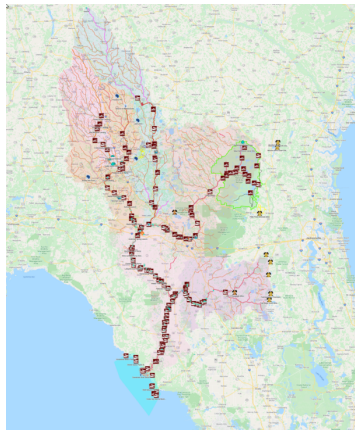
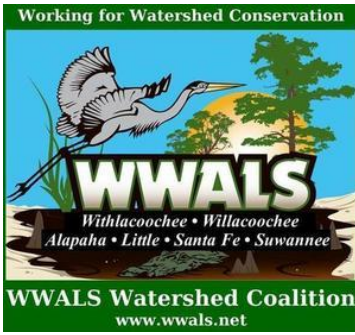


May 15, 2023



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est. June 2012

*WWALS Watershed Coalition (WWALS) advocates for conservation and stewardship of the surface waters and groundwater of the Suwannee River Basin and Estuary, in south Georgia and north Florida, among them the Withlacoochee, Willacoochee, Alapaha, Little, Santa Fe, and Suwannee River watersheds, through education, awareness, environmental monitoring, and citizen activities.*

*Suwannee RIVERKEEPER® is a program and a paid staff position of WWALS.*



To: Water Planning  
Georgia Department of Natural Resources  
[water.planning@dnr.ga.gov](mailto:water.planning@dnr.ga.gov)

**RE: WWALS Comments on SSRWPC Draft Regional Water Plan**

Dear DNR,

Responding to your invitation to comment on the draft Regional Water Plans, I write to mention some omissions in the [Suwannee-Satilla Regional Draft Water Plan of March 2023](#).

First I would like to commend the Council for excellent work. However, nothing is perfect, and the SSRWPC Plan overlooks important rivers and some major threats to the region's waters. Specifically:

- The rivers that run by or are downstream of the most populous cities in the Suwannee-Satilla Region are overlooked in the summaries. **The Little, Withlacoochee, Alapaha, Willacoochee, and Alapahoochee Rivers should be more prominently mentioned.**
- There is no mention of the titanium dioxide strip mine proposed within three miles of the Okefenokee Swamp, nor of its potential effects on surface and groundwater, including the Suwannee and St. Marys Rivers and the Floridan Aquifer. Resolutions have been passed against the proposed strip mine and in favor of the waters, by Valdosta, Waycross and Ware County, Homeland, Kingsland, and St. Marys. **SSRWPC should also pass such a resolution against the proposed strip mine and for the Okefenokee Swamp and associated rivers and groundwater.**
- There is no mention of the potential for phosphate mining southwest of the Okefenokee Swamp, just across the state line from a major phosphate mine in Hamilton County, Florida, and in the same phosphate deposit. **A Plan looking forward 30 years should take into account what phosphate mining could mean to our surface and underground waters.**

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## The overlooked rivers

In the Draft Suwannee-Satilla Plan, Executive Summary, Page ES-2, and in 2.1.1 Surface Water Resources, page 2-2:

*The Suwannee, Satilla, and St. Marys Rivers are a popular fishing resource to the region. There are several species of fish found in the rivers, offering excellent fishing for chain pickerel, warmouth, largemouth bass, bluegill, topminnow, sunfish, crappie, and catfish.*

This is all true, but the same can be said of the Little, Withlacoochee, Alapaha, Willacoochee, and Alapahoochee Rivers. Most of which are already adversely affected by mercury, which mining would only make worse, stirring up more previously air-deposited mercury that would get into waterways and accumulate in fish.

For some reasons why these rivers matter, see the beginning of the next paragraph, and 2.2 Characteristics of Region, Page 2-3:

*The Suwannee-Satilla Region encompasses several population centers, including the cities of Valdosta, Tifton, and Douglas.*

Valdosta and Tifton are the two most populous cities in the SSRWPC region. Valdosta is bordered on the northwest by the Withlacoochee River, is just east of the Little River Confluence, and Valdosta's east and south sides drain into the Alapahoochee and Alapaha Rivers. Tifton is between the Little River and the New River that flows into the Withlacoochee River.

