

FOREST LAKE

Fast Facts:

DNR Lake ID: 82-0159-00

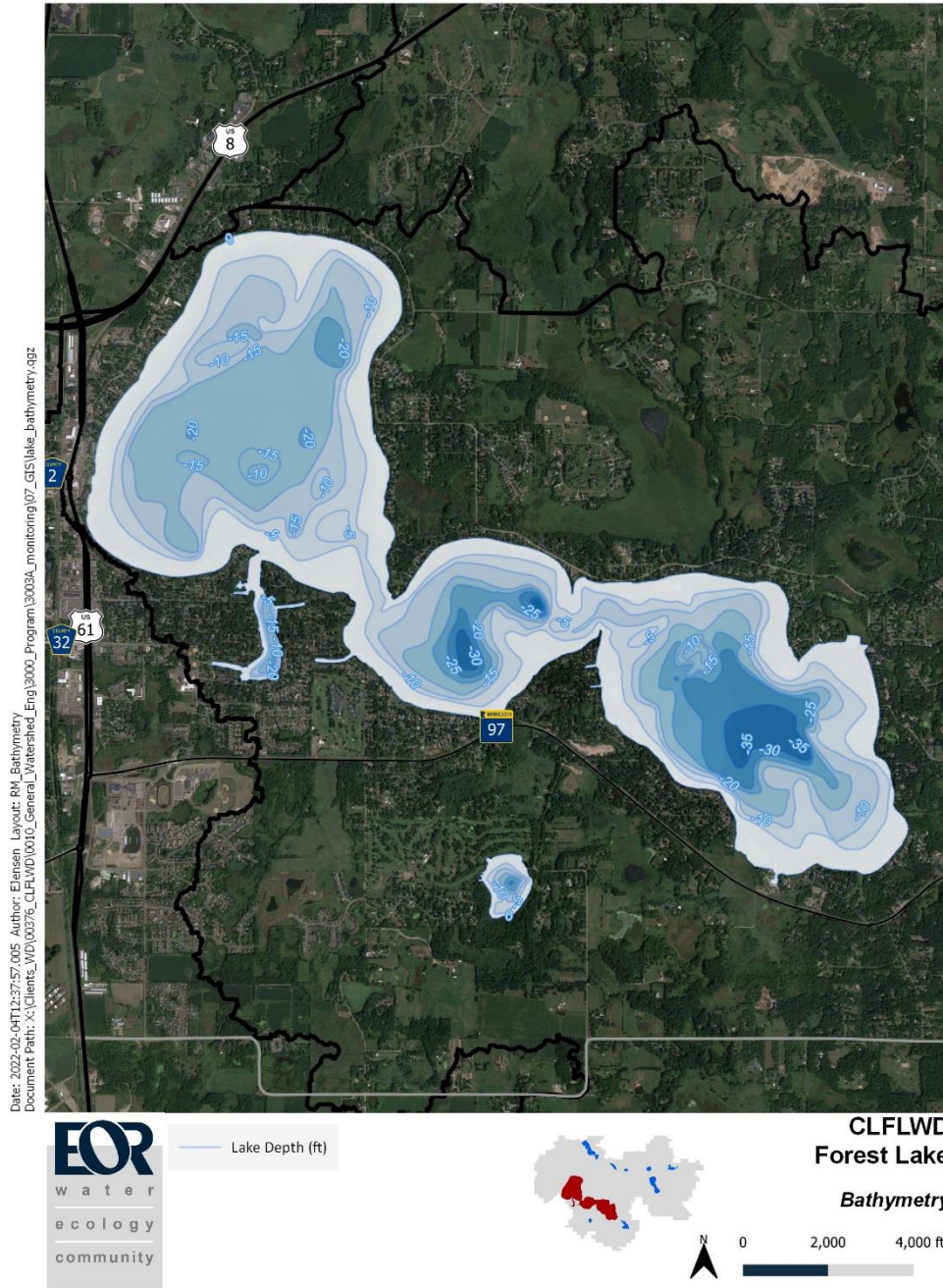
County: Washington

Surface Area: 2,271 acres

Littoral Area (depths less than 15 feet): 1,531 acres

Maximum Depth: 37 feet

Shore Length: 15.71 miles



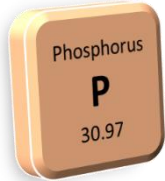
FOREST LAKE – WEST BASIN

2021 Surface Water Quality Summary

Nutrients:

June-Sept. Average Total Phosphorus (TP, $\mu\text{g/L}$)

23.7 $\mu\text{g/L}$



Algae:

June-Sept. Average Chlorophyll-a (Chl-a, $\mu\text{g/L}$)

