



State of Minnesota

Joint Powers Agreement

SWIFT Contract Number: 277182

This agreement ("Agreement") is between the State of Minnesota, acting through its Commissioner of Natural Resources ("State") and Le Sueur County ("County"), in its capacity as Drainage Authority under statutes chapter 103E for Le Sueur County Ditch (CD) 58. The State and County may hereinafter be referred to individually as "Party, and collectively as the "Parties".

Recitals

Under Minnesota Statutes § 471.59, subd. 10, the State is empowered to engage such assistance as deemed necessary. Pursuant to Public Waters Work Permit 2020-2536, the State authorized the County to reconstruct a failing outlet structure located on CD 58 which controls water levels on Lake Henry in Le Sueur County. The outlet structure is located on a perpetual easement held by the County. The prior outlet structure on Lake Henry provided a fixed outlet elevation and a designed hydraulic capacity. Concurrent with its authorization, the State requested the County add elevation control (stop-logs) to the new outlet structure and add channel excavation from the new outlet structure to the open water portion of Lake Henry along with safety features that meet OSHA standards (the "Project"). The Project is intended to allow for periodic water level management per an approved comprehensive management plan which will be used to improve water quality and aquatic habitat conditions, as well as improve public recreation. Parties to this agreement believe this project will benefit Lake Henry, the surrounding community, and the State.

The new outlet structure was designed and constructed to replicate the function of the prior structure when all stop-logs are installed. The new structure will maintain an outlet control elevation of 1024.87' (NAVD 88) during normal operation. Removal of stop logs for the purpose of lake level management (temporary drawdown) will alter the function of the structure as an established part of CD 58 and requires an agreement between parties. The State and County wish to establish the authority and responsibility for long-term operation and maintenance of the Project and implement the Lake Henry Management Plan. Subject to the interest of CD 58, the new outlet structure is owned, administered, and maintained by the County. Once appropriate modifications are made to the new outlet structure, and we obtain formal management authority, the State will be responsible for active water level management per the Lake Henry Management Plan.

Agreement

1. Term of Agreement

1.1 Effective Date: Upon execution, or the date the State obtains all required signatures under Minn. Stat. § 16C.05, subd. 2, whichever is later.

1.2 Expiration Date: January 1, 2075, or upon mutual agreement by both parties, this Agreement may be extended by a written amendment.

1.3 Reversion: Upon expiration of this Agreement, or upon termination of this Agreement by the State, the Project shall revert to the County to be administered and maintained as part of CD 58. The Parties agree that upon reversion, the County will maintain the structure and the runout as part of the drainage system but will not perform drawdowns or manipulations of the structure to any elevation other than 1024.87' (NAVD 88).

2. Agreement between the Parties

2.1 State's Responsibilities: The State shall:

- a. Pursue the authority to manage water levels for Henry Lake under Minnesota Statutes § 97A.101. This Agreement is contingent on the State obtaining legal authority to manage water levels.
- b. Pursue the authority to utilize CD 58 as an outlet during drawdown or other active management of water levels in Lake Henry under Minnesota Statutes § 103E.401. This Agreement is contingent on the State obtaining authority to utilize CD 58 as an outlet.
- c. Complete the Project at the approximate location shown on the Map, which is attached to and incorporated into this Agreement as **Exhibit A: Map**. Project bidding, management, and construction management will be carried out by Ducks Unlimited under a separate contract. Completion of the project will include 1) channel excavation from the open water portion of Lake Henry to the new water control structure, and 2) addition of a catwalk with handrail to manage and access stop-logs from the new water control structure.
- d. Ensure safety features that meet OSHA standards are included in all design and construction plans.
- e. Prior to commencing with the Project, obtain all necessary permits and approvals for construction and operation of the Project.
- f. Operate and provide routine maintenance of the Project including cleaning vegetation and debris from the outlet structure and inlet channel cleanout to facilitate drawdown through the end of this Agreement.
- g. Operate the Project in accordance with the most current approved Lake Henry Management Plan. The draft version of the Lake Henry Management Plan is attached and incorporated into this Agreement as **Exhibit B: Lake Henry Management Plan**. Once the management plan is approved following a public lake designation hearing pursuant to Minnesota Statutes § 97A.101, the draft will be replaced with the approved version.
- h. Periodically review the Lake Henry Management Plan in coordination with the County to determine its effectiveness and revise the plan if necessary. Revisions may require a public input process.
- i. Provide the County with 5 days' written notice prior to any drawdown activities. Email notice to the County Ditch Inspector is acceptable.

2.2 County's Responsibilities: The County shall:

- a. Continue to own the outlet structure on Lake Henry as part of CD 58 and provide capital maintenance of the Project including major repairs or replacement as needed to maintain a pool elevation of 1024.87' (NAVD 88).
- b. Consider a petition of the State to utilize CD 58 as an outlet pursuant to Minnesota Statutes § 103E.401; not unreasonably withhold authorization for such utilization; impose only such conditions on utilization of CD 58 as an outlet as are necessary to protect the interests of CD 58 and receiving, downstream waters.
- c. Upon proper proceedings, findings, and an order pursuant to Minnesota Statutes § 103E.401, grant the State or its agents the right to access, operate, maintain and repair the Project. Access to the site will remain through the existing ditch right-of-way, beginning from Le Sueur County Road 15

along the CD 58 buffer to the water control structure.

- d. Maintain CD 58 immediately downstream of the water control structure.

