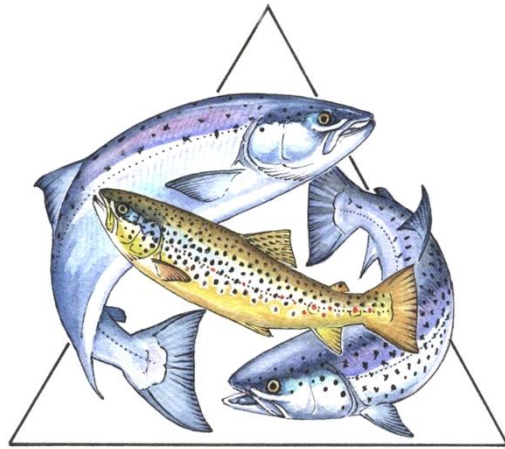




Richard Miller, Director



# DEVERON BOGIE & ISLA

RIVERS CHARITABLE TRUST



Marcus Walters, River  
Operations Manager



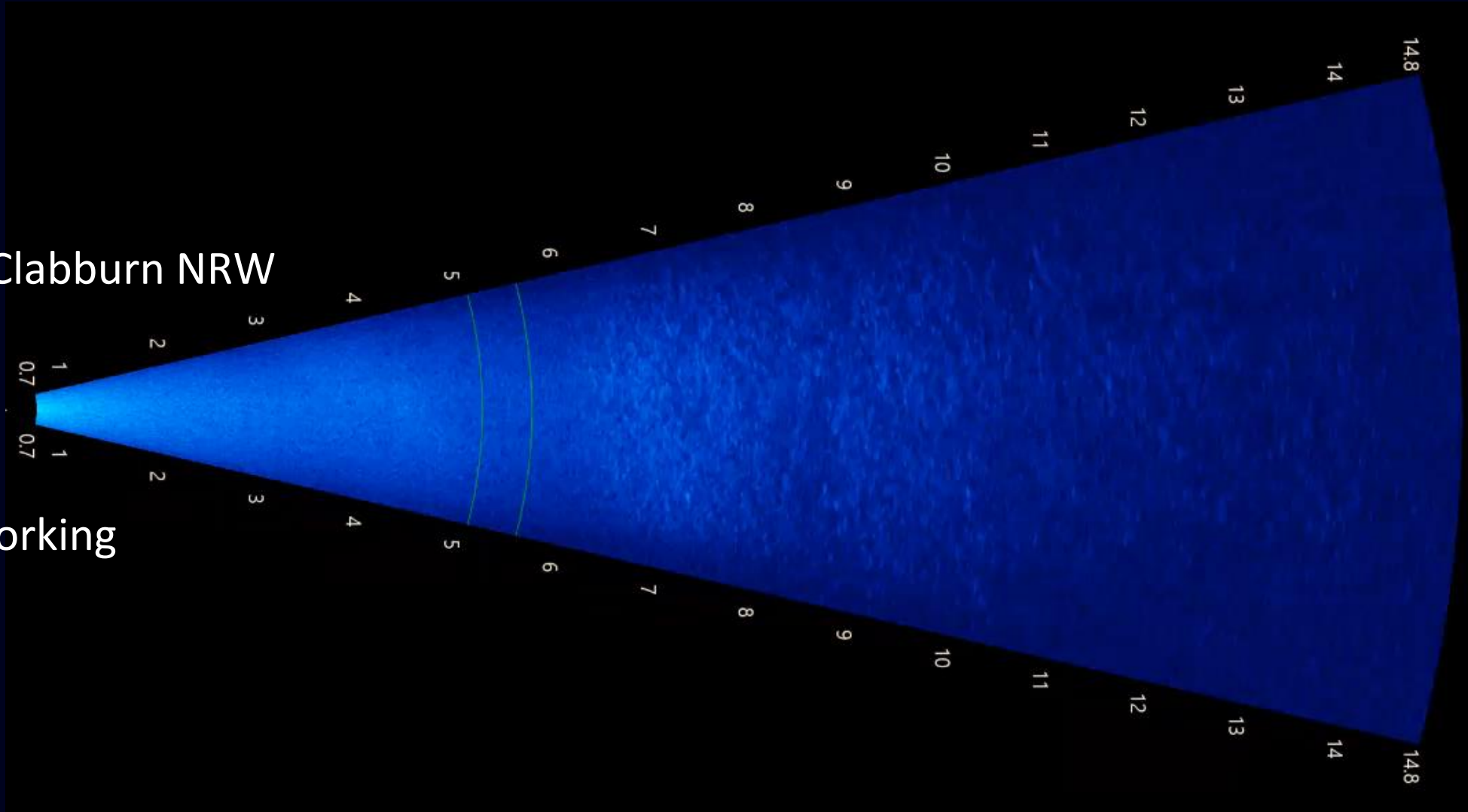
Sarah Roebuck, Administrator