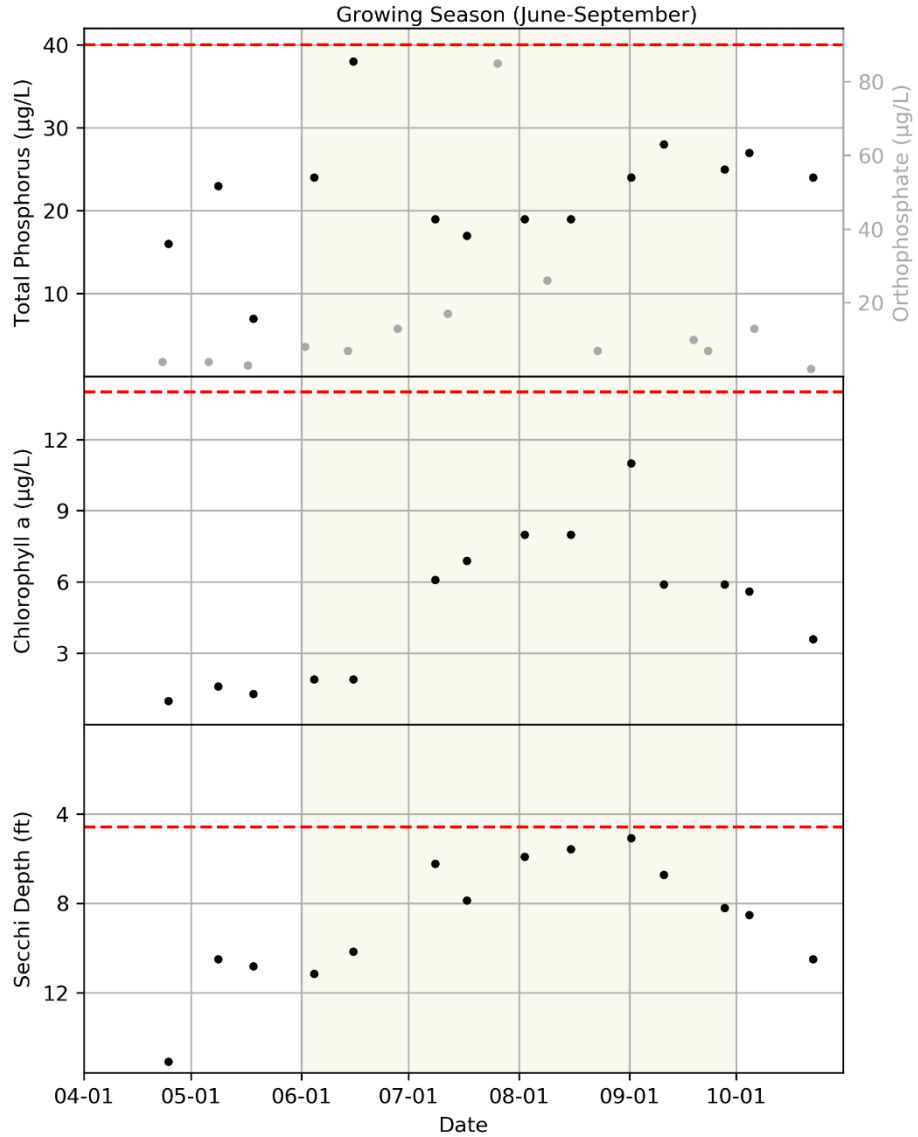
6.2 $\mu\text{g/L}$



Clarity:

June-Sept. Average Secchi Depth (Secchi, ft)

7.4 feet



State standard are shown with a dashed red line. Phosphorus = 40 $\mu\text{g/L}$, Chlorophyll-a = 14 $\mu\text{g/L}$, Secchi Depth = 4.6 feet. Sample points are shown in black dots. Points above the line are worse than the State standard. Points below the line are better than the State standard.

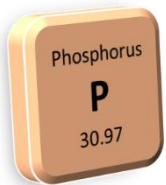
FOREST LAKE – WEST BASIN

Historical Water Quality Summary

	Phosphorus (µg/L)	Chl-a (µg/L)	Secchi (feet)
State Standard	< 40	< 14	> 4.6
10-year Average (2012-2021)	30.8	12.7	4.8
2040 District Goal	< 30	n/a	> 7.0
5-year Average (2017-2021)	26.5	8.3	6.1

Nutrients:

June-Sept. Average
Total Phosphorus
(TP, µg/L)



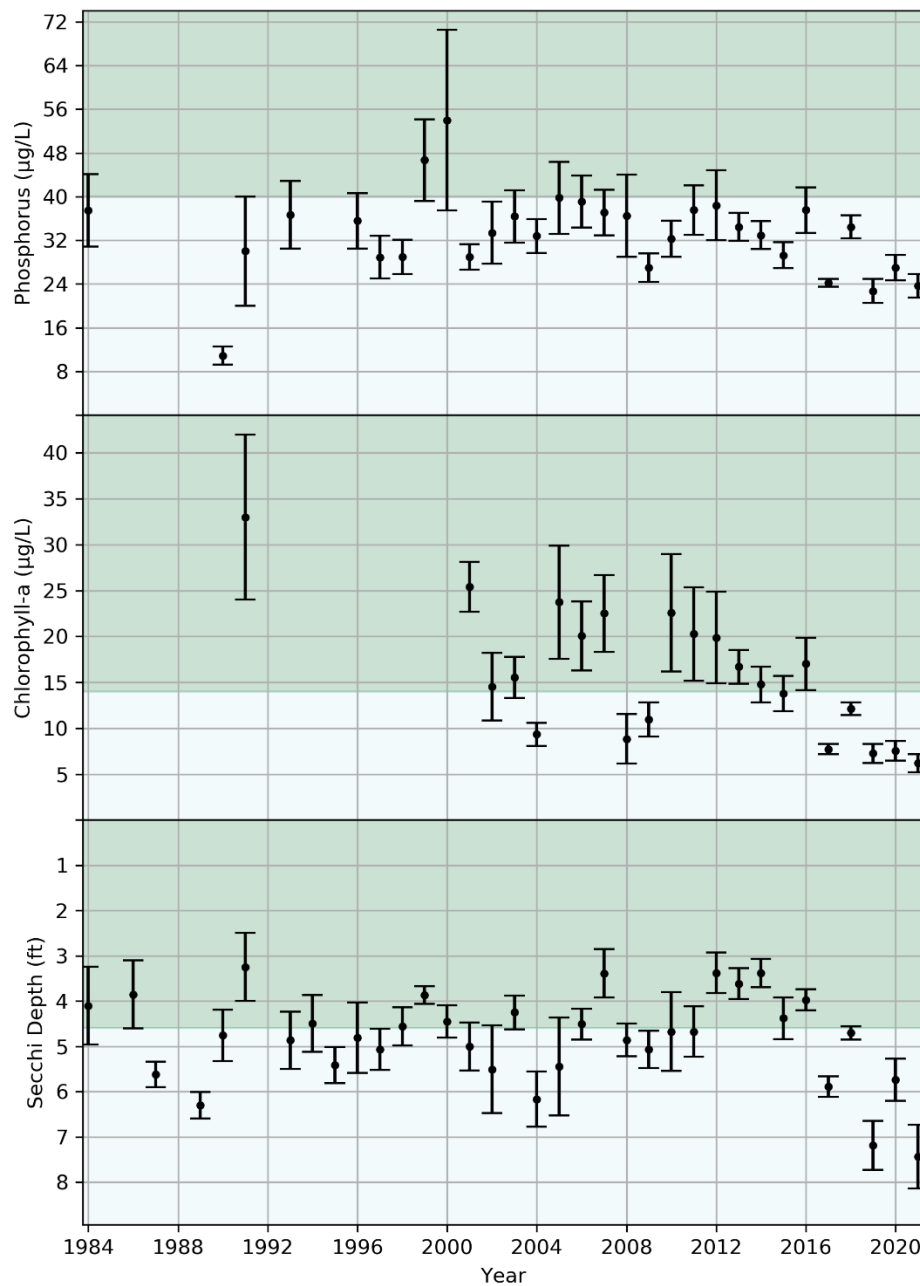
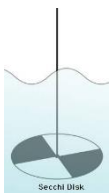
Algae:

June-Sept. Average
Chlorophyll-a
(Chl-a, µg/L)



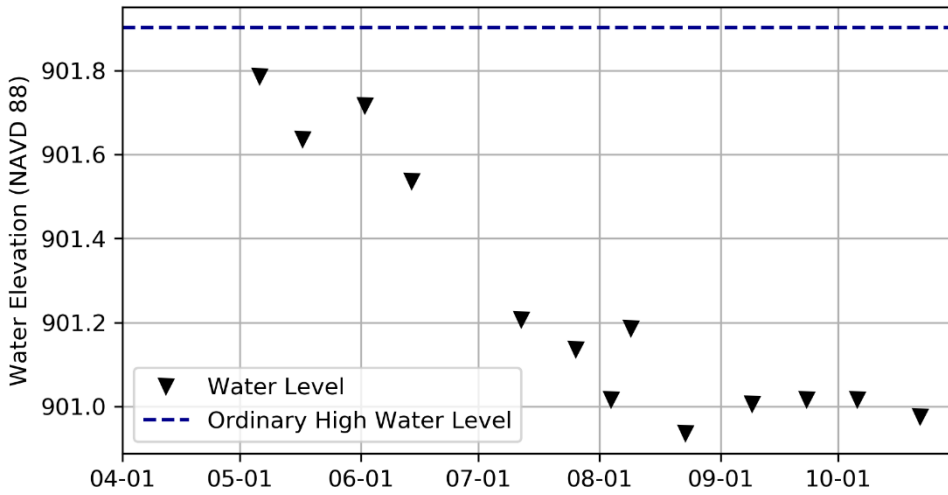
Clarity:

June-Sept. Average
Secchi Depth
(Secchi, ft)



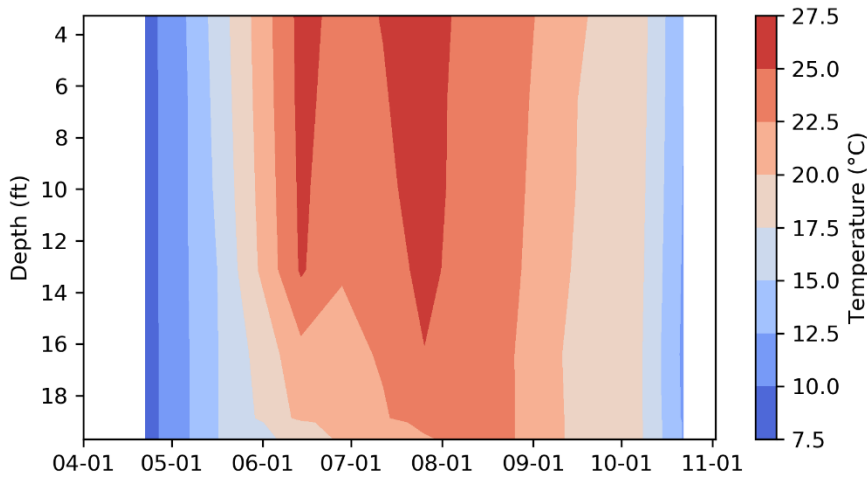
State standard are shown as the boundary between green and light blue. (Phosphorus = 40 µg/L, Chlorophyll-a = 14 µg/L, Secchi Depth = 4.6 feet. Growing season averages are shown as black points. Points in the green area are above the state standard. Points in the light blue area are better than the State standard.

FOREST LAKE – WEST BASIN



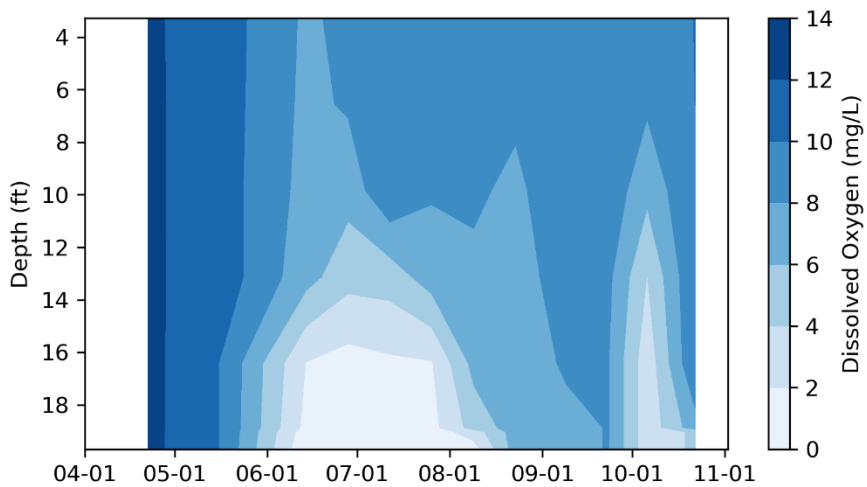
2021 Lake Levels

Lake levels ranged over a total of 0.85 feet; between a minimum of 900.94 feet on August 23, 2021 and a maximum of 901.79 feet on May 6, 2021.