## **The Okefenokee Swamp and the rivers**

At the end of the first-quoted paragraph on Page ES-2, and in 2.1.1 Surface Water Resources, page 2-2:

*Perhaps the most well-known natural habitat and recreational resource in the region is the Okefenokee National Wildlife Refuge. The Okefenokee Swamp is home to 234 bird species, 50 mammal species, 39 fish species, 64 reptile species, and 37 amphibian species. The swamp is also home to over 620 species of plants.*

As noted on page ES-2 and in 2.1.1 Surface Water Resources on page 2-1:

*The headwaters of the Suwannee River are in the Okefenokee Swamp.*

The Plan does not mention that the Okefenokee Swamp is also the headwaters of the St. Marys River. It should mention that.

## **Groundwater and the Floridan Aquifer**

The Plan property emphasizes the importance of groundwater to the SSRWPC Region.

### *2.1.2 Groundwater Resources*

*Groundwater is a very important resource for the Suwannee-Satilla Region. Figure 2-2 depicts the major aquifers of Georgia. Based on 2019 pumping data provided by Georgia EPD, nearly all groundwater supplied in the region is from the Floridan aquifer, which is one of the most productive groundwater aquifers in the United States.*

However, the Plan does not mention that surface and groundwater interchange in the Region. See for example the case of Shadrick Sink, which takes in Withlacoochee River water west of the river; that water then flows underground several miles east to the site of Valdosta's water wells, which caused Valdosta to sink them twice as deep to get under the river water.<sup>1</sup> There is scientific evidence that the Okefenokee Swamp exchanges surface waters with underground waters all the way down to the Floridan Aquifer.<sup>2</sup>

Underground water is the primary source for drinking water, irrigation, and industry throughout south Georgia and north Florida. Florida is already affected by water withdrawals from as far away as Savannah, a hundred miles farther than the mine site, as evidenced by the North Florida Southeast

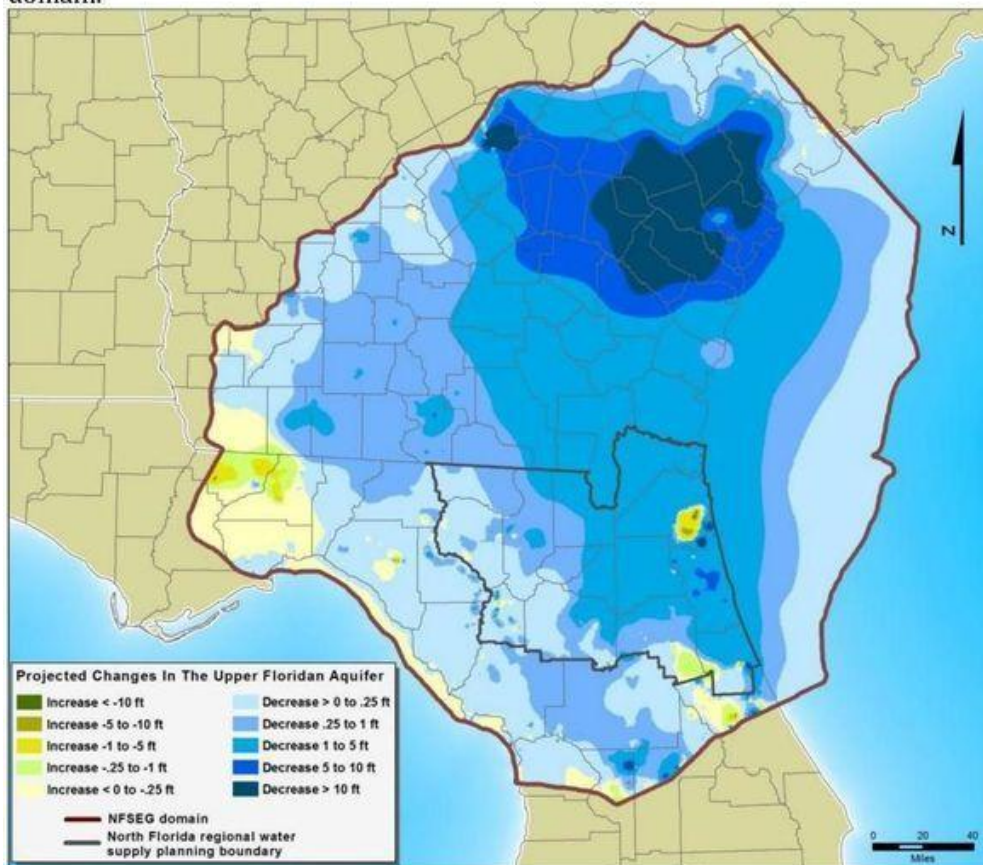
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<sup>1</sup> Groundwater considered important: WWALS to EPA 2022-02-07, WWALS, February 7, 2022, <https://wwals.net/?p=57710>

