



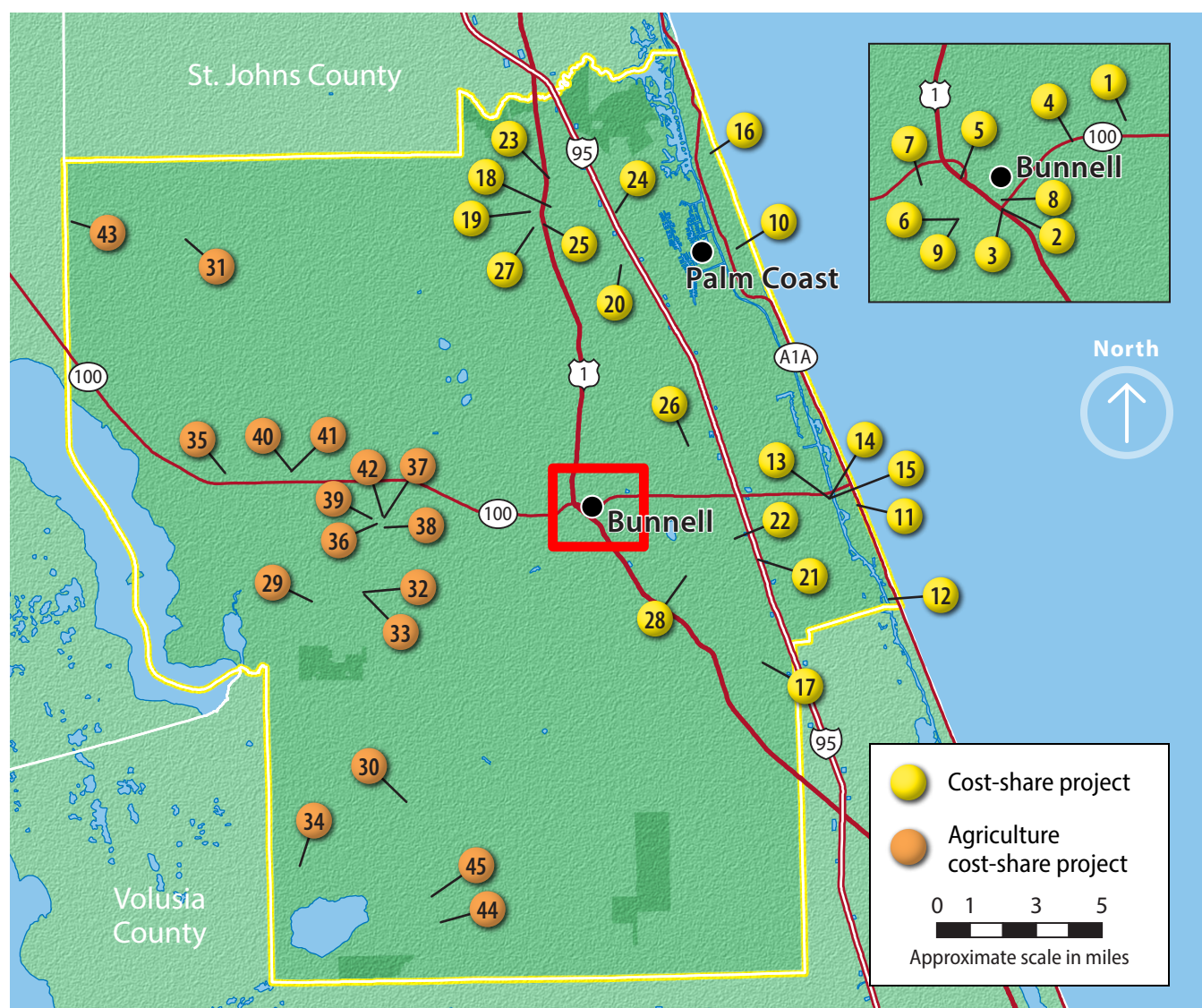
St. Johns River Water Management District

Cost-share and District-led projects in Flagler County

The St. Johns River Water Management District (District) implements a wide variety of projects aimed at protecting water supplies, improving water quality, restoring natural systems, and providing flood protection. A summary of the cost-share projects benefiting Flagler County are described on the following pages. The summary includes a description of benefits for each project, including nutrient load reduction (total phosphorus [TP], total

nitrogen [TN] pounds per year [lbs/yr]), alternative water supplied (million gallons per day [mgd]), water conserved (mgd), alternative water storage capacity created (million gallons [MG]), or acres protected from flooding.

