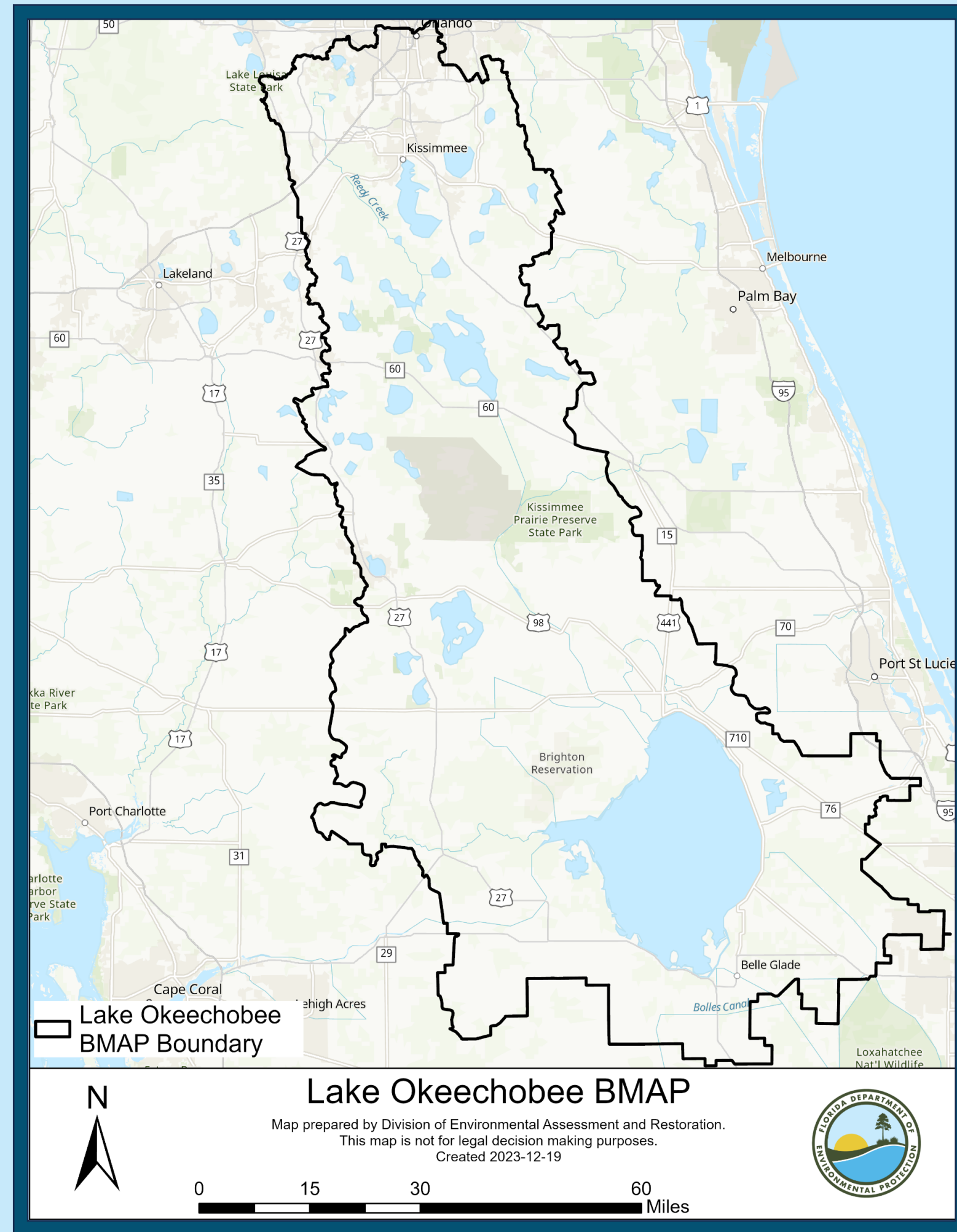


LAKE OKEECHOBEE BASIN MANAGEMENT ACTION PLAN (BMAP) WATER QUALITY ANALYSES

BMAP Background



Lake Okeechobee Total Phosphorus (TP) Total Maximum Daily Load (TMDL) adopted in 2001.

TMDL set at a total load of 140 mt/yr TP.

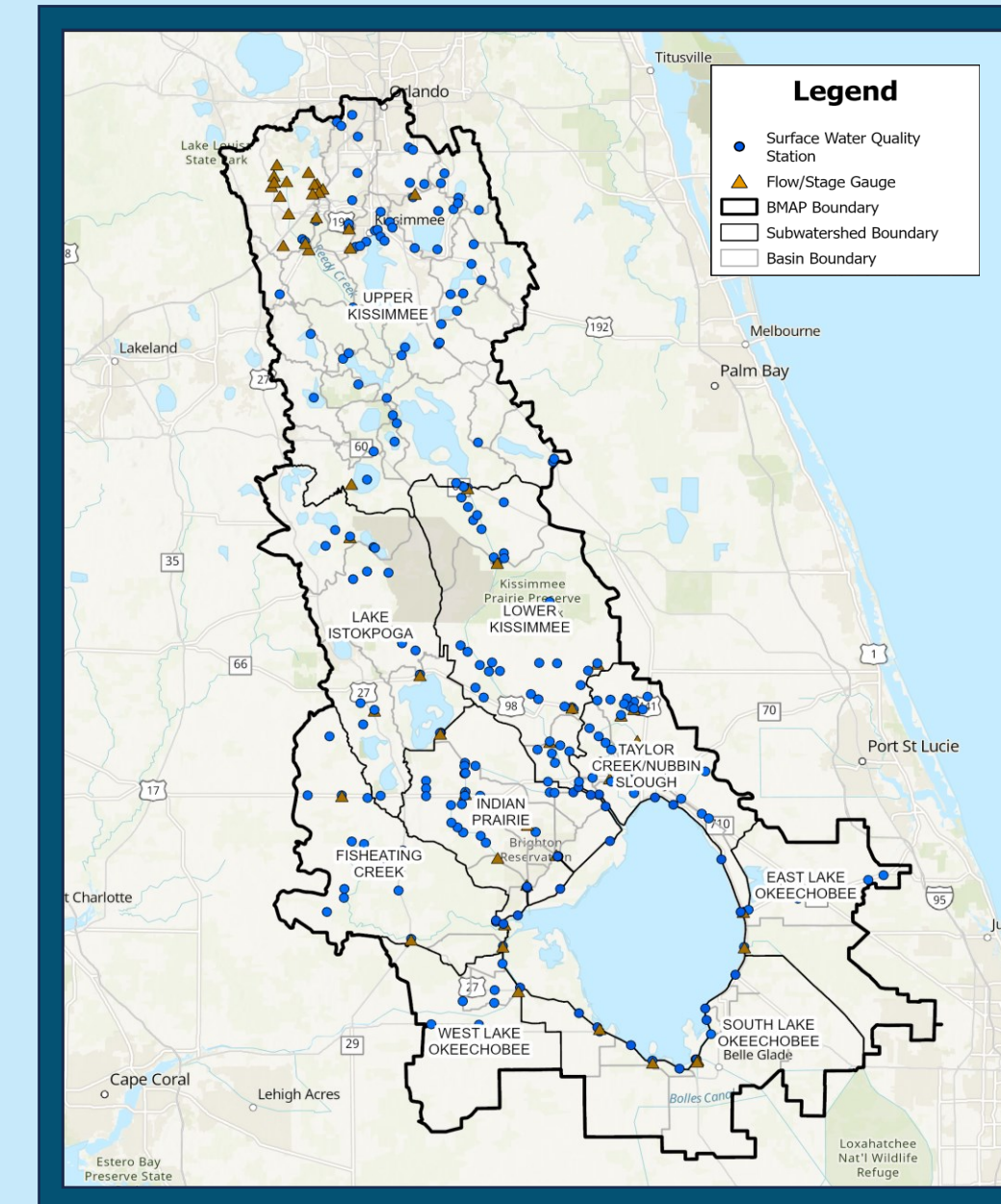
35 mt/yr falls directly on the lake.

