

2019 Region II Regional Water Supply Plan

Northwest Florida Water Management District

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Shoal River

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

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EXECUTIVE SUMMARY

The Northwest Florida Water Management District (NFWFMD or District) completes Districtwide water supply assessments (WSAs) with 20-year planning horizon every five years to determine the need for regional water supply planning. Based on the 2018 WSA Update, the District's Governing Board determined that regional water supply planning for Region II (Okaloosa, Santa Rosa, and Walton counties) should continue. This Region II regional water supply plan (RWSP) summarizes the 2018 WSA evaluations and updates the RWSP water supply development (WSD) and water resource development (WRD) components over the 20-year planning period through 2040. The expected outcome of plan implementation is that sufficient water will be available for all existing and future uses and natural systems.

Region II is the District's largest and fastest growing water supply planning region. The 2015 seasonally adjusted population estimate for Region II at 469,615 is expected to climb 33 percent to about 623,300 by 2040. Water use was estimated to be about 70 mgd in 2015 and is projected to climb 36 percent to 95 mgd by 2040, an increase of 25 mgd. Public supply and recreational water uses are expected to remain the majority (about 85 percent) of water demand through the planning horizon. Many of the largest public supply and recreational water users - with fast growing communities and with seasonal impacts - are in coastal areas with water resource constraints.

The development of regional inland wellfields primarily in the 2000-2010 decade significantly reduced reliance on the Floridan aquifer in coastal areas. The redistribution of coastal Floridan aquifer pumping to inland areas has enabled aquifer levels to experience some measure of recovery along the coast since 2000. However, a significant cone of depression in the Floridan aquifer potentiometric surface is still present and long-term concerns related to saltwater intrusion remain. Additionally, increased inland pumping of the Floridan aquifer has resulted in geographically expanded water level drawdowns.

This plan identifies the water supply needs and project options to sustain Region II water resources and related natural systems over the planning period. Implementation of water resource development and water supply development projects, noted below, by the District, utilities, local governments, and other project partners represents a substantial investment of human and financial resources to support the region. Both traditional and alternative water supply sources will be needed to meet growing demands and water conservation efforts will be a key component to the timing and costs associated with development of these sources.

The water resource development component includes regional-scale groundwater evaluations of the Floridan and sand-and-gravel aquifers; completing minimum flows and minimum water levels (MFL) technical assessments of the coastal Floridan aquifer and the Shoal River; continuing technical support for development of reclaimed water, conservation, and aquifer storage and recovery; hydrologic data collection; and regional water supply planning.

Eighty-eight potential water supply development projects have been proposed by Region II utilities and self-suppliers at a total estimated cost of \$191 million with the potential to develop 37 mgd of water. About 42 percent or 16 mgd are alternative water supply, e.g., surface water development, reuse of reclaimed water, and alternative sand-and-gravel aquifer groundwater.

Additional WSD projects that may be supported during plan implementation include water conservation and traditional Floridan and sand-and-gravel aquifer sources. Utilities predict the ability to fund about 30 percent of total project costs with local resources alone.

Any future potential projects should address Region II priority needs and strategies:

1. Continue reducing reliance on coastal Floridan aquifer resources;
2. Enhance appropriate and efficient use of all water resources;
3. Continue implementing and investigating additional alternative water supplies, including reclaimed water and water conservation; and,
4. Add system interconnections and water storage capacity.

Continued coordination with partners, developing relevant multijurisdictional approaches, and securing funding sources are needed to continue advancing water resource protection and water supply development in Region II.

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ACRONYMS AND ABBREVIATIONS

AR	Aquifer Recovery
ASR	Aquifer Storage and Recovery
AWS	Alternative Water Supply
BEBR	Bureau of Economic and Business Research (University of Florida)
BMP	Best Management Practices
DEP	Florida Department of Environmental Protection
F.A.C.	Florida Administrative Code
FCSC	Florida Community Services Corporation of Walton County, dba Regional Utilities
FDACS	Florida Department of Agriculture and Consumer Services
FRUS	Fairpoint Regional Utility System
F.S.	Florida Statutes
gpd	Gallons per Day
GWUP	General Water Use Permit
IWUP	Individual Water Use Permit
MFL(s)	Minimum Flow and Minimum Aquifer Level(s)
mgd	Million Gallons per Day
OCWS	Okaloosa County Water and Sewer
RUA	Regional Utility Authority
RPS	Recovery or Prevention Strategies
RWSP	Regional Water Supply Plan
SWUC	South Walton Utility Company
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
WPSPTF	Water Protection and Sustainability Program Trust Fund
WRCA	Water Resource Caution Area
WRD	Water Resource Development
WSA	Water Supply Assessment
WSD	Water Supply Development
WWTP/WWTF	Wastewater Treatment Plant/Wastewater Treatment Facility

1. INTRODUCTION

Section 373.036, Florida Statutes, requires water management districts to conduct a water supply assessment every five years to determine the need for regional water supply planning. The assessments must examine all water use categories for a 20-year planning horizon. The Northwest Florida Water Management District (NFWFMD or District) completed the 2018 Water Supply Assessment (WSA) Update of water supply needs and resources based on meeting those needs for a 1-in-10-year drought event to the 2040 planning horizon. The District’s Governing Board determined that regional water supply planning for Region II (Okaloosa, Santa Rosa, and Walton counties) should continue.

This Regional Water Supply Plan (RWSP) for Region II (Figure 1) will help guide current and future water supply decisions by the District, utilities, and self-suppliers. Although groundwater sources remain available across the region, alternative water supplies will be needed to meet increasing demands, particularly in coastal areas. This plan provides a brief review of the Region II RWSP background and accomplishments, a summary of the 2018 WSA including its resource evaluation, proposed and potential water resource development (WRD) and water supply development (WSD) projects, funding strategies, and coordination efforts. The expected outcome of plan implementation is that sufficient water will be available for all existing and future uses and natural systems over the 20-year planning period through 2040, and that any adverse effects stemming from competition for water supplies are avoided.

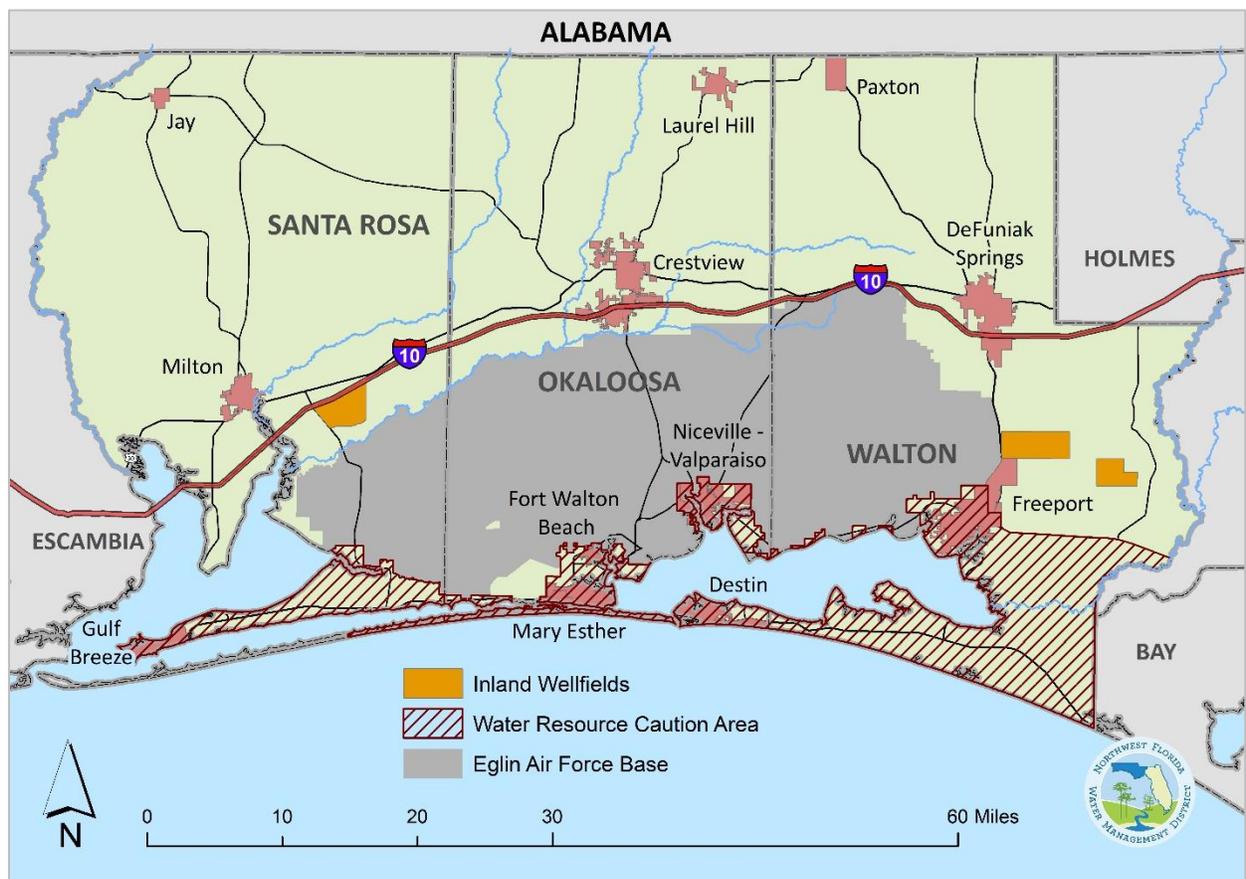


Figure 1. Region II - Santa Rosa, Okaloosa, and Walton Counties

1.1 Background

Drawdown of water levels in the Floridan aquifer and related water supply and water quality concerns in coastal areas of Region II began as early as 1940. Resource evaluations, water management plans, and consumptive use regulation advanced over subsequent decades to address these issues. The 1998 WSA (Ryan, et al., 1998) identified the need for the first Region II RWSP.

The first Region II RWSP (Bartel, et al., 2000) was based on 1995 water use estimates and water demand projections to the 2020 planning horizon. Plan recommendations included Floridan groundwater sustainability modeling, sand-and-gravel aquifer analysis, surface water feasibility studies, water conservation and reuse analysis, and further evaluation and feasibility analysis of aquifer storage and recovery (ASR). Desalination of sea and brackish waters was evaluated. The 2006 RWSP Update (NFWFMD, 2006) continued plan implementation with 2005 estimates and water demand projections to the 2025 planning horizon. The 2006 plan focused on continuing implementation of projects previously identified, increasing the amount of reclaimed water, and identifying long-range solutions. The 2012 RWSP Update (Busen and Bartel, 2012) continued plan implementation with 2010 base year estimates and water demand projections to the 2030 planning horizon.

1.2 Regulatory Framework

Coastal areas of Region II (Figure 1) are a designated Water Resource Caution Area (WRCA), which provides for special water use permitting criteria such as additional restrictions on general water use permits (GWUPs); prohibiting new and expanded use of the Floridan aquifer for irrigation and other non-potable uses; encouraging and promoting the use of reclaimed water; and conditioning public supply utilities to submit water conservation plans, programs, and measures. In addition, the standard individual water use permit (IWUP) duration of 20 years may be lessened by special factors such as location within the WRCA or localized water resource concerns.

1.3 Accomplishments

Regional water supply planning has been ongoing in Region II for nearly 20 years. Major accomplishments to date include alternative water supply development and water resource evaluations, which include the District's minimum flows and minimum water levels (MFLs) program and comprehensive groundwater modeling initiatives. Enhanced data collection to support the Coastal Region II Floridan aquifer MFL technical assessment began in 2015 as part of larger groundwater modeling, sustainability analyses, and water supply assessment efforts. Data collection for the Shoal River MFL technical assessment began in 2018 to support evaluations of the Shoal River as a potential future alternative water supply source.