Karen Müller & Al Reeve,  
SISI Project Officers

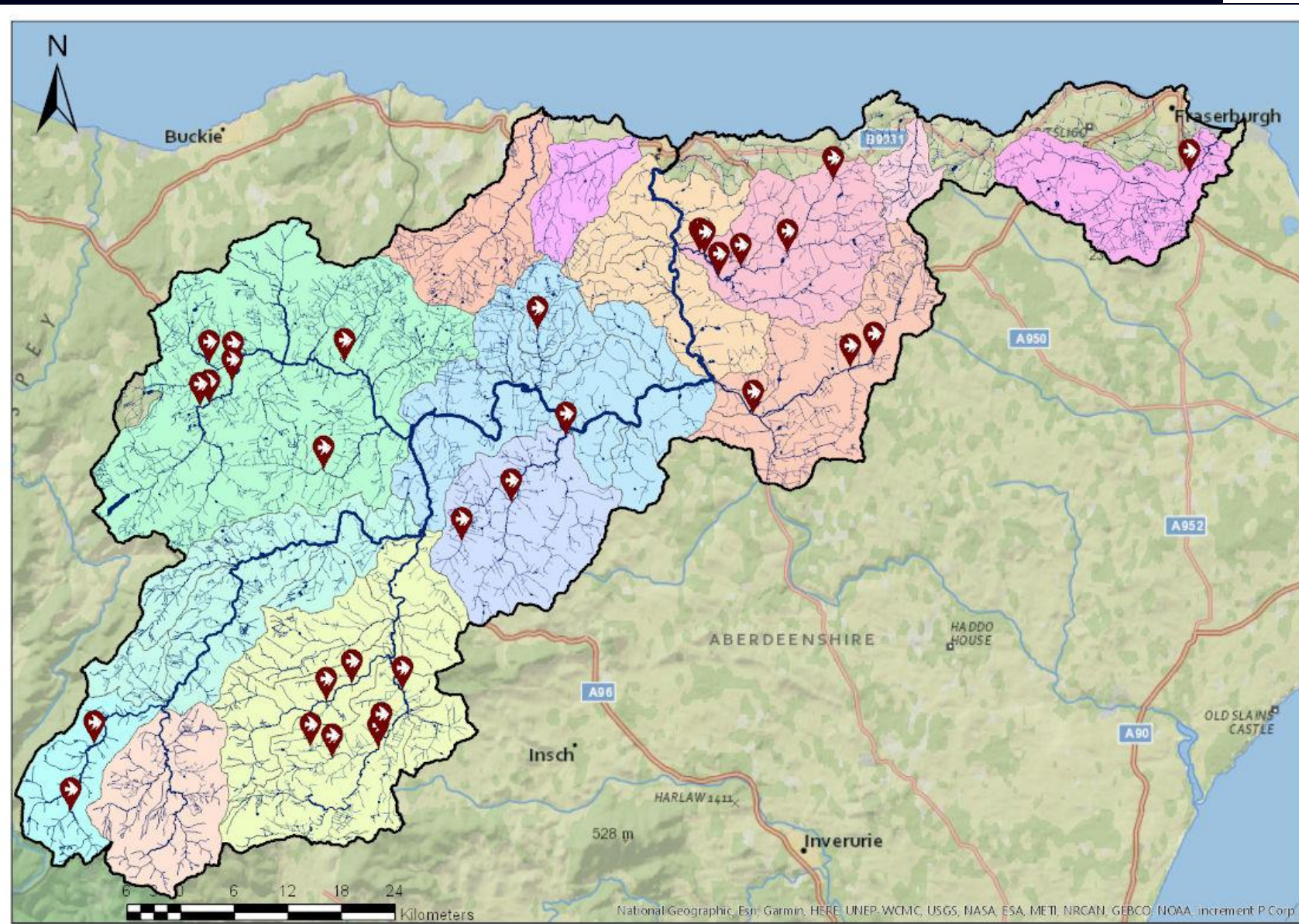
# Deveron Counter Trial

- Tritech trial
- ARIS trial
- Visit from Peter Clabburn NRW
- Capital Cost
- Running Cost??
  - Staff Time
- Trying to form working partnerships