105 mt/yr allocated to the entire watershed.

mt/yr = metric tons/year.

The watershed is composed of nine subwatersheds and 65 basins.

Water Quality Monitoring Network



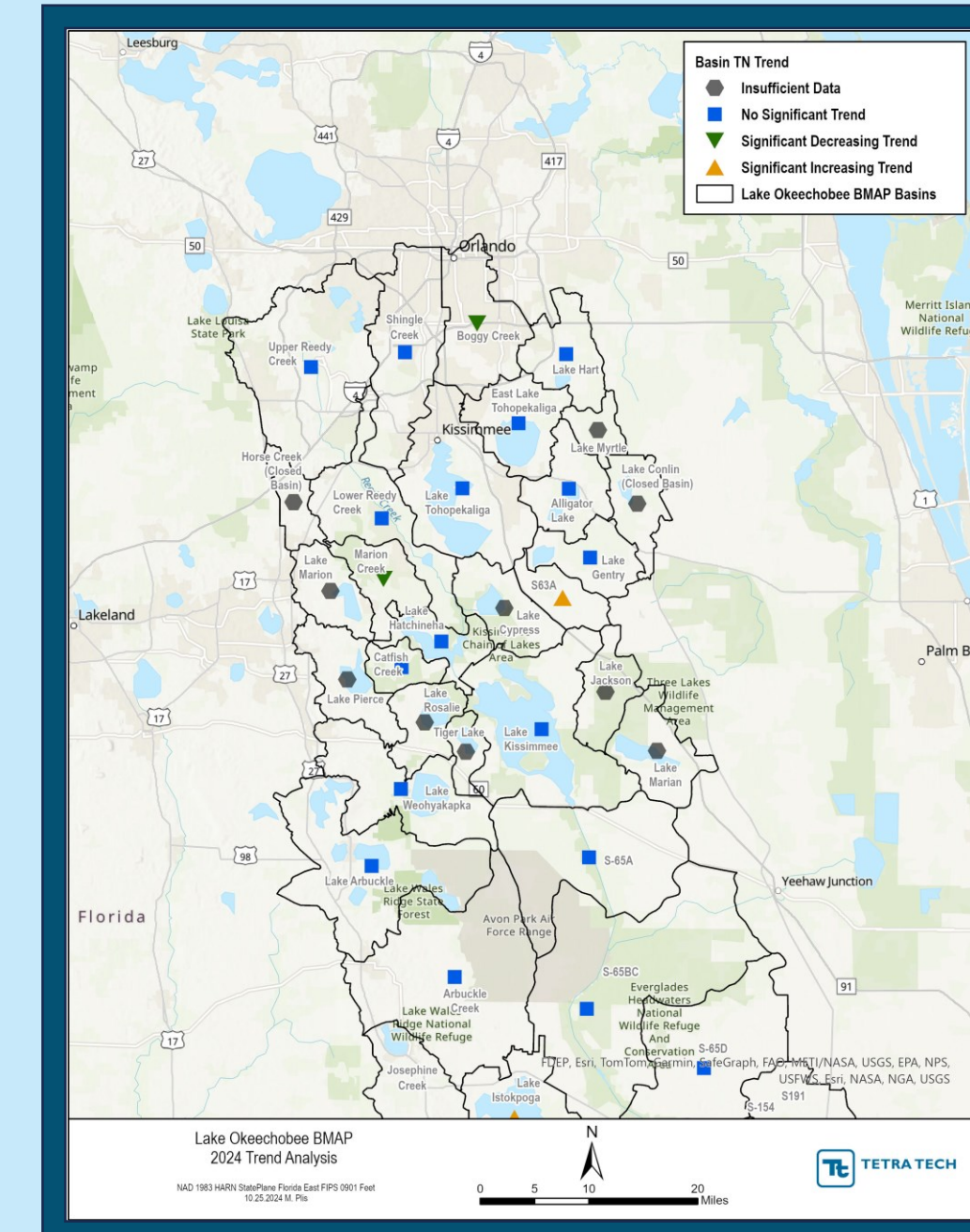
Water Quality Parameters Monitored	
Alkalinity	Nitrate-Nitrite (N)
Ammonia (N)	Total Kjeldahl Nitrogen (TKN)
Biological Oxygen Demand (BOD)	Total Nitrogen (TN)
Organic Carbon	Orthophosphate (P)
Total Carbon	pH
Chlorophyll-a	Total Phosphorus (TP)
Color	Specific Conductance/Salinity
Dissolved Oxygen	Temperature
Dissolved Oxygen (Saturation)	Total Suspended Solids
Flow	Turbidity

Water quality is monitored at 309 stations throughout the watershed.