In alternative water supply (AWS) development inland wellfields, transmission pipelines, and associated facilities have been constructed to bring inland groundwater to coastal communities and reduce Floridan aquifer withdrawals in coastal areas. This source change has enabled Floridan aquifer water levels to partially recover and slowed saltwater intrusion. Alternative water supplies developed further during 2006-2009 with financial support from the Water Protection and Sustainability Program Trust Fund (WPSPTF). The District's water supply development grant and cooperative program was funded from FY 2013-14 through FY 2016-17 and supported reuse system expansion and feasibility studies, water conserving infrastructure upgrades, and new storage and transmission facilities.

2. WATER SUPPLY AND WATER RESOURCE EVALUATION

The technical data, modeling tools, and methods used to support and develop this Region II RWSP are in the District's 2018 WSA Update (NFWMD, 2018), incorporated by reference and summarized below. Updated data and analyses since the 2015 base year, where available, are also provided.

2.1 Estimates and Projections

Region II is the District's largest and fastest growing water supply planning region. Eglin Air Force Base encompasses significant land across southern portions of all three counties and the Blackwater River State Forest covers over 210,000 acres in northern parts of Santa Rosa and Okaloosa counties. Nearly 13,300 acres of the Bay-Walton Sector Plan, an area of planned regional development, are located in southeastern Walton County.

The 2018 WSA Update estimated water supply needs for all existing 2015 and future reasonable-beneficial uses through 2040. Projections for normal and 1-in-10-year drought conditions address the level-of-certainty planning goal. Population estimates include seasonal resident adjustments and Florida Statewide Agricultural Irrigation Demand (FSAID) data was the basis for agriculture (FDACS, 2017).

Population

The 2015 permanent population estimate for Region II was 415,510 (BEBR, 2016). The 2015 seasonally adjusted population estimate was 469,615 and this is expected to climb 33 percent to about 623,300 by 2040. Walton County has the highest projected population growth rate and the highest estimated impacts from seasonal residents Districtwide. Most seasonal residents are in coastal areas.

2015 Water Use Estimates and Demand Projections

In 2015, public supply was just over two-thirds of Region II estimated water use and recreational water use was 15 percent of the 69.7 mgd total (Table 1). Agricultural irrigation is relatively minor but projected to increase through 2040. Power generating facilities serving industrial uses are in the ICI category. The overall projected future increase in demand is about 25 mgd in an average year. About 85 percent of this future demand is expected to continue being in the public supply and recreational water use categories.

Table 1. 2015 Estimated Water Use and 2020-2040 Demand Projections (mgd) - Average

Use Category	Estimates	Future Demand Projections - Average Conditions					2015-2040 Change	
	2015	2020	2025	2030	2035	2040	mgd	%
Public Supply	47.480	51.645	55.275	58.777	62.004	64.999	17.519	36.9%
DSS	3.956	4.328	4.672	4.627	4.580	4.444	0.488	12.3%
Agriculture	2.798	3.004	3.241	3.523	3.769	3.967	1.169	41.8%
Recreational	10.793	11.827	12.749	13.552	14.288	14.923	4.130	38.3%
ICI	4.708	6.073	6.315	6.546	6.546	6.546	1.838	39.0%
Power	-	-	-	-	-	-	n/a	n/a
TOTALS	69.734	76.879	82.251	87.025	91.185	94.879	25.144	36.1%

The total drought year projection may reach 106 mgd by 2040 (Table 2). Agriculture and recreational irrigation water uses are most affected by precipitation and drought and are therefore projected to have the highest percentage increases in demand in drought year conditions. Public supply and recreation remain the largest water use categories and about 85 percent of total drought year demand.

Table 2. 2015 Estimated Water Use and 2020-2040 Demand Projections (mgd) - Drought

Use Category	Estimates	Future Demand Projections - Drought Year Events					2015-2040 Change	
	2015	2020	2025	2030	2035	2040	mgd	%
Public Supply	47.480	55.259	59.144	62.891	66.344	69.548	22.068	46.5%
DSS	3.956	4.631	4.999	4.952	4.901	4.754	0.798	20.2%
Agriculture	2.798	3.612	3.975	4.389	4.751	5.047	2.249	80.4%
Recreational	10.793	15.848	17.083	18.160	19.146	19.997	9.204	85.3%
ICI	4.708	6.073	6.315	6.546	6.546	6.546	1.838	39.0%
Power	-	-	-	-	-	-	n/a	n/a
TOTALS	69.734	85.423	91.516	96.938	101.688	105.892	36.158	51.9%

Demand Projections Updates

This section provides supplemental analysis of projected increases in water demands by water use category and by water source.

Agriculture

Irrigated agricultural lands are located across northern areas of all three counties. Projected growth is focused in Santa Rosa County northwest of Milton where the sand-and-gravel aquifer is the primary water source. Agricultural water use is projected to increase between 1.2 and 2.3 mgd for an average and drought year, respectively. Because of the sand-and-gravel’s productive and high recharge characteristics, and due to the relatively small quantities needed, agriculture water supply demands are anticipated to be met with current sources.

Domestic Self-Supply (DSS)

Outside of Eglin AFB, DSS wells are fairly evenly distributed across the region and are generally assumed to withdraw from the same aquifer as nearby public supply utilities. As public supply utilities expand their service areas, decreases in this category are also recognized. When evaluating water demand by source, projected increases in DSS demand are grouped together with the public supply category.

Industrial-Commercial-Institutional (ICI)

The projected increase in ICI demand is less than two mgd by 2040 and no significant demand variations are anticipated during drought events. For these reasons, projected increases in ICI demand are anticipated to be met by existing permitted allocations. Where appropriate, ICI permittees work with others in cooperative WRD or WSD projects to meet the overall goals of the plan.

Public Supply

The projected increase in public supply water demand by 2040 is 17.5 mgd and 22 mgd in drought conditions. Together with DSS, projected increases in 2040 water demand total 18 and 23 mgd in drought conditions. About 30 percent of Region II public supply and DSS needs are provided by the sand-and-gravel aquifer and 70 percent by the Floridan aquifer. Assuming the same percentage of withdrawals over future years, the projected water use in average and drought conditions are approximately five to seven mgd from the sand-and-gravel aquifer and 13 mgd and 16 from the Floridan aquifer.

Since the development of inland wellfields, the permitted groundwater allocation of many Region II utilities and regional suppliers appear to provide adequate amounts of water to meet public water supply needs through 2040. However, with a substantial and persistent cone of depression in coastal areas of the Floridan aquifer, further work is needed to estimate water supply needs while also sustaining water resources and related natural systems before allocations can be considered sufficient.

Recreational

Recreational water demand is projected to increase by 4.1 mgd (9.2 mgd in drought conditions) over the planning period. Recreational estimates include both IWUP and GWUP water users. Most Region II recreational permittees with an IWUP already have stringent permit conditions, limited allocations, restrictions on use of the Floridan aquifer, and encouragement to conserve water and develop reuse or other alternative sources. For recreational uses with IWUPs, about half of water use is from groundwater sources and half from surface or other waters. Of groundwater sources, over 80 percent is from the sand-and-gravel aquifer. Surface water sources, such as ponds for golf courses, may include complex water flow systems and co-mingling with reclaimed water. The source of GWUP recreational water supplies is generally assumed to be surficial or sand-and-gravel aquifer resources. However, further analysis is needed to more completely understand water sources and estimate the recreational water supply needs, particularly in coastal areas of Region II.

2.2 Resource Assessment

Principle Region II groundwater resources are the sand-and-gravel aquifer in Santa Rosa County and the Upper Floridan¹ aquifer in Okaloosa and Walton counties. A steady decline in Floridan aquifer water levels between 1940 and 2000 resulted in a loss of as much as 185 feet of head pressure from pre-development levels along the coast: from about 50 feet above sea level to -135 feet below mean sea level (Figure 2). This changed the coast from an area of natural discharge to an area of induced recharge.

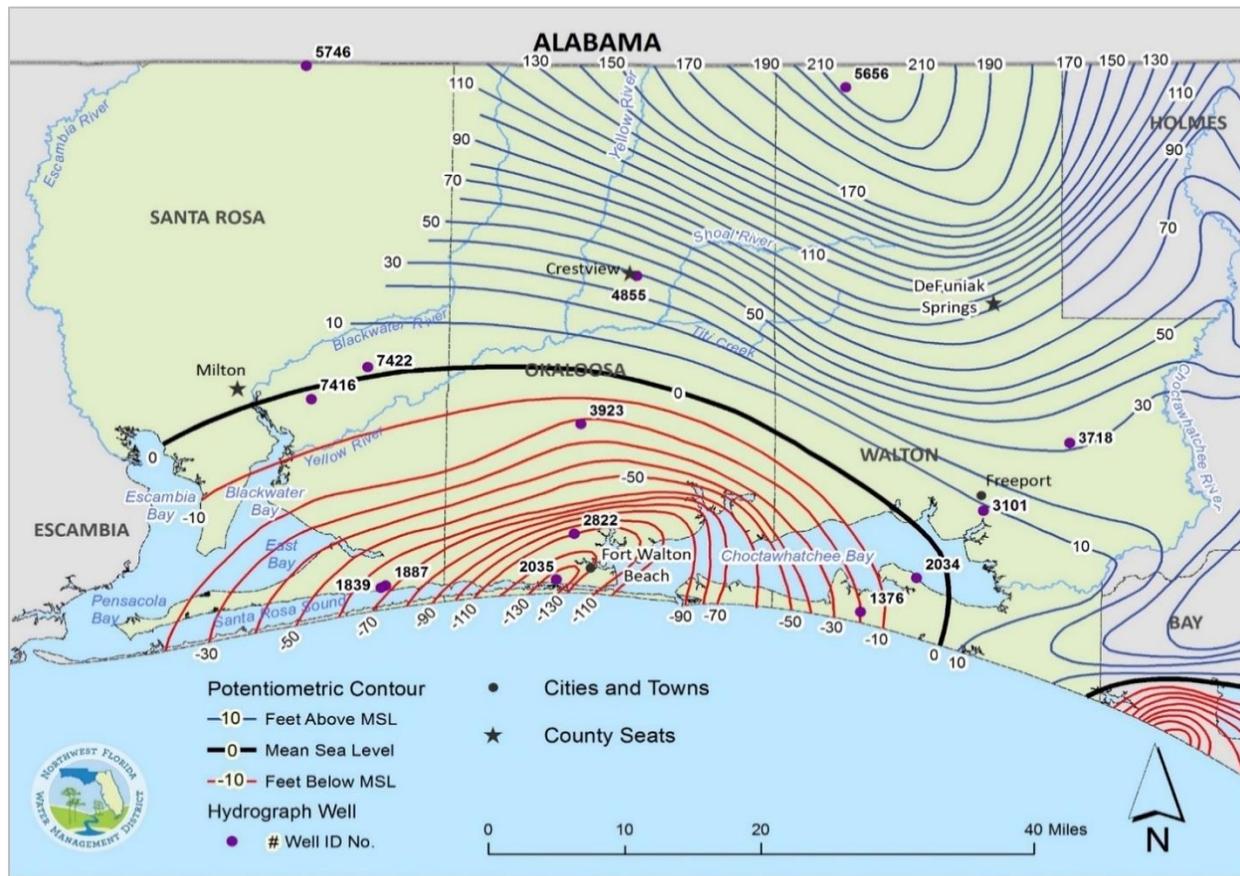


Figure 2. Potentiometric Surface of the Upper Floridan Aquifer in June 2000

¹ The 'Upper Floridan' and 'Floridan' terms are interchangeable for the purpose of this Region II RWSP.

