

LARGE-MOUTHED VALVE SNAIL

Valvata macrostoma

Hampshire Biodiversity Partnership

1 INTRODUCTION

The large-mouthed valve snail *Valvata macrostoma* is a rare and declining species in Britain and Europe. In Britain the species is categorised in the Red Data Book¹ as vulnerable (RDB 2). The species is also placed by the UK Biodiversity Steering Group² as a Long List* species (now* redefined as a 'species of conservation concern'). In Europe the species is considered to be of 'special concern'³ and appears on the 'Red Lists' of several countries. In many regions the status of the species is uncertain, but where data is available, it invariably records a population decline.

Of the six main areas occupied by the species in the UK in the 1970s, it has since become extinct in two and is apparently suffering from major declines in another⁴.

In Hampshire the species is critically endangered as it is now only known to be living in a few ditches at one site and may still be present in a second location^{5,6}. Unless almost immediate action is taken to implement aspects of this plan then it could become extinct in the county in the next few years.

The large-mouthed valve snail is a species that in the UK is chiefly confined to the Somerset Levels, Broadland, the Pevensey Levels and the Lower Avon valley. All of these areas are of major importance for the implementation of the national HAP for Coastal and Floodplain Grazing Marshes².

2 CURRENT STATUS

2.1 Ecology and Habitat Requirements

In the UK the large-mouthed valve snail is found in still or slowly flowing hard waters, in drainage ditches on lowland grazing levels. In a number of its national strongholds it is found with a high molluscan species diversity and sometimes in association with other rare and endangered species such as the *Anisus vorticulus*, *Segmentina nitida* and *Pisidium pseudosphaerium*¹. Unusually in the Hampshire sites adjacent to the River Avon, the species seems to behave rather atypically and is present in late successional ditches in association with a relatively low number of species able to stand low summer water levels and even occasional drought.

In the Hampshire the species appears to occupy a very specific niche. Thus the snail is only found in situations that:

- have moderately hard water and pH >7;
- are shallow, late successional ditches, but ones believed to retain at least some water throughout the year;
- have shallow, cattle poached margins and although choked by emergent plants such as *Glyceria* spp., are not over-shaded as a result of the influence of cattle grazing the unfenced ditch margins.

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2.2 Population and Distribution

The large-mouthed valve snail is present in central and northern Europe, but its exact range is somewhat uncertain owing to confusion with another, possibly different species, *Valvata pulchella*^{3,7}. In Britain it has a very restricted distribution⁴, being found in a diminishing number of sites in (a) the fenland basin (East Suffolk, East and West Norfolk, Cambridgeshire and South Lincolnshire), (b) the Pevensey Levels (East Sussex), (c) a few sites in the Somerset Levels and one or two sites in the Hampshire Avon valley. Within the last 20 – 30 years former populations appear to have been lost near Oxford⁴, the Lewes Levels in East Sussex^{8,9} and most of the populations found north of Peterborough now appear to be extinct⁴. Even in Broadland, a former stronghold of the species, a number of workers^{8,10} have noted this species to be 'in some trouble' and rarer than a number of Biodiversity Steering Group Priority List molluscs.

All Hampshire sites for this species occur in ditches adjacent to the River Avon south of Fordingbridge. Prior to 1997, the species had not been recorded in the Avon valley for 54 years, last being seen near Fordingbridge and at Moortown near Ringwood whilst the species had not been found in the Christchurch area since 1882¹¹. A series of surveys undertaken between 1997 – 2000^{5,6,11} rediscovered the snails living near to Christchurch but found that the species had disappeared from the sites at Fordingbridge and Moortown.

2.3 Important Sites

Survey work in 2000⁶ revealed that the only known Hampshire populations of large-mouthed valve snail are present in three ditches

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at Sopley, near Christchurch. A small and previously unknown population was discovered in a late successional pond at Ibsley (north of Ringwood) in 1999. A re-survey of the site in June 2000 failed to find living specimens. The snail may still be present in very low numbers at this site.

2.4 Protection

The known Hampshire Avon populations of the large-mouthed valve snail lie in the Avon valley SSSI which is also a candidate Special Area of Conservation (cSAC). The land at Sopley and at Ibsley lies within an ESA.

3 CURRENT FACTORS AFFECTING THE LARGE-MOUTHED VALVE SNAIL

1. Habitat loss due to ditch drainage and infilling.
2. Inappropriate ditch management including:
 - not clearing ditches so that they become choked and/or overgrown with tall shading and emergent vegetation;
 - Fencing ditches thereby preventing cattle grazing and poaching of ditch margins, which seem to be important in maintaining suitable ditch conditions for the snail;
 - eutrophication of ditch waters;
 - the over frequent clearance of ditches so preventing late successional conditions from being reached;
 - the clearance of ditches undertaken so that short, unmanaged sections are not left at intervals to allow faunal recolonisation of cleared sections of ditches.

