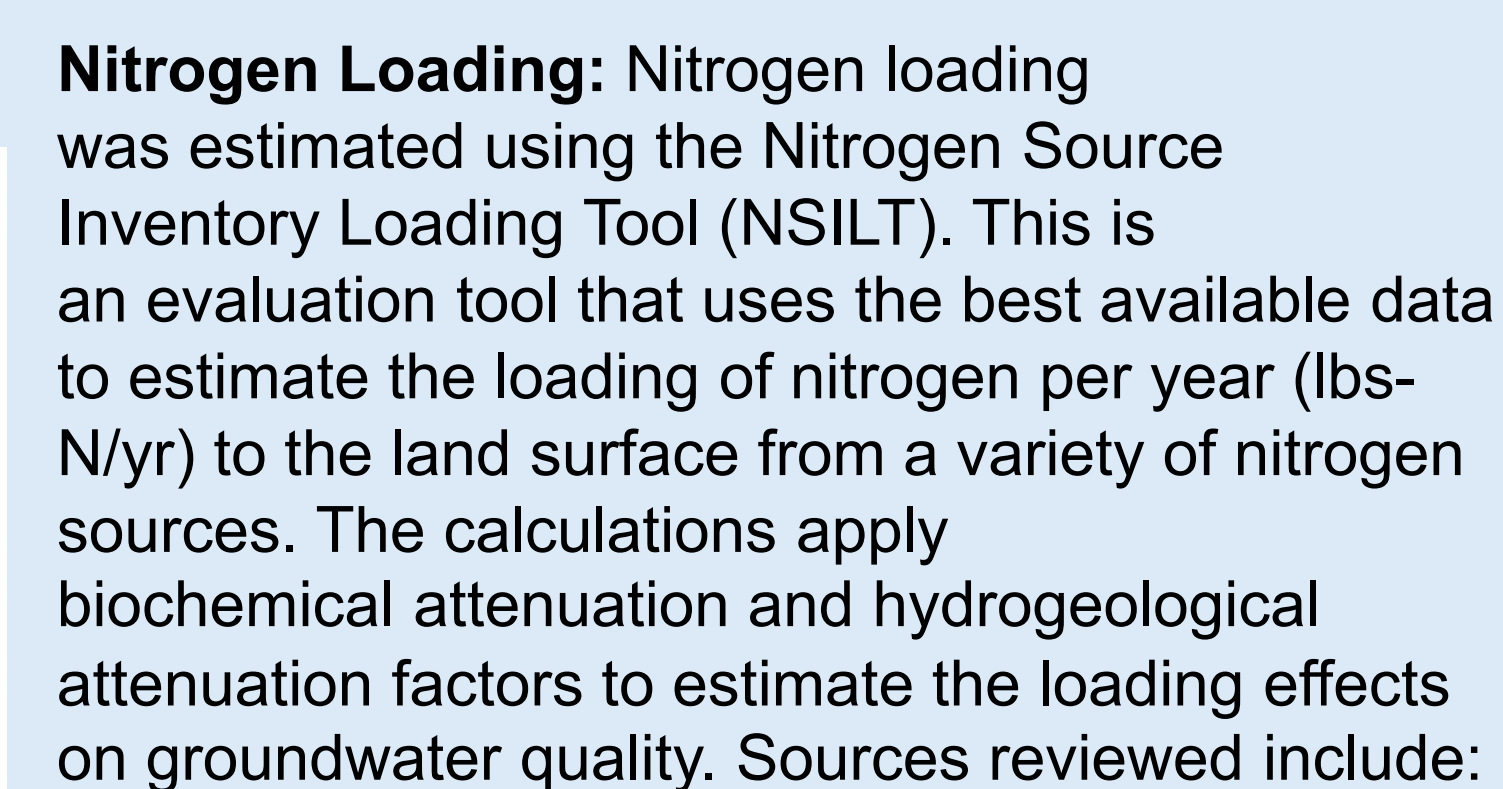
