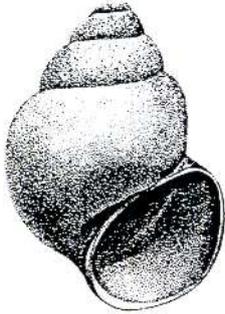


# Species Action Plan For Sussex



## Swollen Spire Snail

### *Mercuria confusa*

#### I. Introduction/Current Status

##### Introduction

The swollen spire snail *Mercuria confusa* (until recently known as *Pseudamnicola confusa*) is a rare and declining species in Britain and where information is available, appears to be equally threatened in Northern Europe (Bratton, J. H. (editor), 1991). In Britain the species is categorised in the Red Data Book (Bratton, J. H. (editor) 1991) as endangered (RDB 1). The species is also placed by the UK Biodiversity Steering Group (UK Biodiversity Group, 1995) as a Long List species (now redefined as a 'species of conservation concern'). There is some evidence for population decline of *Mercuria confusa* elsewhere in Northern Europe. Thus in the Netherlands there is evidence (Gittenberger, E. et al., 1999) of a 75% decline between 1970 –1997.

##### Distribution

This is a mainly western Mediterranean species, which has scattered outposts on the Atlantic coast of Europe extending northwards to the Netherlands and the U.K. There is some uncertainty as to whether, due to differing habitat requirements, the species found in southern France and those from England and Holland are actually conspecific (Dieter Kodolsky; pers. comm.). In the U.K. *M. confusa* has a very restricted distribution (Kerney, M. P., 1999) being known from only four sites; small populations may live on the River Alde in Suffolk and in the Thames Estuary at Barking Creek. The two strongholds are on the Suffolk/Norfolk borders near Oulton Broad and including the lower reaches of the Rivers Waveney and Yare and in West Sussex on the lower River Arun. There are also a number of populations in Ireland (Kerney, M. P. 1999, Janus, H. 1982) on the estuaries of the Shannon, Suir, Barrow and Nore. In Sussex the species is found adjacent to the lower River Arun (Abraham, F. & Willing, M. 1996; Abraham, F. & Willing, M. 1997; Willing, M.J. 1999; Abraham, F. et al. 1998) with populations shown to be present in river-side drainage ditches and marginal emergent vegetation from near Coldwaltham in the north, to pools lying close to the river at Lyminster downstream of Arundel, in the south. Specific locations known to support the snail are

present at Lyminster, immediately upstream of Arundel, Burpham, South Stoke, Houghton Bridge and near Coldwaltham. The Sussex Arun distribution spans three English Nature designated Natural Areas these being (1) the South Coast Plain and Hampshire Lowlands, (2) the South Downs and (3) the Wealden Greensand. It is also possible that the species extends into (4) the Low Weald and Pevensey.

It has been stated (Bratton, J. H. (editor), 1991) that the largest surviving populations of *M. confusa* are probably those in Suffolk. Comparisons of data from studies (Abraham, F. & Willing, M. 1996; Abraham, F. & Willing, M. 1997; Willing, M.J. 1999; Abraham, F. et al. 1998; Baker, R., Clarke, K. & Howlett, D. 1999) in both of these areas tends, however, to indicate that the Arun populations are probably both the most extensive and in certain areas, the richest in the UK. The greatest recorded abundances for the snail in Suffolk (Baker, R., Clarke, K. & Howlett, D., 1999) reached 500 per m<sup>2</sup> whereas in habitat adjacent to the Arun at Burpham densities of 15, 000 per m<sup>2</sup> have been recorded (Abraham, F. & Willing, M., 1997).

## Habitat Requirements

*M. confusa* has very specialised habitat requirements. It is typically found on bare mud exposed at low tide beneath emergent vegetation such as *Phragmites australis* or *Glyceria maxima*. It is sometimes described (Ellis, A.E., 1926) as a brackish water species, but it is not found on salt marshes with such typical estuarine snails as *Hydrobia ulvae*. Instead it requires water with a very low salinity (1 – 5ppt NaCl) and is typically found in association with freshwater molluscs such as *Lymnaea palustris* and *L. truncatula* and wetland species including *Zonitoides nitidus* and *Carychium minimum*. Some authorities (Baker et al., 1999; Kerney, M.P. in Bratton, 1991) believe that it is more accurate to consider *M. confusa* as a freshwater snail that requires periodic or occasional contact with very slightly saline water. On both the Arun and Broadland sites *M. confusa* appears to be most frequent in association with *Glyceria maxima*, often when lightly grazed by cattle. At Burpham the very high population densities of the snail are found in less shaded, cattle grazed area of *Glyceria maxima* where livestock poaching has created a mosaic of partially trampled vegetation and small pools.