The sand-and-gravel aquifer is productive with a high rate of recharge and capable of providing regionally-significant quantities of water. At the same time, high recharge rates also make the sand-and-gravel aquifer susceptible to anthropogenic contamination.

Substantial investments in alternative water supply and reductions in coastal pumping in the Floridan aquifer have enabled water levels to recover by nearly 60 feet over much of the area since 2000 (Figure 3). However, a significant cone of depression in the Floridan aquifer potentiometric surface is still present and long-term concerns related to saltwater intrusion remain.

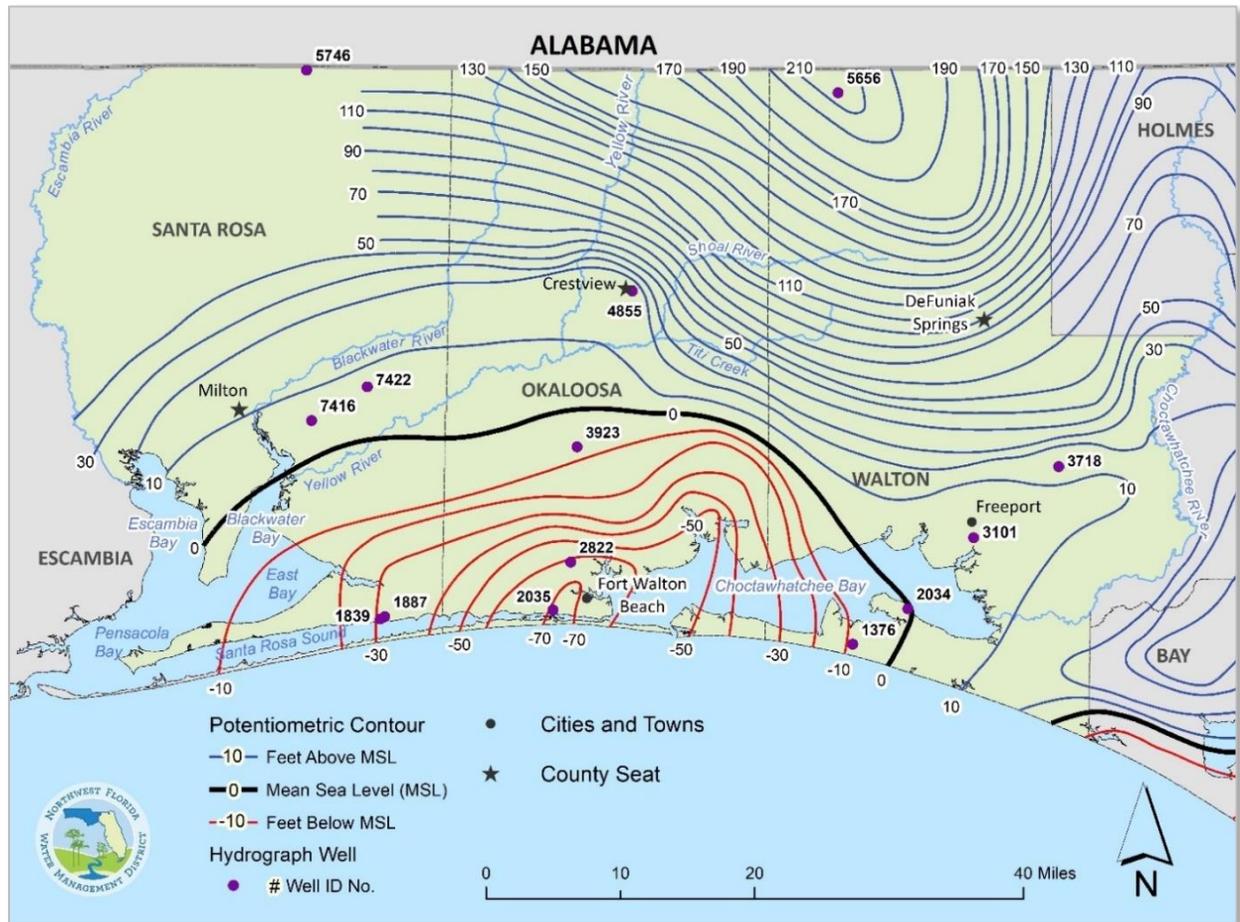


Figure 3. Potentiometric Surface of the Upper Floridan Aquifer in September 2015

These successes have slowed, but not eliminated, the rate of saltwater intrusion. Also, naturally-occurring poor quality Floridan aquifer groundwater include coastal areas of Walton County near the eastern extent of Choctawhatchee Bay and more mineralized water just west of the Midway area near Navarre Beach. Pumping from the Floridan aquifer has reduced water levels and monitoring data indicates that poor water quality may be moving towards potable water wells. Further, saline water within the Floridan aquifer below the Gulf of Mexico may be moving laterally landward.

Marked recovery in Mary Esther water levels since 2000 is evident in Figure 4 and the shift from coastal to inland withdrawals contributing to recovery of Floridan water levels is illustrated in Figure 5. Efforts to stabilize or reduce coastal Floridan withdrawals and develop alternative water sources have been partially successful but need to continue in Region II.

2.3 Supplemental Data and Analyses

This section provides additional data and analyses subsequent to the 2018 WSA Update to support this 2019 Region II RWSP.

Floridan Aquifer and FRUS Updates

Floridan aquifer recovery trends are positive through 2017, but water levels have declined since and are currently about 75 feet below mean sea level (MSL) near the center of the cone of depression. The rate of movement of the saltwater interface in coastal areas of all three counties is still uncertain.

The shift from coastal to inland withdrawals and progress toward recovery of Floridan aquifer water levels is associated with inland wellfield development primarily during the 2000-2010 decade. Coastal Floridan pumping was reduced from 29 mgd in 2000 to 17 mgd in 2010, while inland Floridan water use more than doubled. Regional inland suppliers are:

- Fairpoint Regional Utility System (FRUS) in Santa Rosa County (sand-and-gravel withdrawals);
- Walton County (inland Floridan aquifer withdrawals):
 - *South Walton Utility Company (SWUC), and,*
 - *Florida Community Services Corporation (FCSC) dba Regional Utilities.*

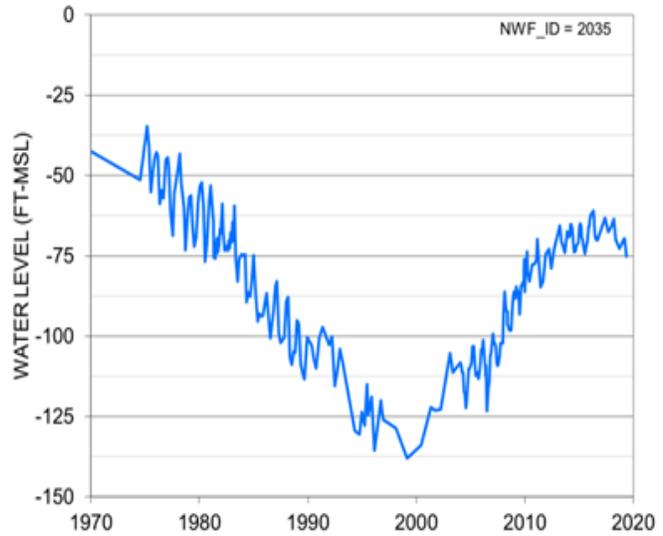


Figure 4. Hydrograph of Mary Esther #2

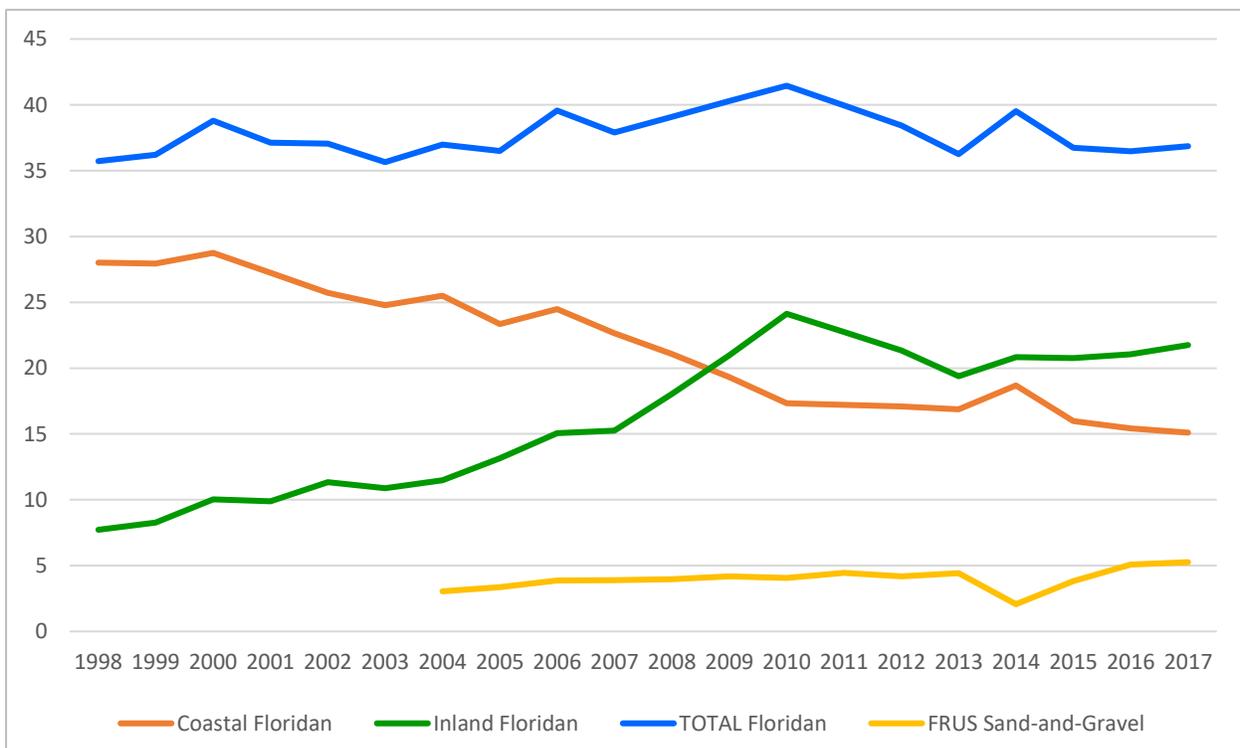


Figure 5. Region II Floridan Aquifer and FRUS Sand-and-Gravel Water Use (mgd)

Coastal areas of Santa Rosa County are now primarily served by the FRUS sand-and-gravel aquifer inland wellfield. An IWUP was issued to FRUS in 2001 and the first record of pumping was about 3.0 mgd in 2004, which grew to 4.0 mgd in 2010 and close to 5.3 mgd by 2017 (Figure 5).

Infrastructure line breaks in 2014 contributed to higher Floridan aquifer and lower sand-and-gravel aquifer water uses. Total Floridan aquifer withdrawals have remained relatively static over the 20-year period from 1998 to 2017 (Figure 5). Total Floridan use was 36 mgd in 1998, 36 mgd in 2016, and averaged less than 38 mgd throughout the 1998-2017 period. From 2010-2017, the overall trend in all Floridan aquifer withdrawals indicate slight declines while FRUS withdrawals on the sand-and-gravel aquifer increased by approximately 30 percent over the same timeframe.

Population Updates

The Region II population increased six percent, or 25,185 persons, from 2015 to 2018. Walton County continues to be the fastest and Santa Rosa the second-fastest growing county Districtwide. In 2018, Walton County was the fourth-fastest growing county in the State of Florida. Population updates are consistent with historical population data and these trends are expected to continue (BEBR, 2019).

