

North Br. Platte River & Gudemoos Rd Improvement Project

Platte River Watershed

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Conservation
Resource Alliance

Telephone: 231-946-6817

www.rivercare.org

Email: info@rivercare.org



The Platte River is a State designated Blue Ribbon Trout Stream and a tributary to Lake Michigan in the Sleeping Bear Dunes National Lakeshore. It includes 90.5 miles of stream and tributaries. The *Platte River Watershed Management Plan* identifies sediments, nutrients, temperature and altered hydrology as top concerns, and highlights the importance of restoring headwaters areas and the native brook trout habitats and populations. The North Branch of the Platte River is the largest tributary to the Platte River and consists of natural cold groundwater flow creating ideal habitat conditions for brook trout and other sensitive species.

The Platte River Watershed has over 100 road/stream crossings and site #PLT-P-4 is where Gudemoos Road crosses the North Branch of the Platte River. The existing 3.5' diameter boiler plate pipe was set above the stream bottom and was undersized causing stream velocities to approach 6 feet per second whereas nearby riffle measurements were only 1.1 feet per second. Project partners designed and completed the installation of a 10.7' w x 7' rise pipe arch. The new structure accommodates the natural stream channel and allows the natural movement of substrate, fish and wildlife. In addition, stream-bank stabilization 300 feet downstream was incorporated where the stream runs parallel to the roadway.

Project Cost: \$50,000

Project In-Kind Match: \$2,500

Contributors:

- National Fish & Wildlife Foundation-Sustain Our great Lakes Program
- USDA-Natural Resources Conservation Service (NRCS) & Grand Traverse Band – Environmental Quality Incentives Program (EQIP)
- Benzie County Road Commission

Partners involved:

Conservation Resource Alliance, USDA-Natural Resources Conservation Service (NRCS), Grand Traverse Band of Ottawa and Chippewa Indians, Benzie County Road Commission, Michigan Department of Environmental Quality, Michigan Department of Natural Resources – Fisheries Division, AJ's Excavating.

Location:

Platte Twp., Section 29,
Benzie County, MI
N 44.71439°
W -86.01999°



Best Management Practices:

- 10.7' wide by 7' rise pipe arch installed over the North Branch of the Platte River
- Re-align culvert to follow stream
- Fieldstone placement for slope stabilization (5 cu. yd.)
- Grading & re-vegetation of disturbed areas
- Stabilized downstream bank running along roadway with natural fieldstone

Project Benefits:

- Restore natural movement of woody debris and sediment upstream & downstream
- Halt up to 2 tons of sediment into stream from roadbed
- Reduced flooding potential & annual road maintenance
- Reduced water velocities to natural flow rates, providing passage for all aquatic species at all life stages & stream flows
- Ensure safe roadway for vehicle traffic

Site Photos

Before – an undersized boilerplate culvert caused pooling at both the inlet and outlet.



After – a recessed 10.5' wide arch culvert now sufficiently accommodates the North Branch of the Platte River.



Before- cracks in the road embankment were evidence of it slumping and becoming undermined where the stream flows alongside.



After – fieldstone placed underneath and at the toe of the bank now prevents further erosion and embankment failure.

