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Otter diet unexplained

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Study area and landscape composition

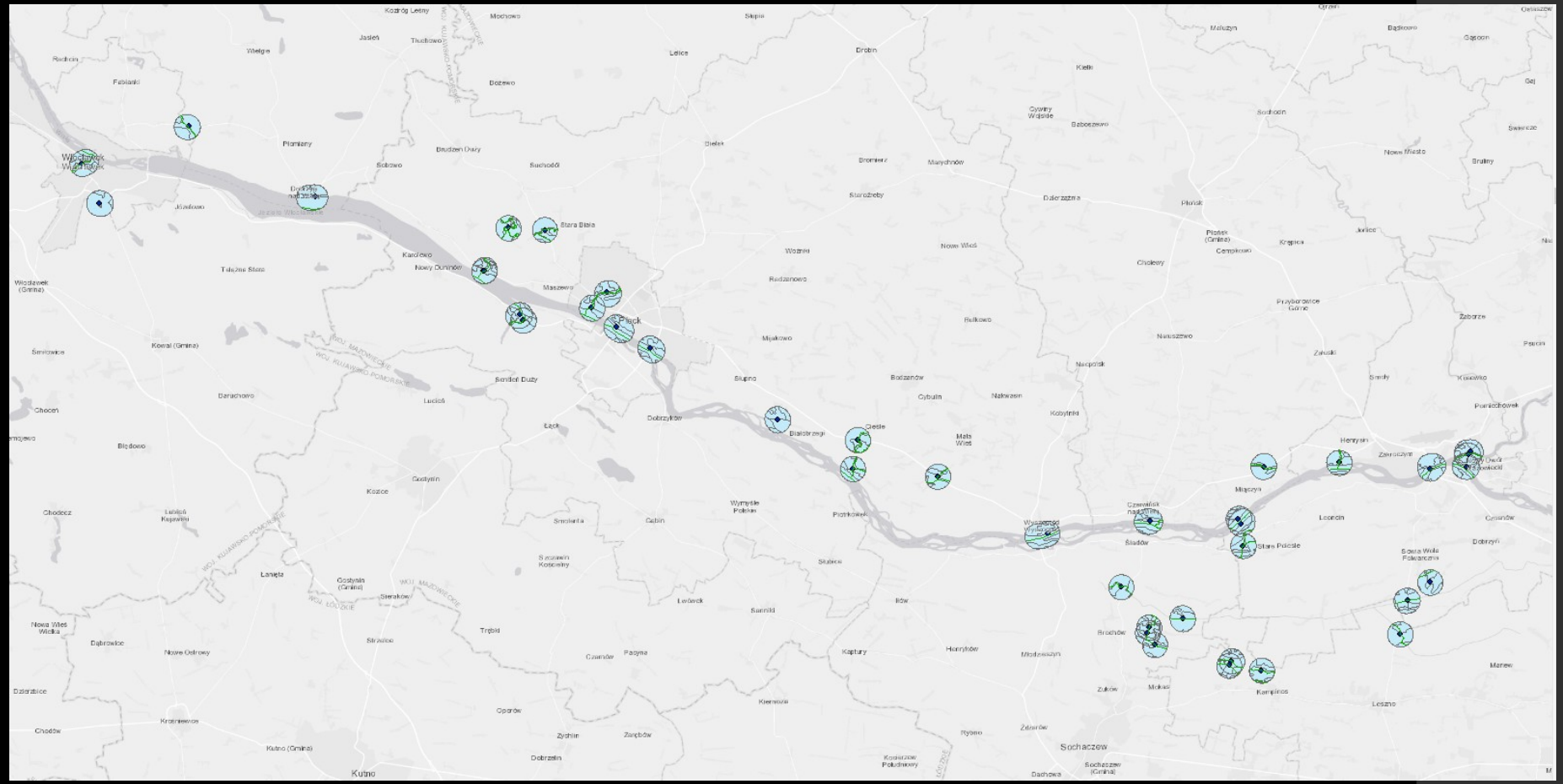
- 40 study sites
- 300 m buffers around the study sites
- 16 types of land cover

