’s commitment to ensure the availability of adequate water supplies for all reasonable-beneficial uses and to maintain the function of natural systems.

In total, this Work Program outlines a FY 2019-20 budget of \$4.4 million for water resource development and water supply development activities in Okaloosa, Santa Rosa, and Walton counties. The proposed funding for the Five-Year Work Program is approximately \$5.9 million through FY 2023–24.

Water Resource Development

Water resource development (WRD) is defined in section 373.019(24), F.S., as “the formulation and implementation of regional water resource management strategies, including the collection and evaluation of surface water and groundwater data; structural and nonstructural programs to protect and manage water resources; the development of regional water resource implementation programs; the construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation; and related technical assistance to local governments, government-owned and privately owned water utilities, and self-suppliers to the extent assistance to self-suppliers promotes the policies as set forth in s. 373.016.”

The District is primarily responsible for implementing WRD activities and projects; however, project development, funding, and technical support may also come from utilities and other project partners.

The District implements the following water resource development programs in Region II:

- Surface Water Development
- Reuse
- Conservation
- Aquifer Storage and Recovery (ASR)
- Groundwater Evaluations; and
- Data Collection and Analysis.

Surface Water Development

In 2006, the District and its water supply consultants prepared an analysis of potential surface water supply sources in Okaloosa County, presented in the report “Conceptual Alternative Water Supply Development Projects and Planning Level Cost Estimates” (PBS&J 2006). This study reviewed the technical and economic feasibility of several alternatives, including direct river withdrawal, riverbank filtration, and construction of tributary reservoirs. The District also concurrently evaluated a proposed Yellow River Reservoir and concluded that the proposal was not feasible.

Okaloosa County continues to evaluate surface waters in the Yellow and Shoal river basins as potential future water supply sources. In 2015, the county completed a major land acquisition and has facilitated public workshops jointly with the U.S. Army Corps of Engineers as part of its long-range water supply planning efforts. The District will continue efforts to support planning for alternative surface water development, including MFL development for the Shoal River system, which continued in FY 2018-19 and is scheduled for completion beyond FY 2023-24.

Reuse

Significant investments in reuse have been made in Region II, particularly for golf course irrigation. District staff work with utilities and local governments to identify opportunities for expanded water reuse to meet non-potable water needs, as well as feasible funding sources and strategies.

Assisting utilities and local governments in developing reuse projects will remain a priority, with

implementation depending on funding availability. In FY 2018-19, a draft reuse evaluation was completed districtwide that includes a summary of current reuse facilities and potential future options. The evaluation will undergo further review and is planned to be completed in FY 2019-20. Future water reuse projects may include feasibility studies, pilot projects, and demonstration projects. Projects of highest priority are those that offset and reduce the consumption of potable quality water, as well as those that protect natural systems and achieve integrated water resource management. Additionally, reuse information for the District will be updated annually.

Conservation

This project supports conservation and efficiency programs, practices, and measures on the part of local governments and utilities. Water conservation serves the public interest by enhancing efficiency, reducing costs to the public, and limiting impacts to natural resources.

Under Chapter 40A-2, Florida Administrative Code (F.A.C.), regulatory measures help to conserve water in the coastal Region II Water Resource Caution Area (WRCA). Additionally, with cooperative planning and regulatory incentives, many utilities implement water conservation measures that include inclining block rates, conservation plans, and the use of reclaimed water.

In Region II, the District has worked in cooperation with the Florida Department of Environmental Protection (DEP) and other water management districts to address public supply water conservation under section 373.227, F.S. The participating agencies have worked to define a common water conservation planning process for public supply utilities including creating standardized analysis methods and tools, common supporting technical references, and consistent permitting requirements and incentives related to goal-based conservation planning.

The focus in FY 2018-19 was primarily on the Region II RWSP Update, as well as quarterly coordination with water management districts. With funding from the Water Protection and Sustainability Program Trust Fund identified in FY 2019-20, an incentive program for additional utility conservation activities may be developed, with emphasis on Region II. Staff will continue to maintain efforts with other water management districts, local governments, and utilities to further improve water use efficiency for public supply and other water use categories.

Aquifer Storage and Recovery

Depending on the hydrogeologic characteristics of an area, aquifer storage and recovery (ASR) has the potential to store large quantities of water more effectively and at a lower cost than above-ground storage. Destin Water Users developed an ASR system for storage of reclaimed water in the sand-and-gravel aquifer. This reclaimed water may be available to meet irrigation demands, helping to conserve potable water resources and mitigate potential impacts associated with this volume of groundwater withdrawal.