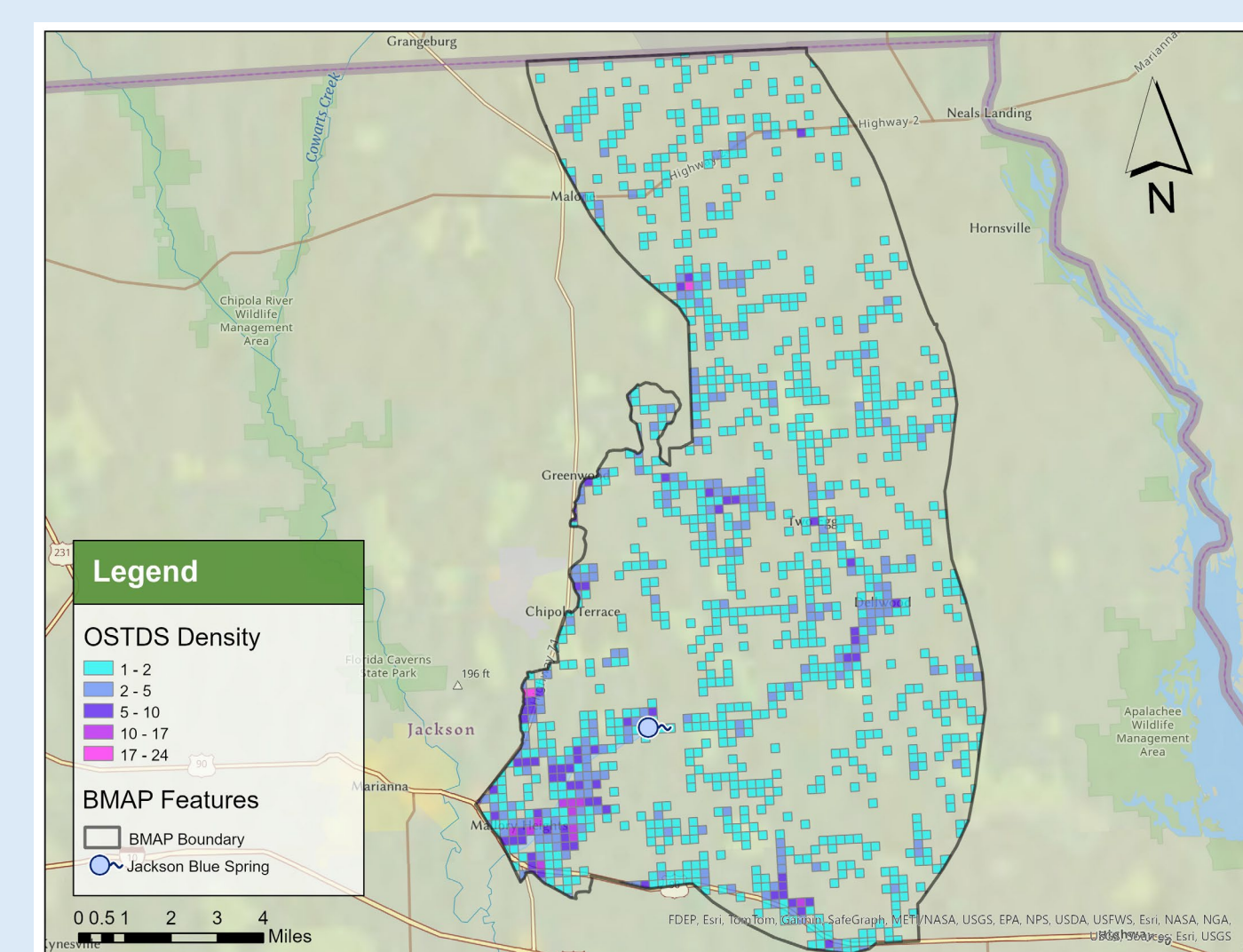