Also listed at the end of this document are District-led projects and other efforts benefiting the communities in Flagler County.



Cost-Share Program:

Through the Cost-Share Program, the District and the Florida Department of Environmental Protection (DEP) together have awarded over \$14.3 million for projects in communities throughout Flagler County beginning in fiscal year 2014, leveraging nearly \$56 million when combined with local matching funds. Flagler County cost-share projects have provided an estimated benefit of 8.7 mgd of alternative water supply, 40,000 lbs/yr TN reduction, 6,600 lbs/yr TP reduction, and 2,200 acres of flood protection.

1. **Bunnell Reclaimed Water Main Extension to State Road (SR) 100** — The project consists of extending the city's reclaimed water main by 1.5 miles along Grand Reserve Boulevard to SR 100 and Commerce Parkway and enable connection to current potable water irrigation systems. The project also includes upgrading the pumps at the wastewater treatment plant (WWTP) to provide reclaimed water at a higher pressure to end users for direct irrigation use. The estimated alternative water supply benefit is 1.14 mgd. Project Status: Complete.
2. **Bunnell Sewer Slip Lining Rehabilitation** — The project includes slip lining 2.85 miles of cured-in-place pipe (CIPP) within existing vitrified clay pipe (VCP) in the city's wastewater collection system. The estimated water quality nutrient load reduction to Black Branch Creek and Haw Creek is approximately 203 lbs/yr of TN and 29 lbs/yr of TP. Project Status: Complete.
3. **Bunnell Sewer Slip Lining Rehabilitation Phase 4** — The project includes slip lining approximately 2.9 miles of sewer mains and lateral lines within the city. The estimated nutrient load reduction water quality benefit to the lower St. Johns River and its tributaries is 200 lbs/yr of TN and 31 lbs/yr of TP. Project Status: Complete.
4. **Bunnell SR 100 West Reclaimed Water (RCW) Extension** — The project consists of

extending the city's reclaimed distribution main from Grand Reserve Boulevard west along SR 100 to North Palmetto Street (approximately 1.1 miles). The estimated alternative water supply benefit is 0.29 mgd. The estimated nutrient load reduction water quality benefit to Haw and Black Branch creeks is 7,059 lbs/yr of TN and 981 lbs/yr of TP. Project Status: Complete.

5. **Bunnell State Street Median RCW Irrigation System** — This project will extend reclaimed water mains to a public park and two median enhancement projects along the U.S. 1 and SR 100 crossroads. The estimated alternative water supply benefit is 0.10 mgd. Project Status: Complete.
6. **Bunnell Wastewater Treatment Facility Improvements** — The project includes improvement of the city's current WWTP from an Alternating Anaerobic Double Filtration process to an advanced wastewater treatment (AWT) process. The estimated nutrient load reduction water quality benefit is 19,057 lbs/yr of TN and 3,232 lbs/yr of TP. Project Status: In Progress.
7. **Bunnell Westside Storm and Sanitary Improvements Phase 1** — The project consists of the repair, replacement or rehabilitation of infrastructure, that was originally developed in the 1940s, 50s and 60s, serving the west side of U.S. 1. The estimated nutrient load reduction water quality benefit to Haw Creek is 665 lbs/yr of TN and 126 lbs/yr of TP. There is also a secondary benefit of 21.6 acres of flood protection. Project Status: Complete.
8. **Bunnell Westside Stormwater Improvements Phase 2** — The project includes lining and upsizing/replacing stormwater culverts throughout the community and installing grass retention swales with trench drains in place of existing ditches on both sides of Deen Road between Boundary and Hardy streets. The estimated flood protection benefit is to 3 residential acres. The estimated nutrient load

reduction water quality benefit is 12 lbs/yr of TN and 2 lbs/yr of TP. Project Status: Complete.

