



Lake Wapogasset and Bear Trap Lake Comprehensive Lake Management Plan 2027 - 2036

Introduction

This comprehensive lake management plan (CLMP) guides the activities of the Wapogasset/Bear Trap Lake Improvement Association (Lake Association) and the Lake Wapogasset and Bear Trap Lake Sanitary District (Sanitary District). The plan was originally developed by the Sanitary District and Lake Association and approved by the Wisconsin Department of Natural Resources in 2010. This current, updated plan will be implemented over a ten-year period from 2027 through 2036. The plan was developed with guidance from an advisory committee. A property owner survey also provided input for plan development. A separate Lake Wapogasset and Bear Trap Lake Aquatic Plant Management (APM) Plan guides aquatic plant management and aquatic invasive species prevention and management. The APM plan is slated for update in 2027.

Plan Advisory Committee

Mark Jacobson, Project Coordinator
Cheryl Clemens, Project Consultant
Jim Andersen
Denny Badman
Ryan Caffery
Craig DiLorenzo
Dave Erspamer

Ryan Hanson
George Hauser
Jane Johnson
Ted Loenser
Mike Seidl
Pat Seidl
Mark Tryggestad

Lake Fact Sheets

Plan development was informed by a series of fact sheets which summarize information and recommendations important to lake management. Water quality and watershed studies, supported by grants from the Wisconsin Department of Natural Resources as part of this planning project, are summarized in the fact sheets. Fact sheets available on the Lake Association (<https://www.wbtlakes.com/>) and Sanitary District web sites (<https://wapobear.com/>) include:

Water Quality

Shoreline Erosion

Watershed

Fisheries and Wildlife

Internal Load and Alum

Property Owner Survey 2025

Lake Management Organizations

Action Plan

A more detailed action plan will be developed in a spreadsheet format. The action plan will outline how actions from this CLMP will be carried out over the next three-year period. It will identify responsible parties, partners, timeline, priorities, and funding sources including grants. The action plan will be updated annually.

Adaptive Management Approach

This plan will use adaptive management. The Lake Association and Sanitary District will evaluate and incorporate emerging technologies and new information to refine and adjust management approaches. Minor adjustments to plan actions will be made in the action plan. Significant changes, such as changes in objectives or new actions that require significant investment, will be documented as amendments to the CLMP to be reviewed by the Sanitary District Board and Lake Association Trustees and the Department of Natural Resources. A public review process, which will include an official public notice and a minimum 21-day review period, will occur for plan amendments.

Plan Vision

Wapogasset and Bear Trap Lakes and shoreland areas will be recognized as highly desired living environments and valued natural assets for water based sports, recreation, appreciation of wildlife and natural beauty, and general human enjoyment. The Sanitary District and Lake Association will work cooperatively to better understand and manage the lakes to mitigate degradation of our water resource. We will:

- 1. Work together to enhance the overall health and water quality of the lakes given existing constraints of a large watershed, high residential density, potential for extensive watercraft traffic, and significant phosphorus loading from internal and external sources.*
- 2. Conduct lake management activities in a manner that will limit unintended environmental impacts (Do good – Do no harm). We seek to leave our lakes in better condition than before our lake activities.*
- 3. Foster understanding by lake residents and users as to the ever evolving nature of lake management, the complexity of issues, the status of projects and activities, the costs and benefits of remedial actions, and the opportunity and techniques to reduce or prevent any negative consequences of lake use and lakeside living.*
- 4. Seek the support and partnership of lake area residents, visitors to the lakes, the Towns of Lincoln and Garfield, Polk County, Wisconsin Department of Natural Resources, Federal Environmental Protection Agency, Wisconsin Lakes, University of Wisconsin Extension, private foundations, and other potential partners and benefactors.*

Plan Structure

Goals are broad statements of desired results.

Objectives are the measurable accomplishments toward achieving a goal.

Evaluation measures progress toward plan objectives.

Actions are the steps to accomplish objectives and ultimately goals.

Education Strategies identify audiences, messages, and/or methods for each goal.

Plan Goals

The following goals will guide the Sanitary District and Lake Association lake management efforts for Lake Wapogasset and Bear Trap Lake.

Goal 1. Protect and enhance lake water quality through proactive, science-based watershed and in-lake management.

Goal 2. Protect, restore, and enhance in-lake and shoreline habitats to sustain healthy, diverse fish and wildlife populations.

Goal 3. Support safe, responsible recreation while balancing recreational uses with the lakes' ecological health.

