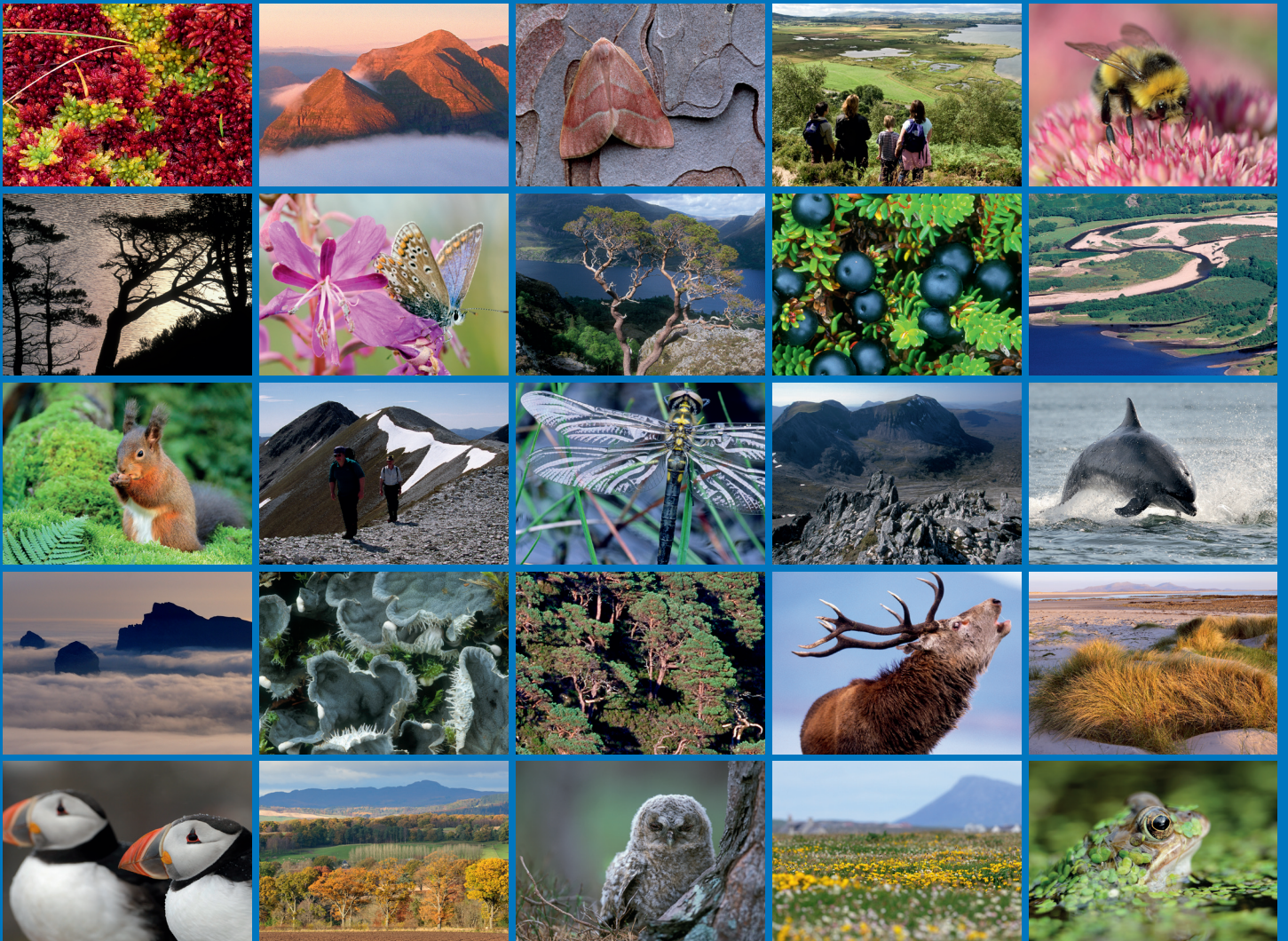


Monitoring the success of freshwater pearl mussel reintroductions

Summary report





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RESEARCH REPORT

Research Report No. 956

Monitoring the success of freshwater pearl mussel reintroductions

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RESEARCH REPORT

Summary

Monitoring the success of freshwater pearl mussel reintroductions

Research Report No. 956
Project No: 015934
Contractor: Waterside Ecology
Year of publication: 2018

Keywords

Freshwater pearl mussel; *Margaritifera*; reintroduction; host fish; glochidia; mortality.

Background

During the period 2005 to 2009, freshwater pearl mussels were transferred to selected reintroduction sites on the three rivers (called Rivers A, B and C to protect their anonymity due to the risk of wildlife crime). Monitoring of these reintroduced populations took place intermittently following transfer and showed that some mussels were surviving in all three watercourses. Checks on samples of host fish (juvenile salmonids) during 2009 and 2010 found no encysted glochidia in River A or B, but some glochidia were found on fish samples from River C. Reintroduction sites on all three watercourses were resurveyed during 2015, in order to record the number of surviving mussels and determine the current status of the reintroductions carried out in 2005 and 2009. Host fish populations were also sampled, in order to determine recent glochidial production and infection as an indicator of mussel reproductive success. The following report provides information on the status of reintroduced mussels, host fish densities and glochidial prevalence and distribution at the three sites in 2015. It also provides information on host fish species and glochidial infections at two further sites where there are extant populations of freshwater pearl mussel.

Main findings

- River A appears to be too unstable to support substantial numbers of mussels. At present, this river is considered to be unsuitable for further reintroduction effort and no further monitoring is required.
- Mussels continue to survive at both reintroduction sites in River B and were found to be successfully infecting host fish. This river may be considered for future reintroduction/restoration efforts and reinforcement of the existing reintroduced population should be considered.
- River C appears to have limited scope for future mussel reintroductions. However, continued monitoring of the reintroduced mussels and host fish is recommended. Mussels survive at both reintroduction sites in the river and infected hosts were found, so monitoring would provide long-term information on the fate of single transfers of small numbers of mussels.

- Surveys of the larger of the two separate watercourses with extant mussel populations found that both salmon and trout were infected with glochidia. Infection intensity was higher on salmon.
- Electric fishing surveys of the smaller watercourse with an extant mussel population found glochidia only on trout. Glochidia prevalence and infection intensities were high and appeared to show a positive relationship with mussel density at the survey sites.

The findings are discussed and their relevance to current and future reintroductions is considered. A series of recommendations are presented that might potentially improve the survival of translocated mussels and the likelihood of their successfully infecting host salmonids.

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