2.3 Joint Responsibilities:

- a. Both the State and County shall have the right of free access to inspect the structure at any time.
- b. Both the State and County shall inspect the water control structure at least annually and after major storms or unusual occurrences or conditions. The inspections are to ensure proper functioning and check for possible damage or deterioration. Inspections may be performed separately or jointly.
- c. Only an authorized agent or employee of the State or an authorized agent or employees of the County may make any alterations to the Project. Both the State and the County must agree to any such alterations.

3. Payment

3.1 No funds are included in this agreement.

3.2 The total obligation of the State under this agreement will not exceed \$0.00.

4. Authorized Representatives

The State's Authorized Representative is Joseph Stangel, joseph.stangel@state.mn.us, Regional Wildlife Manager, 21371 State Highway 15, New Ulm, MN 56073, 507-233-1230, or his successor.

The State's Authorized Project Manager is Tim Koppelman, DNR Area Wildlife Manager, 501 9th St., Nicollet, MN 56074, 507-225-3572, tim.koppelman@state.mn.us, or his successor.

The County's Authorized Representative is Joseph Martin, County Administrator, 88 South Park Avenue, Le Center, MN 56057, 507-357-2251, jmartin@co.le-sueur.mn.us or his successor.

If an Authorized Representative changes at any time during this agreement, the Party shall notify the other Party.

5. Assignment, Amendments, Waiver, and Contract Complete.

5.1 Assignment. The County may neither assign nor transfer any rights or obligations under this Agreement without the prior consent of the State and a fully executed assignment agreement, executed and approved by the authorized parties or their successors.

5.2 Amendments. Any amendment to this Agreement must be in writing and will not be effective until it has been executed and approved by the authorized parties or their successors.

5.3 Waiver. If the State fails to enforce any provision of this Agreement, that failure does not waive the provision or its right to enforce it.

5.4 Contract Complete. This Agreement contains all negotiations and agreements between the State and the County. No other understanding regarding this Agreement, whether written or oral, may be used to bind either Party.

6. Indemnification.

6.1 In the performance of this Agreement, the Indemnifying Party must indemnify, save, and hold harmless the State, its agents, and employees, from any claims or causes of action, including attorney's fees incurred by the State, to the extent caused by Indemnifying Party's:

- Intentional, willful, or negligent acts or omissions; or
- Actions that give rise to strict liability; or
- Breach of contract or warranty.

The Indemnifying Party is defined to include the County, the County's reseller, any third party that has a business relationship with the County, or the County's agents or employees, and to the fullest extent permitted by law. The indemnification obligations of this section do not apply in the event the claim or cause of action is the result of the State's sole negligence. This clause will not be construed to bar any legal remedies the Indemnifying Party may have for the State's failure to fulfill its obligation under this Agreement.

6.2 Nothing within this Agreement, whether express or implied, shall be deemed to create an obligation on the part of the State to indemnify, defend, hold harmless or release the Indemnifying Party. This shall extend to all agreements related to the subject matter of this Contract, and to all terms subsequently added, without regard to order of precedence.

7. State Audits.

Under Minn. Stat. § 16C.05, subd. 5, the County's books, records, documents, and accounting procedures and practices relevant to this Agreement are subject to examination by the State, the State Auditor, or Legislative Auditor, as appropriate, for a minimum of six years from the expiration or termination of this Agreement.

8. Government Data Practices.

The County and State must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the State under this Agreement, and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the County under this Contract. The civil remedies of Minn. Stat. § 13.08 apply to the release of the data governed by the Minnesota Government Practices Act, Minn. Stat. Ch. 13, by either the County or the State.

If the County receives a request to release the data referred to in this clause, the County must immediately notify and consult with the State's Authorized Representative as to how the County should respond to the request. The County's response to the request shall comply with applicable law.

9. Venue

Venue for all legal proceedings out of this Agreement, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.

10. Termination

10.1 Termination. The State or the County may terminate this agreement at any time, with or without cause, upon 30 days' written notice to the other Party.

11. Invasive Species Requirements

The State requires active steps to prevent or limit the introduction, establishment, and spread of invasive species when working on or entering into land under the control of the State, or during State-funded work. All parties involved in the Project shall prevent invasive species from entering into or spreading within the Project site by cleaning equipment vehicles, gear, and/or clothing prior to arriving at the Project site and after completion of the Project.

If the equipment, vehicles, gear, or clothing arrives at the Project site with soil, aggregate material, mulch, vegetation (including seeds) or animals, it shall be cleaned by operator- furnished tools or equipment (brush/broom, compressed air or pressure washer) at the staging area. The operator shall dispose of material cleaned from equipment and clothing at a location determined by the DNR Wildlife Area Manager. If the material cannot be disposed of onsite, secure material prior to transport (sealed container, covered truck, or wrap with tarp) and legally dispose of offsite.

The operator shall ensure that all equipment and clothing used for work in infested waters has been adequately decontaminated for invasive species (e.g., zebra mussels) prior to being used in non-infested waters. All equipment and clothing including but not limited to waders, tracked vehicles, barges, boats, turbidity curtain, sheet pile, and pumps that comes in contact with any infested waters must be thoroughly decontaminated.

12. Pollinator Habitat Enhancement

Habitat restorations and enhancements conducted on DNR lands and prairie restorations on state lands or on any lands using state funds are subject to pollinator best management practices and habitat restoration guidelines pursuant to [Minnesota Statutes, section 84.973](#). Practices and guidelines ensure an appropriate diversity of native species to provide habitat for pollinators through the growing season. Current specific practices and guidelines to be followed for contract and grant work can be found on the DNR's website under [MN Pollinator Resources](#).