Goal 4. Increase public understanding of lake ecology and management through education, outreach, and community engagement.

Goal 5. Coordinate implementation of the Comprehensive Lake Management Plan with the Aquatic Plant Management Plan to ensure consistent, effective lake stewardship.

Goal 1. Protect and enhance lake water quality through proactive, science-based watershed and in-lake management.

Objectives

Bear Trap Lake

- A. Reach an in-lake average summer phosphorus average concentration of 24 µg/L.
- B. Reduce watershed phosphorus (P) loading by 10% or more from the Bear Trap Lake watershed (8 kg) to reach the above in-lake P concentration.
- C. Reduce internal P load through CLP harvest by 4 kg.

Target from the 2015 Aquatic Plant Management Plan: 15 kg P with 3.75 kg reduction of internal load. Annual harvest from 2017 -2025 reaches this target.

Lake Wapogasset

- D. Reach an in-lake summer phosphorus average concentration of 33 µg/L.
- E. Reduce watershed phosphorus (P) loading by 20% or more from the Lake Wapogasset external sources (454 kg) to reach the above in-lake P concentration.
- F. Reduce internal P load through CLP harvest by 13 kg.

Target from the 2015 Aquatic Plant Management Plan: 50 kg P with 12.5 kg reduction of internal load. Annual harvest from 2017 -2025 = 11 kg.

Goal 1. Water Quality Evaluation Methods	OBJECTIVES (see above)
1. Monitor phosphorus (P), chlorophyll, and Secchi depth and take temperature and oxygen profiles through the WDNR Citizen Lake Monitoring Network.	A and D
2. Track number, location, and P reductions from agricultural practices in cooperation with Polk County Land and Water Resources Department.	E
3. Track number, location, and P reductions from residential conservation practices implementation using available tools (McGinley Shoreland Phosphorus Model, Minnesota MIDs calculator).	B and E
4. Track P reductions from CLP harvest according to methods in the Aquatic Plant Management Plan.	C and F

Agricultural Land Water Quality Actions	OBJECTIVES (prev. page)	PRIORITY
1. Install conservation practices on agricultural lands initially targeting the Friday Creek and Direct Drainage subwatersheds. (OBJECTIVE D and E) (High priority)	D AND E	HIGH
a. Identify potential water quality practices using the results of the Agricultural Conservation Planning Framework.		
b. Identify and contact owners to assess interest and encourage site visits.		
c. Support owner site visits and commitment.		
d. Use existing federal, state, and local programs to encourage implementation through design technical assistance and installation.		
e. Use local lake funds to supplement programs above.		

Waterfront Properties Water Quality Actions	OBJECTIVES (prev. page)	PRIORITY
2. Install conservation practices on agricultural lands initially targeting the Friday Creek and Direct Drainage subwatersheds. (OBJECTIVE D and E) (High priority)	A AND B	MED-HIGH
a. Promote importance and availability of Healthy Lakes assistance and grants.		
b. Visit with interested property owners and seek participation in Healthy Lakes projects.		
c. Seek and administer grant funding to support Healthy Lakes projects.		
d. Coordinate installation of Healthy Lakes Projects.		
e. Support landscape contractor knowledge and promotion of Healthy Lakes practices and projects and state and local permitting requirements.		
f. Identify projects that may require technical and financial assistance beyond the scope of Healthy Lakes.		
g. Seek qualified technical assistance and grant funding to support more complex projects.		

Additional Water Quality Actions	OBJECTIVES (prev. page)	PRIORITY
3. Maintain and upgrade the sewer system and wastewater treatment plant according to WDNR permit requirements.	A and D	HIGH
4. Inspect and work with landowners to maintain previously installed conservation practices.	A, B, D and E	MEDIUM
5. Consider purchasing or putting deed restrictions on land that provides opportunities for conservation practices or that contributes, or has the potential to contribute, significant nutrients to the lakes.	D and E	MEDIUM
6. Consider an alum treatment pending results of external load reductions.	A and D	LOW

Water Quality Education Strategy

Key Audiences

Lake residents

Landscapers

Messages

- Bear Trap water quality is most influenced by runoff from waterfront property. It contributes 65% of the phosphorus that enters the lake.
- Nutrients that enter Bear Trap Lake remain in the lake longer than in Lake Wapogasset. Bear Trap Lake has a retention time of 4 years. That means water recirculates every 4 years.
- Healthy Lakes practices can reduce runoff and therefore phosphorus loading from waterfront properties to reduce algae blooms and improve water quality.
- Lake Wapogasset lake water recirculates every 6 months. Its water quality is most influenced by water entering the lake from Friday Creek and the Balsam Branch.
- If you fertilize your lawn, use zero phosphorus fertilizer – it's the law.
- Do not blow grass and leaves into the lake.
- Burning leaves is illegal and creates nuisances for your lake neighbors.