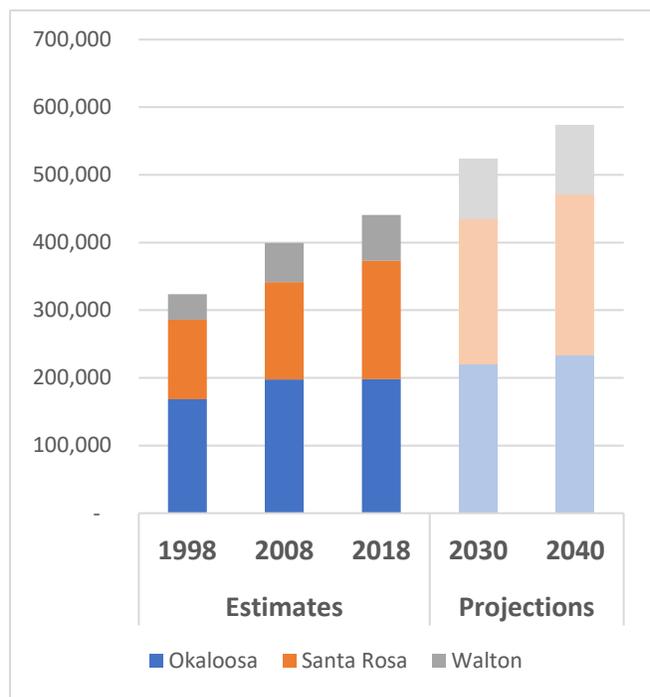


Figure 6. BEBR Population Estimates 1998-2018 and Future Projections

Updated population estimates and projections illustrate ongoing growth and increasing shares of Santa Rosa and Walton counties populations (Figure 6). The Santa Rosa County population is expected to meet and supersede Okaloosa County around the year 2035.

Population and Water Use

As of 2017, 96 percent of Region II Floridan aquifer water use was in Okaloosa and Walton counties. Preliminary analysis indicates that if Floridan aquifer withdrawals had increased concurrent with population growth 1998-2017, the total Floridan water use in 2017 could have been as high as 47 mgd, or 10 mgd higher than the 2017 estimate of 37 mgd.

As noted above, FRUS was pumping 5.3 mgd in 2017. Therefore, conservation programs and other AWS development may have contributed to the overall steady total Floridan aquifer water use as illustrated in Figure 5.

MFL Recovery and Prevention Strategies

The District’s minimum flows and minimum water level (MFL) program includes two waterbodies on the District’s 2018 MFL priority list within Region II. Calibration of hydrologic models is ongoing for the coastal Floridan aquifer MFL evaluation with the technical assessment estimated to be completed in 2020. Hydrologic data collection began for the Shoal River MFL, and Morrison Spring, a second-magnitude spring in Walton County, is on the NFWFMD waterbody list for MFL development in future years.

To date there are no adopted MFLs and therefore no recovery or prevention strategies (RPS) in Region II. Further, there are no water bodies subject to regulatory reservations and no Outstanding Florida Springs in Region II. If developed, future RWSPs will assess how the plan and identified projects support any applicable recovery or prevention strategies. The District's MFL priority list and schedule are updated annually and posted on the District website: www.nfwfwater.com.

Sea Level Rise and Saline Water Intrusion

Florida is vulnerable to the effects of future changes in climate and sea level rise. Dense, low-lying coastal populations are particularly at risk. In NFWFMD Region II, coastal water demand has the potential to increase the drawdown of the Floridan aquifer and the associated threat of saltwater intrusion to coastal fresh water supplies.

Through this plan, the District continues to work with utilities and local governments to reduce the vulnerability of coastal water supplies to salt water intrusion caused by water withdrawals or sea level rise, or both. The District continues data collection, modeling, and evaluations to better understand the uncertainty regarding movement of the saltwater interface in coastal areas of Region II.

3. WATER RESOURCE AND WATER SUPPLY DEVELOPMENT

The overall goal of this RWSP is to ensure sufficient water supplies for water users and water resources for the planning period through 2040. Water resource development is primarily the role of water management districts, and defined² 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.”

Water supply development is primarily the role of local governments and utilities, and defined³ as:

“... the 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.”

Water resource development projects must support water supply development and the needs of water resources and related natural systems. The total capacity of water supply development project options must exceed the future needs through 2040 and consider:

- The potential for water conservation and other demand management measures;
- Water resource constraints; and,
- Any adopted minimum flows and minimum water levels and water reservations.

Water resource and water supply development strategies and projects to address sub-regional and localized challenges at times require targeted approaches to respond to unique issues in specific areas. Both WSD and WRD projects should include:

- Estimates of the amount of water to become available;
- Implementation timeframe and estimated planning level costs for:
 - Capital investments
 - Operation and maintenance
- Analysis of funding needs and possible funding sources; and,
- Identification of implementation entity or entities and current status of project implementation.

² Section 373.019(24), F.S.

³ Section 373.019(26), F.S.

3.1 Water Resource Development Component

This section describes sources of water and water resource development projects currently anticipated to be needed for the planning period. Although these activities are primarily led by the District, project development, funding, and technical support may also come from utilities and other project partners.

WRD Projects

Water resource development strategies for aquifer systems are becoming increasingly integrated into more comprehensive groundwater modeling and resource evaluations. At the same time, MFL technical assessments are also being conducted for specific waterbodies. Region II WRD projects include surface water development, reuse of reclaimed water, water conservation, aquifer storage and recovery (ASR), groundwater evaluations, and supporting data collection, technical analyses, and planning (Table 3).

Table 3. Summary of WRD Projects

Activity	Description	Water (mgd) ¹
Surface Water	<u>Shoal River MFL Technical Assessment</u> . Resource evaluations to determine minimum flows needed to protect riverine habitats and associated resources.	TBD
Reuse	Coordination of reuse of reclaimed water projects and programs.	10
Conservation	Coordination of water conservation projects and programs.	6
Aquifer Storage and Recovery (ASR)	Technical support for aquifer storage and recovery (ASR) or aquifer recharge (AR) as a component of IWUPs.	2
Groundwater Evaluations	Sand-and-gravel aquifer resource evaluations to update alternative water supply assessments.	TBD
	Floridan aquifer resource evaluations and <u>Coastal Floridan MFL Technical Assessment</u> to develop and apply groundwater flow and saltwater intrusion models with recovery/prevention strategies as required.	TBD
Data Collection and Analysis	Hydrologic data collection, monitoring, and analyses.	NA
	Water use data, analyses, planning, and WSD support.	NA

¹ Estimates of water available or potential to be made available.

Surface Water Development

Surface water resources are a potential water supply source within Region II. Previous surface water investigations and analyses have focused on the Shoal River as a potential alternative water supply source for Okaloosa County and the region (PBS&J 2006). The District has supported cooperative efforts to evaluate alternatives, funding options, and site plans with Okaloosa County and project partners that have included Eglin AFB and the U.S. Army Corps of Engineers. From 2011-2015, Okaloosa County successfully acquired more than 1,600 acres of land along the Shoal River near Interstate 10 for future development of an offline reservoir and for water resource protection. The District and Okaloosa County will continue coordinating on this project through the planning period.

Completion of the Shoal River MFL technical assessment in future years is expected to protect key water resource values such as fish and wildlife habitats, recreation, and freshwater storage and supply. The MFL

analyses will also support future IWUP permitting decisions regarding withdrawal allocations. Additional information on Shoal River development is in the WSD section.

Reuse and Conservation

Developing reclaimed water sources and water conservation are important components of meeting future demands in Region II. The District continues reuse and conservation data collection, analyses, inter-district coordination, and program development. District reuse information is updated annually by DEP. The District uses this information to evaluate trends and potential uses in the context of water supply planning. Further efforts are needed to quantify water conservation savings and prioritize reclaimed water availability. Reuse feasibility studies and conservation measures are required of permittees within the WRCA and are encouraged in other areas. These planning and regulatory activities are expected to be ongoing and continue through the planning horizon 2020-2040.

Reuse of Reclaimed Water

The 2018 WSA reuse estimates and projections are based on potable offset reuse flows, which include public access irrigation and irrigation of edible crops, toilet flushing, fire protection, and industrial uses. The 2015 county average estimated reuse flows, future estimated availability, wastewater treatment facility (WWTF) data, and reuse utilization rates are in Table 4.

Table 4. Reuse and WWTF Flow 2015 and Future Potential Reuse Availability (mgd) 2020-2040

County	Reuse Flow 2015	Future Reuse Potential Availability					Total 2015 WWTF Active Systems		
		2020	2025	2030	2035	2040	No. of	Flow	%*
Okaloosa	3.98	11.95	12.55	12.99	13.38	13.72	12	15.19	26%
Santa Rosa	3.08	3.75	4.30	4.76	5.20	5.51	9	6.23	50%
Walton	2.51	5.72	6.66	7.51	8.36	9.02	10	7.20	35%
TOTALS	9.57	21.43	23.50	25.27	26.94	28.24	31	28.62	33%

*Percent of Potable Offset Reuse to Total WWTF Flow

Submitted WSD projects (see Section 3.2) and completed utility feasibility studies indicate a potential of up to 10 mgd of reuse water may be made available. The District continues to work with utilities and local governments to identify opportunities for reuse expansion and for more integrated reuse management strategies. Implementation of projects are subject to funding availability and if funded are expected to continue through the planning period.

Water Conservation

The amount of water available from water conservation is estimated to be 6.0 mgd. This estimate is from the 2018 WSA conservation analysis and is based on a ten percent reduction goal applied to the 60 mgd future public supply demand (Table 5).

Table 5. Conservation Potential (mgd) and Number of BMPs to Achieve 10% Goal

County	10% Reduction Goal			No. of BMPs to Achieve 10% Goal		
	Within WRCA	Outside WRCA	10% Reduction Goal Conservation Potential	Within WRCA	Outside WRCA	All Areas
Okaloosa	1.9	0.7	2.6	108,060	40,500	148,560
Santa Rosa	0.8	1.4	2.2	53,780	81,020	134,800
Walton	1.0	0.2	1.3	56,090	12,550	68,640
TOTALS	3.7	2.3	6.0	217,930	134,070	352,000

Conservation would be realized primarily through best management practices (BMP) retrofits in homes and other buildings with more efficient plumbing fixtures and irrigation efficiency improvements. Implementation was estimated to require over 350,000 individual BMP retrofits (Table 5).