<sup>2</sup> Kitchens, Susannah; Rasmussen, Todd C., University of Georgia, April 1994, Hydraulic Evidence For Vertical Flow From Okefenokee Swamp To The Underlying Floridan Aquifer In Southeast Georgia <https://smartech.gatech.edu/handle/1853/44003>

Georgia Groundwater Model (NFSEG), compiled with collaboration of personnel of the Georgia Environmental Protection Division for the North Florida Regional Water Supply Plan (NFRWSP) by Florida's Suwannee and St Johns River Water Management Districts.<sup>3</sup> If current withdrawals from Savannah are affecting Florida's groundwater, then this proposed mine site will likely exacerbate those impacts.

Figure C3: Change in Upper Floridan aquifer from 2035 withdrawals within the NFSEG domain.



The Floridan Aquifer also feeds the numerous springs along the Suwannee, Santa Fe, Withlacoochee, and other Rivers in the Springs Heartland of Florida, which is a major contributor to tourism, which is the biggest industry of Florida. Those springs and rivers are already affected by lower flows, which any further reduction would make even worse.

## Mining as a threat to surface and groundwater

Mining occurs several times in the SSRWPC Plan in lists of industrial water and wastewater, with no elaboration.

There is a slightly more detailed mention in Industrial Wastewater Forecasts on page 4-6:

*It should be noted that some facility types (i.e., mining) may recycle stormwater discharges causing an increase in overall discharges but a decrease in water withdrawal. Discharges are estimated to remain constant over time for all sub-sectors except for an expected increase for food processing.*