## 2. Current Factors Causing Loss or Decline

Kerney (Bratton, J. H. (editor) 1991) considers that all UK populations of *M. confusa* are at risk. Two factors in particular seem to pose a threat to the species; salinity changes and disruption to bankside management and vegetation. The main threats include:

- Any factors such as barrages, sluices and water flow management schemes that may alter or disrupt the narrow salinity range or frequency of exposure to brackish waters.
- Global warming causing higher sea levels and the greater chances of saline intrusion could disrupt salt levels causing the loss of some marginal Arun populations,. It could be argued, however, that such effects could also lead to the creation of new areas of suitable habitat upstream, possibly counter-balancing the loss of some populations.
- Wash from boat traffic scours the muddy banks of the river removing sediment and dislodging *Glyceria* beds. There is circumstantial evidence that very low numbers of *M. confusa* on certain stretches of the Arun near to Arundel may be due to the incidence of frequent pleasure craft traffic on the river.
- Maintenance and reinforcement work to banks and berms. This may be particularly damaging where fringing vegetation is removed exposing otherwise sheltered areas of bank only covered at high tide. The removal of sediments from the river in order to raise bank heights is also likely to be damaging. Fencing bankside areas so that cattle grazing ceases to

contain the spread of *Phragmites australis*, at the expense of *Glyceria maxima*, may also reduce populations of *M. confusa*.

- Chance incidents of water pollution also pose a risk.

### **3. National Species Action Plan**

There is no National Action Plan for this species.

### **4. Current Action**

#### **National**

There is currently no known national conservation project being undertaken for this species. The Ted Ellis Trust at Wheatfen, Surlingham, is continuing monitoring populations of *M. confusa* in the Wheatfen and Surlingham areas of Suffolk.

#### **Local**

*Mercuria (Pseudamnicola) confusa* is mentioned on the SSSI citation and criteria for Amberley Wildbrooks but not on those for Pulborough Brooks SSSI and Waltham Brooks SSSI. The snail is also mentioned in the Ramsar citation for the area covering these three SSSIs. Further south *M. (Pseudamnicola) confusa* appears on the Arundel Park SSSI citation, but not that for Arun Banks SSSI.

### **5. Objectives**

The overall aim of this Plan is to protect and increase the distribution and population of *Mercuria confusa* in Sussex. This broad aim translates the specific objectives set out below.

- i. Maintain the existing populations and range of *Mercuria confusa* in Sussex.
- ii. Promote education, communication and awareness of the status and ecological requirements of *Mercuria confusa* in the lower Arun valley.
- iii. Seek to ensure all necessary research and monitoring of the species is carried out and the results of such study disseminated to appropriate organisations and land managers.

### **6. Targets and Costs**

**This Species Action Plan has now been archived**

### **7. Potential**

#### **Opportunities for the species in Sussex:**

Within the salinity range in the River Arun, *Mercuria confusa* has the potential to colonise all suitable upper tidal mud, especially where this is shielded by emergent vegetation such as *Phragmites* and *Glyceria*.

#### **Limiting factors for the species in Sussex:**

A number of factors could act to limit or reduce populations of *Mercuria confusa* in habitats adjacent to the River Arun. These include:

- An increase in boat traffic or maximum permissible traffic speeds;
- engineering works on the river bank or berm including the removal of mud or the deposition on these sites of sediments dredged from the river;
- barrage works altering the salinity range or flow regime of the river;
- fencing of marginal fens that are currently open to grazing cattle.

## 8. Action Plan

**This Species Action Plan has now been archived**

## 9. Monitoring/Review

This action plan will be monitored biannually as appropriate and reviewed every five years by the Sussex Biodiversity Partnership.

A scheme monitoring the distribution and population densities of the species in Sussex will be carried out once a monitoring protocol has been established.

## 10. References

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## **10. Consultation**

27/02/2003 The following were consulted in the writing of this Species Action Plan.

Arun District Council, Brighton and Hove City Council, Country Land and Business Association, DEFRA, East Sussex County Council, English Nature, Environment Agency, Farming and Wildlife Advisory Group, Sussex Wildlife Trust and West Sussex County Council,

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