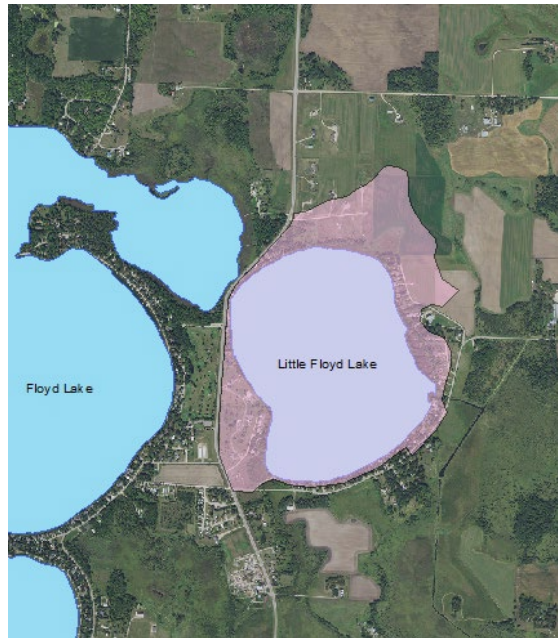


Overall Strategy:
Maintain Water Quality

Impairment: Listed as impaired for mercury

Subwatershed Lake Cover/Use:
62.4% Open Water,
2.6% Developed,
3.2% Wetlands,
5.6% Cultivated Crops,
7.5% Forest
18.7% Grassland



Water Quality	10-Year Average (2008-2017)	Trend
Secchi (clarity)	8.3 ft.	Stable
Total Phosphorus	25 µg/L	Stable
Ortho Phosphate	6.3 µg/L	Stable
Chlorophyll-a	11.0 µg/L	Stable

Short Term Goals - Year 2025

- Maintain the 5-year mean summer phosphorus concentration at or below 25 µg/L ± 4%
- Maintain mean summer Secchi depth no less than 8 ft

Long Range Goals – Year 2035

- Maintain the 5-year mean summer phosphorus concentration at or below 25 µg/L ± 4%
- Maintain mean summer Secchi depth no less than 8 ft

Basic Facts

DNR ID Becker No	MN03-0386-00 / 386
Township(s)	Detroit
Lake Classification	General Development
Lake Area	214.28 acres
Littoral Area (<15 ft)	95 acres (44.33%)
Sub-watershed Area***	341 acres
Shoreline Length	2.2 miles/11,720 ft
Inlet(s)	Pelican River
Outlet(s)	Becker Drainage 13 and historic outlet
Outlet Elevation*	N/A
Control Structures	Concrete Weir
Highest Recorded*	1355.7 feet (4/22/1997)
Lowest Recorded*	1353.5 feet (5/21/2014)
Ordinary High Water Level*	1354.8 feet
Recorded Range*	2.2 ft.
Maximum Depth	32 feet
Water Residence	104 days
Main Fish Species	Black Crappie, Bluegill, Green Sunfish, Largemouth Bass, Northern Pike, Walleye
Secondary Fish Species	Bowfin, Hybrid Sunfish, Pumpkinseed, Tullibee, White Sucker, Black/Brown/Yellow Bullhead
MN DNR/ Private Fish Stocking	Walleye (2005-2014),
Aquatic Invasive Species (2015)	None Listed
Public Access Sites	SW Shore (DNR)
Marinas	None
Public Beach	None
References	DNR Lake Finder

*Elevations NGVD 29

** Elevations NAVD 88

*** includes surface water area

Overall Assessment

Little Floyd Lake is a 214-acre lake with a maximum depth of 34 ft. It has a moderately developed shore. Little Floyd sub-watershed area is approximately 342 acres including surface water area. Little Floyd receives most of its water from North Floyd, which outlets to Little Floyd through the Becker CSAH 21 road, though there are some small natural drainage ways that lead to the lake.

The littoral area (< 15ft depth) of the lake accounts for 95 acres (45%) with an extensive emergent (cattail and hardstem bulrush) vegetation area located on the northeast side. There is also an abundant native plant community, with no known invasive species. There is one MN DNR public access on Little Floyd located on the south end.

Little Floyd Lake is classified as a mesotrophic lake based on the Tropic State Index average for phosphorous, chlorophyll-a, and water clarity. In-lake phosphorus concentrations can vary between 20ppb to 34ppb and are highly responsive to storm-event and heavy rainfall patterns. The 10-year (2008-2017) average is 25 ppb in-lake phosphorus concentration.

Little Floyd Lake has two outlets located on the south side. Historically, the lake had one outlet, located near the present day public access, however, a new outlet was constructed in 1919, when the Becker County Drainage System 13 was built to channelize the Pelican River between Little Floyd lake and Big Detroit lake. In 1936, the Civilian Conservation Corps (CCC) built a concrete weir dam (type "c") on Becker Drainage System 13. This structure controls Little Floyd, as well as North and Big Floyd's water levels. The weir has a fixed crest which is set at a run out elevation of 1354.1 (NGVD 29) and is owned and operated by the MN DNR.

Little Floyd Lake upland drainage area is 128 acres consisting of grassland 64 acres (50%), forested 26 acres (20%), cultivated 19 acres (15%), and wetlands 11 acres (9%), developed parcels 9 acres (7%).

There are 86 parcels on Little Floyd, with high density areas which were platted and developed before statewide shoreland standards. There are 55 parcels (64%) having greatly to moderately altered shorelines and 31 parcels (36%) having little to no shoreline alteration. There are 11 parcels along the south shore with seawalls.

Over the past 20 years, on the south end of the lake, two resorts have been converted to individual ownership. In addition, many of the seasonal cottages are being rebuilt or converted to year-round homes.

In the mid-2000's on the west side, Little Floyd had increased second-tier development pressure when the Iron Man golf course (back 9 holes) was developed into residential housing. During this same time, the north end was converted from pasture grassland into residential housing. There is a permanent special protection area owned by the Pelican River Watershed District which preserves the bluff and emergent aquatic vegetation area along the north side of Little Floyd.

Planned/Potential Projects

Cost Share Program for shoreline enhancements including buffers and soft armor installations.

Campbell Creek Ag BMP Installations and effectiveness monitoring

Buffers

Stream Bank stabilization and effectiveness monitoring

Evaluate the potential for restoration of altered wetlands near Campbell Creek.

**Priority Targeted Management....
Identify priority aquatic vegetation areas**

Assist with Prevention of AIS

Rapid Response to AIS infestations and conduct treatments

Conduct study to identify options for managing North Floyd phosphorus internal loading and implement most feasible options.

Work with the City of Detroit Lakes (Annexation areas)

Ongoing Projects & Programs

Water Quality Monitoring (levels and nutrients)

Shoreline surveys

Stormwater Management Rules

Continue to work with Becker County to conduct septic surveys and encourage adoption of Point of Sale upgrade requirements.

Encourage proper management of private wells.

Past Studies

- Houston Engineering Inc. 1997. Proposal to Provide Engineering Services for Water and Sanitary Sewer Improvements along Big Floyd Lake to Detroit Township
- A.W. Research Laboratories. 1996. Proposal for the Septic/Point Source Detection Overflight Floyd and Little Floyd Lakes
- Wenck Associates Inc. 2008. Wastewater Treatment and Drinking Water Supply Alternative Analysis; Floyd Lake Chain of Lakes
- Minnesota Pollution Control Agency, Water Quality Assessment of the Upper Pelican River Watershed, 2002, Clean Water Partnership Program
- NRCS. 2007. Upper Pelican River Watershed Plan and Environmental Assessment
- PRWD Shoreline Surveys 2004, 2016