



Lake Jesup Basin Management Action Plan (BMAP) 2019 Progress Report

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Florida Department of Environmental Protection (DEP)
Division of Environmental Assessment and Restoration

January 30, 2020



Agenda

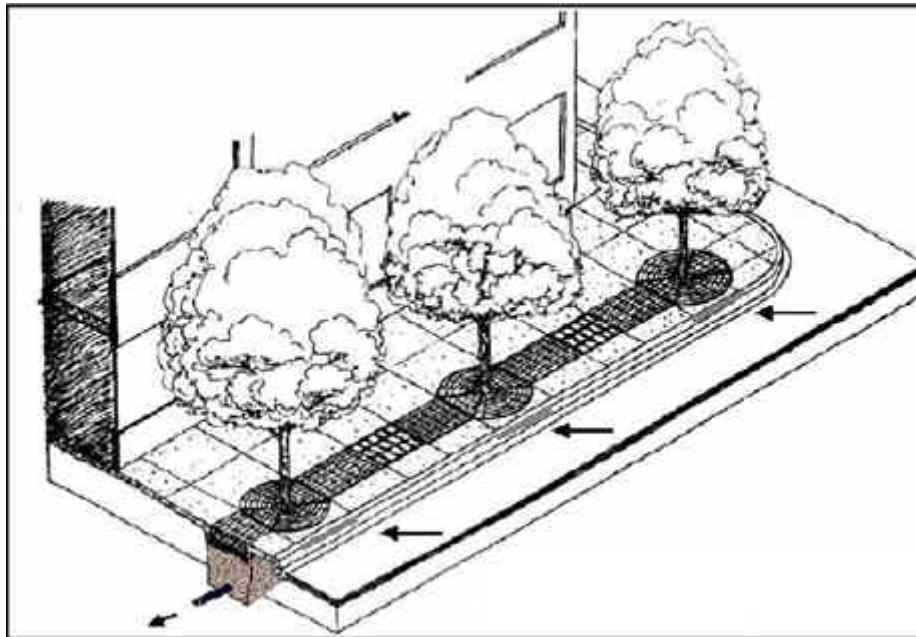
- *BMAP Annual Progress Report*
 - Summary of project status and reductions
 - Monitoring activities
- *Updates*
 - Seminole County
 - Orange County
 - Water Management District Updates
 - Cameron Flow Way and Channel C Update
 - Phosphorus Technology Request for Information (RFI)
 - Bench Scale Efficiency Testing of Phosphorus
 - Water Quality Update
- *Alternative Restoration Plan Information*



BMAP Annual Progress

Project Status

- 9 projects completed in 2019
- 54 projects added in 2019
- 62 ongoing projects





BMAP Annual Progress

Project Types

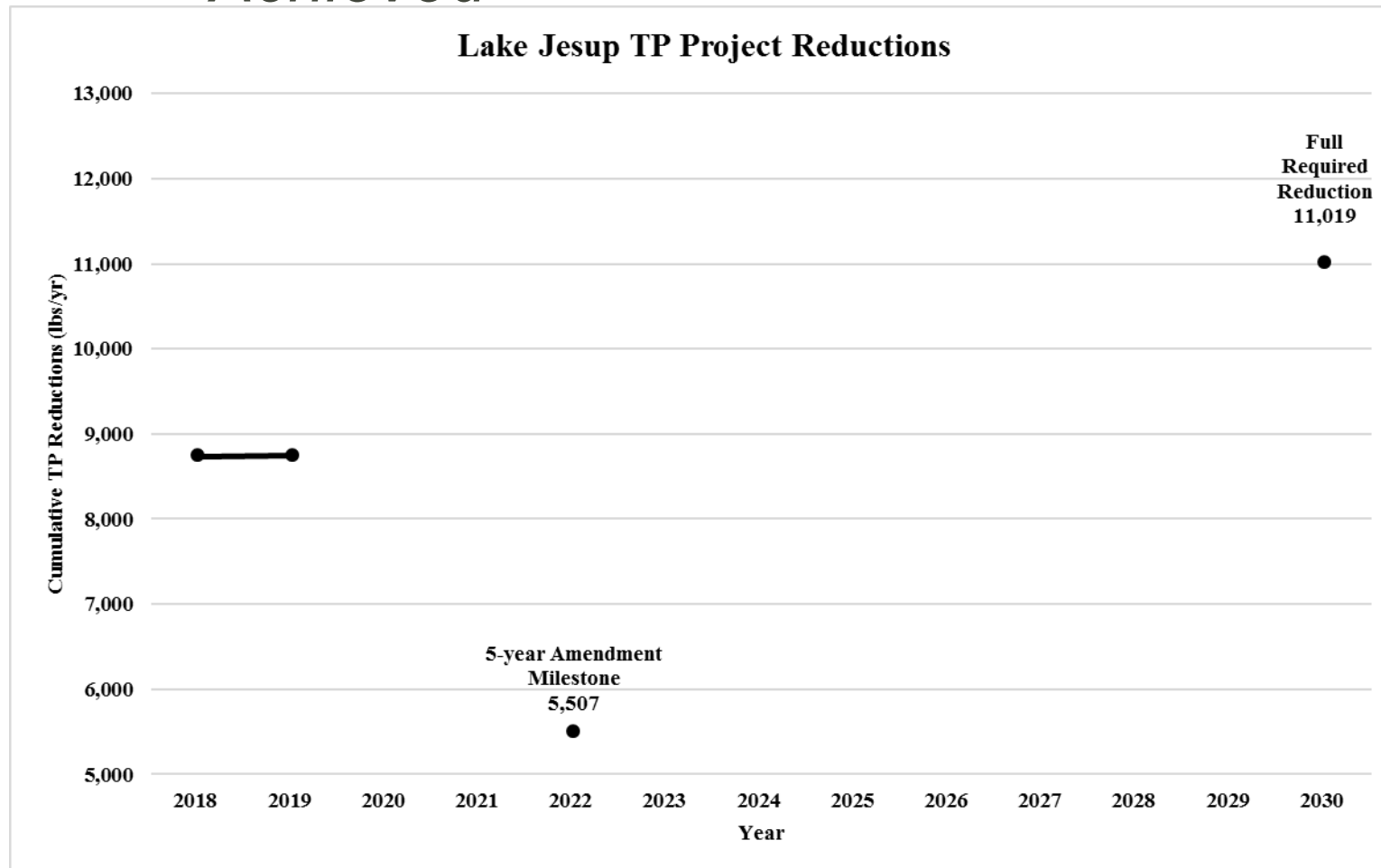
Project Type	Count of Project Type
100% On-site Retention	2
Agricultural BMPs	2
Alum Injection Systems	9
Aquatic Vegetation Harvesting	1
Baffle Boxes- Second Generation	8
Baffle Boxes- Second Generation with Media	1
Bioswales	5
BMP Cleanout	9
BMP Treatment Train	2
Catch Basin Inserts/Inlet Filter Cleanout	2
Control Structure	1
Dry detention pond	3
Education Efforts	15
Enhanced Public Education	2
Exfiltration trench	5
Exotic Vegetation Removal	4
Grass swales without swale blocks or raised culverts	1
Hydrodynamic Separators	8
Hydrologic Restoration	1
Land Use Change	1

Project Type	Count of Project Type
LID- Tree Boxes/Tree Wells	2
Muck Removal/Restoration Dredging	2
On-line Retention BMPs	2
OSTDS Phase Out	5
Regional Stormwater Treatment	3
Regulations, Ordinances, and Guidelines	3
Sanitary Sewer and Wastewater Treatment Facility (WWTF) Maintenance	1
Sanitary Sewer Inspections	3
Shoreline Stabilization	2
Stormwater System Rehabilitation	13
Street Sweeping	16
Study	8
TBD	1
Wastewater Service Area Expansion	2
Wet Detention Pond	15
Wetland Treatment	1
WWTF Diversion to Reuse	1
WWTF Nutrient Reduction	1
WWTF Upgrade	2
WWTF Upgrade	1
Grand Total	166