in different proportions

- Otter occurrence – total

number of spraints

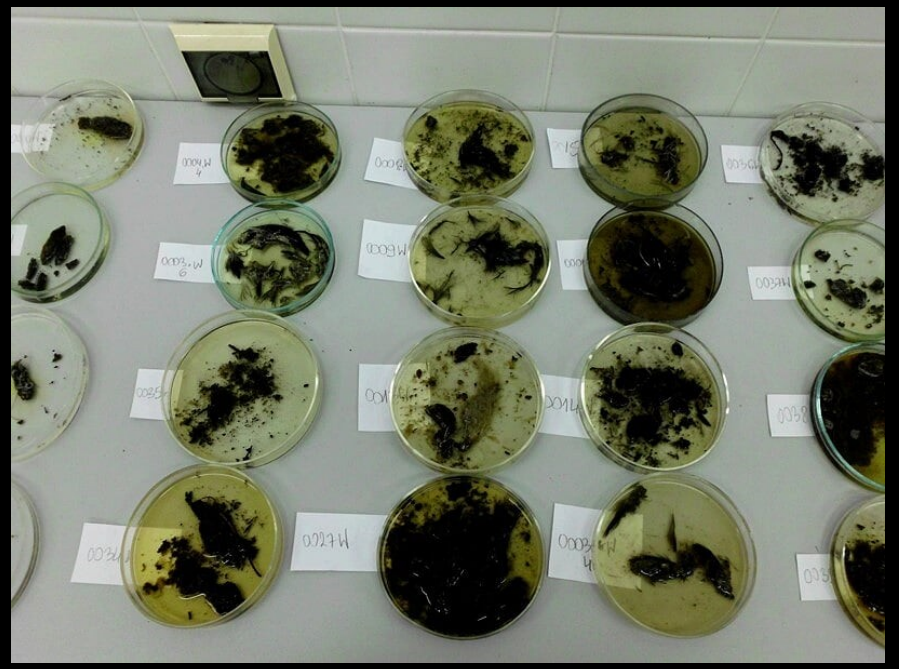
per study site



Diet composition

- For 250 samples
- Prey categories:
    - **Fish**
    - **Amphibians**
    - **Mammals**
    - **Birds**
    - **Crayfish**
    - **Other invertebrates**

- Estimation of mass proportions in a sample
- Correction with digestibility coefficients
- Result – prey biomass

