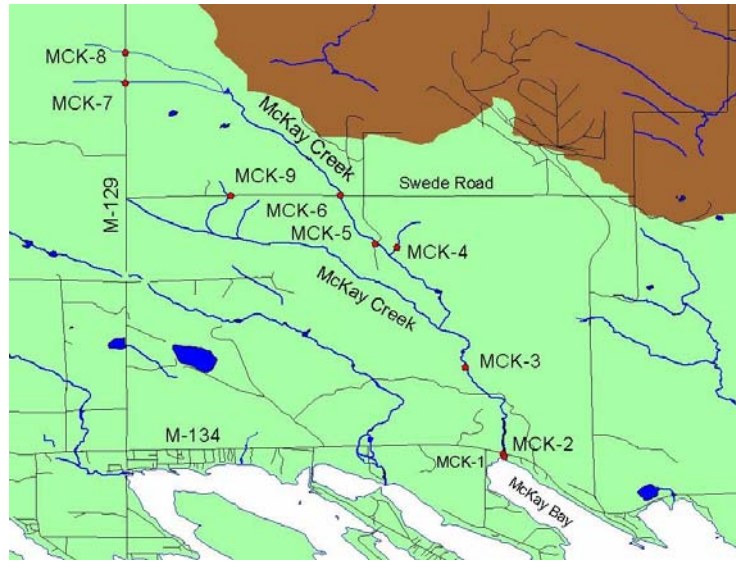


McKay Creek

At Maki Crossing
MCK-4



Upstream



Downstream



McKay Creek

At Maki Crossing
MCK-4

McKay Creek at Maki Crossing

Site I.D.: MCK-4

GPS Coordinates: N 46.03414
W 84.31640

Township: Clark

County: Mackinac

Adjacent Landowners: Private

Road Information

Jurisdiction: Private

Surface: Sand/Gravel

Width at Crossing: 13 feet

Maintenance: Seasonal

Low point: At stream

Drainage Control Features: None

Approach Length: Left: 0.03 mile
Right: 0.02 mile

Slope: Left: 6-10 percent
Right: 6-10 percent

Ditch/shoulder vegetation: Left: Heavy
Right: Heavy

Average Width of Grade: 13 feet

Runoff Path: Roadway

Stream Characteristics

Average Width: Upstream: 3 feet
Downstream: 3 feet

Average Depth: Upstream: 4 inches
Downstream: 4 inches

Average Current: Upstream: Moderate
Downstream: Moderate

Substrate Type: Upstream: Sand
Downstream: Sand

Adjacent Wetlands:

Yes

Visible Down Cutting: No

Culvert Information

Culvert Type: Bridge

Length: 12 feet

Diameter: N/A

Material: Wood

Condition: Poor

Culvert Flow: Poor

Fish Passage Problem: Yes

Fill Depth: Inlet: 3 feet
Outlet: 3 feet

Embankment Slopes: Inlet: >2:1
Outlet: >2:1

McKay Creek

At Maki Crossing
MCK-4**Conditions and Treatment****Erosion Conditions**

- Shoulder/ditch erosion
- Sand/soil over bridge

Recommended Treatment

- Replace bridge
- Install bottomless culvert or longer spanning bridge
- Improve approaches—raise elevation of the road
- Cap with gravel surface
- Install runoff structures
- Vegetate ditches

Erosion Severity Rating: Moderate (27)

Overall Condition Rating: Severe

Cost: See BMP Cost Tables

Comments: This road crossing is located on a private access road across a small tributary feeding the east (main) branch of the creek. The current bridge needs to be replaced with a long, bottomless culvert or a longer spanning bridge. The approaches need to be improved to eliminate the sand surface from eroding into the creek bed. The road should be raised and capped with gravel, and runoff structures installed to divert runoff into side, vegetated ditches to eliminate the road as a path for sediment to reach the creek. Sediment load calculated as $2 (4 \text{ ft top width} + 1 \text{ ft bottom width (gullies)})/2 \times 1 \text{ ft deep} \times 4 \text{ ft in length} \times .055 \text{ tons/cu. ft.} = .22 \text{ tons/yr}$ + $4 \text{ ft top width} + 3 \text{ ft bottom width (gully)}/2 \times 1 \text{ ft deep} \times 4 \text{ ft long} = .77 \text{ tons/yr}$ Total = 1.21 tons/yr.