13. Exhibits

The following Exhibits are attached and incorporated into this Agreement. In the event of a conflict between the terms of this Agreement and its Exhibits, or between Exhibits, the order of precedence is first the Agreement, and then in the following order:

Exhibit A: Map

Exhibit B: Lake Henry Management Plan

1. State Encumbrance Verification

Individual certifies that funds have been encumbered as required by Minn. Stat. §§ 16A.15 and 16C.05

Print Name: Sacia Matheson

Signature: 
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Title: Contracts Officer Date: September 26, 2025

SWIFT Contract No. 277182

2. Le Sueur County

Print Name: Joseph Martin

Signature: _____

Title: County Administrator Date: _____

3. Department of Natural Resources

With delegated authority

Print Name: David Trauba

Signature: _____

Title: Wildlife Section Manager Date: _____

4. Commissioner of Administration

As delegated to The Office of State Procurement

Print Name: _____

Signature: _____

Title: _____ Date: _____

Admin ID: _____

Le Sueur County - Henry Lake Project JPA

T110N R25W Section 34

Exhibit A: Map



 Henry Lake Basin



Exhibit B: Lake Henry Management Plan

**Lake Henry Management Plan
Public Water No. 40-104 (40010400)
Le Sueur County
January 16, 2025**



Prepared By:

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Phone: (320) 347-7634
Email: joshua.kavanagh@state.mn.us

General Lake Information

- **Location:** Le Sueur County, Minnesota
- **Township:** 109, 110 Range: 25 Section: 3, 27, 34, 35
- **Size:** 360 acres
- **Migratory Waterfowl Feeding & Resting Area:** Restricts motorized watercraft during waterfowl season.
- **Shoreline:** 3 miles of shoreline in a predominately agricultural landscape.
- **Access:** A DNR public access is located 3.5 miles south of Cleveland on County Rd 15.
- **Watershed Area:** 835 acres
- **Watershed Ratio:** approximately 2:1
- **Inlets:** None, surface runoff and/or agricultural tile only.
- **Watershed Land Use:** Primarily row crop agriculture.
- **Maximum Depth:** ~6.5 feet
- **Average Depth:** ~4.0 to 5.0 feet
- **Lake Outlet:** Dog Creek/County Ditch #58 on the west side of the lake.
- **Lake Runout Elevation:** 1024.8 (NAVD 88)
- **Ordinary High-Water Level (OHWL):** 1026.0 (NAVD 88)
- **Proposed Drawdown Elevation:** 1019.2 (NAVD 88)
- **Approximate Lake Bottom Elevation:** 1018.0 (NAVD 88)
- **Survey Datum Note:** add 0.167' to convert from NGVD 29 to NAVD 88 datum.
- **Reference Materials:** DNR Hydrographic Reports (1972, 2002), DNR Shallow Lake Surveys (2003, 2015, 2022).

The Minnesota Department of Natural Resources (DNR) wishes to manage Lake Henry pursuant of M.S. 97A.101. Lake Henry is a shallow lake with a public access and therefore fits the priorities identified in the DNR's Shallow Lakes Program Plan. A new lake outlet capable of temporary water level drawdown was constructed by Le Sueur County in 2020 as part of County Ditch #58. This proposal would include completion of the new outlet to allow utilization of temporary drawdowns as a lake management tool, including 1) channel excavation from the open water portion of Lake Henry to the new water control structure, and 2) addition of a catwalk with handrail to safely manage and access stop-logs from the new water control structure. DNR is also working concurrently with Le Sueur County as the County Ditch #58 ditch authority to establish long-term operation and maintenance responsibilities through a Joint Powers Agreement (JPA).

Water Quality

There have been three wildlife lake surveys conducted on Lake Henry since 2003 by DNR staff, as well as periodic Minnesota Pollution Control Agency (MPCA) Clean Water Legacy Monitoring since 2013. Through these monitoring efforts we have collected water samples and water clarity data to measure the relative water quality over time. MPCA water quality standards for shallow lakes in this area (North Central Hardwood Forest Ecoregion) have impairment thresholds of 60 ppb total phosphorus (TP, nutrient loading), 20 ppb chlorophyll-*a* (Chl-*a*, algae concentration) and a 3.3' Secchi depth (water clarity). Although this is only a limited 2-year dataset, Table 1 indicates the average amount of TP and Chl-*a* from Lake Henry is well above the MPCA impairment threshold.

Table 1. MPCA Clean Water Legacy monitoring for Lake Henry based on data collected between May and October 2013 to 2014 (Source: MPCA).

Parameter	Average of all summer samples	Number of samples
Chlorophyll-a (ppb) <i>20 ppb threshold</i>	155	8
Total Phosphorus (ppb) <i>60 ppb threshold</i>	353	8

As shown in Table 2, long-term TP monitoring by DNR and MPCA has fluctuated over time, with only one documented occurrence below the impairment threshold (May 2013). Notable increases in TP concentrations can typically be seen later in summer due to abundant curly-leaf pondweed in Lake Henry. This submersed plant is a dominant non-native species that begins growing in February under lake ice, and in doing so ties up nutrients that would otherwise be available in the water column (hence lower TP in water samples). This species completes its life cycle and dies off by mid-summer, releasing nutrients as it decays resulting in excessive algae blooms in late summer.

