



Interreg
Italia-Österreich
European Regional Development Fund



ALFFA: Holistic (multiscale) analysis of the factors and their effect on the fish fauna in inner-alpine space

*IMC, Innsbruck 2019
Katja Schmözl*



AUTONOME
PROVINZ
BOZEN
SÜDTIROL



PROVINCIA
AUTONOMA
DI BOLZANO
ALTO ADIGE



TIWAG



universität
innsbruck

eurac
research

Background ALFFA

- river ecosystems are **strongly influenced** by landform and human activities
- **most rivers** are contaminated by a combination of different interventions
- fishes are an **established biological indicator** for the good water status in the European Union

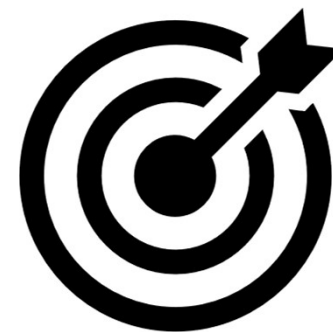


photos © stock.adobe

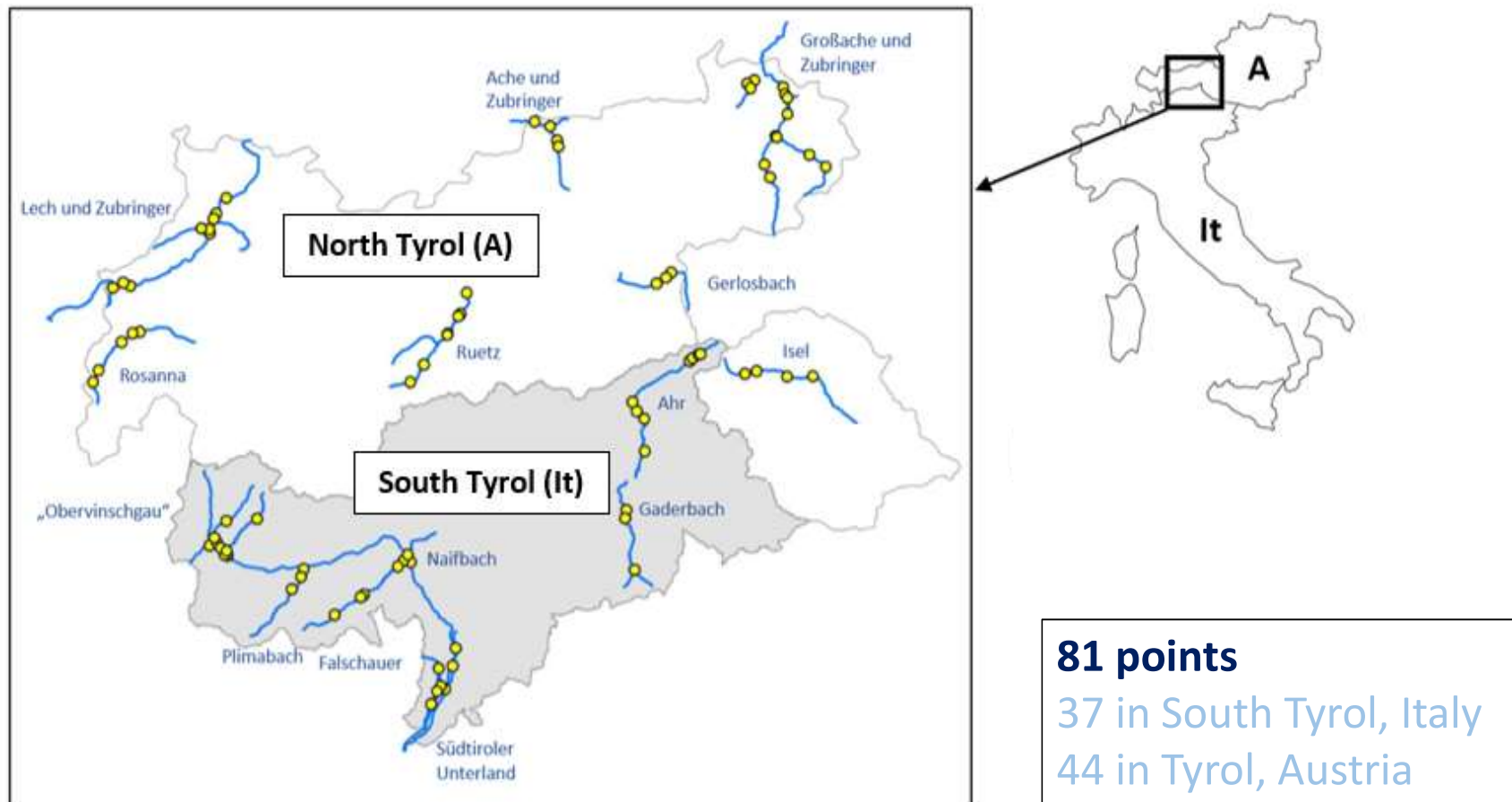
Aims


In this project we will:

1. determine the impact on the fish population of all influencing drivers (as far as possible),
2. Determine upscaling mechanisms of fish population structures on the basis of significant impacts in the whole area and validate them with existing population data,
3. and incorporate the results into river management plans to provide guidelines for future decisions making.