9. Bunnell WWTP Treatment Plant

Improvements — The project consists of the construction of a Rapid Infiltration Basin (RIB) and the elimination of the equalization basin aeration at the town's wastewater treatment plant. The estimated nutrient load reduction water quality benefit to Haw Creek is 7,915 lbs/yr of TN and 381 lbs/yr of TP. Project Status: Complete.

10. Dunes Community Development District Brackish Groundwater (GW) Development

— The project includes constructing a brackish groundwater reverse osmosis facility to serve the customers of the Dunes Community Development District. The estimated alternative water supply benefit is 0.72 mgd. Project Status: Complete.

11. Flagler Beach Flood Mitigation Improvements

— The project includes the construction of swales within the city for flood protection. The project will provide approximately 131,500 cubic feet of storage and protect approximately 80 acres from flooding. The estimated nutrient load reduction is approximately 7 lbs/yr of TN and 1 lbs/yr of TP. Project Status: Complete.

12. Flagler Beach Ocean Palm Subdivision

Stormwater Improvement — The project consists of stormwater improvements to a residential subdivision and golf course. The project provides an estimated flood protection of 84 acres and an estimated nutrient load reduction water quality benefit to the Matanzas River of 265 lbs/yr of TN and 65 lbs/yr of TP. Project Status: Complete.

13. Flagler Beach Sewer Slip Lining

Rehabilitation Phase 1 — The project includes slip lining 4.35 miles of cured-in-place pipe within existing vitrified clay pipe in the city's wastewater collection system. The estimated nutrient load reduction water quality benefit to the Matanzas River is 535 lbs/yr of TN and 438 lbs/yr of TP. Project Status: Complete.

14. Flagler Beach Sewer Slip Lining

Rehabilitation Phase 2 — The project includes slip lining approximately 3.01 miles of leaking, vitrified clay sewer pipe plus approximately 60–70 select leaking sewer laterals and pipe joint defects in the wastewater collection system that was originally constructed in the early 1970s. The estimated nutrient load reduction water quality benefit to the Matanzas River is 190 lbs/yr of TN and 145 lbs/yr of TP. Project Status: Complete.

15. Flagler Beach Sewer Slip Lining

Rehabilitation Phase 3 — The project includes slip-lining approximately 200 leaking sewer laterals plus two wet wells in the wastewater collection system that was originally constructed in the early 1970s. The estimated nutrient load reduction water quality benefit to the Matanzas River is 1,880 lbs/yr of TN and 824 lbs/yr of TP. Project Status: Complete.

16. Flagler County Malacompria Basin Project

Phase 1 — The project consists of the construction of an outfall pipe, replacing three culverts, and regrading an existing ditch to ensure positive outfall. The estimated nutrient load reduction water quality benefit to the Matanzas River for all three phases is 183 lbs/yr of TN and 47 lbs/yr of TP. Project Status: Complete.

17. Flagler County Plantation Bay WWTF

Modifications — The project consists of modifications to the existing Plantation Bay water reclamation facility to provide Class 1 reliability, install a reject storage tank, and monitoring equipment. The estimated alternative water supply benefit is 0.5 mgd. Project Status: Complete.

18. Palm Coast Belle Terre Matanzas Woods

Master Pump Station — The project involves the construction of a master pump station to provide for the reversal of wastewater flow from the northwest quadrant of Palm Coast. The estimated alternative water supply benefit is 1 mgd and the nutrient load reduction water

quality benefit is 862 lbs/yr of TN and 206 lbs/yr of TP. Project Status: Complete.