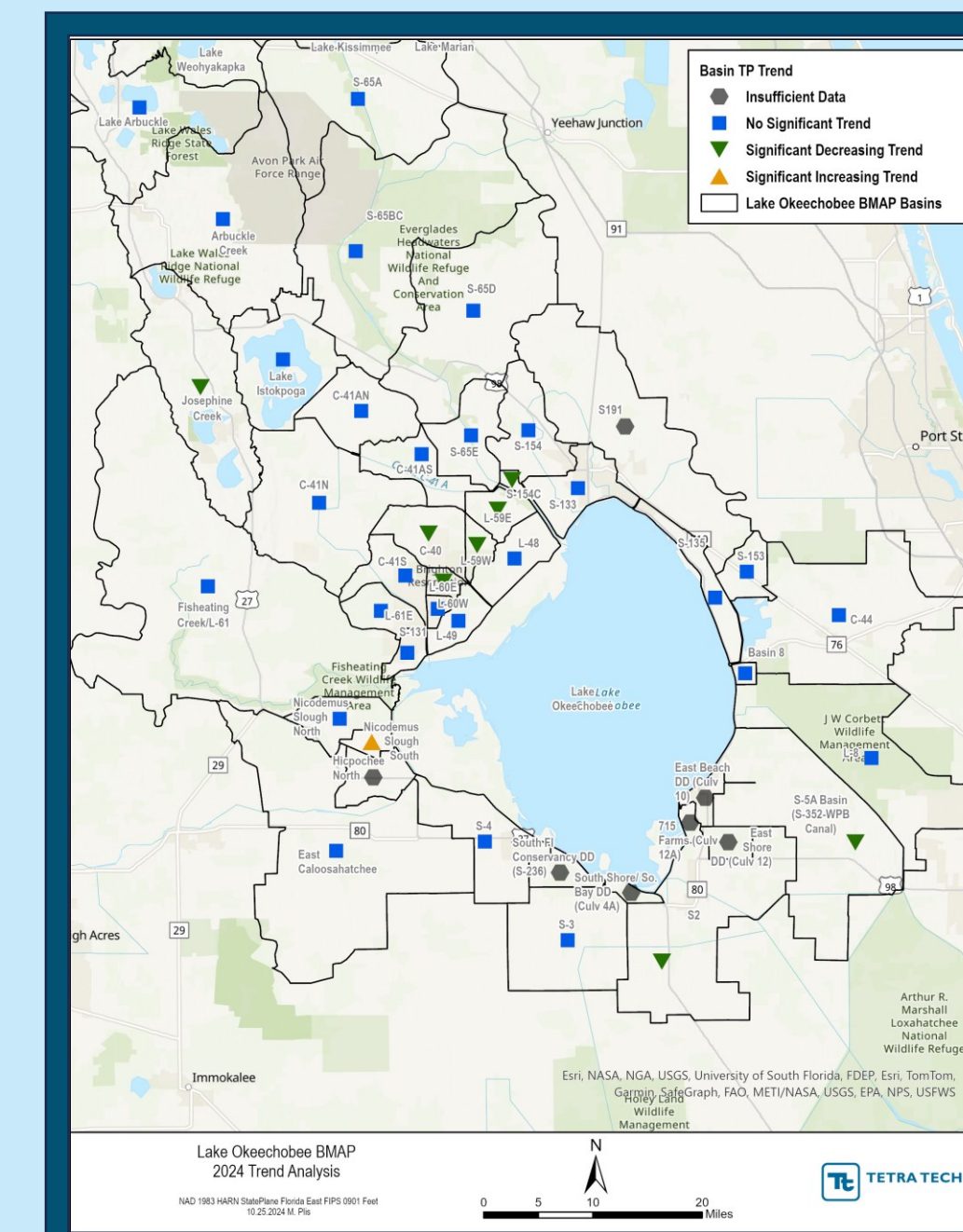
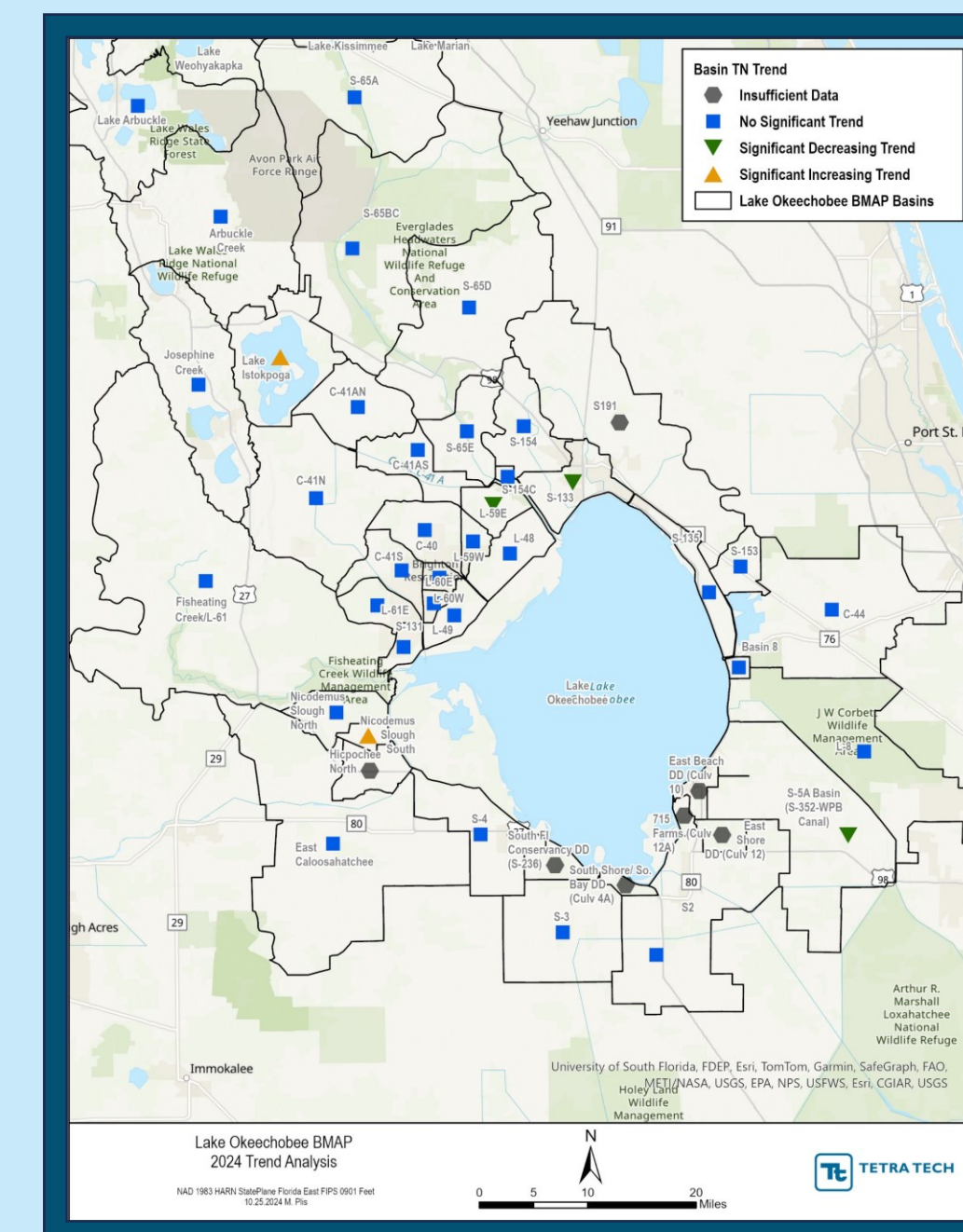