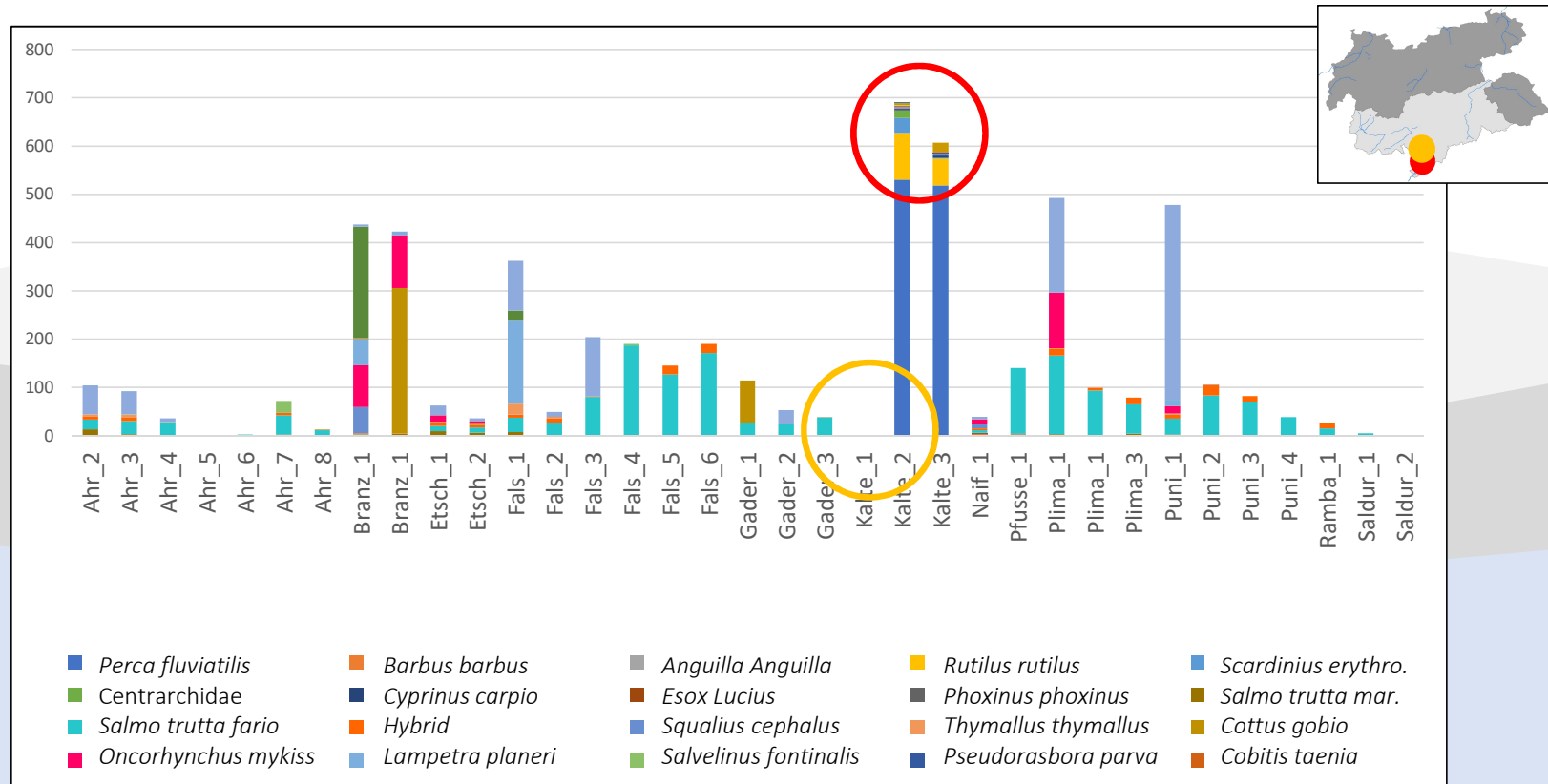


Study area



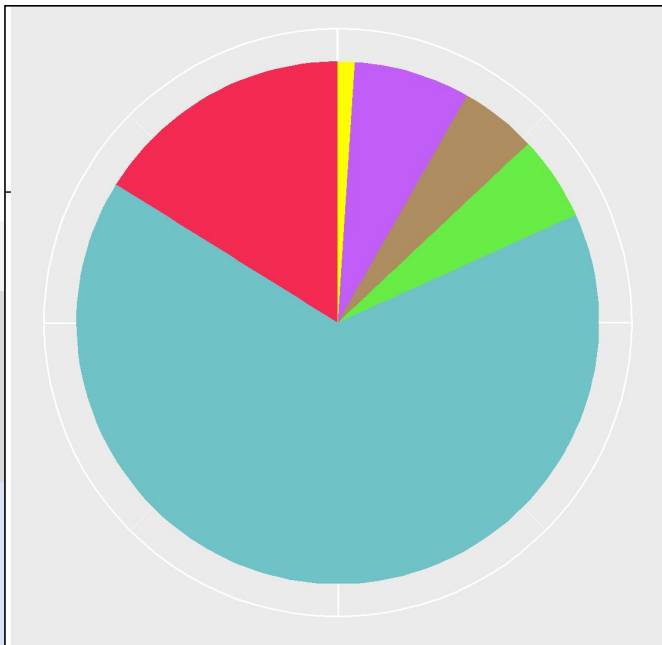
- 
- Species composition
 - Biomass
 - Structure of the fish population
 - Density of individuals

Abundance of fish species in South Tyrol (results 09/2019)