2021 Temperature Profiles

The lake was well mixed for the majority of the growing season



2021 Dissolved Oxygen Profiles

The lightest blue represents the duration and depths where no oxygen is present and sediment phosphorus can be released and contribute to internal loading.

There was no extended period of low oxygen in the bottom waters, and bottom P concentrations were low.

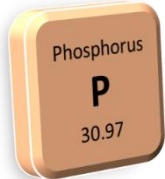
FOREST LAKE – MIDDLE BASIN

2021 Surface Water Quality Summary

Nutrients:

June-Sept. Average Total Phosphorus (TP, µg/L)

36.2 µg/L



Algae:

June-Sept. Average Chlorophyll-a (Chl-a, µg/L)

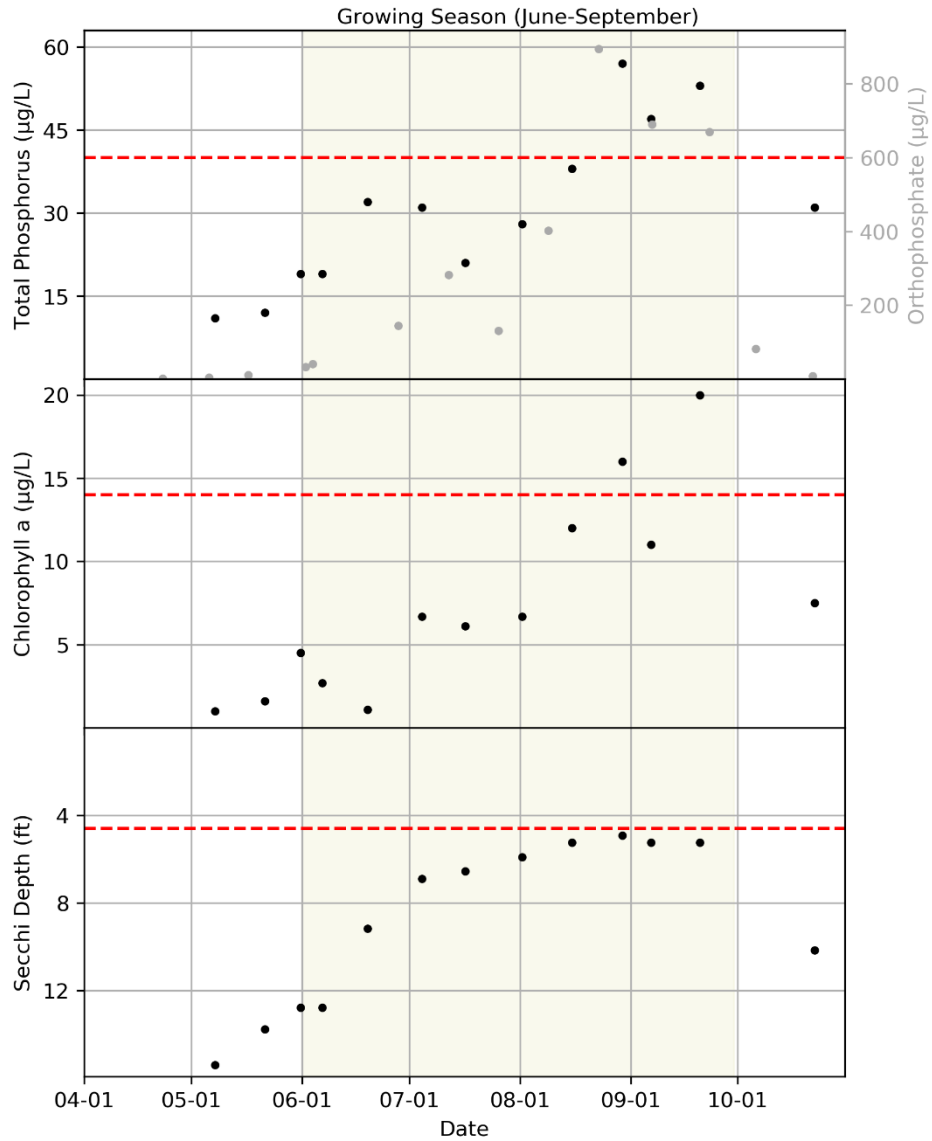
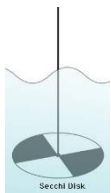
9.1 µg/L



Clarity:

June-Sept. Average Secchi Depth (Secchi, ft)

6.9 feet



State standard are shown with a dashed red line. Phosphorus = 40 µg/L, Chlorophyll-a = 14 µg/L, Secchi Depth = 4.6 feet. Sample points are shown in black dots. Points above the line are worse than the State standard. Points below the line are better than the State standard.

