


## Training school about freshwater mussel breeding

### Releasing and monitoring of mussels and their potential habitats

In the early 2000's first steps for a comprehensive conservation of freshwater pearl mussel populations in the southern Bavarian Forest were taken, comprising the establishment of a breeding program and the restoration of suitable habitats. Since 2015 conservation work started to include the selection of suitable release habitats comprising deficit analysis and optimization of microhabitats for release of juvenile mussels. In 2018, first juvenile mussels were tagged, released and their performance in the natural habitats has been monitored. In recent years, other mussel species, such as *Unio crassus*, *Unio pictorum* and *Anodonta* sp., occurring in the region of Lower Bavaria have been integrated in conservation efforts mainly focused on habitat conservation.

Date	<p><b>Obligatory COST workshop with Reimbursement</b></p> <p><b>Monday 11<sup>th</sup> September – Wednesday 13<sup>th</sup> September 2023</b></p> <p><b>Voluntary extension without Reimbursement: Thursday 14<sup>th</sup> September – Friday 15<sup>th</sup> September</b></p>
Venue	<p>Region of Passau with different venues within a range of 30 km of the city of Passau</p> 
Accommodations	<p>The pitoresque city of Passau situated at the confluent of the three rivers Danube, Inn and Ilz offers a variety of different accommodations. See:</p>

	<p><a href="https://tourismus.passau.de/uebernachten/uebernachten-passau-stadt/">https://tourismus.passau.de/uebernachten/uebernachten-passau-stadt/</a></p> <p>A shuttle bus between Passau and the field venues will be arranged.</p>
<p>How to get there</p>	<p>Passau is situated in the southeastern part of Germany close to the borders of Austria and the Czech Republic.</p> <p><a href="https://goo.gl/maps/wmwphyVi1nEZ3U4W7">https://goo.gl/maps/wmwphyVi1nEZ3U4W7</a></p> <p>Closest airports are Munich (GER) and Linz (AUT) with regular train connections to Passau and travelling time of 1.5 -2.5 hours.</p>
<p>Topics and course of the training school</p>	<p><b>Obligatory COST workshop with Reimbursement</b></p> <p><b>Monday 11<sup>th</sup> September 2023: Habitat assessment</b></p> <p>Block 1 (2 hours):</p> <ul style="list-style-type: none"> <li>- General introduction and theoretical background to analysis of (release) habitats</li> <li>- Introduction to field mapping of (release) habitats</li> </ul> <p>Practical exercise (2 hours):</p> <ul style="list-style-type: none"> <li>- pre-selection of potentially suitable river stretches for juvenile release according to available monitoring data and map based landscape analysis</li> </ul> <p>Block 2 (4 hours): Practical exercise:</p> <ul style="list-style-type: none"> <li>- field mapping of microhabitats</li> <li>- habitat deficit analysis</li> <li>- Development of a concept for habitat improvement</li> </ul> <p><b>Tuesday 12<sup>th</sup> September 2023: Monitoring methods</b></p> <p>Block 1</p> <ul style="list-style-type: none"> <li>- Introduction to monitoring of mussels (2 hours)</li> <li>- Introduction to population genetics of mussels and fish (2 hours)</li> </ul> <p>Block 2</p> <ul style="list-style-type: none"> <li>- Practical exercise: Genetic sampling in the field (2 hours)</li> <li>- Marking and tagging mussels (2 hours)</li> </ul>

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**Wednesday 13<sup>th</sup> September 2023: eDNA**

**Block 1:**

- Introduction to eDNA Metabarcoding applications for conservation (2 hours)
- Laboratory sampling design, DNA extraction, Library prep, and NGS (2 hours)

**Block 2: Practical field exercise**

- Fieldwork sampling design for eDNA capture with example field session (4 Hours)

**Voluntary extension without Reimbursement**

**Thursday 14<sup>th</sup> September 2023: eDNA and monitoring methods part 2**

**Block 1: eDNA**

- Bioinformatic procedures and pipelines (2 hours)
- Taxonomic assignment and data curation (2 hours)

**Block 2: Monitoring methods, Practical exercise:**

- Application of various on site mapping methods in different habitats of Anodonta and Unio species (4 hours)

**Friday 15<sup>th</sup> September 2023**

Practical exercise: Releasing mussels (4 hours)

Summary and closing of the training school (1 hour)

Approximate end at 2 pm

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**Contact**

Landschaftspflegeverband Passau e.V.

Dr.-Ernst-Derra-Straße 4

94036 Passau

[Marco.denic@landkreis-passau.de](mailto:Marco.denic@landkreis-passau.de)

Tel: +49 851 379 386 16