The use of ASR in the future for storage of reclaimed water or perhaps the use of direct aquifer recharge as a salinity barrier may require a regional approach, since water introduced into a geologic formation could affect the groundwater beneath jurisdictions or service areas of multiple utilities and local governments. There are no current ASR projects included in the District's FY 2019-20 Adopted Budget. However, the District will work with utilities on the feasibility of additional ASR activities within Region II, as needed or requested.

Groundwater Evaluations

Previous RWSP projects to mitigate impacts from coastal withdrawals by shifting wells inland are largely complete. The District's existing groundwater flow and transport models are being updated to evaluate the need for a saltwater intrusion minimum aquifer level and the sustainability of the Upper Floridan aquifer in Planning Region II. Transient calibration of the models will provide further insight into the effects of aquifer storage on pumping induced changes in groundwater levels and the predicted rates of saltwater intrusion. The updated models can also provide a tool for managing Upper Floridan aquifer withdrawals within the region to minimize drawdowns and slow intrusion rates. The minimum aquifer level technical assessment is scheduled for completion in FY 2019-20. If the evaluation determines a minimum aquifer level is necessary, rule adoption is scheduled for 2021. In addition, the District is expanding its surficial aquifer monitoring network within the region to provide water level data for future model revisions and to better understand surface water/groundwater interactions.

Additional regional or site-specific groundwater investigations may also be pursued as time and resources allow.

Data Collection and Analysis

The District has a data collection network of rainfall gauges, stream gauges, and monitoring wells throughout Region II. Groundwater and surface water monitoring capabilities have been enhanced by continuing cooperation with the U.S. Geological Survey surface water gauging network and developing an expanded monitoring network for the sand-and-gravel and Floridan aquifers where new water sources have been developed or are planned. This monitoring is essential for ensuring the success of long-term water supply initiatives, as well as for refining groundwater models and analyses to support future management decisions. Recent expansion of the groundwater and rainfall monitoring in Region II continues to support resource evaluations and development of improved modeling tools for both planning and consumptive use permitting. The data from these additional monitoring sites continues to support the coastal Floridan aquifer MFL technical assessment to be completed in FY 2019-20. All monitoring activities are scheduled to continue through the five-year work plan period.

Development and refinement of regional strategies, project planning and development, and RWSP updates are essential components of water resource development. Related activities include technical support and coordination with local governments and utilities to ensure a regional focus in the planning and development of alternative water supply projects. Associated administrative activities include project and funding management, coordination with DEP and other agencies, educational and outreach materials and programs, and progress reporting.

The District provides assistance with hydrogeology and related technical evaluations for development of new and alternative surface water and reclaimed water. Other ongoing efforts include working with local governments and state and regional agencies to better coordinate land use and water supply planning. During FY 2018-19, staff continued working on the 2019 update to the Region II RWSP; maintained collaboration with the Florida Department of Agriculture and Consumer Services (DACS) on the Florida Statewide Agricultural Irrigation Demand (FSAID) reports; maintained collaboration with DEP and the other water management districts on statewide water supply planning; and provided technical assistance to the Legislature's Office of Economic and Demographic Research. Additionally, contractual services to support the Region

II RWSP Update were completed and the draft plan posted for public review. In FY 2019-20, staff will complete the 2019 Region II RWSP Update and develop new projects and/or programs to support new alternative water supply development funding.

Table 1. FY 2020-2024 Region II Water Resource Development Project Funding

WRD Projects	Budget Activity	FY 18-19 Expenditures ¹	Anticipated Five Year Work Program				FY20-FY24 Cost Estimate	
			FY 19-20 Budget ²	FY 20-21	FY 21-22	FY 22-23		FY 23-24
Surface Water Sources	1.1.1 1.1.2	\$64,309	\$567,100	\$25,000	\$225,000	\$75,000	\$0	\$892,100
Water Reuse	1.1.1 2.2.1	\$17,343	\$21,900	\$25,000	\$25,000	\$25,000	\$25,000	\$121,900
Conservation	1.1.1 2.2.1	\$10,476	\$53,600	\$10,000	\$10,000	\$10,000	\$10,000	\$93,600
Aquifer Storage and Recovery	2.2.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Groundwater Evaluations	1.1.2 2.2.1	\$109,333	\$595,200	\$125,000	\$50,000	\$50,000	\$50,000	\$870,200
Data Collection and Analysis	1.1.1	\$203,936	\$239,600	\$183,000	\$208,000	\$183,000	\$183,000	\$996,600
TOTAL		\$405,396	\$1,477,400	\$368,000	\$518,000	\$343,000	\$268,000	\$2,974,400

¹Preliminary figures; final costs will be provided in the March 1, 2020, Consolidated Annual Report.

