

Surface Water Availability Modeling UIF, Current Use, and P&R Scenario Results

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Surface Water Scenarios

Base Scenarios

- Current Surface Water Use Scenario
 - *Uses most recent 10-yr average withdrawals (as reported by month) in most cases*
- Permitted and Registered (P&R) Surface Water Use Scenario
 - *Uses current fully-permitted and registered amounts*
- Moderate Water Demand Projection Scenario
 - *Future water demand projection based on moderate growth and normal climate*
- High Water Demand Projection Scenario
 - *Future water demand projection based on high growth and hot/dry climate*

Additional Scenarios

- Unimpaired Flow (UIF) Scenario
 - *Naturalized conditions (no surface water withdrawals, discharges, or reservoirs)*

Upper Savannah River Basin - Summary of Average Annual Surface Water Demands by Scenario

All values in million gallons per day

Surface Water Use Sector	Current Use	Permitted and Registered (P&R)	Current Use as a Percent of P&R
Thermoelectric/Nuclear Power ¹	2,589	3,139	82%
Public Water Supply	58.8	284	21%
Industrial	8.0	53.1	15%
Golf Courses	0.8	9.8	8%
Agricultural	0.2	12.7	2%
Mining	0.2	1.0	21%
GA-Side Water Users	21.8	65.0	34%
Total all Sectors*	2,679	3,564	75%
Total without Thermoelectric/Nuclear Power*	90	425	21%

* Rounded to nearest MGD

¹ Approximately 99% of the thermoelectric/nuclear power withdrawals are returned.

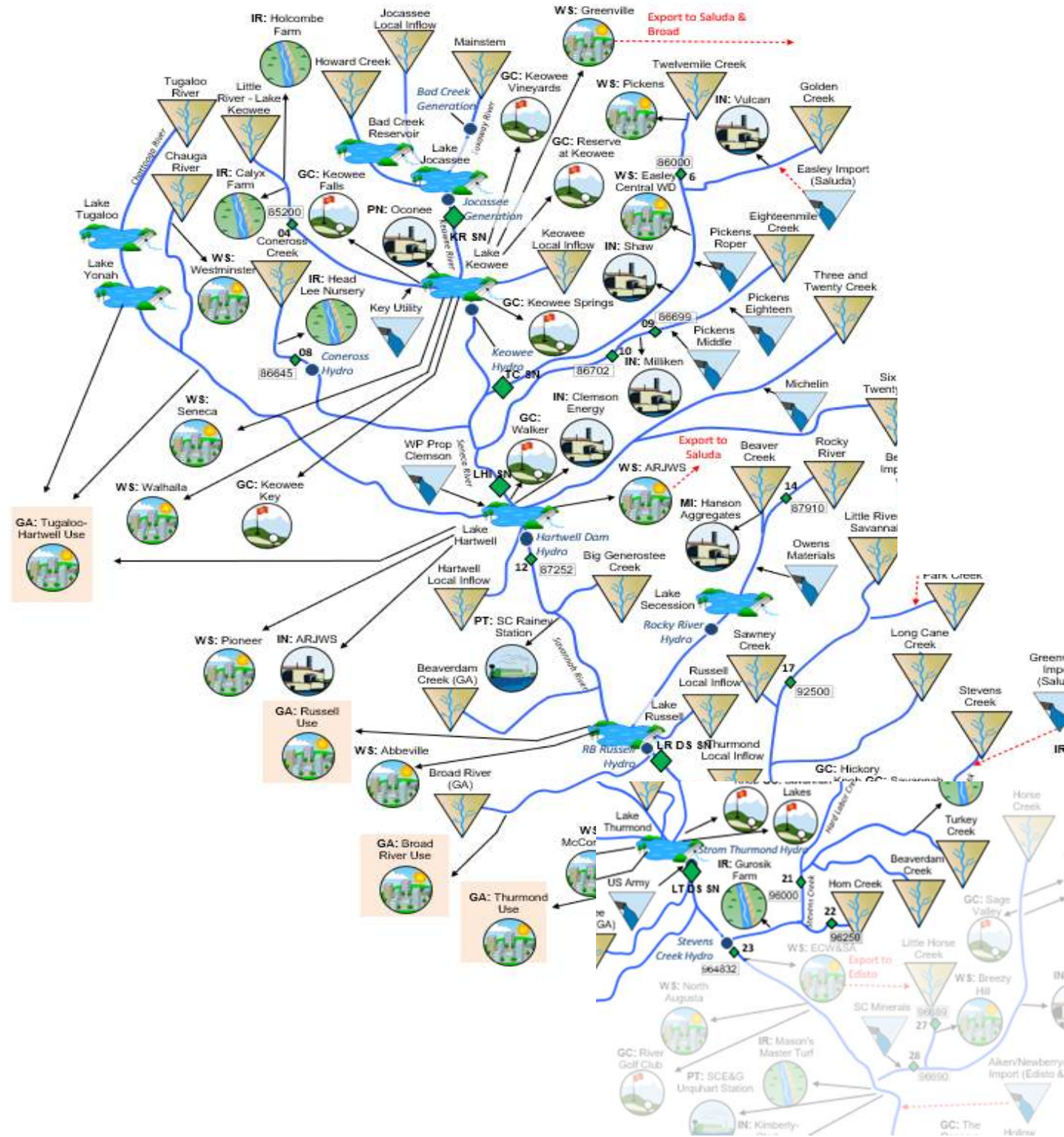
Upper Savannah River Basin Current Use Scenario