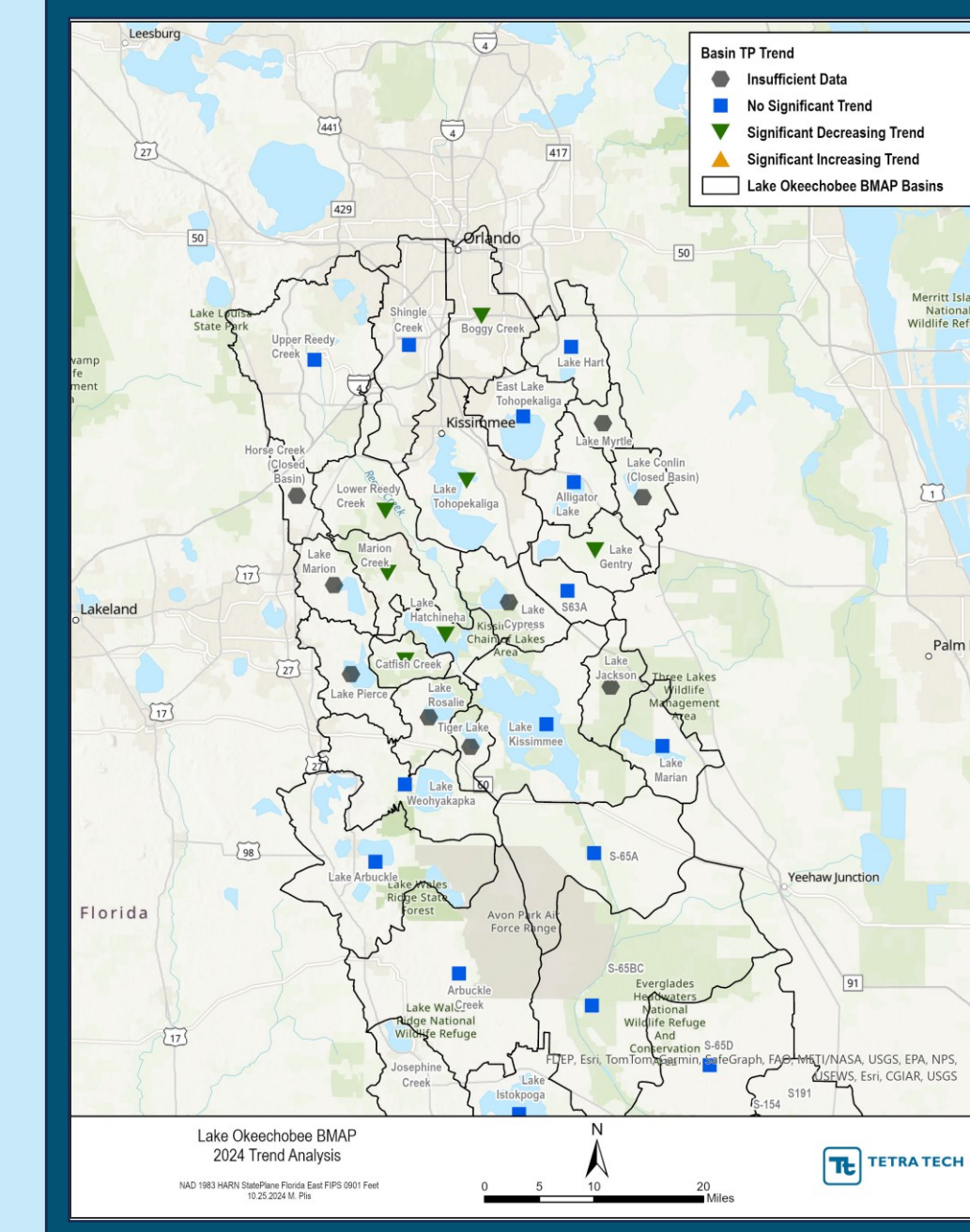
Water Quality Trend Analyses