Table 2. Total Phosphorous (TP) ppb from all Lake Henry water samples collected 2003 to 2022 (Source: DNR, MPCA).

Date	8/8 2003	6/20 2007	7/23 2007	5/14 2013	6/13 2013	7/19 2013	8/20 2013	9/17 2013	5/13 2014	6/18 2014	7/28 2014	8/20 2014	9/18 2014	8/6 2015	9/7 2022
TP (ppb)	339	418	768	30	71	421	469	425	114	160	536	451	287	375	310

The Trophic State Index (TSI) shown in Figure 1 is a number that summarizes a lake’s overall nutrient richness. Nutrient richness ranges from clear lakes that are low in nutrients (oligotrophic) to green lakes with very high nutrient levels (hypereutrophic). The same parameters for MPCA water quality standards contribute to the TSI rating (TP, Chl-a, and water clarity), with Lake Henry having an overall TSI rating of 77.

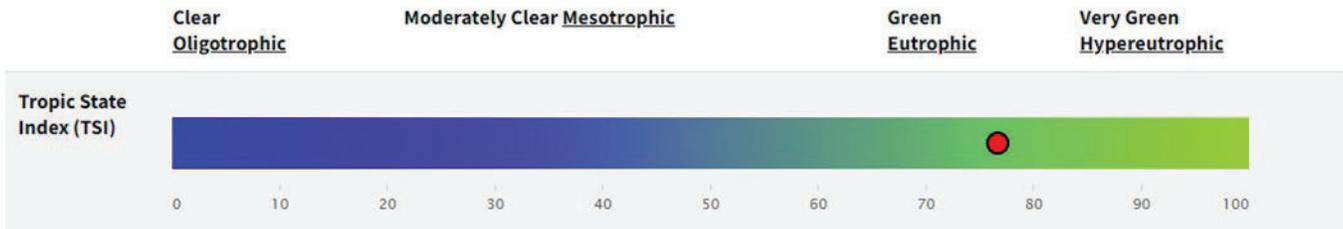


Figure 1. TSI for Henry Lake based on data collected between June and September 2008 to 2017 (source: MPCA).

Sampling has documented poor water quality, so Lake Henry is listed as impaired by the MPCA. Managing Lake Henry following the guidelines of this management plan will result in improvements in water quality (lower TP and Chl-a along with increased water clarity). Monitoring of similar projects has shown that these improvements will not exacerbate any existing impairment and may result in additional water quality improvements downstream. One objective of this project plan is to de-list Lake Henry as an Impaired Water.

Fish and Wildlife Habitat

Lake Henry is a designated Migratory Waterfowl Feeding and Resting Area (MWFRA). This designation restricts use of motor-propelled watercraft during the open waterfowl season. MWFRA’s were first authorized by the state legislature in 1969 (M.S. 97A.095 subd. 2) to protect waterfowl from disturbance during the fall migration period, with lakes being nominated by a petition process through local conservation groups.

Habitat conditions on Lake Henry have been consistently poor without adequate food resources, nesting, and brood cover for waterfowl. There is minimal upland nesting cover available in the watershed due to intensive agriculture and prolonged high water has limited growth of emergent vegetation in the basin. Lake Henry still serves as a migration stopover site for waterfowl and provides other wildlife with adequate habitat conditions during portions of the year when the lake is less turbid, but the quality of this habitat has been greatly reduced and degraded over time.

The 2003 Shallow Lake survey noted most of the submersed vegetation was distributed in the north end of the basin. The remainder of the basin was not heavily vegetated. Emergent vegetation (hybrid cattail) was limited to one point on the west side of the lake, and algae was abundant across the lake. The survey noted vegetation presence at over 50% of sample stations, however, the lake lacked species diversity.

The 2015 Shallow Lake survey noted cattails on the west and north sides of the lake while the east and south sides of the lake were wooded along the shoreline. The water clarity was poor, with a Secchi reading around 1.5 ft. The lake was described as green in color from the free-floating algae. The submersed vegetation found was usually sparse with curly-leaf pondweed being the predominant submersed plant species observed.

The 2022 Shallow Lake survey documented a continued decline in water clarity, quality, and habitat conditions. Water was green with algae and clarity was very low. All but one sample point had Secchi readings of 0.25 ft., with one remaining outlier of 0.50 ft. No submersed vegetation was detected at any survey point. Table 3 shows a decline in native aquatic vegetation over the three surveys.

Lack of aquatic plants and low water clarity indicates poor shallow lake habitat for fish and wildlife. Aquatic vegetation is important in shallow lakes for several reasons:

1. Plants help maintain clear water by stabilizing lake sediments preventing wind and waves from stirring them up which causes turbid water.
2. Aquatic plants use nutrients from the water column reducing what would otherwise be available to algae.
3. Waterfowl and other wildlife eat submersed aquatic plants. For example, ducks eat the seeds, tubers and rhizomes of sago pondweed. In addition, this vegetation provides habitat for aquatic invertebrates (small insects and other organisms) that are an important protein source for waterfowl.
4. These aquatic insects eat algae, which aids in improving water clarity; emergent vegetation, such as bulrush, provides breeding and nesting cover for waterfowl and other wildlife. Many non-game species of birds (grebes, rails, terns) also nest in stands of emergent vegetation and are dependent on them for food and cover.