1 Physical Shortage

Surface Water Shortage Table

Map ID	Water User	Max Shortage (MGD)	Frequency of Shortage

No Shortages

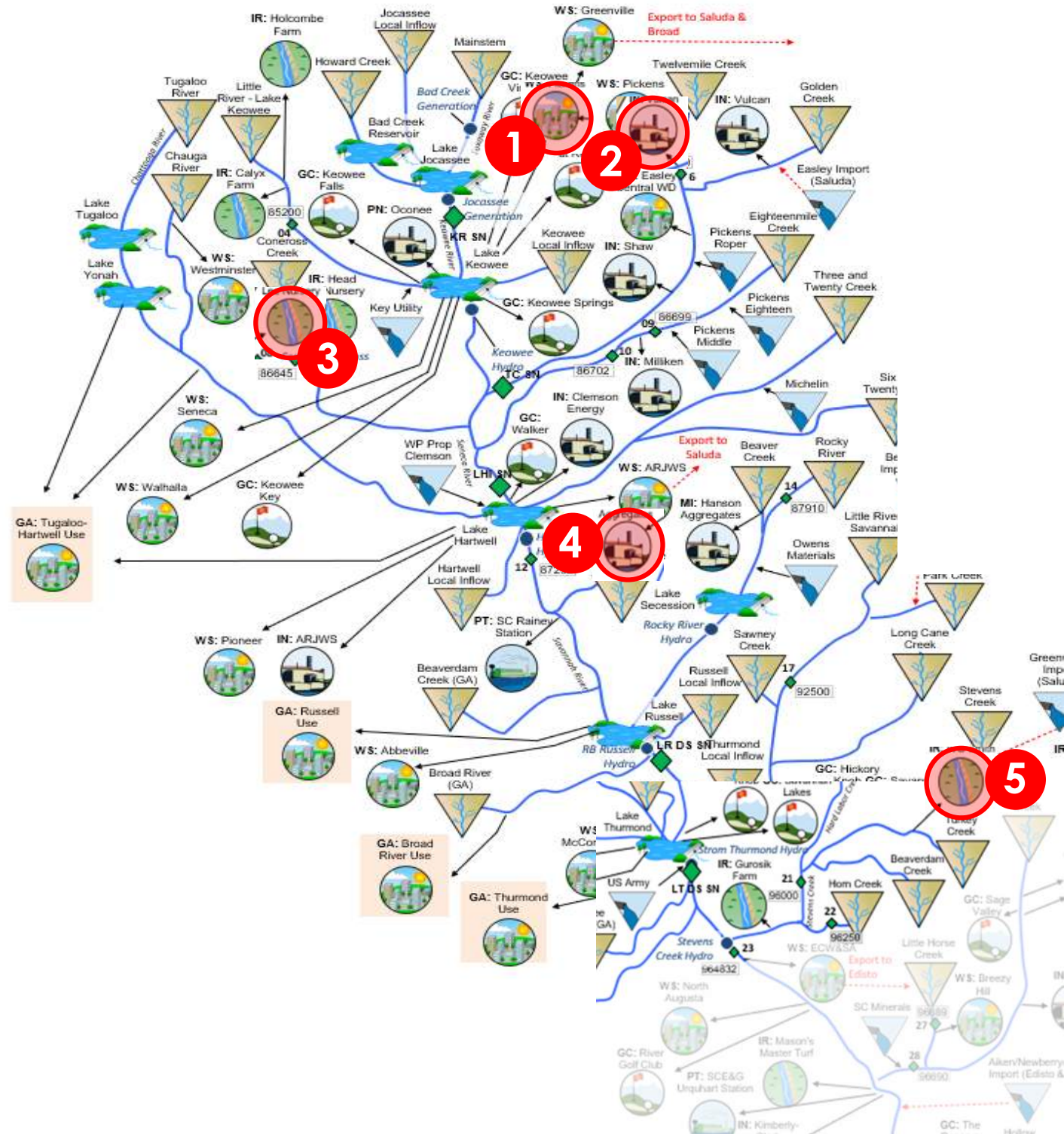


Upper Savannah River Basin Permitted & Registered Scenario

1 Physical Shortage

Surface Water Shortage Table

Map ID	Water User	Max Shortage (MGD)	Frequency of Shortage
1	WS: Pickens	4.5	7%
2	IN: Vulcan	1.3	11%
3	IR: Head Lee Nursery	2.5	0.4%
4	MI: Hanson Aggregates	0.6	3%
5	IR: WG Smith	0.3	2%



Lower Savannah River Basin - Summary of Average Annual Surface Water Demands by Scenario

All values in million gallons per day

Surface Water Use Sector	Current Use	Permitted and Registered (P&R)	Current Use as a Percent of P&R
Thermoelectric Power ¹	102.8	217.2	47%
Public Water Supply	45.2	304.4	15%
Industrial	18.7	881.6	2%
Golf Courses	0.6	13.2	5%
Agricultural	0.0	0.0	0%
Mining	0.0	0.00023	0%
GA-Side Water Users	171	461	37%
Total all Sectors*	338	1,877	18%

