

NORFOLK BIODIVERSITY ACTION PLAN

GREATER WATER PARSNIP (*Sium latifolium*)

A tall hairless perennial with ridged stems. This plant has white flowers arranged in a large globe or umbel. It thrives in ditches and wet fens where water is kept open by occasional clearance with a bucket excavator or mower.

Ref : 2/S8	Tranche: 2	Species Action Plan 8
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Plan Leader:		
Date:	Stage:	
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1. CURRENT STATUS

National Status

- In the past, greater water parsnip was most commonly found on rafts of semi-floating vegetation at the margins of lakes and large rivers. However, following the drainage and reclamation of fens in the UK, it is now most often found in drainage ditches and wet fens in the east of England. It is widespread in Europe, but very rare near the Mediterranean.
- In Great Britain, greater water parsnip is classified as Nationally Scarce (ie occurs in 16-100 10km squares), being recorded from 62 10km squares during the latest Atlas recording period (1987-1999). However, its distribution has contracted significantly over the past 100 years with most extant populations being found in major wetland areas such as the Somerset Levels and The Broads. It receives general protection under the Wildlife and Countryside Act 1981.

Norfolk Status

- Norfolk remains one of the plant's strongholds, although there is evidence of a long-standing decline here too – Ted Ellis in his *New Naturalists'* book on The Broads (1965) referred to it as "a rare and disappearing species." In Broadland, the main populations are found in fen habitat in the Ant valley, although the plant also occurs along some grazing marsh dykes, notably in the Halvergate – Wickhampton area. In the west of the county, there are few recent records, although the plant still occurs in good numbers on the Ouse Washes. On the north Norfolk coast, there are post-1988 records for Holme and Burnham Overy.



Greater water parsnip at Wickhampton (J. Halls).

2. CURRENT FACTORS CAUSING LOSS OR DECLINE IN NORFOLK

- The threats to this species include intensive dyke maintenance, lack of channel maintenance, drainage of sites (including low winter dyke water levels) and exposure to prolonged heavy grazing. It is intolerant of heavy shade and has therefore suffered as a consequence of the progressive invasion of 'open' fen communities by trees and scrub. Eutrophication and other water quality factors may also be a problem.

3. CURRENT ACTION IN NORFOLK

- Most of the Norfolk populations of greater water parsnip fall within designated sites, many of which are managed by conservation organisations.
- Fen restoration work and scrub clearance currently taking place should benefit this species, while in the grazing marshes agri-environment schemes can provide suitable prescriptions to maintain and enhance populations.

4. ACTION PLAN OBJECTIVES AND TARGETS

National

- Maintain the range of greater water parsnip in the UK.
- Ensure that viable populations are maintained at all extant sites.
- Regenerate plants from the seed-bank on five suitable historical sites in England by 2003.
- Provide opportunities for the spread of greater water parsnip from extant sites.

Norfolk

- Maintain at least 20 sites for greater water parsnip across its known range (Broadland fens, Broadland grazing marsh, Ouse Washes and north Norfolk coast).
- Ensure that the population remains viable at all these sites.
- Provide opportunities for the spread of greater water parsnip from extant sites.
- Ensure colonisation of two new sites by 2006.

Greater Water Parsnip - Norfolk Action Plan

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.1	Policy and Legislation			
5.1.1	Promote the restoration of more natural river dynamics on lowland rivers in Britain, including the restoration of alluvial floodplains, in order to create permanent or semi-permanent water habitats for this species.	As National action.	EA, IDBs, EN, BA	
5.2	Site Safeguard and Management			
5.2.1	When next reviewed, consider targeting Countryside Stewardship and other relevant agri-environment schemes to land adjacent to extant sites for greater water parsnip in order to create suitable conditions for population expansion.	Ensure revised agri-environment schemes provide suitable management prescriptions that will maintain and allow for expansion of populations.	EN, DEFRA	
5.2.2	Ensure that Local Environment Agency Plans and Water Level Management Plans take full account of the requirements of this species.	Where possible, ensure that Environment Agency Local Contributions and Water Level Management Plans take full account of the requirements of this species.	EA, EN, IDBs, DEFRA	
5.2.3	Where possible, seek beneficial management for this species at extant sites. Ditches should not be cleaned out too regularly and sites should not be heavily grazed.	Seek beneficial management for this species at extant sites. Ditches should not be cleaned out too regularly and sites should not be heavily grazed.	EA, DEFRA, BA, IDBs	Landowners
		Ensure that the requirements of greater water parsnip are included in management plans, site management statements and conservation objectives for relevant SSSIs/cSACs.	EN	
5.2.4	Consider stronghold sites for notification as Sites of Special Scientific Interest where this is necessary to	Not relevant. All main sites already Sites of Special Scientific Interest. Ensure site condition monitoring includes	EN	

