

# A report on Recovery Strategies For the Santa Fe and Ichetucknee Rivers

## **Overview**

This document addresses the strategies needed to ensure the health of the Santa Fe and Ichetucknee Rivers in the context of the State's Minimum Flows and Level's program and attempts to answer the following questions.

1. Are flows in these rivers at environmentally acceptable levels? Or have flows been reduced by regional groundwater pumping to the point that there isn't enough water for both human use and the ecological health of the rivers?
2. What is the State doing to limit regional groundwater pumping? Have the State's strategies been effective in restoring low flows in these rivers?
3. What new strategies are the State considering for future limits on groundwater pumping in the region? Could these new strategies be effective in improving the health of the rivers?

## **North Florida Regional Water Supply Plan**

Florida's water management districts are required to create Regional Water Supply Plans to assess current and future water demand, determine the potential impacts of groundwater withdrawals on natural resources, and identify projects to meet future water needs while protecting the environment.

Alachua County, and the Santa Fe and Ichetucknee River basins, are located within the North Florida Regional Water Supply Planning area, which spans portions of two water management districts: the St. Johns River Water Management District and the Suwannee River Water Management District. The Districts have proposed an updated North Florida Regional Water Supply Plan which covers the planning horizon from 2020-2045.

According to the plan, population in this area is expected to increase by nearly one million people (49% increase), irrigated agricultural land is expected to increase by 30,000 acres (24% increase), and total water use is expected to increase by 168 million gallons per day (32% increase) - of which 135 million gallons per day is fresh groundwater (29% increase).

The plan includes projects to offset 160 million gallons per day in increased water demand through water supply/resource development projects and water conservation projects. Unfortunately, however, the mix of projects selected is economically inefficient and unlikely to achieve the necessary offsets. The plan includes approximately 144 million gallons per day in

water supply/resource development projects at an estimated cost of over 2.1 billion dollars, and 16.8 million gallons per day saved from water conservation projects at a cost of 57.5 million dollars. Based on these estimates, water conservation projects are more than four times more cost efficient than water supply/resource development projects.

As discussed below, the Santa Fe and Ichetucknee Rivers are already experiencing “significant harm” due to over-pumping of groundwater within the basin. The 2023 North Florida Regional Water Supply Plan anticipates a 29% increase in groundwater withdrawals over the next twenty-five years, without providing a realistic plan to offset those increases through water supply/resource development or water conservation projects. Protecting the Santa Fe and Ichetucknee Rivers, and reversing the “significant harm,” requires a strong regulatory plan to limit harmful water withdrawals.

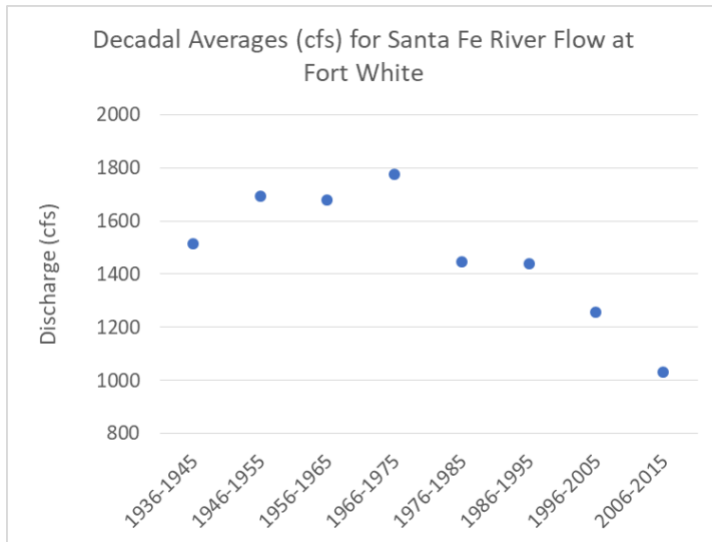
### **Minimum Flows**

Chapter 373.042, Florida Statutes, requires the State to establish Minimum Flows and Levels for water bodies across the State. Minimum flow is defined as “the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area.” The statute doesn’t define “significantly harmful”, so the term is typically evaluated by one of the State’s water management districts after consideration of various water resource values (e.g. manatee passage, submerged aquatic vegetation). Recently, water management districts have used a 15% reduction in the most sensitive water resource value as the point where “significant harm” occurs. Minimum Flows and Levels are intended to set a limit on how much groundwater pumping may be permitted before significant harm occurs to one or more of these water resources or to the ecology of the river and its associated springs.

### **2015 Minimum Flows and Levels for the Santa Fe and Ichetucknee Rivers**

The Santa Fe/Ichetucknee Minimum Flows and Levels rule currently in place was adopted in 2015. Typically, a minimum flow and level is approved by the Governing Board of the relevant water management district, but in this case the rule was adopted by the Department of Environmental Protection because the minimum flow and level area spanned both the Suwannee River Water Management District and the St. Johns River Water Management District.

