Biologische Station
StädteRegion Aachen e.V.

15-year experience of saving the last freshwater pearl mussel (*Margaritifera margaritifera*) population in North Rhine-Westphalia, Germany

Introduction

The only recent river pearl mussel population in North Rhine-Westphalia can be found in the Perlenbach, a small brook in the Eifel mountains, south of the city of Aachen.
Still in the 18th century up to 500,000 mussels could be counted here. The first efforts to protect the nowadays endangered species took place in the 1980s. At this time the number of individuals was about 300.
After more than 20 years of standstill, work was resumed within the framework of the EU financed LIFE project (LIFE03 NAT/D/000003) “Living brooks in the Eifel” with an overaged population of only 30 remaining mussels.





Restoration of the habitat - LIFE project “Living brooks in the Eifel”

In 2003 the LIFE project “Living brooks in the Eifel” was set up to restorate the habitat for e.g. pearl mussel and brown trout.

Several measures have been conducted:
-conversion of fir forests – planted in the alluvial plain – into either alluvial forests with common alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and downy birch (*Betula pubescens*) or wet meadows (about 70 ha) (1)
-restoration of mountain hay meadows and tall herb fringe communities along the water courses
-removal of about 80 migration barriers and reduction of intensively fish ponds (2)
-removal of the brook consolidation on about 3 km
-transformation or substitution of frequently used fords to reduce fine sediment emissions (3)



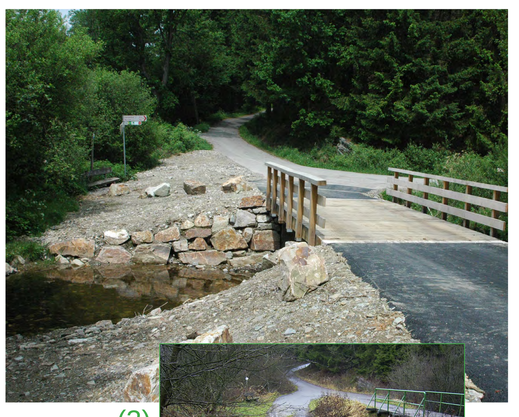
(3)



(1)



(2)



(3)

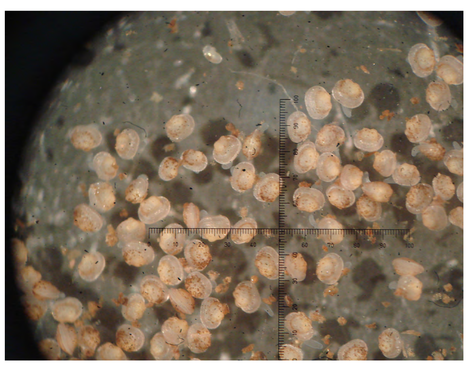
A breeding programme was an issue of another project, funded by the NRW-Stiftung (a foundation of the federal member state of North Rhine - Westphalia) and the LANUV (an authority associated with the member states`s ministry of environment). It comprised the monitoring of mussels in the Perlenbach and the check for gestation.



A new generation - captive breeding programme

In 2006, the infestation of brown trouts could take place for the first time. The trouts were transferred for the breeding cycle to a facility in Saxony (under responsibility of Michael Lange). Two more years it was possible to infest hostfishs with glochidia from the Perlenbach population until in 2009 the last five autochthonous donor mussels died in a dry and hot summer. Within the EU Interreg-project „Habitat Euregio“ the breeding of a genetically closely related mussel population from Belgium started to improve the genetic pool of the small local stock. In 2018, there are ~200 mussels in cages aged between 11 and 9 years from the local population.











Future tasks

In about 5 years a new reproduction cycle of freshwater pearl mussels from the Perlenbach can be expected. Until then some tasks have to be done, e.g.:
-introduction of an adequate substrate (studies found lack of suitable grain sizes)
-identifying and analyzing of suitable sections offering stable substrate conditions in changing water levels
-improving the genetic pool with genetically related populations
-analyzing and set up of a suitable host fish population (there has been stocking with allochthonous brown trouts in the past and because of a dam, downstream exchange is missing)

Contact

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