

Bonanza Biodiversity Corridor: wetland invertebrates

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Project Goals:

- Assess baseline biodiversity of wetland sites in the Bonanza Biodiversity Corridor, the Slocan Valley, Meadow Creek and Creston areas
- Prioritize wetlands for restoration and track results
- Engage the community in wetland science and enhancement and promote stewardship
- Encourage conservation of existing wetlands

What are macroinvertebrates?

- Organisms without a backbone
- Visible to the naked eye
- Variable tolerances to stressors



The suite of invertebrates indicates health

Methods:

Parameters monitored included:

- Invertebrates from emergent vegetation
- Water & sediment chemistry
- % Composition of emergent vegetation
- Habitat variables & stressors

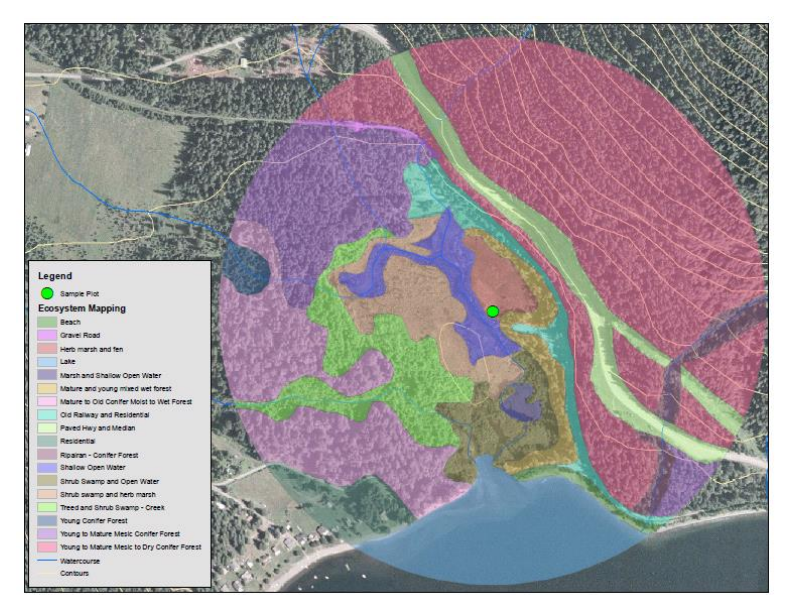
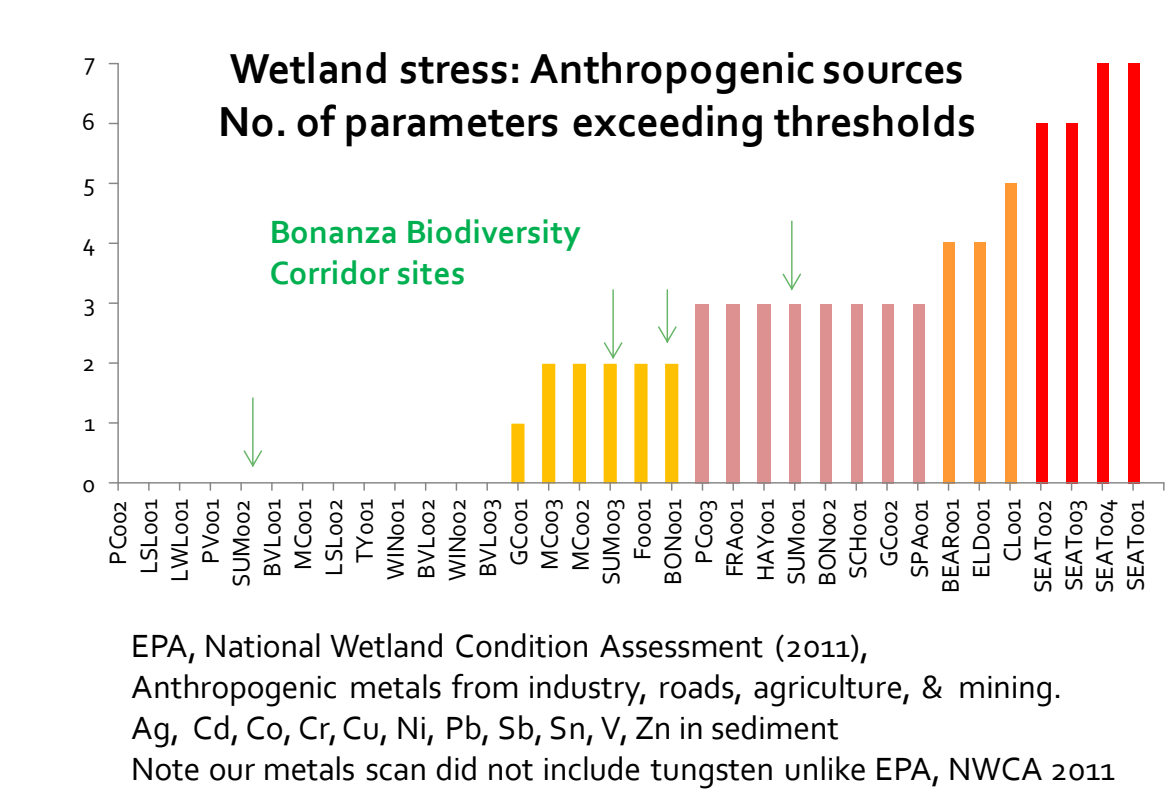


