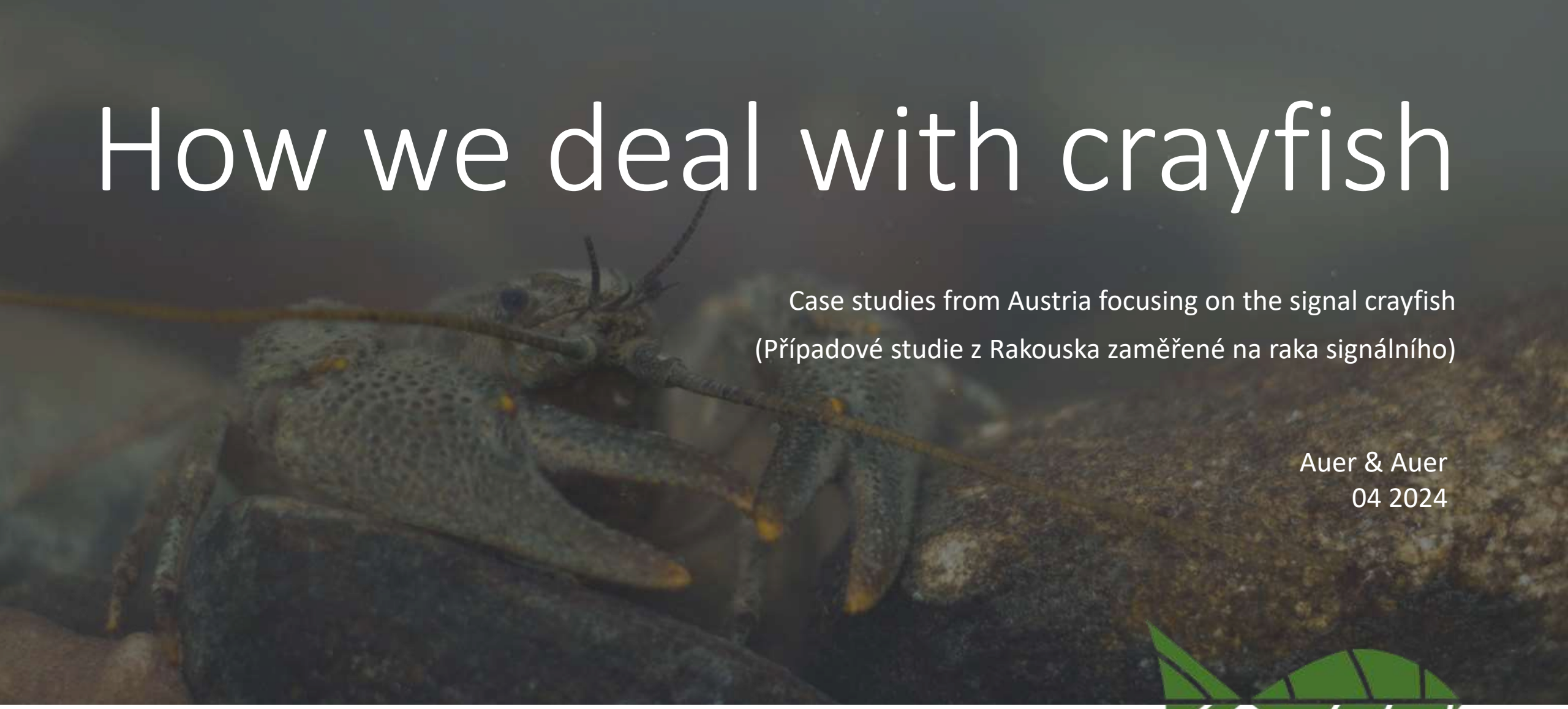
How we deal with crayfish



Case studies from Austria focusing on the signal crayfish

(Případové studie z Rakouska zaměřené na raka signálního)

Auer & Auer

04 2024

Norway grants

STÁTNÍ FOND ŽIVOTNÍHO PROSTŘEDÍ ČESKÉ REPUBLIKY

blattfisch

Who we are

„blattfisch e.U.“ is a consultancy company located in Upper Austria, that offers its professional expertise in aquatic ecology and engineering in both Austria and Europe, mainly in neighbouring countries, including Germany, Switzerland, Italy and the Czech Republic.

The experienced team includes biologists, ecologists, landscape planners/designers and environmental engineers and provides, amongst others, integrative solutions for the protection and restoration of natural aquatic resources and ecosystems.

