DEPARTMENT OF NATURAL RESOURCES

Lac qui Parle River Floodway near Canby, MN

Background

- Historic crossover flooding from the Lac qui Parle River to Spring Creek (Yellow Medicine River watershed) led to development of a project designed to convey excess floodwater down an artificial floodway while maintaining all other flows in the natural river channel.
- On 8/5/1976 the DNR issued a permit to the Yellow Medicine County Board of Commissioners authorizing construction of the Lac qui Parle River Floodway.
- By 1981 it was observed that nearly all flows were being diverted through the floodway, leaving the natural river channel dry because it was clogged with sediment.
- In the mid-1990s sediment was excavated from the upper end of the original channel to restore its function.

Existing Conditions

- The project is not functioning as intended, due to continued sedimentation. Recent flooding has caused significant erosion and damage to the floodway, requiring many locations to be stabilized.
- Local landowners and public officials want to restore the floodway's intended function—to only convey flows above the 2 year flood event.
- DNR surveys in fall 2019 found approximately 1.5-2.5 feet of sediment accumulation throughout the entire original river channel. The deepest sediment areas were at the beginning, end, and upstream of where beaver dams were present.

Photo showing the existing Lac qui Parle River flowing from left to right towards the floodway. The abandoned natural channel is much narrower from sediment accumulation.

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Impairment Status

- The reach of Lac qui Parle River near the floodway is impaired for aquatic life (fish and macroinvertebrate bioassessments) and aquatic recreation (turbidity and bacteria).
- Sediment impairments have been attributed to upland and streambank erosion, channelization of natural streams, and increased flooding from land use and climate changes.
- The Lac qui Parle River Watershed Restoration and Protection Strategies (WRAPS) draft document specified a ten-year goal of 10% reduction in sediment contributions and 15% increase in habitat scores.

Stream Crossings

- There are three public crossings and one private crossing on the historic channel. Only one crossing has the required span (~30-40 feet) to pass unrestricted bankfull flows of the Lac qui Parle River. The other three crossings range from four to eleven feet of span.
- All of the crossings are set too high and will need to be lowered to allow sediment transport.

An example of one crossing in the historic channel that is undersized and set too high for water and sediment transport.

Restoration Benefits

- When the floodway became the active river channel, the length of the channel was reduced from 4.57 miles to 1.18 miles. This sharp reduction in stream length drastically increased the slope of the river, reduced habitat complexity, and created a barrier to fish migration at most flows.
- Restoring flow to the historic channel will increase riffle and pool diversity, decrease slope and stream power, and allow perennial fish migration to upstream habitats. Increased temporary storage of flood flows will also reduce downstream flooding.

Location of the proposed restoration of the Lac qui Parle River near Canby.
T: 115N R: 44W S: 14, 15, 22, and 23

Need for Engineering

While DNR staff can help with technical assistance, a project of this magnitude needs proper engineering to ensure success. The floodway diversion structure also needs re-engineered to ensure the project functions as intended.

Have Questions? Contact us!

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