4 CURRENT ACTION

4.1 National

1. The Conchological Society will be advocating the re-categorisation of this species as RDB 1 endangered (advice to JNCC) and also that its Biodiversity Steering Group Status be advanced to the Priority List.

2. English Nature has supported invertebrate survey work on the Somerset Levels¹², which included limited survey work for this species.

4.2 Local

Programme) and the Environment Agency have funded research into the distribution and basic ecology of the large-mouthed valve snail^{5, 6, 11}. This work has achieved:

- surveys of virtually all suitable habitat between Christchurch and Ringwood and much of the suitable habitat between Ringwood and Salisbury;
- the discovery of large populations in three ditches at Sopley;
- the location of a previously unknown population at Ibsley;
- confirmation of the losses of historical populations at Moortown and Fordingbridge;
- the discovery of dead shells from former, now extinct populations near Ibsley and Breamore;
- studies on the ecology and lifecycle of the species in the Avon valley;
- the supply of tissue samples to the Natural History Museum for comparative DNA studies with large-mouthed valve snail materials from the Pevensy Levels.

5 OBJECTIVES

The overall aim of this Plan is to protect and increase the distribution and population of large-mouthed valve snail in Hampshire. This broad aim translates the specific objectives set out below. Where feasible, objectives have been allocated targets against which achievement can be measured. The 'Proposed Action' table in section 6 identifies the action to be taken to meet these objectives.

| | OBJECTIVES | PROPOSED ACTIONS |
|----------|---|---------------------------|
| A | Maintain the existing populations and range of large-mouthed valve snail in Hampshire. | 1 – 10, 12, 14 |
| B | Take immediate action to try to secure imminently threatened populations (if not already extinct) at Ibsley. | 2, 6, 7 |
| C | Establish and maintain a comprehensive understanding of the large-mouthed valve snail in Hampshire through appropriate research, survey and monitoring. | 1, 2, 4- 6, 11- 13 |
| D | Promote communication and awareness of the status and ecological requirements of large-mouthed valve snail in the | 1, 6, 10, 13 - 15 |

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| | lower Avon valley. | |
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6 PROPOSED ACTION

The following table lists the actions required to achieve the objectives set out in this Plan. Each action has been assigned to one or more 'Key Partners'. Key Partners are those organisations that are expected to take responsibility for the delivery of the actions assigned to them, according to the targets set in this Plan. Other organisations may also be involved in the delivery of action, and they have been indicated in the 'Others' column.

Key to symbols in Action Table:

- ◆ To be completed by the indicated year. Work can commence at any time before the due date, at the discretion of the Key Partner.
- ◆⇨ Design or production of a plan/strategy to be completed by this year and then followed by its implementation.
- ➡ To start by the indicated year and usually followed by ongoing work. A start arrow in year 2001 can indicate a new action, or a new impetus to existing work.
- ⇨ Work that has already begun and is ongoing.

| | ACTION | DELIVERY BY | | YEAR | | | | | | MEETS OBJ. |
|---|---|------------------|----------------------|--|------|------|------|------|------|------------|
| | | Key Partner | Others | 2001 | 2002 | 2003 | 2004 | 2005 | 2010 | |
| | | | | ◆ = complete by ➡ = start by ⇨ = ongoing ◆⇨ = design by and implement | | | | | | |
| Site and Species Policy and Protection | | | | | | | | | | |
| 1 | Endeavour to enlist the support of the land owners and/or tenants in the sympathetic management of areas supporting or influencing populations of the snails | FWAG CSGBI | HWT LAs, EN | ➡ | ⇨ | ⇨ | ⇨ | ⇨ | ⇨ | A, C, D |
| 2 | If survey work discovers new populations lying outside designated conservation areas, consider an appropriate designation such as SINC | EN HCC | HWT LAs | ➡ | | ◆ | | | | A, B, C |
| 3 | Endeavour to take account of the conservation requirements of this species when reviewing and adjusting agri-environment schemes | HCC HWT | FWAG EA, DEFRA | ⇨ | ⇨ | ⇨ | ⇨ | ⇨ | ⇨ | A |
| 4 | Ensure that future development, drainage or hydrological alterations do not adversely affect snail sites and that the needs of the species are adequately recognised in the planning process. | EA, EN, LAs | | ⇨ | ⇨ | ⇨ | ⇨ | ⇨ | ⇨ | A, C |
| 5 | Ensure that competent authorities review the impact of their operations on large-mouthed valve snail in the Avon Valley cSAC (although at present the snail is not a BAP Priority Species). | EA, LAs | EN CSGBI | ⇨ | ⇨ | ⇨ | ⇨ | ⇨ | ⇨ | A, C |
| 6 | Arrange site meetings with tenant, land agents and/or owners for the existing sites at Sopley and Ibsley with a view to highlighting the exact areas and habitat features believed to be responsible for the survival/enhancement of large-mouthed valve snail populations. | EN HCC HWT | CSGBI EA | ➡ | | | | | | A, B, C, D |

