

Prairieville Creek Watershed Conservation Plan



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Introduction

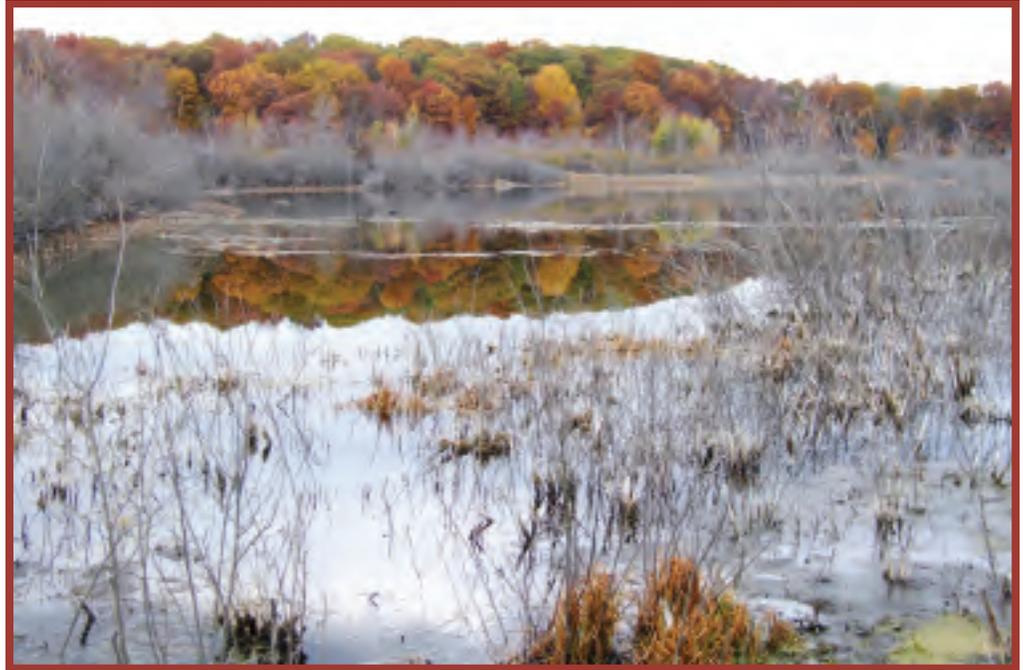
Protecting the water quality of Gull Lake and the value of the surrounding property depends heavily on conserving and managing the **Prairieville Creek Watershed**. Prairieville Creek is a small creek at the north end of Gull Lake. The Southwest Michigan Land Conservancy (SWMLC) led a planning team to analyze this critical resource. The planning team determined that a comprehensive conservation approach of land protection and landowner participation will protect this watershed and ensure its long-term health.

Prairieville Creek and Its Watershed

The Prairieville Creek Watershed is located in Prairieville Township at the southern end of Barry County. The two-mile-long creek originates as a series of large springs and seeps in a mixture of marsh and prairie fen (an alkaline wetland). It flows into the six-acre Mud Lake and forested creek corridor before emptying into the north end of Gull Lake at Prairieville Township Park.

Prairieville Creek is the primary tributary and significant contributor of water into Gull Lake. The creek's annual volume represents 60% of the total stream inflow into Gull Lake, supplying about 21% of the lake's annual water.

Prairieville Creek has an extraordinarily high rate of groundwater discharge, which produces very stable and consistent water flow and temperature. Emerging groundwater averages 50°F all year, so the creek never freezes for



*This scenic view is the Mud Lake area of Prairieville Creek, looking west.
Photo by Peter Ter Louw.*

more than a few days. As a result, Mud Lake and the creek corridor feed and shelter large numbers of both game and non-game wildlife species and offer regionally significant wildlife habitat during very cold or very dry periods. And Prairieville Creek is the only cold-water fish-spawning area for Gull Lake, potentially supporting the spawning of rainbow trout, Atlantic salmon, northern pike, smelt, and several species of suckers.

