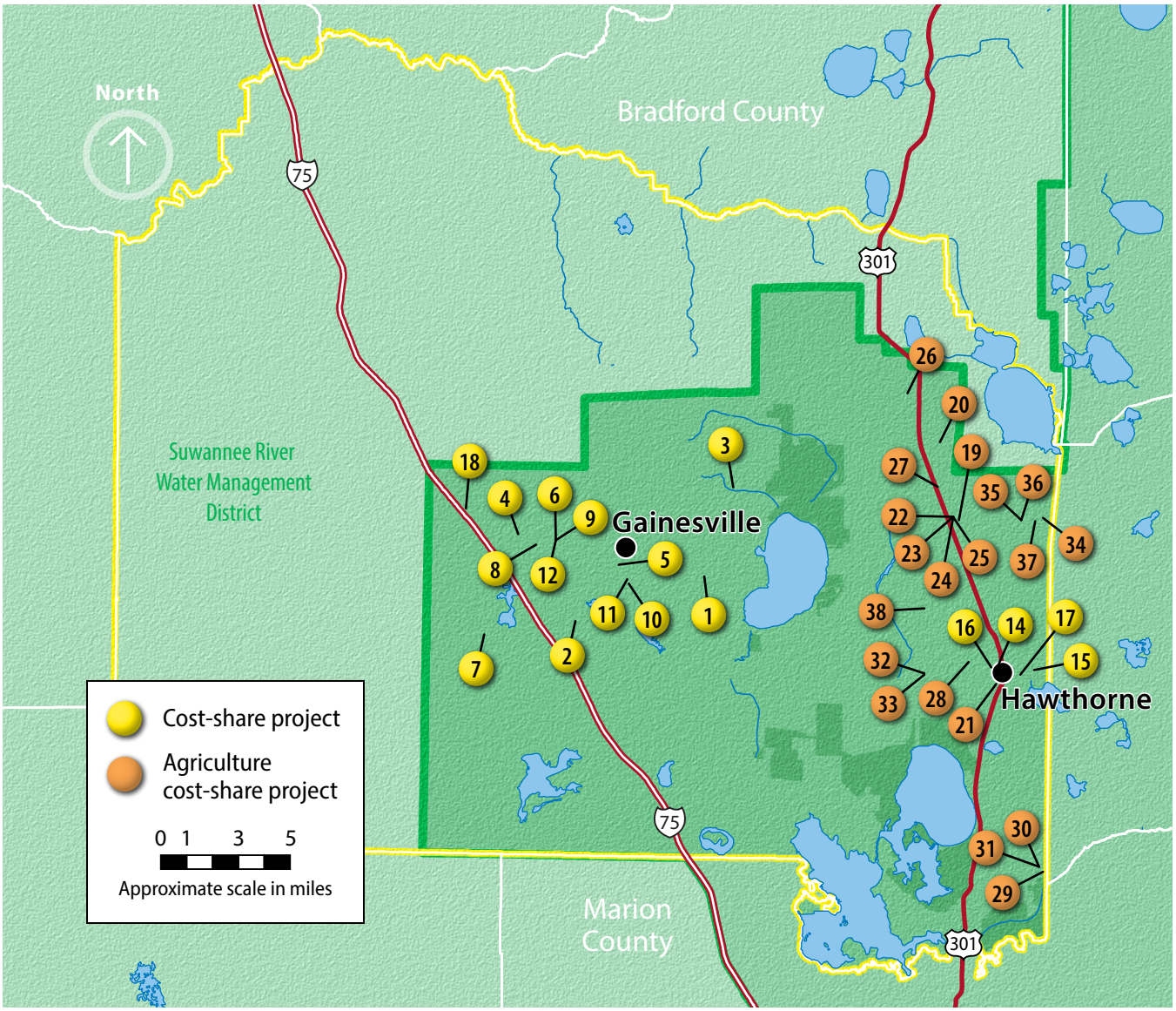
St. Johns River Water Management District

Cost-share and District-led projects in Alachua 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 Alachua 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 Alachua County.