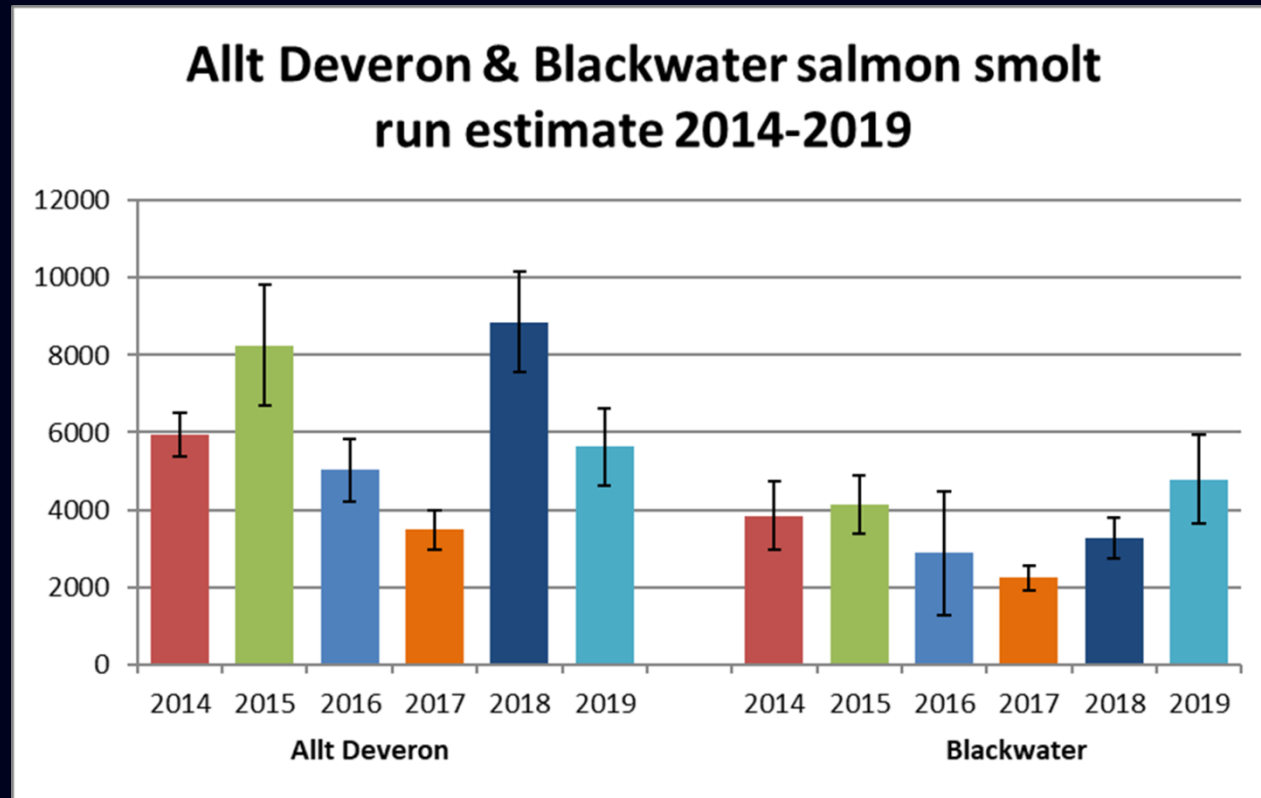
# 2019 Electrofishing

- 2<sup>nd</sup> year of NEPS
  - 30 sites on the Deveron
  - 30 Ugie & Ythan sites
- Poor for Salmon fry
  - Poor spawning in 2018
- Dorenell Monitoring Sites
- Mainstem timed sites