Historically, the water quality was so pristine, people would not hesitate to drink from the creek. Today, the water quality is still relatively high, and SWMLC would like to ensure it stays high for future generations.

Protecting Critical Conservation Areas

The watershed contains three conservation areas which will be the focus for protection: the **headwaters prairie fen and springs** (north of Hickory Road), the **Mud Lake area**, including surrounding wetlands, and the **lower creek corridor**, including the riparian (riverbank) area. Within these areas, SWMLC will target the protection of water quality, water quantity (surface and groundwater), and wildlife habitat.

If these key conservation targets are degraded, the ecological and biological health of the watershed will severely diminish. SWMLC has identified the greatest threats to these targets: residential development (which reduces groundwater recharge and pollutes the

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water), harmful agricultural practices (which pollute water), and invasive plant species (which alter wetland hydrology and composition of plant communities).

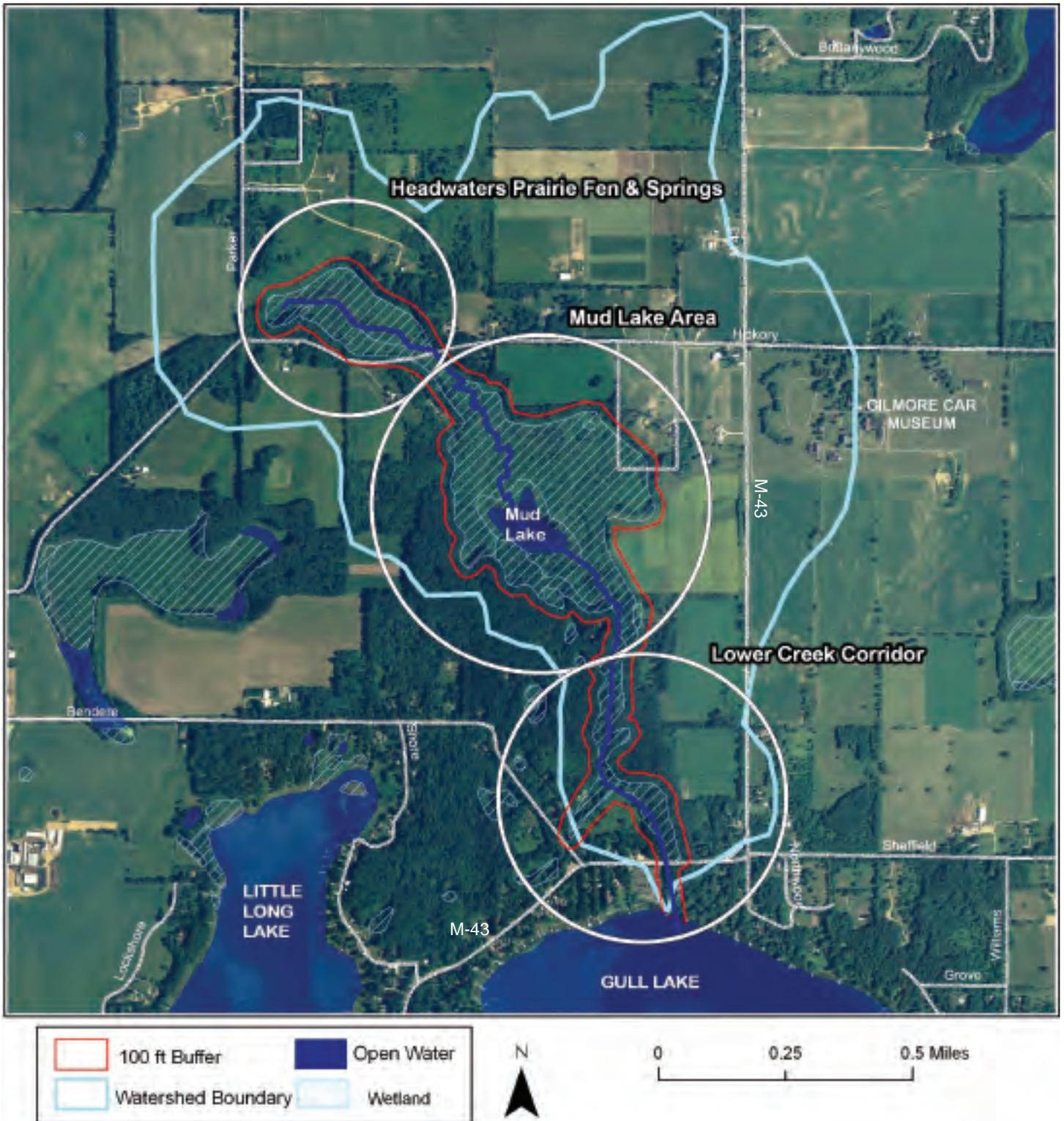
In order to mitigate the threats and protect the water quality, water quantity, and wildlife habitat, SWMLC and the planning team developed nine action steps within the three conservation areas (headwaters prairie fen and springs, Mud Lake area, and lower creek corridor). The key component for protecting these three areas is the conservation and management of the creek corridor and wetlands, and the creation of a 100-foot buffer surrounding this area. The chart below lists the action steps that SWMLC and the planning team will implement to protect the Prairieville Creek Watershed.