Cost-Share Program:

Through the Cost-Share Program, the District and Florida Department of Environmental Protection (DEP) together have awarded approximately $3.3 million for projects in communities throughout Alachua County beginning in fiscal year 2014, leveraging approximately $4.8 million when combined with local matching funds. Alachua County cost-share projects have provided an estimated benefit of 0.51 mgd of alternative water supply, 0.5 mgd of water conserved, 5,000 lbs/yr TN reduction, and 1,600 lbs/yr TP reduction.

1. **Alachua County Florida Water Star Rebate** — The project included the implementation of a rebate program to provide a $700 rebate for each home and commercial structure that received the Florida Water Star Certification during the funding period. This rebate covered 50% of the increased costs incurred by the builders. The estimated water conservation benefit is 0.02 mgd. Project Status: Complete.
2. **Alachua County Landscape Retrofit** — The project included the implementation of a rebate program to encourage Alachua County residents to retrofit their landscapes with either Florida-Friendly Landscapes (FFL) that require no irrigation or FFL with correctly installed micro-irrigation. The estimated water conservation benefit is 0.04 mgd. Project Status: Complete.
3. **Alachua County Little Hatchet Creek Weir** — The project involved the construction of two, low-profile, permeable, reactive weirs to treat baseflow for additional phosphorus removal in the Little Hatchet Creek watershed. The project uses passive flow-through porous media technology to remediate elevated phosphorus from wastewater and agricultural practices, and more recently stormwater treatment. The estimated nutrient load reduction water quality benefit to Little Hatchet Creek is 3,350 lbs/yr of TN and 980 lbs/yr of TP. Project Status: Complete.
4. **Gainesville Regional Utilities (GRU) Reclaimed Water Extension** — The project involved the construction of an extension to the reclaimed water distribution main providing reclaimed water service to new redevelopment projects in Gainesville's Innovation district. The estimated alternative water supply benefit is 0.1 mgd. Project Status: Complete.
5. **Gainesville Suburban Heights Beville Creek Restoration** — The project included a 1,000 linear feet (LF) creek restoration that utilizes Regenerative Stormwater Conveyance (RSC) principals in conjunction with biosorption activated media (BAM) to reduce erosive conditions, improve water quality, promote groundwater recharge, and enhance the ecology and biodiversity within Beville Creek. The natural systems benefits include maintenance of a wildlife corridor between Cofrin Nature Park to Kingswood Lake while simultaneously providing erosion protection and an aesthetically pleasing creek system to benefit both the residents and the environment. Project Status: Complete.
6. **GRU Conservation Visualization Tool** — The project included the purchase and installation of the University of Florida's web-based geo-visualization platform to allow GRU to track conservation initiatives at the individual parcel level within the GRU service area. The estimated water conservation benefit is 0.14 mgd. Project Status: Complete.
7. **GRU Groundwater Recharge Wetland** — The project included construction of a modified stormwater dry retention basin to accept reclaimed water and support emergent marsh wetland vegetation and to reduce nitrate-rich water seeping into the groundwater. The estimated alternative water supply benefit is 0.4 mgd. Project Status: Complete.
8. **GRU Hogtown Creek Wastewater Improvements** — The project included connecting two residential customers to sanitary sewer and abandoning their existing septic

systems. The estimated nutrient load reduction water quality benefit is 84 lbs/yr of TN and 37 lbs/yr of TP. Project Status: Complete.