BMAP Annual Progress

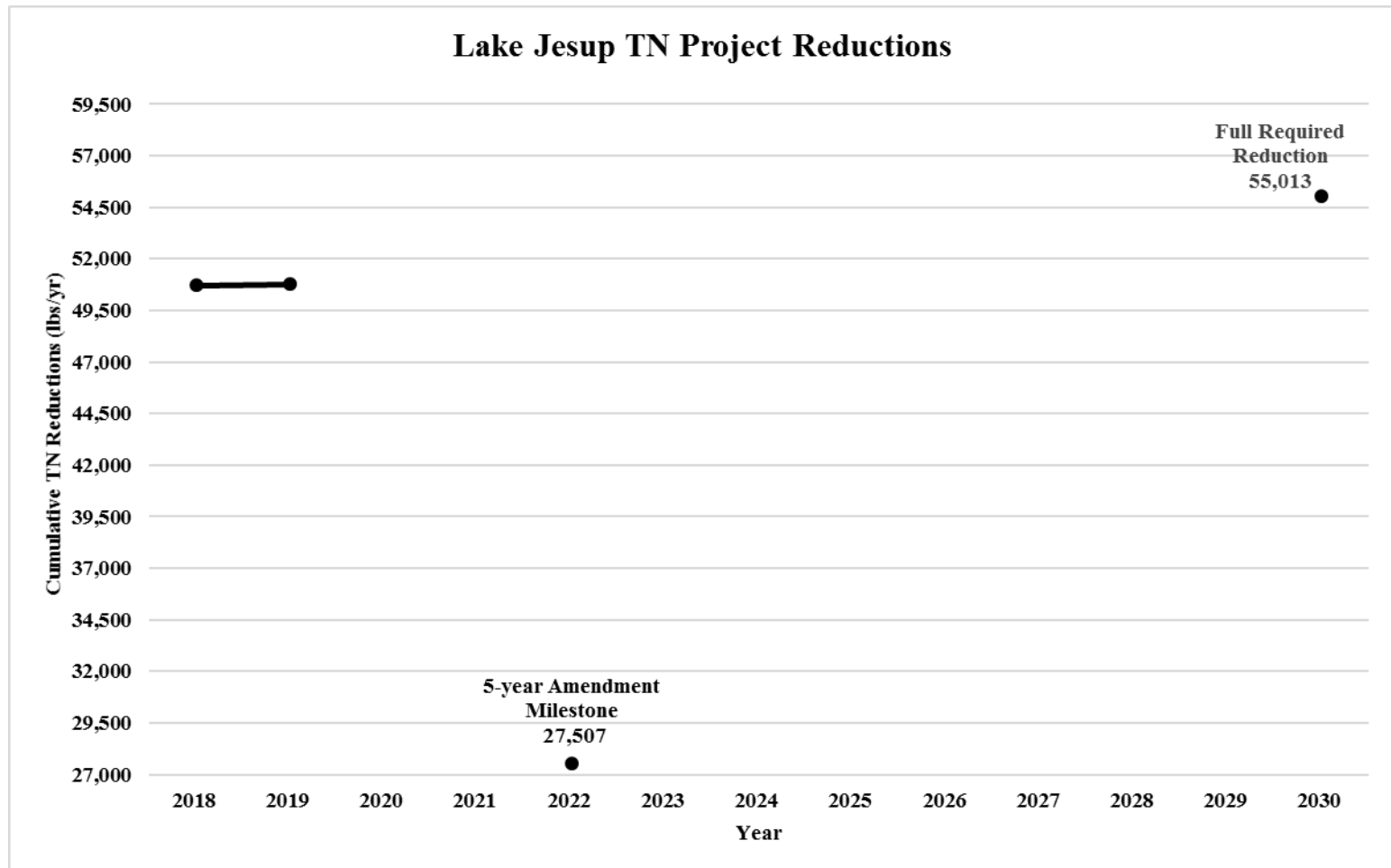
Total Phosphorus (TP) Load Reductions Achieved





BMAP Annual Progress

TN Load Reductions Achieved





Monitoring Activities

Watershed Information Network (WIN)

- Through both the WIN and Florida STORET (STOrage and RETrieval) databases, the Division of Environmental Assessment and Restoration (DEAR) implements Florida statutory requirements, DEP rule requirements and U.S. EPA funding requirements for management of environmental (non-regulatory) data for the state
- DEAR uses of water quality data include but are not limited to:
 - Assessment of waters for purposes of the Impaired Waters Rule (IWR)
 - Development of:
 - Water Quality Criteria
 - Total Maximum Daily Loads (TMDL)
 - Basin Management Action Plans (BMAP)
- Providing data as required to U.S. EPA and to the public
- Currently 85 Organizations actively providing Activity and Result data



Monitoring Activities

Central Data Repository Statute and Rules

- **373.026(2), Florida Statutes (F.S.):** Statutory authority and responsibility for central data repository. All local governments, water management districts, and state agencies are directed to cooperate with the department or its agents in making available to it for this purpose such scientific and factual data as they may have, generate, or possess, as the department deems necessary. The department is authorized to prescribe the format and ensure quality control for all data collected or submitted.
- **Chapter 62-40.540(3), Florida Administrative Code (F.A.C.), Water Resource Implementation Rule:** Rule authority for central data repository. All appropriate water quality data collected by the Department, Districts, local governments, and state agencies shall be placed in the FLORIDA STORET system within one year of collection.
- **Chapter 62-303, F.A.C., Identification of Impaired Surface Waters:** Rule authority for STORET and successors to be primary source of data used for determining whether samples do not meet water quality criteria. As required by subsection 62-40.540(3), F.A.C., the Department, other state agencies, the Water Management Districts, and local governments collecting surface water quality data in Florida shall enter the data into FLASTORET within one year of collection. Other sampling entities that want to ensure their data will be considered for evaluation should ensure their data are entered into FLASTORET.



