THE ROLE OF YOUNG PROFESSIONALS IN RIVER RESTORATION IN ONTARIO

Presented By:

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Natural Channels Conference
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Do you see any similarities?

Cailey McCutcheon, M.ASc., E.I.T.
- B.A.Sc. in Civil Engineering
- M.ASc. in Civil and Environmental Eng.
  - Focused on river mechanics and restoration
  - Examined relationships between river mechanics and aquatic habitat selection
- Working as a consultant for ~3 years

Jeff Muirhead, M.A.Sc., P.Eng.
- B.Eng. in Water Resources Engineering
- M.ASc. in Civil and Environmental Eng.
  - Focused on river mechanics and restoration
  - Examined relationships between river mechanics and aquatic habitat selection
- Working as a consultant for ~4 years

This presentation will focus on Young Engineers and Fluvial Specialists in River Science
WHY ARE WE TALKING ABOUT THIS?

1. Young Professionals are important!
2. Young Professionals need technical training
3. Young Professionals need mentorship
4. There is a gap in the industry
**WHO ARE THE YOUNG PROFESSIONALS?**

(for the purposes of this presentation)

**Technical experts that have less than 5 years of experience in the field of river science**

Young professionals …

- Don’t have to be young to be a young professional (new to the industry)
- Are in the early phases of career development
- Generally have a lot to learn about the industry (professionally and technically)

Young professionals in river science come from many different fields:

- Terrestrial Ecologists
- Aquatic Biologists
- Fisheries Biologists
- Avian Specialists
- Geotechnical
- Civil Environmental
- Water quality specialists
- Chemical engineers
- Hydrogeologist
- Geomorphologists
- Geologists
- Hydrogeologist
Young Professionals are Important Because: …

- 29% of Professionals in Canada are less than 35 years old
  
  (2011 National Household Survey, Statistics Canada)

- Undertaking a lot of technical work – “grunt workers”

- Bring new information / research / methods to the industry

- Represent the next generation of “decision makers”
Young Professionals Need Training Because: …

1. This is a challenging field!
   • Extremely interdisciplinary, relatively new science
   • Parameters, constraints, policy, governance, and solutions can be highly variable from project to project
Young Professionals Need Training Because: …

2. There are very few formal school options for river restoration design:
   - University of Waterloo – River Restoration – graduate course
   - Short courses:
     - Rosgen Training
     - Trout Unlimited
     - STEP program from TRCA*
     - Canadian River Institute (CRI)*

Is this enough?

Should more training be expected for how much the science has grown in the past 20-yrs?
Young Professionals Need Training Because: …

3. There is no a “design cookbook”
   • Arguably – there shouldn’t be!
   • Some standardized methods
     • Biological sampling protocol (MTO, MNRF, DFO)
     • Rapid Geomorphic Assessment Tool (RGA) and Rapid Sustainability Assessment Tool (RSAT)

Should there be more standardized methods? Surveying? Monitoring?
Young Professionals Need Mentorship

Because:

- Mentorship is critical in professional development
- Limited formal training option
- Technical training is done “on-the-job”
- Nuanced science – many “ticks-of-the-trade”
THERE IS A GAP IN THE INDUSTRY

- In summary:
  - Diverse, challenging field;
  - Limited formal training
  - Limited standardized methods
  - Primary form of learning being on the job

This presents challenges for transfer knowledge from one generation to the next

Generational gap of professionals
No centralized resource centre
Question 1: What are the most significant challenges in advancing natural channel designs?

Question 2: What are the relative roles of the key contributors (designer, approver, owner) to a successful natural channels project?

Question 3: Should a resource centre be created for NCD? What would be the opportunities and challenges of having/not having a centre?

This could be very beneficial to young professionals

What can young professionals do to help with this?
WHAT ARE SOME EXISTING YP MODELS?

Ontario Mentorship Program

Program Goals:
The CWRA Ontario Branch Mentorship Program is intended to provide value to newer members of the CWRA, increase engagement in water management activities, and build long term connections among the members of CWRA. This mentorship program will allow the transfer of information among generations of professionals in water resources.

This mentorship program has been developed based on experience with prior CWRA mentorship programs, and advice from several other organizations’ experience with their own mentorship program. We are grateful to the Grand River Conservation Authority and the Seattle Young Planner’s Group for the examples, advice, and encouragement they provided. The Ontario mentorship program is affiliated with national CWRA mentorship activities.

Mentorship Program Structure:
The program session will run from October 2017-May 2018. This mentoring program emphasizes building connections among all participants through group meetings, peer mentoring groups, and individual mentor/mentee pairings as necessary. This program is generally mentee-lead, with the interests of the mentees driving the group meetings and mentoring pairings.

- Emphasizes developing networking and connections
- Mentors and mentees
- Group meetings/events
- Runs from Oct – May
WHAT ARE SOME EXISTING YP MODELS?

- Technical resources
- Formal training
- Conference
- https://www.bae.ncsu.edu/extension/srp/
WHAT ARE SOME EXISTING YP MODELS?
WHAT ARE THE YOUNG PROFESSIONALS DOING?

We’re making some headway…

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• A Young Professionals networking event (presentation, survey, and river trivia) was held yesterday
  • Results of the survey to come – future NCI event?
• Continued discussions at this conference
• There is interest, there is energy
We are still in the early stages of development, but …

• Are you a young professional that wants to receive updates about new programs and resources?

• Are you a young professional that wants to attend any upcoming events?

• Are you NOT a young professional, but wants to be involved by being a mentor or instructor?

Talk to Cailey and Jeff after this presentation
Our logger is under that tree right?

Yep! Do you think the data’s still good?