Ash Lake Management Plan
DOW# 26029400
DRAFT – November 2026

Prepared By:

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Send Comments To:

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General Lake Information

- County: Grant
- Location: T130N; R43, 44W, Sections 19,30;24,25
- Size: 218 acres
- Shoreline: 3.3 miles
- Access: The DNR Section of Wildlife owns an 86-acre tract known as the Schuck Wildlife Management Area on the north and northeast side of the lake that includes 5,800 feet of accessible shoreline. The USFWS owns approximately 2,000 feet of accessible shoreline on the south end of the basin as part of the Mud Lake Waterfowl Production Area.
- Watershed: Bois De Sioux, Rabbit River
    - Catchment Area: 6,638 acres (10.4 square miles)
    - Watershed to Lake Ratio: 30.4:1
    - Inlets: Judicial Ditch#2
    - Land Use: Primarily row-crop agriculture.
- Depth: Maximum depth is 4.0 feet and mean depth is 3.2 feet at normal runout level (1072.0).
- Outlet: The outlet structure is concrete with three stop log bays located on the south side of the lake on the Mud Lake WPA. The sill elevation of the structure is 1069.15. The normal pool elevation of the lake is 1072.0. The outlet flows through a poorly defined channel in a cattail marsh before entering Mud Lake (26030700). Mud Lake outlets through a modified watercourse for approximately two miles before it enters Judicial Ditch #12. This ditch flows west for approximately five miles before it enters the Bois De Sioux Watershed District's North Ottawa Impoundment. Water flows north out of the impoundment through ditches for four miles until it reaches the Rabbit River, and eventually the Bois De Sioux River.
- 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 channel on the south side of the water control structure. The intake pipe for the manhole extends approximately 48 feet from the manhole into Ash Lake to an invert elevation of 1068.0.
- All elevations listed in this management plan are in NGVD 29 datum.

Historical Conditions

Ash Lake has been known as an important resting and staging area for migrating waterfowl, even when habitat conditions have been poor. Ash Lake has also been recognized as an important brood lake for waterfowl, as well as shorebirds. Early game lake surveys depict poor habitat conditions in 1952 and 1979. Poor conditions were likely normal during this period. Emergent vegetation was limited to a narrow band of cattail along the shoreline and some scattered patches of hardstem bulrush. The distribution and abundance of submerged aquatic vegetation was limited to sago pondweed being present in one location in each survey. These early reports suggest that Ash Lake provided good

waterfowl and muskrat habitat in the early and mid-1940's, following extended periods of the basin being dry or at low water levels during the drought years of the 1930's.

Ash Lake was designated for wildlife management in 1983. Habitat conditions and waterfowl use improved following the construction of a water control structure and drawdown efforts in the mid 1980's. Emergent plants, including Typha spp. and Scirpus spp, increased in coverage and density. Ash Lake was listed as a colonial waterbird nesting site on the Natural Heritage Database in 1989, based on a sighting of approximately ninety Eared Grebe nests in the newly flooded vegetation. An extended dry period in the late 1980s, immediately following the drawdown, resulted in poor survival of the newly established emergent aquatic vegetation and favored the establishment of transitional woody vegetation. Higher than normal water levels through the 1990's resulted in a reduction of emergent vegetation to pre-drawdown conditions.

High water levels and poor water quality persisted throughout the 2000's. Submerged aquatic vegetation was present throughout the lake, however densities were low and condition of the plants was poor. Emergent vegetation was limited to a narrow fringe of cattail around portions of the shoreline, except the shallow bay on the north end of the basin which still exhibited hemi-marsh conditions.

A drawdown was attempted in 2007 to improve habitat conditions on Ash Lake. Sedimentation and dense cattail in the inlet channel and downstream channel limited drawdown capability. A portable pump was brought in to facilitate drawdown efforts. Heavy rainfall in June of 2007 resulted in a large bounce in water levels on Ash Lake and downstream flooding. The pump was removed and drawdown postponed.

Recent Management

A permanent pump and lift station were installed near the outlet in 2011 to enhance drawdown potential. The Lake Management Plan was updated to reflect the new infrastructure and drawdown capability. A restriction on the use of motorized watercraft was also added to the plan following a public information meeting and comment period as required under Minnesota Statute Ch. 97A.101. A drawdown with the new pump began in the fall of 2011 and lasted through the 2012 growing season. Dry conditions and evaporation led to a complete dewatering of the basin by September of 2012.