# Smolt Monitoring

- Six years of Smolt Monitoring
  - Allt Deveron 4-10 smolts/100m<sup>2</sup>
  - Blackwater 2-5 smolts/100m<sup>2</sup>

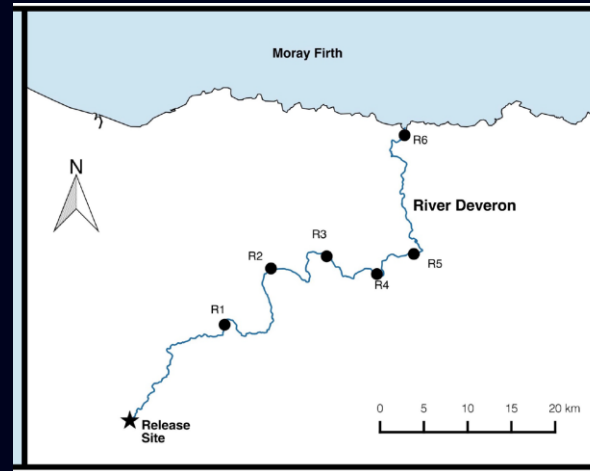
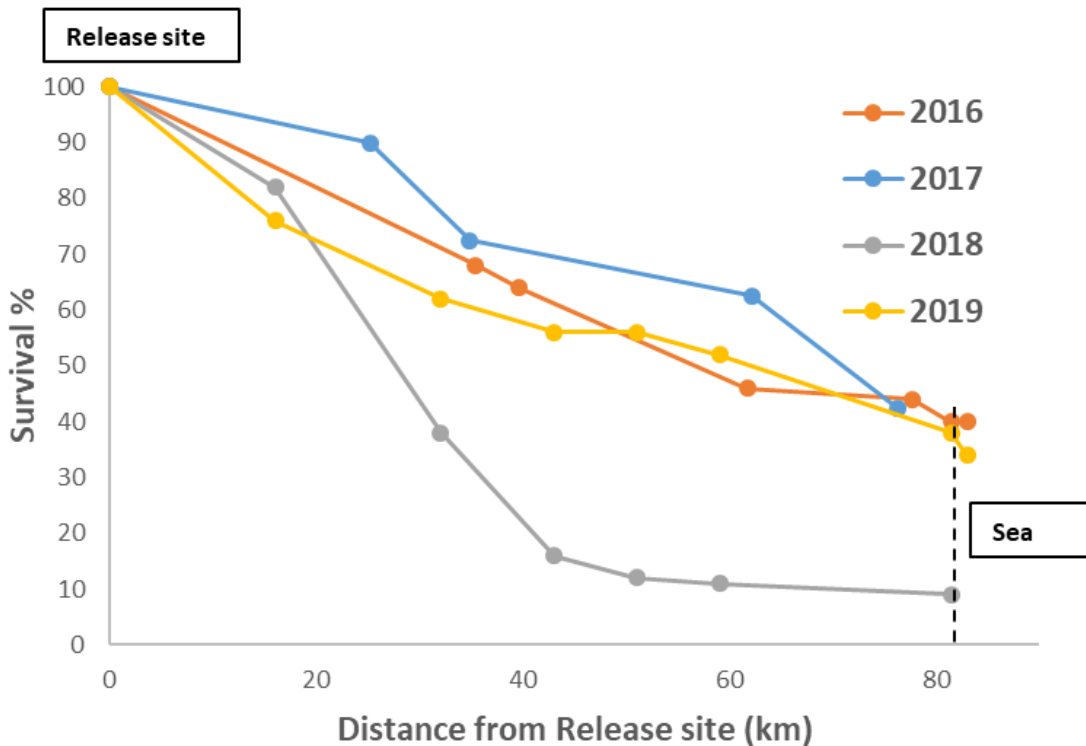


# Smolt Tracking



- Four years of smolt tracking
  - Upper Deveron to sea
  - AST Moray Firth Project 2019

Deveron smolt tracking 2016-2019



# Water Quality Monitoring

- 3 Main stem sites
- Eco-toxicology assessment using a Risk Quotient.