Jackson Blue Spring Basin Management Action Plan (BMAP)



- Atmospheric Deposition.
- Wastewater Treatment Facilities.
- Onsite Sewage Treatment and Disposal Systems (OSTDS).
- Urban Turfgrass Fertilizer.
- Sports Turfgrass Fertilizer.
- Farm Fertilizer.
- Livestock Waste.
- Dairies.
- Biosolids.



Nitrogen Source	Percentage
Farm Fertilizer (Irrigated)	48.2%
Farm Fertilizer (non-irrigated)	35.1%
Livestock Waste	6.2%
Atmospheric Deposition	4.9%
OSTDS	4.5%
Urban Turfgrass Fertilizer	0.6%
Sports Turfgrass Fertilizer	0.5%

Nitrogen Source	Loading to Groundwater (lbs-N/yr)
Atmospheric Deposition	36,104
OSTDS	32,786
Urban Turfgrass Fertilizer	4,315
Sports Turfgrass Fertilizer	3,348
Farm Fertilizer (non-irrigated)	257,120
Farm Fertilizer (Irrigated)	353,463
Livestock Waste	45,693
Total	732,830

	Nitrogen Loads (lbs-N/yr)	Source
Total Load at Spring Vents (August 2023)	839,637	Upper 95% confidence interval – nitrate data and flow data from years 2013 to 2022 (0.41 mg/L and 784.42 cfs)
TMDL Load (August 2023)	78,763	TMDL target is 0.35 mg/L and using the same flow data from years 2013 to 2022 (784.42 cfs)
Percent Required Reduction	91%	
Total NSILT Load (October 2023)	732,830	2023 NSILT
Required Reduction	664,086	Proportional decrease in TMDL load

Spring flow and nitrate concentration data were reviewed to evaluate the load of nitrate flowing from the spring. It was determined that the loading is 91% more than the waterbody can assimilate without impairment. It is estimated that a proportional decrease in loading from nitrogen sources to groundwater is needed to resolve this impairment.

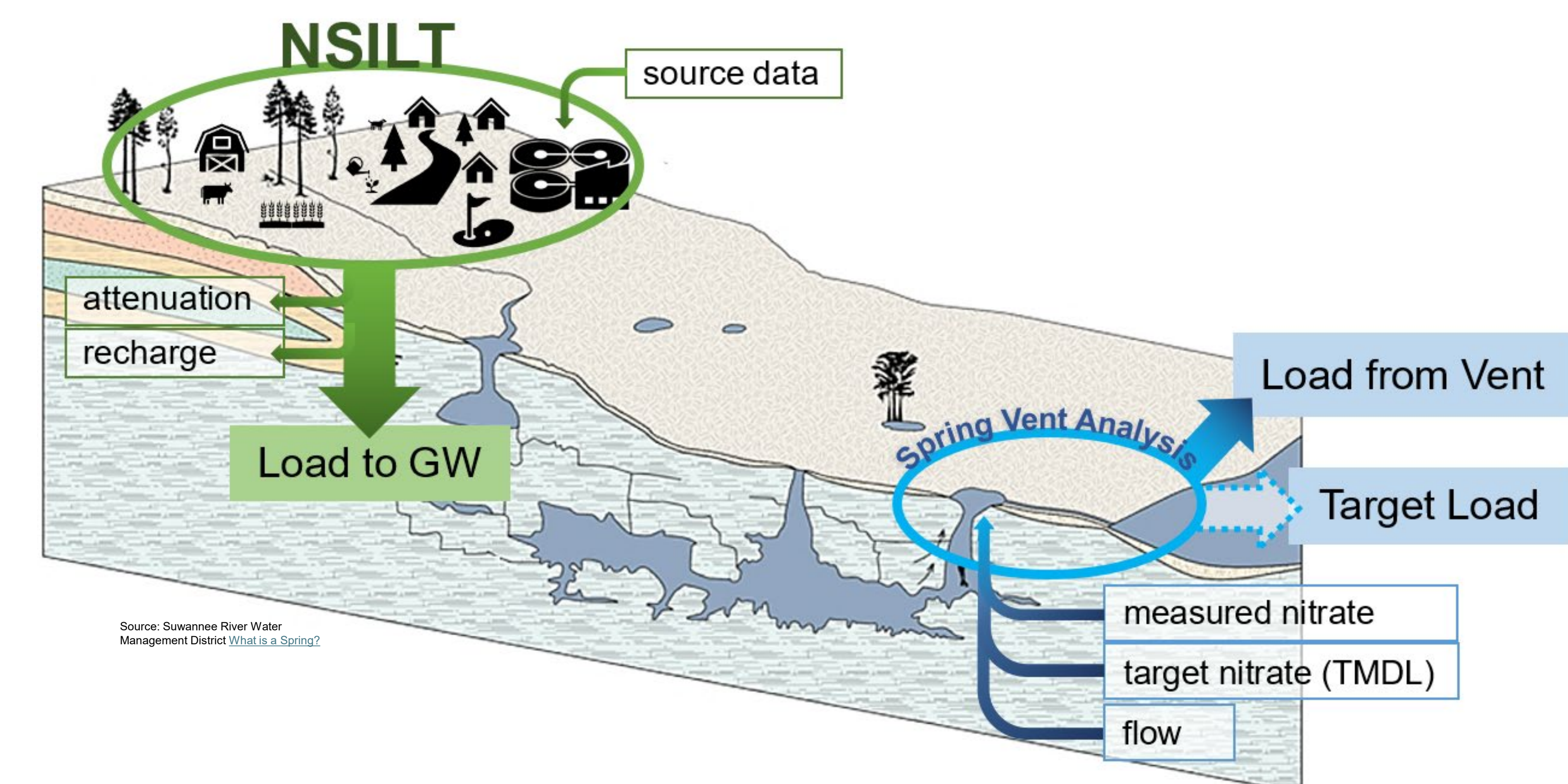
lbs-N/yr: Pounds of nitrogen per year.
TMDL: Total maximum daily load.
mg/L: Milligrams per liter.