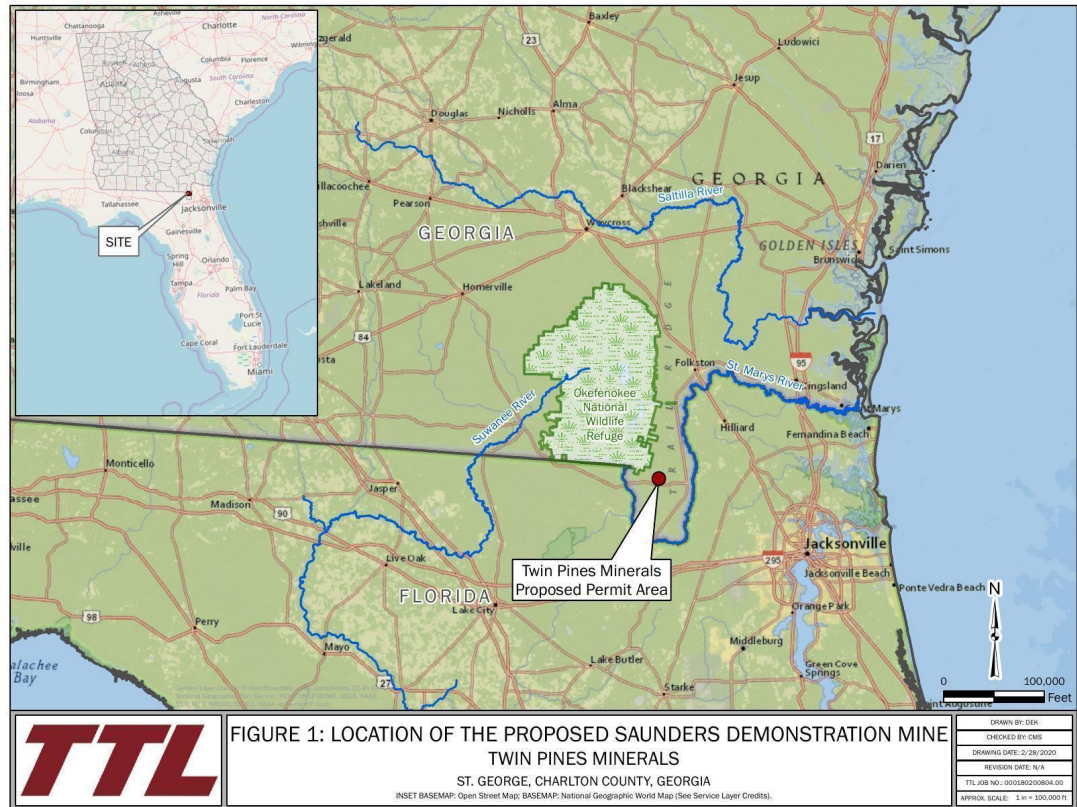
Yet there is no mention of mining in the modeled water challenges.

Twin Pines Minerals, LLC (TPM) proposes a strip mine for titanium dioxide within three miles of the

<sup>3</sup> Suwannee River Water Management District and St. Johns River Water Management District, North Florida-Southeast Georgia (NFSEG) regional groundwater flow model <https://northfloridawater.com/groundwaterflowmodel.html>

Okefenokee Swamp. It is currently in permitting with the Georgia Environmental Protection Division. <https://epd.georgia.gov/twin-pines>

The mine site is in the St Marys River Basin. But there is no wall in the Okefenokee Swamp between the St. Marys and Suwannee River watersheds. Any change in the level or composition of the swamp water will affect all of the Okefenokee Swamp, and the Suwannee River, which drains about 85% of the swamp. Lower water levels would mean more difficult boating on the paddle trails and motor boat tour routes, affecting the economy as well as wildlife.



Such potential adverse effects alarm communities not even downstream of the proposed mine. Resolutions have been passed against the proposed strip mine and in favor of the waters, by Valdosta, Waycross and Ware County, Homeland, Kingsland, and St. Marys.<sup>4</sup>

### TPM Mining Land Use Plan (MLUP)

The TPM Mining Land Use Plan (MLUP)<sup>5</sup> Summary says, "No process water will be discharged from the site."<sup>6</sup> This is hard to believe, since TPM is under a Florida Consent Order for spilling wastewater and other infractions at two TiO<sub>2</sub> mine sites in north Florida.<sup>7</sup>

The people behind TPM also started two biomass plants in north Georgia,<sup>8</sup> one of which caused a

<sup>4</sup> Resolutions for Okefenokee Swamp, against strip mine –Suwannee Riverkeeper @ SGRC 2021-12-09, WWALS, December 20, 2021, <https://wwals.net/?p=57248>

<sup>5</sup> Georgia Environmental Protection Division (GA-EPD), accessed March 8, 2023, "Twin Pines Minerals Draft Mining Land Use Plan and Associated Documents for Public Comment" <https://epd.georgia.gov/twins-pines-docs-comment>

<sup>6</sup> GA-EPD, January 19, 2023, "Mining Land Use Plan Summary, Twin Pines Minerals, LLC", page 2, in "...Documents for Public Comment," op cit..

