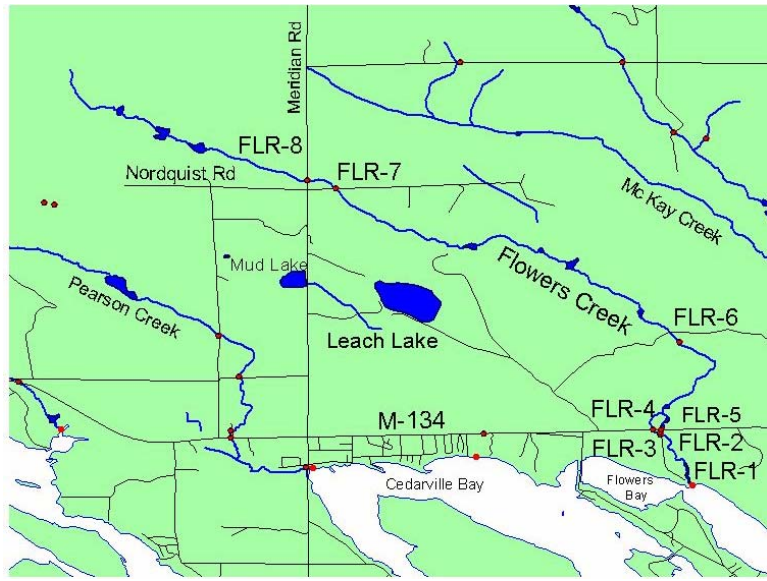


Flowers Creek

at Snowmobile Trail Crossing
FLR-6



Upstream



Downstream



Flowers Creek

at Snowmobile Trail Crossing
FLR-6

Flowers Creek at Snowmobile Trail Crossing

Site I.D.: FLR-6

GPS Coordinates: N 46.01043
W 84.31955

Township: Clark

County: Mackinac

Adjacent Landowners: Private

Road Information

Jurisdiction: Private

Surface: Gravel/sand

Width at Crossing: 9 feet

Maintenance: Seasonal

Low point: At stream

Drainage Control Features: None

Approach Length: Left: 200 feet
Right: 100 feet

Slope: Left: 0-5 percent
Right: 0-5 percent

Ditch/shoulder vegetation: Left: Heavy
Right: Heavy

Average Width of Grade: 9 feet

Runoff Path: Stream

Stream Characteristics

Average Width: Upstream: 15 feet
Downstream: 10 feet

Average Depth: Upstream: Dry—summer
Downstream: Dry—summer

Average Current: Upstream: Seasonal
Downstream: Seasonal

Substrate Type: Upstream: Bldrs/cobble/grav
Downstream: Bldrs/cobble/grav

Adjacent Wetlands: No

Visible Down Cutting: No

Culvert Information

Culvert Type: Wood bridge

Length: 23 feet

Diameter: 13 feet

Material: Wood

Condition: Good

Culvert Flow: None

Fish Passage Problem: Yes, karst

Fill Depth: Inlet: N/A
Outlet: N/A

Embankment Slopes: Inlet: >3:1
Outlet: >3:1

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Conditions and Treatment

Erosion Conditions

- Embankment erosion
- Culvert outlet erosion
- Pool formation
- Sand/soil over bridge

Recommended Treatment

- Lengthen bridge
- Raise approaches and bridge
- Stabilize embankments
- Stabilize approaches

Erosion Severity Rating: Moderate (17)

Overall Condition Rating: Severe

Cost: See BMP Cost Tables

Comments: During heavy stream flow periods such as the spring thaw, water flows around the ends of the bridge and washes away the trail at the foot of the bridge. The base of the structure is very close to the stream bed. To correct this problem, the bridge should be lengthened and raised above the creek. Measures should be taken to stabilize the embankment and the approaches. Sediment load has been calculated as 1 ft wide x 9 ft long x .05 ft/yr x 0.055 tons/cu.ft = .0248 tons/yr.



Eroded approach to the bridge.