Local Updates

- Seminole County
- Orange County
- St. Johns River Water Management District



Lake Jesup water quality summary

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January 30, 2020

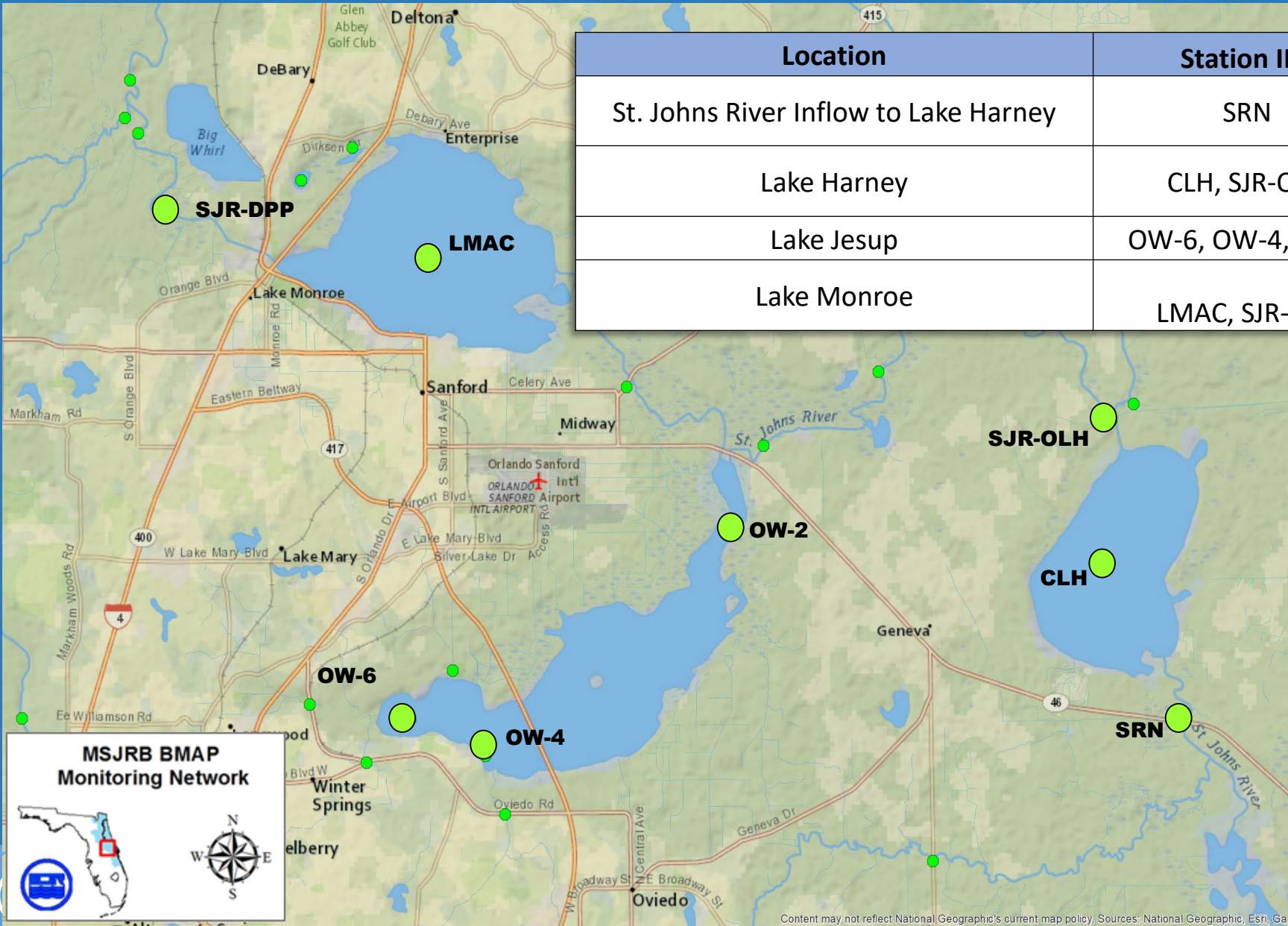


Water quality assessment

- Limited to SJRWMD stations from Middle Basin lakes and mainstem St. Johns River
- Nutrients:
 - Total Phosphorus
 - Total Nitrogen
- Chlorophyll-a
- Secchi transparency
- Phytoplankton biovolumes