<sup>7</sup> Consent Order, "Florida Department of Environmental Protection (FDEP) v. Chemours involving Twin Pines Minerals," February 7, 2019 <https://wwals.net/?p=49898>

<sup>8</sup> Lee Shearer, Athens Banner-Herald, 12 September 2015, "Alabama company plans wood-burning electricity plants near Athens," <https://www.onlineathens.com/story/news/state/2015/09/13/alabama-company-plans-wood-burning-electricity-plants-near-athens/15483131007/>

massive fish kill,<sup>9</sup> and both of which caused the state to pass a law to stop them from burning railroad ties.<sup>10</sup> TPM proposes to use multiple experimental techniques to minimize environmental impacts including draglines, evaporators, and placing a layer of bentonite horizontally to name a few.

TPM has a bad environmental track record, which does not indicate that they can do what they are saying without harming the surrounding ecosystem. This mine is not worth risking the swamp and its rivers or underground waters.

That Summary adds, "To reduce the amount of groundwater withdrawn, all process water will be returned to the basin so that it can be continually recycled after use."<sup>11</sup> And that Summary says, "Evaporators are mobile and will be relocated as necessary to control water in Ponds M1 – M4. The floating platforms for the 167 evaporator units displace a total of 0.022 MG of water."<sup>12</sup> Which is it? All process water will be recycled? Or some of it will be evaporated?

The history of TPM in Florida and Georgia and the TPM MLUP cast much doubt on the assertion in the SSRWPC Draft Plan that "*some facility types (i.e., mining) may recycle stormwater discharges....*" It would be best to remove that assertion from the SSRWPC Draft Plan.

### **No mention of Mercury in the TPM MLUP**

The SSRWPC Draft Plan mentions in its Executive Summary, page ES-1, "water quality challenges associated with trophic-weighted residual mercury in fish tissue...."

The only mention of mercury in the TPM MLUP seems to be in one file with groundwater sampling results.<sup>13</sup> We see no plan in the MLUP for what to do when mercury is found.

Relatively high rates of atmospheric mercury deposition in and around the swamp have been well documented,<sup>14</sup> especially from coal power Plant Scherer.<sup>15</sup> Land disturbance from mining activities also has the potential to mobilize toxic mercury that has accumulated in soils in and around the swamp. It is also well documented that distributing soil that has accumulated this highly toxic element will increase its mobility.<sup>16</sup> In turn further contamination of fish tissue is likely and will result in increased risk from fish consumption. Current advisories already recommend limiting meals of fish caught in the region to one meal per month.<sup>17</sup>

More mercury stirred up by mining would be even worse for recreational fishing than the mercury already in our rivers, adding to accumulated mercury in fish tissue.

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<sup>9</sup> MJ Kneiser, 921wlhr.com, 8 October 2019, "EPD/DNR Investigates Fish Kill In Indian Creek Caused by Biofuel Plant Run-off," <https://921wlhr.com/epd-dnr-investigate-fish-kill-in-indian-creek-caused-by-biofuel-plant-run-off/>

<sup>10</sup> Dave Williams Capitol Beat News Service, March 2, 2020, "Bills aim to halt burning of creosote railroad ties in Franklin, Madison counties," <https://www.onlineathens.com/story/news/environment/2020/03/02/bills-aim-to-halt-burning-of-creosote-railroad-ties-in-franklin-madison-counties/1600736007/>

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*, p. 2.

<sup>13</sup> GA-EPD, January 19, 2023, "Twin Pines Minerals Draft Mining Land Use Plan and Associated Documents for Public Comment," 2-MLUP-App-H-b-Water-Quality-10-31-2019-Figs-Tables-and-Apps.pdf <https://epd.georgia.gov/twins-pines-docs-comment>

<sup>14</sup> National Atmospheric Deposition Network, accessed March 14, 2023, "Mercury Deposition Network"

<sup>15</sup> U.S. EPA Region 4, February 28, 2002, "TOTAL MAXIMUM DAILY LOAD (TMDL) DEVELOPMENT For Total Mercury in the Alapaha Watershed", Appendix I, [https://epd.georgia.gov/sites/epd.georgia.gov/files/related\\_files/site\\_page/AlapahaHgFinalTMDL.pdf](https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/AlapahaHgFinalTMDL.pdf)

<sup>16</sup> USGS Communications and Publishing, September 14, 2016, "Mercury contamination is widespread, at various levels across western North America in air, soil, sediment, plants, fish and wildlife."