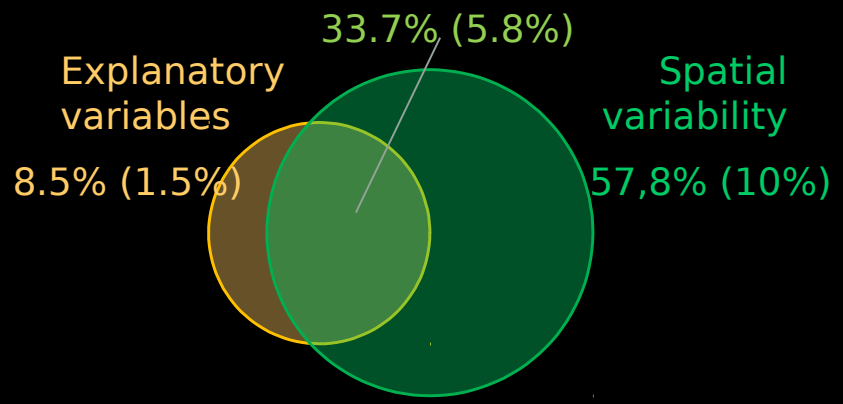


Landscape composition and otter occurrence

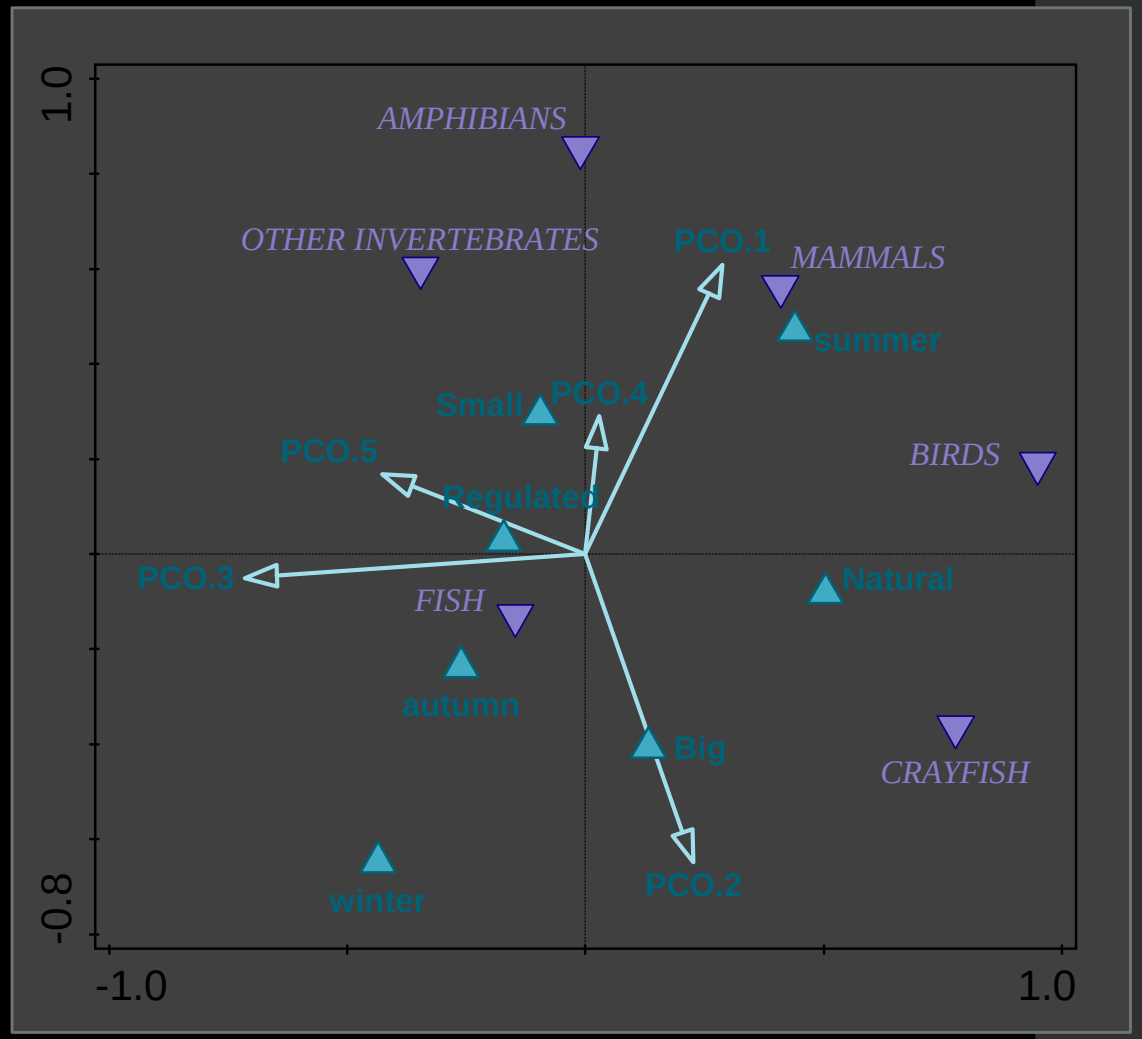
- dbMEM-FS
- Land composition as the response data
- Otter occurrence as a predictor
- No significant effect ($p = 0.1$)

Diet of the otter

- Variation partitioning - dbMEM-FS
- Explanatory variables: season, river size, river type, potential dens, potential shelters
- Selected: season, river size, river type