19. **Palm Coast Brackish Source Aquifer Performance Test** — The project includes conducting an Aquifer Performance Test (APT) intended to ascertain the safe yield of the Floridan aquifer for makeup water for desalination treatment to provide finished water for public supply. Project Status: Complete.
20. **Palm Coast Flood Control Structure BS-2** — The project involves replacing the existing flood control structure with one that will provide more freeboard for the adjacent neighborhoods. The project is estimated to provide additional flood protection to 260 acres of residential use area. Project Status: Complete.
21. **Palm Coast Flood Control Structures L1 and K1** — The project involves the reconstruction of two weirs to their original functionality. Electro-mechanical slide gates will be installed that can be controlled and monitored remotely. The project will allow for efficient management of stormwater and flooding events for a 1,769-acre area within the city. Project Status: Complete.
22. **Palm Coast Grand Landing Reclaimed Water Transmission Main** — The project includes construction of a reclaimed water transmission main within the southeastern section of the city. The estimated alternative water supply benefit is 0.56 mgd. Project Status: Complete.
23. **Palm Coast London Waterway Expansion** — The project consists of constructing an 11-acre stormwater lake to improve the water quality of the Pellicer Creek Aquatic Preserve. The estimated nutrient load reduction water quality benefit to the Pellicer Creek Aquatic Preserve is 884 lbs/yr of TN and 130 lbs/yr of TP. Project Status: Complete.
24. **Palm Coast Matanzas Woods Reclaimed Pipeline** — This project involves the construction of a reclaimed water transmission

main extension along Matanzas Woods Parkway between Old Kings Road and U.S. 1. The estimated alternative water supply benefit is 0.06 mgd. Project Status: Complete.

25. **Palm Coast RCW Irrigation Along U.S. 1 and Palm Coast Parkway** — The project will result in the ability to irrigate the median of U.S. 1 and Palm Coast Parkway with reclaimed water from WWTP #1. The estimated alternative water supply benefit is 1.0 mgd. Project Status: Complete.
26. **Palm Coast Royal Palms Parkway Reclaimed Water Line** — The project includes construction of a reclaimed water transmission main extension along Royal Palms Parkway between Town Center Boulevard and Belle Terre Parkway. The estimated alternative water supply benefit is 0.05 mgd. Project Status: Complete.
27. **Palm Coast Utilization of Concentrate as Raw Water Supply** — The project consists of the installation of cartridge filters and an ozone treatment system for treatment of concentrate at the water treatment plant. The estimated water supply benefit is 0.75 mgd. Project Status: Complete.
28. **Palm Coast Water Treatment Plant #2 Wellfield Expansion** — The project consists of developing five additional wells over a larger geographic area without increasing allocation to allow existing wells to rest, be rotated and reduce production rates, lessening the potential for saline water intrusion due to up-coning and lateral intrusion. The estimated alternative water supply benefit is 2.52 mgd. Project Status: Complete.

Agricultural Cost-Share Program:

The Agricultural Cost-Share Program provides funding to agricultural operations to conserve water and reduce offsite nutrient loading. Beginning in fiscal year 2014, the District and DEP have provided \$3.2 million in funding for agricultural projects in

Flagler County. Flagler County agricultural cost-share projects have provided an estimated alternative water supply benefit of 0.05 mgd, 0.86 mgd of water conservation, nearly 37,000 lbs/yr TN reduction, and over 9,500 lbs/yr TP reduction.

