NORFOLK BIODIVERSITY ACTION PLAN

Ref 1/S15	Tranche 1	Species Action Plan 15
Plan Author:		Dr Roy Baker
Plan Co-ordinator:		English Nature
Plan Leader:		Waterbodies Group
Date:		Stage:
31 December 1998		Final Draft
December 2000		Under Review

SHINING RAM'S-HORN SNAIL (*Segmentina nitida)*

A truly aquatic species, it is small (4-5.5mm) with a translucent shell in the form of a spiral disc, shaped like a ram's horn. The upper surface of the shell is strongly arched and the underside is almost flat. It lives in unpolluted, usually calcareous water in ponds and drains of grazing marshes. Associated with a rich variety of freshwater molluscs, including other rare species.

1. CURRENT STATUS

National Status

- This snail can be found locally throughout Europe, as far north as southern Scandinavia. In Britain, it has shown a dramatic decline this century. It is now confined mainly to the Norfolk Broads and Pevensey Levels. The species is listed as endangered in the GB Red List.

Norfolk Status

- Found within the Broads and Breckland Natural Areas.

2. CURRENT FACTORS IN NORFOLK CAUSING LOSS OR DECLINE

- Inappropriate ditch clearance.
- Eutrophication – nutrient enrichment from nitrates and phosphates.
- Conversion of grazing marshes to arable farming with associated water table lowering.

3. CURRENT ACTION IN NORFOLK

- None.

4. ACTION PLAN AND OBJECTIVES AND TARGETS

National

- Research the ecology of the species to understand why it is declining.
- Identify and maintain all existing populations by the year 2000.
- Enable existing populations to increase in size and spread in range.
- Produce management advice by the year 2000.

Norfolk

- Identify and maintain all Broads populations and that at Thompson Common SSSI by the year 2000.

- Enable existing populations to increase in size and spread in range.

Shining Ram's-horn Snail - Norfolk Action Plan

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.1	**Policy and Legislation**			
5.1.1	Seek to maintain favourable water quality at currently occupied, and recently discovered sites.	Seek to maintain favourable water quality at currently occupied, and recently discovered sites.	EA, IDBs, DEFRA (RDS), BA?	
5.1.2	Ensure that the needs of this species are taken into account when considering any possible expansion of Environmentally Sensitive Areas to cover marshes containing occupied watercourses.	Ensure that the needs of this snail are taken into account when considering any possible expansion of Environmentally Sensitive Areas to cover marshes containing occupied watercourses.		
5.2	**Site Safeguard and Management**			
5.2.1	Develop safeguards in Sites of Special Scientific Interest management plans, both where the snail is already present and where it has potential to colonise.	Consider the development of safeguards in Sites of Special Scientific Interest management plans, both where the snail is already present and where it has potential to colonise.	EN	Site Owners and Managers
5.2.2	Develop a ditch management cycle that allows the re-colonisation of cleaned stretches from adjacent sections.	Develop guidance on appropriate ditch management in the light of results of research into the species habitat requirements.	DEFRA (RDS), IDBs, EA, EN, BA?	Drainage Contractors, Site Owners and Managers
		Seek to ensure that local water abstraction policies take account of the need to protect the snail.	EA	
		Seek to ensure that management plans prepared for existing and newly-discovered sites take into account the presence and requirements of the species as a case by case basis, using Sites of Special Scientific Interest	EN, DEFRA (RDS), FWAG	

Shining Ram's-horn Snail - Norfolk Action Plan

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
		and Environmentally Sensitive Area mechanisms.		
5.4 **5.4.1**	**Advisory** Produce land and water management guidelines for the site managers and landowners by the year 2000.	Disseminate the management guidelines to all relevant organisations and individuals.	EA, EN, DEFRA (RDS), IDBs, FWAG	Site Owners and Managers
5.5 **5.5.1**	**Future Research and Monitoring** Undertake a survey of all post-1950 sites by the year 2000, to establish the current distribution of the species.	Collate all known distribution data. Undertake survey of other potential Broads sites.	EN, NBRC	
5.5.2	Promote research on ecological requirements of the species, including habitat requirements.	Promote research on the snail's ecological and habitat requirements in Norfolk.	EN	
5.5.3	Encourage research on the ecology and distribution of this species to ascertain its status in Europe.	Encourage research on the distribution of this species to ascertain its true status in Norfolk.	EN	
5.5.4	Encourage regular monitoring of known sites, including the use of fixed point monitoring stations.	Encourage regular monitoring of known sites, including the use of fixed point monitoring stations.	EN	
5.5.5	Pass information gathered during survey and monitoring of this species to Joint Nature Conservation Committee or Biological Records Centre so that it can be incorporated in national databases.	Pass information gathered during survey and monitoring of this species to Joint Nature Conservation Committee or Biological Records Centre and Norfolk Biological Records Centre so that it can be incorporated in national and local databases.	EN	NBRC

NORFOLK DISTRIBUTION

Occurs mostly in drainage ditches in marsh levels, in clean, hard water in densely vegetated places. At Thompson Common it lives uniquely in water-filled glacial hollows. Key populations are found within the River Waveney Valley.