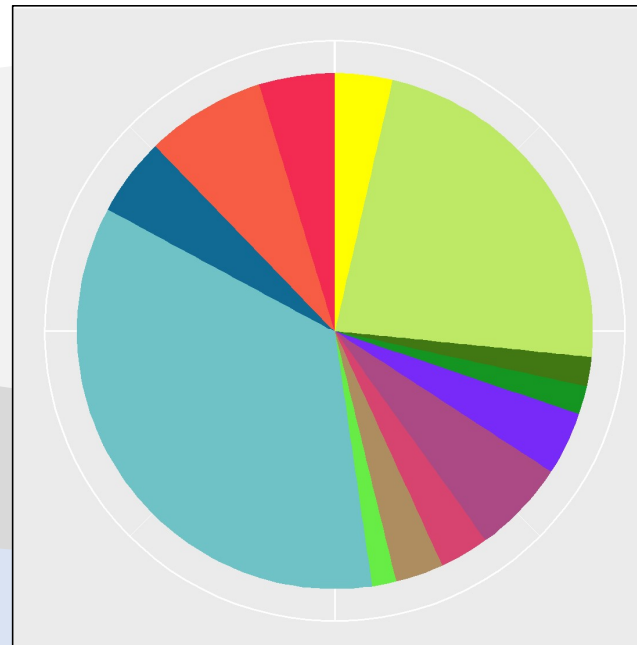


Fish biomass percentage for Tyrol and South Tyrol

Tyrol (A)

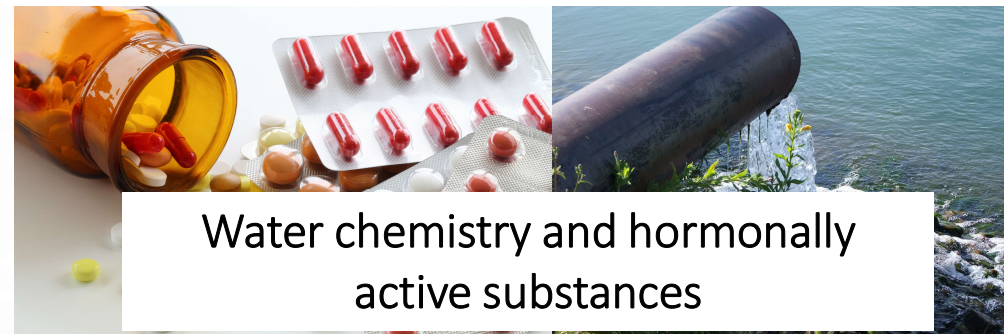


South Tyrol (I)