This prairie fen contains numerous seeps and springs which supply groundwater to the creek and provide critical waterfowl habitat. Photo by Peter Ter Louw.

Conservation Strategies	
Conservation Areas	Action Steps
Headwaters Prairie Fen and Springs	<ol style="list-style-type: none"> 1. Protect land along Hickory Road through purchase. 2. Work with Consumers Energy on management of their utility corridor. 3. Reach out to landowners on the east edge of the fen regarding low-impact ways to manage their property.
Mud Lake Area	<ol style="list-style-type: none"> 4. Protect property around Mud Lake with conservation easements which restrict development while remaining private property. 5. Work with landowners to eradicate invasive species, especially common buckthorn (<i>Rhamnus cathartica</i>). 6. Educate riparian and upland area property owners in forestry, agricultural, and grassland best management practices.
Lower Creek Corridor	<ol style="list-style-type: none"> 7. Work with landowners in protecting undeveloped parcels along the eastern edge of Prairieville Creek. 8. Encourage landowners to create and improve in-stream and stream-bank habitat to enhance the cold-water fishery. 9. Reach out to landowners about Prairieville Creek's valuable natural resources in this highly residential area.

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Map created by Emily Wilke

Prairieville Creek Watershed Conservation Planning Team

Although we have used our name, *SWMLC*, throughout this document, we were part of a planning team which was assembled to assess the quality and condition of the Prairieville Creek Watershed. The entire planning team provided guidance on maintaining and restoring water quality, water quantity, and wildlife habitat within the watershed.

The planning team consisted of:

- Barry Conservation District
- Four Townships Water Resources Council
- Gull Lake Quality Organization
- Kalamazoo River Watershed Council
- Michigan State University Extension Services
- Michigan State University Kellogg Biological Station
- Southwest Michigan Land Conservancy

SWMLC is grateful to these organizations for partnering with us in our analysis and planning efforts. Their assistance and the information they provided will form an integral part of our work as we move forward to accomplish our goal to protect the Prairieville Creek Watershed.

To learn more or to support our efforts, call the SWMLC office at (269) 324-1600.



This photo is of the lower creek corridor of Prairieville Creek, just north of M-43 before it empties into Gull Lake. Although the water here is clear, this view shows damage by erosion and sedimentation.

Photo by Peter Ter Louw.

SWMLC is grateful to the Kalamazoo Community Foundation's Sustainable Community Watershed Endowment Fund for supporting the development of the collaborative conservation plan for the Prairieville Creek Watershed.



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