Greater Water Parsnip - Norfolk Action Plan

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
	ensure their long-term protection from damaging activities.	populations of greater water-parsnip		
5.3	Species Management and Protection			
5.3.1	Undertake management on five suitable historical sites with the aim of regenerating plants from the seed-bank.	Liaise with national contact, and support this work. Monitor closely sites where major scrub clearance has taken place to see if the species returns eg Bure Broads and Marshes Site of Special Scientific Interest.	EN, NWT, RSPB, BA	
5.3.2	Assess the feasibility and desirability of reintroducing this species to suitable historical sites should regeneration from the seed-bank prove unsuccessful.	Assess the feasibility and desirability of reintroducing this species to suitable historical sites should natural regeneration prove unsuccessful.	EN, BSBI	
5.3.3	Collect seed from a representative number of sites in different parts of the range of this species and deposit in the Millennium Seed Bank at Wakehurst Place (Kew).	Collect seed from representative Norfolk sites and deposit in the Millennium Seed Bank at Wakehurst Place (Kew).	CO-ORDINATOR, RBG Kew	
5.4	Advisory			
5.4.1	Ensure that all landowners and managers of extant sites are aware of the management requirements of this plant.	Send Biodiversity Action Plan and schedule of known sites to relevant landowners plus Norfolk Wildlife Trust, RSPB, English Nature, IDBs, Broads Authority Site Managers, English Nature Site Managers, Ted Ellis Trust and Wildfowl and Wetlands Trust.	CO-ORDINATOR	
		IDBs in particular need to check whether extant populations are in IDB main drains.	IDBs	
5.4.2	As far as possible, ensure that all relevant agri-environment project officers and members of regional	Send Biodiversity Action Plan and schedule of known sites to Environmentally Sensitive Area Officers, Countryside	CO-ORDINATOR	DEFRA

Greater Water Parsnip - Norfolk Action Plan

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
	agri-environment consultation groups are advised of locations of this species, its importance and management needed for its conservation. They should also be advised of the need to develop beneficial management practices on sites adjacent to existing populations so as to facilitate the spread of greater water parsnip.	Stewardship Officers and Environmental Stewardship advisors.		
5.5	Future Research and Monitoring			
5.5.1	Collate information and re-survey sites where necessary in order to determine the current distribution and status of greater water parsnip in Britain, and assess threats to remaining populations.	Prepare detailed schedule of current and former Norfolk sites and update as required. Resurvey former sites for the presence of the species.	CO-ORDINATOR CO-ORDINATOR	BSBI, NORFOLK FLORA GROUP, BA, RSPB, NWT, EN
5.5.2	Undertake auto-ecological research and detailed monitoring on three viable sites in order to increase knowledge of the ecological requirements of greater water parsnip and refine management techniques for its conservation.	Monitor populations in key Norfolk sites. Collect data on associated species and site management	CO-ORDINATOR	BSBI, NORFOLK FLORA GROUP, BA, RSPB, NWT, EN
5.6	Communications and Publicity			
5.6.1	Use the conservation of greater water parsnip to help illustrate the need to develop natural river and flood dynamics for biodiversity. A short statement on the requirements of this species should be prepared and circulated amongst relevant groups, including river managers.	Include management requirements in Biodiversity Action Plan. Produce and circulate leaflet with management requirements and drawing of plant to reduce possible misidentification as cowbane (<i>Cicuta virosa</i>) or other umbellifers.	CO-ORDINATOR EA, IDBs	

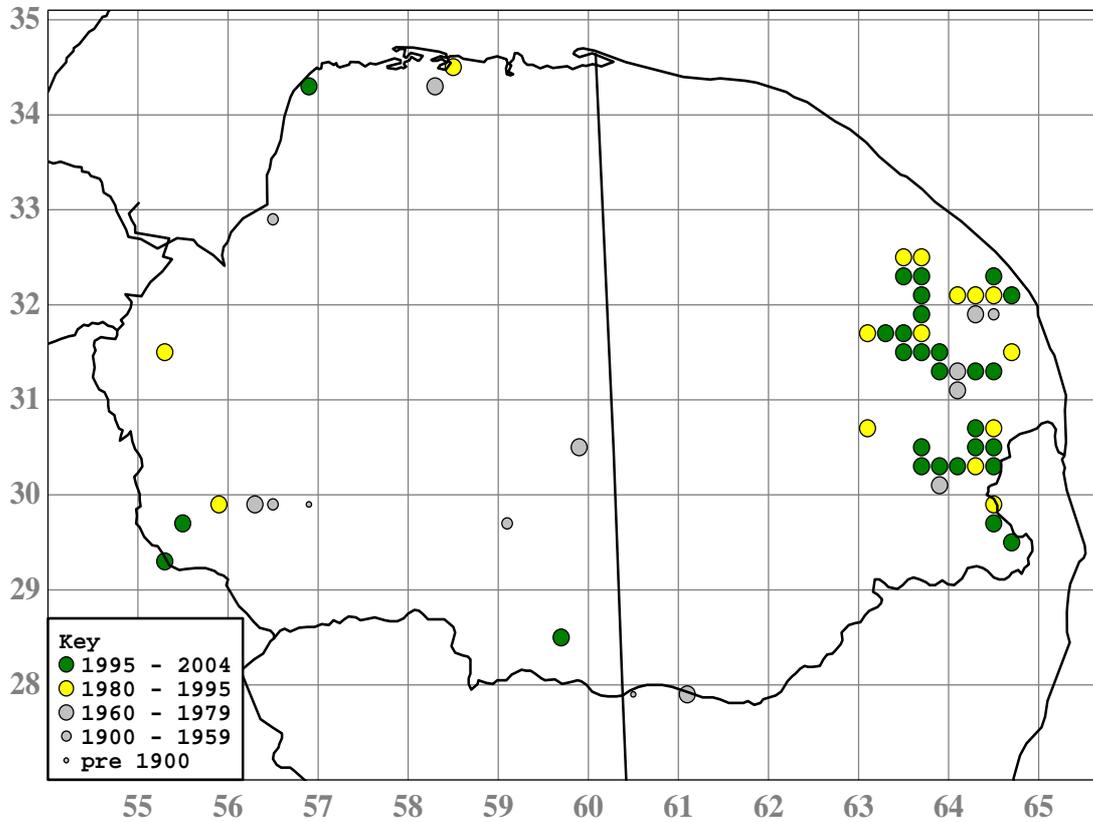
Greater Water Parsnip - Norfolk Action Plan

NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.7	Links with Other Action Plans			
5.7.1	This action plan should be considered in conjunction with those for fens, coastal and floodplain grazing marsh and reedbeds.	Consider action plan in conjunction with those for fens, coastal and floodplain grazing marsh and reedbeds. Liaise as necessary with Wetland Topic Group.	ALL	

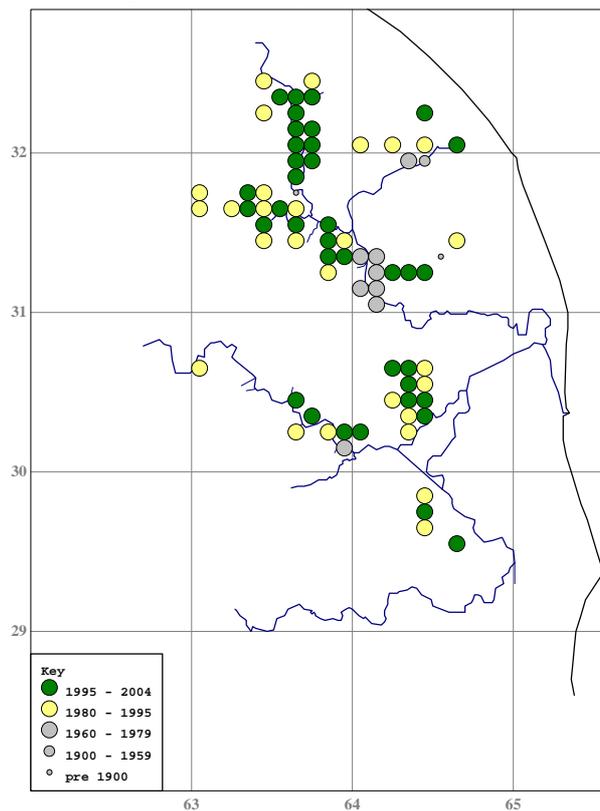
NORFOLK DISTRIBUTION

Distribution maps for greater water parsnip *Sium latifolium* L. (Maps produced using DMAP (see www.dmap.co.uk)

Tetrad (2km x 2km) map of Norfolk, July 2005



1km map of Broadland, July 2005



MANAGEMENT GUIDANCE

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

Management guidance for greater water parsnip tends to be the same as good fen management practice. The plant is intolerant of heavy shade, and is likely to disappear from neglected fen that has been invaded by scrub. Conversely, it is sensitive to heavy grazing pressure and probably suffered a decline during the periods of high coypu populations. Grazing should therefore be sufficient to reduce scrub encroachment but light enough to maintain tall vegetation on dyke edges. Fencing could be considered if grazing pressure is thought to be the only adverse factor in an otherwise suitable site.

The plant thrives where the water table is between 10cm below the surface and 10cm above the surface, but it has a tolerance of 30cm below to 40cm above. Provision of sufficient water is also an important management consideration. It is considered to prefer good quality water, but may be able to tolerate some salinity. Seasonal factors, including extreme winter drawdown of dyke levels are likely to adversely affect survival.

Shallow turf ponding will benefit greater water parsnip as it is really a swampy, rather than a fen species.

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KEY REFERENCES AND BIBLIOGRAPHY

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- Rodwell, J S (ed). 1995. *British Plant Communities 4. Aquatic communities, swamps and tall-herb fens*. Cambridge: Cambridge University Press.
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