Table 3. Presence/percentage of submersed aquatic vegetation observed throughout fish and wildlife lake surveys for Lake Henry during 2003-2022:

Submersed Vegetation	2003 Survey	2015 Survey	2022 Survey
Flat-stem Pondweed	36.9%	-	-
Sago Pondweed	6.8%	18.8%	-
Bushy Pondweeds/Naiads	23.3%	14.5%	-
Narrow-leaf Pondweed	3.9%	-	-
Curly-leaf Pondweed	12.6%	31.9%	-
Canada Waterweed	-	21.7%	-
No Vegetation Observed	46.6%	36.2%	100%

Wildlife Use

Wildlife use information for Lake Henry has been collected during various Wildlife Lake Surveys. Wildlife use is directly related to the aquatic vegetation present. Furbearer (muskrat, mink, beaver, and otter) and waterfowl use are good indicators of a healthy shallow lake.

The 2003 Shallow Lake Survey noted limited waterfowl use that included 13 wood ducks; other species included double-crested cormorants (7), American white pelican (1), common tern (1), herring gulls (30), and great blue herons (2). There was not a good population of amphipods (freshwater shrimp) observed.

The 2015 Shallow Lake Survey documented additional waterfowl species, including: mallards (33, with 2 broods totaling 13 ducklings), wood ducks (12), blue-winged teal (6), American coots (6), and juvenile common mergansers (25). Other wildlife observations included: American white pelicans (15), double-crested cormorants (9), great blue herons (2), Forster's terns (13), bald eagle (1), red-necked grebes (2), green herons (3), and ring-billed gulls (2).

The 2022 Shallow Lake Survey again noted limited waterfowl use, including: wood ducks (10), mallards (5), unidentified ducks (7), and Canada goose (1). Other wildlife utilization included cormorants (18), American white pelicans (17), ring-billed gulls (7), great blue herons (3), green herons (2), sora (1), bald eagle (1), and belted kingfisher (1).

Fishery

A DNR Fisheries survey assessment occurred on Lake Henry in August 2000, the first and only formal documentation of the fish community in this lake. Black bullhead were found to be abundant (331 per gill net, 137 per trap net) and larger than most other area lakes with many fish in the 8 to 10 inch range. A few yellow perch were also documented (20 per gill net, 1.2 per trap net), averaging about 7 inches long, and one bluegill was captured. Other species observed informally over the years include walleye, common carp, and fathead minnows. The lake has been used extensively by commercial bait dealers when minnow populations are abundant. Populations of carp, bullheads, and fathead minnows damage the health of shallow lakes. These fish species have negative impacts on invertebrate populations, water clarity and aquatic plants. The presence of these fish also increases the internal nutrient cycling in a basin contributing to poor water quality.

Complete or partial winter fish kills occur occasionally on Lake Henry, with a DNR Fisheries goal of providing boom-and-bust angling opportunities following winterkill events. The current operation plan includes stocking walleye fry annually in the spring for local rearing when conditions permit and harvesting as fingerlings in the fall for other area lakes. Almost all fishing activity on Lake Henry occurs over winter during boom walleye years from carryover fish, with little to no activity outside of the winter months. The Migratory Waterfowl Feeding and Resting Area remains in effect during years of increased fishing opportunities.

Predator game fish management in Lake Henry will be considered a complimentary management tool with the purpose of prolonging the positive effects of winterkill and/or managed drawdown and to help maintain clear water conditions. Any future walleye rearing efforts or lake stocking plans (including all fish species) will be coordinated and agreed upon between Area Fisheries and Wildlife Managers. Lake Henry will continue to be managed as a boom-and-bust fishery, and winter lake aeration will not be considered as part of the Lake Henry management plan.

The newly replaced variable crest water control structure will enable managers to promote more frequent winterkill events through temporary water level drawdown when/if Lake Henry becomes dominated by fish species such as carp, black bullhead, and fathead minnows (see *Management Actions* below).

Management Goals and Objectives

Goal: Improve lake habitat and water quality conditions by reducing undesirable fish populations and stimulating the growth of submersed and emergent aquatic vegetation, thereby resulting in a healthy shallow lake system providing quality fish and wildlife habitat.

- **Objective 1:** Provide the ability to manage water levels to enhance lake habitat and water quality.
- **Objective 2:** Implement initial temporary water level drawdown.
- **Objective 3:** Improve and maintain high quality shallow lake habitat conditions and water quality through periodic water level drawdown and fish management.
- **Objective 4:** Promote best management practices (BMP's) within the watershed and encourage healthy habitat complexes including both wetland and grassland areas around Lake Henry.

Proposed Management Actions to Achieve Objectives

Action 1a: Obtain legal authority to temporarily and periodically lower water levels.

Collaborate with local citizens, lakeshore property owners, Le Sueur County, and DNR staff to obtain the legal authority (Minnesota Statute 97A.101) to conduct periodic, temporary, water level drawdowns on Lake Henry per an approved comprehensive management plan.

Action 1b: Coordinate with partners to complete construction on the Lake Henry outlet structure.

A new lake outlet structure was constructed in 2020 by Le Sueur County after the former outlet failed. The new outlet structure consists of a 6' x 6' concrete drop inlet box connected to a 36" reinforced concrete pipe (RCP) that outlets through a field crossing and into County Ditch #58 which is an open County ditch. A physical barrier screen was added over the top of the concrete box for safety and under most conditions will also serve to prevent undesirable fish passage into Lake Henry from downstream.