Stacked Bar Chart: Loading to Groundwater (lbs-N/yr)

Category	Loading (lbs-N/yr)	Reduction (lbs-N/yr)	Total (lbs-N/yr)
2023 NSILT Loading	730,000	0	730,000
2028 Milestone	530,000	199,226	729,226
2033 Milestone	200,000	332,043	532,043
2038 Milestone	60,000	132,817	192,817

BMAP Goal:
91% Reduction in Loading to Groundwater by 2033 (664,086 lbs-N/yr).

Load from Vent – Target Load = Reduction Goal (at vent)

$$\text{Percent Reduction at vent} \times \text{Load to Groundwater (GW)} = \text{Required Reductions (from sources)}$$


Jackson Blue Spring and Merritts Mill Pond BMAP

Allocated Reductions, Milestones and Progress

Nitrogen Sources

Nitrogen Source	Allocations by Source (lbs-N/yr)	Percentage of Total Reduction
Atmospheric Deposition*	32,717	4.93%
Onsite Sewage Treatment and Disposal Systems	29,710	4.47%
Farm Fertilizer (BMP Enrollment)	91,587	13.79%
Livestock Waste (BMP Enrollment)	4,569	0.69%
Other Agriculture	498,555	75.07%
Urban Turfgrass Fertilizer	3,914	0.59%
Sports Turfgrass Fertilizer - Golf	3,034	0.46%
Total	664,086	100.00%

*Not allocated to entities.

BMAP Management Strategies

General Approach for Entity Allocations and Reductions

While the loading evaluation and entity allocations were determined by source, nutrient reduction credits can be earned through implementing projects addressing any source. Achieving milestone reductions is needed to ensure sufficient progress towards meeting the total maximum daily load (TMDL) target.

Source-Specific Management Strategies:

- Atmospheric Deposition:** Due to continuing air regulations, and fuel switching, emissions of atmospheric nitrogen have been trending downwards in Florida since at least 2005 (Himes & Dawson, 2017).
- Onsite Sewage Treatment and Disposal Systems (OSTDS):** New installation or repair permits for conventional OSTDS are not permitted on lots 1 acre or less.
- Wastewater Treatment Facilities:** Surface water discharges from facilities must meet advanced waste treatment (AWT). Other discharge methods must meet AWT standards, if the Florida Department of Environmental Protection (DEP) determines the treatment is needed.
- Farm Fertilizer Best Management Practice (BMP) Implementation:** An assumed 15% reduction in nitrogen leaving the site when a producer enrolls in the Florida Department of Agriculture and Consumer Services (DACS) BMP program and implements BMPs.
- Livestock Waste BMP Implementation:** An assumed 10% reduction in nitrogen leaving the site when a livestock producer enrolls in the DACS BMP program and implements BMPs.
- Other Agricultural Activities:** The remainder of reductions allocated to agricultural sources will need be addressed through a combination of regional agricultural projects, agricultural cooperative regional elements, innovative technologies and cost-share projects.
- Urban Turfgrass Fertilizer:** Ordinances, education, street sweeping and structural stormwater improvements to reduce impact from urban turfgrass fertilization.
- Sports Turfgrass Fertilizer – Golf:** Operators will be required to develop a nutrient management plan to ensure responsible management of nutrients.
- Sports Turfgrass Fertilizer – Other:** Owners/operators should follow the Sports Turfgrass BMP manual to ensure fertilizers are managed responsibly.

