LPR Watershed Enhancement Project Update

July 2018 – June 2020

Dear Village of Plover Residents and Neighbors,

It's been two years since we first shared information about the goals of the Little Plover River Watershed Enhancement Project (LPRWEP) and our Phase 1 plans for water conservation and hydrologic restoration. I'm excited to share updates on what we've achieved so far and where we're headed next.

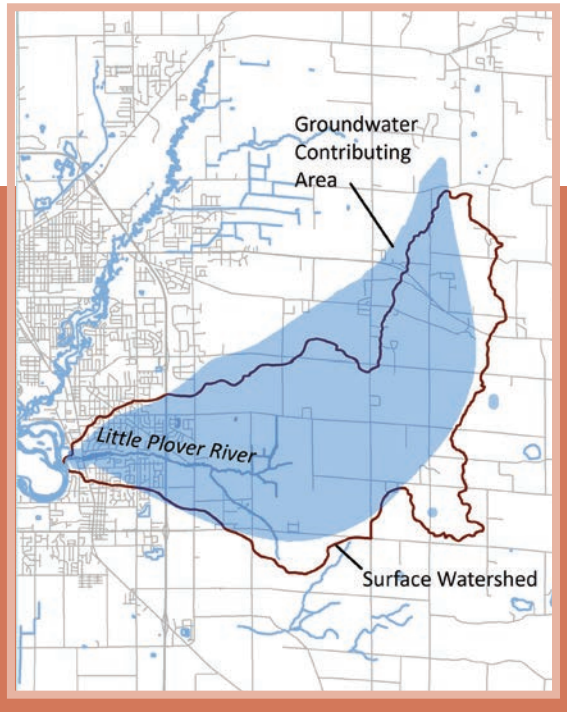
The work to date has been diverse and strategic. The Village purchased new equipment and launched an aggressive effort to detect and repair water supply leaks. With our partners, we've filled drainage ditches, restored wetlands, reconnected floodplains, and more. We accomplished river corridor improvements thanks to hundreds of volunteer labor hours by local conservation clubs and students and professors at UW - Stevens Point. Every action represents incremental improvements toward our goals to improve river condition and flow, local recreational opportunities, and watershed health.

You'll find more on these efforts and expected benefits on pages 2-3 of this update. On page 4, you can learn more about our Phase 2 efforts, which will emphasize the installation of on-farm water conservation practices and additional floodplain restoration and channel improvement work.

Although we still have a long way to go, we're off to a great start. The stretches of river where we've completed work are looking healthier than we've seen in years, and we've definitely improved conditions for trout. We are grateful to the many agencies, organizations, and volunteers who have provided ideas, funding, and labor to support this work.

We look forward to showing you first-hand when we can convene again safely.

Dan Mahoney
Village Administrator



PROJECT GOALS

- Increase the flow and improve the aquatic health of the Little Plover River.
- Implement voluntary water management projects that improve the health of the Little Plover River Watershed.
- Improve and expand fish and wildlife habitat and public recreation opportunities and access.

Restoration Progress

Simple practices are helping to narrow and deepen the river and reconnect the floodplain.

#1 Channel Improvements & Floodplain Reconnection

ACTIONS:

- Cleared 23 acres of invasive buckthorn and other woody vegetation from floodplain.
- Bundled and anchored brush to banks in channel.
- Planted deep-rooted grasses and sedges along banks.

RESPONSE/BENEFITS:

- Improved fish habitat: Narrowed channel from 35' to 6'; deepened channel from 1' to 3'; re-established gravel beds along restored reaches.
- Provided more stable flows and banks by reconnecting channel and floodplain.
- Established a living laboratory to help UW-Stevens Point (UWSP) students study and practice river and wetland restoration and management.

#2 Restoration of Public Lands

ACTIONS:

- Retired 105 acres of irrigated cropland.
- Restored 73 acres of native prairie and established two wetlands.
- Managed 127 acres of forest/shrub to support the restoration of oak woodland, pine barren, savannah, riparian, and wet forest habitat.

RESPONSE/BENEFITS:

- Reduced pumping in two high capacity wells by 57%.
- Improved flood attenuation and summer baseflow by increasing recharge and infiltration of upstream runoff.
- Increased hunting, fishing, recreation, and outdoor education access for local residents and students.

UWSP faculty and students and local conservation clubs provided labor for channel improvement and forest management work.