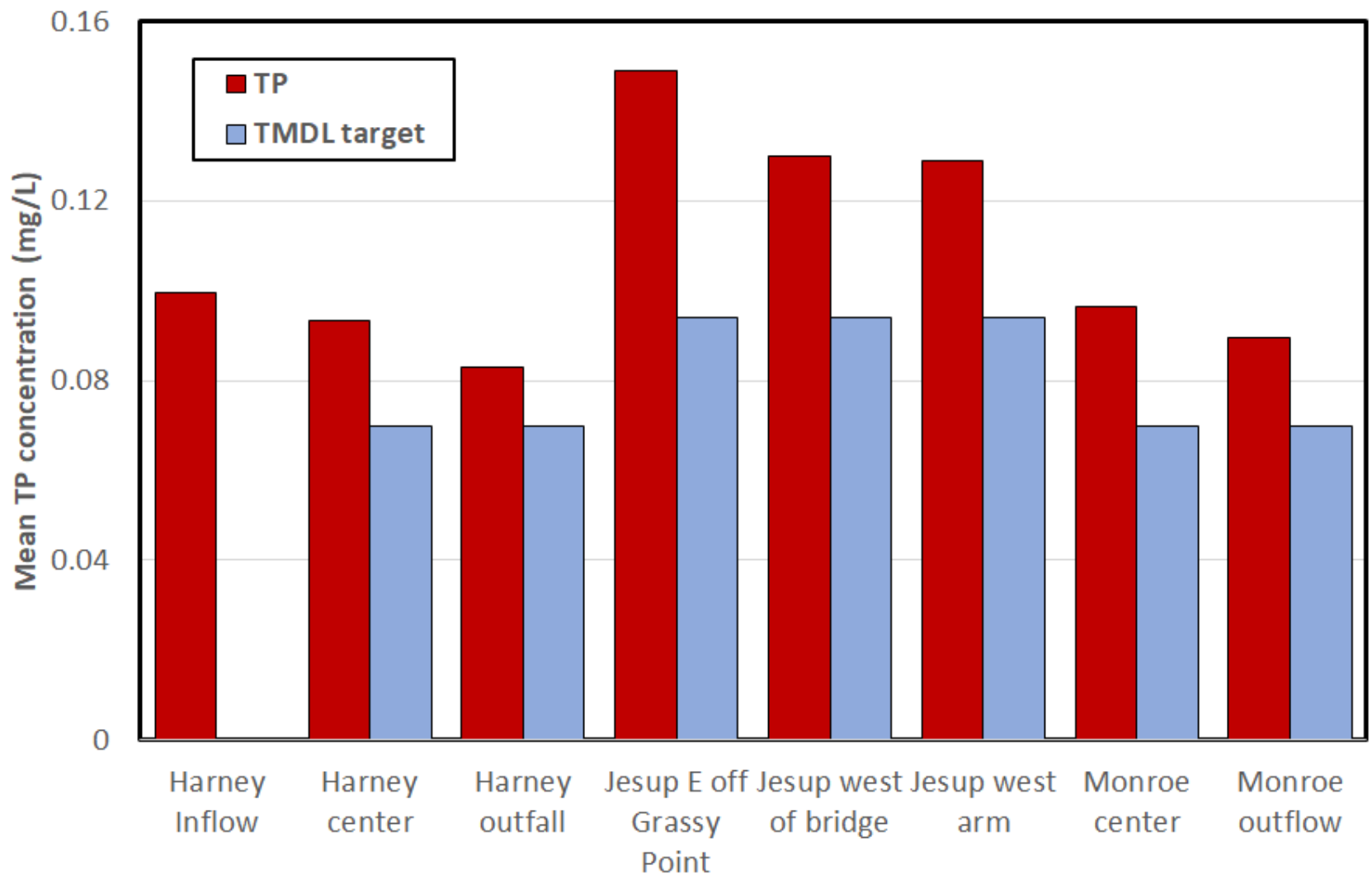


Station Locations

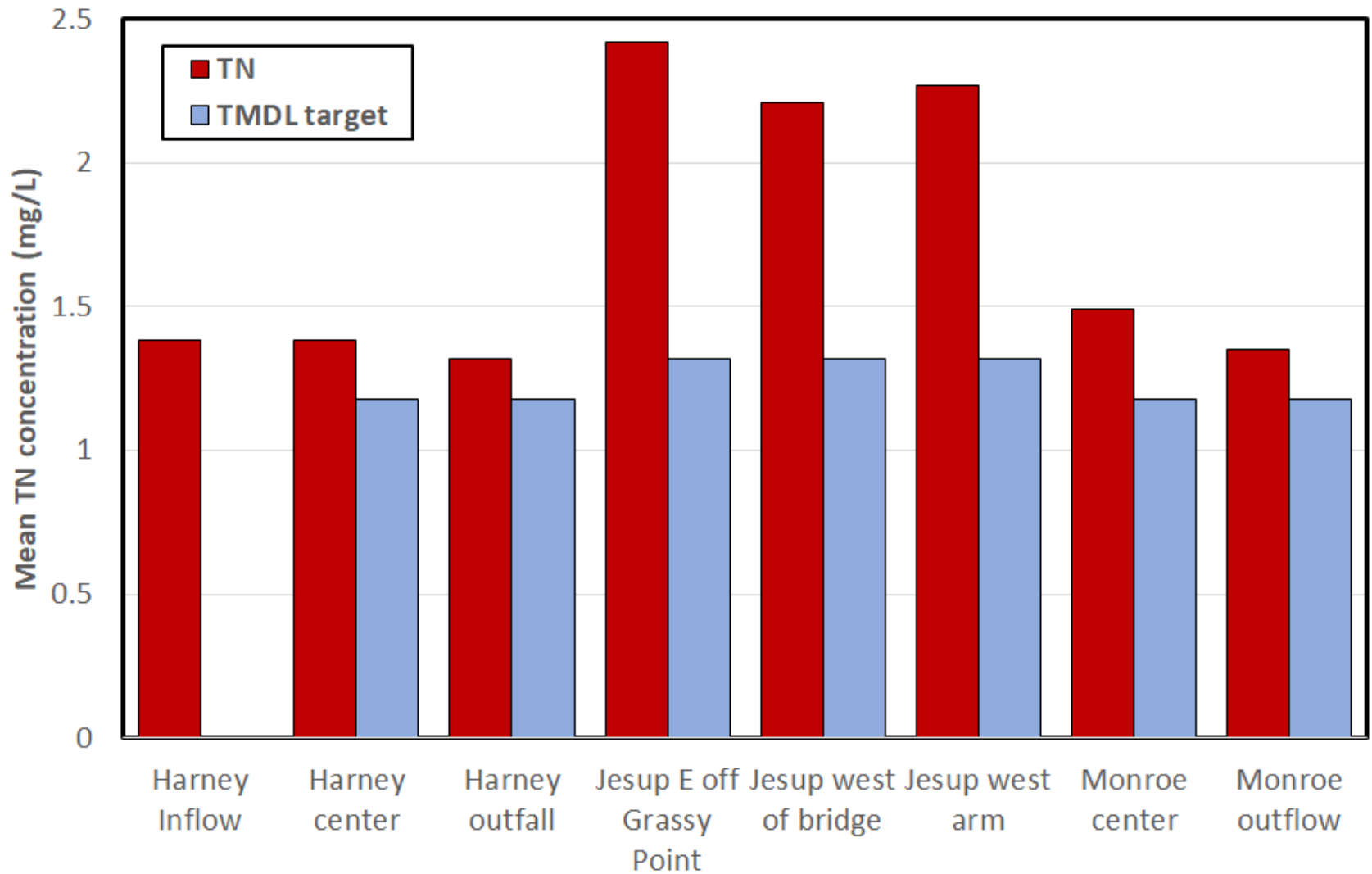


Location	Station IDs
St. Johns River Inflow to Lake Harney	SRN
Lake Harney	CLH, SJR-OLH
Lake Jesup	OW-6, OW-4, OW-2
Lake Monroe	LMAC, SJR-DPP

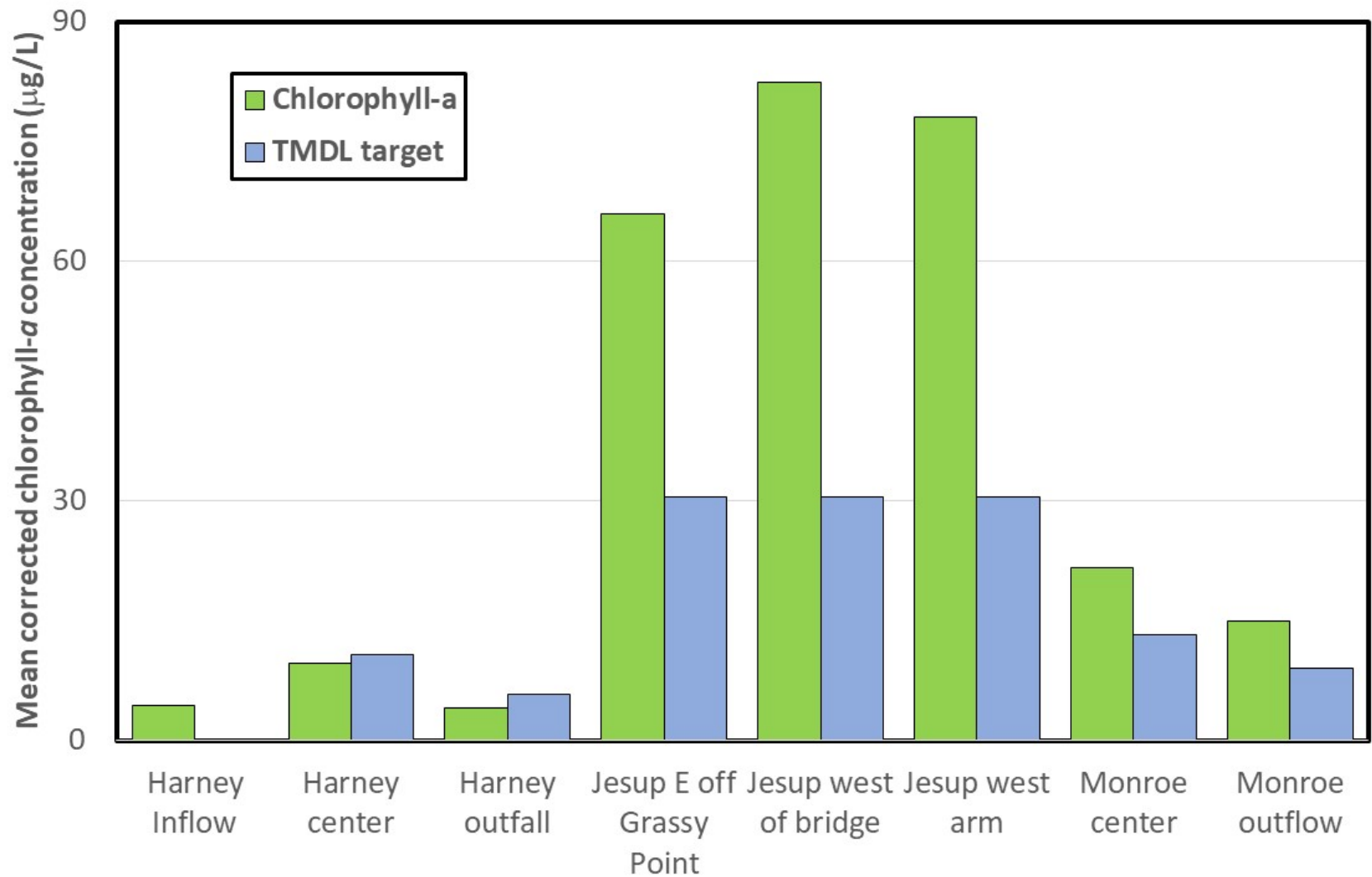
Middle St. Johns Basin lakes mean total phosphorus concentrations 2015-2019



