

# The biodiversity of invertebrates in our local wetlands

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## Project Goals:

- Assess baseline biodiversity of wetland sites in the Slocan and Meadow Creek areas
- Prioritize wetlands for restoration & conservation
- Report findings to the local community

## 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
- Reference sites were identified.
- Constructed sites were dominated by chironomid taxa that are early colonizers with aerial dispersal and rapid life cycle relative to other groups

## Results:

### 1. Chemical Stress:

based on sediment chemistry: an indicator of human activity

### 2. Biodiversity:

Invertebrates were identified to the genus level

Methods can be used to identify impacts or track restoration goals

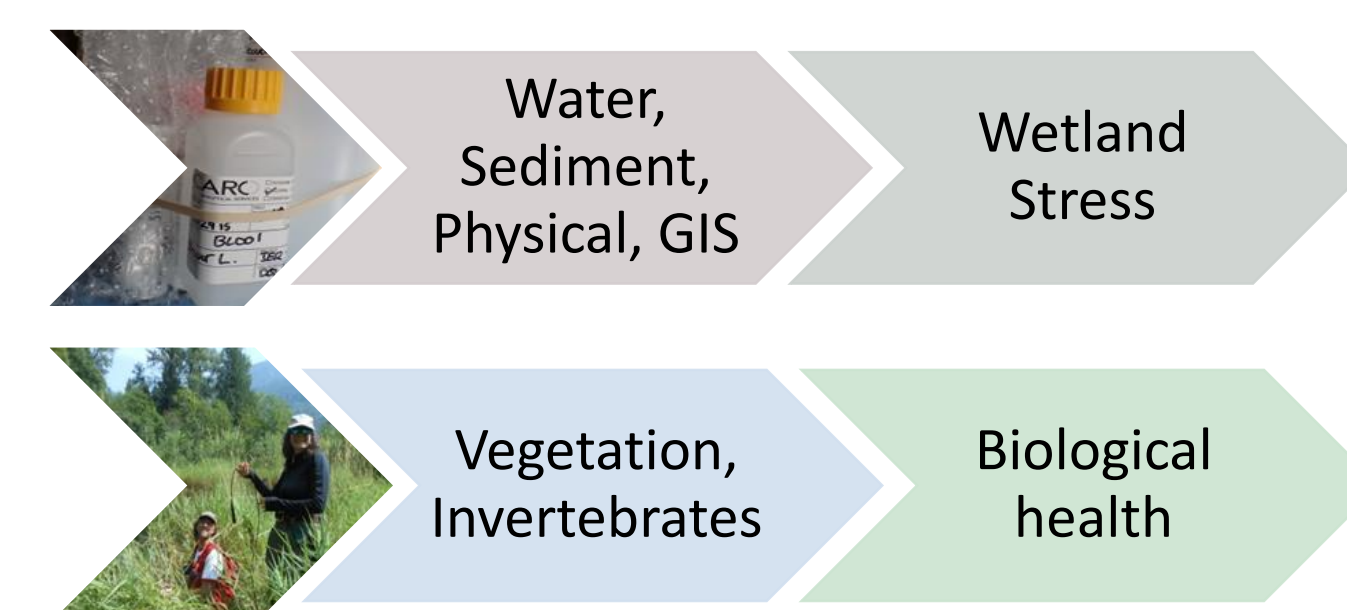
## What are macroinvertebrates?

