Towner Lake Management Plan
DOW# 26021800
DRAFT – November 2026

Prepared By:

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General Lake Information

- County: Grant, near the town of Herman.
- Location: T127N, R43W, Sections 33, 34
- Size: 162 acres
- Shoreline: 3.1 miles
- Access: The DNR Section of Wildlife owns a 120-acre tract known as the Towner Wildlife Management Area on the south and west side of the lake that includes 5,700 feet of accessible shoreline. The USFWS owns approximately 1,550 feet of shoreline on the east side of the basin as part of the Delong Waterfowl Production Area. Niemackl Park, owned by the city of Herman, is located on the north and northeast side of the lake and includes approximately 8,250 feet of shoreline.
- Watershed: Bois De Sioux, Mustinka River, Five Mile Creek
    - Catchment Area: 16,866 acres
    - Watershed to Lake Ratio: 10.4:1
    - Land Use: a mix of conservation land, wetlands, and row-crop agriculture.
- Depth: Maximum depth is 4.8 feet and mean depth is 3.5 feet at normal runout level (1068.8).
- Outlet: The natural outlet is located on the north side of the lake and flows through a three-sided sheet pile structure. Each side of the structure has a 5-foot wide bay with two vertical channels for both stop logs and fish screens. The sill elevation of the structure is 1067.30. The normal pool elevation of the lake is 1068.80. Three 6-inch wide boards are required to reach the normal pool, however the stoplog and fish screen guides extend to the top of the structure. Additional stoplogs and fish screens are put in place to prevent backflow and fish movement during pumping operations. The structure is connected to a 24-inch cmp which runs under 105th Street and discharges into West Niemackl Lake (26021400). There is a flap gate attached to the outlet pipe to prevent backflow into Towner Lake; however it has proven to be ineffective. Water flows westward through the Niemackl chain of lakes and into Grant County Ditch #8. This public ditch continues west to a confluence with Five Mile Creek. Five Mile Creek flows northwest to a confluence with the Mustinka River and the Mustinka flows southwest and enters Lake Traverse.
- Pump and Lift Station: Temporary drawdowns are conducted with a pump system consisting of a 12-inch, submersible non-clog pump designed to pump 3000 gallons per minute (6.68 cfs). The pump is housed in a pre-cast concrete manhole located adjacent to the outlet structure. The intake pipe for the manhole extends into basin to an invert elevation of 1062.0. The outlet for the pump discharges into West Niemackl Lake near the natural outlet.
- The water control structure and pump station are both located on Niemackl Park property owned by the city of Herman. The Section of Wildlife has a perpetual easement on the property to access, operate, and maintain the structures.
- All elevations listed in this management plan are in NGVD 29 datum.

Historical Conditions

Towner Lake is one of 18 shallow lakes in the expansive Niemackl watershed which covers approximately 55 square miles in Grant and Stevens County. The Niemackl Chain of Lakes was historically known as important waterfowl migration and breeding habitat. This area was also well-known for waterfowl hunting, especially canvasback, redhead, and scaup. The Niemackl Lakes chain was one of the first Comprehensive Watershed Restoration Projects in Minnesota, starting in the early 1990's. The immediate area surrounding the Niemackl Lakes still maintains a large percentage of grass cover, wetlands, and public-owned conservation lands managed for wildlife and waterfowl production.

Historical survey information is limited. A Waterfowl and Muskrat Habitat Survey was completed in 1952. The basin was known as Niemackl Marsh at the time and was classified as a semi-permanent waterfowl and muskrat marsh. Waterfowl habitat was rated as good. Secchi disk visibility was 4.0 feet. Submerged vegetation was abundant and found throughout the basin. Emergent vegetation covered about 25% of the surface area and was mostly a mixture of hardstem bullrush, softstem bulrush, and needlerush. Common cattail was rated as scarce. The bottom substrate was classified as sand at 16 of 17 sample locations. Maximum depth was 8 feet; however, it was noted that the water level was 3 feet above normal at the time of the survey. The report also mentioned that the Niemackl Lakes would occasionally overflow into the basin during high water events and that occurred in the spring of 1952.

A photograph from September of 1960 shows abundant bullrush patches in the middle of the basin. The caption on the photo stated that an estimated 3,000 mallards were on the Towner WMA prior to the opening of the 1960 hunting season. An aerial image from 1965 shows that emergent vegetation covers about 60% of the basin.

Waterfowl habitat was still considered good to excellent based on a game lake survey completed in 1984. Sago pondweed and Chara were found throughout the basin. Hardstem bulrush was still present in the southwest part of the lake and most of the shoreline had a 15-25 feet wide fringe of cattail. Secchi disk measurements ranged between 0.8 feet and 3.2 feet and averaged 2.6 feet. The substrate was classified as muck or detritus at most sample stations.

Surveys completed in 1991 and 1997 documented degraded wetland habitat. Water clarity was poor. Submerged vegetation was not present, and emergent vegetation was limited to a narrow fringe of cattail along the shoreline, and the shallow northeast bay. Surveys completed in 2000 and 2001 documented further habitat degradation. Secchi disk measurements were less than 1.0 feet and both submerged vegetation and cattail were only found in the shallow northeast bay of the lake.