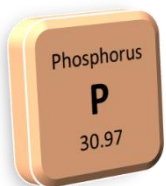
FOREST LAKE – MIDDLE BASIN

Historical Water Quality Summary

	Phosphorus (µg/L)	Chl-a (µg/L)	Secchi (feet)
State Standard	< 40	< 14	> 4.6
10-year Average (2012-2021)	35.9	14.9	6.3
2040 District Goal	< 30	n/a	> 7.0
5-year Average (2017-2021)	39	14.6	7.2

Nutrients:

June-Sept. Average
Total Phosphorus
(TP, µg/L)



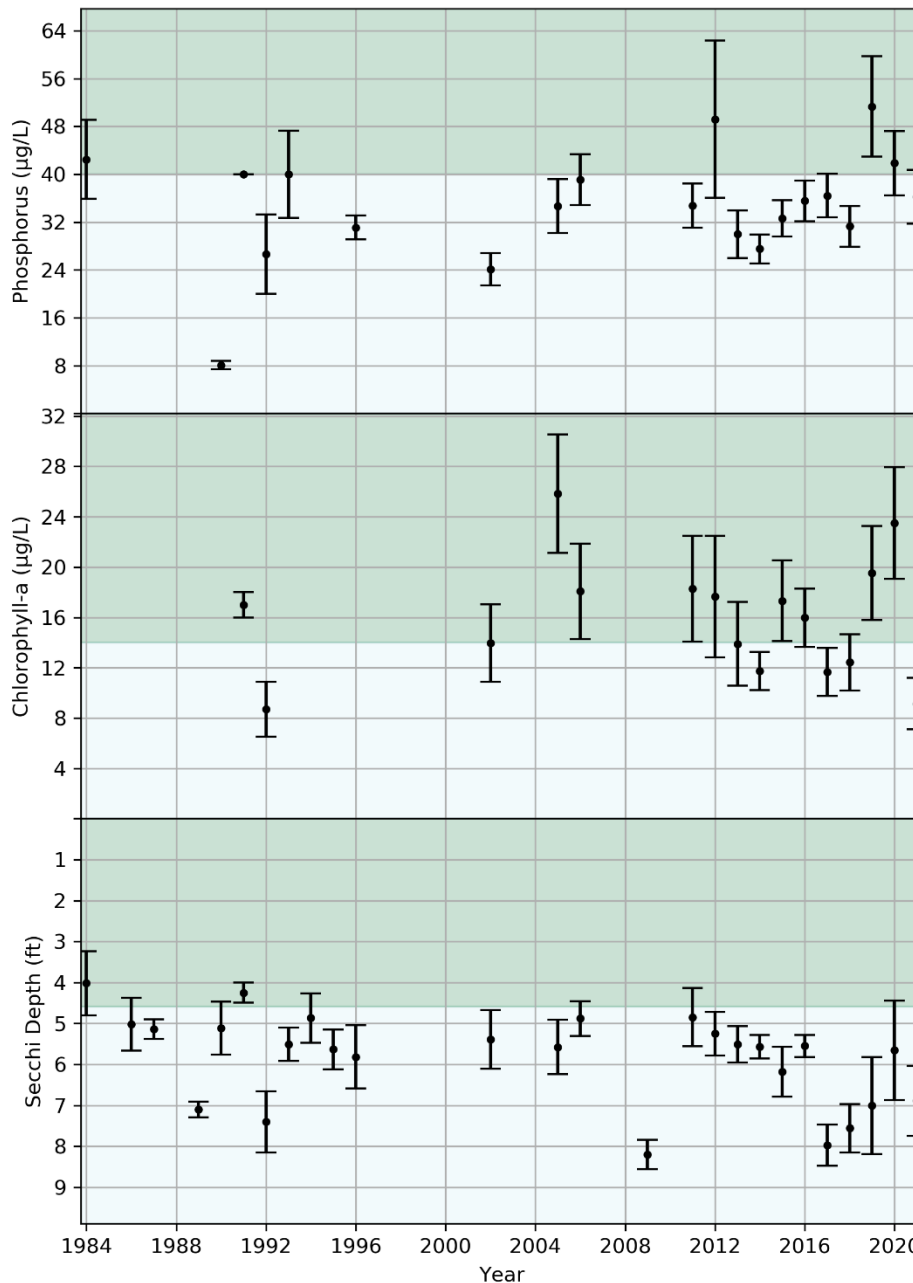
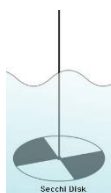
Algae:

June-Sept. Average
Chlorophyll-a
(Chl-a, µg/L)



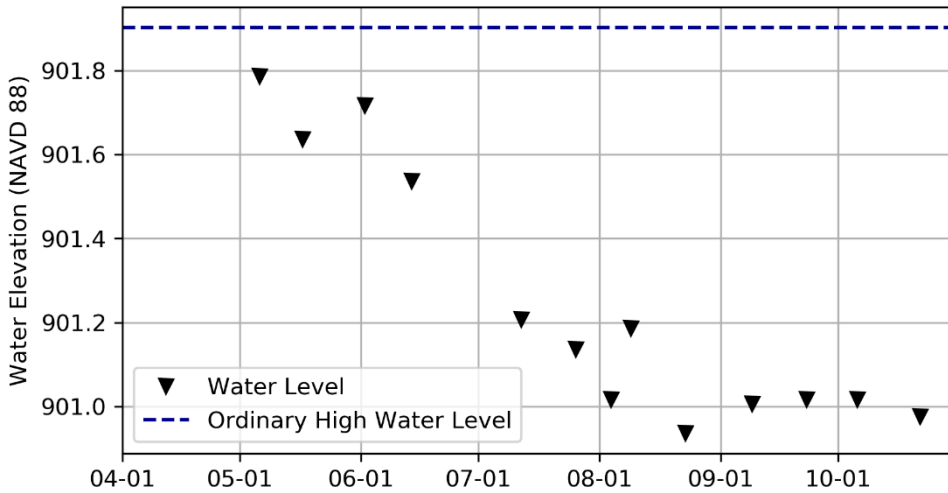
Clarity:

June-Sept. Average
Secchi Depth
(Secchi, ft)