Under this management plan, DNR wildlife staff will conduct water level management in response to biotic and abiotic conditions, such as those outlined in the "*Management Thresholds*" section below. The inlet side of the concrete box consists of a 36" bay with removable aluminum stop logs that will allow for periodic temporary water level drawdown. The removal of stop logs will allow the water level to be lowered by up to 5.3 feet to an elevation of 1019.2' (NAVD 88). The managed full-service elevation will remain at 1024.8' (NAVD 88), matching the replaced outlet and having similar hydraulic capacity. Completion of the outlet project by DNR in partnership with Ducks Unlimited will include channel excavation from the open water portion of Lake Henry to the new water control structure, along with the addition of a catwalk with handrail to manage and access stop logs in the structure.

Action 2: Conduct an initial temporary drawdown to encourage the growth of aquatic plant species and create conditions favorable for a winter fish kill.

A lake drawdown is the temporary lowering of lake water levels by gradually removing stoplogs from a variable crest weir at the lake outlet. Drawdowns are used to mimic natural droughts, which occur less frequently than in the past. Shallow lake ecosystems are adapted to periods of low water or drought, but often deteriorate during periods of high water or absence of drought. Drawdowns are an effective tool used to manage shallow lakes and wetlands for improved fish and wildlife habitat and water quality.

Drawdowns on shallow lake basins enhance the abundance and diversity of aquatic vegetation. Bottom sediments hold a large, viable seed bank from the aquatic plants that historically grew there. However, most species of emergent aquatic vegetation require a period of drying before their seeds will germinate. Additionally, drawdowns help consolidate bottom sediments and accelerate decomposition of organic material, which can provide a more suitable substrate for aquatic plant growth. Drawdowns also are used to reduce or manage the fish community within a basin. These conditions (i.e., dense beds of aquatic vegetation and a reduced population of rough fish) should improve water quality and clarity, increase aquatic invertebrate abundance within the basin, and provide sufficient habitat resources for a variety of wildlife species.

Important Legal Considerations: *A drawdown is a temporary lowering of a lake's water level. The DNR will return Lake Henry water level to the normal managed pool elevation following a temporary drawdown. Drawdowns would not, and could not, be done at times that would cause any downstream flooding damage to private property or roads (M.R. 6115).*

Constructing, replacing, or manipulating outlet structures on public water resources requires a permit from the DNR Division of Ecological and Water Resources (EWR). The Section of Wildlife will work with EWR staff to meet all permit requirements as written in M.R. Chapter 6115. All drawdown efforts will be contingent on existing habitat quality, precipitation patterns, and downstream flooding conditions. Downstream water level conditions will be monitored prior to initiating a temporary drawdown, and the lake would not, and could not, be drawn down during periods when the area is experiencing flooding or a high-water event. Minnesota Rules (Chapter 6115.0221) does not allow drawdowns to adversely affect downstream properties. If the area is experiencing heavy rainfall or high flows, drawdown efforts will be slowed or stopped until downstream channels can handle the additional flow. The normal full-service elevation on Lake Henry is not being changed and the proposed structure can be controlled to the appropriate full-service elevation; therefore, upstream and/or downstream landowners should not be adversely impacted by the results of this project. Any fluctuations in water levels once the basin is at, or above, the appropriate full-service elevation is dictated by influences within the watershed such as localized precipitation events.

Following completion of the new water control structure and associated inlet channel, the DNR will implement a drawdown to the maximum extent possible as soon as conditions allow per the guidelines of this plan. The new water control structure will have a bottom at, or very near, the bottom of the proposed lake outlet channel, however, the DNR does not anticipate being able to remove all water from Lake Henry due to limitations of the outlet channel and natural lake bathymetry. It is estimated that there will be a 20-30 acre pool, with around 1 foot of water or less under a full drawdown scenario. The deepest area of the lake is in the south-central portion, approximately 0.5 miles from the outlet channel.

Drawdown scenario #1: A drawdown would likely begin in late summer/early fall (typically August) when surface runoff and downstream water levels are relatively low. In this scenario drawdown would extend through the first winter to maximize the potential for winter fish kill. The lake would remain in drawdown through the following growing season and extend through a second winter to allow for consolidation of bottom sediments and to establish emergent vegetation. Stoplogs would be replaced immediately the following spring to allow for a gradual refill. In this scenario water levels would be artificially drawn down for approximately 1.5 years through two winters and one growing season.

Drawdown scenario #2: A separate scenario could include initiating drawdown immediately in the spring, if possible, due to low runoff and favorable downstream conditions in County Ditch #58. The size of Lake Henry should allow for an adequate growing season drawdown; achieving the same vegetation response and fish kill

listed above, but this scenario is less likely to occur with normal spring conditions. Following this seasonal drawdown option, stoplogs could be replaced in the fall or immediately the following spring for refill. In this scenario water levels would be drawn down for around 1 year.

Drawdown scenario #3: A winter drawdown could be pursued to help control undesirable fish (e.g. carp and bullheads). If fish assemblages begin to favor undesirable fish species DNR staff may propose a winter drawdown to help promote a winter fish kill. In this scenario water levels would begin to be lowered in August to the extent possible into winter, and then water levels will be restored as possible the following spring. A spring fish stocking plan will follow to help restructure the fish community in Lake Henry. In this scenario water levels would be drawn down for around 8-9 months.

