GRASS RIVER & TRIBUTARIES
RESTORATION ASSESSMENT:
2011 FINDINGS

Three Lakes Association

presented by

Gary Knapp, Dean Branson, Becky Norris, and Fred Sittel

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Project Objective:
Determine if human activities are contributing to sediment loading into Grass River from its tributaries and warrant corrective intervention

- Macroinvertebrate population
- Barriers to fish passage
- Road-stream crossings (culverts)
- Long-term temperature monitoring
- Stream flow measurements
GRASS RIVER
2.5 MILE LENGTH
<0.5 FT ELEVATION DROP
FLOW APPROX. 269 CFS
NO ROAD CROSSINGS
3 MAJOR TRIBUTARIES

SHANTY CREEK
2.75 MILE LENGTH
146 FT ELEVATION DROP
FLOW APPROX. 13 CFS
10 ROAD CROSSINGS
NO MAJOR TRIBUTARIES

COLD CREEK
2.5 MILE LENGTH
40 FT ELEVATION DROP
FLOW APPROX. 33 CFS
6 ROAD CROSSINGS
1 MAJOR TRIBUTARY

FINCH CREEK
6.5 MILE LENGTH
443 FT ELEVATION DROP
FLOW APPROX. 30 CFS
8 ROAD CROSSINGS
2 MAJOR TRIBUTARIES
Macroinvertebrate Sampling

Gary, David, Erik in Finch Creek

Roger, Braden, David in Cold Creek
Macroinvertebrate Scores

- Cold Creek (Upper) Score: 35
- Cold Creek (Lower) Score: 25
- Shanty Creek Score: 15
- Finch Creek Score: 10

Excellent Quality: 55
Good Quality: 35
Fair Quality: 15
Poor Quality: 0
Evaluating Road-Stream Crossings

Trish and David in Cold Creek

Jim, David, Dean, Carrick in Finch Creek
Effect of Undersized Culvert

- Undersized Culvert at Comfort Road
- Dead trees from flooding due to obstruction at Comfort road
- Adequate Culvert at Tyler Road
Examples of Perched Culverts

Cold Creek outlet at Alden Highway

Finch Creek east outlet at Elder Road
Example of Fish Barrier
Storm Water Damage
Flow Measurements

Roger, Dennis, Braden in Grass River

Dr. Paul Richards and Carrick in Shanty Creek
Long Term Temperature Monitoring

Carrick and Erik in Cold Creek

Completed installation in Shanty Creek
DAILY TEMPERATURE VARIATION AUGUST 20 THROUGH OCTOBER 19

(TEMPERATURE RECORDED EVERY 15 MINUTES)

DATE

DEGREES FAHRENHEIT (°F)

30 40 50 60 70 80 90

GRASS RIVER

COLD CREEK
Conclusions
Conclusions

1. **BIGGEST CONCERN:** Lack of storm water management around Shanty Creek, especially the Pine Brook development area.

2. **Barriers to fish passage:**
   - An abandoned hydropower dam on Shanty Creek
   - A small dam with a footbridge…sand trap on Shanty Creek
   - Perched culverts…
     - Alden Highway over Finch Creek
     - Elder Road over the east branch of Finch Creek
     - Comfort Road on Cold Creek
Conclusions

4. **Undersized culverts**, two examples:
   - Elder Road over east branch of Finch Creek
   - Comfort Road over Cold Creek

5. Macroinvertebrate population scores, based on spring sampling
   - Only Cold Creek (upper reach) could be classified as good.
   - Shanty Creek, Finch Creek, and the lower reach of Cold Creek indicated **fair water quality**.

6. Stream flow measurements were similar to those made in 2005
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