* Rounded to nearest MGD

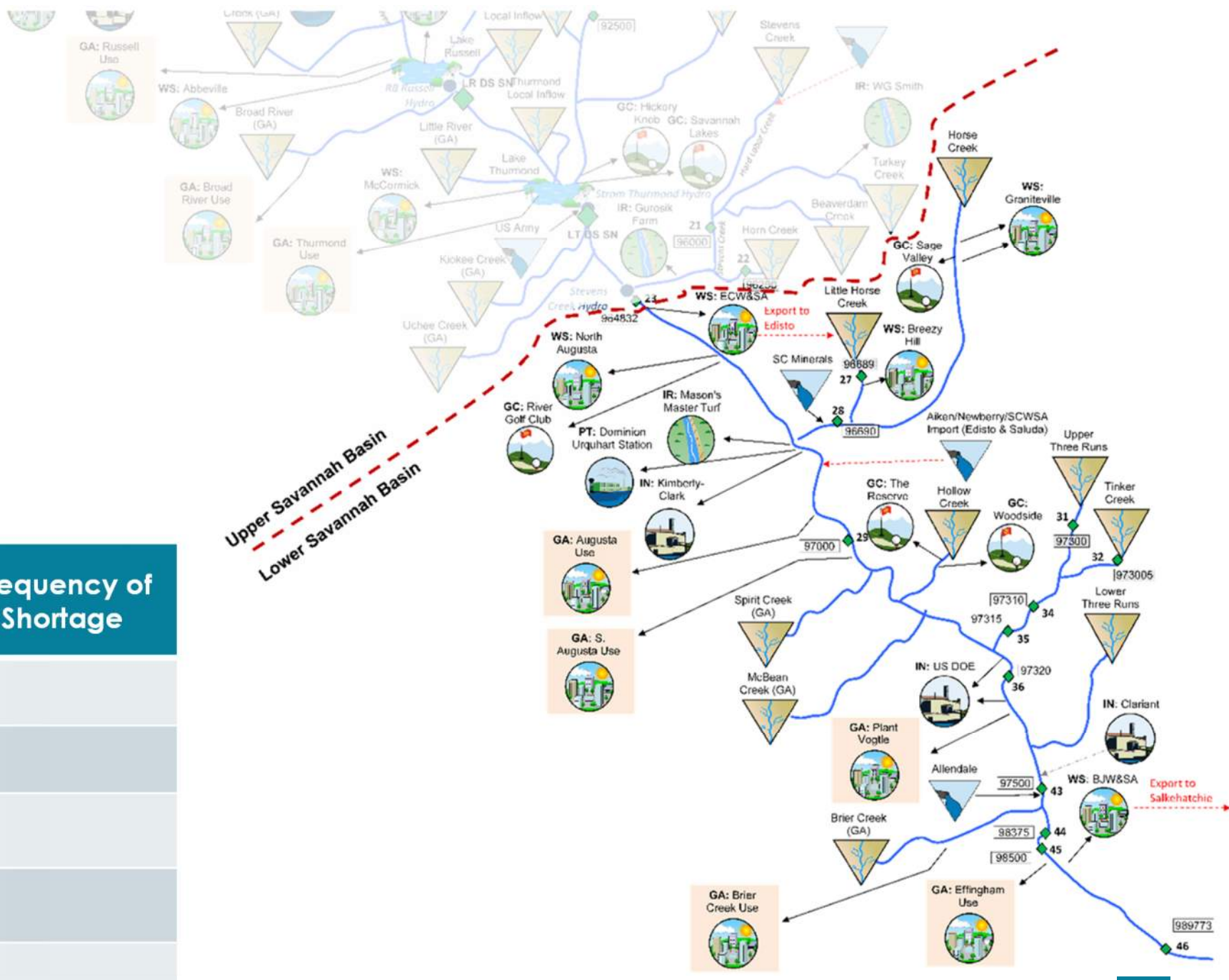
¹ Most of the thermoelectric power withdrawals are returned.