Recent Management

Towner Lake became a Designated Wildlife Lake in 2003 after all the requirements in Minnesota Statute 97A.101 were met, including the development, review, and approval of a lake management plan. The main objectives of the management plan were to conduct temporary drawdowns to re-establish emergent vegetation, especially hardstem bulrush, across one-third of the basin and to reduce fish abundance. The Section of Wildlife partnered with Ducks Unlimited to design and construct a water control structure and permanent pump installation which could be used for temporary drawdowns. The outlet structure and pump station were completed in the summer of 2004, and the first drawdown was started. Most of the basin was dewatered by the fall of 2004 and drawdown continued through the 2005 growing season. Nursery reared hardstem bulrush were planted on exposed mudflats at several locations in July of 2005 to increase the likelihood of reestablishing this important species of emergent vegetation. Towner Lake was allowed to refill to a maximum depth of 3.0 feet in the spring of 2006 and maintained at a maximum depth of 1.5 feet during the growing season. Water levels were allowed to return to normal in the fall of 2006, however dry conditions during the spring and summer resulted in water elevations about 1.5 feet below the runout during the 2007 growing season. A restriction on the use of motorized watercraft on Towner Lake was also added to the Lake Management Plan in 2006 following a public information meeting and comment period as required under Minnesota Statute Ch. 97A.101.

A shallow lake survey was completed on the open water portion of the basin in June of 2007 to evaluate the habitat response to the initial drawdown. This open water area comprised about 15% of the total acreage of the lake. Water clarity was excellent. Submerged vegetation was abundant and grew to the surface throughout the open water area. Dense stands of cattail covered the other 85% of the basin. Softstem bulrush, sedges, and other transitional wetland species developed along the shoreline and exposed mudflats during the drawdown period; however, cattail became dominant after those areas were re-flooded. The hardstem bulrush plantings proved to be unsuccessful.

Water levels on Towner Lake bounced higher in 2009 and 2010, due to above average precipitation and backflow from the Niemackl Lakes. Most of the dense stands of cattail did not survive the extended high water. Cattail coverage dropped to about 40% of the basin in 2009 and 25% in 2010 based on aerial images. Surveys completed in 2010 and 2011 found submerged plants throughout the basin. Secchi disk measurements were to the bottom in 2010 but were reduced to 2.0 feet in 2011.

Another drawdown was planned in 2010 to reestablish the emergent vegetation. Above normal precipitation and high water levels downstream did not allow for pumping to occur. Dry conditions during late summer and fall of 2011 resulted in lower water levels and the next drawdown began in the fall of 2011. The basin was completely dry by September of 2012 and remained below runout level through most of the 2013 growing season. The habitat response was similar to the first drawdown. A mixture of cattail, sedges, softstem bulrush, and other transitional wetland species became well established during dry conditions. Cattail became dominant after reflooding and covered about 70% of the surface area of the lake in 2014. The open water portion of the lake was clear to the bottom and

submerged vegetation was abundant. Water levels were about 2.0 feet higher than the runout elevation in 2014.

Water levels remained higher than normal for several years. Emergent vegetation coverage was reduced to ~40% of the basin by 2017, and many of the remaining cattail stands were dead or dying off. Cattail coverage was down to ~10% by 2019.

Another drawdown to reestablish emergent vegetation and enhance winter fish mortality was proposed in early 2018. However, water levels remained high and concerns about downstream conditions delayed the drawdown until the summer of 2020. Water levels were lowered by about 2.5 feet before ice cover and pumping continued in 2021 when downstream conditions allowed following spring runoff. The lake was mostly dewatered by late summer, and a fringe of emergent vegetation had developed along the shoreline, ranging from 75 to 250 feet wide. A large spring runoff event in April of 2022 resulted in rapid refilling of Towner Lake. Water backflowing through the structure from the Niemackl Lakes was the main contributor to the rapid refill. Water levels remained high during the growing season and the new emergent vegetation did not survive.

Shallow lake surveys were completed in 2023 and 2024. Water clarity was relatively poor in 2023, but submerged vegetation was found at 90% of sample points and was dense in some areas. Water clarity was improved in 2024. Secchi disk measurements averaged 3.3 feet; however submerged plants were found at 72% of sample sites and were less abundant than in 2023. Emergent vegetation cover was between 10% and 15%, based on aerial photos.

In summary, water level management has proven to be difficult on Towner Lake. Drawdowns can only occur during relatively dry periods when water levels on the Niemackl Chain of Lakes are at normal levels and flows in Grant County Ditch #8 are not causing erosion or overflowing into adjoining property. Successful drawdowns do result in dramatic habitat improvements, but those improvements can be short-lived. High water events are common and extend for a long enough period to greatly reduce emergent vegetation.

Management Goals and Objectives

Goal: Provide quality shallow lake habitat for migratory and breeding waterfowl, as well as other wetland dependent native fauna.

- **Objective 1:** Enhance and maintain emergent vegetation over 30% of the surface area of the lake recognizing emergent vegetation cycles with drawdowns.
- **Objective 2:** Improve and maintain water clarity and quality.
- **Objective 3:** Maintain an abundant and diverse submerged plant community.