<sup>17</sup> eRegulations.gov, accessed March 14, 2023, "Georgia Fish Consumption Guidelines: Georgia Waters" <https://www.eregulations.com/georgia/fishing/fish-consumption-guidelines-georgia-waters>

For more about this issue, see the WWALS Public Comments to EPD about the TPM MLUP<sup>18</sup> and the WWALS comment letter to the U.S. Army Corps of Engineers of September 12, 2019.<sup>19</sup>

## **The Okefenokee Swamp and its waterways are more important than white paint**

According to Chemours<sup>20</sup> and the Florida Department of Environmental Protection (FDEP),<sup>21</sup> the Chemours Florida mines produce ilmenite, which is used to produce titanium dioxide (TiO<sub>2</sub>). Titanium dioxide is used in the manufacture of clothing, paper, paint, sun block, and other products.<sup>22</sup> If TPM had contracts for anything else, no doubt they would have announced that by now. This TiO<sub>2</sub> does not become titanium metal, and is not necessary for national defense, as evidenced by the U.S. Department of Interior opposing the TPM mine. White paint and sun block are not worth risking the Okefenokee Swamp, the rivers, or the aquifer.

Intact and undisturbed wetlands provide a wilderness experience that has a direct positive economic impact on surrounding gateway communities and across the state. Ecosystem destruction produces huge costs associated with cleanup and restoration. The historical destruction of another famous wetland, the Florida Everglades, has cost taxpayers an estimated \$8.8 billion through the Comprehensive Everglades Restoration Plan (CERP)<sup>23</sup> for which the federal government has provided \$3.5 billion of which has been provided by the federal government \$5.3 billion has been paid for by Florida). The state of Florida allocated another \$3.5 billion for Everglades restoration activities in January 2023.<sup>24</sup> In total, CERP is expected to cost \$23.2 billion.<sup>25</sup> There is an enormous cost associated with trying to fix an ecosystem once it has been broken, and taxpayers, not industry groups, would be saddled with that cost.

Please oppose this titanium dioxide strip mine incursion into the Okefenokee Swamp and its environs.

## **Phosphate mining**

The Nutrien phosphate just across the state line in Hamilton County, Florida, and downstream on the Suwannee River, denies that it has anything to do with White Sulphur Spring, one of the oldest tourist attractions in Florida, drying up. But when Nutrien stopped pumping as much water, that spring started flowing more again. The cluster of big circles top center of this map of Springsheds and Water

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<sup>18</sup> WWALS Public Comments on Mining Land Use Plan of Twin Pines Minerals, LLC, too near the Okefenokee Swamp 2023-03-17, WWALS, March 17, 2023, <https://wwals.net/?p=61414>

<sup>19</sup> WWALS, September 12, 2019, "Deny or EIS, titanium mining near Okefenokee Swamp –Suwannee Riverkeeper for WWALS 2019-09-12," <https://wwals.net/?p=50140>

<sup>20</sup> Chemours, accessed February 26, 2023, TITANIUM TECHNOLOGIES IN NORTHEAST FLORIDA, "This includes zircon, staurolite and the titanium minerals (ilmenite, leucosene and rutile). Ilmenite and rutile are primary source materials used to manufacture TiO<sub>2</sub> pigments. These pigments are often used in the manufacture of paint, varnish and lacquers, plastics and paper. Zircon is marketed to the ceramics industry. Staurolite is used as an abrasive." <https://www.chemours.com/en/about-chemours/global-reach/florida>

<sup>21</sup> Florida Department of Environmental Protection (FDEP), accessed February 26, 2023, Heavy Minerals, "This includes zircon, staurolite and the titanium minerals (ilmenite, leucosene and rutile). Ilmenite and rutile are primary source materials used to manufacture TiO<sub>2</sub> pigments. These pigments are often used in the manufacture of paint, varnish and lacquers, plastics and paper. Zircon is marketed to the ceramics industry. Staurolite is used as an abrasive." <https://floridadep.gov/water/mining-mitigation/content/heavy-minerals>