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| | ACTION | DELIVERY BY | | YEAR | | | | | | MEETS OBJ. |
|---|---|-----------------|-----------------|--|------|------|------|------|------|------------|
| | | | | ◆ = complete by ▶ = start by ⇔ = ongoing ◆⇔ = design by and implement | | | | | | |
| | | | | 2001 | 2002 | 2003 | 2004 | 2005 | 2010 | |
| | | Key Partner | Others | | | | | | | |
| Site and Species Management | | | | | | | | | | |
| 7 | Encourage sympathetic habitat management by translating recommendations of known ecology and habitat requirements in the Avon Valley and from further research into practical site actions | EA, FWAG, EN | CSGBI, HWT, LAs | ⇔ | ⇔ | ⇔ | ⇔ | ⇔ | ⇔ | A, B |
| 8 | Ensure that the requirements of large-mouthed valve snail are considered during the production and implementation of other action plans for Sopley and Ibsley and at any further, newly discovered sites. | ALL | | ▶ | | | | | | A |
| 9 | Consider re-introduction of large-mouthed valve snail (by sustainable removal of surplus, juvenile Sopley stock) into: <ul style="list-style-type: none"> Improved/restored ditches close to occupied ditches at Sopley, Sopley 'island' and possibly Ibsley; If suspected extinction is confirmed at Ibsley, then reintroduction into improved/restored habitat at that site. Reintroduction procedures to follow guidance from a newly created steering group (possibly with representation of EN, EA, HWT & CSGBI) | HCC, EN, | CSGBI, HWT | | ◆⇔ | | | | | A |
| 10 | Encourage landowners or their agents to take up land management schemes such as ESA or Countryside Stewardship if not already in force and if financial inducements prove to be necessary | EN, FWAG, DEFRA | LAs, HWT | ▶ | | | | | | A, D |
| Research, Survey and Monitoring | | | | | | | | | | |
| 11 | Complete the ditch survey programme of remaining unsurveyed sites between Fordingbridge and Salisbury (all sites between Christchurch and Ringwood having been visited). This work might partly be undertaken as a further part of the Water Level Management Plan survey programme. | EN, HCC | HWT, CSGBI, EA | ▶ | | ◆ | | | | C |
| 12 | Establish a long term monitoring programme of: <ul style="list-style-type: none"> the Sopley populations; the Ibsley population if still extant; any reintroduced populations. | EN, HCC | HWT, CSGBI, EA | ▶ | *⇔ | *⇔ | *⇔ | *⇔ | *⇔ | A, B, C |
| 13 | Forward records of any newly discovered populations to the BRC, national CSGBI database. | EN, HCC, CSGBI | HWT | ⇔ | ⇔ | ⇔ | ⇔ | ⇔ | ⇔ | C, D |
| Communication, Awareness and Promotion | | | | | | | | | | |

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| 14 | Seek to increase awareness of the ecology and conservation requirements of large-mouthed valve snail, by the landowners and/or tenants of occupied sites and others using or managing areas occupied or close to snail sites. | EN, EA, HWT, FWAG | CSGBI | ⇒ | ⇒ | ⇒ | ⇒ | ⇒ | ⇒ | A, B, D |
| 15 | Promote the uniqueness of the Avon populations of the large-mouthed valve snail, in suitable local publications (e.g. local press, HWT newsletters, Watch groups). | EN, HCC, HWT | CSGBI EA | ⇒ | ⇒ | ⇒ | ⇒ | ⇒ | ⇒ | A, B, D |

KEY TO ORGANISATIONS:

CSGBI Conchological Society of Great Britain and Ireland
 DEFRA Department of the Environment, Food and Rural Affairs
 EA Environment Agency
 EN English Nature

FWAG Farming and Wildlife Advisory Group
 HCC Hampshire County Council
 HWT Hampshire Wildlife Trust
 LAs Local Authorities



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This is one of many Habitat, Species and Topic Action Plans being prepared by the Hampshire Biodiversity Partnership. It will be monitored by the Partnership and fully reviewed in 2005.

This species action plan has been prepared by Dr. Martin Willing on behalf of the Hampshire Biodiversity Partnership.

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