(The risk quotient RQ is determined as the observed concentration / PNEC (Predicted no-effect concentration) as explained in Zhang et al. 2016)

- Cypermethrin exceeding Environmental Quality Standard (EQS)

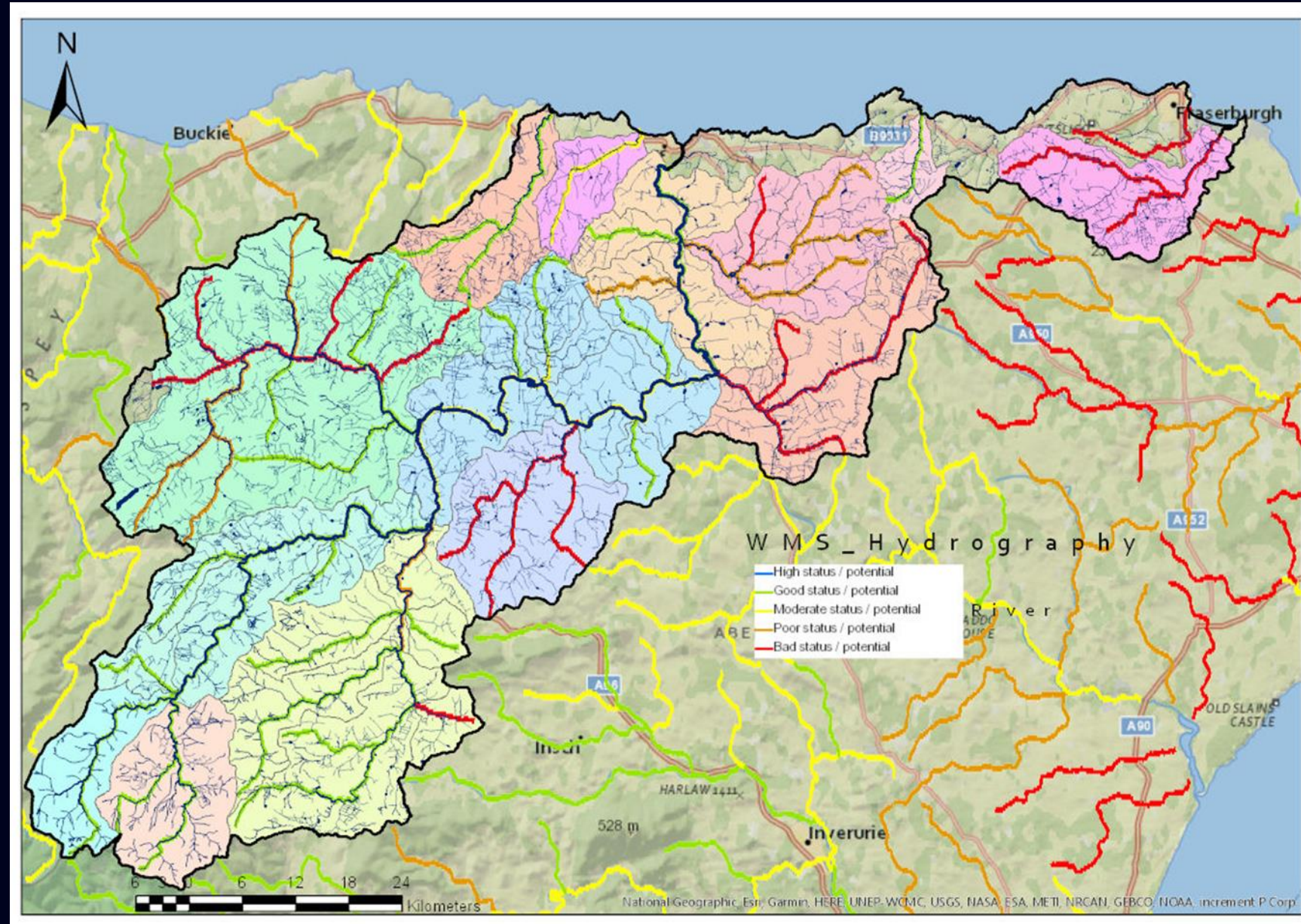
	Chlorpyrifos (pesticide)	Epoxicanazole (fungicide)	Permethrin (insecticide)	Cypermethrin (insecticide)
<b>Jun-17</b>	Minimal	Minimal	Minimal	Medium
<b>Oct-18</b>	Medium	na	Medium	<b>HIGH</b>
<b>Apr-19</b>	Medium	na	Medium	Medium