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

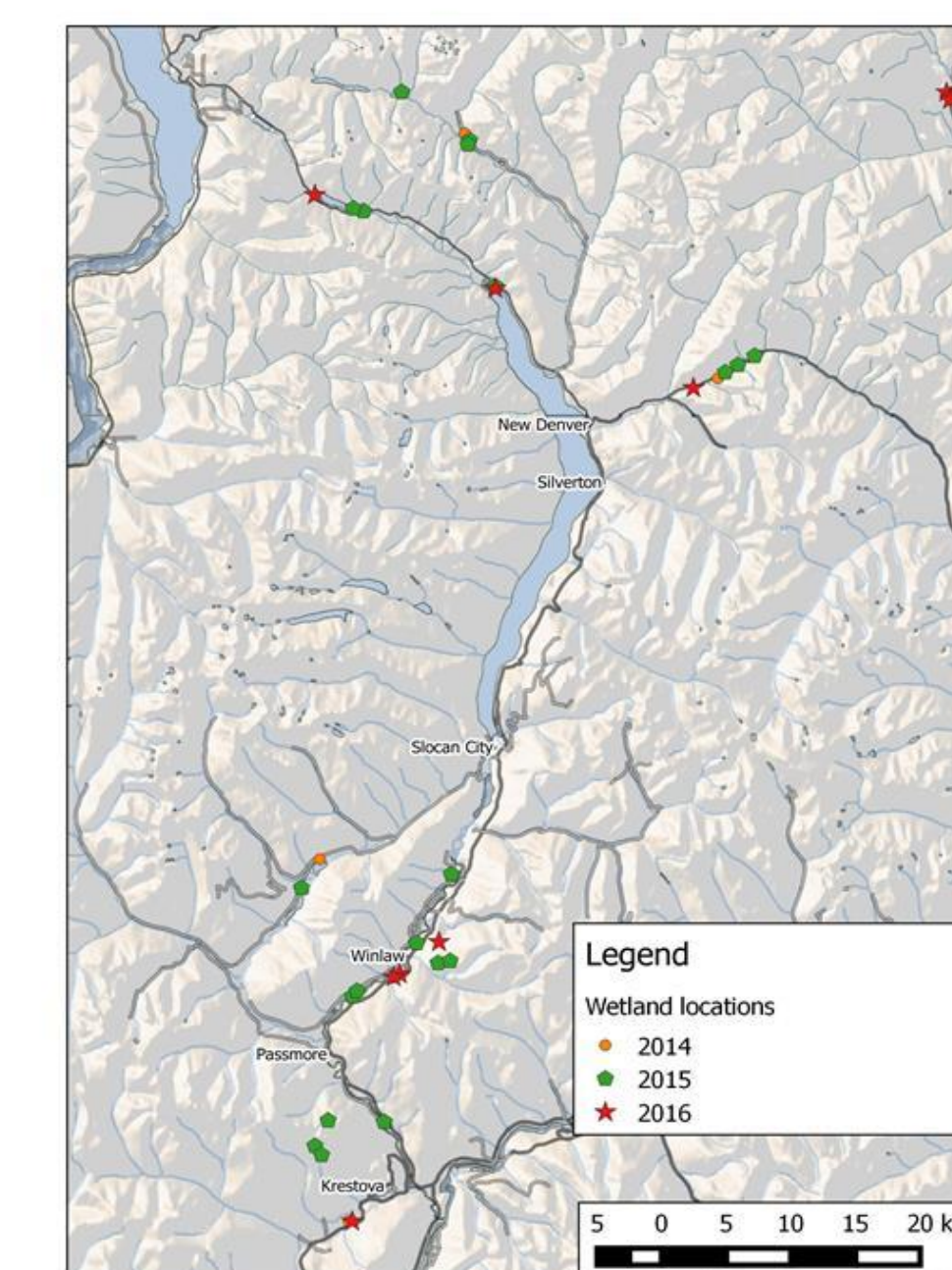


The suite of invertebrates indicates health