Our specialist services cover a wide range of disciplines in aquatic ecology and provide complete project support, including the planning, implementation, supervision, evaluation and monitoring of measures.

www.blattfisch.at

What we do

Conservation:
- Crayfish breeding
- Crayfish stocking
- Creation of gene pools

Hindering the spread of the crayfish plague pathogen :
- Building crayfish barriers
- Conducting information events
- Efforts to restrict water sports
- Providing disinfection equipment
- Analysis of pathogens and entry pathways

Local occurrence:
- Several local distribution surveys of native crayfish
- Local controls of the expansion of non-native crayfish
- Documentation of bycatch
- Historical analysis

Research:
- Comparison of survey methods (eDNA)
- Testing of new survey methods
- Study on pesticide and drug residues
- Monitoring of developments after crayfish plague outbrakes

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Local management measures and efforts:
- Population evaluation
- Create distribution maps and GIS-tools
- Definition and implementation of measures
- Definition of objectives and monitoring

What we lack

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Supra-regional efforts:
- A central database of crayfish occurrences
- Coordination between individual projects
- A comparability of the data
- Pre-defined minimum requirements

A supra-regional management tool

We need this to balance out aspects of species protection where we are failing for decades!

Where we fail

Eradication of signal crayfish and new NICS:

- Trapping and collecting does not lead to the eradication
- The use of poison is frowned upon by society

Ending the spread of NICS and crayfish plague pathogens:

- Vague laws and lack of controls
- Lack of problem awareness
- Unknown vectors of the crayfish plague pathogens

Supra-regional efforts:

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A supra-regional management tool

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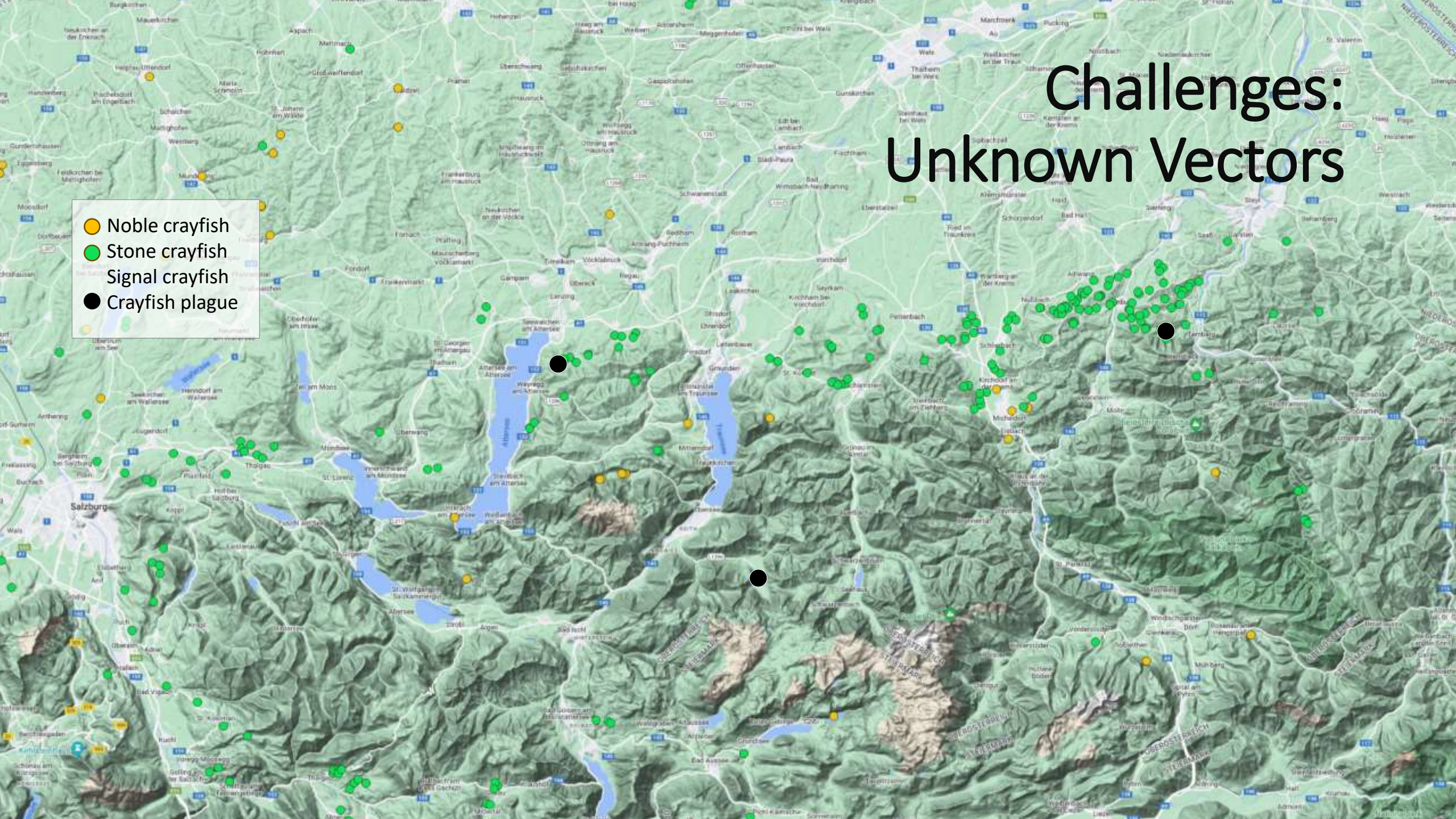
Supra-regional management tool