Seasonal Kendall trend analysis investigates trends in Total Nitrogen (TN) and TP concentrations for the basins.

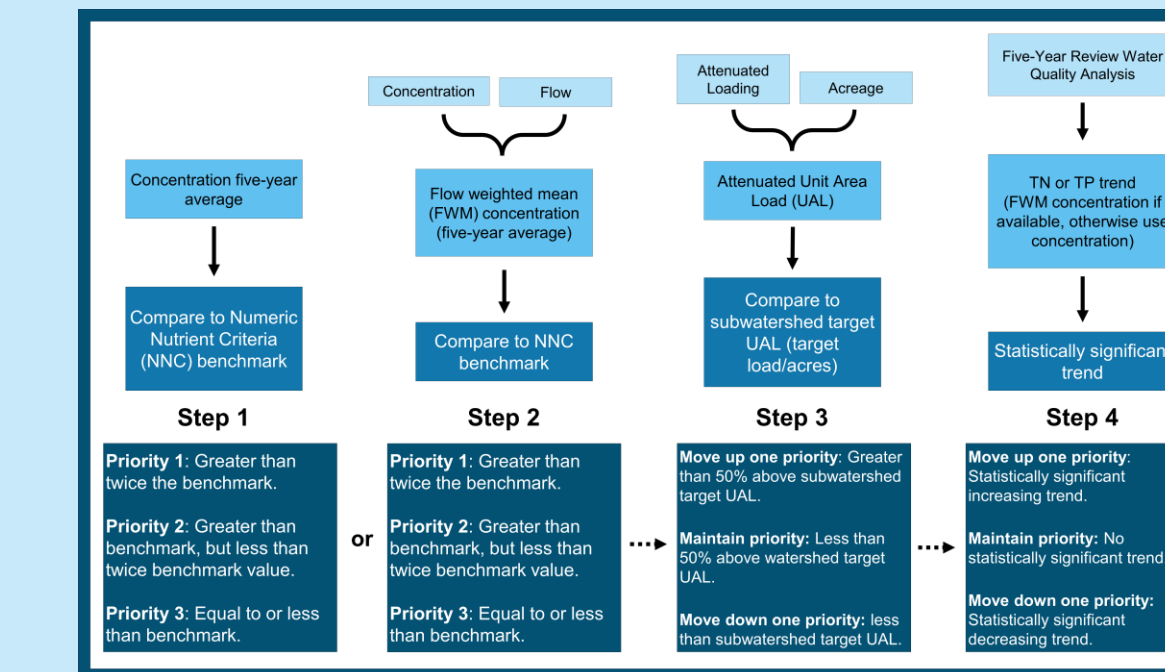
TN Trends



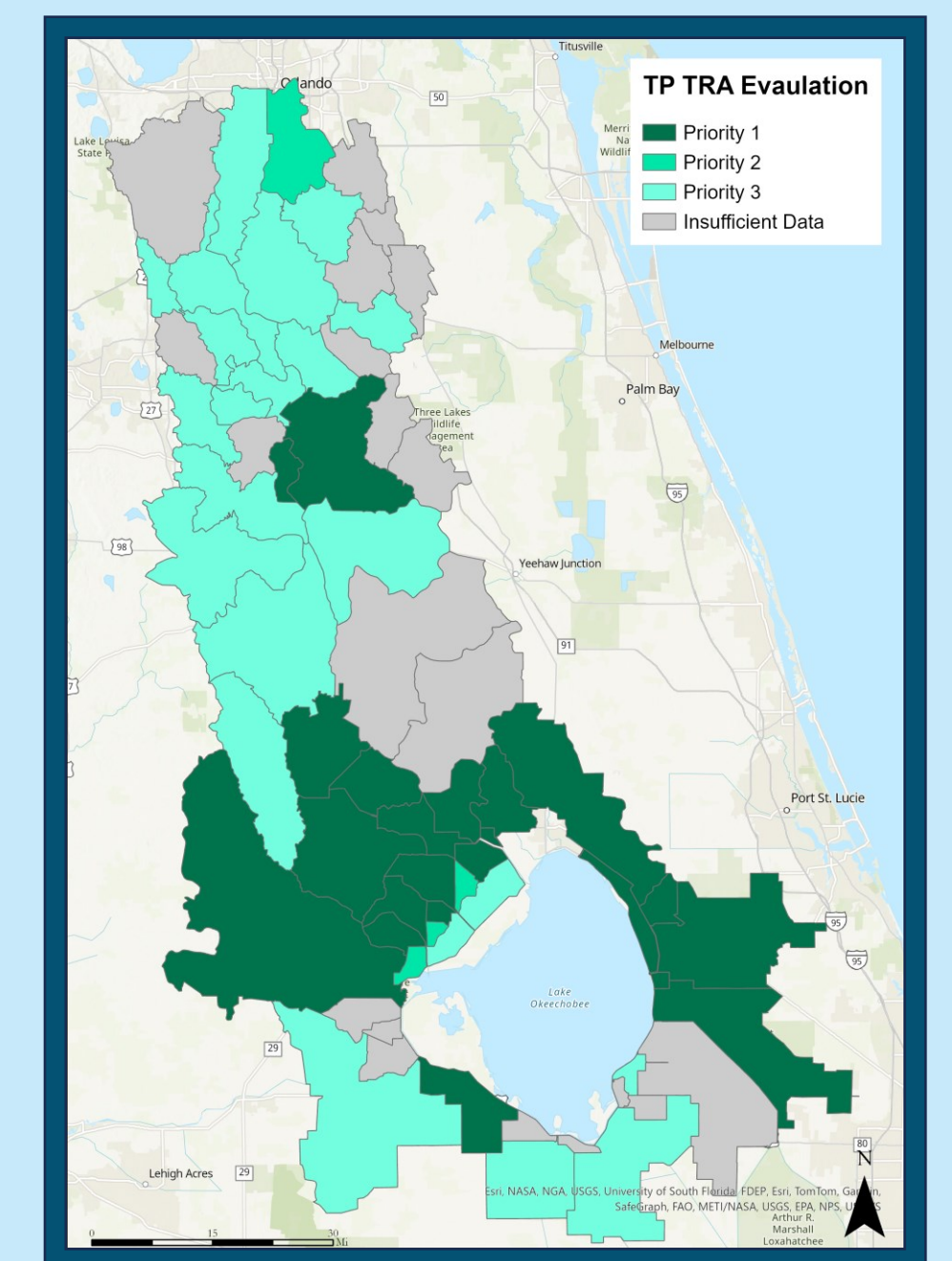
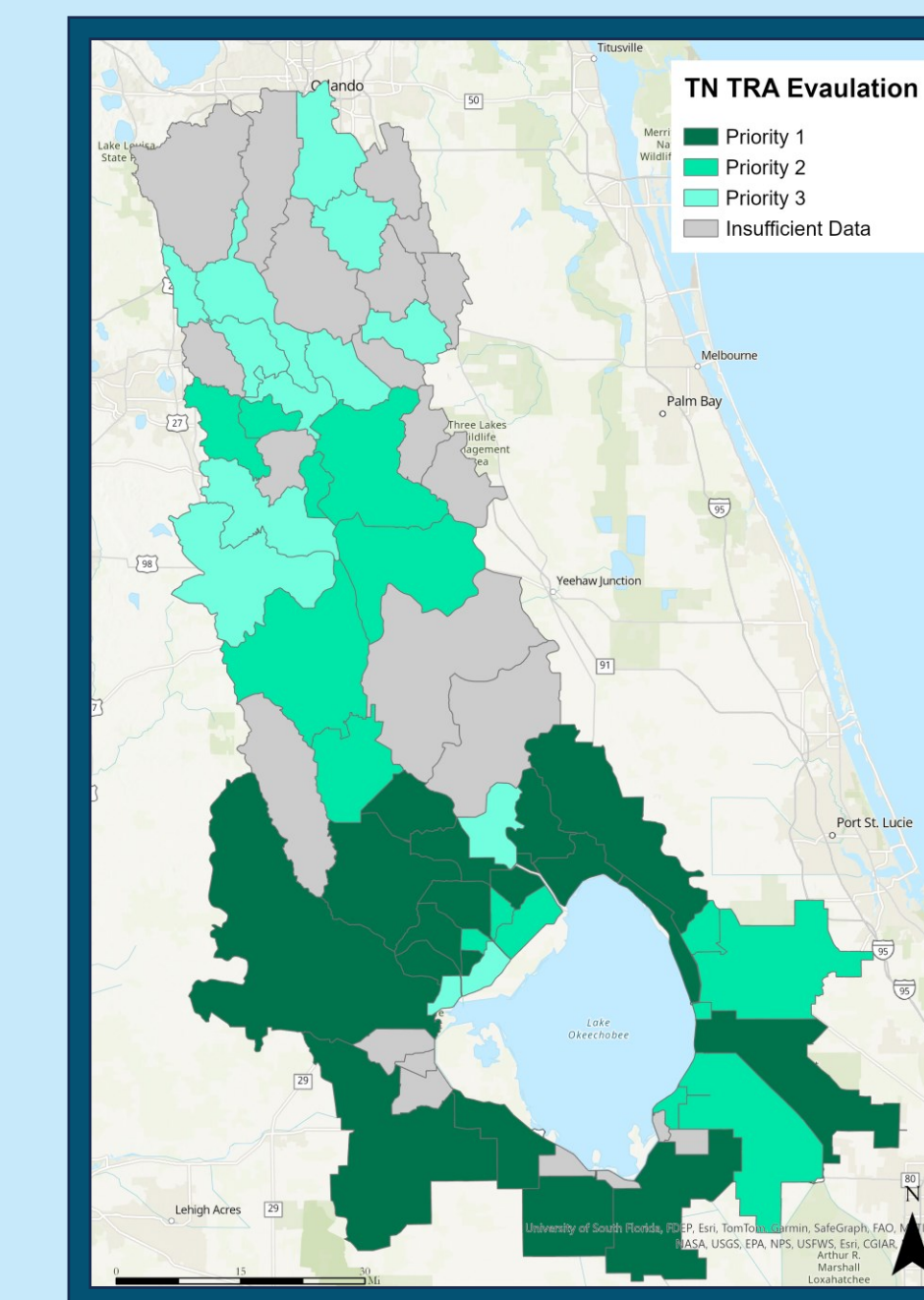
TP Trends