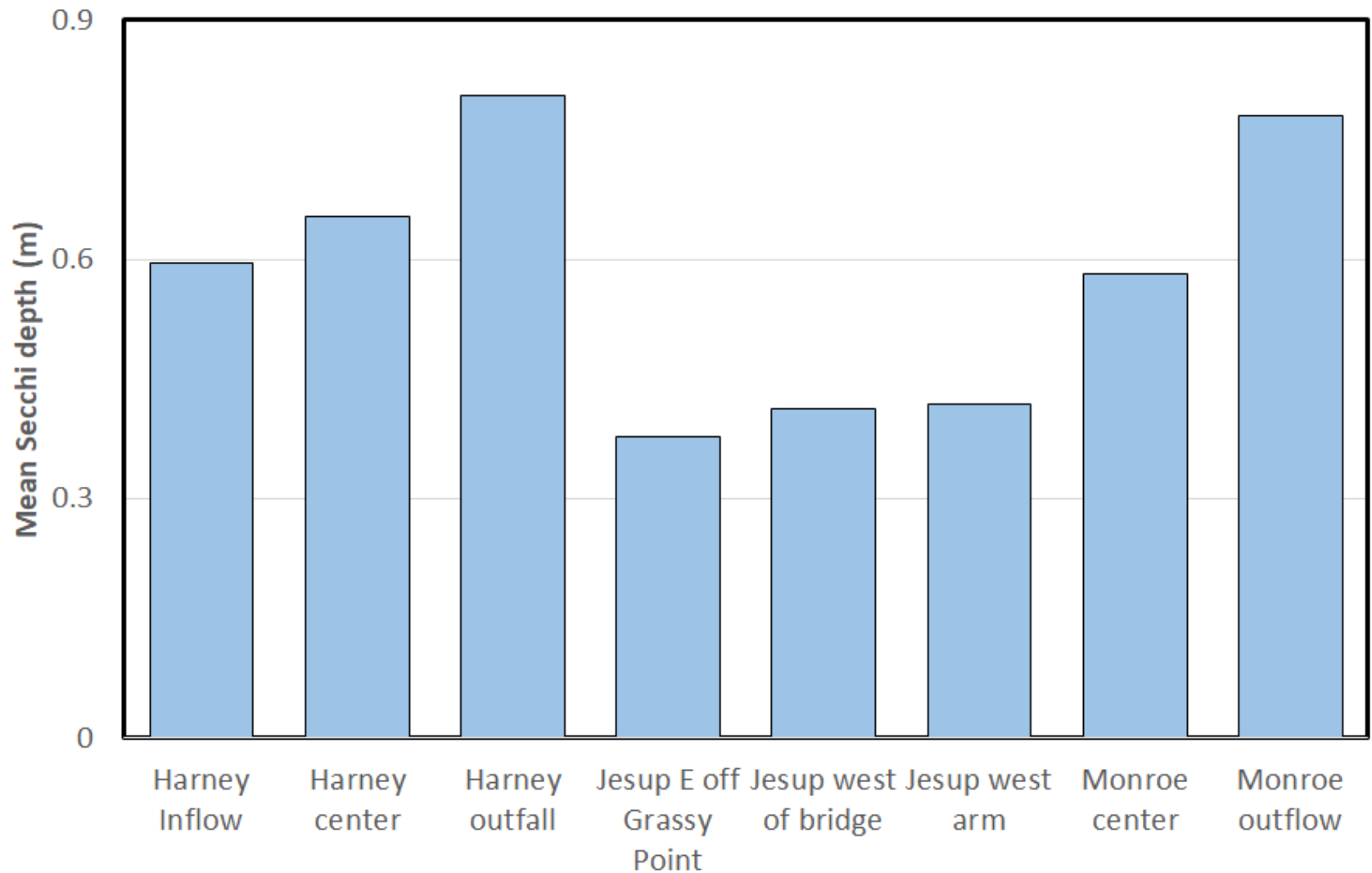
Middle St. Johns Basin lakes mean total nitrogen concentrations 2015-2019



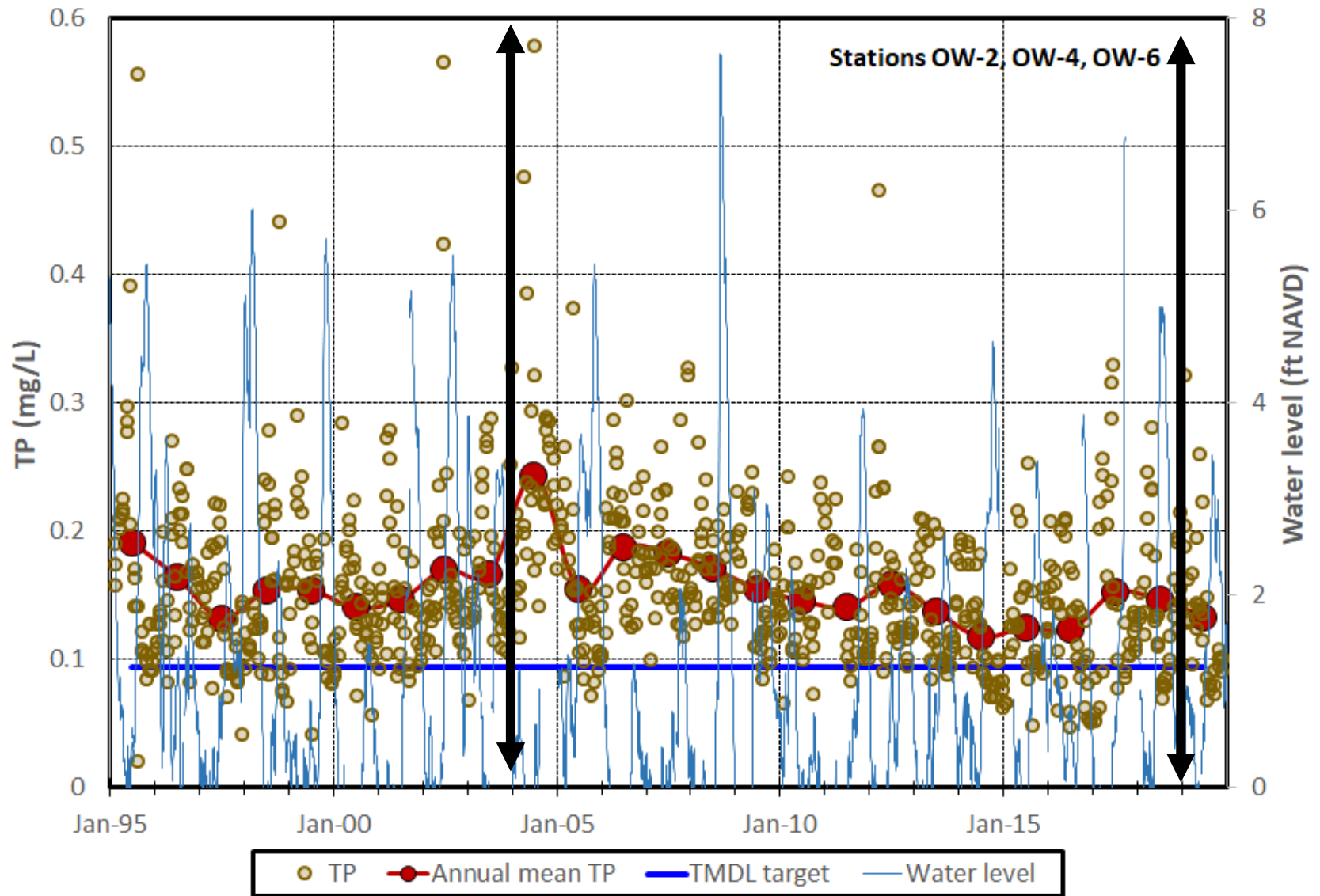
Middle St. Johns Basin lakes mean chlorophyll-*a* concentrations 2015-2019