## Indicators monitored

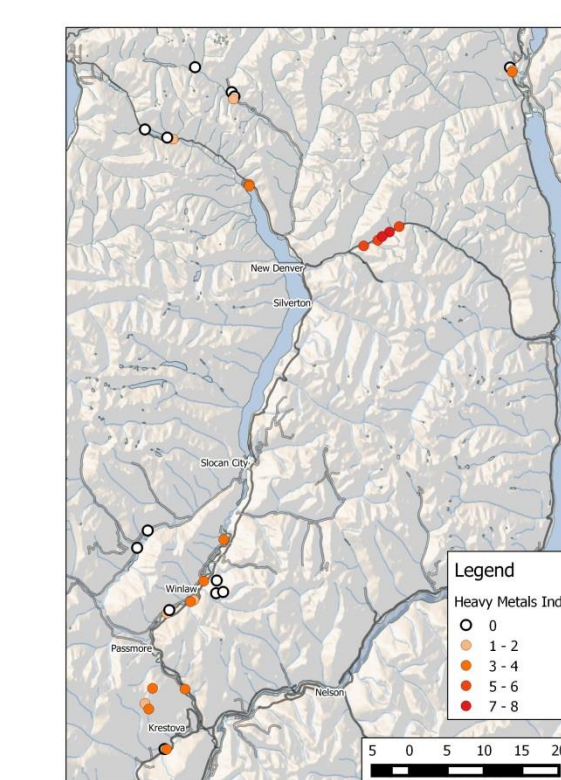
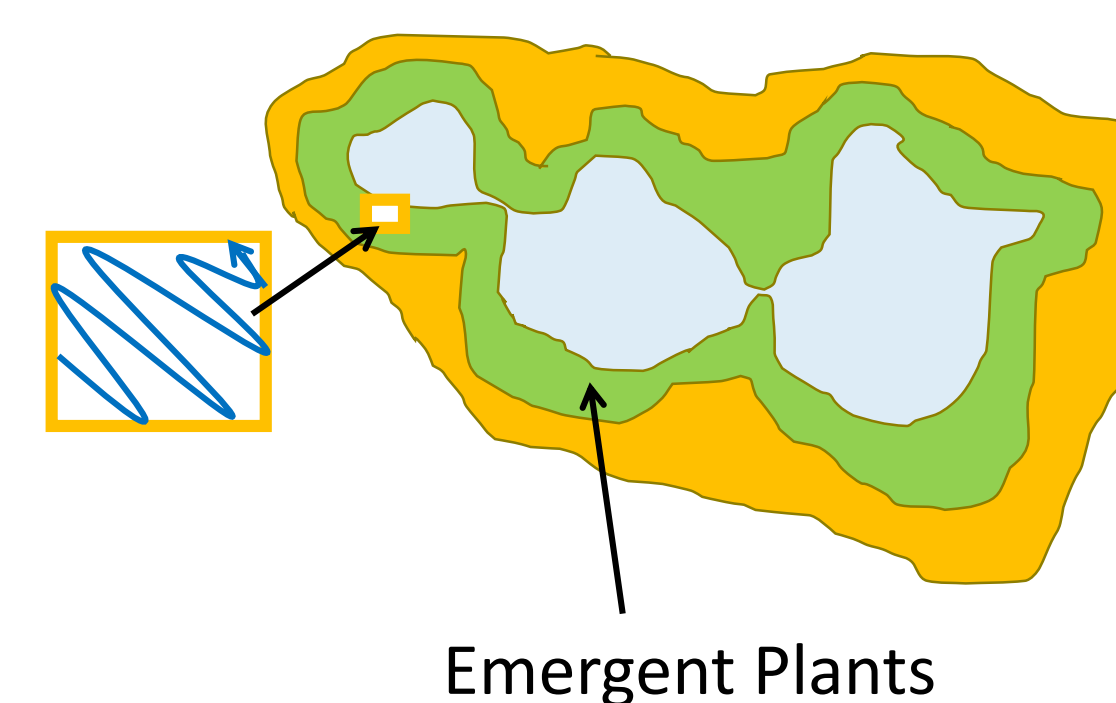