Targeted Restoration Area Evaluation

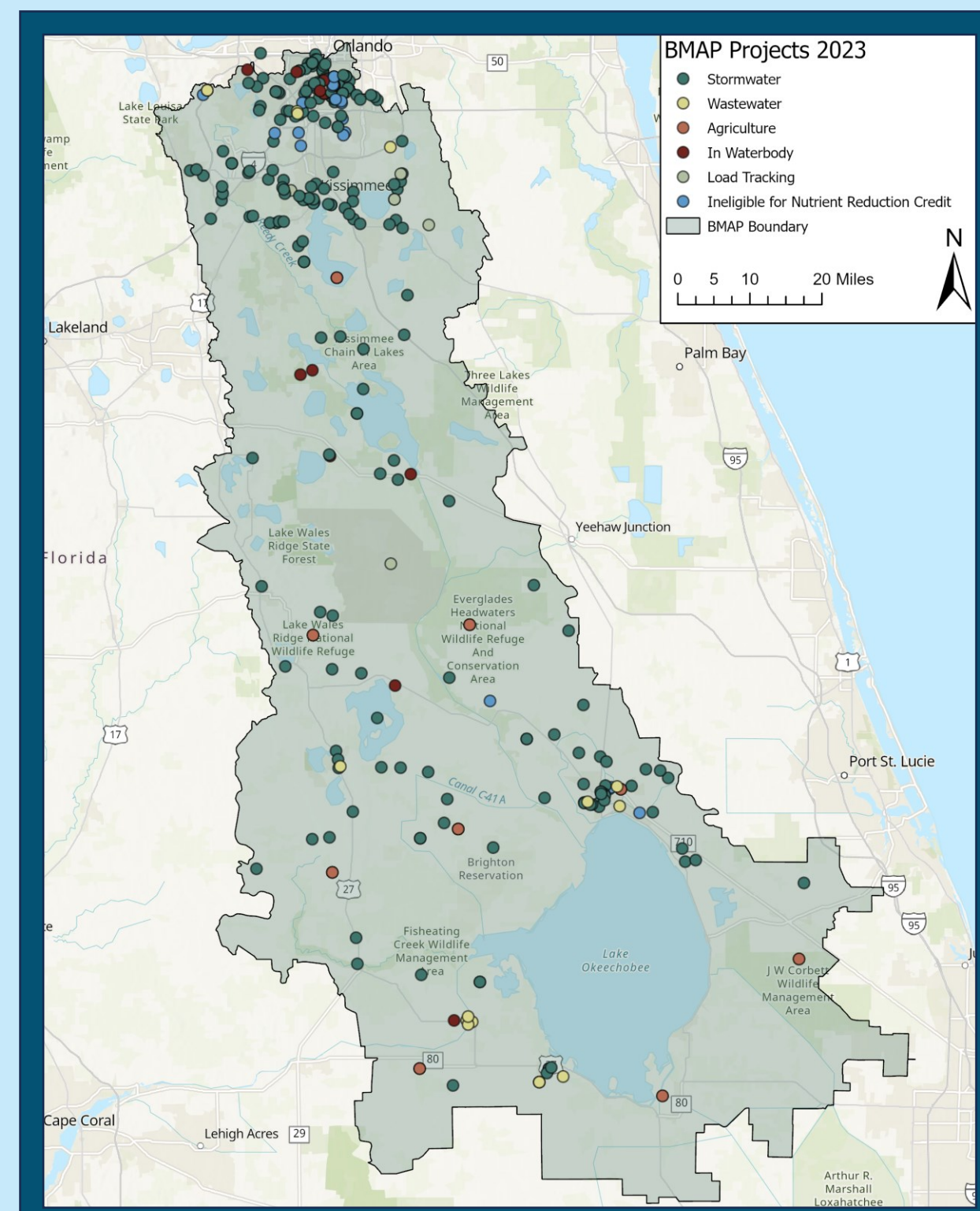


Targeted Restoration Areas (TRA) sequentially compare four parameters to determine priority basins for restoration projects.