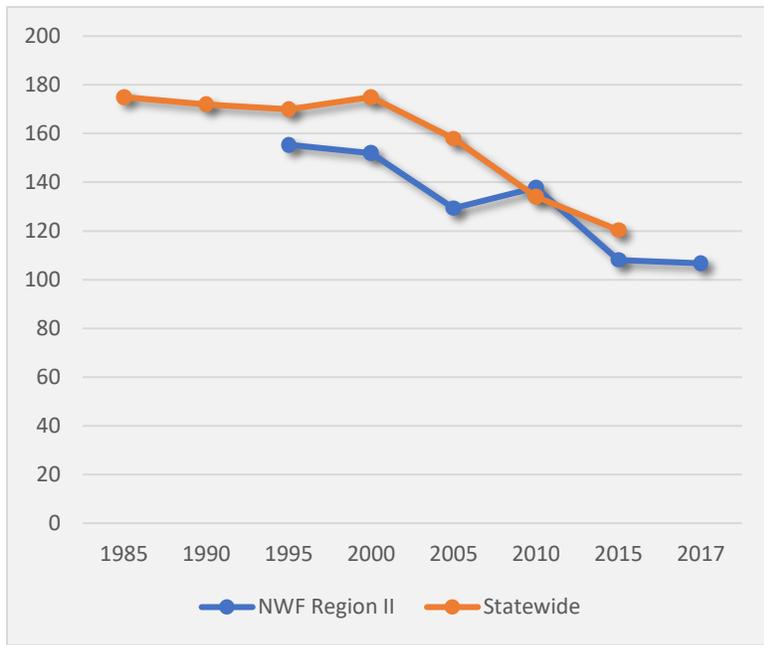


Figure 7. Gross Per Capita Rates (gpcd)

District data shows that water conservation efforts by public supply utilities and residents have successfully reduced per capita water use rates in Region II (Figure 7). While differences remain at an individual utility level, the region-wide average gross per capita rate dropped 31 percent between 1995 and 2017, comparable with statewide reductions (DEP, 2018).⁴

Preliminary analysis indicates that if utilities had maintained higher per capita rates, the 2015 water use could have been six to ten (6-10) mgd higher. Successful reductions in per capita rates suggest that the potential for additional water conservation remains.

Conservation strategies can be implemented through regulation, passive savings,⁵ incentive programs, and/or voluntary initiatives. Plumbing and irrigation BMPs are one option in an overall water conservation strategy. Future potential water conservation projects may include:

- Conservation guidelines, public awareness campaigns, and education;
- Furthering the adoption and acceptance of water conserving local ordinances;
- Assistance in calculating or refining population estimates and per capita rates;
- Leak detection surveys, audits, and meter replacement programs;
- Assistance to improve or refine water conserving tap fees and rate structures;
- Strategies to enhance or expand targeted reductions or restrictions on use of impaired water resources (e.g., Floridan aquifer) for irrigation, aesthetic, or other non-potable uses;
- Support for implementing water conserving BMPs across all water use categories:
 - *Plumbing fixture retrofits or replacement to high-efficiency fixtures*
 - *Power and ICI water conserving products and systems*
 - *Irrigation system upgrades and automatic shut-off controls*
 - *Lowering irrigation needs with Florida-Friendly landscaping, planting appropriate crops, and crop rotation BMP practices.*

The District continues to encourage water conservation through public information and outreach. Water conservation resources for homeowners, business, agriculture, and industry are provided on the District's website. More targeted outreach is at times in the form of responding to individual requests or providing

⁴ Statewide 2015 rate from preliminary USGS data.

⁵ Passive conservation occurs when markets (at times due to regulation) improve water efficiencies of products.

information at public events. Public information and outreach activities are expected to be ongoing and continue through the planning horizon 2020-2040.

Aquifer Storage and Recovery (ASR)

Depending on hydrogeologic characteristics, aquifer storage and recovery (ASR) has the potential to store large quantities of water for subsequent use. One ASR system in coastal Okaloosa County has an IWUP to withdraw 1.12 mgd for landscape irrigation. A few aquifer recharge (AR) projects in NFWFMD are for groundwater remediation and restoration due to poor quality or contaminated waters. These AR projects are not estimated to create any new water. The WRD estimate of 2.0 mgd is for the existing ASR-IWUP and an additional 0.88 mgd that may be generated by future ASRs, ARs, or other AWS water projects.

Groundwater Evaluations

The District has groundwater evaluation programs that include groundwater modeling, MFL technical assessments, and WSA resource assessments. Comprehensive groundwater modeling efforts are ongoing or planned that encompass the Floridan, Intermediate, sand-and-gravel, and surficial aquifer systems from Escambia County, throughout Region II, and including counties east of Region II to the Apalachicola River. Groundwater models will be updated and refined as needed to support WSAs and MFL assessments through the planning horizon 2020-2040.

Sand-and-Gravel Aquifer

The District plans to include sand-and-gravel aquifer resources into larger groundwater models and further evaluate the capacity of the sand-and-gravel as an alternative water source.

Floridan Aquifer

The Floridan aquifer functions as one regional system across inland and coastal areas. The Floridan aquifer has effective confining units such as the Intermediate aquifer system and the Bucatunna Clay that separate the productive unit from the overlying surficial aquifer and underlying lower Floridan aquifer, respectively. Designation of Floridan aquifer withdrawals as “coastal” or “inland” facilitate water use and planning evaluations, however, Floridan aquifer withdrawals in inland areas can affect Floridan aquifer levels near the coast. Data collection for the Region II coastal Floridan MFL began in 2015. In the 2019-2020 timeframe the work plan includes recalibration of groundwater flow and transport models, completion of technical assessments, evaluating the need for recovery or prevention strategies, and facilitating peer review and public involvement. Pending any required recovery or prevention strategies and extent or progress of RWSP implementation, MFLs will be developed and updated as required and in conjunction with WSA resource assessments.

Data Collection and Analysis

This section addresses initiatives supporting other WRD components that are not expected to result in quantifiable estimates of water available or to be created.

Hydrologic Data

Hydrologic data collection, monitoring, and hydrologic analyses are essential to multiple District functions and programs. In Region II, the District continues building the network of rainfall gauges, streamflow gauges, and monitoring wells. Water quality and water quantity monitoring capabilities are enhanced by continuing cooperation with USGS and data provided by water use permittees. Current hydrologic and long-term trends data provide valuable inputs to all resource evaluation activities, including groundwater modeling, MFL technical assessments, and WSA water resource assessments. Hydrologic data activities are ongoing year-round and anticipated to continue through the planning horizon 2020-2040.

Water Use Data and Planning

Water use data are vital, ongoing inputs to multiple District and state programs and reporting requirements. Water use data is analyzed to prepare estimates and metrics annually and future demand projections are generated every five years in conjunction with WSAs. The next Districtwide WSA is scheduled for 2021. If the District’s Governing Board approves a WSA determination of the need for or continuation of a RWSP, a plan will be developed or updated.

3.2 Water Supply Development Component

This section describes water supply development projects, including traditional and alternative water supply options, identified as feasible and proposed by utilities and other self-suppliers. Alternative water supply (AWS) includes salt water, brackish waters, surface water (captured predominately during wet weather flows), sources made available through the addition of new storage capacity, reuse of reclaimed water, the downstream augmentation of water bodies with reclaimed water, stormwater, and any other water supply source designated as nontraditional in this RWSP.

WSD Project Options

Outreach to public supply utilities and other self-suppliers occurred between January and October 2019. From outreach responses, proposed WSD project options and estimates of AWS and non-AWS water are summarized in Table 6. A list of specific projects proposed is provided in **Appendix A**. Local governments, utilities, regional and multi-jurisdictional water suppliers, and other self-suppliers may choose from WSD project options.

Table 6. Water Supply Development (WSD) Project Options

Project Type	Description	AWS (mgd) ¹	Non-AWS (mgd) ²	Time-frame	Estimated Costs
Shoal River Surface Water	Shoal River water supply source development, storage, and conveyance infrastructure.	5.00		2030 - 2040	\$50,000,000
Reuse	Development or expansion of reclaimed water facilities and infrastructure.	9.50		2019 - 2035	\$29,905,000
Conservation	Water conserving infrastructure improvements and system upgrades.	Note (A)	Note (A)	2019 - 2040	\$53,102,098
Sand-and-Gravel Aquifer	Additional water supply for FRUS in Santa Rosa County.	1.15		2019 - 2020	\$1,695,000
	Other sand-and-gravel aquifer water supply in Santa Rosa and Okaloosa counties.		1.90	2020 - 2040	\$7,900,000
Floridan Aquifer	Proposed new Floridan wells, potential system interconnections, and replacement wells.		3.76	2022 - 2040	\$11,310,000
Storage and Distribution	New capacity created through storage tank facilities or distribution infrastructure.		15.65	2020 - 2035	\$36,815,000
	TOTALS	15.65	21.31		\$190,727,098

¹ Estimates of potential alternative water to be made available.

² Estimates of potential water from non-AWS traditional sources.

Note (A): Quantification of estimated water to be saved is not available at this time.

Water conservation and alternative water supply development projects meet the goals of this RWSP and are therefore preferred RWSP options. This includes alternative water source switching, such as the sand-and-gravel as an alternative to Floridan aquifer withdrawals in coastal areas. Traditional groundwater projects have been identified by utilities and, although not preferred, may still be options for inland areas. Project sponsors will need to conduct or demonstrate detailed technical and financial feasibility reviews including engineering and resource assessments as needed to support permitting and funding requirements. Furthermore, any proposed Floridan aquifer projects in the Region II WRCA are subject to the constraints stipulated in s. 40A-2.802, F.A.C.

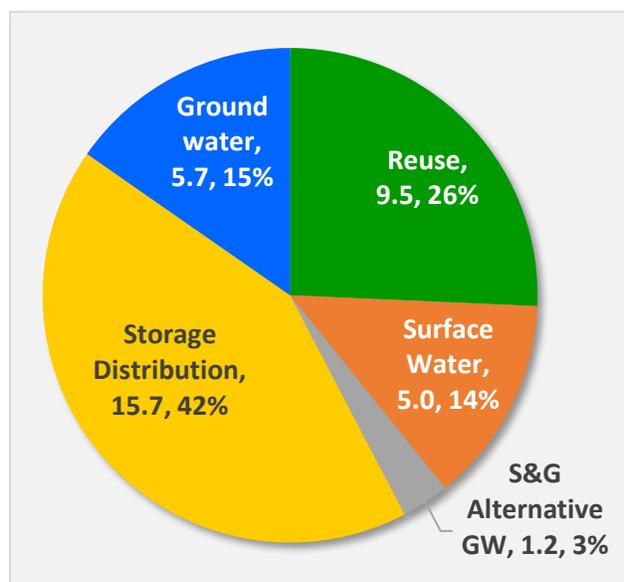


Figure 8. WSD Projects and Water Potential (mgd)

Altogether, a total of about 37 mgd of new water supply may be generated by utilities over the planning horizon at a total cost of about \$191 million. Project types include reuse and surface water development, new storage tanks or other capacity created, new and replacement groundwater wells, and water conservation. Reuse and other AWS would generate about 42 percent of potential new water (Figure 8). Traditional sources would likely be reserved for public supply uses only.

The estimated cost without conservation projects is \$138 million or an average of \$2.6 million per mgd of water created. If each of the 35 projects categorized as conservation saved an average of 0.09 mgd they would collectively add three mgd for a new total of about 40 mgd.

Over the planning horizon, at least two AWS projects listed in this RWSP are needed pursuant to section 373.709(8), F.S., to continue reducing reliance on Floridan aquifer withdrawals in coastal areas and to support water resource protection in Region II.

Surface Water Development

As discussed in Section 3.1, Okaloosa County Water & Sewer (OCWS) is working to develop the Shoal River as an alternative water supply. The project will construct 3,400 linear feet of raw water line, a 155-acre reservoir and pump station, 5 mgd treatment plant expandable up to 20 mgd, and about 3.3 miles of water transmission mains. The anticipated time frame is 2030-2040 and preliminary estimated cost is \$50 million to develop the plant and the initial 5 mgd. Specific funding sources have yet to be determined.

The Shoal River project is a continuation of one of the more important strategies identified in the first Region II RWSP in 2000. The project plan is to augment potable water supplies to both the Mid-County service area around the City of Crestview and the Main Garniers service area in the vicinity of Fort Walton Beach. These two service areas are now connected with water distribution infrastructure and were combined into one IWUP in 2018. This AWS project is needed to continue reducing reliance on Floridan aquifer withdrawals in coastal areas and to support water resource protection in Region II.

