

NORFOLK BIODIVERSITY ACTION PLAN

Tassel Stonewort (*Tolypella intricata*)

Tassel stonewort is a species of alkaline water in pools, canals, ditches, poached edges of ponds and wheel-ruts that are dry during the summer months. The plant is often a winter or spring annual, able to withstand ice-cover and producing ripe spores as early as April or May. Plants then often disappear by early July. It is not very competitive and benefits from disturbance which suppresses other vegetation. Thus, in ditches, it often reappears after clearance work; cattle disturbance around pools can also be beneficial.

Ref 2/S6	Tranche 2	Species Action Plan 6
Plan Author:	KLCIDB	
Plan Co-ordinator:	Waterbodies Topic Group	
Plan Leader:	RSPB	
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1. CURRENT STATUS

National Status

- This species has been found at seven British sites since 1970: ponds in Inglestone Common, Gloucestershire (seven colonies); one site in Cambridgeshire (four colonies); two sites in Norfolk; and one site each in Suffolk, Somerset and Worcestershire. The species reappeared at the Somerset site following ditch clearance in 1989, but has not been seen since. It was once more widespread, being recorded from 42 localities pre-1970, most of which were in southern and eastern England, but it also extended as far north as Durham. It is scattered throughout Europe, extending to southern Scandinavia, the Black Sea and North Africa, but is rare in the Mediterranean region.
- In Britain, this species is classified as Endangered. It receives general protection under the Wildlife and Countryside Act 1981.

Norfolk Status

- There are only two recent records from Norfolk:
 - Cantley Marshes (TG 368 042), in 1996. The species has not been found in subsequent, brief searches. However, the grazing and ditch management regimes are considered favourable for this species, so it is likely to still be present.
 - Sculthorpe Fen (TF 90466 30180 / TF 90470 30240), in 2006. The presence of *T. intricata* at this site was recently discovered by Geoff Nobes.
- Historically, the species was recorded at Gillingham Marshes (c.TM 41 91) in 1950, but its current status at this site is unknown (Stewart 2002).

2. CURRENT FACTORS CAUSING LOSS OR DECLINE IN NORFOLK

- Lack of disturbance (often due to the decline of traditional management practices such as ditch maintenance and grazing), leading to displacement of this species by more competitive vegetation.
- Falling water table levels may have been responsible for the loss of populations at several sites and may still be a threat at some extant sites. The extent of this problem needs further investigation.
- Eutrophication.

3. CURRENT ACTION IN NORFOLK

- The site at Sculthorpe Fen forms part of the Sculthorpe Moor Community Nature Reserve and is also a County Wildlife Site. It is managed for nature conservation by the Hawk & Owl Trust, under a lease agreement with the landowner.
- Cantley Marshes are managed by the RSPB under a management plan agreed with Natural England and under an ESA agreement, ensuring suitable cattle grazing and ditch management will continue.
- Regular surveys and occasional searches specifically for this species have taken place at Cantley Marshes.
- A PhD is currently being carried out by Stephen Lambert (University of East Anglia) into the survival parameters of UK BAP stoneworts, including *T. intricata*.

4. ACTION PLAN OBJECTIVES AND TARGETS

National

The following targets are the current targets following the 2006 targets review:

- Maintain two extant metapopulations of this species.
- Increase population from two to three metapopulations by 2010.
- Maintain viable populations at five extant sites outside existing metapopulations.

Norfolk

- Maintain viable populations at the two extant sites (Sculthorpe Fen and Cantley Marshes).
- Survey, assess feasibility and if appropriate, reintroduce to Gillingham Marshes.

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.1	Policy and Legislation			
5.1.1	Take account of the requirements of tassel stonewort when developing new, or reviewing existing, environmental land management schemes that promote the traditional management of lowland commons and village greens.	Ensure that the new agri-environment prescriptions that will succeed the Broads ESA scheme include suitable management and restoration to benefit this species.	NE	
5.2	Site Safeguard and Management			
5.2.1	Control scrub invasion at all extant sites in order to prevent overshadowing of tassel stonewort colonies.	Ensure scrub does not develop adjacent to ditches supporting colonies at Sculthorpe Fen and Cantley Marshes.	H&OT, RSPB	NWT, NE
5.2.2	Promote the reinstatement/continuation of cattle grazing on extant tassel stonewort sites. Suitable mechanisms may include the Countryside Stewardship Scheme and other relevant agri-environment schemes.	Ensure cattle grazing continues at a suitable level to control ditch edge vegetation at Sculthorpe Fen and Cantley Marshes.	H&OT, RSPB	NWT, NE
5.2.3	Notify stronghold sites as SSSIs where this is necessary to ensure their long-term protection.	No action proposed.		
5.2.4	Undertake periodic clearance of ditch sites for this species in order to reduce competition from other vegetation.	Ensure ditches are maintained regularly at Sculthorpe Fen and Cantley Marshes.	H&OT, RSPB	NWT, NE