Statewide Annual Report (STAR) 2023

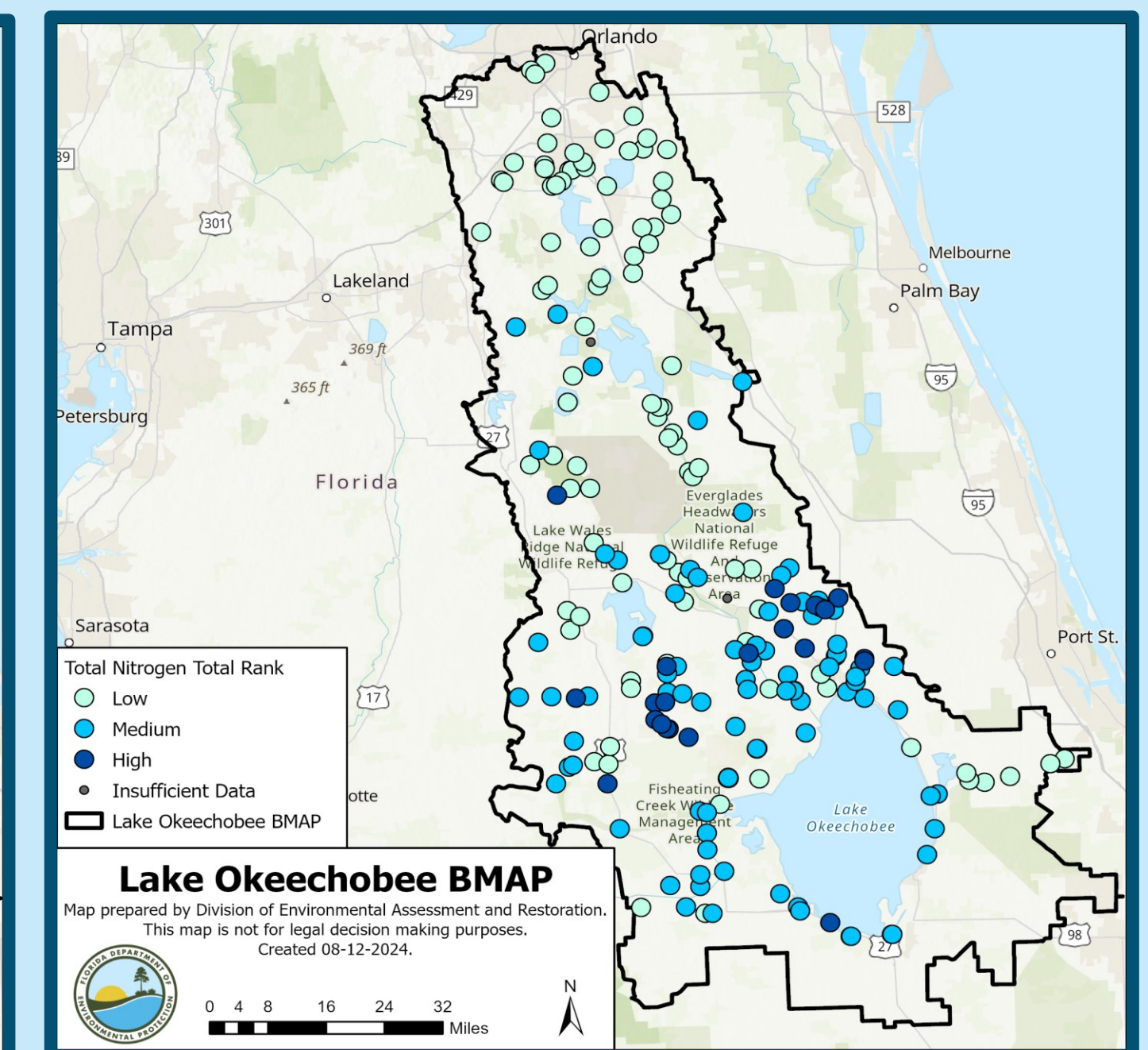
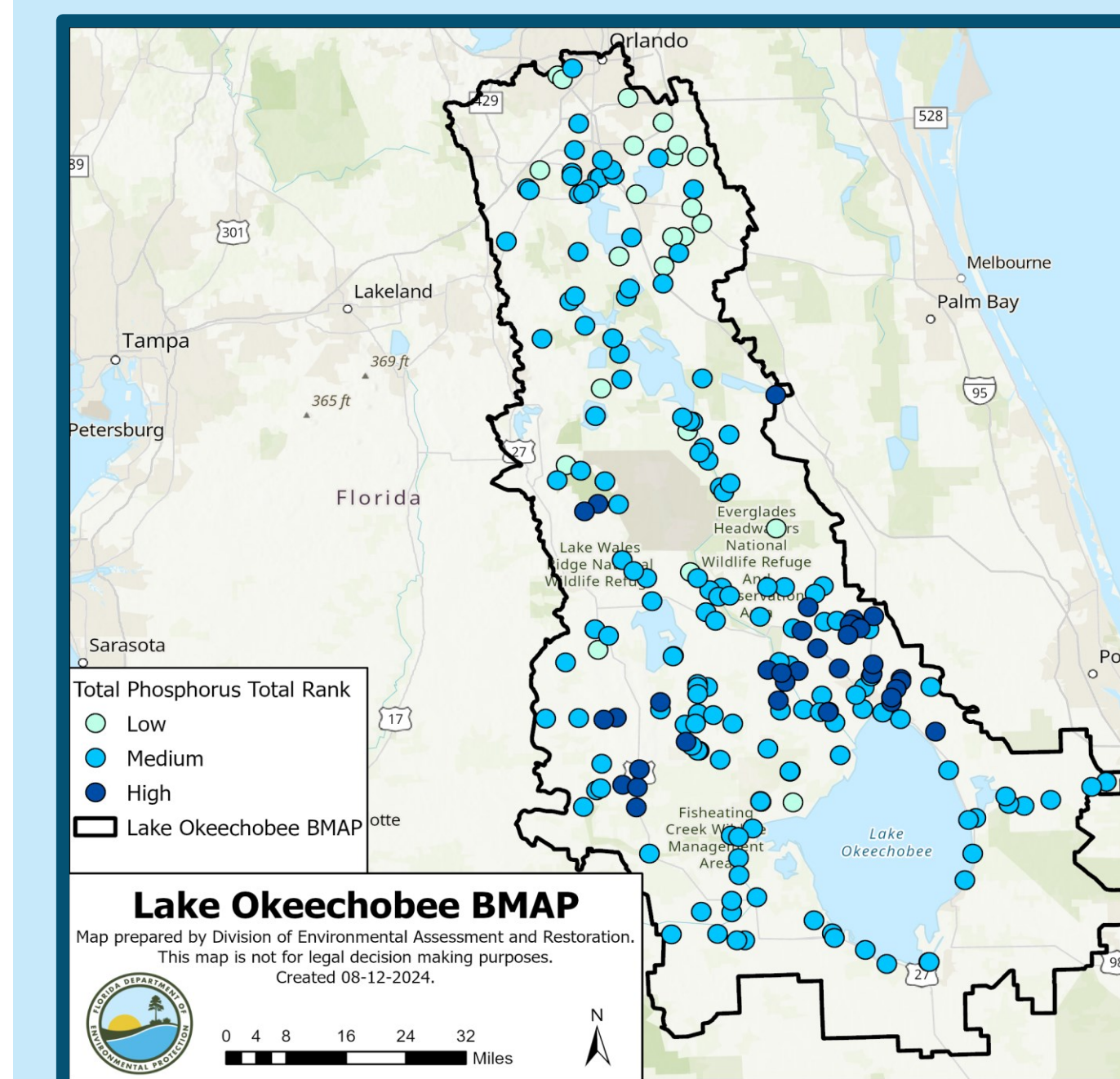
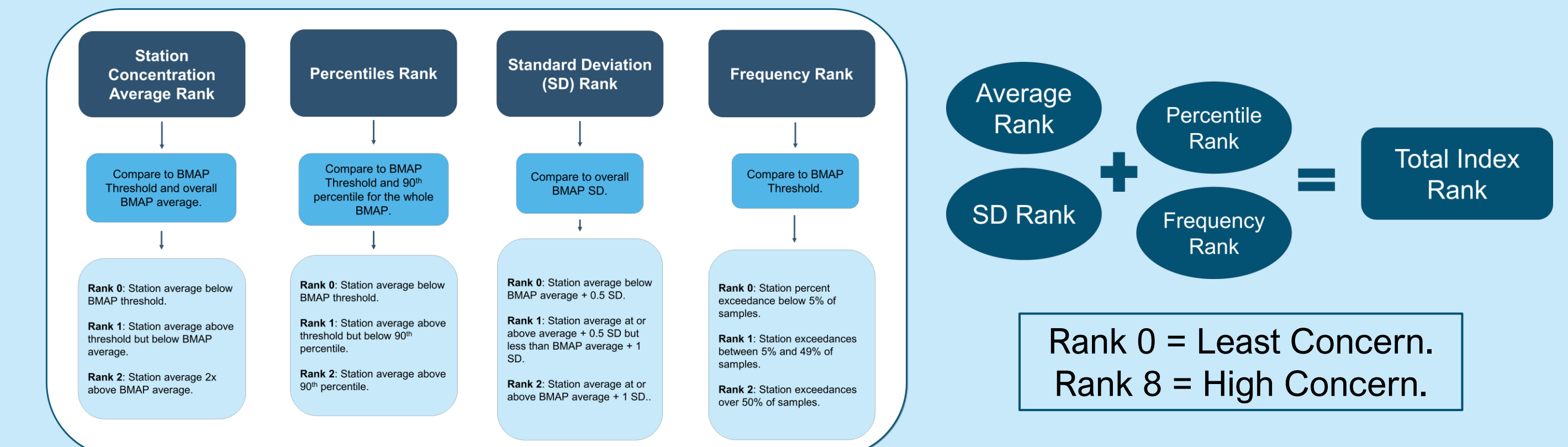
Subwatershed	TP Load Required Reduction (mt/yr)	TP Reduction Through Dec. 31, 2023 (mt/yr)	TP Reductions Achieved Through Dec. 31, 2023
Fisheating Creek	28.3	15.4	54%
Indian Prairie	22.7	22.7	66%
Lake Istokpoga	24.6	2.7	11%
Lower Kissimmee	57.1	13.5	21%
Taylor Creek/Nubbin Slough	41.6	32.3	78%
Upper Kissimmee	57.0	18.2	32%
East Lake Okeechobee	11.0	2.3	21%
South Lake Okeechobee	8.2	3.1	37%
West Lake Okeechobee	0.0	0.6	100%
Total	367.2	110.7	42%



Through Dec. 31, 2023, 343 projects in the BMAP address both stormwater and wastewater pollution sources.

Hot Spot Analysis

Analysis method for prioritization at a more local scale than the TRA analysis.