29. **A.W. Baylor Center Pivot** — This project involves performing an irrigation conversion from seepage irrigation to center pivot on approximately 60 acres of hay. The estimated water conservation benefit is 0.170 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake and the Lower St. Johns River is 1,282 lbs/yr of TN and 356 lbs/yr of TP. Project Status: Complete.
30. **Clegg Sod Farm Linear Overhead Irrigation** — The project includes converting 180 acres of furrow seepage irrigation to overhead linear irrigation. The estimated water conservation benefit is 0.058 mgd and the estimated nutrient load reduction water quality benefit to Crescent Lake is 927 lbs/yr of TN and 73 lbs/yr of TP. Project Status: Complete.
31. **First Farms Irrigation Drain Tile Field 4** — This project involves converting from seepage to irrigation drain tile on approximately 108 acres of row crop. The estimated water conservation benefit is 0.088 mgd. The estimated nutrient load reduction benefit to the Lower St. Johns is 930 lbs/yr of TN and 271 lbs/yr of TP. Project Status: Complete.
32. **Greene's Farms, Inc. Pond Construction Phase 1** — This project involves construction of a tailwater recovery and reuse pond for use on 44 acres of row crops. The estimated alternative water supply benefit is 0.028 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake and the lower St. Johns River is 414 lbs/yr of TN and 137 lbs/yr of TP. Project Status: Complete.
33. **Greene's Farms, Inc. Pond Construction Phase 2** — This project involves phase 2 of a tailwater recovery and reuse pond on approximately 99 acres of row crops. The

estimated alternative water supply benefit is 0.024 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake is 346 lbs/yr of TN and 115 lbs/yr of TP. Project Status: Complete.

34. **Greene's Farms Inc. Soil Grid Mapping** — This project involves utilizing soil grid mapping for variable fertilizer application on approximately 1200 acres of row crops. The estimated nutrient load reduction water quality benefit to Crescent Lake is 5,922 lbs/yr TN and 1,489 lbs/yr TP. Project Status: Complete.
35. **Greene's Farms Inc. Soil Moisture Sensors** — This project involves the purchase and implementation of soil moisture sensors on approximately 787 acres of row crops benefitting Crescent Lake. The estimated conservation is 0.005 mgd. The estimated nutrient load reduction water quality benefit is 1655 lbs/yr of TN and 416 lbs/yr of TP. Project Status: Complete.
36. **John Seay Farm Fertilizer Banding Equipment** — This project involves the purchase and implementation of a fertilizer bander and tender for use on approximately 525 acres of row crops. The estimated nutrient load reduction water quality benefit to the lower St. Johns River is 1,157 lbs/yr of TN and 426 lbs/yr of TP. Project Status: Complete.
37. **John Seay Farm GPS Land Leveling** — This project involves the purchase and implementation of precision land leveling equipment with GPS and a nurse tank on approximately 1,260 acres of row crop benefitting Crescent Lake. The estimated water conservation benefit is 0.074 mgd. The project also provides an estimated nutrient load reduction water quality benefit of 2,721 lbs/yr of TN and 1,059 lbs/yr of TP. Project Status: Complete.
38. **John Seay Farm Precision Fertilizer and Irrigation Equipment** — This project involves the purchase and implementation of precision fertilizer application equipment with GPS,

land-leveling equipment and installation of pipeline on approximately 40 acres of row crops. The estimated water conservation benefit is 0.013 mgd. The estimated nutrient load reduction water quality benefit to the lower St. Johns River is 1,980 lbs/yr of TN and 770 lbs/yr of TP. Project Status: Complete.

39. **John Seay Precision Fertilizer Equipment** — This project involves the purchase of precision fertilizer application equipment on approximately 1200 acres of row crops. The estimated nutrient load reduction water quality benefit to Crescent Lake is 14,885 lbs/yr of TN and 3248 lbs/yr of TP. Project Status: Complete.
40. **Old Dixie Cattle Company Linear Overhead Irrigation Field 1** — This project involves performing an irrigation conversion from seepage irrigation to overhead linear irrigation on approximately 147 acres of row crops. The estimated water conservation benefit is 0.302 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake and the lower St. Johns River is 2,676 lbs/yr of TN and 742 lbs/yr of TP. Project Status: Complete.
41. **Old Dixie Cattle Company Linear Overhead Irrigation Field 2** — This project involves the expansion of the overhead linear irrigation and fertigation system for an additional 80 acres of farmland. The estimated water conservation benefit is 0.021 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake and the lower St. Johns River is 374 lbs/yr of TN and 102 lbs/yr of TP. Project Status: Complete.
42. **Sam Bertha Jr. Farms Center Pivot Irrigation Field 1** — This project involves the installation of an overhead irrigation and fertigation system and purchase and implementation of soil moisture sensors for use on approximately 70 acres of row crops. The estimated water conservation benefit is 0.050 mgd. The estimated nutrient load reduction water quality

benefit to Crescent Lake is 677 lbs/yr of TN and 169 lbs/yr of TP. Project Status: Complete.