9. **GRU Low-Income Water-Efficient Toilet Exchange Program** — The conservation program provided eligible low-income customers up to two high-efficiency toilets in exchange for older, inefficient toilets, with up to 120 toilets replaced. The estimated water conservation benefit is 0.004 mgd. Project Status: Complete.
10. **GRU Smart Meter and Advanced Metering Infrastructure (AMI)** — The project included the replacement of older meters with smart meters that provide on-demand meter reading, leak detection, and backflow detection. The estimated water conservation benefit is 0.12 mgd. Project Status: Complete.
11. **GRU Smart Meter Installation** — Installation of 2,000 smart meters and implementation of an AMI Program. The estimated water conservation benefit is 0.1 mgd. Project Status: Complete.
12. **GRU Targeted Septic-to-Sewer** — The project included abandoning up to 13 septic systems and connecting the parcels to existing sanitary sewer. The estimated nutrient load reduction water quality benefit to the Lower Santa Fe / Ichetucknee River Spring is 45 lbs/yr of TN. Project Status: Complete.
13. **GRU Water Efficient Toilet Exchange Program** — This conservation program will provide Gainesville Regional Utility (GRU) customers with high-efficient toilets in exchange for older, inefficient toilets through the GRU Water Efficient Toilet Exchange Program. The estimated water conservation benefit is 0.01 mgd. Project Status: Not Started.
14. **Hawthorne Downtown Water Main Replacement** — The project included the replacement of approximately 4,800 LF of existing old cast iron water mains with new water mains and replacement of the service lines to each customer's structure. The estimated water conservation benefit is 0.013 mgd. Project Status: Complete.
15. **Hawthorne Passive Nutrient Loading Onsite Disposal** — The project involved retrofitting a septic tank with a Passive Onsite Treatment System (POTS), which reduces the nutrient concentration in the effluent discharge. The estimated nutrient load reduction water quality benefit is 96 lbs/yr of TN and 17 lbs/yr TP. Project Status: Complete.
16. **Hawthorne Water System Replacement Phase 3** — The project involved replacement of the leaking water system infrastructure and construction of approximately 3,700 LF of water main, cutting and capping existing mains for abandonment or removal, installation of valves, fittings, and hydrants, and replacement and reconnection of existing water services. The estimated water conservation benefit is 0.002 mgd. Project Status: Complete.
17. **Hawthorne Wastewater Package Plant Rehabilitation** — The project includes rehabilitating the existing package wastewater treatment facility tankage and components. The estimated nutrient load reduction water quality benefit to Little Orange Creek is 1,501 lbs/yr of TN and 535 lbs/yr of TP. Project Status: Not Started.
18. **Santa Fe College Plumbing Retrofit** — The project involved the replacement of toilets, urinals, faucets, and showers with high-efficiency models in various buildings on the main campus of Santa Fe College. The estimated water conservation benefit is 0.056 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 2015, the District and DEP have provided over $1.7 million in funding for agricultural projects in Alachua County. Alachua County agricultural

cost-share projects have provided an estimated benefit of 0.16 million gallons per day (mgd) of alternative water supply, 0.08 mgd of water conservation, over 13,000 lbs/yr TN reduction, and over 5,200 lbs/yr TP reduction.