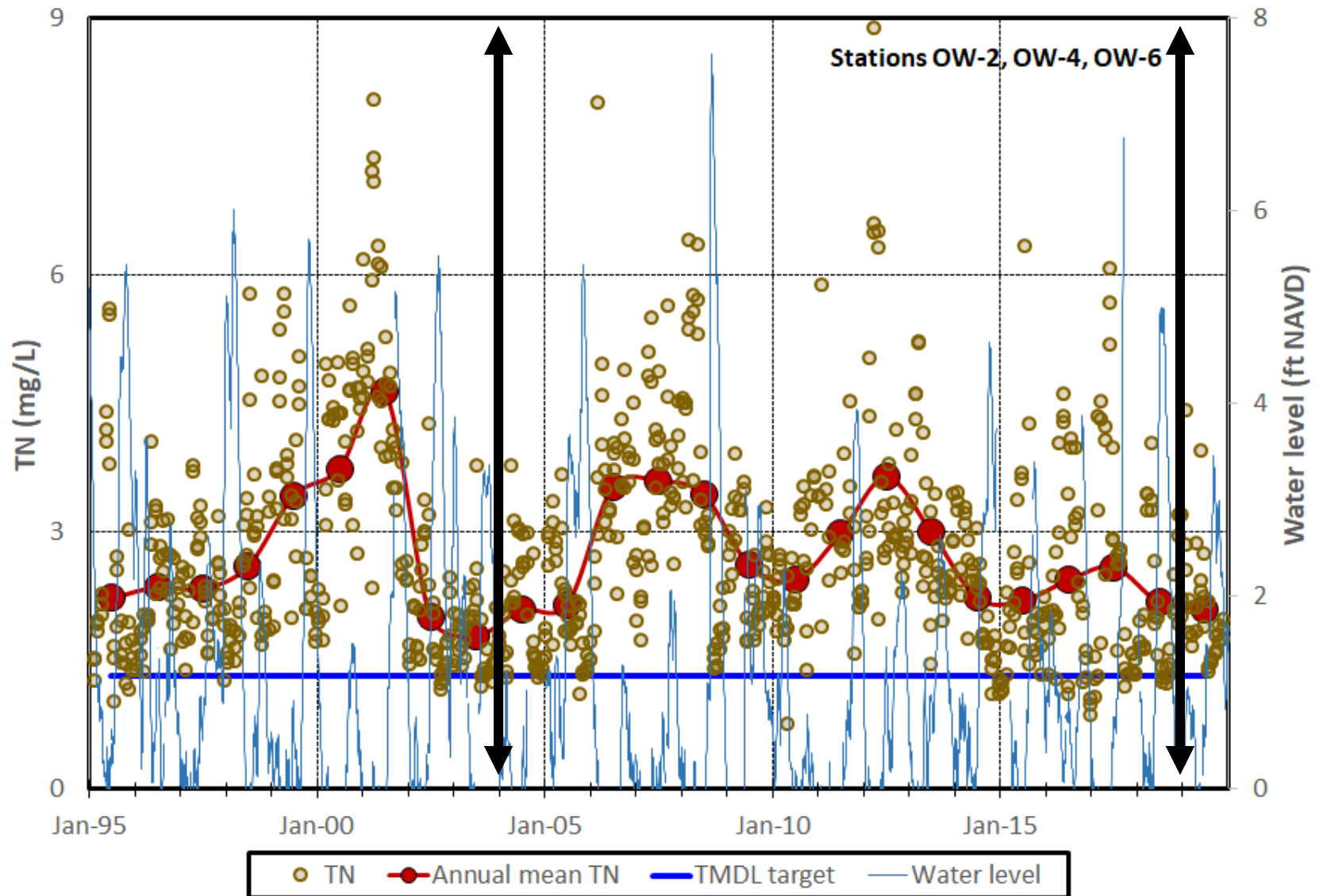
Middle St. Johns Basin lakes mean Secchi transparency 2015-2019



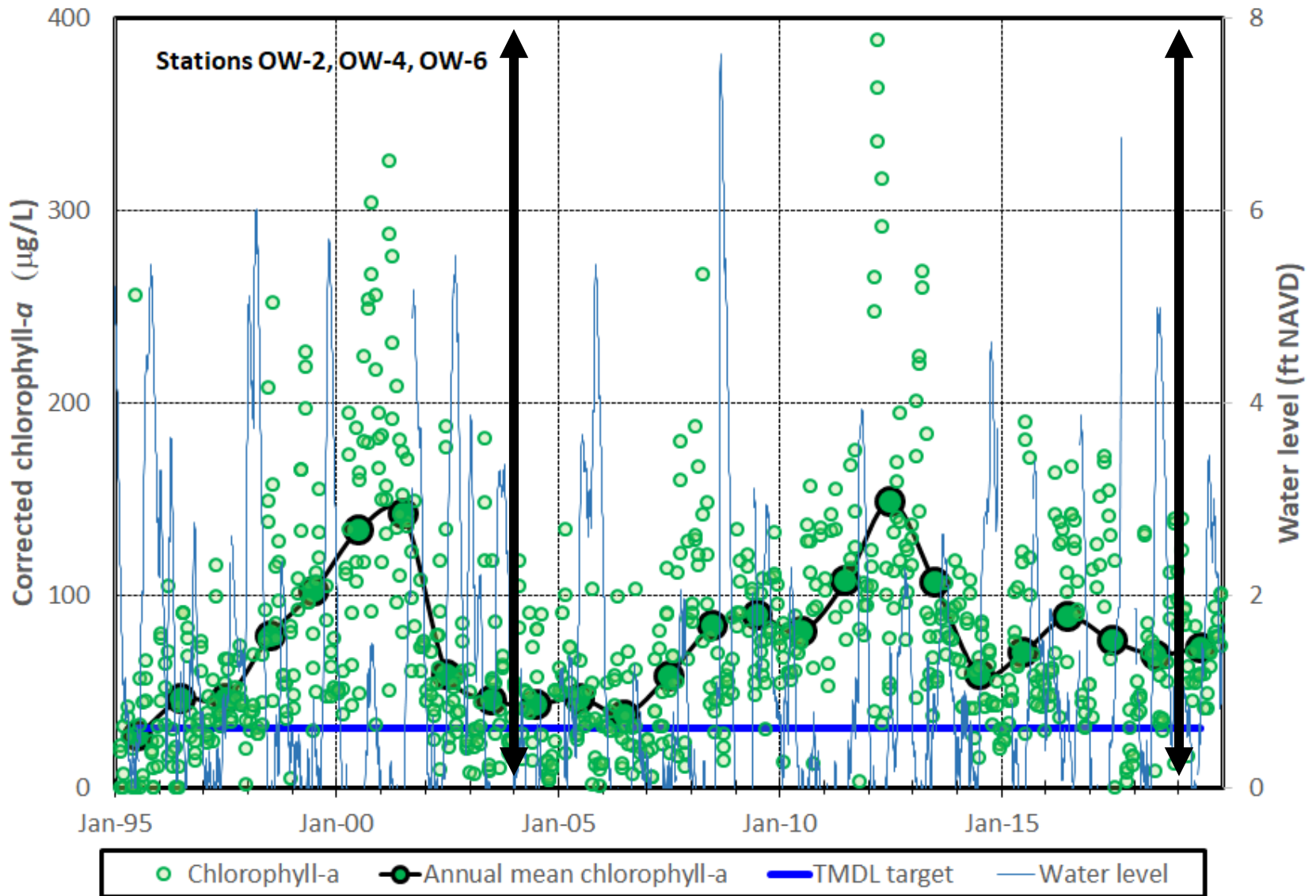
Lake Jesup total phosphorus concentrations



