

- 1 The river mussel is dioecious and starts reproduction at the age of 4-5 years. In spring the male mussels release their sperm, which is then absorbed by the females. The eggs are fertilized and start to develop.
- 2 Between May and June about 50,000 to 100,000 larvae called Glochidia are released.
- 3 The Glochidia, at a size of only 0.2 mm, are able to survive a few days only. Therefore, they need to encounter a suitable host fish as soon as possible. In the Ardennes area mainly minnows, chubs or bullheads act as host fish.
- 4 The larvae attach themselves onto the gills of the host fish and develop into juvenile mussels within 10-35 days, depending on water temperatures. As the juvenile mussel has reached a critical size, it falls off the host and starts to live as a free mussel in the interstitial gravel spaces in the river bed.



Phylum	Mollusca
Family	Unionidae
Age	Up to 30 years
Size	6-7 cm
Habitat	<i>Unio crassus</i> preferentially inhabits very small to small streams but can also be found in large rivers with clean water flowing at mediocre velocity.
Food	Fine organic material (detritus), microalgae
Distribution	All over Europe except the British Isles
Status	Prone to extinction throughout Europe



Project partners



Restoration of
UNIO CRASSUS RIVERS
in the
Luxemburgish Ardennes



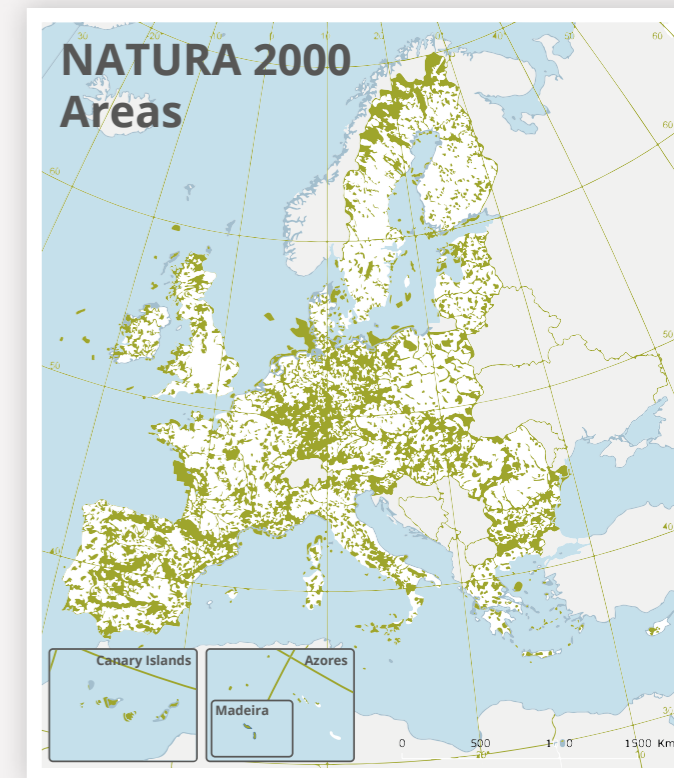


Why are the river mussel populations in decline in Luxembourg and Europe?

The lack of water conservation measures deteriorates the river mussel's living conditions.

To survive, the river mussel needs clear, nutrient poor and oxygen rich watercourses.

Well directed restoration measures prevent unnaturally high erosion incidences and help to protect targeted watercourses.



River Our - Source in Belgium, border river between Germany and Belgium and, further downstream, between Germany and Luxembourg.

Total length of 96 km. Project area about 56 km²

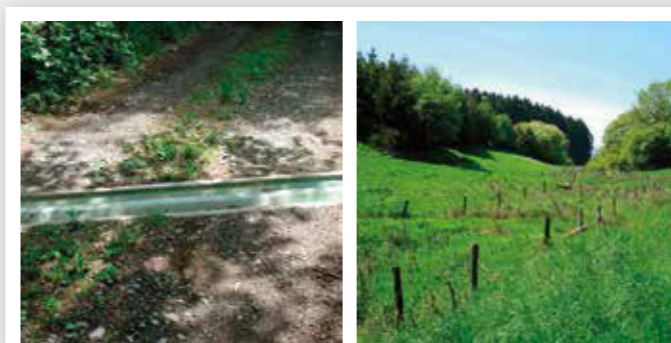
River Sauer - Source in Belgium, border river between Belgium and Luxembourg. The central part of the river in Luxembourg serves as a drinking water reservoir.

Total length of 140 km. Project area about 43 km²

The rivers Our and Sauer are typical low mountain rivers in the schist massif of the Ardennes. Both rivers harbour remaining populations of the river mussel.



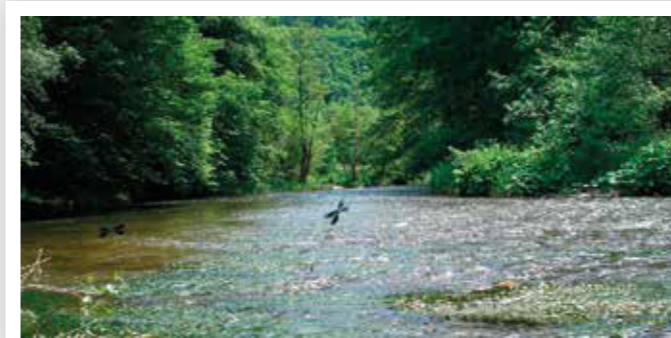
Example: Fine sediments and nutrients run-off into the river



Example: The installation of water evacuation grids on rural and forest roads prevents nutrient and sediment rich waters from entering the watercourses.



Consequence: Turbid waters impair the survival of juvenile mussels resting in the interstitial gravel spaces in the river bed.



Aim: Improve the living conditions of the river mussel by providing clear and clean water on a continuing basis.

To preserve the biological diversity within the European Union an ecological network of protected areas, called NATURA 2000, was designated within the territory of the EU.

The Birds Directive (1979) is based on the establishment of Special Protection Areas (SPAs) for bird species. The Habitats Directive (1992) similarly describes Special Areas of Conservation (SACs) to be designated for habitats, plants and animals (excluding birds) of high ecological value.

SPAs and SACs make up the NATURA 2000 network.

At the moment, a total of **29,000 areas** have been designated in the **27 member states of the EU.**

<http://ec.europa.eu/environment/nature/natura2000/>