Unique Methods (also see Goal 4)

How-to guides

Lake steward award program

Score-your-shore survey (DNR on-line survey)

Site evaluation day for waterfront properties (Polk County staff)

Healthy Lakes signs and project descriptions

Goal 2. Protect, restore, and enhance in-lake and shoreline habitats to sustain healthy, diverse fish and wildlife populations.

Objectives

- A. Restore and protect natural vegetation along lake shorelines and in the water.
- B. Reduce sedimentation from shoreline erosion and runoff.
- C. Homeowners protect and restore important wildlife habitat elements.
 - Standing snags and dead trees
 - Woody debris in the water
 - Aquatic vegetation, especially emergent and floating
 - Wetlands and vernal pools
 - Nest boxes
 - Sensitive areas
- D. Reduce the use of lead tackle, insecticides, and poisons. Do not use fertilizers with phosphorus or cleaning supplies that can runoff into the lakes.

Goal 2. Habitat Evaluation Methods	OBJECTIVES (see above)
1. Number of habitat-related Healthy Lakes practices installed.	A and B
2. Shoreland Habitat Assessment results. (DNR-version or locally sponsored less intensive assessment.)	A, B and C
3. Gravel bed sensitive area re-assessments.	B and C

Habitat Actions	OBJECTIVES (prev. page)	PRIORITY
1. Continue to provide technical and financial assistance through the Healthy Lakes Program. Native plantings and fish stick installations directly support near shore habitat. Practices to reduce runoff improve habitat by reducing sedimentation.	A, B and C	MED- HIGH

Habitat Actions (continued)	OBJECTIVES (prev. page)	PRIORITY
2. Target reduction of sediment from shoreline erosion and runoff on shorelands adjacent to gravel bed sensitive areas (fish habitat). 1. Re-assess gravel-bed sensitive areas (B, C, D, and G) to determine current condition and potential for restoration. Identify additional gravel bed areas. 2. Seek enhanced technical assistance for shoreline stabilization in target areas. Emphasize the use of native vegetation.	B	MED- HIGH
3. Provide coordinated planting or practice installation assistance. Use YMCA Camp Icaghowan and Lake Wapogasset Lutheran Bible Camp volunteers where feasible.	A and B	MED- HIGH
4. Sponsor technical assistance tours of targeted areas.	A and B	MEDIUM

Habitat Education Strategy

Messages

- Water quality and habitat importance of Healthy Lakes Practices.
 - Best practices when developing, remodeling, or landscaping: county shoreland zoning and DNR permitting process and requirements, construction site erosion control, stormwater management, habitat protection.
 - Roles and responsibilities of the Sanitary District and Lake Association.
 - How homeowners can protect and restore important habitat elements.
 - Native vegetation is critical for wildlife habitat.
 - Native vegetation along the shoreline can discourage Canada geese from using your shoreline.
 - Use the Score-Your-Shore on-line tool to assess your property for potential habitat improvements.
 - Tips for addressing shoreline erosion caused by beavers and muskrats.
 - Manage your wake to reduce shoreline erosion.
 - Boating in shallow water can uproot native vegetation and disturb and destroy important fish and wildlife habitat.
 - If you live adjacent to areas of emergent and floating leaf vegetation (as identified in 2026 aquatic plant point intercept survey), please make an effort to preserve and protect these areas for habitat benefits.
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Goal 3. Support safe, responsible recreation while balancing recreational uses with the lakes' ecological health.

Objectives

- A. Watercraft users practice safe navigation.
- B. Shallow water hazards and no-wake zones are identified.
- C. Potential negative recreational impacts are mitigated.