Proposed Management Actions to Achieve Objectives

Action 1: Conduct periodic temporary drawdowns, when climatic conditions provide an opportunity, as authorized by M.S. 97A.101.

Towner Lake was designated as a Wildlife Lake under M.S. 97A.101 in 2003. Wildlife Lake designation gives the DNR the authority to manage water levels (e.g., conduct temporary lake drawdowns) to benefit wildlife. Temporary drawdowns are used to mimic natural low water periods. Shallow lake ecosystems are adapted to periods of low water levels but often experience degraded habitat conditions during periods of high or stable water levels. Therefore, drawdowns are an effective tool for shallow lake management.

Important Legal Considerations: A managed drawdown is a temporary lowering of a lake's water level that would not last longer than two consecutive years under normal climatic conditions (M.R. 6115.0271). The DNR will allow the water level in Towner Lake to return to normal conditions following a managed drawdown (M.R. 6115.0221). Drawdowns would not be done at times that would cause any downstream flooding damage to private property and /or roads.

If a managed drawdown appears feasible based on climatic conditions, the DNR will consider implementing a drawdown on Towner Lake to the maximum extent possible. A typical drawdown would start in August and extend through the growing season of the following year. However, a managed drawdown may be initiated anytime during the year when the area is experiencing below average precipitation, and downstream conditions are favorable. Prior to and following all drawdowns, DNR will monitor water clarity, submerged aquatic plant abundance, extent of emergent vegetation coverage, and the presence of undesirable fish. Drawdowns will be considered when at least two of the following criteria are met:

- Average summer Secchi disk reading falls below 1.5 feet.
- Submersed aquatic plants cover less than 75% of the lake using present day systematic point sample stations.
- Emergent vegetation covers less than 20% of the surface area of the lake.
- Undesirable fish are present at densities high enough to affect water clarity and habitat conditions.

The DNR Section of Wildlife will notify the DNR Area Hydrologist, USFWS Fergus Falls Wetland Management District, City of Herman, and Bois De Sioux Watershed District prior to initiating a managed drawdown.

Desired outcomes of a managed drawdown are as follows:

- Average summer Secchi disk reading exceeds 3.0 feet.
- Submersed aquatic plants cover at least 90% of the lake using present day systematic point sample stations.
- Emergent vegetation covers over 30% of the surface area of the lake.
- The abundance of undesirable fish is reduced enough to improve water clarity.

Action 2: Monitor and maintain outlet structure to prevent build- up of aquatic vegetation, mud, and woody debris on the fish screens to ensure normal outflows through the structure are maintained.

The outlet structure on Towner Lake has screens to prevent fish from moving into the basin from downstream lakes. These screens had vertical slats spaced one-half inch apart. Floating aquatic vegetation becomes lodged in between and against the slats and can significantly reduce outflows. The blockage resulted in higher than normal water levels on Towner Lake. High water levels can have a negative impact on emergent and submerged aquatic vegetation. Higher water levels may also enhance fish survival during ice cover.

Fish screens with 2- or 3-inch spacing between the vertical slats were recently installed in each bay of the structure to minimize the amount of vegetation and debris blockage. Research from Delta Marsh has shown 2.2-inch spacing in vertical slot fish barriers to be sufficient to exclude large carp resulting in enhanced water quality. The DNR Section of Wildlife will monitor outflow at the water control structure and remove any aquatic vegetation, mud, or debris that may be obstructing flow on a regular basis during open water periods.

Action 3: Monitor water levels, water clarity, aquatic plant abundance and distribution, and fish community to determine management activities.

The DNR Section of Wildlife will conduct periodic wildlife lake surveys using historic systematic point sampling to monitor submerged aquatic plant abundance and distribution, as well as water clarity. Emergent vegetation will be monitored by measuring the coverage from the most recent aerial images available. The fish community will be periodically assessed with trap nets. Wildlife lake survey results will be used to determine drawdown needs and measure habitat response. A permanent water level gage will be installed on the outlet structure to monitor water levels. A temporary gauge or data logger will be installed in the basin to monitor lake levels during managed drawdowns.

Action 4: Reduce disturbance for breeding and migrating waterfowl and shorebirds.

Motorized boat traffic can disturb resting and feeding wildlife, especially waterfowl during the spring and fall migration period. Motorized boat traffic can also disturb nesting and brood rearing on shallow lakes and wetlands. The use of motorized watercraft on Towner Lake was restricted as part of the Lake Management Plan revision in 2007. The motorized watercraft restriction will remain in effect, and obvious access points will be properly signed to inform users of the restriction.

Management Plan Revisions

The management plan for Towner Lake will be revisited as necessary to assess the effectiveness of the plan and determine if changes and/or updates are required. Modifications to this management plan will follow established internal processes and substantial changes to this plan will require additional public input and review.

Towner Lake (DOW# 26021800), Grant County

Management Plan

Signature/Approval Sheet

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DEPARTMENT OF NATURAL RESOURCES
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Legend
Towner WMA
DeLong WPA
Water Control Structure
Niemackl Lakes
Towner Lake