

EXECUTIVE SUMMARY

The upper Floridan Aquifer is the primary source of freshwater supplies for over 10 million people, and supports the major metropolitan cities of Jacksonville, Orlando, and Tallahassee, as well as millions of people in the surrounding counties. The aquifer, which spans approximately 100,000 miles underneath Florida and its neighbors, is listed by the U.S. Geological Survey as "one of the most productive aquifers in the world".

Meanwhile, Florida's population continues to rise at an annual rate of approximately 1.6%ⁱⁱⁱ, and is projected to expand to up to 30 million people by 2045, an increase of almost 142% over 2019 population estimates of just over 21.2 million people.^{iv} Securing and protecting freshwater supplies for these communities and future population expansions is critical.

Floridan Aquifer freshwater levels are dropping.

In 2011, scientists from the U.S. Geological Survey published findings that found "an exceptionally large area of decline (in groundwater levels) in the confined portions of the aquifer system extending from south central and southeastern Georgia into the Florida Panhandle and northeastern Florida". This, combined with decreases in precipitation and freshwater recharge rates throughout Florida due to global warming are levels pushing brackish water into freshwater reserves increasing challenges and competition for freshwater use.

THE SANTA FE RIVER BASIN AS A CASE STUDY

The Santa Fe River Basin sits poised in northcentral Florida, within the Suwannee River Water Management District (SRWMD), and at the heart of the dropping Floridan Aquifer system. In 2010, SRWMD published that the Floridan Aquifer in northcentral Florida was found to have "declined significantly during the past 75 years as a result of regional groundwater withdrawals in both the Suwannee River and St. Johns River Water Management Districts". In its report, the SRWMD outlined that the aquifer has dropped almost 0.15 feet per year since 1999, totaling 3 feet during the last 20 years, demonstrating a steady and constant decline in the aquifer's freshwater levels.

These statistics, coupled with the increased pressure from state and federal lawmakers to reduce impacts to freshwater supplies*, impelled the SRWMD to create a Recovery Strategy management plan to "aid in the recovery of water levels in the Upper Floridan aquifer and flows in the Lower Santa Fe and Ichetucknee Rivers and their associated springs." Strategies outlined in the plan range from the development of wastewater reuse facilities and the building of off-stream water storage, to the capturing and recharge of wet season stream flows. These efforts, taken together, represent enormous costs to Florida and SRWMD's taxpayers.

Continued water drawdowns and depletion.

For over 25 years the Seven Springs Water Company (Seven Springs), owner of over 1000 acres around and including Ginnie Springs in north central Florida, has held permits to withdraw water from the Santa Fe River Basin, and has sold those waters to major water bottling corporations. Nestlé, who acquired the bottling plant in nearby High Springs in February 2019, is the most recent purchaser of water from Seven Springs. In April 2020, Seven Springs applied to renew their permit for 1.152 million gallons of water per day withdrawals from the Santa Fe River Basin. While not the largest withdrawer of water within the district as total percent of water usage, Seven Springs and Nestlé represent the shortcomings of freshwater management in Florida.

Taxpayers are footing the bill for Nestlé and others.

Currently, the state of Florida does not charge for water withdrawals, meaning that the only fees that Seven Springs and Nestlé pay to the district and state for freshwater are the \$115 water permit fees due upon permit renewal every 5 years. This oversight means that Floridian taxpayers are currently funding efforts to restore freshwater levels within the Santa Fe River Complex, which are subsequently being extracted by Seven Springs and Nestlé Waters for profit.

RECOMMENDATIONS

1. The SRWMD should deny Seven Springs Water Company and Nestlé Water's permit.

The 1972 Florida Water Resources Act requires each water district in Florida to identify and establish minimum flows and levels, or MFLs, which outline the minimum amount of water required in a water system to "properly function and retain its value"xii, with the ultimate goal of preventing harm to the function of the biological system and its inhabitants. The SRWMD's MFLs were last reviewed in 2014, were subsequently peer reviewed by the University of Florida Water Institute, and published in the SRWMD's 2014 Recovery Strategy for the Lower Santa Fe River Basin. The recovery strategy clearly outlines that MFLs are not currently being met, which constitutes just cause for denial of water extraction permits to Seven Springs, Nestlé, and others.

2. Institute a Water Use Reservation, limiting water withdrawals in the SRWMD.

While Seven Springs' 1.15 million gallon per day permit request only represents 1% of the spring's total flowages, it epitomizes excess stressors to the aquifer system, and the need to readdress overall water drawdown rates - especially within the areas of the Suwannee River Water Management District, and the Ichetucknee River where flowages are already below MFLs. This paper recommends that the Suwannee River Water Management District institutes a Water Use Reservation, which under Florida Administrative Code 62-40.474, "reserve(s) water from use by permit applicants in such locations and quantities...as in its judgement may be required for the protection of fish and wildlife or public health and safety."xiii

Governor Ron DeSantis' Executive Order 19-12 from January 2019, calling to "identify and research all viable alternative water supply sources", "Implement vital conservation, reuse and other water supply projects", and "engage local governments, industry, citizens, and other stakeholders through a targeted outreach campaign that will focus on the importance of conservation and reuse efforts" further highlights the importance and responsibility towards conservation of freshwater resources.

3. Institute a water use fee, taxing withdrawals from industry.

In addition to extractive water use withdrawals by bottled water companies such as Nestlé, the majority of water use in the SRWMD is currently and has historically been for agricultural irrigation, mining, and other commercial industries.** The state of Florida currently does not charge for the use

of water used for manufacturing, agriculture, or mining, though several proposals for a bottled water tax have recently been put forth to the Florida House of Representatives^{xvi}.

These proposals, though a step in the 'right' direction, are industry specific to the bottled water industry, and would not target the heaviest users of groundwater. Therefore, this paper recommends a double dividend water taxation model that taxes commercial water use, with revenues from the tax being put back into further water waste reduction projects. The proposed water excise tax would focus on Florida's largest water users, and "although consumers would initially experience increased costs, the tax would eventually result in more efficient and less costly business practices" xviii further increasing groundwater retention and freshwater security.

CONCLUSION

Increased populations and rising sea levels due to climate change force states such as Florida to reconsider long-standing practices of heavy groundwater withdrawal. Even with some of the United States' heaviest rainfall, and an aquifer with 1/5th the reserves of the Laurentian Great Lakes, Florida continues to find itself in a losing battle with maintaining sufficient freshwater reserves. Having recently updated its water statutes and definitions, Florida is uniquely positioned to lead progressive efforts to protect America's freshwater supplies for public use through the careful application of a corporate water tax and interim moratoriums on further massive groundwater withdrawals.

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