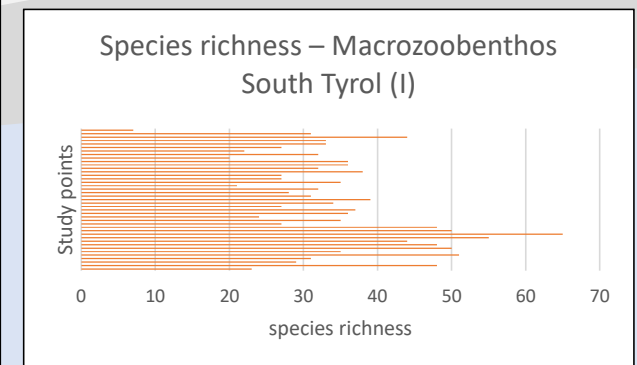
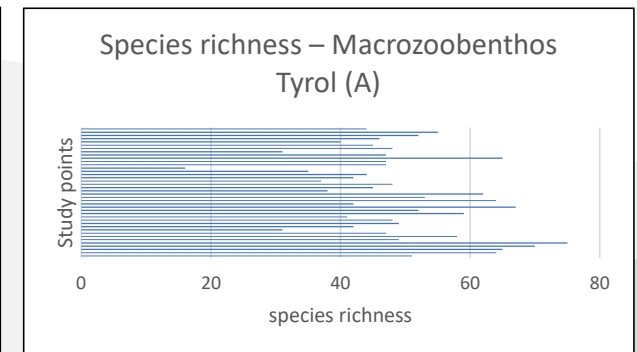
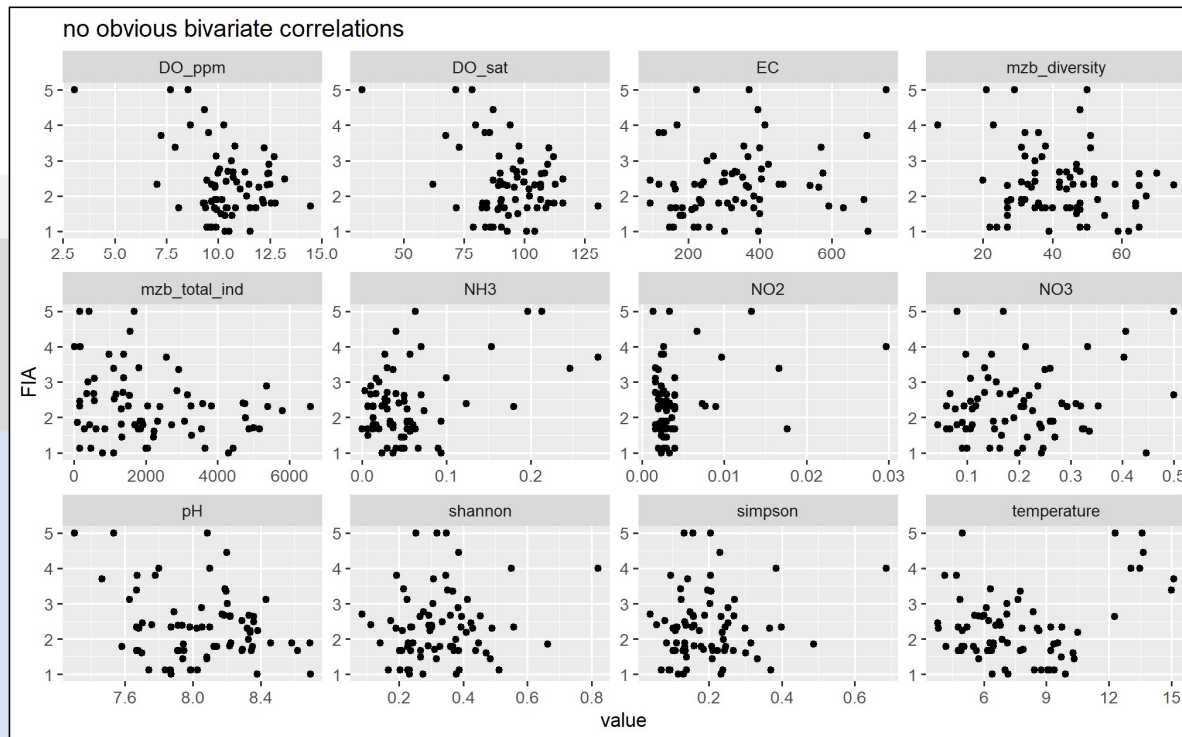
Species

- Rainbow trout
- Hybride
- Marble trout
- River trout
- Grayling
- European bullhead
- Northern pike
- Tench
- Chub
- Perch
- Roach
- Carp
- Others



First results

- So far we couldn't find any obvious bivariate correlations regarding water chemistry and macrozoobenthos diversity



Conclusion

1. Regionwide prediction map of different fish species and fish biocoenosis
2. How strong the different factors are having impacts on the fish populations
3. Guidelines for the management and precautions of streaming waters
4. Sustainable use of streaming waterbodies
5. Protection of local waterbodies and fish populations for the next generations



Lech © W. Mark



Lech © W. Mark



Interreg
Italia-Österreich
European Regional Development Fund



Thank you for your attention!

Katja.Schmoelz@eurac.edu

Project team: Erich Tasser, Roberta Bottarin, Agnes Felber, Felix Lassacher, Wolfgang Mark, Michael Niederwanger, Bernd Pelster, Arianna Peron, Martin Schletterer, Katja Schmölz, Richard Schwarzenberger, Alberto Scotti, Melanie Thaler, Josef Wieser

AUTONOME
PROVINZ
BOZEN
SÜDTIROL



PROVINCIA
AUTONOMA
DI BOLZANO
ALTO ADIGE



Versuchszentrum
Centro di Sperimentazione
Research Centre
LAIMBURG
NATURE & SCIENCE: HAND IN HAND



universität
innsbruck

eurac
research