Lower Savannah River Basin Current Use Scenario

1 Physical Shortage

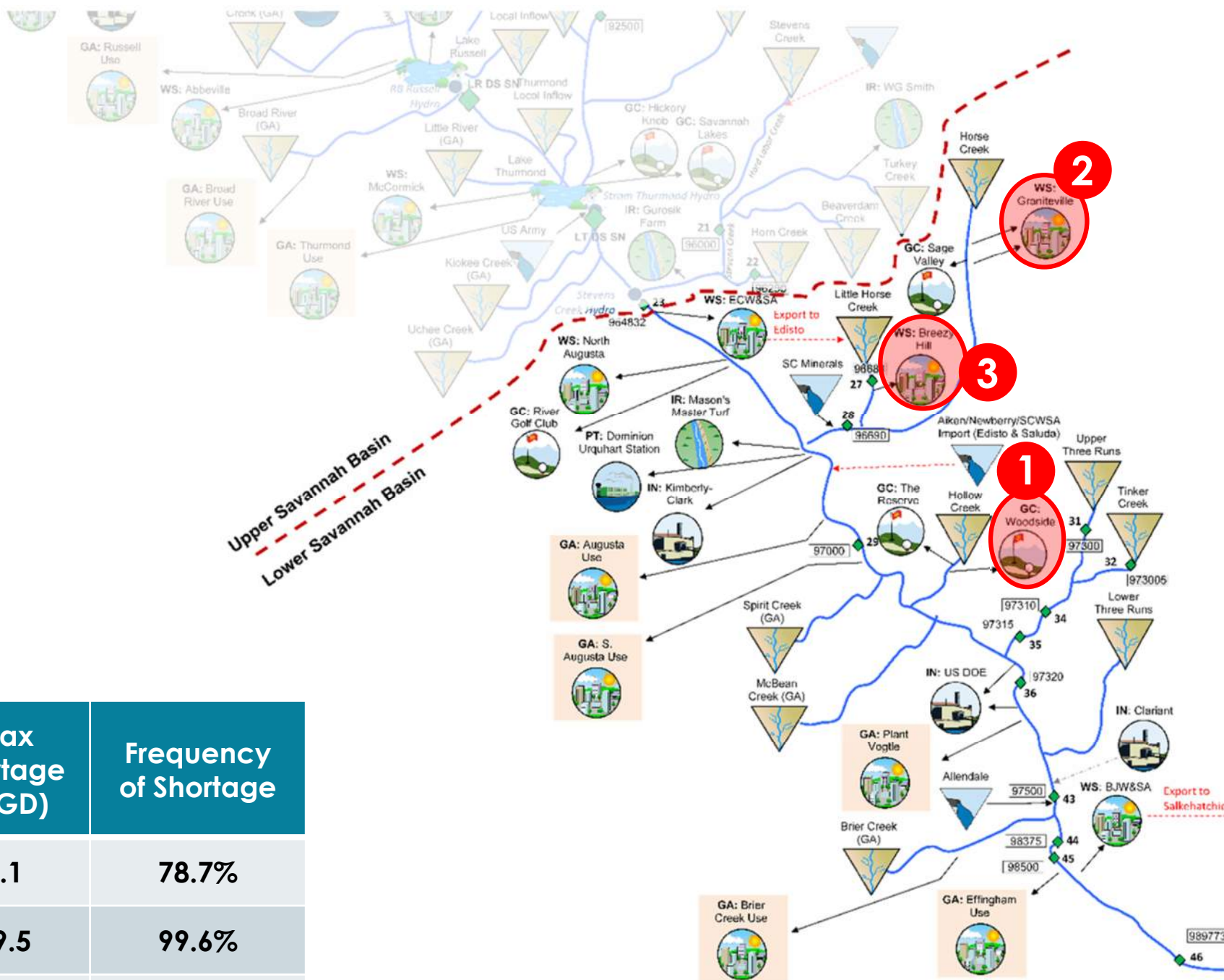
Surface Water Shortage Table

Map ID	Water User	Max Shortage (MGD)	Frequency of Shortage
No Shortages			



Lower Savannah River Basin Permitted & Registered Scenario

1 Physical Shortage



Surface Water Shortage Table

Map ID	Water User	Minimum Available Supply (MGD)	Max Shortage (MGD)	Frequency of Shortage
1	GC: Woodside	2.7	1.1	78.7%
2	WS: Breezy Hill	3.8	29.5	99.6%
3	WS: Graniteville	9.1	0.2	4.9%

Salkehatchie River Basin - Summary of Average Annual Surface Water Demands by Scenario

All values in million gallons per day

Surface Water Use Sector	Current Use	Permitted and Registered (P&R)	Current Use as a Percent of P&R
Agricultural	2.75	47.58	6%
Thermoelectric Power	0.00	0.00	0%
Public Water Supply	0.00	0.00	0%
Industrial	0.00	0.00	0%
Golf Courses	0.00	0.00	0%
Mining	0.00	0.00	0%
Total all Sectors	2.75	47.58	6%