Because of the small watershed of Lake Henry (ratio 2:1), the amount of time required to refill the lake following a complete drawdown is a concern, particularly during periods of below-average precipitation. With average conditions, the length of time required to refill Lake Henry is approximately 1.5 years. However, this time may be extended if a dry weather pattern occurs after the stoplogs are returned to the weir. One benefit of small watersheds is post-drawdown effects tend to last much longer (water quality and habitat conditions), with a much lower frequency of subsequent management actions needed such as those outlined under “*Action 3*” below.

Managed drawdowns will not occur for longer than two consecutive years as defined in M.R. 6115.0271, Subp. C, item 4. Typically, a one growing season drawdown is sufficient to achieve desired objectives pending unforeseen conditions and/or weather patterns. A growing season is defined as May – August.

Ongoing and Long-Term Procedures and Management Thresholds

Shallow lake conditions are not static, so additional management will be needed to maintain acceptable water quality and habitat conditions over time. The DNR recommends the following procedures to maintain improvements attained through initial actions.

Action 3: Conduct additional drawdowns below the normal runout elevation to maintain or attain water quality standards, fish community, and habitat objectives, as indicated in this plan.

The decision to initiate any drawdown will be based on the condition of the lake, along with upstream and downstream water levels. Prior to and following all drawdowns, DNR will monitor water clarity, water quality, plant abundance, plant diversity, fish presence and wildlife use. The frequency of drawdowns will be adjusted as needed and may be conducted when lake conditions deteriorate such that at least two of the following criteria are met:

- Average summer Secchi disk reading from June - September falls below 3.3 feet;
- Average summer total phosphorous levels from June - September exceeds MPCA’s impairment threshold of 60 ppb;
- Average summer chlorophyll-*a* levels from June - September exceeds MPCA’s impairment threshold of 20 ppb;
- Submersed aquatic plants cover less than 60% of the lake using present-day systematic point sample stations;
- Undesirable fish are present at densities high enough to affect water quality and habitat conditions.

Desired Outcomes – Full Drawdown

- Average summer Secchi disk reading from June - September exceeds 3.3 feet;

- Average summer total phosphorous and chlorophyll-*a* levels from June – September meets MPCA standards;
- Submersed aquatic plants cover at least 80% of the lake using present-day systematic point sample stations.

The primary intent of a drawdown is to expose lakebed and/or increase likelihood of fish winterkill. However, DNR personnel should also consider existing habitat conditions, migration patterns, and the needs of game and nongame species to limit unintended impacts when determining the drawdown timeline. For example, if pursuing late-season drawdown (Oct. /Nov.), the DNR should consider providing a shallow pool area as refuge for hibernating reptiles and amphibians. When refilling a basin after a drawdown, DNR personnel should consider the impact that changing water levels might have on wildlife and the flow to downstream areas. At the conclusion of each drawdown period, stop logs will be replaced gradually. This will allow the basin to slowly refill which will prevent damage to newly established aquatic vegetation and maintain some intermittent flow downstream to help preserve stream and channel functions.

Partial Drawdowns

Occasional partial drawdowns that maintain waterfowl habitat and water quality may reduce the need for more costly and time-consuming full drawdowns. This would be an intermediate management action and beneficial tool to extend the effects of a full drawdown. A partial drawdown could be initiated over winter or during the growing season depending on management needs. Populations of undesirable fish should be nearly eliminated after a full drawdown but they will eventually re-establish. A partial winter drawdown increases the likelihood and severity of a natural winterkill event. In a partial drawdown scenario water levels are lowered to the point where ice would form to the bottom or very near the bottom of the shallow lake, eliminating refuge areas for fish. Partial drawdown could also be used to increase light penetration to the lake bottom in an effort to promote submersed aquatic plant growth. Additionally, partial drawdowns would expose a portion of the bottom substrate stimulating germination of emergent plants around the lake fringe. A partial drawdown would only be used to remove up to 3.0-3.5 feet of water and would not be extended past one year.

Partial drawdowns will be considered when at least two of the following criteria are met:

- Summer Secchi disk readings decrease dramatically over summer by more than 1.5 feet;
- Submersed aquatic plants are found at < 80% of the lake-wide point sample stations;
- Undesirable fish population contains 60% or more relative biomass (weight of carp and bullheads in combined gillnets and trap-nets);
- Predator fish (e.g., walleye, northern pike, etc.) relative biomass constitutes 20% or less of the fish population.

Drawdown Notification and Reporting:

Prior to commencing any drawdown, the Area Wildlife Manager will notify the DNR Area Hydrologist and Le Sueur County. Notification will be provided at least 5 days in advance of commencing drawdown. During drawdowns, water level measurements will be recorded regularly (weekly water level monitoring is advised). Water level measurements will also be recorded during non-management periods as possible (annual inspection and monitoring is recommended). A summary report of the water level readings will be submitted to the DNR Area Hydrologist upon request.

In the event of localized flooding during an active drawdown period, Le Sueur County or the County Ditch Inspector should notify DNR Wildlife immediately. DNR Wildlife will respond to the event as soon as possible by reducing or stopping outlet flows until conditions improve.

Action 4: Continue to promote conservation efforts and collaborate on watershed projects.

Conservation work within the watershed is an important tool in shallow lake management. The protection of existing habitats and restoration of critical areas are vital to sustaining water quality and habitat. The DNR will continue to support efforts to target conservation programs and land stewardship improvements within the Lake Henry watershed. Opportunities should be utilized to educate citizens about aquatic invasive species and private land conservation practices.