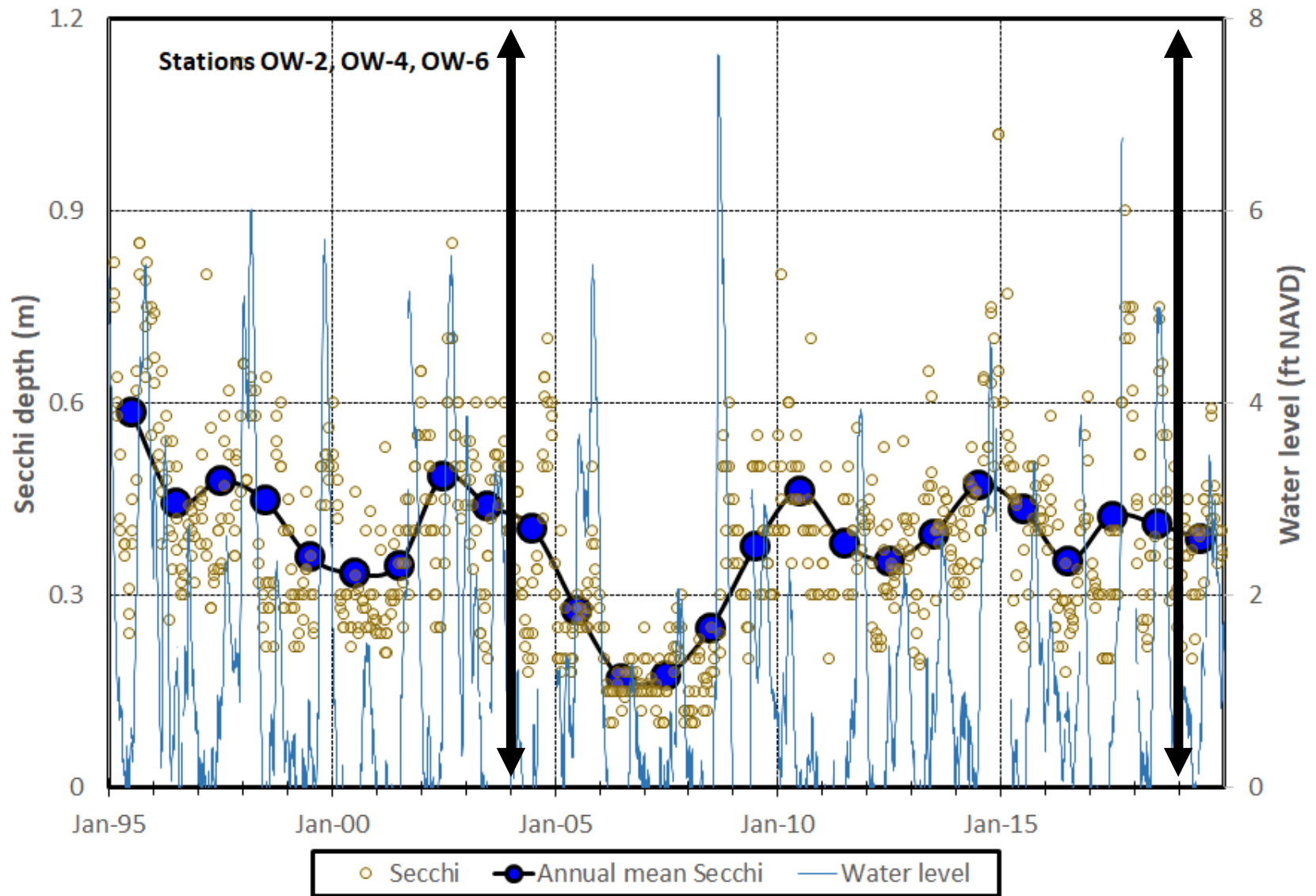
Lake Jesup total nitrogen concentrations



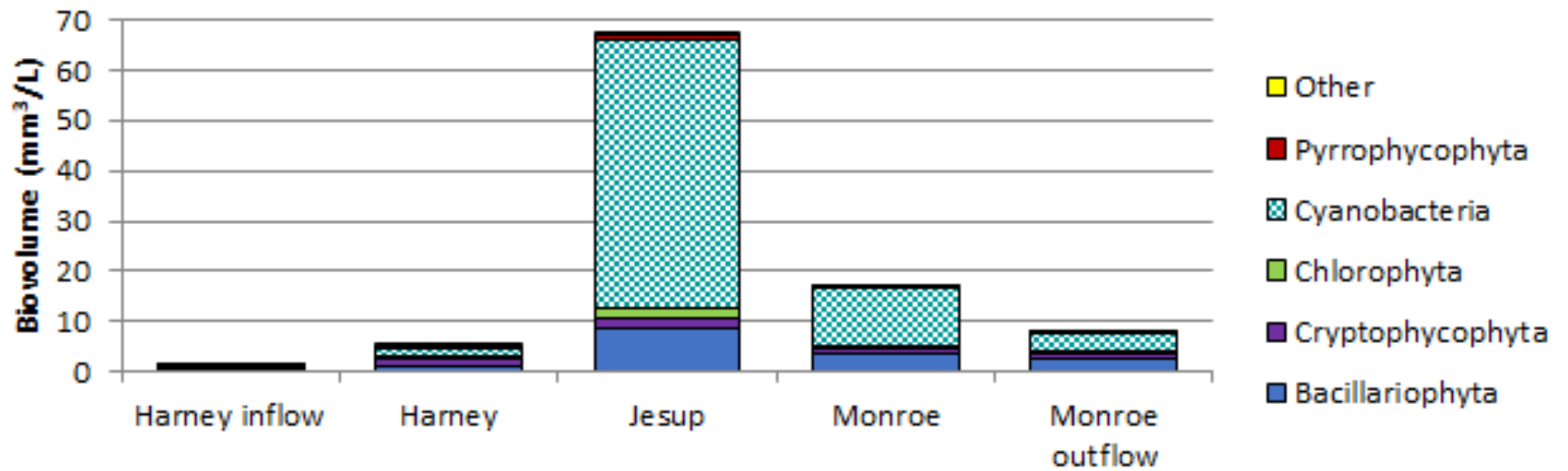
Lake Jesup chlorophyll-*a* concentrations