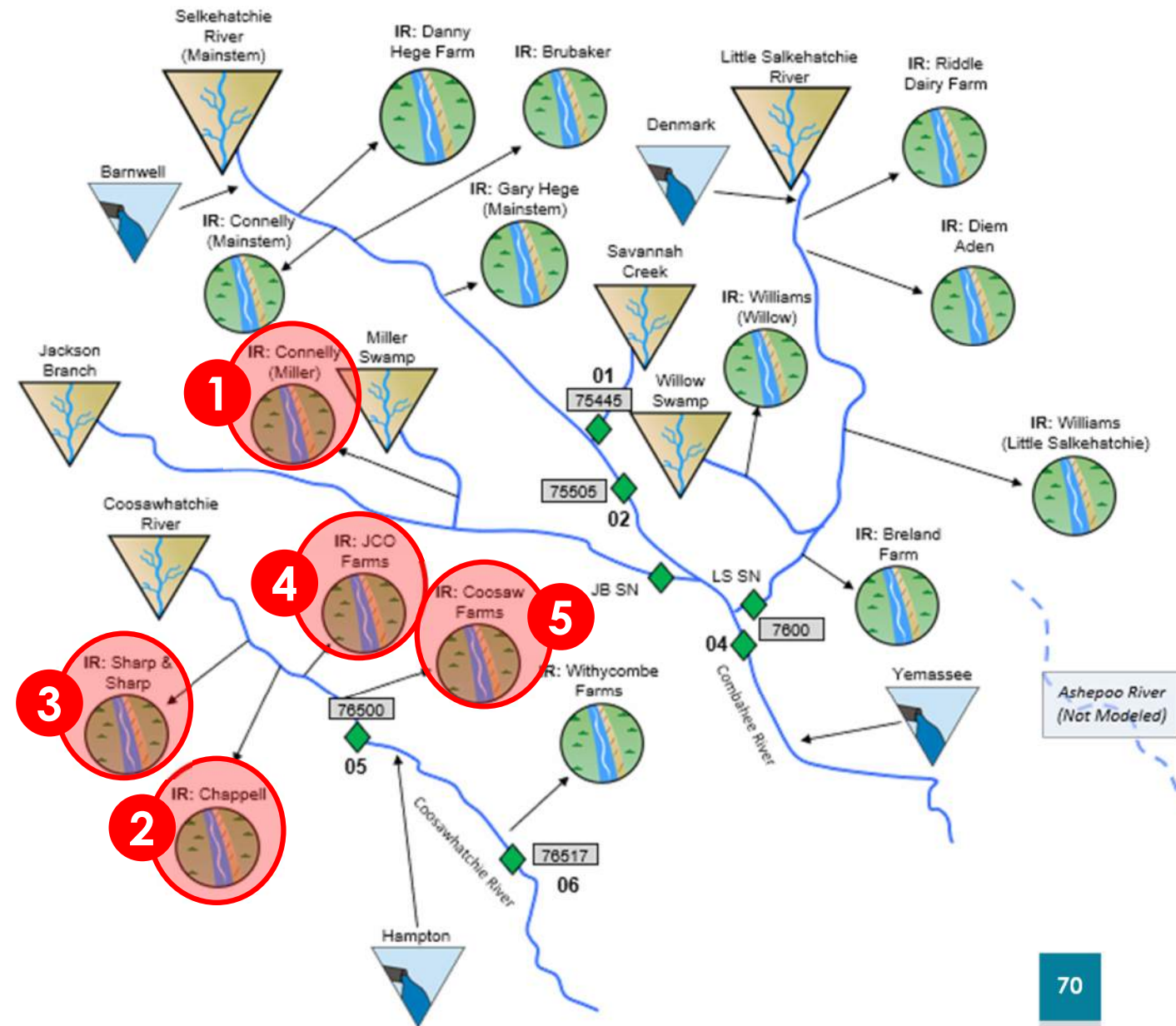
Salkehatchie River Basin

Current Use Scenario

1 Physical Shortage

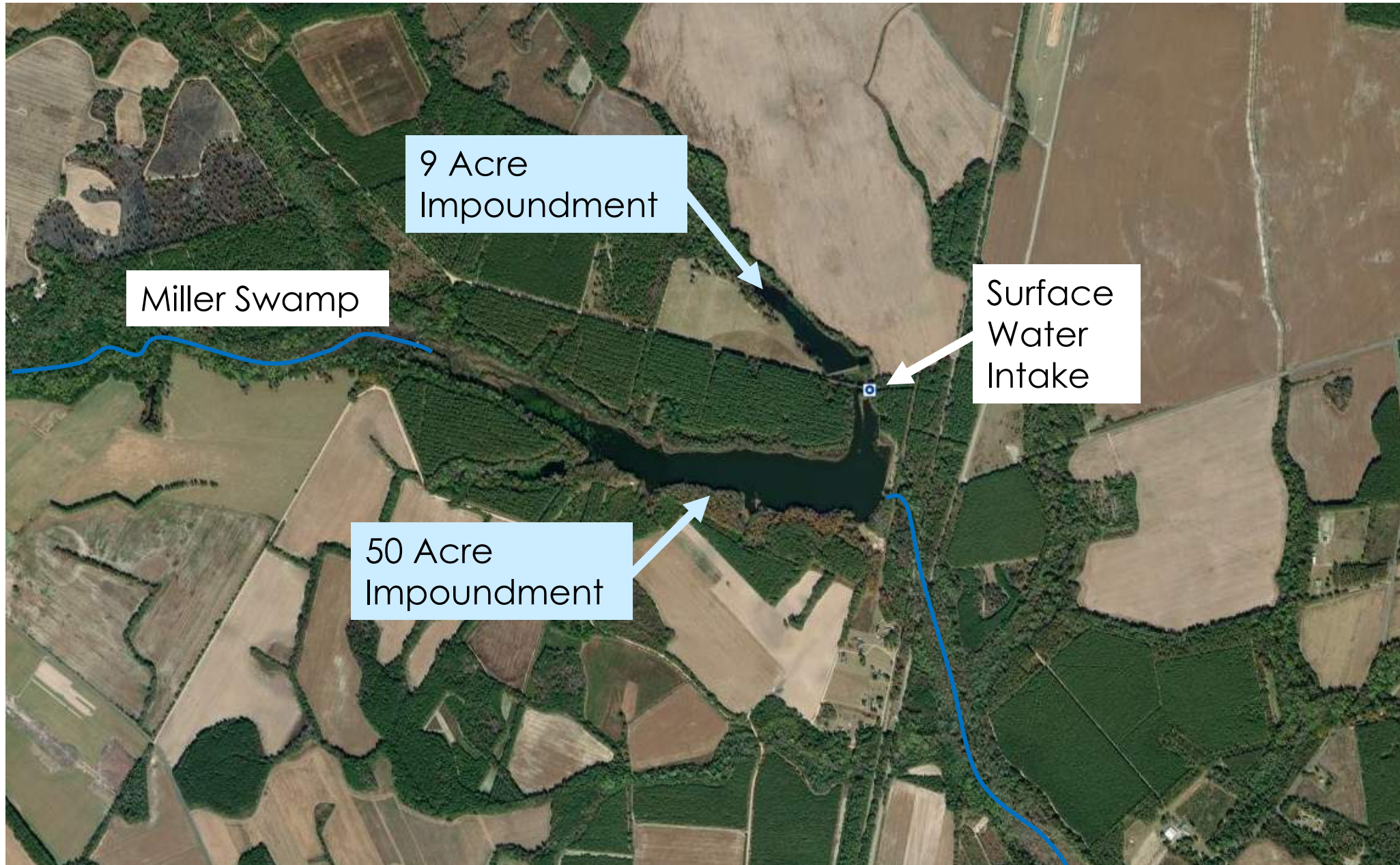
Surface Water Shortage Table

Map ID	Water User	Minimum Available Supply (MGD)	Max Shortage (MGD)	Frequency of Shortage
1	IR: Connelly (Miller)	0.003	1.6	11%
2	IR: Chappell	0.0	0.05	6%
3	IR: Sharp & Sharp	0.0	2.2	13%
4	IR: JCO Farms	0.0	7%	
5	IR: Coosaw Farms	0.0	0.5	6%