19. **Brown's Farm Irrigation Conversion to Center Pivot 1** — The project included converting from traveling gun to a center pivot system on 39.3 acres in the Silver Springs springshed. The estimated water conservation benefit is 0.005 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 2,267 lbs/yr of TN and 702 lbs/yr of TP. Project Status: Complete.
20. **Brown's Farm Irrigation Conversion to Center Pivot 2** — This project involved the replacement of a volume gun with a center pivot on 50 acres of mixed vegetables benefitting Orange Creek. The estimated water conservation benefit is 0.008 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 339 lbs/yr of TN and 91 lbs/yr of TP. Project Status: Complete.
21. **Brown's Farm Irrigation Conversion to Center Pivot 3** — This project involved converting from hard hose traveler to center pivot irrigation on approximately 30 acres of mixed vegetables benefitting Orange Creek and the Ocklawaha River Basin. The estimated water conservation benefit is 0.002 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 62 lbs/yr of TN and 15 lbs/yr of TP. Project Status: Complete.
22. **Brown's Farms Irrigation Retrofits** — This project involved retrofitting five existing center pivots and adding pump automation on approximately 60 acres of miscellaneous vegetables benefitting Silver Springs. The estimated water conservation benefit is 0.009 mgd. The estimated nutrient load reduction water quality benefit is 243 lbs/yr of TN and 47 lbs/yr of TP. Project Status: Complete.
23. **Brown's Farms Precision Fertilizer Application 1** — This project involved the purchase and implementation of precision fertilizer application equipment and tender on approximately 250 acres of row crops benefitting Silver Springs and the Ocklawaha River Basin. The estimated nutrient load reduction water quality benefit is 1,350 lbs/yr of TN and 857 lbs/yr of TP. Project Status: Complete.
24. **Brown's Farms Precision Fertilizer Application 2** — This project involved the purchase and implementation of a mobile fertilizer sprayer for approximately 250 acres of row crops benefitting Silver Springs and the Ocklawaha River Basin. The estimated nutrient load reduction water quality benefit is 1,250 lbs/yr of TN and 558 lbs/yr of TP. Project Status: Complete.
25. **Brown's Farms Soil Moisture Sensors with Telemetry and Precision Fertilizer Application 3** — This project involved the purchase and installation of two soil moisture sensors, telemetry, and the purchase of a GPS variable rate fertilizer system for use on approximately 186 acres of row crops benefitting Silver Springs and the Ocklawaha River Basin. The estimated water conservation benefit is 0.012 mgd. The project also provides an estimated nutrient load reduction water quality benefit of 1,057 lbs/yr of TN and 950 lbs/yr of TP. Project Status: Complete.
26. **Florida Blue Farms Irrigation Retrofit** — This project involves an irrigation retrofit on approximately 26 acres of blueberries benefitting the Ocklawaha and Orange Creek. The estimated conservation is 0.004 mgd. The estimated nutrient load reduction water quality benefit is 30 lbs/yr of TN and 4 lbs/yr of TP. Project Status: Not started.
27. **Frog Song Organics Irrigation Retrofit and Precision Fertilizer** — This project involved the purchase and installation of a mini-wobbler irrigation system and precision

granular fertilizer application equipment for approximately 60 acres of fruit and vegetable production benefitting Orange Creek. The estimated water conservation benefit is 0.010 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 1,445 lbs/yr of TN and 408 lbs/yr of TP. Project Status: Complete.

28. **GP Farms Precision Fertilizer Equipment** — This project involved the purchase and implementation of a liquid fertilizer injection system and dry fertilizer banding equipment on approximately 13 acres of mixed vegetables and fruit trees. The estimated nutrient load reduction water quality benefit to the Silver Springs springshed is 177 lbs/yr of TN and 38 lbs/yr of TP. Project Status: Complete.
29. **Island Grove Irrigation Automation** — This project involved converting approximately 200 acres of existing micro-drip irrigation on blueberries to a fully automated irrigation system benefitting Silver Springs. The estimated water conservation benefit is 0.005 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 1,415 lbs/yr of TN and 207 lbs/yr of TP. Project Status: Complete.
30. **Island Grove Irrigation Retrofit** — This project involved the retrofit of a drip irrigation system on approximately 36 acres of blueberries benefitting Silver Springs. The estimated water conservation benefit is 0.011 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 14 lbs/yr of TN and 10 lbs/yr of TP. Project Status: Complete.
31. **Island Grove Irrigation Retrofit 2** — This project involves the installation of an irrigation retrofit on approximately 54 acres of blueberries benefitting the Ocklawaha, Orange Creek and Silver Springs. The estimated conservation is 0.006 mgd. The estimated nutrient load reduction water quality benefit is 39 lbs/yr of TN and 6 lbs/yr of TP. Project Status: In progress.
32. **Lochloosa Creek Farms Fertigation and Soil Moisture Sensors** — This project involved the purchase and implementation of a portable chemical injection unit and purchase and installation of components for weather station and soil moisture sensors for approximately 20 acres of blueberries benefitting Silver Springs. The estimated water conservation benefit is 0.002 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 71 lbs/yr of TN and 5 lbs/yr of TP. Project Status: Complete.
33. **Lochloosa Creek Farms Weather Station and Precision Fertilizer Application** — This project involved the purchase and installation of a soil moisture and climate sensor system and precision agriculture equipment on approximately 20 acres of blueberries benefitting Silver Springs and the Ocklawaha River Basin. The estimated water conservation benefit is 0.002 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 43 lbs/yr of TN and 30 lbs/yr of TP. Project Status: Complete.
34. **North Caledonia Irrigation Conversion and Fertigation** — This project involved an irrigation conversion from micro-spray to drip irrigation and adding fertigation on approximately 100 acres of olives benefitting the Lower St. Johns River Basin. The estimated nutrient load reduction water quality benefit is 156 lbs/yr of TN and 248 lbs/yr of TP. Project Status: Complete.
35. **North Caledonia Precision Fertilizer Applicator** — This project involved the purchase and implementation of precision fertilizer application equipment on approximately 605 acres of olives and hay benefitting Silver Springs and the Ocklawaha River Basin. The estimated