The full drawdown resulted in much improved water quality and clarity in 2013. Submerged aquatic vegetation was dense throughout the lake and emergent vegetation, mostly cattail, covered approximately 30% of the surface area of the lake. Zooplankton and aquatic insects were also abundant. The Desired Outcomes listed in the 2011 Lake Management Plan were met or exceeded, except for species richness. The basin was still below normal summer pool in 2013. Heavy rainfall in the early summer of 2014 resulted in water levels above normal summer pool. Water clarity decreased, but aquatic vegetation was still abundant. Water quality and clarity indices were further decreased in 2015, however submerged aquatic plant occurrence and emergent coverage still met Desired Outcomes

in the 2011 Lake Management Plan. Reconnaissance surveys in August of both 2017 and 2018 found the water was brown and turbid, yet sago pondweed was relatively abundant throughout most of the basin. These are the typical habitat conditions found in 2006 and 2009, prior to the complete drawdown in 2012. Estimated emergent vegetation covered at least 30% of the basin in the years following the drawdown up to 2017. Percent coverage of living emergent vegetation has gradually decreased and is currently about 10%.

Below normal precipitation during the growing seasons in 2021 through 2023 resulted in lake levels gradually dropping below the normal runout level during in July and August. Submerged vegetation density and water clarity were much improved. Above average precipitation in 2024 resulted in higher water levels, poor water clarity, and a decrease in submerged vegetation density.

Seasonal partial drawdowns described in Objective 2 of the 2011 Lake Management Plan were attempted several times since the installation of the pump. Above average precipitation during the fall months made seasonal drawdowns difficult to achieve. In addition, beaver dams and dense cattail downstream of Mud Lake caused localized flooding when the pump was operated. A recent clean out of the watercourse downstream of Mud Lake improved the flow of water through the system, however beaver activity and dams increased soon after the pump was turned on in 2022 when the last seasonal drawdown was attempted.

The outlet channel immediately downstream of the water control structure and pump station became filled with sediment and overgrown with cattail. This made it difficult to maintain Ash Lake at the runout level and limited any ability to do partial drawdown via gravity. The channel was cleaned out from the structure to 250 feet downstream in late May of 2024. This greatly increased the outflow of the lake and allowed water levels to recede during the summer months. Regular maintenance of this channel will be necessary to maintain a desirable lake level and facilitate future drawdowns.

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 the abundance and diversity of aquatic vegetation.
- **Objective 2:** Improve and maintain water clarity and quality.
- **Objective 3:** Maintain hemi-marsh conditions in shallow bays to provide breeding habitat and brood cover for resident waterfowl.

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.

Ash Lake was designated as a Wildlife Lake under M.S. 97A.101 in 1983. 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 Ash 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 Ash 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 <u>two</u> of the following criteria are met:

- Average summer Secchi disk reading falls below 1.5 feet.
- Submersed aquatic plants cover less than 80% of the lake using present day systematic point sample stations.
- The fringe of emergent vegetation along the shoreline averages less than 50 feet wide or the hemi-marsh conditions in the shallow bays on the north and south side of the lake are more than 75% open water.
- 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, riparian landowners, USFWS Fergus Falls Wetland management District, 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 2.5 feet.
- Submersed aquatic plants cover at least 90% of the lake using present day systematic point sample stations.
- The fringe of emergent vegetation along the shoreline averages more than 100 feet wide and the hemi-marsh conditions in the shallow bays on the north and south side of the lake are no more than 50% open water.

- The abundance of undesirable fish is greatly reduced.

Action 2: Maintain outlet channel to reduce the length of high-water phases during wet periods and allow lake levels to reach runout elevation or lower during normal to dry conditions.

The outlet of Ash Lake flows through a poorly defined channel for about 2,000 feet and then flows through a cattail marsh and remerges as a channel into Mud Lake. The channel downstream of Ash Lake is relatively flat and prone to sediment build up and excessive cattail growth. Pumping operations also result in sediment deposition downstream of the outlet structure. Cattail can be uprooted from the lake and float downstream and become lodged in and against the water control structure. These obstructions result in reduced outflow and high water levels on the lake.

A properly functioning outlet could minimize the need for managed drawdowns. Ash Lake has a maximum depth of 4.0 feet and an average depth of 3.2 feet at the runout elevation. At these depths, light penetration to the lake bottom and frequent winter fish mortality are likely. This was evident during 2021 through 2023 when water levels fell below the runout elevation during the growing season. Water clarity and submerged aquatic plant abundance was exceptional during this period.

The DNR Section of Wildlife will monitor outflow at the water control structure and remove any debris or cattail mass that may be obstructing flow on a regular basis during open water periods. The channel downstream of the structure will also be monitored and periodic removal of cattail and sediment will be completed when necessary. The last clean out occurred in May of 2024.