Likely source of cypermethrin: *Winter crops – oilseed rape – flea beetle*

- Raised with SEPA who are taking the following *local* action:
  - Ecology - invertebrate monitoring
  - Chemistry – developing a technique to test for Cypermethrin
  - Land Use Unit: speaking to farmers / suppliers about use and application of these chemicals.
    - BUT is it an issue elsewhere
- 8 sites sampled Autumn 2019 – 3 main stem sites and 5 tributaries

# Lower Burns Restoration..??

- WFD Classification Bad or Poor for morphology
  - Straightened
  - Dredged
  - Embankments
- Diffuse Pollution
  - Sediment
- Poor electrofishing results
  - No habitat = no fish







# Flash Floods September 2019

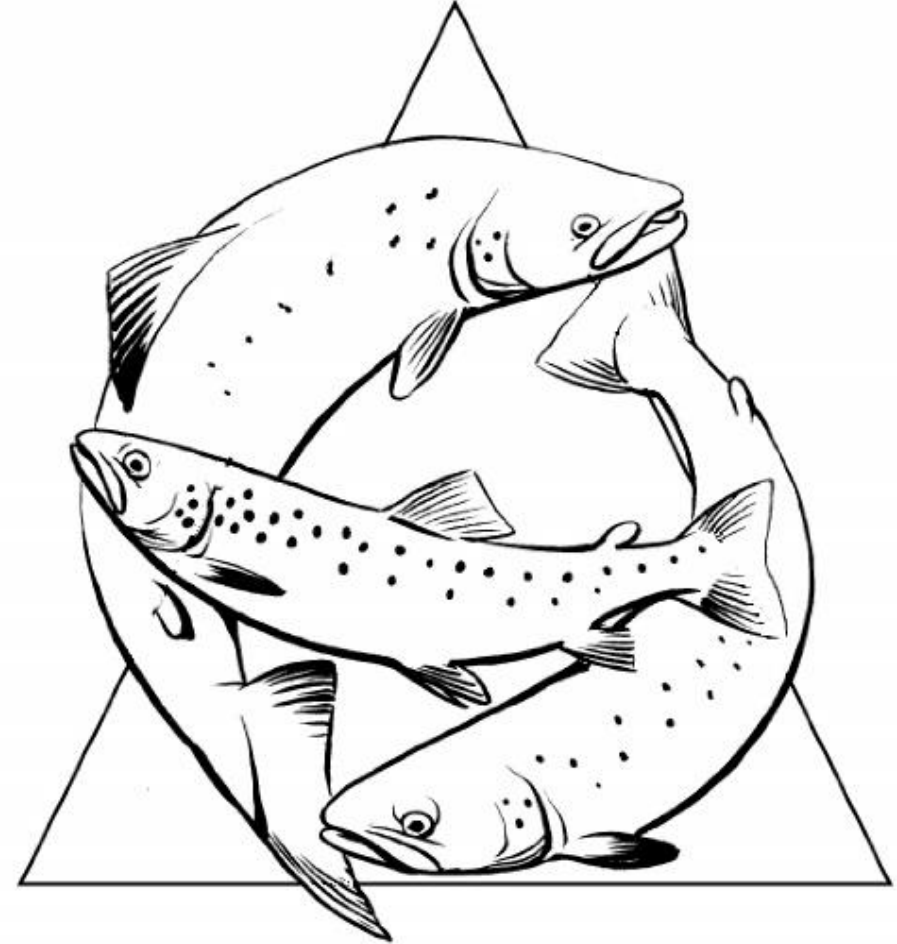






# Solutions?

- Under WFD should be Good by 2027?
- How? – No current mechanism or plan
  - Re-meandering
  - Intensive restoration
  - All too expensive!
- Low Cost Passive Restoration
  - Space for burn to restore itself
  - Increase buffer strips
    - BUT - highly valuable farmland – ££££
- Grants for riparian tree planting ??
  - Climate change and biodiversity targets
  - Reduced flooding and erosion



DEVERON  
BOGIE  
ISLA