Conclusions:

- The composition of invertebrates differed by wetland type.
- Gradients were documented within Snk'mip marsh and Summit Lake wetlands due to water quality, wave action, plant communities and beaver ponds.
- Reference sites were identified.
- Disturbances to wetlands were quantified.

Results:

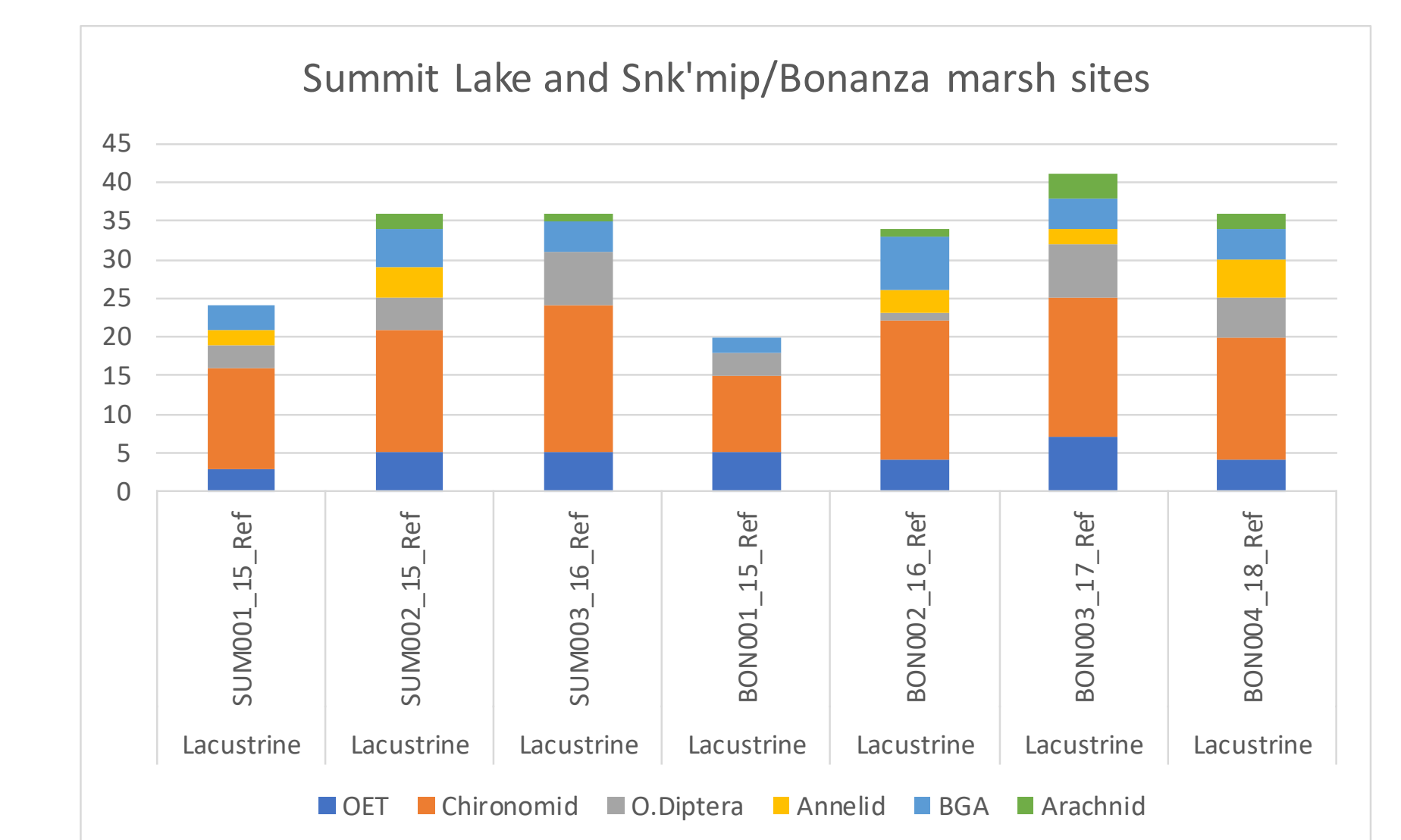
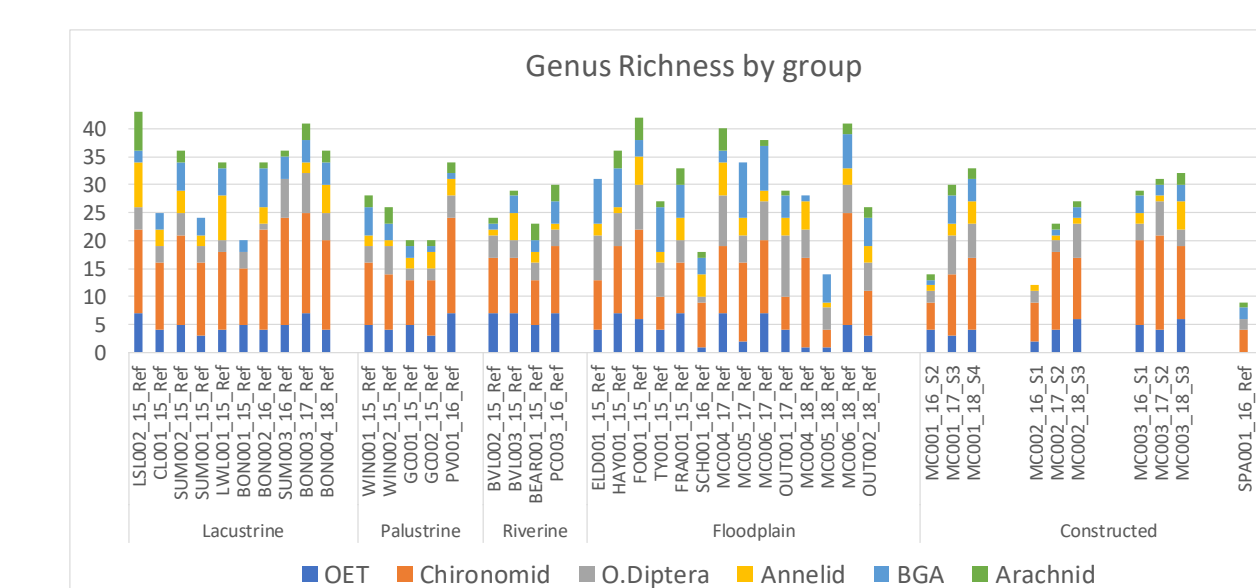
- 1. Stress:** based on sediment chemistry: an indicator of human activity and mapping of disturbances