Reuse of Reclaimed Water

A total of eight potential reuse projects in Okaloosa, Santa Rosa, and Walton counties would create up to 9.5 mgd of reclaimed water at an average cost of \$4.3 million per project or about \$3.5 million per mgd

of reuse water created. The total estimated cost of \$29.9 million is for seven projects (one project does not yet have a cost estimate). Projects may begin as early as 2019-2020 and be implemented through 2035. Funding sources include local impact and capacity fees, capital improvement project (CIP) funds, state appropriations or grants, USDA, and other available grants and loans.

Water Conservation

To promote water conservation, a total of 35 infrastructure improvement and system upgrade projects categorized as conservation have been proposed at a total cost of \$53.1 million. Estimates of the quantity of water that may be conserved have not been provided and the cost of conservation projects varies considerably. Larger projects totaling \$31.4 million include system-wide infrastructure and water meter upgrades. Other water conserving projects are infrastructure replacements, water system loops, interconnections, meter upgrades or replacements, and maintenance and are estimated to be an average of \$0.68 million per project. Schedule of implementation includes ongoing projects and others through 2040. Potential funding sources include USDA Rural Development, TRIUMPH, and state appropriations.

Groundwater

Due to the limited potable water resources in the WRCA, groundwater uses within the Water Resource Caution Area are not preferred options, and are subject to the constraints in section 40A-2.802, FAC. The development of sand-and-gravel and Floridan aquifer regional inland wellfields has historically been an effective strategy to support the recovery of Floridan aquifer water levels in coastal areas.

This plan includes one additional source-switching project proposed by FRUS to develop a sand-and-gravel well to supply 1.2 mgd of alternative water supply at a total cost of \$1.7 million or about \$1.5 million per mgd. The planned source of funding is the state revolving fund (SRF). This AWS project is needed to continue reducing reliance on Floridan aquifer withdrawals in coastal areas and to support water resource protection in Region II.

Other potential projects will replace or construct new groundwater wells or create interconnections between service areas at a total estimated cost of \$19.2 million. For projects expected to generate new water the total estimated cost is \$13.1 million or an average of \$1.3 million per project or \$2.3 million per mgd of water created. Some projects are underway while others are future planned projects through 2040. Funding sources include local fees and funds, SRF funds, USDA, and grants and loans. Sources of funding for several projects have yet to be determined.

Storage and Distribution

This category of WSD projects includes multiple ground and elevated water storage tanks and infrastructure improvement projects that increase water supply capacity at a total estimated cost of \$36.8 million. For projects expected to generate new water the total estimated cost is \$18.3 million, which is an average of \$1.4 million per project or \$1.2 million per mgd of water created. Potential timeframe for storage and distribution projects is 2020-2035. Funding sources include local impact and capacity fees, state appropriations or grants, USDA, and other available grants and loans.

Other Project Opportunities

When a mined property reaches its useful life, there may be opportunities to coordinate closure requirements and water supply development planning efforts in an area. Should such opportunities exist, variance provisions identified in section 378.212(1)(g) or 378.404(9) may be used to create WSD or WRD projects, in coordination with DEP and consistent with section 373.709(2)(j). There are no known mines in Region II with conceptual land reclamation plans that would create WSD or WRD projects. The District will coordinate with DEP on any future opportunities for such projects, as applicable.

Region II may also benefit from multi-jurisdictional approaches and joint project collaboration among public utilities and regional water supply authorities and other recreational, agricultural, industrial, commercial, and institutional self-suppliers. This RWSP recognizes that AWS options for agricultural self-suppliers are limited; however, expanded use of agricultural ponds, reuse of reclaimed water, and crop and irrigation conservation practices (BMPs) have successfully reduced demands in many parts of Florida.

Additional water supply development projects may arise during the implementation of this RWSP. Strategies and options for potential additional projects are in Table 7.

Table 7. Region II Strategies and Additional WSD Project Options

Strategies	Additional WSD Project Options
1. Continue reducing reliance on coastal Floridan aquifer resources.	Additional projects in the WRCA or that reduce water use in WRCA communities, and other areas with sub-regional or localized aquifer water level drawdown.
2. Enhance appropriate and efficient use of all water resources.	Promote and encourage water conservation plans, programs, measures, and projects. Provide resources and technical support to quantify water conservation savings.
3. Continue implementing and investigating additional alternative water supplies and conservation.	Quantifiable conservation projects and more reuse projects to offset potable supplies and provide other beneficial uses. Additional feasible ASR/AR to provide alternative water supplies, recharge aquifer resources, and/or salinity barriers. Further investigate salt or brackish reverse osmosis or desalination, surface water development, surface water capture during wet-weather flows, stormwater, or mixed-water blending, also known as a “one water” concept.
4. Add interconnections and water storage capacity.	Particularly in the WRCA or that benefit WRCA and coastal communities with aquifer drawdown and/or vulnerable to storm impacts.

4. FUNDING AND COORDINATION

This chapter provides an analysis of funding needs and sources of possible funding options for both WRD and WSD projects, a funding strategy for WRD projects, and additional coordination elements.

4.1 Funding Needs

The primary Region II funding needs are, and will continue to be, assisting local entities in the implementation of WSD projects and continuing WRD projects.

The cost for WRD projects is estimated annually in the District’s Five- Year Water Resource Development Work Program (WRDWP). A recent estimate for the FY 2019-2023 timeframe was about \$4 million or an average of about \$811,000 per year. If held constant, with no inflation and no substantive programmatic changes, a 20-year estimate would be \$16 million. At this time there are no current or planned District water supply infrastructure or facility projects, therefore, no capital investment is needed, and no financial resources required to operate and maintain any physical projects.

Of the \$190.7 million in WSD projects, several have no identified source of funding, including the \$50 million Shoal River surface water development project. About half of the 88 proposed projects totaling \$58.8 million or about 30 percent of the total costs would be implemented with in-house or local funds, the remainder relying on multiple sources (Table 8). Potential funding sources include DEP SRF, USDA Rural Development, the District, legislative appropriations, and TRIUMPH.

Table 8. Potential WSD Projects, Costs, and Sources of Funding

County	In-House/Local	Multiple Sources	TOTAL
Okaloosa	\$23,018,000	\$82,589,098	\$105,607,098
Santa Rosa	\$1,000,000	\$20,770,000	\$21,770,000
Walton	\$34,750,000	\$28,600,000	\$63,350,000
Totals	\$58,768,000	\$131,959,098	\$190,727,098

4.2 Funding Options for WRD and WSD

Financial resources are needed for both water resource and water supply development. Funding for the development of alternative water supplies is a shared responsibility pursuant to s. 373.707 and 373.709, F.S., with the State of Florida and water management districts responsible for funding assistance. Sources of possible funding options are summarized below.

Public-Private Partnerships

The basic principle of public-private partnerships is cost sharing but may also include sharing of technical expertise, assets, and the burden of risk. Partnerships may be formed between funding organizations and local implementation entities; between different water uses and processes, for example industrial or commercial reuse of reclaimed water from a water utility’s WWTP; and between private business interests and those providing a public service such as clean water supply. Cost sharing partnerships may be at any level and potentially together with any of the funding options and resources listed below.

Local Resources

The cost of water supply and wastewater treatment provide basic revenue to operate and maintain water supply systems. A utility may have additional resources to fund infrastructure expansion in response to growth and development but is typically limited in their ability to finance alternative water supplies. Utilities may levy connection or tap fees, impact fees, minimum charges, and inclined block rate or volume

charges; and issue and secure bonds and incur debt to develop water supplies. Regional water supply authorities, community development district's (CDDs), and special water supply or sewer districts have additional authority to apply special assessments and levy local taxes.

NWFWMD

The state constitution limits the NWFWMD to 1/20th (0.05 mills) of one mill, significantly less than the ad valorem taxing authority afforded the other four water management districts. This substantially limits the amount of revenue available to support implementation of major WRD and WSD projects and initiatives, including alternative water supply projects. To support both programmatic activities and WSD capital projects, the District relies on outside funding sources such as state appropriations and grant funding; and may apply any available reserve funds for priority projects.

A funding strategy for WRD projects (s. 373.709(2)(d), F.S.) shall be reasonable and sufficient to pay the cost of constructing or implementing all listed projects. For the WRD component of this RWSP, the District relies on funding sources identified annually in the District's budget and further highlighted in the Five-Year Water Resource Development Work Program (s. 373.536, F.S.).

State Level

Funding assistance from the State of Florida includes dedicated trust funds, revolving fund programs, and small community grants. The Water Protection and Sustainability Program Trust Fund (WPSPTF) was created by the Florida Legislature in 2005⁶ to fund alternative water supply and water storage facilities. The WPSPTF is primarily for water supply projects implemented by local governments or water supply entities. Applicability to WRD is in the cooperative efforts in the development of water supplies and AWS.⁷

The State of Florida has two State Revolving Fund (SRF) programs:

1. The Drinking Water SRF program provides funding assistance to eligible cities, counties, authorities, special districts, and other privately owned, investor-owned, or cooperatively held public water systems. Low interest loan funding is based on a priority system of public health considerations, compliance, and affordability. Affordability includes the evaluation of median household income, population affected, and small public water systems, which serve a population of 500 people or fewer. For rate-based public water systems, pre-construction and construction loan funds are available; and pre-construction and construction grants are available for small, financially disadvantaged communities.
2. The Clean Water SRF program provides low-interest loans for planning, designing and constructing water pollution control facilities under Chapter 62-503, F.A.C., for wastewater, stormwater, and certain energy and other types of projects. Loan funds are made available for planning, design and construction. Small, disadvantaged communities may also be eligible for grants, which, once qualified, can significantly reduce the amount owed on a CWSRF loan. The loan terms include a 20-year amortization and low-interest rates. Financing rates vary based on the median household income, the poverty index, and the unemployment index.

The Small Community Wastewater Construction Grants grant program assists small communities and wastewater authorities pursuant to Chapter 62-505, F.A.C. An eligible small community must have a total population of 10,000 or less and have a per capita income less than the state of Florida average. The highest priority is given to projects that address a public

⁶ Sections 403.890 and 403.891, F.S.

⁷ Sections 373.707 and 373.475, F.S.

health risk and projects that are included in a Basin Management Action Plan (BMAP). All projects must receive a Clean Water SRF loan to receive these grant funds.

The 1999 Florida Forever Act created the Florida Forever Trust Fund (s. 259.1051, F.S.) to acquire and preserve land and watershed resources, and up to half of the program funding may be used for certain capital improvement projects including water resource development projects on public lands, such as groundwater recharge and stormwater management. Typically, WRD or WSD projects are allowed if MFLs have been established for applicable waters (s. 259.105, F.S.). When Florida Forever funding is appropriated by the Legislature, 30 percent was customarily allocated to Florida's water management districts and the remaining 70 percent to nine other state agencies, divisions, offices, and programs.⁸

2010 Deepwater Horizon

Settlements from the 2010 Deepwater Horizon oil spill and the enactment of the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies (RESTORE) of the Gulf Coast Act of 2012 made available several special restoration programs and funding opportunities. These include the Gulf Coast Restoration Trust Fund, Natural Resources Damages Act (NRDA) Restoration Program, National Fish and Wildlife Foundation and Gulf Environmental Benefit Fund, Triumph Gulf Coast, Inc. (TRIUMPH), and other individual settlement funds. Projects that meet the specific goals of these funding sources, such as reclaimed water projects that help eliminate coastal discharges or stormwater treatment facilities also used as storage, may be eligible for funding.

Federal

The United States Environmental Protection Agency (USEPA) administers the following programs:

- The Water Infrastructure Finance and Innovation (WIFIA) Act established a financing mechanism to accelerate investment in regionally or nationally significant WRD projects. The WIFIA program is closely correlated with states SRF programs.
- State and Tribal Assistance Grants provide funding assistance through cooperative agreements with 45 percent in matching funds from local government cooperators.