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.2.5	Ensure that Local Environment Agency Plans and Water Level Management Plans take full account of the requirements of this species. In particular, ensure that no further tassel stonewort sites are lost through increases in levels of water abstraction. This action should take account of the research outlined under 5.5.5.	Ensure that EA plans and WLMPs covering Sculthorpe Fen, Cantley Marshes and Gillingham Marshes take account of the requirements of this species.	NE, EA	RSPB, IDB
5.3	Species Management and Protection			
5.3.1	Undertake experimental management at five suitable historic sites with the aim of regenerating populations from the spore-bank. Management may include scrub clearance and soil disturbance. Suitable historic sites will include those where a long-term management commitment is possible.	Assess suitability of current management at Gillingham Marshes, and if not appropriate, promote improvements through agri-environment schemes.	NE, Waterbodies Topic Group	
5.3.2	Consider undertaking (re)introductions of this species to suitable ponds in historic sites or the vicinity of extant sites, if regeneration from the spore bank proves unsuccessful.	Assess feasibility, and where appropriate, reintroduce to Gillingham Marshes and other suitable locations.	NE, Waterbodies Topic Group	
5.4	Advisory			
5.4.1	Advise relevant landowners and managers of the presence and importance of tassel stonewort, and of the appropriate management for its conservation.	If relocated or discovered at additional sites, ensure the importance and management advice is communicated to landowners/managers.	NE, Plantlife, NWT	

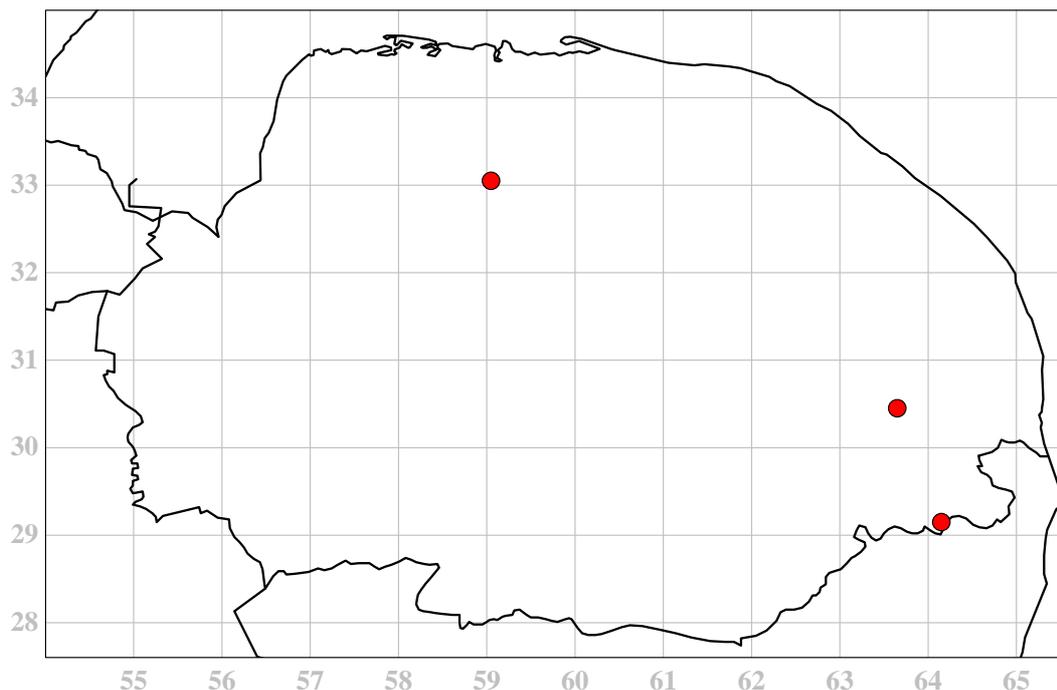
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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.4.2	As far as possible, ensure that relevant agri-environment project officers, particularly in the Gloucestershire area, are advised of locations of this species, its importance and of the management needed for its conservation on and adjacent to existing sites.	If relocated or discovered at additional sites, ensure this information is passed onto relevant NE officers.	Waterbodies Topic Group	
5.5	Future Research and Monitoring			
5.5.1	Complete the survey of ponds within the vicinity of the known Gloucestershire sites. The opportunity should also be taken to assess current threats to sites in this area.	No action proposed.		
5.5.2	Collate information and resurvey extant and historic sites in Somerset and Cambridgeshire to gain a more complete understanding of the current distribution and status of tassel stonewort.	Re-survey suitable habitats within and in the vicinity of previous extant sites, ie, Gillingham, Cantley and Sculthorpe.	NE	
5.5.3	Undertake a research project to elucidate whether nutrient enrichment and/or competition with filamentous algae is significantly affecting populations of tassel stonewort.	Consider a project which compares ecological conditions at Gillingham Marshes with the two extant sites, Sculthorpe Fen and Cantley Marshes.	Waterbodies Topic Group	