Recreation Actions	OBJECTIVES (see above)	PRIORITY
1. Educate boaters of safe, courteous boating practices.	A and C	HIGH
2. Maintain buoys to identify shallow water and no-wake zones.	A and B	MED-HIGH
3. Encourage increased boat patrol and enforcement by WDNR and/or Polk County Sheriff.	A and C	MEDIUM

Recreation Education Strategy

Messages

- Information about lake levels
- Describe why buoys are installed and where they are located.
- Do not drive your boat while under the influence.
- There are limited areas of the lake where wake sports can be practiced safely with minimal disturbance to aquatic habitats and sediment. Follow recommended distance from shore and depths.
- Stirring up sediment when boating in shallow water can negatively impact water quality.
- Wake sports can negatively impact other recreational uses such as motorized and non-motorized boating, fishing, and swimming.
- Disturbance of aquatic vegetation from boating close to shore can negatively impact fish and wildlife habitat. Boat beyond the weed line whenever possible.
- Take care not to disturb birds and wildlife while enjoying recreational activities on the lake.
- Observing slow-no-wake speeds helps ensure safety for everyone around the lake. It is illegal in Wisconsin to:
 - Operate a motorboat within 100 feet of any shoreline, swimmer, dock, raft, pier, or restricted area on any lake at greater than “slow, no wake speed.”
 - Operate a PWC at greater than “slow, no wake speed” within 200 feet of shoreline, and within 100 feet of swimmer, docks, raft, piers or restricted areas.

Unique Methods (also see Goal 4)

- Distribute WBT wake boat zone map (including by CBCW staff and at annual Lake Association social) and share boating viewer app. **(OBJECTIVE A and C) (High priority)**
- Share DNR boater safety handbook. **(OBJ A and C) (Medium priority)**
- Use portable digital signs to share boating enforcement messages. **(OBJ A and C) (Medium priority)**
- Encourage development of boating safety video by Polk County LWRD and Sheriff's Department. **(OBJ A) (Medium priority)**
- Request and share boating citations. **(OBJ A) (Medium-low priority)**

Goal 4. Increase public understanding of lake ecology and management through education, outreach, and community engagement.

Objectives

- A. Engage lake owners in understanding lake concerns and motivate them to use best practices.
- B. Address the challenges of effectively reaching weekend and part-time lake residents.
- C. Deliver lake management messages using most effective methods at appropriate times.
- D. Balance aesthetic preferences with water quality and habitat goals.
- E. Owners understand the lake management plan and how to become involved in implementation.

Existing Communication Methods

The Sanitary District has a web site (<https://wapobear.com/>) and has regular contact with residents through permitting and billing for the sanitary sewer system.

The Lake Association has a well-established system for communication and a committee that guides it.

Ongoing Lake Association Communication Methods

- Lake Scene Newsletter(summer months)
- Website: <https://www.wbtlakes.com/>
- Annual meeting presentations
- Trustee meeting presentations and information distribution
- Social media: Facebook, Instagram

Goal 2. Outreach Evaluation Methods		OBJECTIVES (see above)
1. Evaluate landowner knowledge of key CLMP messages with occasional surveys.		ALL
2. Track participation in education and outreach events.		ALL

Outreach Actions	OBJECTIVES (prev. page)	PRIORITY
1. Continue existing Lake Association and Sanitary District communication methods. a. Troubleshoot issues with Trustee information distribution.	ALL	HIGH
2. Create a communications plan to deliver lake management messages. (High priority) a. Identify talking points for Trustees b. Specify timing and triggers for message delivery. Targets might include permit issuance; seasonality for landscaping, boat removal, following large storm events; etc. Targets might also be based on location or site conditions. c. Repeat delivery of important messages using a variety of methods. Identify methods to be used. d. Identify specific audiences for targeted messages.	ALL	HIGH
3. Distribute information when Sanitary District permits are issued and/or account owners change.	ALL	MED-HIGH
4. Recognize owners to encourage best practice implementation. Acknowledgement might be in the form of volunteer awards, signs, or lawn markers. Accompany awards with e-news releases or newsletter articles.	ALL	MEDIUM

Additional Opportunities for Outreach

5. Membership form **(Medium-high priority)**
6. Lake directory (limited space available) **(Medium-high priority)**
7. Welcome packet – tools for identifying new owners include Polk County Beacon GIS system, new Sanitary District accounts. It is a challenge to select best info and not overwhelm with too much information **(Medium priority)**
8. Workshops **(Medium priority)**
9. Lake tours/social gatherings **(Medium priority)**
10. U-tube videos posted on social media and web sites **(Medium priority)**
11. Notices/ads in bars/restaurants. **(Medium-low priority)**
12. Podcasts **(Medium-low priority)**

Goal 5. Coordinate implementation of the Comprehensive Lake Management Plan with the Aquatic Plant Management Plan to ensure consistent, effective lake stewardship.

An aquatic plant point intercept survey is underway in 2026.

The Aquatic Plant Management Plan will be updated in 2027.