

Overall Strategy:

Improve Water Quality

Impairment: Not listed as impaired

Subwatershed Lake Cover/Use:

- 17.4% Open Water
- 7.5% Developed
- 11.7% Wetlands
- 17.2% Cultivated Crops
- 16.8% Forest
- 29.5% Grassland



Lind

Water Quality	10-Year Average June-Sept (2008-2017)	Trend
Secchi	9.6 ft.	Insufficient Data
Total Phosphorus	42 µg/L	Insufficient Data
Ortho Phosphate	9 µg/L	Insufficient Data
Chlorophyll-a	9 µg/L	Insufficient Data

Nottage

Water Quality	10-Year Average June - Sept (2008-2017)	Trend
Secchi	Not Tested	N/A
Total Phosphorus	Not Tested	N/A
Ortho Phosphate	Not Tested	N/A
Chlorophyll-a	Not Tested	N/A

Short Term Goals - Year 2020

- Achieve a 5-year mean summer phosphorus concentration at or below 40 µg/L ± 4%
- Maintain mean summer Secchi depth no less than 5 ft

Long Range Goals – Year 2030

- Achieve a 5-year mean summer phosphorus concentration at or below 40 µg/L ± 4%
- Maintain mean summer Secchi depth no less than 5 ft

Basic Facts

DNR ID/ Becker No	MN03-0374-01&02 / 374
Township(s)	Lake View
Lake Classification	Natural Environment
Lake Area	45 acres (Lind) 71 acres (Nottage)
Littoral Area	17 acres (Lind) N/A (Nottage)
Sub-watershed Area	599 acres
Inlet(s)	Wetland Stream from Reeves Lake
Outlet(s)	Stream to Lake Melissa
Control Structures	None
Highest Recorded*	Not Recorded
Lowest Recorded*	Not Recorded
Ordinary High Water Level*	Not Recorded
Recorded Range*	Not Recorded
Maximum Depth	51 feet (Lind), 25 feet (Nottage)
Main Fish Species	Black crappie, Bluegill, Northern pike, Pumpkinseed, Walleye
Secondary Fish Species	Black/Brown/Yellow bullhead, Bowfin, Hybrid sunfish, White sucker, Yellow perch
MN DNR/ Private Fish Stocking	N/A
Aquatic Invasive Species (2015)	Curly-leaf pondweed (Lind)
Public Access Sites	None
Public Beach	None
References	DNR Lake Finder, Becker County

*Elevations NGVD 29

** Elevations NAVD 88

Overall Assessment

Lind and Nottage Lakes are both small natural environment located in the drainage area between Johnson/Reeves Lake and Lake Melissa.

Nottage Lake is located in the northern portion of the drainage area has no residential development. There are no surface water inputs to the lake other than stormwater runoff from primarily cultivated cropland. A 100 foot forested buffer is located between agricultural uses. Because there is no residential development on the lake, and its disconnect from major public watercourses, water quality sampling for the lake has never been conducted.

Lind Lake is 45 acre natural environment lake located in the southern portion of the drainage area. Water flows into the north side of the lake via wetland stream from Reeves Lake. A small stream exits the lake to the south and flows to Lake Melissa. Lind is deep compared to its size and reaches a depth of 51 feet in the northern portion of the lake. There are currently four single family residential home along the western shoreline and one commercial business on the south shore. Heavy agricultural use, included cattle grazing within 150 feet of the lake and cattle using the input stream as a water source exists to the north and east. Water quality monitoring began in 2015 to investigate water quality concern to Lind and potential nutrient loads to Melissa through the stream draining it. The proximity of cattle to the lake and stream raised concerns about of nutrients entering the lake. Results from monitoring showed in-lake mean summer nutrient levels at 42ppb, but the lake in the mildly eutrophic category. Interestingly, phosphorus levels were at their highest in the spring and declined into the summer. Water clarity also increased into the summer as the lake stratified. Anoxia developed below 3 meters in June and remained for the remainder of the year. Internal phosphorus loading is a major factor with bottom orthophosphate concentration approaching 1300 ppm in September. Monitoring of stream flowing from Lind to Melissa will be investigated to determine the extent of nutrient loading the Lake Melissa.

Land use in the drainage area consists primarily of grassland (which includes gattle grazing land) at 36% of the land areas. Forested land total 20%, while cultivated crops account for 21% of the area. Other land types include 14% wetlands and 9% developed land.

Implementation

Planned/Potential Projects:

Capital Improvement Projects:

Projects & Programs

Ongoing Programs:

Past Studies