<sup>22</sup> Chemours, accessed February 26, 2023, Titanium Technologies, "This includes zircon, staurolite and the titanium minerals (ilmenite, leucosene and rutile). Ilmenite and rutile are primary source materials used to manufacture TiO<sub>2</sub> pigments. These pigments are often used in the manufacture of paint, varnish and lacquers, plastics and paper. Zircon is marketed to the ceramics industry. Staurolite is used as an abrasive." <https://www.chemours.com/en/about-chemours/our-businesses/titanium-technologies>

<sup>23</sup> National Park Service, accessed February 26, 2023, Comprehensive Everglades Restoration Plan (CERP), "The CERP was authorized by Congress in 2000 as a plan to "restore, preserve, and protect the south Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection." At a cost of more than \$10.5 billion and with a 35+ year time-line, this is the largest hydrologic restoration project ever undertaken in the United States." <https://www.nps.gov/ever/learn/nature/ceerp.htm>

<sup>24</sup> Will Poston, Flylords, January 19, 2023, Everglades Restoration Receives Substantial Funding From Governor DeSantis, Federal Direction, <https://flylordsmag.com/everglades-restoration-receives-substantial-funding-from-governor-desantis/>

<sup>25</sup> Congressional Research Service, In Focus, August 30, 2022, Recent Developments in Everglades Restoration <https://crsreports.congress.gov/product/pdf/IF/IF11336>

Withdrawal Permits in the Suwannee River Basin<sup>26</sup> represent the massive water withdrawals by the Nutrien phosphate mine.