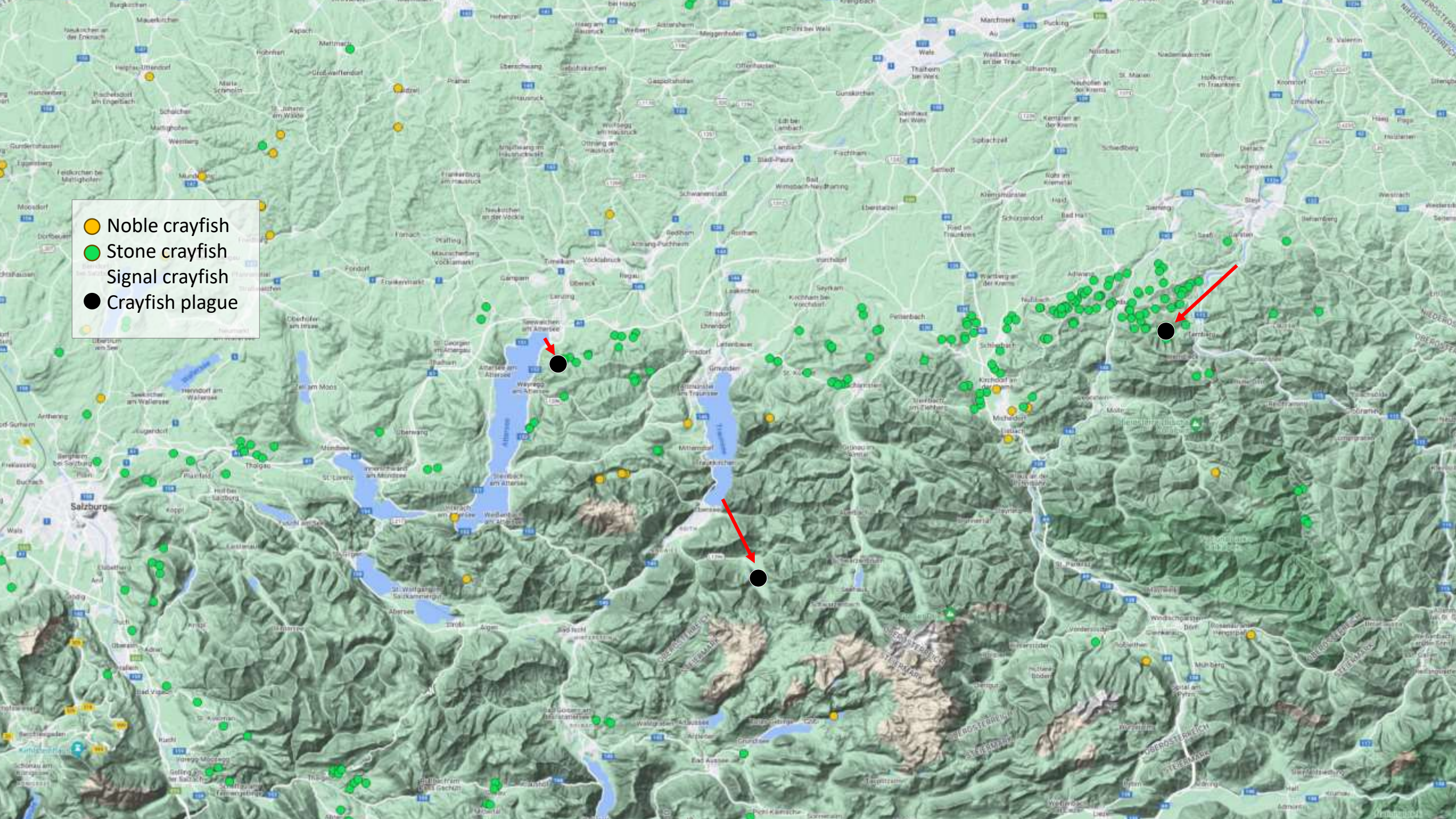
Main goal:

Conservation and protection of the remaining native populations

- but there are **Challenges**,
- we try to tackle with a solid **Data basis**
- we establish **Gene pools**
- and secure them with a variety of **Measures**

Challenges: Unknown Vectors




Noble crayfish
Stone crayfish
Signal crayfish
Crayfish plague
Salzburg

Data basis

Knowledge of crayfish distribution as most important tool

- Monitoring programs
  - Maintenance of Natura 2000 sites
  - Management plans for Nature parks
  - Long-term species conservation projects
  - Monitoring the development of known stocks
- Establishment of a reporting platform
  - Citizen-Science
  - Collecting and verifying of crayfish findings

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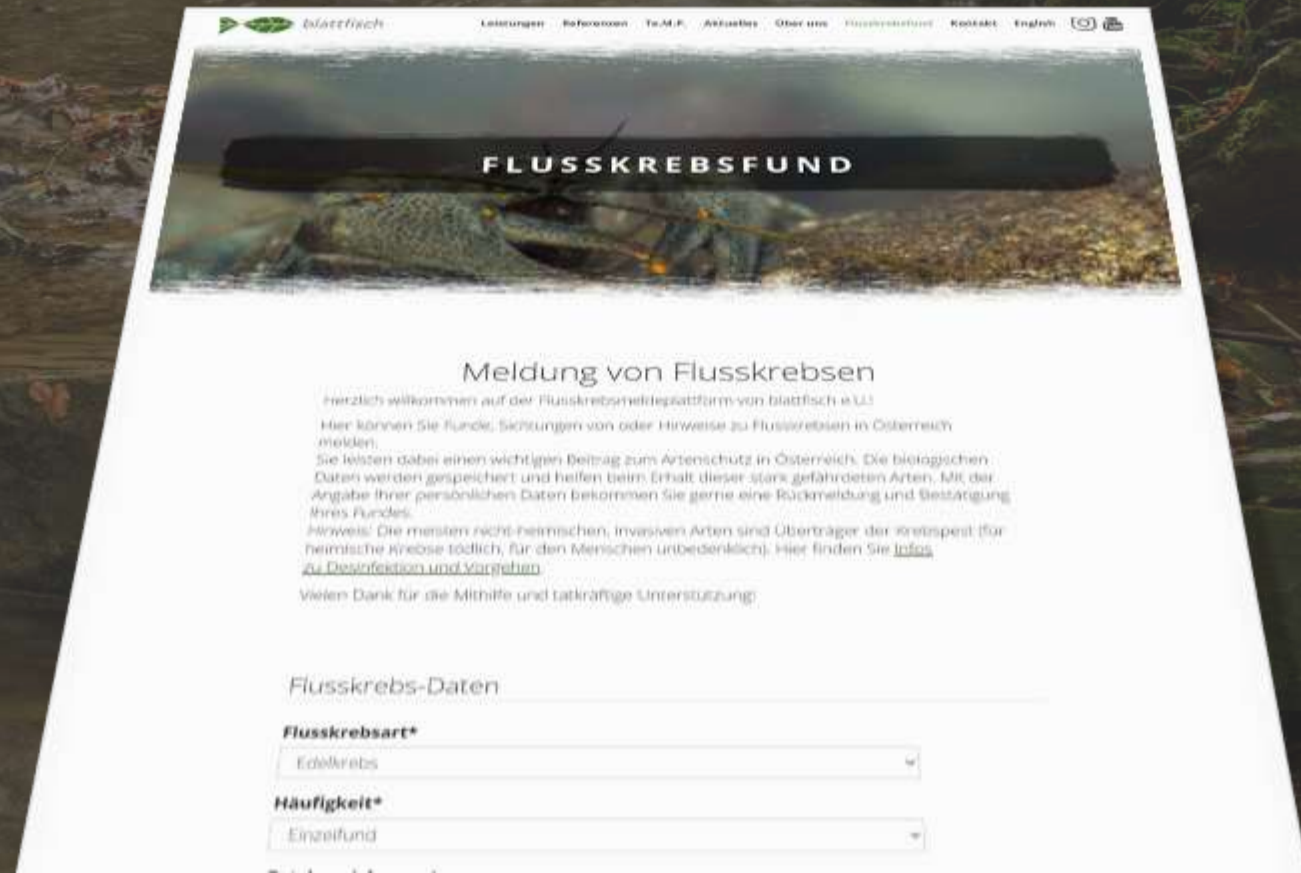
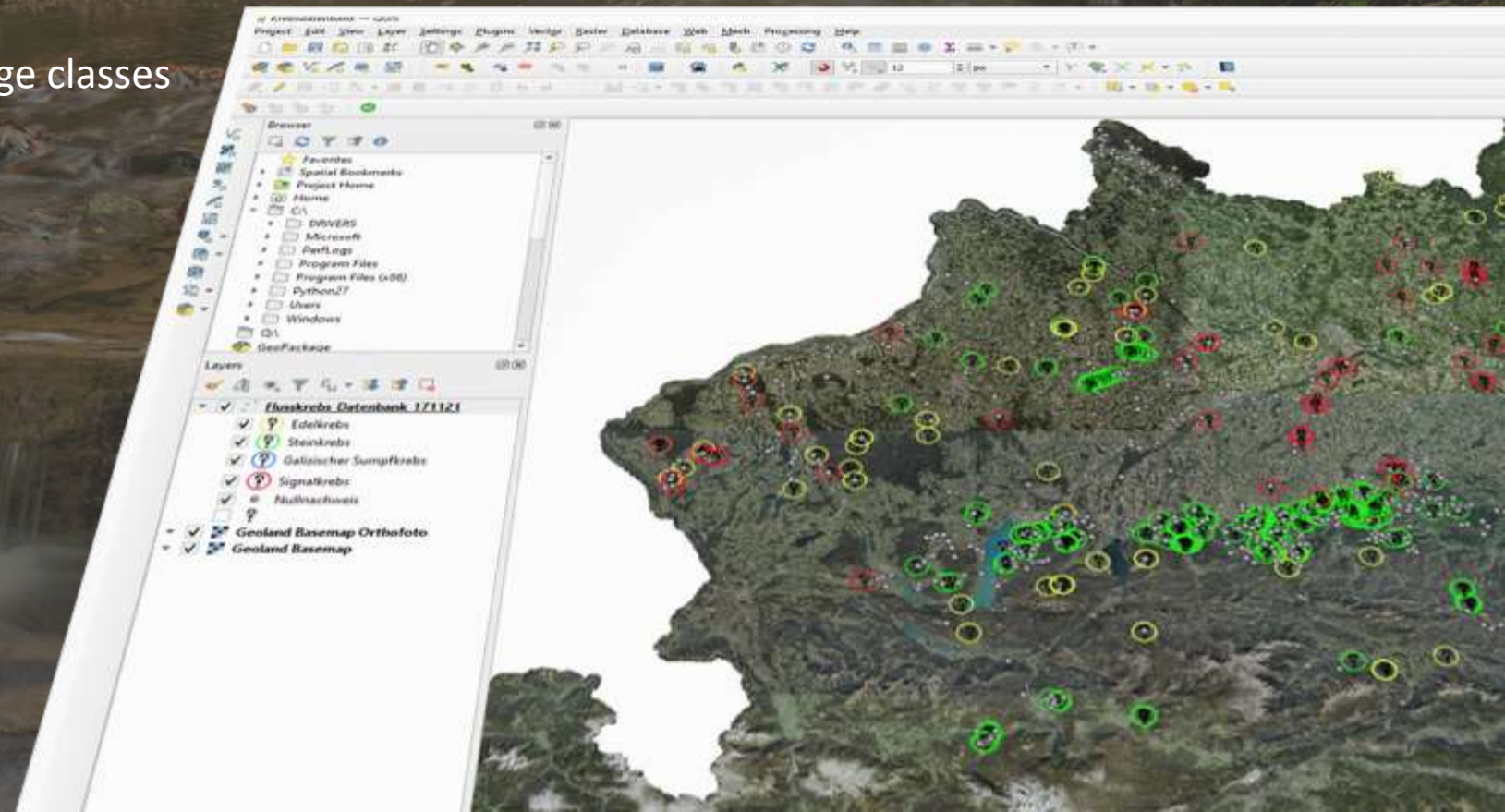


Genepools

Genpools as centerpiece of our conservation work

- Both stone crayfish and noble crayfish
- Definition suitable waterbodies
- Appropriate indicators like density & age classes
- Maintenance and periodic monitoring
- Stocking of suitable waterbodies



