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Upland habitats with a focus on Freshwater Pearl Mussel

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1. Status and trend

Habitats within western upland areas:

- Annexed habitats show bad status and deteriorating (NPWS 2019)

Freshwater Pearl Mussel:

- Endangered (one of the 365 most endangered species on earth) on IUCN Red-list (Moorkens *et al.* 2018)
- 80% of national population in 8 catchments (c.30% of EU population)
- Overall Status in Ireland: bad and deteriorating (NPWS 2019)

General Freshwater quality:

- Ten-fold decline in pristine (Q5) waters required by Freshwater Pearl Mussel since the late 1980's (EPA 2017, DHPLG 2018)

2. Drivers/Pressures

Alterations of peatland and grassland habitats in Pearl Mussel catchments resulting in habitat loss and degradation. This contributes to decline of the Pearl Mussel as result of the following:

- Greater fluctuations in Flow due to catchment drainage
- Sediment increases
- Nutrients increase

- Moorkens, E. (1999); Hastie *et al.* (2000); Hastie *et al.* (2003); Denic, M. & Geist, J. (2014); Skinner *et al.* (2003); Moorkens, E. (2015); Aldridge *et al.* (2007); Moorkens, E. & Killeen, I. (2014); Hastie *et al.* (2000); Geist, J. & Auerswald, K. (2007); NS2 (2010)

3. Solutions

- The importance of the broad range of ecosystem services that are provided in these catchments should be acknowledged through ensuring that agricultural / agri-environment payments:
 - reflect the ecological quality of the land to which payment relate
 - are adapted for the area in which they operate
 - are supported by suitable advisory expertise
- Solutions have been demonstrated through such programmes as The Pearl Mussel Project EIP and others including Burren Programme and Hen Harrier Project, and form a clear template for further roll-out