

Abandoned Railroad Grade Culvert Collapse on Nebagamon Creek

Severe longstanding threat to the health Bois Brule River fishery

- The South Shore Railroad abandoned operation in the late 1800s or early 1900s.
- Nebagamon Creek passes through a concrete culvert in this rail grade (Figure 1).
- The issue regarding the collapse first surfaced in 1992.
- The Wisconsin National Guard Unit removed some of the downstream fallen wing wall for the town of Brule in 1993.
- The town of Brule legally abandoned the right-of-way along the grade in 1994.
- In the late fall of 2009, a local resident of the area noted that the downstream concrete wing- walls had further collapsed into the stream, backing up water for a considerable distance upstream.
- He contacted DNR fisheries staff and a biologist visited the site to document the concern.
- Fisheries staff photographed the scene and reported this issue to the local DNR water regulatory specialist.
- Figure 2 illustrates the very high grade and the collapsed wing-walls with grade erosion beginning to take place.
- Figure 3 shows a close-up of the wing-walls lying in the outflow.
- Figure 4 shows the upstream end of the culvert with backed up water reducing the flow capacity of the culvert by about one-half.
- Although this issue was first noted in 2009, it has been brought to our attention that nothing has been resolved.
- The holdup in resolving this issue, according to the local DNR staff, had been discovering a responsible party or landowner of the portion of the abandoned grade at the Nebagamon Creek crossing.
- Action needs to be taken as soon as possible before the following expected scenario occurs:
 - ✓ Culvert collapses and streamflow potentially becomes blocked completely.
 - ✓ Nebagamon creek, which drains about 28 square miles and carries on average about 16 cubic feet of water second, backs up very quickly.
 - ✓ The grade then acts as a dam and fills the entire valley upstream to a point where the grade either collapses or is eventually overtopped and washed away.
- The extent of the threat to the Bois Brule depends on how much water is impounded upstream and how quickly that impounded water washes away the grade.
- A catastrophic failure would create the largest flood that the Nebagamon Creek valley has ever experienced.
- The flood would quickly erode a larger stream channel by washing away the sand laden stream banks and at many points along the way from there to the Brule and would cause severe erosion and collapse of the sandy valley walls.
- The flood would wash away the Afterhours Road crossing.
- Besides the water volume dumping into the Bois Brule, an even larger concern is the huge volume of sand that would create an extremely large sand slug.
- This sand slug would be a major threat to the trout fishery of the Brule as it slowly creeps downstream.
- This sand slug might take decades to move down the river before it reaches Lake Superior.
- As the sand slug moves, it would fill holes, cause channel widening (bank erosion) and sequentially bury trout habitat and destroy spawning areas.
- The trout population of Wisconsin's premier trout stream would be severely reduced until sand slug moves out of the Bois Brule.

This potential threat must be eliminated as soon as possible! The Brule Sportsmen's Club board suspects that if a landowner or responsible party has not been identified yet, we may need to take other action. We may need to seek private or state funding to remove the grade. The Brule Sportsmen's Club moved to seek immediate attention to this Bois Brule River fishery threat at the October 27th, 2014 meeting.

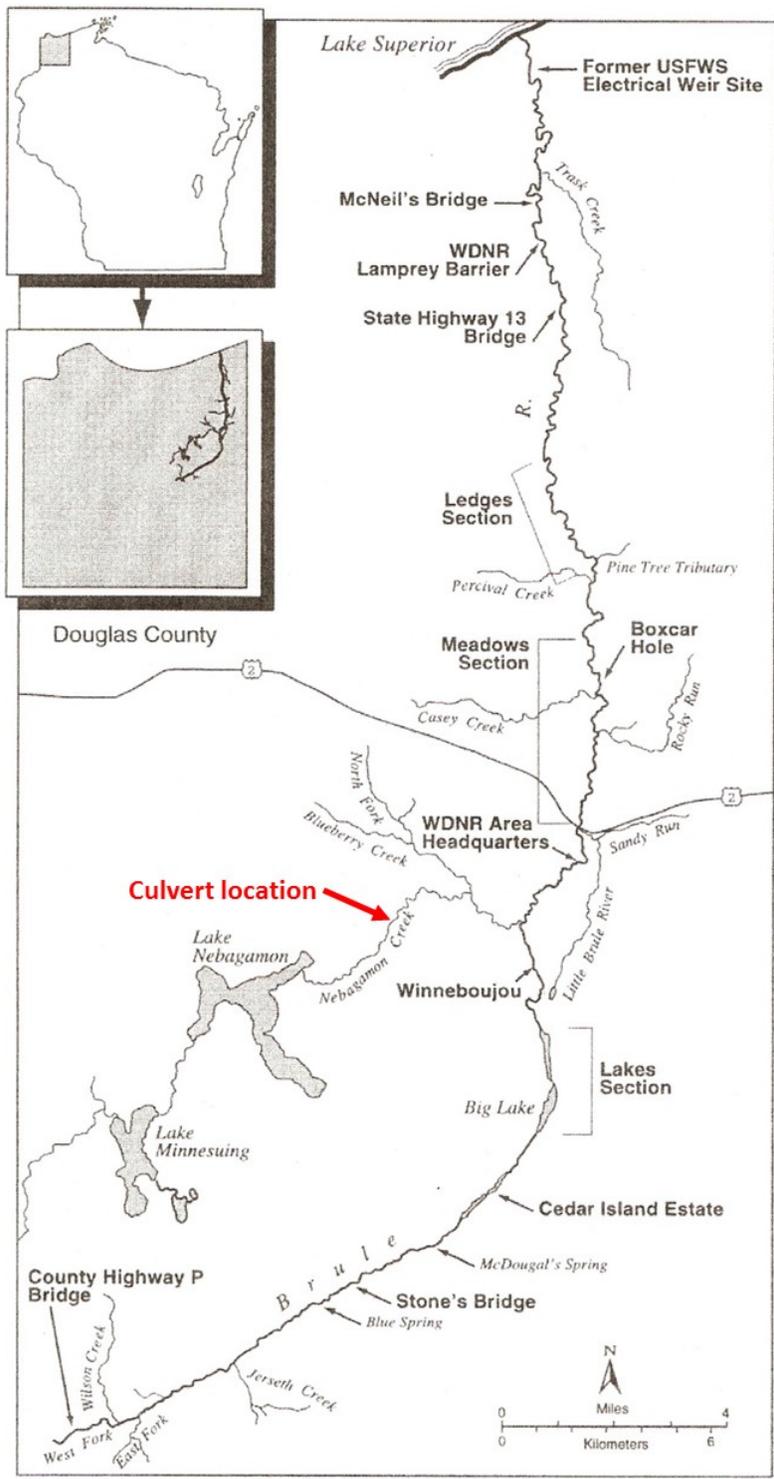


Figure 1. Location of collapsing culvert on Nebagamon Creek at South Shore Rail Grade.



Figure 2. Wing-wall collapse at downstream side of culvert (Also note erosion of grade).



Figure 3. Close-up showing wing-walls entirely collapsed into stream.



Figure 4. Culvert impounding water on upstream side of culvert.