DEP concluded in 2015 that both rivers were experiencing “significant harm” – that is, flows in both were below the minimum level needed to support critical water resources. Here is a graph, generated by the Florida Springs Council using SRWMD data, showing the significant decline in Santa Fe River flow, decade-by-decade, in recent years:



State law requires that a prevention strategy be implemented if studies show that the minimum flows and levels will be violated sometime in the next 20 years. A **recovery strategy must be implemented if a minimum flow or level is not currently being met.** Accordingly, when it became clear in 2015 that the minimum flow for the two rivers was not being met, the Florida Department of Environmental Protection adopted a recovery strategy utilizing a number of policies and programs to restore adequate flows to these rivers, including water conservation, water supply projects, and regulatory measures limiting issuance or renewal of water permits.

In other areas of Florida where insufficient water has been available for both human use and a healthy environment, the State has seen fit to limit groundwater pumping. In the Southern Water Use Caution Area, for instance, when a proposed withdrawal impacts a water body that is under a recovery or prevention strategy the permittee must offset the impact of the withdrawal plus provide an additional positive effect on the water body equal to or exceeding 10 percent of the predicted impact. This can be done by providing other groundwater permit holders with reclaimed water, through a water resource development project, or by the retirement of an existing permit.

The 2015 Recovery Strategy could have been drafted to include regulatory provisions limiting water withdrawals, but in fact it was very weak on regulation, providing only the following<sup>1</sup>:

- Existing pumping permits were not affected by the Recovery Strategy
- Renewal permits were automatically approved for five years, even where increased pumping from the permit would further harm the Santa Fe and Ichetucknee

<sup>1</sup> See page 37 of this document: <https://www.mysuwanneeriver.com/DocumentCenter/View/9116/Lower-Santa-Fe-and-Ichetucknee-River-Recovery-Strategy?bidId=>

- For new permits or renewals asking for an increase, permits were approved unless they demonstrated an impact on the rivers.

**Permits for Groundwater Pumping**

Issuance of groundwater permits is governed by section 373.223 of the Florida Statutes, which provides that a proposed water use must:

1. Be reasonable and beneficial,
2. Not interfere with any existing legal use of water, and
3. Be consistent with the public interest.

Generally, permit applications for pumping over 100,000 gallons/day are evaluated by water management staff and in many cases are voted on by the water management district governing board.

Clearly, these rivers could not in fact recover the necessary flow to prevent significant harm as long as the permits which caused the problem in the first place were allowed to operate unimpeded for at least five more years. But the problem with the “Recovery” Plan goes beyond the fact that permitted pumping would not be reduced for at least five years. During this same five-year period– hundreds of new permits were issued by both relevant water management districts. An analysis of permit **data from only one District and from only one county** within that District – Suwannee River Water Management District permit applications from Alachua County – during the 2015-2023 period revealed the following:

Number of Permit Applications	113
Number of Permits Issued	84
Number of Permits Denied	0
Number of New Permits Issued	28
Approximate Volume of New Permits	6 million gallons per day

It is concerning that 28 new water-pumping permits were issued by the Suwannee River Water Management District within Alachua County in the eight years since the State determined that the Santa Fe River was suffering “significant harm” from over-pumping. The potential impact of any proposed new water-use may be analyzed with models, which generate estimates of how much the new withdrawal will decrease flows at designated locations on the Santa Fe and Ichetucknee Rivers. If the impact is determined by District staff to be “*de minimis*” – that is, trivial – the permit is approved. The value that is considered a “*de minimis*” impact is not to be found on the District website, in their rules, or in any technical publication. It is not clear if

each Districts uses the same *de minimis* criterion. What is clear, however, is that the *de minimis* number is large enough to approve 28 new permits, and reject zero permits, within Alachua County in this eight year period.

With respect to impacts on the Ichetucknee and Santa Fe, the 28 new permits issued by the Suwannee River Water Management District for Alachua County since 2015 is not the only concern. These 28 new permits do not include “permit modifications” to increase the amount pumped each day. Nor do they account for the fact that while the individual permits may be small, their cumulative impact on a river system already suffering “significant harm” is anything but small. Further, many new and significantly larger permits were issued by the water management district in other counties (Columbia, Suwannee, Bradford, Gilchrist) that are likely to have a significant impact on flows in the Santa Fe and Ichetucknee Rivers.

The 2022 Status Assessment shows that the Santa Fe and Ichetucknee Rivers are still experiencing significant harm, at two of the three gages, eight years after the initial recovery plan was adopted. In short, the Supplemental Regulatory Measures adopted in 2015 have not served to restore lost flows and have allowed increased pumping.