²FY 2019-20 figures based on adopted budget.

Water Supply Development

Water supply development components are those that involve “planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use.”¹ A list of all projects meeting these statutory definitions is provided in the Table 3. For the NFWFMD, most of the projects continuing in this Work Program are programmatic efforts, such as development of alternative water supplies, including surface water, reuse of reclaimed water, storage and interconnection of potable water, and water conservation. These projects differ from water resource development in the District *supports* efforts of utilities and local governments, such as through technical assistance or through grants, to implement utility-led initiatives. These projects may include alternative water supplies but may also include transmission and distribution improvements.

FY 2016-17 marked the final year of the District’s Water Supply Development Grant Program, which awarded more than \$5 million in district reserves to funding 21 projects in Okaloosa, Santa Rosa, and Walton counties since FY 2013-14. In FY 2018-19, one of the three remaining projects was completed. The other two projects are scheduled to be complete in FY 2019-20

In FY 2019-20, the Governor and Florida Legislature provided \$40 million statewide for funding water supply development projects. The District’s portion of this funding has been budgeted for reuse and conservation projects.

Table 2 reflects all WSD projects for this five-year work plan. Additional district funding in future years is limited to staff coordination and support to utilities and local governments.

¹ Section 373.019(26), F.S.

Districtwide Initiatives

Water Supply Development

The District's water supply development assistance grant program ran from FY2013-14 through FY 2016-17 and is substantially complete. The Governing Board approved 70 projects totaling nearly \$21.6 million in reuse, water conservation, and other planning and infrastructure projects for local governments and utilities. With additional state funding to become available, the District will work to develop conservation or other incentive programs in FY 2019-20 and future work plan years.

Water Reuse

District staff continue to develop approaches for integrated planning of water and wastewater resources. In FY 2018-19, staff completed a draft reuse evaluation. The draft evaluation summarizes reuse Districtwide and discusses opportunities and costs for expanding reuse potential. The evaluation is planned to be available in FY 2019-20. Assisting utilities and local governments in developing potable offset projects will remain a priority, with implementation depending on future funding availability.

Agricultural Best Management Practices Cost Share Program

Significant efforts are underway to enhance agricultural water use efficiency and to support implementation of associated water quality best management practices (BMPs), targeted primarily for the Jackson Blue Spring basin of the Apalachicola River watershed. Through FY 2019-20, the District has received \$7.3 million of spring restoration funding for these activities. The District provides a 75 percent cost-share to help producers retrofit center pivot irrigation systems and to implement more efficient nutrient and water application systems. Together with the Northwest Florida Mobile Irrigation Laboratory, these efforts are expected to significantly enhance efficient use of both water and nutrients within the spring basin. Through September 2019, approximately 87 projects with 61 producers have been implemented.

Well Abandonment

The District continues its program to properly plug abandoned or contaminated wells. Well abandonments considered for financial assistance from the District typically include: projects for financially constrained public water systems; wells located within water resource caution areas; and wells within areas identified under Chapter 62-524, F.A.C. (Escambia, Santa Rosa, Jackson, and Leon counties). Other projects not meeting the previously listed criteria can also be considered, as appropriate. The program currently pays up to 50 percent of costs to plug and abandon eligible wells. During FY 2018-19, approximately 708 permits were issued to plug wells districtwide at no cost to the District other than staff time.

Funding for Water Resource and Supply Development

The state constitution limits the NFWMD to 1/20th (0.05 mills) of one mill, significantly less than the ad valorem taxing authority afforded the other four water management districts. The budget for FY 2019-20 includes a millage rate of 0.0327 mills and the budgeted tax collections are \$3,529,580. With a recurring operating budget of \$18,588,458, the District must rely on state and other revenue sources to conduct many of its programs. Among the funding sources the District looks to for water supply planning and water resource development are the following:

- Land Acquisition Trust Fund;
- Water Protection and Sustainability Program Trust Fund;
- Direct Legislative appropriations;
- District Fund Balance;
- Federal grants;
- Florida Forever; and
- Local government and water supply utility cost sharing.

To the extent possible, the District applies limited ad valorem funding to augment state appropriations for basic water supply planning functions. Because ad valorem funding is inadequate to support implementation of major WRD and WSD projects and initiatives, the District also applies available encumbered funds and reserves for priority projects.