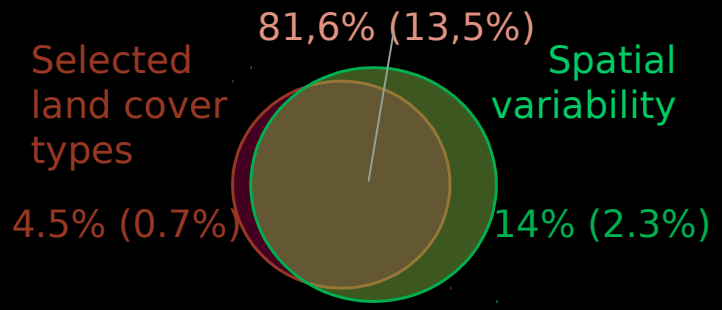


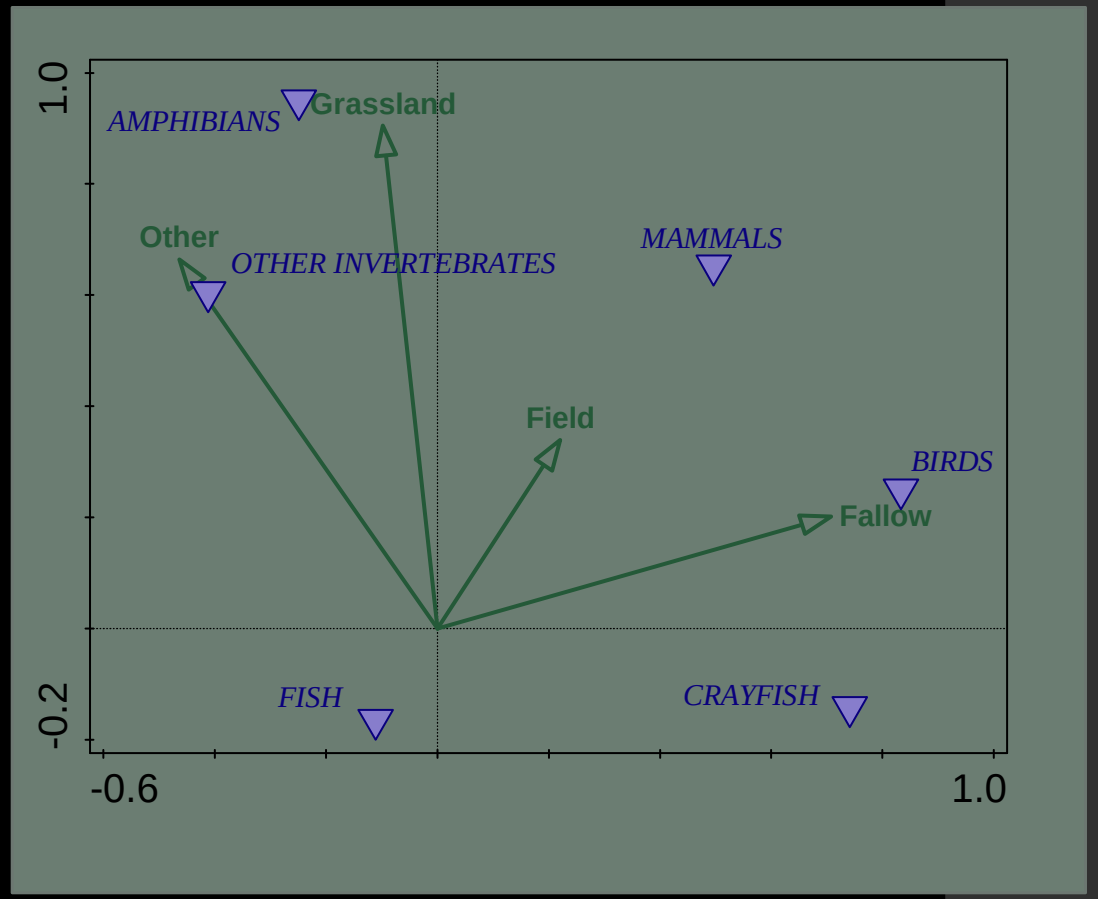
p = 0.001



Diet of the otter

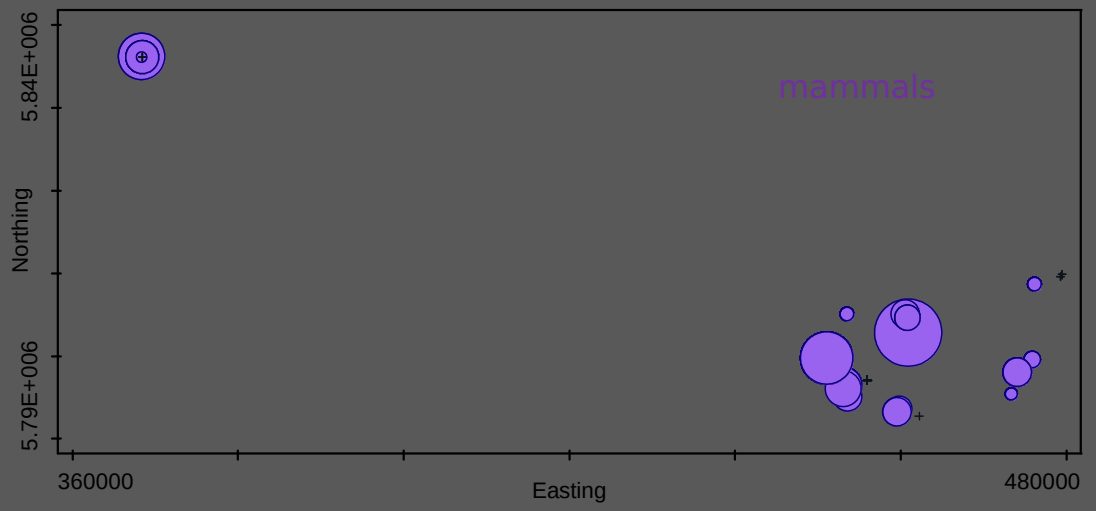
- Diet explained by land cover types
- Forward selection – CCA, adjusted explained variation = 14,1%, $p < 0.005$
- Selected: grassland, fallow, fields, other ($p_{adj} = 0.003$)
- Forward selection with space as covariate – no land cover types significant
- Variation partitioning – most of variation is shared ($p = 0.001$)
- My data is spatially structured





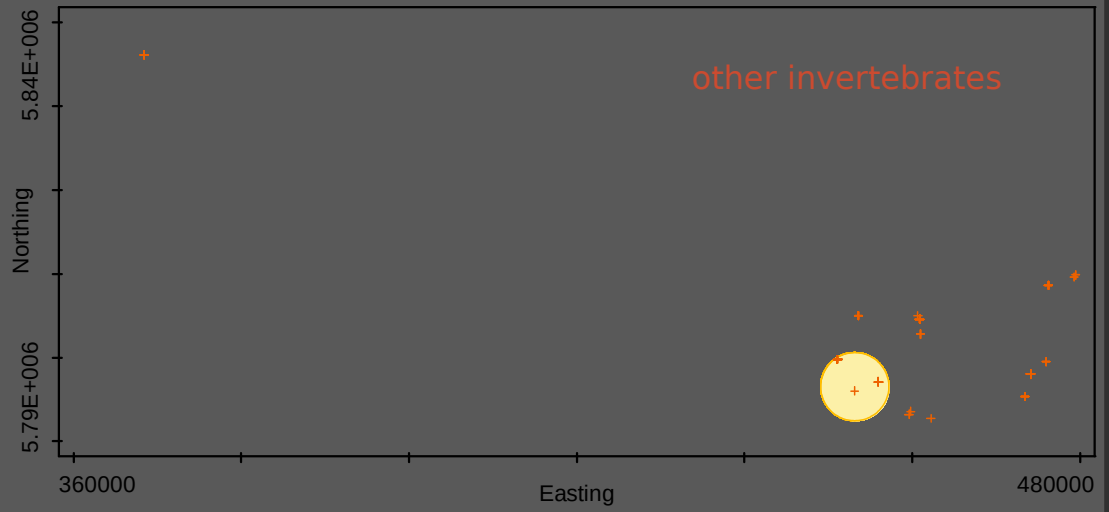
Grasslands

Fields



Fallows

Other



Diet of the otter

- Diet connection with otter occurrence within seasons
- No significant effect of any predictor ($p > 0.1$)
- Expectations: otters are more active in places, where they eat more fish (more suitable habitat)

  Perhaps not on land? ;)
- I must look into that further!

Summary of the results

- I got to know the weaknesses of my dataset just in time
- I finally learned the dbMEM!
- I expanded my statistical toolbox
- I understand much better what stands behind the methods I have already used
- I can consider myself more fluent Canoco user, and one of the first who know about what has been updated
- I got a lot of insight from many great minds

Thank You for Your attention,
help and a great time!