## Site locations

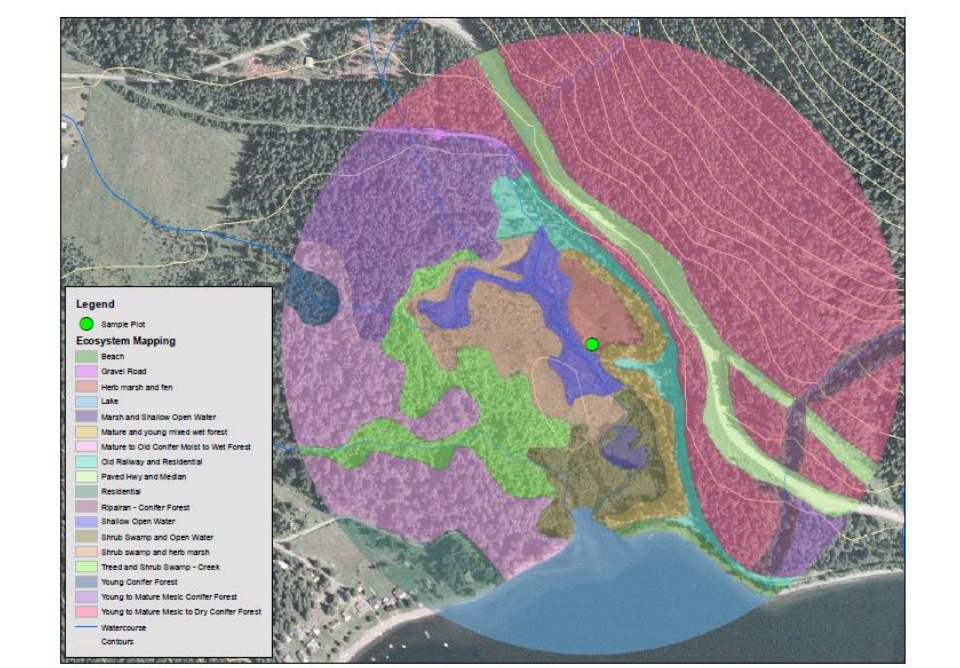


## Invertebrate collection:

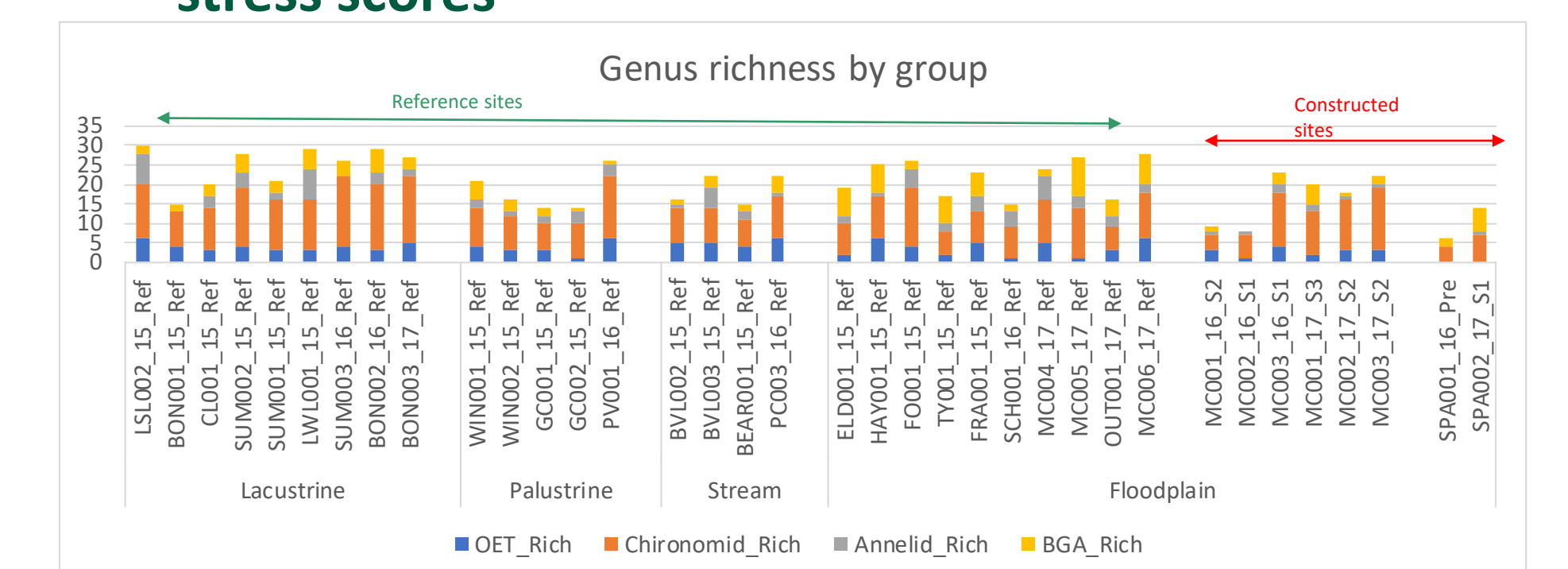
- 3 minute kick sample
- 5 x 5m quadrat



Map of chemical stress scores

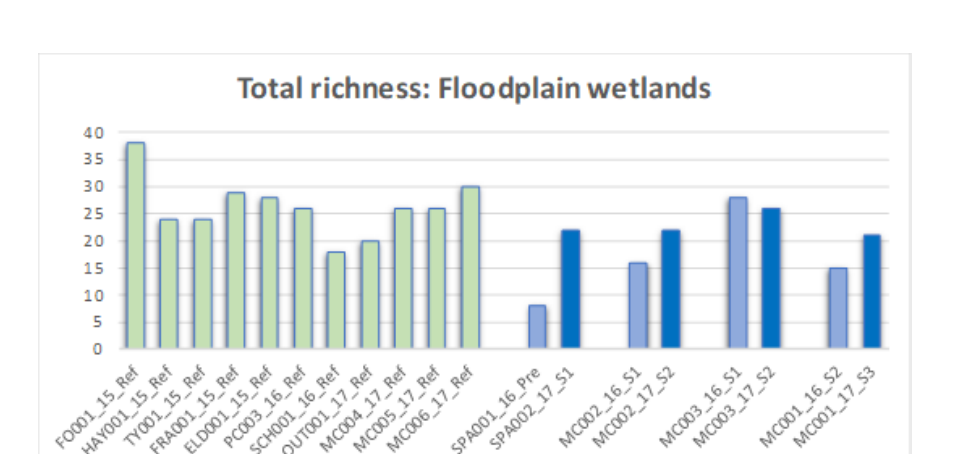
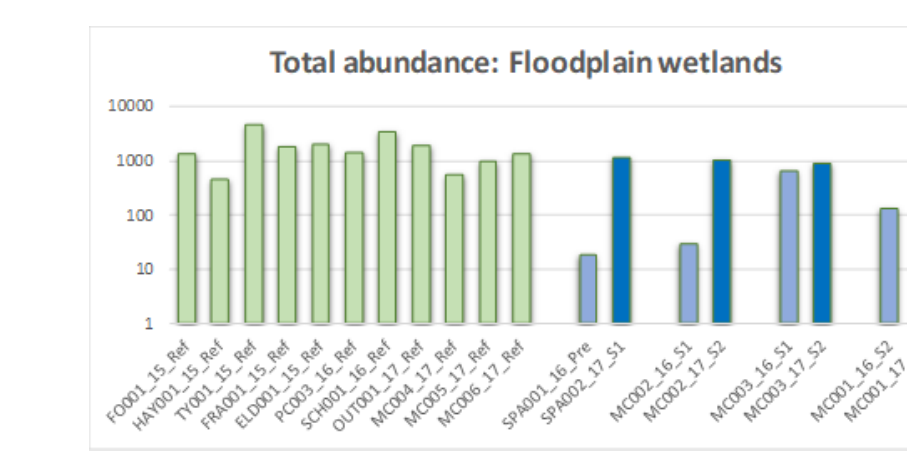


% Land cover of a 500m buffer area for each site



Genus richness in Riverine, Floodplain (FP), Lacustrine (L), Palustrine (P) & Riverine, Stream (S) wetlands. OET (blue) = Odonata, Ephemeroptera and Trichoptera (dragonflies, mayflies and caddisflies), Chironomid (red) = Chironomidae (midges), Annelid (grey) segmented worms and BGA (yellow) = Bivalves, gastropods plus amphipods. Site name is followed by year monitored. Ref = Reference site. S1=Season 1, S2=Season2, S3=Season 3, Pre=pre-construction sampling

### Measures of biodiversity in four types of wetlands



Floodplain reference sites versus restored sites for lower valley

## 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](mailto:quamme@ecological.bc.ca), or Rhia MacKenzie, Slocan Streamkeepers Society, [zzoist@gmail.com](mailto:zzoist@gmail.com), full report at [slocanswamp.org](http://slocanswamp.org)