Monitoring

When conditions fall below the outlined thresholds, the proposed management actions will be evaluated and if necessary, implemented. To determine conditions, vegetation can be monitored as needed by conducting shallow lake surveys, using systematic point sampling, calculating aquatic plant distribution and diversity. Water clarity and water quality parameters can be monitored periodically through analysis of water samples. Fish presence can be verified by periodic test netting. Minnesota DNR will install a water level gauge to closely monitor water levels on the basin as well as monitor downstream conditions during any active drawdown phase (stipulated by M.R 6115.0221).

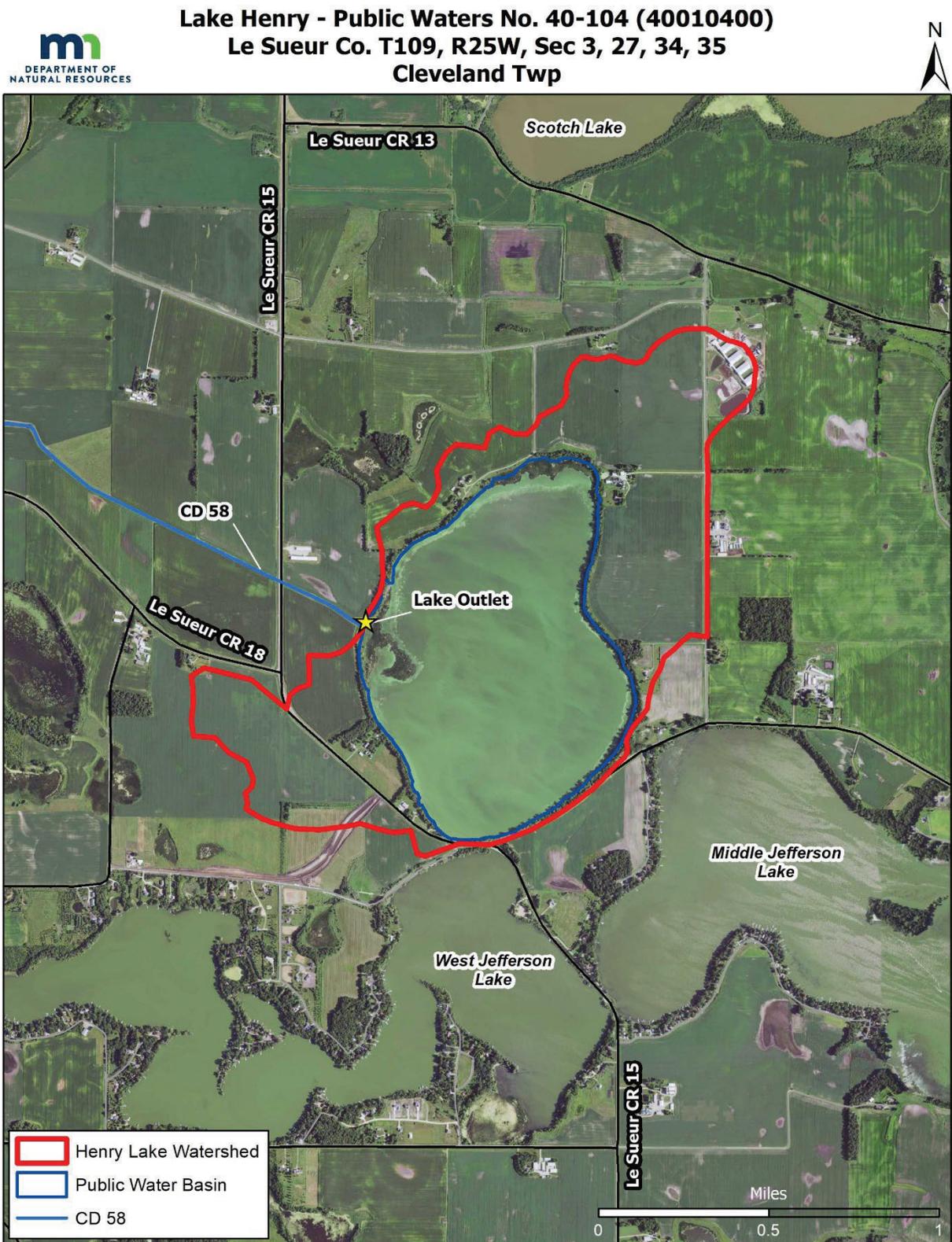
Management Plan Revisions

The management plan may be revisited in the future to assess effectiveness and determine if changes or updates are needed. Landowners and LGU's would be included in the revision process through notification by letter.

Figure 2: Lake Henry Project Overview Map



Figure 3: Lake Henry Watershed Map



Lake Henry, Le Sueur County

DOW #40010400

MANAGEMENT PLAN DATED JANUARY 16, 2025
SIGNATURE/APPROVAL SHEET

**Stein H.
Innvaer**

Digitally signed by Stein H.
Innvaer
Date: 2025.02.19 16:40:19
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Date _____

Area Wildlife Manager, Stein Innvaer

Joseph Stangel

Digitally signed by Joseph
Stangel
Date: 2025.02.20 08:06:19 -06'00'

Date _____

Regional Wildlife Manager, Joseph Stangel

David Trauba

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Date: 2025.02.20 09:47:09
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Date _____

Wildlife Section Manager, David Trauba

Date _____

Fish & Wildlife Division Director, Kelly Straka