LIFE+ Programme

CONSERVATION OF THE FRESHWATER PEARL MUSSEL IN THE ARMORICAIN MASSIF

AN ACTION COORDINATED BY

Bretagne Vivante sepnb

Living rivers of Brittany and Normandy

Mobilization for the freshwater pearl mussel

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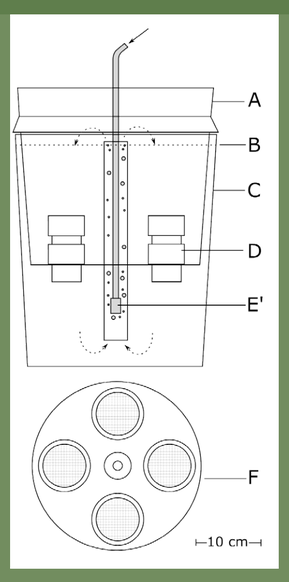
A European programme (2010-2016) is underway to preserve the freshwater pearl mussel in Brittany and Lower Normandy. The pearl mussel populations of the Armorican Massif are old and could become extinct within 10 years if nothing is done. The preservation of the populations in breeding stations and their reinforcement in a quality environment will be at the core of our efforts during the next six years.

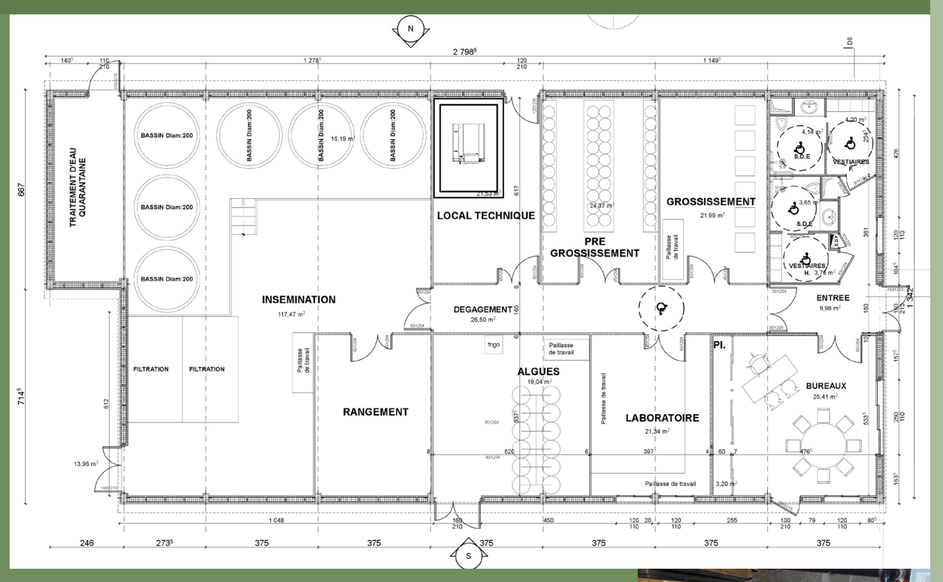
Fishermen become breeders

Being an essential partner of the LIFE+ programme, the Finistère Fishing Federation will set up a breeding station in Brasparts (Finistère) as early as 2011. The major goal is to culture mussels of various age-classes in order to anticipate its extinction in its natural environment and to ensure its survival for a possible restocking. The goal of this *ex-situ* conservation operation is to have a batch of about 4 000 pearl mussels aged 4 to 5 years for each of the watercourses at the end of the programme.



Year n to n+1

Bucket rearing system adapted by the Finistère Fishing Federation (from Barnhart, 2006)
A: upper bucket,
B: water level,
C: lower bucket,
D: chamber,
E': airlift,
F: view from above



Plans for the rearing station

New construction of 300 m²
Area 1: technical room and prefiltration,
Area 2: insemination,
Area 3: preenlargement,
Area 4: enlargement,
Area 5: algae room,
Area 6: laboratory

Year n+1 to n+x

Vertical incubator sieve 500 µm

Further improving the environment quality

Actors and managers of the watercourses, who are indispensable allies, are guided throughout their activities of restoring river and habitat quality. Further inventories are carried out. Regulations adapted to each site are implemented in order to protect the habitat, the mussels and the host fishes.
The habitat quality is assessed throughout the project in order to optimize the populations reinforcement so that, in the end, a better understanding, a better management and a better monitoring of wild stocks can be achieved.

Water and sediment quality controls are undertaken © Hervé Ronné

One goal : reinforcing wild stocks

The reinforcement of wild stocks is carried out each year by directly reintroducing individuals in the sediment of the rivers and also using methods which make it possible to assess the outcome of the operation *in-situ* (thanks to incubator baskets that are placed in the substrate). However, on rule prevails for these reintroductions : the original wartercouse will first have to have reached a sufficient quality.

Sheet cages from Buddensiek (1991)

Meshed capsules, used by INRA with salmon eggs to test the quality of sediments, could be used with a finer mesh

Mussel silo developed for deployment of small groups of juvenile mussels in rivers (Barnhart 2008)

River Elez has one of the last freshwater mussel population of Brittany © Hervé Ronné

References

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• **Barnhart C**. 2008. Methods for laboratory culture and field caging of freshwater mussels. Poster from the international seminar « Rearing of unionid mussels », 28-31 May 2008, Projet LIFE/Nature « Restauration des populations de moules perlières en Ardennes », Heinerscheid, Luxembourg.
• **Buddensiek V.** 1991. *Untersuchungen zy den Aufwuchsbedingungen der Flussperlmuschel* Margaritifera margaritifera *L. (Bivalvia) in ihrer frühen postparasitären Phase*. PhD thesis, Department of Biology, University of Hannover, Germany.

Partners

Financing organism

Seminar of the LIFE Nature « Restauration des populations de moules perlières en Ardennes » (LIFE05 NAT/L/000116), 13 May 2011, Heinerscheid, Luxembourg.

www.life-moule.perliere.org