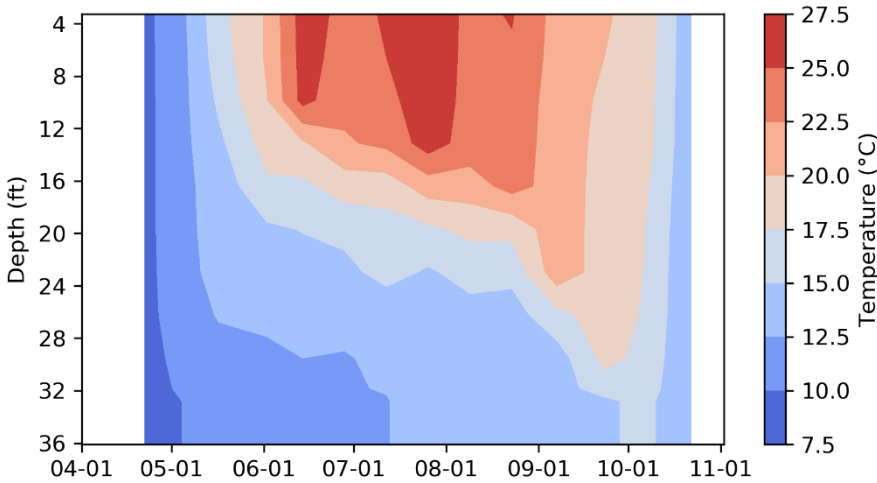
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FOREST LAKE – MIDDLE BASIN



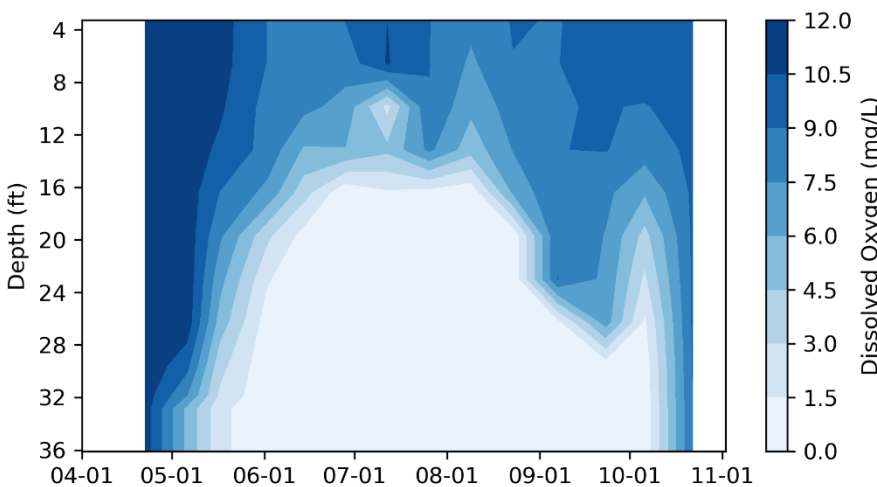
2021 Lake Levels

Lake levels ranged over a total of 0.85 feet; between a minimum of 900.94 feet on August 23, 2021 and a maximum of 901.79 feet on May 6, 2021.



2021 Temperature Profiles

The lake was stratified from early May until late September



2021 Dissolved Oxygen Profiles

The lightest blue represents the duration and depths where no oxygen is present and sediment phosphorus can be released and contribute to internal loading.

Internal loading was possible from early June until late September, and bottom P concentrations increased to high levels by July and impacted surface water quality.

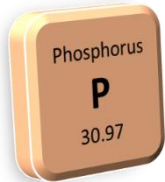
FOREST LAKE – EAST BASIN

2021 Surface Water Quality Summary

Nutrients:

June-Sept. Average Total Phosphorus (TP, $\mu\text{g/L}$)

33.5 $\mu\text{g/L}$



Algae:

June-Sept. Average Chlorophyll-a (Chl-a, $\mu\text{g/L}$)

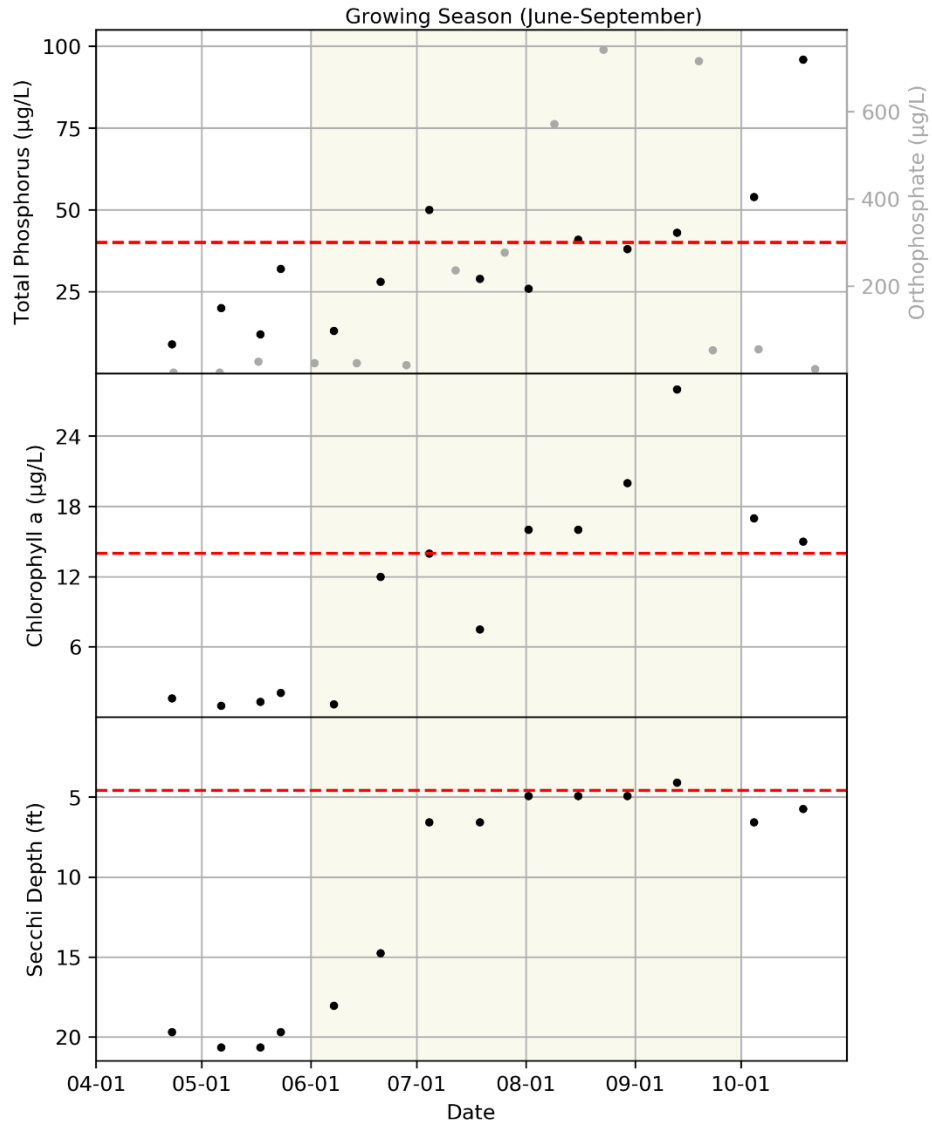
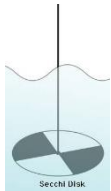
14.3 $\mu\text{g/L}$