Following appropriation of WIFIA funds by congress, a Notice of Funding Availability (NOFA) is issued to provide credit assistance for up to 49 percent of eligible project costs. The national or regional significance criteria is evaluated with respect to economic and public benefits. Minimum project size is \$20 million for large communities and \$5 million for small communities (population of 25,000 or less).

The United States Department of Agriculture's Natural Resources Conservation Service provides technical and financial assistance to agricultural producers through the Environmental Quality Incentive Program (EQIP) for the installation or implementation of structural and management practices to improve environmental quality on agricultural lands. Water supply and nutrient management through detention/retention or tailwater recovery ponds can also be implemented through this program.

⁸ DEP Florida Forever website: <https://floridadep.gov/lands/environmental-services/content/florida-forever>.

4.3 RWSP Coordination

This section addresses coordination elements not covered in other parts of this RWSP.

Public Interest and Cost Savings

Water supply development projects are intended to serve the public interest or save costs overall (s. 373.709(2)(e), F.S.) by preventing the loss of natural resources or by avoiding greater future expenditures. Pursuant to s. 373.016(4)(a), F.S., the use of water from sources nearest the area of use or application is encouraged, whenever practical. In coastal areas of Region II this has not been possible or practical for many decades where over-consumption created water quality and water resource issues, including a significant Floridan aquifer drawdown near the coast and an increased risk of saltwater intrusion. These issues prompted the need for significant investments in alternative water supplies and development of alternative water supply source locations at inland wellfields.

The RWSP with a 20-year outlook, five-year updates, and participatory planning process provides opportunities to plan, prepare for, and implement, WSD projects well before natural resources are diminished and before urgent water supply needs result in more costly expenditures. The implementation of this Region II RWSP since 2000 has seen marked recovery in coastal Floridan water resources but efforts need to continue to ensure that the public interest is served in the most cost-effective manner possible.

RWSP Partnerships

The Walton-Okaloosa-Santa Rosa Regional Utility Authority (RUA) was established in 1986 to address water supply needs and protection of water resources on a regional level. The RUA is comprised of the three Region II counties and municipalities of Destin, Fort Walton Beach, Gulf Breeze, Mary Esther, and Niceville. The RUA and its representative utilities and local governments have been instrumental to the successes of alternative water supply projects developed to date in Region II.

This Region II RWSP and WSD projects were developed jointly (s. 373.709(3), F.S.) with regional water supply authorities, utilities, self-suppliers, and local governments. During development of the District's 2018 WSA, surveys were distributed to invite review and feedback on population and water use estimates and future demand projections. Both in-person and online public forums presented draft 2018 WSA findings with opportunities for public comment. Technical data and modeling tools were presented at a public workshop in July 2018. Further information on the 2018 WSA Update outreach and public involvement efforts is on the District website: <https://nwfwater.com/Water-Resources/Water-Supply-Planning/Water-Supply-Assessments>. In December 2018, the District's Governing Board determined in public meeting that regional water supply planning for Region II should continue.

An informational Region II RWSP public meeting was held in January 2019 followed by outreach to individual public supply and regional utilities and other self-suppliers with requests to submit WSD projects. In September 2019 information regarding the Draft 2019 Region II RWSP and upcoming public meetings was sent to permittees, advertised, and posted on the District website. Two public workshops were held on October 3, 2019, and a public comment period remained open through October 30, 2019.

Local Coordination

Water supply development project options (s. 373.709(7-8), F.S.) are not required to be selected by local entities but RWSP data and information may be referenced in reviewing permit applications. Where the WSD component shows the need for one or more alternative water supply projects, the District notifies affected local governments. Potential follow-up actions may include educating and involving local public officials toward solutions, and presentations of findings and recommendations. Affected local governments notify the District of projects or options developed or to be developed and provide annual

updates by November 15 of each year. Programs and projects may need to be incorporated into local comprehensive plans, pursuant to s. 163.3177(6)(c), F.S.

Watershed and Reuse Coordination

In addition to water supply, many of the activities and project options within this plan also have water quality and watershed benefits. Region II includes portions of the Pensacola Bay System, Choctawhatchee River and Bay, and St. Andrew Bay watersheds. Surface Water Improvement and Management (SWIM) plans for these and other priority District watersheds were most recently updated in 2017-2018. Cross-cutting strategies from SWIM plans to this Region II RWSP include reuse of reclaimed water projects, and watershed projects that support surface waters protection (e.g. Shoal River) and enhanced aquifer recharge. Additional information on SWIM Plans is available at: <https://www.nwfwater.com/Water-Resources/Surface-Water-Improvement-and-Management>.

For statewide consistency and for the purposes of Section 403.064, F.S., all of Region II is considered a WRCA for planning purposes only. This statute is within the jurisdiction of DEP and refers to permitting for wastewater treatment and the need for feasibility studies.

5. CONCLUSIONS

The Region II future water demand is expected to climb 36 percent to about 95 mgd by 2040. Together, public supply and recreation account for about 85 percent of Region II water use, and many of the largest public supply and recreational water users - with fast growing communities and with seasonal impacts - are in coastal areas with water resource constraints.

The total projected increase in Region II demand from 2015-2040 is 25 mgd. Public supply and recreation are the water use categories that most need WSD and WRD strategies and projects to meet future water supply needs. Current permitted allocations can provide some of the water needed for future public supply demands. Recreational uses already have regulatory restrictions on use of the Floridan aquifer and limited allocations. Reuse or other alternative water sources are encouraged with both public supply and recreational permittees in the WRCA. However, evaluations are still underway to determine water supply needs to sustain regional water resources and related natural systems, MFL technical assessments are ongoing and need for recovery or prevention strategies to be determined, the Floridan aquifer remains vulnerable to saltwater intrusion, there are still sub-regional and localized water quality and quantity issues, demand remains high in coastal areas, and rapid population growth is expected to continue.

This plan provides water resource and water supply development projects to meet increases in demand while sustaining water resources and related natural systems through 2040.

Water Resource Development Projects

- MFL technical assessments and groundwater evaluations
- Coordination of reuse and water conservation projects
- Technical support during IWUP applications for ASRs and ARs
- Hydrologic data and monitoring
- Water use data, analyses, and WSA/RWSP assessments and planning.

Water Supply Development Projects

- Alternative water supply development including the Shoal River, reuse of reclaimed water, and the inland sand-and-gravel aquifer
- Water conservation
- Storage capacity and distribution improvements
- Traditional Floridan and sand-and-gravel aquifer resources, where appropriate.

Continued coordination with partners, developing relevant multijurisdictional approaches, and securing funding sources are needed to continue advancing water resource protection and water supply development in Region II.

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Appendix A. List of Water Supply Development Project Options

NOTE: Water conservation and alternative water supply development projects meet the goals of this RWSP and are therefore preferred RWSP options. This includes alternative water source switching, such as the sand-and-gravel as an alternative to Floridan aquifer withdrawals in coastal areas. Traditional groundwater projects have been identified by utilities and, although not preferred, may still be options for inland areas. Project sponsors will need to conduct or demonstrate detailed technical and financial feasibility reviews including engineering and resource assessments as needed to support permitting and funding requirements. Furthermore, any proposed Floridan aquifer projects in the Region II WRCA are subject to the constraints stipulated in s. 40A-2.802, F.A.C.