43. **Singleton and Sons Farms Irrigation Drain Tile Field 1** — This project involves performing an irrigation conversion from seepage irrigation to irrigation drain tile on approximately 72 acres of row crops. The estimated water conservation benefit is 0.053 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake and the Lower St. Johns River Basin is 226 lbs/yr of TN and 59 lbs/yr of TP. Project Status: Complete.
44. **Treesap Farms LLC Irrigation Retrofit 1** — This project involves performing an irrigation retrofit on approximately 43 acres of container nursery. The estimated water conservation benefit is 0.018 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake and the lower St. Johns River is 425 lbs/yr of TN and 125 lbs/yr of TP. Project Status: Complete.
45. **Treesap Farms LLC Irrigation Retrofit 2** — This project involves an irrigation retrofit on approximately 15 acres of container nurseries. The estimated water conservation benefit is 0.006 mgd. The estimated nutrient load reduction water quality benefit to Crescent Lake and the lower St. Johns River is 132 lbs/yr of TN and 39 lbs/yr of TP. Project Status: Complete.

District-led projects and other efforts

The District constructs large, regional projects that often benefit multiple counties and benefit more than one of the District's core missions. Some of the projects in your county include:

Flagler County wetlands restoration — The District and cooperating partners completed construction of the Flagler County Wetland Restoration Project in October 2019. The grading of the spoil piles back into ditches and creating new areas for marsh has been completed. With the excavation work complete,

monitoring of natural systems continues. The project restored wetlands that had been dragline ditched in the 1950s and 1960s, cutting wide ditches through historical coastal wetlands, which altered the hydrology.

Northern Coastal Basins — The District, local, regional, state and federal agencies have come together to address issues such as flooding, water quality (particularly in shellfish harvesting areas) and protection of coastal saltmarsh resources. Interagency work groups are guiding efforts to develop and monitor resource baselines and to coordinate resources and funding for development and implementation of regional watershed management initiatives, which includes a watershed-based Surface Water Improvement and Management (SWIM) Plan to enhance, restore and manage the water quality and wetland resources within the basin's estuaries. Adopted in 2002, the District implements the plan through activities that include a water quality monitoring network, tracking and evaluating stormwater management to provide technical assistance to help guide local government stormwater retrofit projects, work with local leaders to collect and evaluate compliance with permitted stormwater treatment systems, and collect, map and evaluate datasets for resources and habitats used to develop and implement restoration activities.

North Florida Regional Water Supply Partnership — The District is working in partnership with the Suwannee River Water Management District, DEP, local utilities and other stakeholders in north Florida to develop joint water resource protection strategies, sharing data and technology, and effective communication with stakeholders across district boundaries. For more information, visit www.northfloridawater.com.

Minimum flows and levels (MFLs) program —

The District establishes MFLs for priority water bodies within its boundaries. MFLs define the limits at which further water withdrawals would be significantly harmful to the water resources or ecology of an area. MFLs is an effective tool to assist in making sound water management decisions and preventing significant adverse impacts due to water withdrawals.

Hydrologic and water quality data collection —

The District operates a network of data collection sites for hydrologic conditions and water quality in many lakes, wetland restoration areas, streams, springs, and wells.

District conservation areas

The District buys land in the course of its work to protect and preserve water resources. These lands also protect plant and wildlife habitat and provide areas for public recreation and environmental education. Virtually all District property is open to the public for activities that are compatible with conservation, though some may be closed during ongoing construction or restoration projects. In Flagler County, District properties include Crescent Lake Conservation Area and Pellicer Creek Conservation Area. For a current listing of District conservation areas, visit www.sjrwmd.com/lands.

