

Shining ram's-horn Snail

(*Segmentina nitida*)



The Shining ram's-horn snail is a freshwater species that typically lives in unpolluted ditches on lowland grazing marshes, but also occasionally in ponds and rarely small, slow flowing rivers. It is usually associated with other rare freshwater snails, insects and a rich variety of aquatic plants. The snail has a small, disc-shaped shell (max width 6mm) with a highly polished reddish-brown colour. The shell's inside surface has occasional thickened radial enamel ridges, which characteristically show through rather like spokes on a wheel.

As a result of its alarming decline in numbers, the Shining ram's-horn snail has been made a Priority Species on the UK Biodiversity Action Plan (BAP).

Distribution map

This species was once locally widespread over much of England, but in the last 60-70 years has suffered a catastrophic decline, so that it is now mainly restricted to the following areas: the Lewes and Pevensey Levels in East Sussex, the North

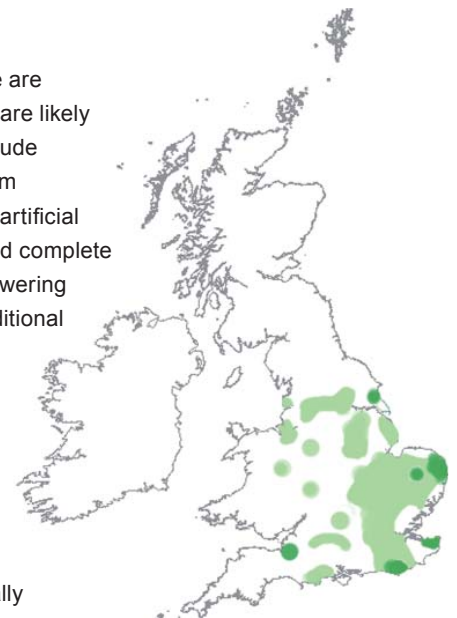
Kent Marshes and an area in Norfolk and north Suffolk centred around the Broads. Low numbers are also found on a small part of the Somerset Levels, together with a single site in Yorkshire.

Threats and causes of decline

The exact causes of this snail's decline are unknown, but a combination of factors are likely to have contributed. Likely causes include deteriorating water quality resulting from nutrient enrichment, caused chiefly by artificial agricultural fertilisers, over-frequent and complete mechanised ditch clearance and the lowering of water tables. The conversion of traditional grazing to arable farming links several of these problems; Shining ram's-horn snails are rarely found in ditches on arable land.

Habitat

The Shining ram's-horn snail prefers clean, hard water ditches that are usually choked with a rich variety of aquatic plants (e.g. pondweeds, frogbit, water starworts). Ditches may have reeds and sedges growing on the margins or in the ditch itself. It is difficult to give a single, simple description of a suitable ditch as appearances vary considerably (see habitat photos) and will depend on location, adjacent land management (e.g. grazing), the management history and links to other ditches.



Dark green = recent records (after 1980)
Light green = historic records (before 1980)



Examples of different ditches that are habitats for the Shining ram's-horn snail

Habitat management

Low intensity management of grazing marshes is key to management, this means the maintenance of moderate stock levels (chiefly of cattle), low or no inputs of fertilisers, and occasional, partial and carefully planned ditch clearance. In general the Shining ram's-horn snail is found in ditches that have not been cleared for many years (exceeding 5 years, and even 20 years or more). Ditches should only be cleared when necessary, i.e. when sediment or dead vegetation seriously impedes water flow and/or when water no longer provides a barrier to livestock. Populations are likely to be lost if a ditch is cleared completely (weed and sediments). Optimum management is to plan ditch clearance in stages so that some parts of the ditch are left as uncleared 'refuges' containing the snails. This can be achieved by either:

- **Stagger clearance:** This technique involves only clearing alternate 10-15m stretches, leaving 10-15m uncleared lengths between. This creates refuge areas from which snails can migrate back into the newly cleared stretches.
- **Clearance of one side only:** Clearance of one side is difficult to achieve by mechanised means in narrow ditches (less than 4m width) and may not be as effective as 'stagger clearance' and so only apply to wide ditches.
- **Leaving ends of ditches untouched:** Leaving uncleared sections (10-15m) at either end of the ditch, this would not be appropriate for longer ditches where colonisation of the central stretches occur too slowly.
- **Creating new 'spur' ditches:** One or more new 'spur' ditches connected directly to an occupied ditch, which creates a refuge away from the ditch clearance. Spur ditches would need to be dug at least one year before ditch clearance to allow the Shining ram's-horn snail to colonise; the presence of the snail should be confirmed before the clearance of a linked-ditch.

Additional management considerations should include:

- **Minimise ditch shading:** This allows sunlight facilitating a greater variety of aquatic vegetation, and associated diversity of invertebrates.

- **Reduce steep bank margins:** Steep banks prevent grazing and poaching of ditch margins.
- **Maintain ditches with shallow water margins:** Shallow areas are important warm-water 'micro' habitats.
- **Avoid fencing ditch margins:** As grazing and poaching are needed to create shallow water.
- **Keep grazing animals in fields adjacent to ditches and avoid fencing:** Moderate numbers of grazing animals, especially cattle, are important to maintain poached, shallow ditch margins and to minimise shading.
- **Avoid over-deepening ditches:** During ditch clearance reprofile to create a gentle gradient with the centre-channel water depth not exceeding 1m.

Environmental stewardship options

HB14 Management of ditches of very high environmental value. This option is aimed at the management of ditches that support target species and sensitive management for their benefit. Relevant associated grassland options are **HK6-8**.

HLS capital items

DR Ditch, dyke and rhine restoration

WDC Creation of ditches – rhines and dykes

ELS options

EB6 Ditch management

EB7 Half ditch management

EB8-9 Combined hedge and ditch management (incorporating **EB1-2**)

EB10 Combined hedge and ditch management (incorporating **EB3**)

References

This sheet can be accessed on the web at www.buglife.org.uk

Conchological Society of Great Britain & Ireland
www.conchsoc.org

Kerney M. & Stubbs A. The conservation of snail, slugs and freshwater mussels. Nature Conservancy Council. Available at www.buglife.org.uk

Visits to assess management requirements can be arranged with Mollusc expert Martin Willing through Buglife (see contact details).



Buglife – The Invertebrate Conservation Trust
First Floor, 90 Bridge Street, Peterborough, PE1 1DY

Telephone: 01733 201210 Email: info@buglife.org.uk

www.buglife.org.uk

Registered in England at First Floor, 90 Bridge Street, Peterborough, PE1 1DY.
Company no. 4132695. Registered charity no. 1092293. Scottish charity no. SC040004.

Photography. Front: *Segmentina nitida* © Roger Key. *Segmentina nitida* © Environment Agency. Habitat above © Martin Willing.

Acknowledgements: Martin Willing - Mollusc expert.

This leaflet has been sponsored by the Department for Environment, Food and Rural Affairs.