### **The Next Minimum Flow and Level for the Santa Fe and Ichetucknee Rivers**

The Minimum Flow rule<sup>2</sup> currently in effect was approved by the Florida legislature on June 10, 2015. That rule, and Florida Statute, directed the Department of Environmental Protection to propose a new rule for adoption by the end of 2019. Staff is currently updating the rule and it is anticipated that it will be submitted in 2025 for ratification.

There are two components of this proposed new minimum flow rule. A scientific assessment of rivers at three designated “compliance points” and a regulatory strategy designed to restore flow above the point where significant harm is occurring. The scientific assessment appeared to be complete in 2021, but was then changed in December 2022, and may presumably be changed again in the future.

The draft regulatory strategy contains three parts: a water-use permitting strategy released in December 2021, public-supply (water utilities) strategy released in April 2022, and an agricultural conservation strategy also released in April 2022. There has been significant public comment on these strategies, from Alachua County, the Florida Springs Council, as well as a variety of agricultural and utility entities.

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<sup>2</sup> Rule 62-42.300, F.A.C.

If these regulatory strategies are adopted as currently drafted, they would authorize the use of far better tools for restoring river flows than currently exist under the 2015 plan. The fate of these provisions is in question, however, given the history in Florida of draft water regulations being progressively diluted<sup>3</sup> in the face of pressure from agricultural and utility interests.

The first draft regulatory component – the water-use permitting strategy – is significantly more protective than the comparable provisions from the 2015 regulatory strategy<sup>4</sup>. This new plan contains the following provisions:

- “Base Condition Water Use” is defined as the average annual groundwater extraction by an existing permittee from 2014-2018.
- The draft has two provisions requiring offsets from existing permits. However, until the Department of Environmental Protection clarifies how the rule will be applied, it is impossible to determine which permits will be subject to which provision.
  - The more protective provision would require existing permittees to offset their proportionate share of impact to the rivers, calculated from their “Base Condition Water Use” withdrawal, as soon as practicable” and in no case more than 20 years from the rule’s effective date.
  - The second, less protective, provision would require existing permittees to offset impacts only from any pumping in excess of the “Base Condition Water Use,” essentially “grandfathering” in this harm.
- An applicant requesting a new permit, or a renewal with an increased allocation, must offset their entire impact to the Santa Fe and Ichetucknee Rivers.

If aggressively enforced, these draft provisions have the potential to significantly reduce pumping in the Santa Fe and Ichetucknee Rivers Basin. For the first time, the size of existing permits could be scaled back considerably, from the current allotted amount to the average of recent historical use. Further, the routine approval of new permits, as documented above for Alachua County applications to the Suwannee River Water Management Districts from 2015-2023, would cease and all such applications would require proof that this new proposed pumping would be completely offset by retiring another existing permit or through other means. Although it is not clear from the draft strategy - and will depend upon the language upon adoption and agency implementation - it is also possible that rule would require *de minimis* impacts to be offset rather than ignored.

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<sup>3</sup> The Central Florida Water Initiative is a case in point.

<sup>4</sup> Florida Springs Council representatives met with key DEP staff on the regulatory strategy in late 2022 and pointed out a number of inconsistencies and confusing provisions in the water-permitting provisions. DEP agreed to clarify its intent in the next iteration of the strategy but that has yet to happen so this discussion is necessarily speculative.

The draft regulatory strategy also contains guidance on water conservation planning by public water supply providers. Conservation plans should include components on public education, outdoor and indoor water conservation, rate structures promoting water efficiency, and reduced water loss, resulting in a reduction of per capita use by customers. A missing, but important component of public supply water conservation is addressing the installation of irrigation wells in areas served by centralized public supply water. As one major utility noted, prohibiting installation of irrigation wells in areas served by centralized water is the most effective means of achieving outdoor water-use reductions.

The provisions for agricultural water conservation have significant potential to reduce pumping. There are minimum requirements for “distribution efficiency,” a measure of how uniformly water is applied to irrigated areas by various types of irrigation systems. And there are detailed requirements for water-saving best management practices, with tiered credits for practices ranging from soil-moisture sensors to removal of inefficient sprinklers to planting of cover crops. The adoption and implementation of these best management practices by farmers will require significant state and water management district cost-share funding.

### **Public Involvement**

It is clear that a strong regulatory component is needed to restore flow in the Santa Fe and Ichetucknee rivers. Public engagement helps ensure that regulatory strategies are not weakened in the rule making process. Citizens interesting in commenting on this MFL or tracking its progress should monitor these websites:

<https://floridadep.gov/water-policy/water-policy/content/lower-santa-fe-and-ichetucknee-rivers-lsfir-and-priority-springs>

<https://www.mysuwanneeriver.com/1590/Lower-Santa-Fe-and-Ichetucknee-Rivers-an>