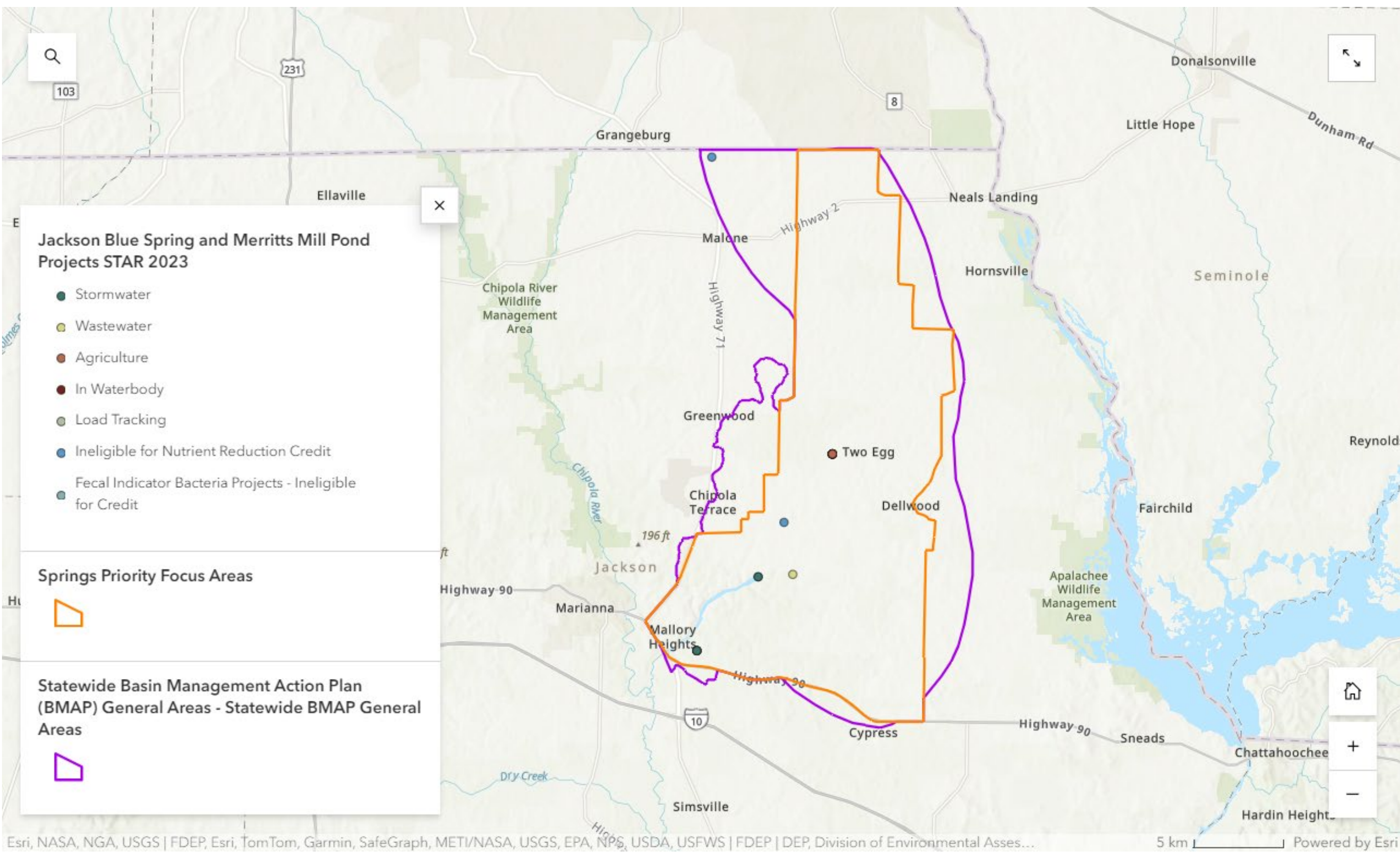
Projects



Project collection and reporting are crucial to the successful implementation and management of BMAPs. Projects are reported to DEP annually through the Statewide Annual Report (STAR) process.

Stakeholders are required to report projects needed to achieve required reduction targets, along with an estimate of expected nutrient reduction benefits and financial costs.

Reporting projects in the STAR allows the state to evaluate funding needs and assist in prioritizing projects to promote maximum environmental benefit.