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.5.4	Devise and implement a monitoring programme for all extant populations. This would need to cover an assessment of population size, habitat quality, current management and potential threats.	<p>Ensure a thorough survey of Sculthorpe Fen and Cantley Marshes is carried out between March and May (depending on the wetness of the spring season) at least once in 5/6 years.</p> <p>Ensure follow-up monitoring is carried out after implementation of management at historic or potential <i>T. intricata</i> sites.</p>	<p>H&OT, RSPB</p> <p>NE</p>	NE, Plantlife
5.5.5	Collate information and undertake research if necessary to identify measures needed to address the problem of falling water-table levels on extant tassel stonewort sites.	No action proposed.		
5.6	Communications and Publicity			
5.6.1	None proposed.	No action proposed.		

NORFOLK DISTRIBUTION



Map produced using DMAP software (www.dmap.co.uk)

Sculthorpe Fen (part of Sculthorpe Moor Community Nature Reserve and County Wildlife Site 1276 Sculthorpe & Hempton Meadows): Newly discovered in 2006 by Geoff Nobes, in ditches at TF 90466 30180 and TF 90470 30240.

Cantley Marshes: Recorded in one ditch (TG 368 042) during a dyke survey in 1996 by Martin George (Det. Nick Stewart). Not seen in that location in subsequent years.

Gillingham Marshes (c.TM 41 91): old records.

MANAGEMENT GUIDANCE

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

Management should aim to maintain shallow, bare margins of pools and ditches, unshaded by trees, scrub and tall emergent aquatic or marginal vegetation. This is likely to be best achieved in most situations by annual grazing and periodic ditch management.

Grazing (preferably by cattle) will both control potentially competitive vegetation and through poaching, create shallowly flooded, bare ground to encourage germination. A late start to the grazing season or low stocking levels will be detrimental, as this will facilitate development of tall emergent aquatic vegetation (e.g. sedges, rushes, bur-reed and common reed) along pool and ditch edges; early grazing is probably best for this reason. Similarly, excluding grazing for a hay crop is likely to be detrimental, unless winter grazing is possible. When grasses become established, *T. intricata* will soon become dormant.

Regular ditch maintenance, using a tracked excavator or tractor mounted ditching bucket, will create bare ground at ditch edges suitable for *T. intricata* for one or more years; ideally, this management will be carried out annually on rotation so that a proportion of ditches remains newly disturbed in each year.

A shallow profile at the water's edge and stable water levels during winter and early spring are likely to provide optimal conditions for *T. intricata*. Summer drying is beneficial, particularly when grazing is undertaken concurrently.

Maintaining good water quality is important as nutrient enrichment is likely to lead to choking growth of filamentous algae, macrophytes or tall growth of emergent aquatic species.

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REFERENCES

George, M. (1996). The aquatic flora of the Cantley Level dyke system. Unpublished report to the RSPB.

Stewart, N.F. (2002). A Provisional Review of Sites and Areas of Importance for Stoneworts in the United Kingdom.

Plantlife. (2000). Species Action Plans for Plants: Tassel Stonewort.

RSPB. (2003). Mid Yare Reserve Management Plan, 2004-09.