#	Implementing Entity(s)	Project Title	County	Project Type	Estimated Quantity to be Supplied (mgd)	Expected Start Date	Expected End Date	Planning Level Capital Costs	Planning Level Annual O&M Costs	Proposed Source(s) of Funding
1	OCWS	Shoal River Off-Line Reservoir & Surface Water Treatment Plant	Okaloosa	Surface Water	5.00	2030	2040	\$50,000,000	\$500,000	TBD
2	Auburn Water System, Inc.	New Elevated Water Storage Tank	Okaloosa	Storage Distribution	0.50	2024	2026	\$1,370,000	\$11,000.00	Capacity Replacement Fees
3	Baker Water System	Well #4 + Tank	Okaloosa	Storage Distribution	0.15	2025	2035	\$1,000,000	NA	Local loans, to be repaid by revenues
4	City of Crestview	Antioch Water Tank	Okaloosa	Storage Distribution	0.50	2020	2025	\$1,300,000	N/A	Water Construction Fund
5	City of Crestview	Brookmeade Drive Water Tank	Okaloosa	Storage Distribution	0.50	2030	2035	\$1,750,000	N/A	Water Construction Fund
6	City of DeFuniak Springs	Coy Burgess New 14" Loop Water Main	Walton	Storage Distribution	0.50	2024	2026	\$1,200,000	\$27,000	SRF; Legislature; City Impact and Capacity Fees
7	City of Freeport	Ground Storage Tank on US 331 North of Wagon Wheel	Walton	Storage Distribution	0.20	2020	2021	\$250,000	\$10,000	City Impact and Capacity Fees
8	City of Freeport	New Elevated Storage Tank	Walton	Storage Distribution	0.75	2030	2032	\$1,500,000	\$30,000	USDA; SRF; City Impact and Capacity Fees
9	City of Freeport	US 331 Phase I Water Improvements	Walton	Storage Distribution	1.00	2020	2021	\$1,600,000	\$30,000	SRF; Legislature; City Impact and Capacity Fees
10	City of Freeport	US 331 Phase II Water Improvements	Walton	Storage Distribution	-	2021	2022	\$1,800,000	\$35,000	SRF; Legislature; City Impact and Capacity Fees
11	City of Laurel Hill	Paxton-Laurel Hill WM Interconnection	Okaloosa	Storage Distribution	-	2027	2027	\$500,000	N/A	USDA Rural Development
12	Destin Water Users, Inc.	Crosstown Connector Watermain	Okaloosa	Storage Distribution	-	2021	2022	\$45,000		Impact and Capacity Fees
13	Destin Water Users, Inc.	New Elevated Storage Tank	Okaloosa	Storage Distribution	0.75	2022	2025	\$2,000,000	\$15,000	Impact and Capacity Fees
14	Destin Water Users, Inc.	Tower 4 Altitude Valve	Okaloosa	Storage Distribution	0.50	2019	2020	\$25,000		Impact and Capacity Fees
15	Inlet Beach Water System	Inlet Beach Ground Storage Tank	Walton	Storage Distribution	-	2020	2022	\$550,000	\$10,000	Operating Revenues
16	Moore Creek Mount Carmel Utilities, Inc.	Town of Jay Interconnection from Well #1 on SR 85	Santa Rosa	Storage Distribution	0.30	2021	2021	\$75,000	\$5,000	SRF, NWFWMMD, USDA Rural Development
17	Regional Utilities	24" Water Transmission Pipeline from US331 Plant to Hwy 98	Walton	Storage Distribution	TBD	2024	2025	\$700,000		Impact Fees
18	Regional Utilities	5 Million Gallon Ground Storage Water Tank (East)	Walton	Storage Distribution	5.00	2020	2021	\$2,600,000		Impact Fees
19	Regional Utilities	5 Million Gallon Ground Storage Water Tank (West)	Walton	Storage Distribution	5.00	2024	2025	\$3,600,000		Impact Fees
20	Regional Utilities	New 12" water line on Old Blue Mountain Road from US98 to Chat Holley	Walton	Storage Distribution	TBD	2022	2023	\$500,000		Impact Fees
21	Regional Utilities	New 18" water line upgrade on CR30A from Lakewood to Camp Creek	Walton	Storage Distribution	TBD	2020	2021	\$1,400,000		Impact Fees
22	Regional Utilities	New 24" water line on US98 from CR393 to Thompson Road	Walton	Storage Distribution	TBD	2021	2022	\$1,100,000		Impact Fees
23	Regional Utilities	New 24" water line on US98 from Sugar Drive to CR30A West	Walton	Storage Distribution	TBD	2023	2024	\$1,400,000		Impact Fees
24	Regional Utilities	New 24" water line on US98 from Thompson Road to Sugar Drive	Walton	Storage Distribution	TBD	2022	2023	\$550,000		Impact Fees
25	Regional Utilities	US 331 Phase I Pipeline - 30" Source Water	Walton	Storage Distribution	TBD	2019	2020	\$5,000,000		Impact Fees
26	Regional Utilities	US 331 Phase II Pipeline - 30" Source Water	Walton	Storage Distribution	TBD	2020	2020	\$5,000,000		Impact Fees
27	Fairpoint Regional Utility System	FRUS Well #7 - Alternative Source Switching	Santa Rosa	S&G Alternative GW	1.15	2019	2020	\$1,695,000	\$30,000	State Revolving Fund
28	City of Crestview	WWTP Reuse Project	Okaloosa	Reuse	1.00	2030	2035	\$1,200,000	N/A	Grant funds
29	City of Freeport	Freeport WWTF Reclaimed Water for Irrigation	Walton	Reuse	1.50	2022	2024	\$15,000,000	\$100,000	USDA; City Impact and Capacity Fees
30	City of Milton	City Milton Reuse	Santa Rosa	Reuse	2.50	2019	2021	\$2,900,000	\$5,000	City of Milton, loans, and available grants
31	Destin Water Users, Inc.	Reuse Piping East	Okaloosa	Reuse	0.20	2021	2022	\$30,000		Impact and Capacity Fees
32	Destin Water Users, Inc.	Reuse Piping North	Okaloosa	Reuse	0.40	2019	2021	\$175,000		Impact and Capacity Fees
33	Destin Water Users, Inc.	Reuse Piping West	Okaloosa	Reuse	0.40	2019	2021	\$100,000		Impact and Capacity Fees
34	OCWS	Jerry D. Mitchem WRF Reclaimed Water Supply	Okaloosa	Reuse	1.00	2025	2030	TBD	TBD	TBD
35	OCWS / City of Niceville / Eglin Air Force Base	Okaloosa County/Niceville/Eglin AFB Reclaimed Water Project	Okaloosa	Reuse	2.50	2020	2021	\$10,500,000	\$90,000	OCWS CIP & State Appropriation (FDEP Grant)
36	Auburn Water System, Inc.	New Well #9	Okaloosa	Groundwater	0.15	2030	2031	\$700,000	\$40,000	In-House
37	Auburn Water System, Inc.	Water Well 3 Replacement	Okaloosa	Groundwater	0.30	2020	2021	\$860,000	\$40,000	Capacity Replacement Fees
38	Auburn Water System, Inc.	Well #2 Replacement	Okaloosa	Groundwater	-	2022	2023	\$600,000	\$40,000	In-House
39	Auburn Water System, Inc.	Well #3 Replacement	Okaloosa	Groundwater	-	2028	2029	\$700,000	\$40,000	In-House
40	Auburn Water System, Inc.	Well #4 Replacement	Okaloosa	Groundwater	-	2034	2035	\$800,000	\$40,000	In-House
41	City of Crestview	Arena Road Water Well	Okaloosa	Groundwater	1.15	2030	2035	\$950,000	N/A	Water Construction Fund
42	City of Milton	Ferris Hill Area New Well	Santa Rosa	Groundwater	0.50	2025	2030	\$1,700,000	\$77,000	City of Milton & Grants if available
43	City of Milton	Glover Lane / Hamilton Bridge New Well	Santa Rosa	Groundwater	0.50	2030	2040	\$1,800,000	\$84,500	City of Milton & Grants if available
44	City of Milton	Roeville Area New Well	Santa Rosa	Groundwater	0.50	2020	2025	\$1,600,000	\$70,000	City of Milton & Grants if available
45	East Milton Water System	East Milton Well #7	Santa Rosa	Groundwater	0.40	2021	2025	\$1,000,000	\$30,000	In House
46	Holt Water Works	New Well - Galliver Cutoff (Backup and Increase Pressure)	Okaloosa	Groundwater	-	2022	2025	\$800,000	\$10,000	Grant/Loan 50/50
47	Moore Creek Mount Carmel Utilities, Inc.	Well No. 4 on North Simmon Road in Jay - Replacement	Santa Rosa	Groundwater	-	2021	2022	\$1,000,000	\$75,000	SRF, NWFWMMD, USDA Rural Development
48	OCWS	Additional Public Water Supply Well for Mid-County and Garniers System	Okaloosa	Groundwater	0.72	2030	2040	\$1,500,000	\$50,000	TBD

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#	Implementing Entity(s)	Project Title	County	Project Type	Estimated Quantity to be Supplied (mgd)	Expected Start Date	Expected End Date	Planning Level Capital Costs	Planning Level Annual O&M Costs	Proposed Source(s) of Funding
49	OCWS	Bluewater System Additional Water Supply	Okaloosa	Groundwater	0.72	2030	2040	\$1,500,000	\$50,000	TBD
50	OCWS	Shoal River Ranch Public Water Supply Well	Okaloosa	Groundwater	0.72	2025	2030	\$1,500,000	\$50,000	TBD
51	Regional Utilities	New Backup Well at Nokuse Wellfield	Walton	Groundwater	-	2020	2022	\$500,000		Impact Fees
52	Regional Utilities	Well 13 and Pipeline	Walton	Groundwater	TBD	2022	2023	\$850,000		Impact Fees
53	Regional Utilities	Well 14 and Pipeline	Walton	Groundwater	TBD	2024	2025	\$850,000		Impact Fees
54	Auburn Water System, Inc.	Water Main Replacement	Okaloosa	Conservation	-	2020	2021	\$110,000	\$5,000	Capital Improvement Fees
55	Auburn Water System, Inc.	Water Main Replacement	Okaloosa	Conservation	-	2021	2022	\$50,000	\$2,000	Capital Improvement Fees
56	Auburn Water System, Inc.	Water Meter Replacement	Okaloosa	Conservation	-	2019	2025	\$503,000	\$25,000	Capital Improvement Fees
57	Berrydale Water System	Camp Henderson Road Water Line Replacement	Santa Rosa	Conservation	-	Upon Funding	ASAP	Not Estimated - TBD	N/A	Grant; Legislative appropriation
58	City of Laurel Hill	Highway 2 Waterline Relocation	Okaloosa	Conservation	-	2021	2021	\$542,190	N/A	TRIUMPH
59	City of Laurel Hill	Ludlum Road Waterline Loop	Okaloosa	Conservation	-	2019	2019	\$150,000	N/A	NWFWMD
60	City of Laurel Hill	Skyline Road Waterline Loop	Okaloosa	Conservation	-	2024	2024	\$150,000	N/A	NWFWMD
61	City of Laurel Hill	Old Ebenezer Road WM Replacement	Okaloosa	Conservation	-	2020	2020	\$648,458	N/A	TRIUMPH
62	City of Laurel Hill	Steel Mill Creek WM Replacement	Okaloosa	Conservation	-	2022	2022	\$360,437	N/A	TRIUMPH
63	City of Laurel Hill	Thomas Road Waterline Loop	Okaloosa	Conservation	-	2023	2023	\$351,013	N/A	TRIUMPH
64	City of Laurel Hill	Well Maintenance	Okaloosa	Conservation	-	2020	2020	\$150,000	N/A	Appropriations
65	City of Mary Esther	Azalea Drive Neighborhood Distribution Upgrade	Okaloosa	Conservation	-	2023	2024	\$748,000	\$15,700	State Revolving Fund; utility revenues
66	City of Mary Esther	Lorraine Drive Neighborhood Distribution Upgrade	Okaloosa	Conservation	-	2021	2022	\$1,025,000	\$21,600	State Revolving Fund; utility revenues
67	City of Mary Esther	Mary Esther Drive Neighborhood Distribution Upgrade	Okaloosa	Conservation	-	2020	2021	\$1,285,000	\$27,100	State Revolving Fund; utility revenues
68	City of Mary Esther	Shrewsbury Road Neighborhood Distribution Upgrade	Okaloosa	Conservation	-	2022	2023	\$2,330,000	\$49,100	State Revolving Fund; utility revenues
69	City of Mary Esther	South of US 98 Mains Replacement	Okaloosa	Conservation	-	2024	2025	\$3,349,000	\$70,300	State Revolving Fund; utility revenues
70	City of Paxton	Water Line Replacement #1	Walton	Conservation	-	2030	2035	\$1,500,000	\$5,000	City of Paxton & Grants if available
71	City of Paxton	Water Line Replacement #2	Walton	Conservation	-	2030	2035	\$1,500,000	\$5,000	City of Paxton & Grants if available
72	City of Paxton	Water Line Replacement #3	Walton	Conservation	-	2035	2040	\$1,500,000	\$5,000	City of Paxton & Grants if available
73	City of Paxton	Water Line Replacement #4	Walton	Conservation	-	2035	2040	\$1,500,000	\$5,000	City of Paxton & Grants if available
74	City of Paxton	Water Line Replacement #5	Walton	Conservation	-	2035	2040	\$1,500,000	\$5,000	City of Paxton & Grants if available
75	Destin Water Users, Inc.	Cypress Street Watermain Upgrade	Okaloosa	Conservation	-	2021	2022	\$5,000		Impact and Capacity Fees
76	Destin Water Users, Inc.	Flow Meter Replacements	Okaloosa	Conservation	-	2019	2020	\$10,000		Impact and Capacity Fees
77	Destin Water Users, Inc.	Juniper Street Watermain Upgrade	Okaloosa	Conservation	-	2022	2023	\$5,000		Impact and Capacity Fees
78	Destin Water Users, Inc.	Pines Street Watermain Upgrade	Okaloosa	Conservation	-	2019	2020	\$10,000		Impact and Capacity Fees
79	Destin Water Users, Inc.	Seagull Lane Watermain Upgrades	Okaloosa	Conservation	-	2020	2021	\$5,000		Impact and Capacity Fees
80	Destin Water Users, Inc.	Watermain Upgrades	Okaloosa	Conservation	-	2019	2022	\$15,000		Impact and Capacity Fees
81	Inlet Beach Water System	Booster Station and Associated Improvements	Walton	Conservation	-	2020	2022	\$250,000	\$150,000	Operating Revenues
82	NAS Whiting	Replace Existing Aged System Upgrade	Santa Rosa	Conservation	-	2022	2024	\$10,000,000	N/A	Appropriations
83	OCWS	Advanced Metering Infrastructure (AMI) System Upgrades	Okaloosa	Conservation	-	2016	2020	\$13,900,000	N/A	OCWS CIP budget
84	OCWS	Public Information on Water Conservation	Okaloosa	Conservation	N/A	Ongoing	Ongoing	N/A	\$6,000	OCWS O&M budget
85	Regional Utilities	Dalton Subdivision Water Line Upgrades	Walton	Conservation	-	2022	2023	\$1,100,000		General Revenue
86	Regional Utilities	Old Seagrove Community Water Line Upgrades	Walton	Conservation	-	2020	2021	\$640,000		General Revenue
87	Regional Utilities	San Juan Area Water Line Upgrades	Walton	Conservation	-	2021	2022	\$410,000		General Revenue
88	Regional Utilities	Systemwide Water Meter Upgrade	Walton	Conservation	-	2018	2020	\$7,500,000		General Revenue
TOTALS					36.964			\$ 190,727,098		