

Reclaimed water

Alternative water source stretches freshwater supplies, reduces pollution

FAST FACT

Use of reclaimed water is a safe, environmentally responsible alternative to disposing of wastewater in surface water bodies.

Reclaimed water is wastewater that has been thoroughly treated to remove harmful organisms and substances, such as bacteria, viruses and heavy metals, so it can be reused for nonpotable (nondrinking) purposes.

Using reclaimed water can delay the need to develop alternative drinking water supplies.

Currently, Florida is leading the nation in the use of reclaimed water.

Introduction

As one of the fastest growing states in the nation, Florida faces many water supply challenges. While there is no magic bullet to solving those challenges, the foundation of a sustainable water supply must be conservation, with a diversified selection of alternative sources to help stretch traditional freshwater supplies. One example is better use of reclaimed water.

Currently, Florida is leading the nation in the use of reclaimed water. But even as a national leader, Florida is only taking advantage of a fraction of its potential reuse opportunities.

Developing and using reclaimed water supplies for water resource benefits is a high priority within the St. Johns River Water Management District's consumptive use permitting, regional water supply planning, and water protection and sustainability programs — and in some areas, its surface water restoration programs.

About 40 percent of the wastewater treatment flow within the District is currently reused for beneficial purposes — to replace the use of traditional freshwater supplies.

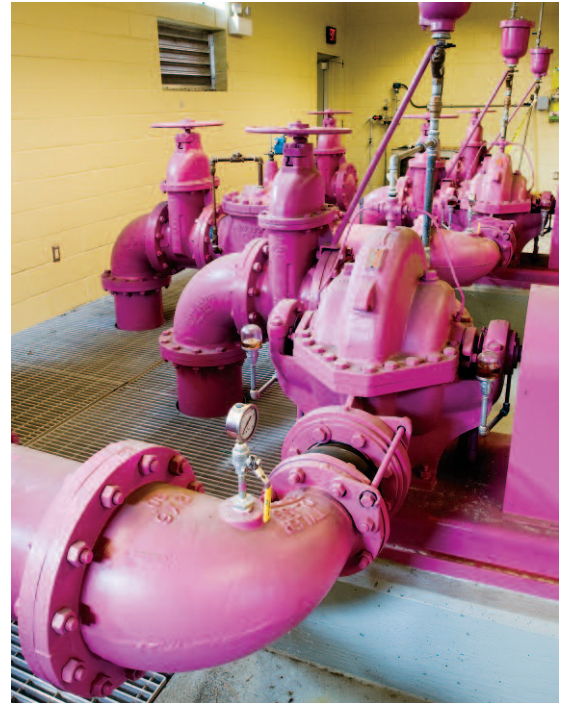
The majority of reuse occurs in the central Florida area.

The challenges

Providing high-quality drinking water to Florida's growing population has become more challenging and costly in recent years.

At the same time, wastewater management has become increasingly difficult because of environmental concerns.

Traditionally, the majority of drinking water for the 18-county population in the District



Purple pipes designate reclaimed water is being pumped through this plant in Port Orange.

has come either from private wells or public supply utility wellfields drilled into the aquifer system. In many areas of the District, groundwater (aquifer system) cannot continue to support the demand without causing unacceptable impacts to the environment (such as the reduction of spring flows or the drying of wetlands) and the District will not allow such impacts to occur.

Meeting projected future water needs will require continued water conservation programs and innovative management strategies, such as the development of alternative water sources. Many nonpotable (nondrinking) water needs can be met by reclaimed water.

Although reclaimed water offers significant potential as an alternative water supply source, there is typically too much of it available during

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periods of high rainfall and not enough available to meet demands during low rainfall periods.

Wastewater is produced constantly throughout the year, with no dramatic seasonal highs or lows. But irrigation, which is the most common use for reclaimed water, fluctuates seasonally, with demand being higher from March to July. Thus, storage of unused reclaimed water during times of excess for use during times of peak demands is desirable. Reclaimed water reservoirs or storage tanks are necessary to provide this storage.

In addition, reclamation facilities and reuse sites are not necessarily located near one another, so reclaimed water must be transported. Transmission lines and facilities, which can be expensive to construct or disruptive, (particularly in older or built-out areas) are necessary to accomplish this.

The solutions

By using reclaimed water, communities can conserve traditional freshwater supplies and provide an environmentally responsible alternative to disposal of wastewater.

Reclaimed water can be safely used for a wide variety of purposes, including landscape irrigation for golf courses, parks, highway medians, playgrounds and residential properties. Reclaimed water also is used for agricultural irrigation; decorative ponds and fountains; groundwater recharge; industrial uses such as cooling; fire protection; and wetlands creation, restoration and enhancement.

Critical to the growth and current success of reclaimed water use is the District's consumptive use permitting program. Permitting plays an important role in matching the area's water sources with its water needs. The consumptive use permitting program requires water conservation and the use of reclaimed water and stormwater where feasible.

To address the financial impacts of implementing reclaimed water projects, cost-share funding is available through the Water Protection and Sustainability Program. Dozens of reclaimed water projects have been funded through this program.

In some areas, interest in reclaimed water has been driven by water quality concerns. In the early days of reclaimed water in Florida — the 1970s — its use was largely due to wastewater disposal issues. One example is the Indian River Lagoon, the most diverse estuary in North America, where



A reservoir holds reclaimed water prior to it being pumped into a storage tank in Port Orange.

regulations to remove wastewater and stormwater discharges led to the expansion of reuse.

Today, the District is leading efforts to reduce pollutant discharges to the St. Johns River and to expand the use of reclaimed water, particularly in the Lower St. Johns River Basin where few wastewater treatment facilities are built to provide the highest level of sewage treatment. A reuse and wastewater treatment initiative is under way, with the District committing up to \$150 million over 10 years, to remove wastewater discharges and expand the use of reclaimed water.

Summary

Reclaimed water is now viewed as a commodity, as it has a demonstrated value and it meets a need in efforts to extend Florida's limited freshwater supplies. In many areas, people eagerly await access to reclaimed water because of its lower cost. Across Florida, communities are preparing for reuse infrastructure through long-range planning, as many nonpotable (nondrinking) water needs can be met by reclaimed water.



At a new treatment facility, purple pipes indicate this is a reclaimed water system.

