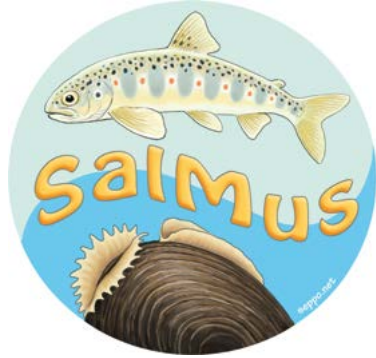


Conservation work for the endangered freshwater pearl mussel

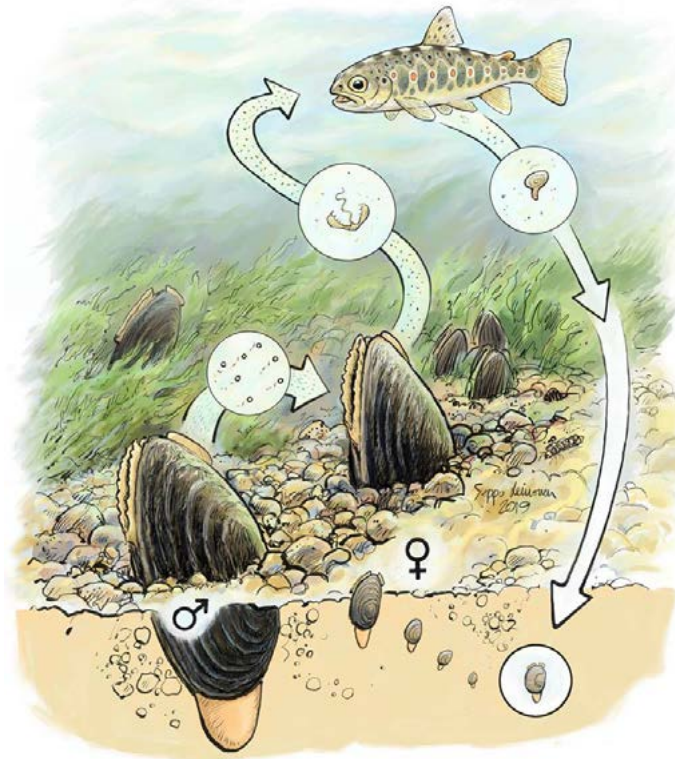


The freshwater pearl mussel (*Margaritifera margaritifera*) is listed as an endangered species across its entire range. This long-lived mussel thrives in clean running waters, which is why adverse changes in the land use, channel structure and water quality in the catchment areas of the river habitat all have a negative effect on its living conditions. Its life cycle makes the freshwater pearl mussel particularly vulnerable: in the larval

phase, it needs a young Atlantic salmon or brown trout as its intermediate host. The larvae attach to the gills of the host fish for the winter, before dropping to the river bottom as small mussels the following summer. Hydroelectric power plants prevent the migrations of salmonid fishes, and this is currently a key factor hindering the reproduction of the freshwater pearl mussel. Due to its strict habitat requirements, the mussel is a good indicator species: the presence of young specimens in the river is a clear indication of the water system's excellent environmental status. The freshwater pearl mussel also shapes its environment. It effectively cleans the water when filtering it for nutrition and offers an attachment surface and food for other species.

The SALMUS project funded by the EU's Kolarctic CBC programme promotes the conservation of the mussel and its host fish species in international cooperation. This three-year project led by Metsähallitus Parks & Wildlife Finland involves eight partners from Russia, Norway, Sweden, and Finland.

The main objective of the SALMUS project is to step up conservation cooperation in the rivers of the Fennoscandian Green Belt. By mapping new occurrences of freshwater pearl mussels and assessing the status of known populations, information is obtained to underpin future conservation work. The project also develops practical conservation methods, which include captive breeding of freshwater pearl mussels and restoration of river habitats. The project raises awareness of the significance of the cross-border river systems in which the mussel and its intermediate hosts live diversely across the project area. For more information about the objectives and practical measures of the project, visit www.metsa.fi/salmus



The life cycle of a freshwater pearl mussel. Fertilized mussel eggs develop into tiny glochidia larvae. These larvae need to attach themselves to the gills of young host fishes (Atlantic salmon or brown trout), where they live as parasites over the winter. In the following summer, after dropping off from the host fish, juvenile mussels dig themselves into the bottom substrate. They live submerged for a couple of years before starting the century-long life as filtering individuals on the river bottom.

Freshwater pearl mussel filtering nutrient particles from the water current. Salla, Finland.



Optimal environment for freshwater pearl mussels with a gravel bottom and clean water. River Suomujoki, Finland.



Heavy land use practices affect sediment flushing and siltation of riverbeds. This results in deteriorated conditions for the freshwater pearl mussels in adjacent river areas. Salla, Finland.