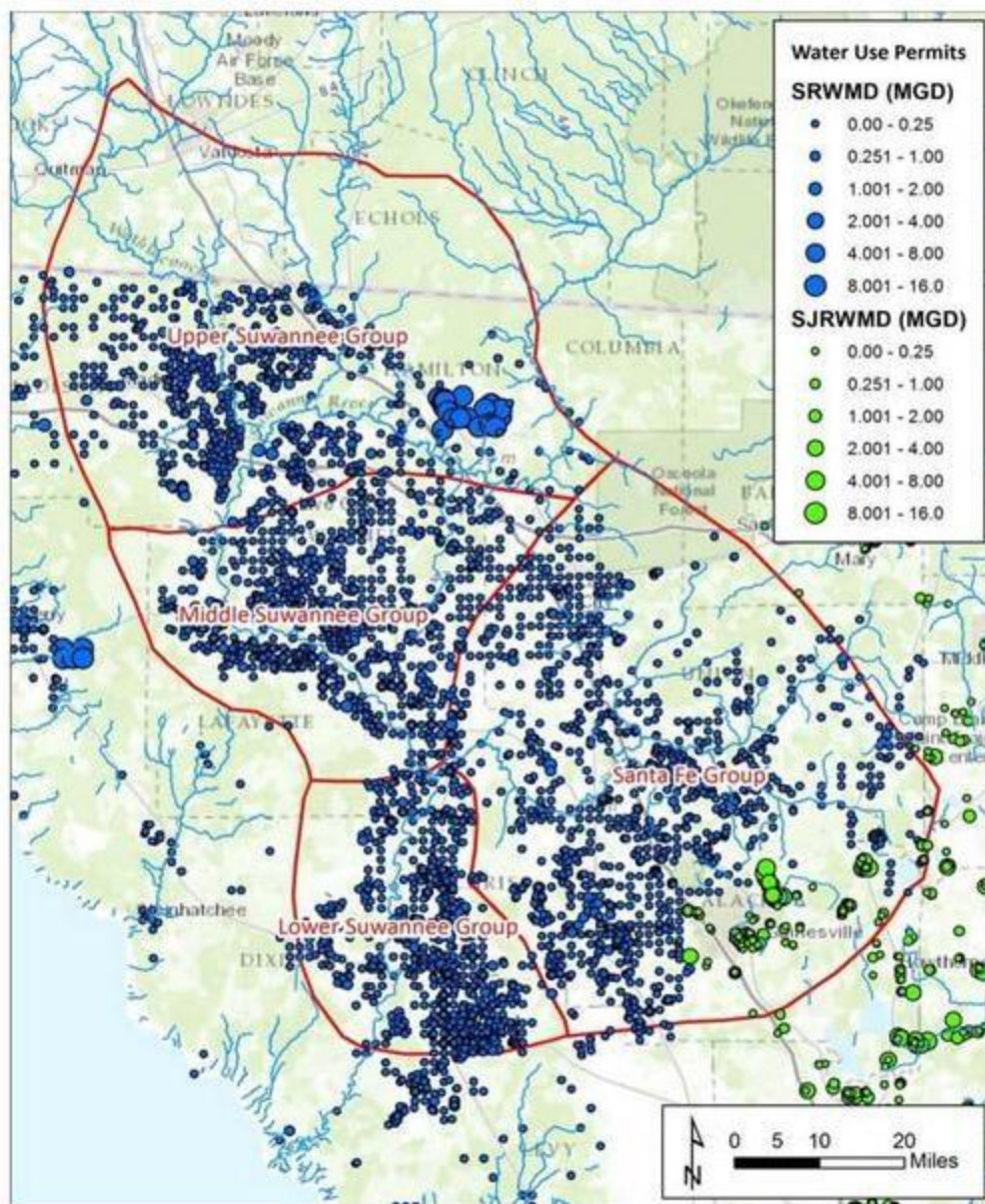


Figure 4. Principal springsheds (red lines) and consumptive use permits in the Florida portion of the entire Suwannee River watershed. The size of each dot is proportional to the permitted groundwater withdrawal rate. Blue dots are in the Suwannee River Water Management District and green dots are in the St. Johns River Water Management District.

9

The Nutrien Hamilton County phosphate mine will end operations within ten years, according to Nutrien’s recent five-year permit renewal application.<sup>27</sup> There has long been well-founded speculation that phosphate mining will then move across the Suwannee River east into Columbia County, Florida, as Nutrien’s predecessor companies have already surveyed.<sup>28</sup> Yet the same phosphate deposits continue northwards into Echols County, Georgia.

<sup>26</sup> Springsheds and Water Withdrawal Permits in the Suwannee River Basin, WWALS, April 2, 2017, <https://wwals.net/?p=32075> from [A Plan to Restore the Lower Suwannee River Springs](#), Howard T. Odum Florida Springs Institute, January 2016, which is an executive summary of [Lower Suwannee River Springs Restoration Plan](#), Prepared by The Howard T. Odum Florida Springs Institute, October 2015.

<sup>27</sup> Hamilton County Planning Commission wants conditions on Nutrien phosphate mine permit renewal 2023-03-28, WWALS, April 11, 2023, <https://wwals.net/?p=61688>

<sup>28</sup> Nutrien (PCS) mining phosphate and water in Hamilton County and soon in Columbia County? 2018-07-11, Dennis J. Price, P.G., Lake City Reporter, July 11, 2018, <https://wwals.net/?p=45040>

The SSRWPC Plan should model what a phosphate mine on the Suwannee River in Georgia, above the Floridan Aquifer, would mean to regional water supply and quality.

## Conclusion

Compliments again on the thorough Suwannee-Satilla Draft Water Plan.

And please add:

- More prominent mention of the Little, Withlacoochee, Alapaha, Willacochee, and Alapahoochee Rivers
- Modeling of potential surface and groundwater effects of the proposed titanium dioxide strip mine within three miles of Okefenokee Swamp, including potential deleterious effects on fishing due to mining stirring up more mercury which as it gets into waterways accumulates in fish tissue. Please also pass a resolution against that mine and for the swamp and associated rivers and groundwater.
- A Plan looking forward 30 years should take into account what phosphate mining could mean to our surface and underground waters.

Thank you for the opportunity to comment.

John S. Quarterman  
Suwannee RIVERKEEPER®  
/s  
WWALS Watershed Coalition, Inc.