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 width of the shoreline fringe at 25 transects from the most recent aerial images available. Hemi-marsh conditions in shallow, protected areas will also be evaluated through aerial imagery. Wildlife lake survey results will be used to determine drawdown needs and measure habitat response. An existing permanent water level gage is located 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. Ash Lake is both an important migratory resting area and brood lake for waterfowl and shorebirds. The use of motorized watercraft on Ash Lake was restricted as part of the Lake Management Plan revision in 2011. 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

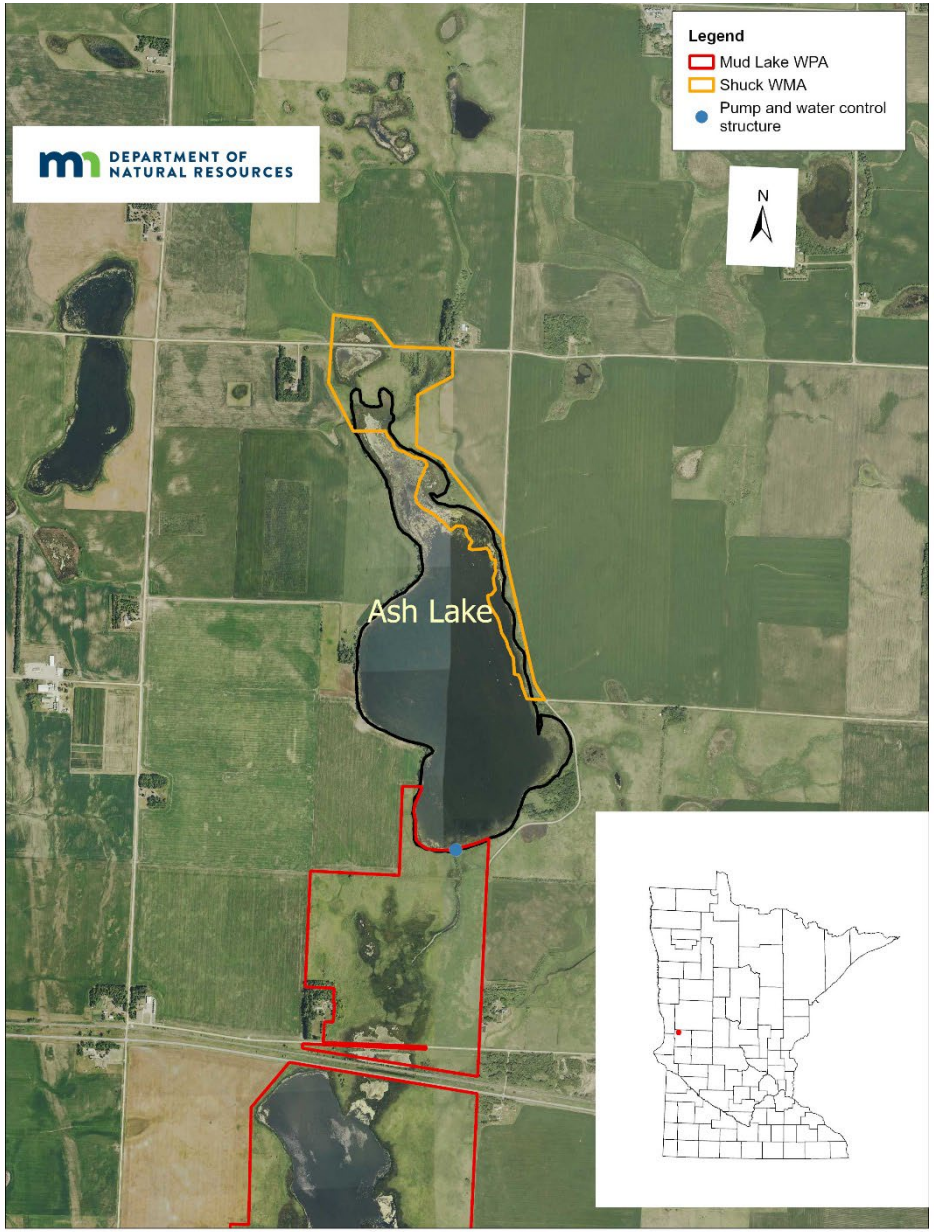
The management plan for Ash Lake will be revisited as necessary to assess the effectiveness of the plan and determine if changes and/or updates are required. Modifications to this management plan will follow established internal processes and substantial changes to this plan will require additional public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

Ash Lake (DOW# 26029400), Grant County

Management Plan

Signature/Approval Sheet

Insert Signature Page Template Here in PDF


DEPARTMENT OF NATURAL RESOURCES
Legend
Mud Lake WPA
Shuck WMA
Pump and water control structure
N
Ash Lake