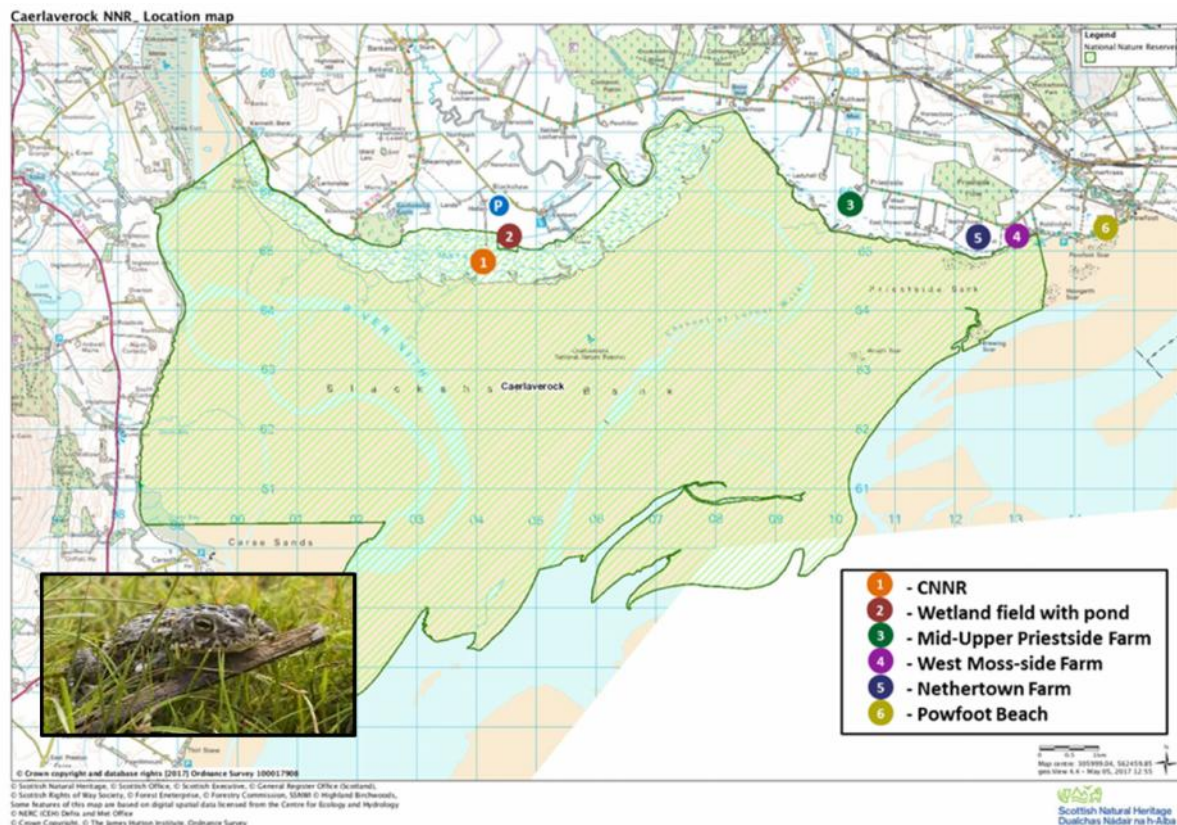


Liver Fluke on the Solway Firth

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Background & Aims

The liver fluke is a highly pathogenic flatworm parasite that causes significant disease and production loss in grazing livestock. It has a complicated life-cycle involving a tiny mud snail intermediate host, in the UK mainly *Galba truncatula*, which is responsible for spreading the infection on pasture. Livestock become infected by ingesting microscopic fluke cysts shed by infected snails onto pasture while grazing. The mud snail is key to the liver fluke life-cycle, as a result, liver fluke risk is typically associated with low-lying boggy ground i.e. ideal snail habitat and is exacerbated by weather patterns that favour snail survival and multiplication e.g. wet summers and mild winters.

Agri-environment schemes have been proposed to increase fluke risk as they can create or extend potential mud snail habitat and encourage contact with grazing livestock. One such

scenario would be grazing marginal farmland that is the preferred habitat of natterjack toads, a protected species along the Solway Firth in SW Scotland, most notably on the Caerlaverock National Nature Reserve (CNNR), the only location in Scotland with a breeding population. Natterjack toads need areas of short grass or heathland to hunt for food and shallow pools of fresh or brackish water to breed. The toads hunt at night on areas of bare ground or short vegetation, particularly the grazed areas of the marginal saltmarsh (or merse), heathland and nearby farmland. There is understandable concern among local farmers that grazing of such marginal areas may put their livestock at risk of liver fluke. The aim of the present study is to investigate the actual liver fluke risk associated with livestock grazing the merse on the Solway Firth.

Key questions to address:

- Q1. Are livestock grazing the merse and in-bye fields infected with liver fluke?
- Q2. What species of snails are present on the merse and are they infected with liver fluke?
- Q3. Can livestock introduce liver fluke infection onto the merse?
- Q4. Can livestock become infected with liver fluke by grazing the merse?



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