MANAGEMENT GUIDANCE
(This guidance is a general summary; for detailed information or advice consult the references or contacts below.)

It inhabits overgrown, late-succession ditches and foot drains, dominated by vegetation, often reed sweet grass (*Glyceria maxima*) choking the channel with floating grassy mats. Water levels can be very low, literally only a few centimetres deep. It is associated with filamentous algae and *Lemna*.

This snail thrives best in areas grazed by low numbers of livestock. Such grazing creates shallow depressions in which water and vegetation may reach higher temperatures.

It is important to maintain occupied ditches at the late successional (choked by vegetation) stage. This need can present problems when ditching operatives and even conservation advisers may feel that a ditch should be returned to open water! However, steps have to be taken to compensate for the damaging effects of eventual drying out. Creation of new features, such as shallow depressions on grazing marsh, is one option. In some situations it may be possible to excavate a new ditch, adjacent to an occupied one, in which to establish the snails prior to managing the choked ditch.

Over-frequent dredging, lowering of water levels and pollution are major causes of decline. Surviving populations are in areas of traditional grazing marsh where nitrogen and phosphate enrichment remains low.

CONTACTS

Dr Roy Baker
25 Southern Reach
Mulbarton
Norwich
Norfolk
NR14 8BU
Tel: 01508-570609

Ian Killeen – ian@malacserve.demon.co.uk

REFERENCES

Environment Agency (1998). Snails. Environment Agency Species Awareness Leaflet No 2.

Jackson, M J and Howlett, D J (1999). Freshwater molluscs of the River Waveney grazing marshes. A survey carried out during the summer of 1997. Broads Authority report

(BARS 18).

Killeen, I J and Willing, M J (1997). Survey of ditches in East Anglia for the freshwater snails *Segmentina nitida* and *Anisus vorticulus*. English Nature Reports No 220.

Killeen, I J and Willing, M J (1997). Survey of ditches in East Anglia and south-east England for the freshwater snails *Segmentina nitida* and *Anisus vorticulus*. English Nature Research Report 229. Peterborough: English Nature.

Willing, M (1997). Fresh and brackish-water molluscs: some conservation issues. British Wildlife 8(3): 151-159.

PROGRESS ON PLAN ACTIONS (as at 27/02/01)

	Norfolk Action	**Comments**
5.1.1	Seek to maintain favourable water quality at currently occupied, and recently discovered sites.	
5.1.2	Ensure that the needs of this snail are taken into account when considering any possible expansion of Environmentally Sensitive Areas to cover marshes containing occupied watercourses.	
5.2.1	Consider the development of safeguards in Sites of Special Scientific Interest management plans, both where the snail is already present and where it has potential to colonise.	
5.2.2	Develop guidance on appropriate ditch management in the light of results of research into the species habitat requirements. Seek to ensure that local water abstraction policies take account of the need to protect the snail. Seek to ensure that management plans prepared for existing and newly-discovered sites take into account the presence and requirements of the species as a case by case basis, using Sites of Special Scientific Interest and Environmentally Sensitive Area mechanisms.	Requirements of this species will be taken into account by the Broads ESA Review Group when considering management prescriptions for ditch maintenance (Broads ESA Review Group). Proposal for winter abstraction at broadland site close to known population of *Segmentina* only licensed after consultation and discussion with EN confirmed that the snail population would not be adversely affected. (EA)
5.4.1	Disseminate the management guidelines to all relevant organisations and individuals.	Species awareness leaflet produced by EA.
5.5.1	Collate all known distribution data. Undertake survey of other potential Broads sites.	Survey of grazing marsh dykes in Waveney Valley (Norfolk/Suffolk border) undertaken in 1997. 29 records for *Segmentina nitida* obtained during survey. (EA)
5.5.2	Promote research on the snail's ecological	

	and habitat requirements in Norfolk.	

	Norfolk Action	Comments
5.5.3	Encourage research on the distribution of this species to ascertain its true status in Norfolk.	
5.5.4	Encourage regular monitoring of known sites, including the use of fixed point monitoring stations.	
5.5.5	Pass information gathered during survey and monitoring of this species to Joint Nature Conservation Committee or Biological Records Centre and Norfolk Biological Records Centre so that it can be incorporated in national and local databases.	

PROGRESS ON PLAN OBJECTIVES AND TARGETS