nutrient load reduction water quality benefit is 1,224 lbs/yr of TN and 233 lbs/yr of TP. Project Status: Complete.

36. **North Caledonia Surface Water Pump and Precision Fertilizer Application** — The project involved the purchase and installation of a tailwater recovery pond and surface water pump, a mobile fertilizer sprayer on approximately 575 acres of olives, hay, and sod benefitting Silver Springs and the Ocklawaha River Basin. The estimated water conservation benefit is 0.023 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 776 lbs/yr of TN and 564 lbs/yr of TP. Project Status: Complete.

37. **North Caledonia Tailwater Recovery Pond** — This project involved the construction of approximately 3.2 acres of tailwater recovery ponds for irrigation of hay and olive trees, as well as purchase of GPS equipment to apply variable rates of fertilizer on approximately 100 acres of olives and 420 acres of hay benefitting Silver Springs and the Ocklawaha River Basin. The estimated water conservation benefit is 0.14 mgd. The project also provided an estimated nutrient load reduction water quality benefit of 830 lbs/yr of TN and 168 lbs/yr of TP. Project Status: Complete.

38. **Robrick Nursery Greenhouse Irrigation Automation** — This project involves installing an automated greenhouse irrigation system for 2.3 acres of ornamental greenhouse production benefitting the Ocklawaha River Basin, Orange Creek and Silver Springs. The estimated conservation is 0.004 mgd. The estimated nutrient load reduction water quality benefit is 273 lbs/yr of TN and 113 lbs/yr of TP. Project Status: In Progress.

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 efforts in Alachua County include:

Paynes Prairie Diversion Project — This project replaced and updated an existing, potentially failing structure in Paynes Prairie Preserve State Park. The structure allows approximately half of the water from Prairie Creek to follow its historic route into Paynes Prairie to enhance the ecological health of the prairie and to provide additional recharge water to Alachua Sink which feeds nearby springs. Remaining Prairie Creek flows continue through Camps Canal to Orange Lake. Under typical conditions the structure is open, but it can be closed when water levels on the prairie become high enough to potentially effect U.S. Highway 441.

Collaborative Research Initiative on Sustainability and Protection of Springs (CRISPS) — The District and the University of Florida completed a three-year investigation into the health of springs to develop an enhanced scientific foundation that will help identify the most effective restoration and protection actions. The $3 million project is an important component of the District's springs protection work.

North Florida Regional Water Supply Partnership — The District is working in partnership with the Suwannee Florida 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 Alachua County, District properties include Lochloosa Wildlife Conservation Area, Newnans Lake Conservation Area and Orange Creek Restoration Area. For a current listing of District conservation areas, visit ***www.sjrwmd.com/lands***.

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