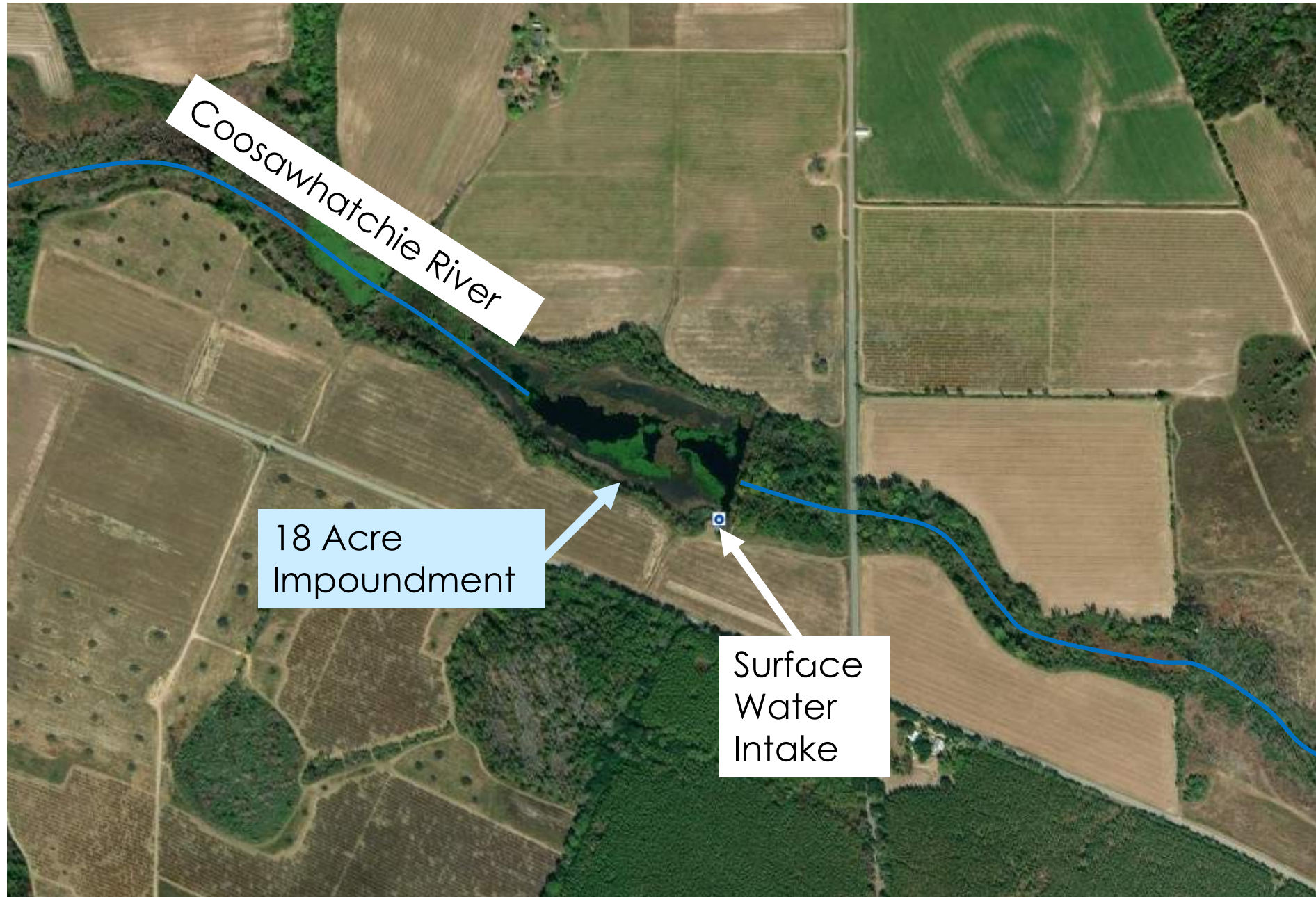


User has an impoundment which was not included in the model and may eliminate the modeled shortage. See examples on the following three slides.

IR: Connolly (Miller)



IR: Chappell Farms



IR: JCO Farms



39 Acre
Impoundment

Surface
Water
Intake

Salkehatchie River Basin

Permitted & Registered Scenario

1 Physical Shortage

Surface Water Shortage Table

Map ID	Water User	Minimum Available Supply (MGD)	Max Shortage (MGD)	Frequency of Shortage
1	IR: Connelly (Miller)	0.003	3.5	68%
2	IR: Chappell	0.0	1.4	37%
3	IR: Sharp & Sharp	0.0	6.8	45%
4	IR: JCO Farms	0.0	21.8	73%
5	IR: Coosaw Farms	0.0	0.9	17%
6	IR: Williams (Willow)	0.3	3.3	20%
7	IR: Riddle Dairy Farm	0.7	0.01	0.1%
8	IR: Diem Aden	0.1	0.4	0.5%
9	IR: Williams (Little Salk.)	0.9	0.1	0.1%
10	IR: Withycombe Farm	0.7	0.6	1%