% Land cover of a 500m buffer area for each site, Snk'mip Marsh example

2. Biodiversity:

Invertebrates were identified to the genus level



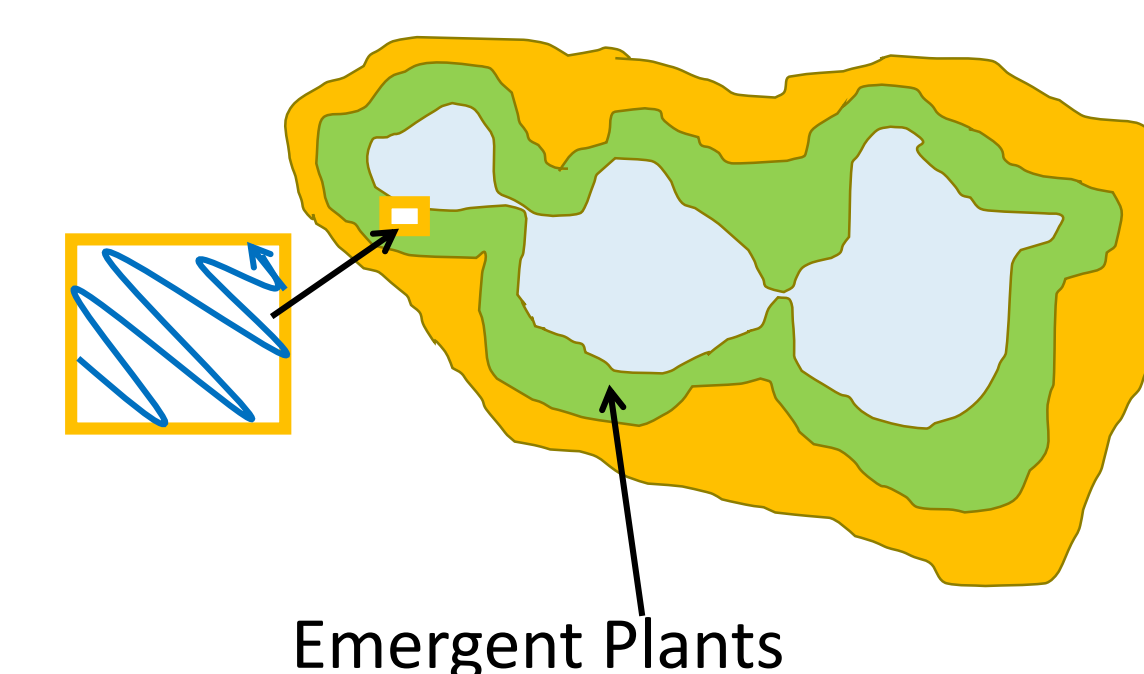
Richness (total count of genus) at wetlands monitored from 2015-18 in Meadow Creek and Slocan areas. OET (dark blue) = Odonata, Ephemeroptera and Trichoptera (dragonflies, mayflies and caddisflies), Annelid (grey) = segmented worms and Annelid (yellow), BGA (light blue) = Bivalves, gastropods plus amphipods and Arachnid (green) = Aquatic mites. Site name is followed by year monitored. Ref = reference site.

