

5th International Conference on Natural Channel Systems

Erosion and Sediment Control:
Can we see the forest for the trees?

Niagara Falls, Ontario
September 26-27, 2016

Agenda

1 Background

2 Example Projects

3 Suggestions

4 Summary

5 Questions

1 Background

Background

- Doing stream restoration for 20 years
- Concerns about Erosion and Sediment Control
- Prompted this paper
- Intended to stimulate thinking and discussion

2 Example Projects

Example 1: Moose Jaw

- Prairie Floods
- Infrastructure (Roads, Bridges, Paths)
- Bank Stabilization of about 200 m



Example 1: Moose Jaw

- Permit Conditions: Turbidity Curtain



Example 1: Moose Jaw

- Downstream Dam
- No winter flow



Moose Jaw

- Money was wasted installing and maintaining a silt curtain



Example 2: Oshawa Creek

- Conlin Road Widening
- Relocation of Creek
- Salmon and trout



Example 2: Oshawa Creek

- Benthics are slow to recover
- The plan called for transfer a half a bucket bed material (cobble) along with benthics into a riffle to help jump start benthic community
- Turned down at the last minute by the regulator

Oshawa Creek Downstream

- Eroding bank of 30 m X 3 m
- If eroding at 0.5 m / year
- 70 tonnes of sand/silt



Example 2: Oshawa Creek

- A strategy to improve the ecological uplift of an important stream was thwarted to keep 100 kg of clean cobble out of the stream (it was already in the stream)
- But, a single downstream eroding bank is contributing 70 tonnes to the stream
- Not sure if the correct decision was made

2 Suggestions

Suggestions

- Regulators
- Designers
- Contractors
- Owners

Regulators

- DFO often easier to work with than delegated authority
- Sediment already in the river vs. new sediment
- Habitat banking (lower cost for E&SC)
- Fish windows (guideline)
- Cost (15% of project cost is E&SC)
 - The lower the cost the more streams we can fix

Designers

- Training (Newbury, TU, Rosgen)
- Conferences (North America, Europe)
- Think about the Erosion and Sediment Control Plan (design and inspection)
- Silt Fence
- Go fishing
- Be open to ideas from contractors

Designers

- New approaches (e.g., sod mats)



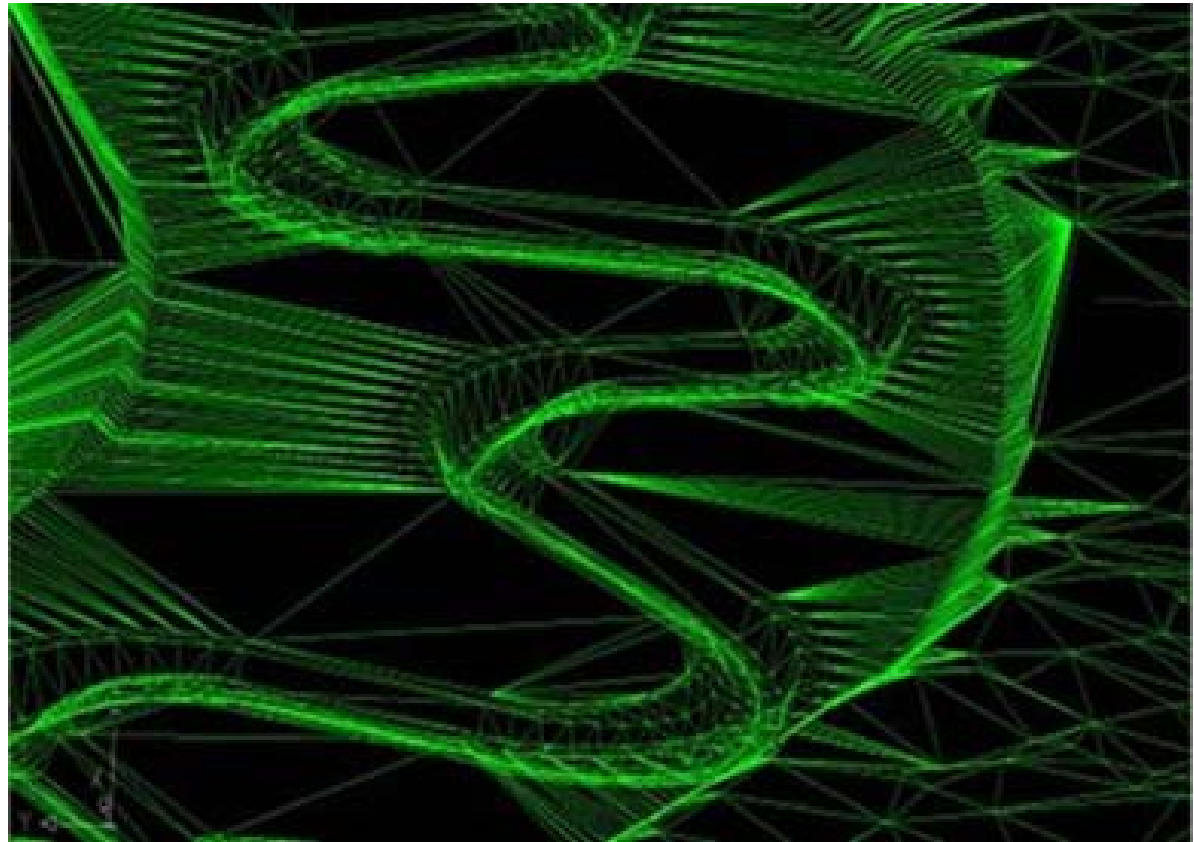
Designers

- New approaches/new structures (e.g. wood toe protection)



Designers

- 3D designs (reduce earthwork)



Contractors

- Training (courses, conferences)
- Speak up (add value, adapt)
- In-water vs. Isolation



Contractors

- Right Equipment (e.g., thumb, wrist)



Contractors

- Right Equipment (GPS-guided equipment)



Contractors

- Speed of construction



Owners

- Good designer
- Good contractor (prequalify)
- Design-build
- Timing

5 Summary

Summary

- Focus on the forest
- Spend money on the right things
- Canadians pay the bills
- Be a professional
- Use some judgement
- Moose Jaw and Oshawa Creek would have gone better

Questions?

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