Measures

Exclusion barriers

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- High effectiveness to safeguard native populations
- Especially valuable Genepool populations

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- Conflict of interest with Water Framework Directive
- Financial funding
- High effort of planning and installation

What we do

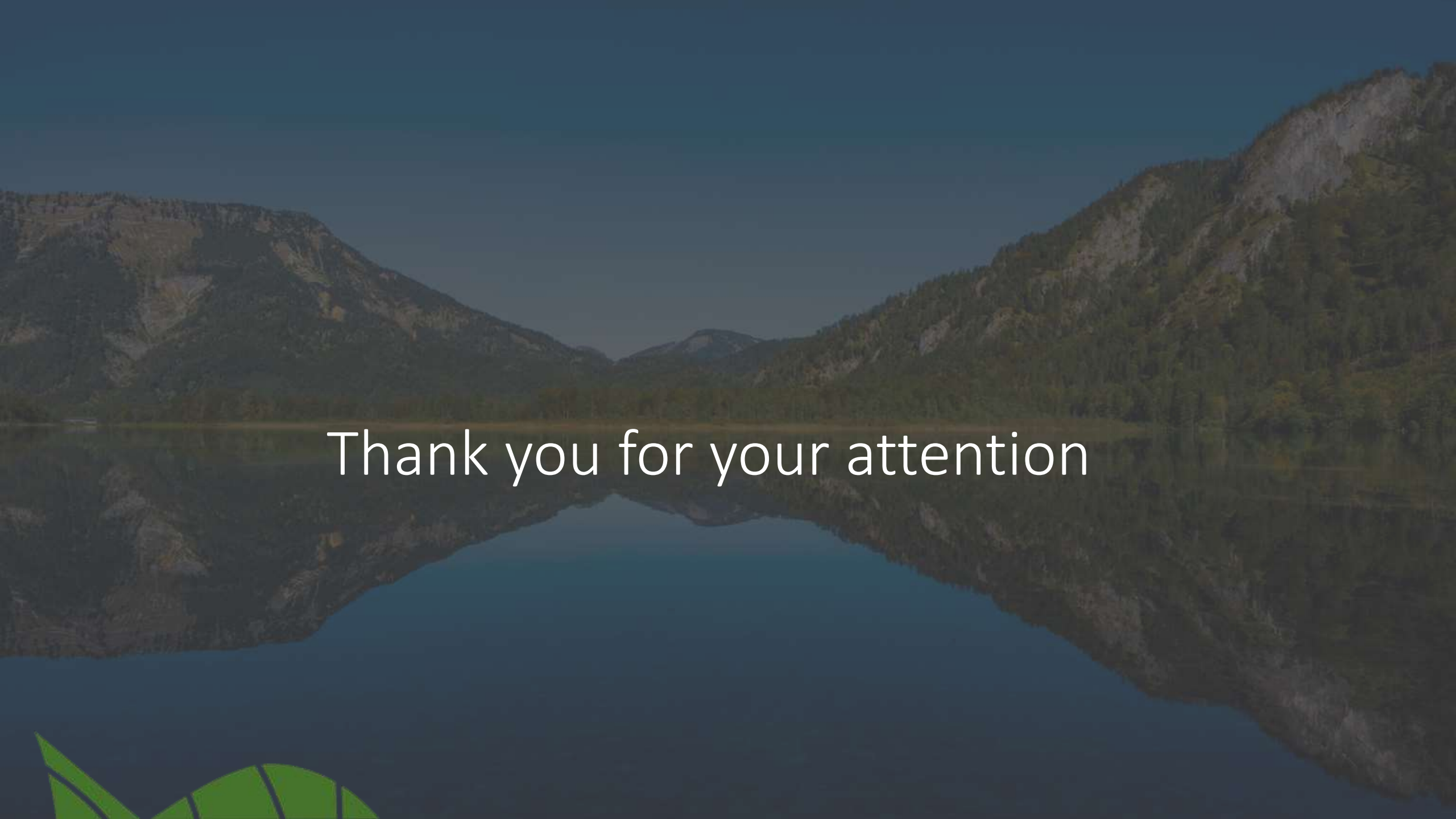
- Only in headwaters
- Or in urgent need of actions
- Installing on existing constructions

Measures

Measures

Conclusions

- Signal crayfish are widespread in Austria and cannot be suppressed
- Native crayfish can only persist in isolated water bodies
- Regional and supra-regional management plans are needed to protect the remaining native crayfish


Thank you for your attention