Methods can be used to identify impacts or track restoration goals

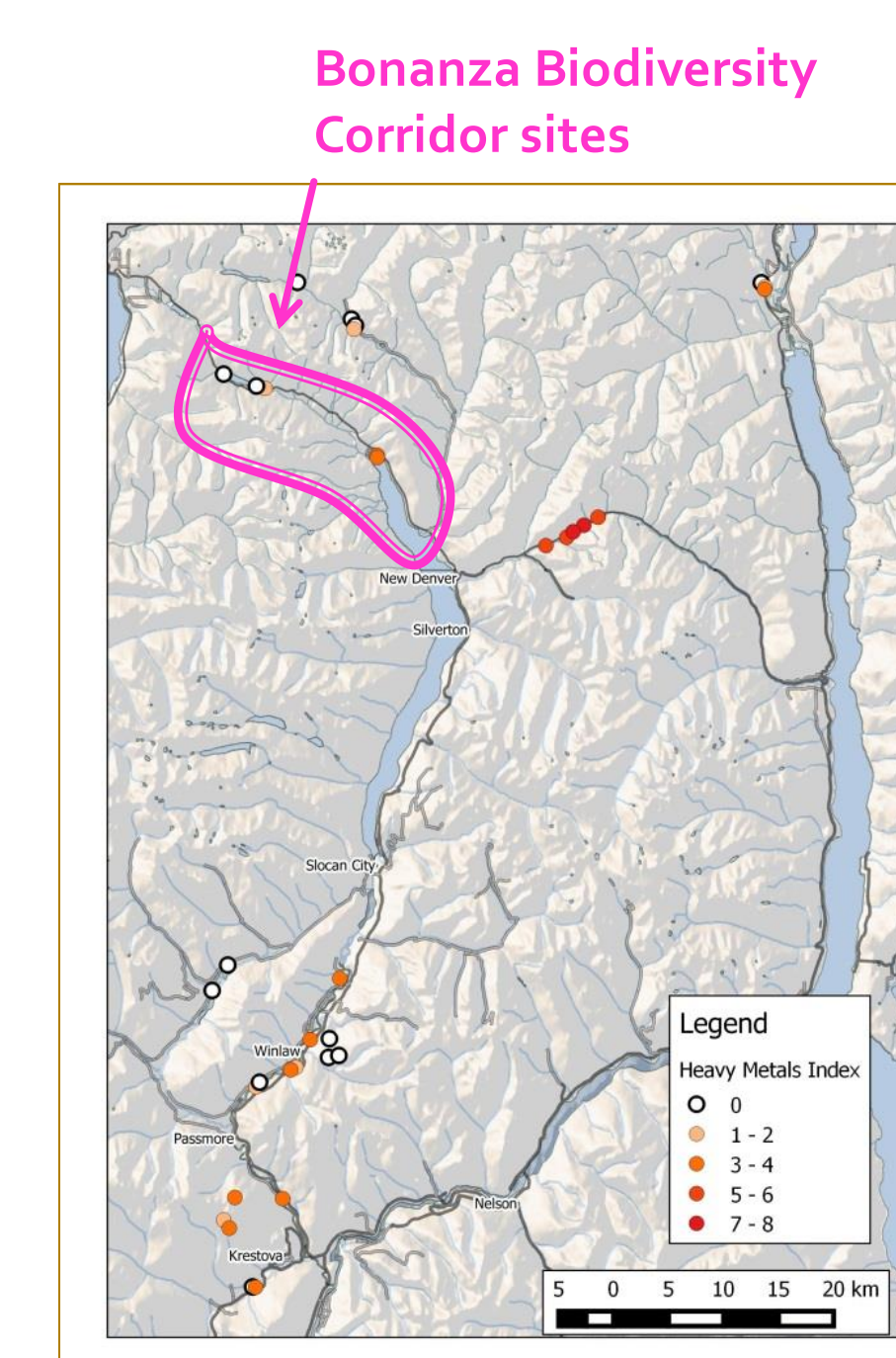
Measures of biodiversity in four types of wetlands with subset of sites from the Bonanza Biodiversity Corridor

Invertebrate collection:

- 3 minute kick sample
- 5 x 5m quadrat



Site locations



Encouraging wetland stewardship and restoration

If you have a backyard wetland and want to be part of an innovative study please contact:
Darcie Quamme, Integrated Ecological Research, quamme@ecological.bc.ca, or full report at slocanswamp.org