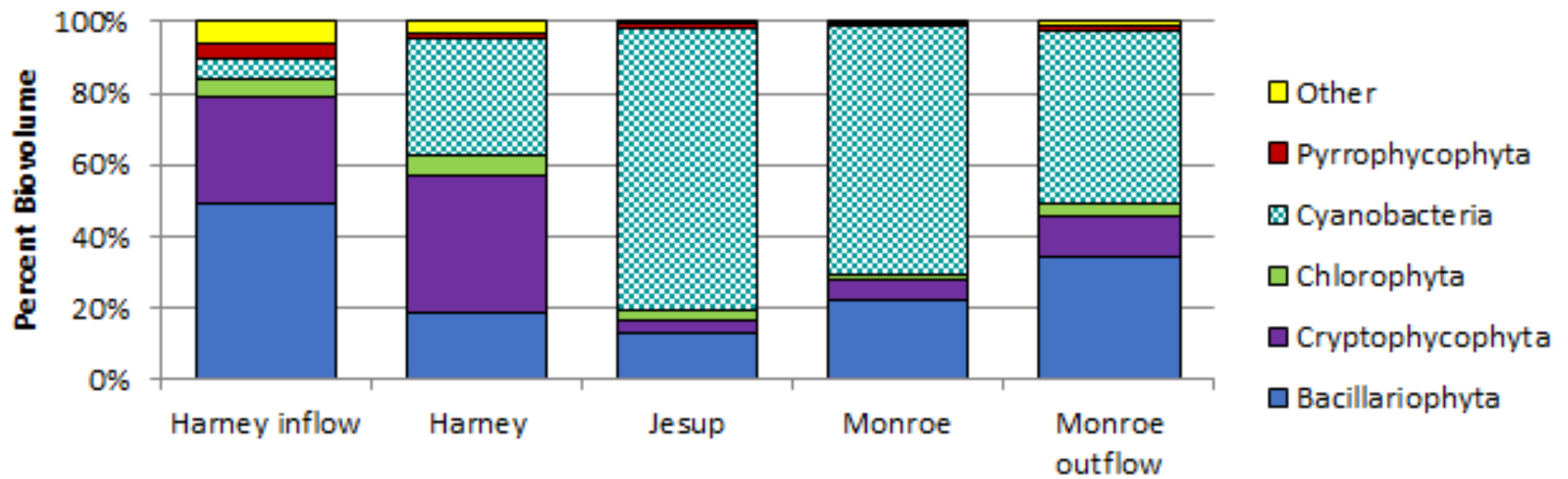
Lake Jesup Secchi transparency



Middle St. Johns River Basin Mean 2014-2017 Phytoplankton Biovolumes



Middle St. Johns River Basin Mean Percent 2014-2017 Phytoplankton Biovolumes





Water Quality Restoration Alternatives to TMDLs

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Restoration Alternatives

Two types of Restoration Alternative Plans

1) Reasonable Assurance Plan

- Assessment Category 4b
- Not Placed on the 303(d) List

2) Pollutant Reduction Plans

- Assessment Category 4e
- Included on the 303(d) List

These plans are addressed in the Impaired Waters Rule in
Section 62-303.600, F.A.C.



Benefits of an Alternative Restoration Plan

- Provides a faster path to restoration
- Allows stakeholders to control the path to restoration for their waterbody
 - Developing a plan prior to state or federal action provides the best way for stakeholders to plan for efficient and effective management
 - Avoid TMDL-related regulatory requirements
- Acknowledges proactive efforts
 - Stakeholders receive credit for pollutant reductions
 - Benefits to downstream impaired waters
- Provides time for good targets to be developed
- Enhances public relations



Restoration Alternatives

<https://floridadep.gov/dear/alternative-restoration-plans>

Category 4b Assessments and Documentation

click here for 4b plans
and guidance



EPA regulations allow states to place certain impaired water bodies into Category 4b of the Integrated Report Categories instead of Category 5 – Impaired and needs a TMDL. The Florida Watershed Restoration Act (Section 403.067(4), F.S.) explicitly allows DEP to not list impaired waters under Category 5 if they already have control programs in place that will ensure water quality standards will be restored. These types of waterbodies – impaired, but with control programs already being implemented to reduce pollutant loadings – are placed in assessment Category 4b for Clean Water Act section 303(d) reporting purposes.

Category 4e Assessments and Documentation

Click here for 4e
plans and guidance



A waterbody can be placed in category 4e (Ongoing Restoration Activities) if it's impaired but recently completed or ongoing restoration activities are underway to restore the designated uses of the waterbody. For 4e plans, the waterbody is still included on the 303(d) list, but placement on the Verified List is postponed for one five-year assessment cycle, to allow for implementation of the 4e plan and evaluation of progress toward restoration.



Reasonable Assurance (4b) Plans

- **Basic Requirements:**

- Description of Impaired Waterbody
- Description of Water Quality or Aquatic Ecological Goals
 - The water quality – based targets or aquatic ecological goals (both interim and final) that have been established for the pollutant(s) of concern.
- Description of Proposed Management Actions To Be Undertaken
 - Schedule for restoration projects, including funding sources
- Description of Procedures for Monitoring and Reporting Results
- Description of and Commitment to Proposed Corrective Actions



Course of Action

- Develop a RA Plan
- Submit to the Department for Approval
- RA Plan is approved by the Department and adopted by the Secretary
- Updates are provided to the Department based on the schedule established in the plan
- Updates are reviewed for confirmation of reasonable progress
- Implementation of plan continues until targets are achieved



Reasonable Assurance Plans

We currently have 5 Reasonable Assurance (or 4b plans) that have been adopted.

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Reasonable Assurance Plans (RAPs) Category 4b Assessments and Documentation

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Reasonable Assurance Plans (RAPs): Category 4b Assessments and Documentation

EPA regulations allow states to place certain impaired water bodies into Category 4b of the Integrated Report Categories instead of Category 5 – Impaired and needs a TMDL. The Florida Watershed Restoration Act (Section 403.067(4), F.S.) explicitly allows DEP to not



Reasonable Assurance Plans

Reasonable Assurance plans (4b) provide an implementation schedule and resource commitments that there are, or will be, pollutant loading reductions that will result in the waterbody achieving water quality targets to attain and maintain the designated use.

Main inclusions in a Reasonable Assurance Plan:

- A restoration target (e.g. water quality, pollutant load)
- A list of projects and/or activities that will achieve the restoration target
- An implementation schedule that can span multiple years
- Funding commitments
- Requires U.S. Environmental Protection Agency (EPA) approval



Watershed Restoration



Done
altogether
in an RA
Plan.



Category 4e Plans

Category 4e Assessments and Documentation

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Alternative Restoration Plans Quick Links

[Category 4e Assessments and Documentation](#)

[Category 4b Assessments and Documentation](#)

[Documentation in Support of Category 4e](#)

[Map including RAPs adopted and in progress](#)

[Guidance on Developing Restoration Plans](#)

[All Alternative Restoration Plans Content](#)

Category 4e Assessments and Documentation

A waterbody can be placed in category 4e (Ongoing Restoration Activities) if it's impaired but recently completed or ongoing restoration activities are underway to restore the designated uses of the waterbody. For 4e plans, the waterbody is still included on the 303(d) list, but placement on the Verified List is postponed for one five-year assessment cycle, to allow for implementation of the 4e plan and evaluation of progress toward restoration. If at any time the department determines that reasonable assurance or reasonable progress are not being met, the Verified List will be amended accordingly. This indicates that where a 4e plan is approved, the decision to develop a TMDL is deferred until additional information is submitted to complete the pollutant reduction plan, or until additional water quality data are collected documenting that a waterbody is no longer impaired and consideration for Category 2 (not impaired) is warranted.

The goal of a 4e plan is to implement appropriate restoration activities and, if necessary, additional study so that by the next assessment cycle either a 4b Reasonable Assurance Plan (RAP) can be approved or the waterbody attains water quality standards for the parameter causing the impairment. If the waterbody is still identified as impaired by the next assessment cycle and a 4b plan has not been approved, then the waterbody would likely be placed in Category 5 and included on the Verified List, unless there are additional and substantial restoration efforts scheduled that justify keeping the waterbody in Category 4e for another assessment cycle.



Pollutant Reduction Plans

Pollutant reduction plans (4e) provide a demonstration that there are, or will be, management actions in place that will result in the waterbody achieving water quality targets (e.g. assessment thresholds or water quality standards) to attain the designated use before the next assessment cycle.

Main points of a Pollutant Reduction Plan:

- A restoration target is typically the water quality criterion
- Planned or on-going restoration activities
- A list of projects and/or activities that will achieve the restoration target
- An implementation schedule
- Expected to attain water quality standards by the next time the waterbody is assessed by DEP (e.g. 5 years)
- Does not require EPA approval



Plan Development

- Development of these plans is stakeholder driven
- DEP has resources to assist stakeholders
 - Facilitation
 - Technical Analysis
 - Review and Feedback





Surface Water Grant (SWAG) Considerations

<https://floridadep.gov/wra/319-tmdl-fund>

State grant for projects that reduce stormwater pollutant loadings in impaired waterbodies

- ~\$5 million total is appropriated annually to DEP through the Florida legislature
- “Shovel ready” capital improvement projects for treating waters not attaining standards (i.e., impaired)
- New combined project proposals for all NPS grants, will be accepted year-round
- Project selection expected twice per year
 - Generally March-April and October-November
- No set maximum or minimum funding request caps
- No match required
 - Cost sharing encouraged for project prioritization