3 On-Farm Water Conservation Practices

ACTIONS:

- Obligated approximately $150,000 in dedicated NRCS project funding with another $55,000 in contracts pending for work with six producers.
- Installed or planned irrigation pivot upgrades and other water management improvements on ~ 210 acres.
- Converted 68 acres of cropland to permanent grass pasture.
- Initiated planning for water conservation projects on additional farms.

Removing a well and filling a large drainage ditch helped return flow to a nearly 1-mile headwater reach.

Signs at LPRWEP restoration sites draw community attention to the project and provide recognition to financial sponsors.

RESPONSE/BENEFITS:

- Increased groundwater infiltration on significant acreage directly adjacent to the Little Plover River.
- Produced water savings of 9-19% per project through irrigation upgrades.
- Increased voluntary installation of water conservation practices by agricultural landowners throughout the watershed.

#4 Return of Diverted Flow and Wetland Restoration (Headwaters Restoration)

ACTIONS:

- Retired 58 acres of irrigated cropland and restored it to wetland and prairie habitats.
- Filled approximately 3,600 ft of drainage ditches.
- Protected headwater spring and channel area (17 acres).

RESPONSE/BENEFITS:

- Returned 1.5 – 2 cfs to approximately 1 mile of the headwaters of the river.
- Provided more complex habitat for trout and increased refugia during periods of low flow.
- Delayed groundwater drainage from property and slightly increased summer low flows downstream.
- Attracted wetland-dependent waterfowl, migratory birds, and other wildlife.

#5 Village of Plover Water Service System Leak Detection & Repair

ACTIONS:

- Invested $10,800 to procure leak detection technology.
- Identified and repaired 15 residential water service leaks to date.
- Established permanent leak detection protocols to catch and address leaks continuously as the system ages.
- During dry summers, shifted additional pumping to a well further from the river.

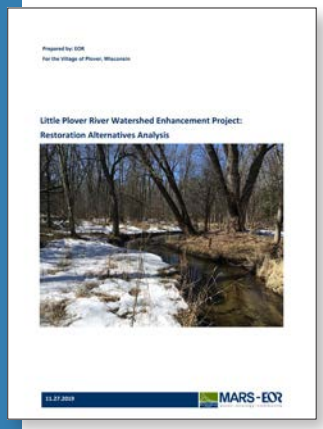
RESPONSE/BENEFITS:

- Reduced combined average daily pumping of 3 wells in close proximity to the Little Plover River by ~344,000 gallons per day over a 12-month period.
- Saved >122 million gallons of groundwater per year.
- Extended the residential water delivery system's life and reduced annual power and chemical water treatment expenses by >$50,000 per year.

Photos by WI Wetlands Association and UWSP

Setting and Achieving Goals

A Restoration Alternatives Analysis prepared by our engineering partners at EOR informs LPRWEP priorities. EOR staff worked with the Project Team and research and management partners to identify the streamflow and temperature targets needed to sustain fish and aquatic life during even the driest years. We set an initial goal to increase summer streamflow by one cubic foot per second (cfs) based on this information. Collaborators agreed that habitat restoration and management actions will also be needed to meet project goals.



Using tools including a computer model of groundwater flow to the river developed by state and federal experts, EOR evaluated various additional voluntary water conservation actions. The report estimates the effect of these actions on flow and describes ways the actions may further improve temperature and other habitat conditions. Actions evaluated included, but were not limited to, municipal and agricultural water use reduction, water system leak detection, irrigation well retirement, ditch fills, wetland restoration, and other on-farm water conservation activities to capture runoff and increase groundwater infiltration.

The partnership is closely monitoring individual and cumulative effects of all water conservation and restoration actions and will report these when sufficient data are available.

New Investments & Next Steps

The LPRWEP continues to enjoy strong community and public-sector support. Since our last update, this includes new funding from the US Environmental Protection Agency, the WDNR River Grants Program, and the Wisconsin Potato and Vegetable Growers Association.

Priorities for Phase 2 planning, restoration, and outreach work include:

1. Continued channel improvement and floodplain reconnection.
2. Collaboration with prioritized clusters of agricultural landowners to examine combined effects of irrigation activities on flow; establish shared water conservation goals; and support identification, design, and implementation of beneficial on-farm practices.
3. Sharing project methods and results and exploring opportunities to replicate the LPRWEP restoration and community engagement approach in other Central Wisconsin communities.

LPRWEP Project Management Team

EOR water ecology community

Wisconsin Wetlands Association

Home Grown Wisconsin Potatoes

Wisconsin Dept. of Natural Resources

Wisconsin Wildlife Federation

Portage County 1842 The Heart of Wisconsin

Plover Wisconsin