Clarity:

June-Sept. Average Secchi Depth (Secchi, ft)

8.1 feet



State standard are shown with a dashed red line. Phosphorus = 40 $\mu\text{g/L}$, Chlorophyll-a = 14 $\mu\text{g/L}$, Secchi Depth = 4.6 feet. Sample points are shown in black dots. Points above the line are worse than the State standard. Points below the line are better than the State standard.

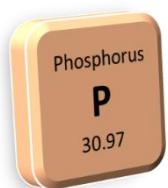
FOREST LAKE – EAST BASIN

Historical Water Quality Summary

	Phosphorus (µg/L)	Chl-a (µg/L)	Secchi (feet)
State Standard	< 40	< 14	> 4.6
10-year Average (2012-2021)	34.5	18.4	6.5
2040 District Goal	< 30	n/a	> 7.0
5-year Average (2017-2021)	40.7	24.1	67.1

Nutrients:

June-Sept. Average
Total Phosphorus
(TP, µg/L)



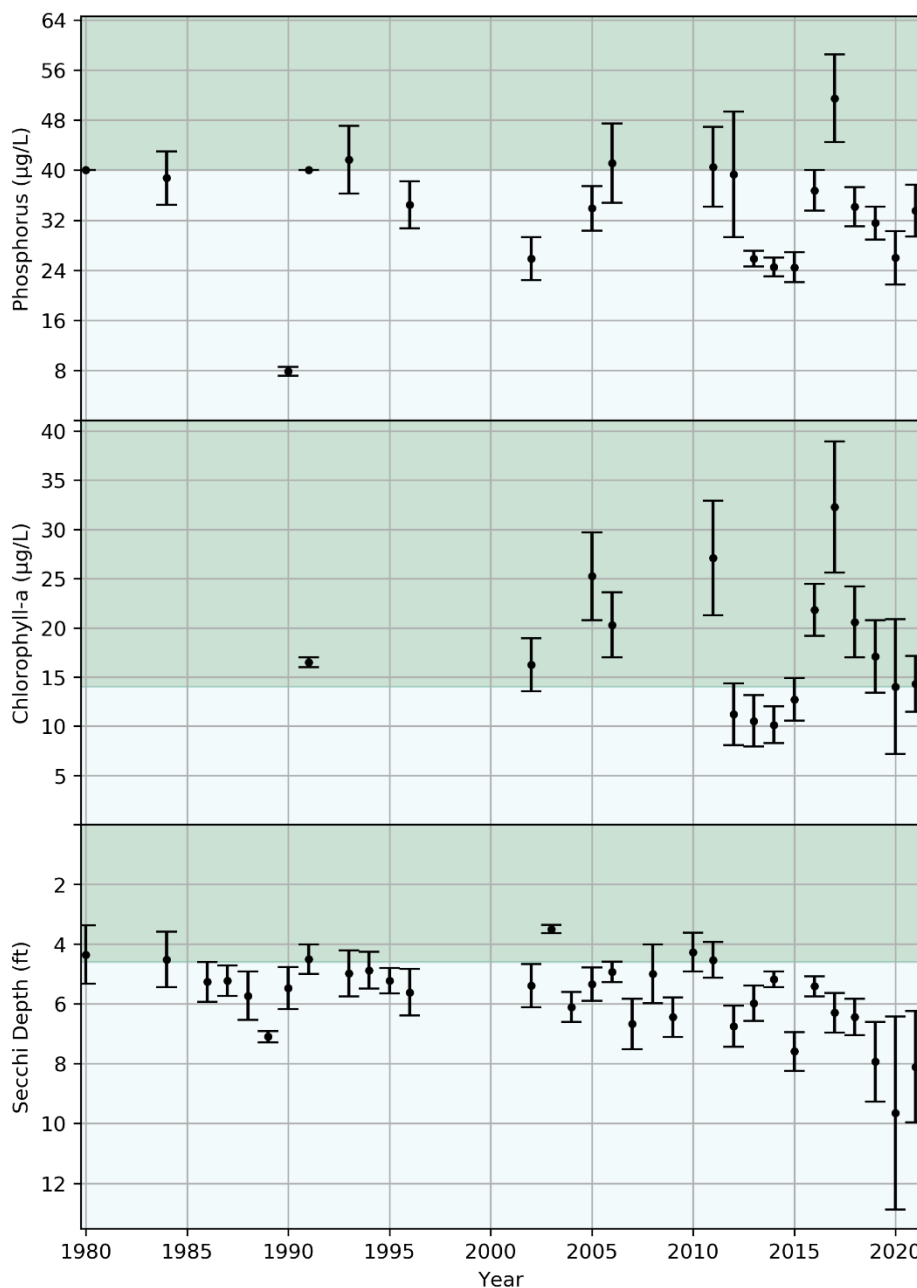
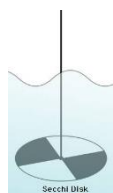
Algae:

June-Sept. Average
Chlorophyll-a
(Chl-a, µg/L)



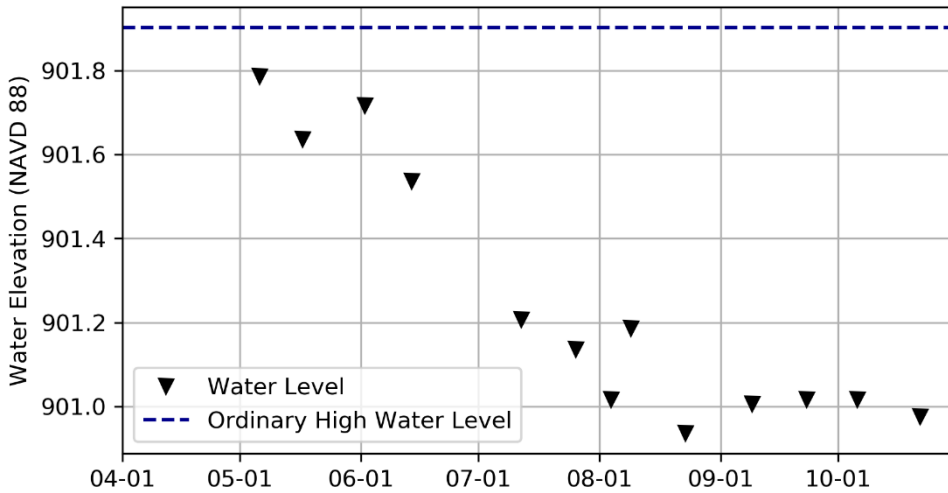
Clarity:

June-Sept. Average
Secchi Depth
(Secchi, ft)



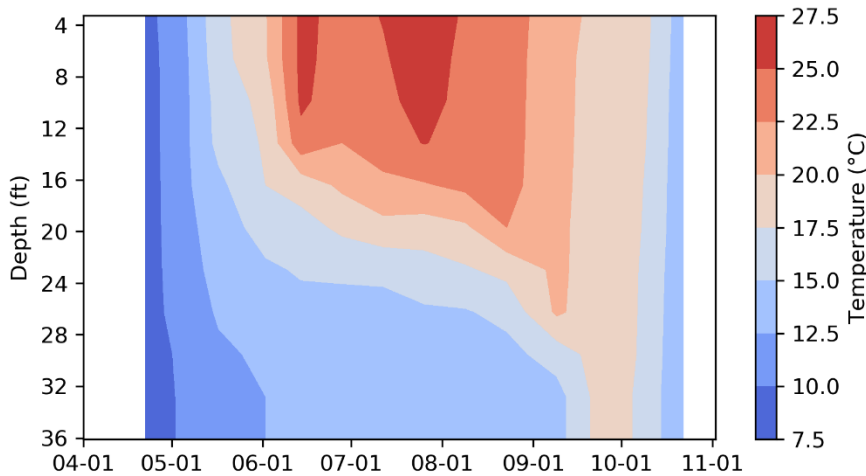
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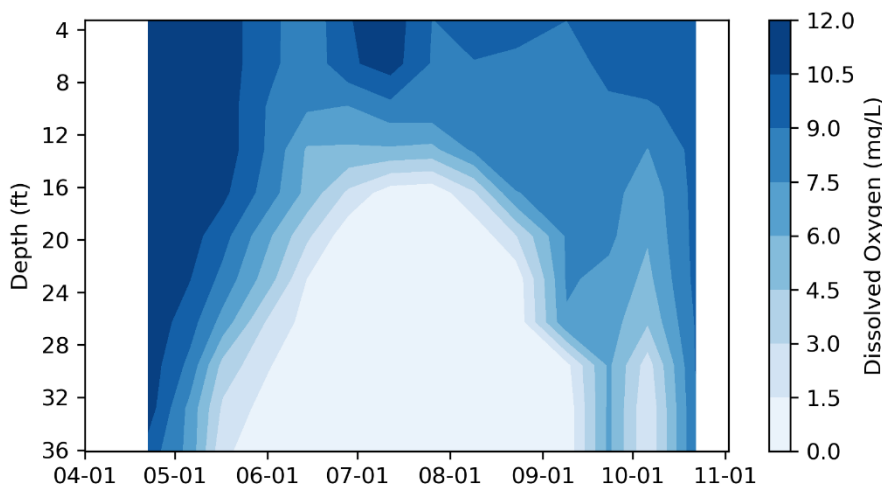
2021 Lake Levels

Lake levels ranged over a total of 0.85 feet; between a minimum of 900.94 feet on August 23, 2021 and a maximum of 901.79 feet on May 6, 2021.



2021 Temperature Profiles

The lake was stratified from mid-May until mid-September.



2021 Dissolved Oxygen Profiles

The lightest blue represents the duration and depths where no oxygen is present and sediment phosphorus can be released and contribute to internal loading.

Internal loading was possible from mid-June until early September and increased to high levels by mid-July and impacted surface water quality.