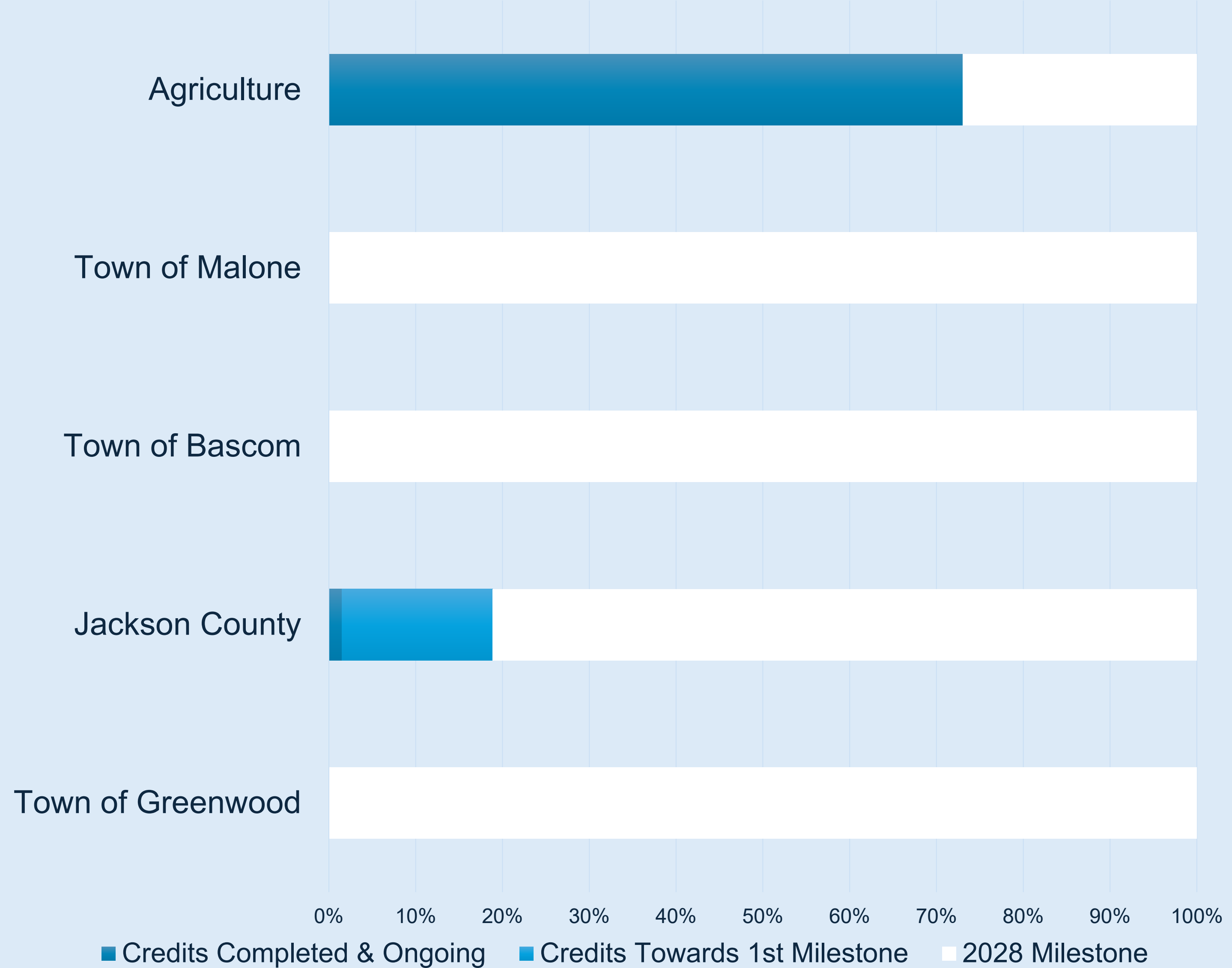


Entity Reduction Milestones and Progress

Entity	Milestone 2028 Required Reductions lbs-N/yr (30%)	Milestone 2033 Required Reductions lbs-N/yr (80%)	Milestone 2038 Required Reductions lbs-N/yr (100%)
Jackson County	9,647	25,726	32,158
Town of Bascom	228	609	762
Town of Malone	88	234	293
Town of Greenwood	124	329	412
Agriculture	178,413	475,769	594,711
Private Golf Courses*	910	2,427	3,034

*Reductions for these entities will be tracked through permits and compliance actions.

Progress Towards 2028 Milestone*



*Estimates through December 2023.



Source: Florida Geological Survey - Rainbow Spring #4