The Water Protection and Sustainability Program Trust Fund (WPSPTF), established by the 2005 Legislature, enabled the District to provide cost-share assistance for construction of alternative WSD projects and priority WRD and springs protection activities. Beginning in FY 2019-20, limited funding in the amount of \$1,000,000 was provided for water management districts, for the first time since FY 2009-10. Based on the allocation percentages provided in statutes, the District will receive 10 percent or \$100,000 for alternative water supply, conservation, or water resource development projects.

Local government and utility funding participation is especially important for several types of water resource development projects, notably alternative surface water, reuse of reclaimed water, water conservation, and aquifer storage and recovery. All projects require substantial local investment once they reach the water supply development stage.

Table 2. Region II Water Supply Development Projects FY 2019-20 through FY 2023-24

Unique ID	Project Name	Cooperating Entity	Project Type	Project Status	Prior District Funding	FY 2019-20 Budgeted	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	Cooperating Entity Match	Project Total
NF00016A	Water Production Wells	Moore Creek Mount Carmel Utilities	Other Project Type	Construction/Underway	\$-	\$151,020	\$-	\$-	\$-	\$-	\$888,692	\$1,039,712
NF00019A	Skyline Road Waterline Loop	Laurel Hill, City of	PS and CII Conservation	Design	\$3,685	\$131,178	\$-	\$-	\$-	\$-		\$134,863
	Okaloosa County/Eglin AFB/Niceville Reclaimed Water Project	Okaloosa County	Reclaimed Water (for potable offset)	Design	\$-	\$2,500,000	\$-	\$-	\$-	\$-	\$8,000,000	\$10,500,000
NF00043A	Floridan Aquifer	Varies with specific project implemented	Water Resource Management Programs	Construction/Underway	\$-	\$-	\$-	\$-	\$-	\$-	N/A	\$-
NF00044A	Sand-and-Gravel Aquifer	Varies with specific project implemented	Water Resource Management Programs	Construction/Underway	\$1,398	\$1,508	\$-	\$-	\$-	\$-	N/A	\$2,906
NF00045A	Shoal River Surface Water	Okaloosa County	Water Resource Management Programs	Construction/Underway	\$-	\$-	\$-	\$-	\$-	\$-	N/A	\$-
NF00046A	Reuse	Varies with specific project implemented	Water Resource Management Programs	Construction/Underway	\$1,398	\$1,508	\$3,750	\$3,750	\$3,750	\$3,750	N/A	\$17,906
	Conservation	Varies with specific project implemented	Water Resource Management Programs	Construction/Underway	\$1,398	\$101,508	\$3,750	\$3,750	\$3,750	\$3,750	N/A	\$117,906
NF00047A	Storage and Distribution	Varies with specific project implemented	Water Resource Management Programs	Construction/Underway	\$91,728	\$1,508	\$-	\$-	\$-	\$-	N/A	\$93,236

Appendix: Basin Management Action Plan Recovery and Prevention Strategies in Region II

Basin Management Action Plans are the “blueprint” for restoring impaired waters by reducing pollutant loadings to meet the allowable loadings established in a Total Maximum Daily Load (TMDL). In 2016, the Florida Legislature amended section 373.036, F.S., to require the identification of all specific projects that implement a Basin Management Action Plan (BMAP) or a recovery or prevention strategy in the Work Program. The District’s Work Program has historically identified water resource development projects that support MFL recovery and prevention but has not included specific descriptions of projects primarily intended to implement BMAPs.

Basin Management Action Plans have been adopted for three areas within the District: Bayou Chico in Escambia County; the Upper Wakulla River and Wakulla Springs basin in portions of Wakulla, Leon, and Gadsden counties; and Jackson Blue Spring and Merritts Mill Pond basin in Jackson County. As none of these BMAPs are within Regional Water Supply Planning Region II, there are no BMAP projects to include in this five-year work plan update.

The District is currently working to develop MFLs for two waterbodies in Region II. Work on development of an MFL for the Floridan aquifer in coastal Region II is underway, with the technical assessment scheduled to be completed by 2020. Work on the Shoal River system MFL is planned and will be completed beyond FY 2023-24.

With no MFLs adopted to date in Region II, there are no recovery and prevention strategy projects to include in this five-year work plan update. However, consistent with section 373.036, F.S., and in coordination with DEP and all five water management Districts, the District will include a five-year funding outlook for specific projects, when needed in the future.