LAKE OKEECHOBEE BASIN MANAGEMENT ACTION PLAN (BMAP) REQUIRED REDUCTIONS AND MILESTONES

Projects

Responsible entities are required to identify, plan, complete and report on projects that reduce the loading of nitrogen from sources.

The basin wide reductions are assessed by source and then allocated to responsible entities.

Project collection and reporting are crucial to the successful implementation and management of BMAPs. Projects are reported to the Florida Department of Environmental Protection (DEP) annually through the BMAP Project Collection Portal. Project lists with associated reductions are published in the Statewide Annual Report (STAR).

Subwatershed Required Reductions

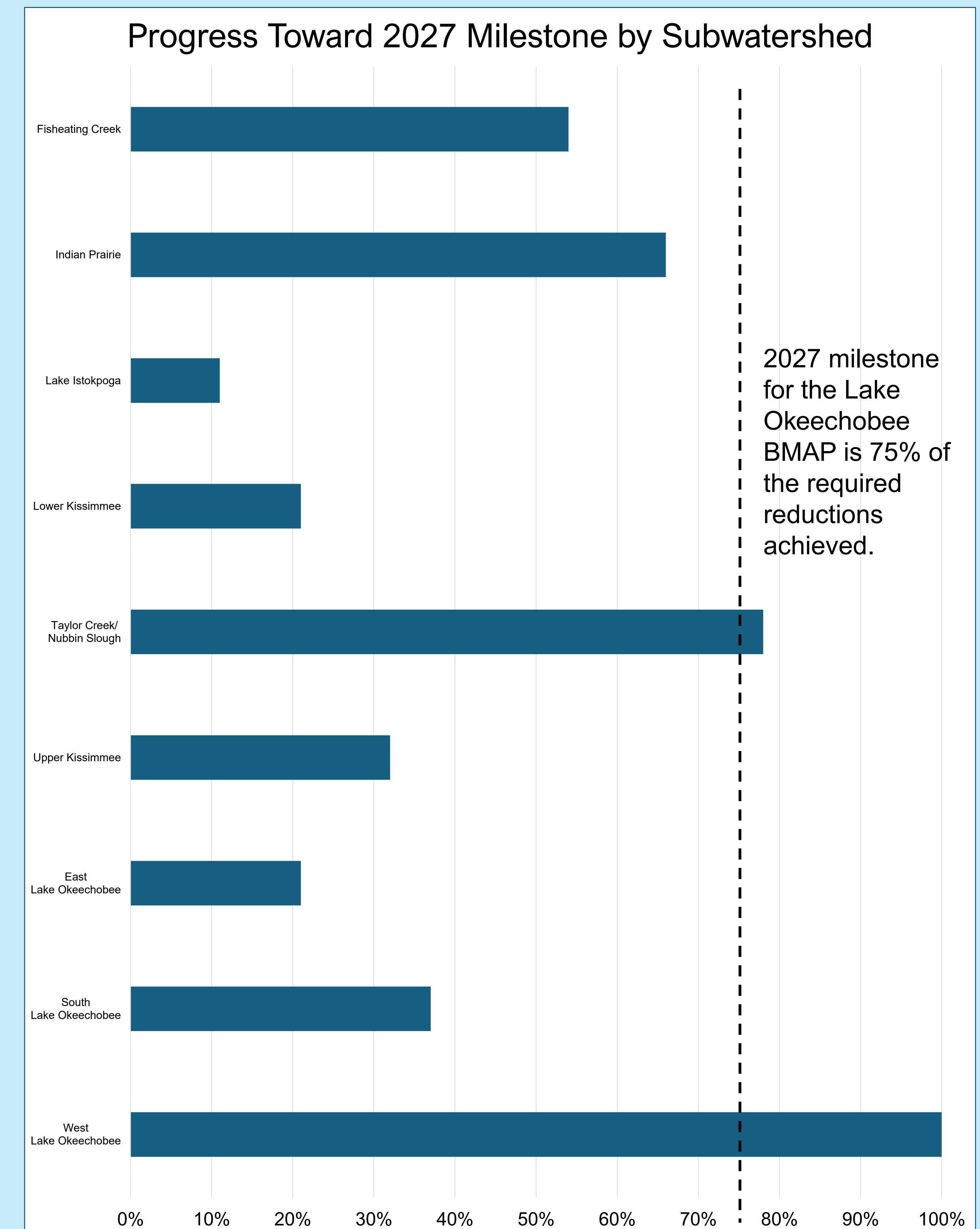
Subwatershed	Targets in 2020 BMAP				Targets Updated with 2023 SFER Data			
	WY2014 - WY2018 TP Load (mt/yr)	% Contribution of Load	TP Load Required Reduction (mt/yr)	TP Target (mt/yr)	WY2019 - WY2023 TP Load (mt/yr)	% Contribution of Load	TP Load Required Reduction (mt/yr)	TP Target (mt/yr)
Fisheating Creek	72.4	12	59.7	12.7	39.7	11	28.3	11.4
Indian Prairie	102.5	17	84.5	18.0	48.1	13	34.3	13.8
Lake Istokpoga	47.7	8	39.3	8.4	34.5	9	24.6	9.9
Lower Kissimmee	125.9	21	103.8	22.1	80.0	22	57.1	22.9
Taylor Creek/Nubbin Slough	113.6	19	93.7	19.9	58.2	16	41.6	16.6
Upper Kissimmee	90.5	15	74.6	15.9	79.8	22	57.0	22.8
East Lake Okeechobee	16.8	3	13.9	2.9	15.4	4	11.0	4.4
South Lake Okeechobee	29.0	5	23.9	5.1	11.5	3	8.2	3.3
West Lake Okeechobee	0.0	0	0.0	0.0	0.0	0	0.0	0.0
Total	598.4	100	493.4	105.0	367.2	100	262.2	105.0

2027 Milestone – 75% Reduction Achieved

Responsible entities are required to provide lists of projects that demonstrate how they plan to achieve their required reductions for the next five-year milestone.

It is important that all projects needed to achieve milestone targets are included in the STAR, even if a funding mechanism is not currently identified. This information provides the state an understanding of what support is necessary to achieve BMAP goals and assists with the prioritization of projects.

Estimated reductions in the progress chart below reflect projects entered through December 2023.



BMAP Management Strategies

Nutrient reduction credits can be earned through implementing projects addressing sources of nutrients. Reduction milestones must be met to ensure sufficient progress towards meeting the total maximum daily load (TMDL) target.

Source-Specific Management Strategies:

- Onsite Sewage Treatment and Disposal Systems:** No new installations of conventional septic systems on lots 1 acre or less.
- Wastewater Treatment Facilities:** Facilities must meet certain effluent limitations.
- Agriculture Best Management Practices (BMP) Enrollment:** This program is mandatory in BMAP areas, assumes certain efficiencies as described in the BMAP.
- Other Agriculture:** Agricultural sources that are not addressed through BMP enrollment and implementation will need to be addressed through activities such as regional projects, cost-share BMPs or innovative technologies.
- Urban Stormwater:** Ordinances, education, street sweeping and structural stormwater improvements.

