

Outline Action Plans for Plant BAP Species in Oxfordshire.

Key Species

1. Creeping Marshwort - *Apium repens*

1. Current Status - This perennial umbellifer of damp pastures was only ever scarce and in the UK is now found at three native sites - Port Meadow, Oxford, restored at Binsey Green, and at Walthamstow Marsh SSSI Essex. It has been introduced at two sites in Oxfordshire, only one of which was successful – at North Hinksey. It occurred recently at two other sites in the Thames Valley and less recently in Yorkshire and Scotland (Sanda Is. Mull of Kintyre visited by Quentin Cronk). In 1994 JNCC initiated a DNA study at Oxford University which confirmed the plant as a British species.

Protection - Creeping marshwort is also rare in Europe and is on the EC Habitats Directive Annexes II and IV, the Bern Convention Appendix 1, Schedule 4 of the Conservation (Natural habitats etc.) Regulations 1994 and Schedule 8 of the Wildlife and the Countryside Act 1981.

2. Factors Causing Decline – probably agricultural intensification, including control of winter flooding, drainage, loss of habitat by scrubbing over and herbicides.

3. Current Action - A three-year Species Recovery Programme was started in 1995 and has been extended since. It is carried out under contract with English Nature by the Rare Plants Group of the Ashmolean Natural History Society of Oxfordshire. Plants from the native population are in cultivation at the Oxford University Botanic Garden and at Wakehurst Place, Royal Botanic Garden Kew.

4. Action Plan Objectives

4.1 Maintain and enhance the population on the one native Oxfordshire site.

4.2 Restore at the two former Thames Valley sites by 2005.

4.3 Identify suitable sites for three new introductions.

4.4 Research its ecological requirements.

5. Action

5.1 Policy and legislation

The known site is a candidate Special Area of Conservation.

5.2 Site safeguard and management

5.2.1 The EA has consulted with EN over the water level management plan for Port Meadow, Wolvercote Green and Wolvercote Common and is undertaking a Hydroecological study of the southern part of Port Meadow to determine the later level regime favoured by the plant community (MG13) in which the plant grows.

5.2.2 Encourage owners of former sites to enter the ESA scheme.

5.3 Species management and protection

5.3.1 Manage former sites to enable buried seed to germinate. At Binsey Green suitable grazing was reinstated and the plant reappeared. At Langel Common, Witney a scrape was dug and several species which are often associated with *Apium repens* did reappear, but not the plant itself. It was agreed in 2003 to rotovate the scrape area, and if it still hadn't germinated to consider extending the scrape.

5.3.2 If natural regeneration is unsuccessful, re-introduce ensuring correct conditions.

5.3.3 Keep plants in cultivation and collect seed, done at Oxford Univ. Botanic Garden

5.3.4 Introduce at new sites. Introduced at North Hinksey, by kind permission of the Oxford Preservation Trust in May 1996, 40% survival in Oct 1997, 60% flowering.

Introduced at New Marston SSSI in December 1996 and May 1997, all lost.

6. Monitoring and Research

6.1 Annual mapping of Port Meadow and Binsey population

6.2 Survey and regular monitoring of former and potential sites. Sandford-on-Thames surveyed, a short growing form of *A. nodiflorum* found

6.3 Investigate the ecological and reproductive requirements of the species.

Preliminary experiment on pollination indicated that out crossing was favoured.

6.4 Carry out further genetic research to clarify the taxonomy of the species.

6.5 Form links with botanists in other European countries to share autecological and conservation information. Contacts and visit made to Holland and Belgium.

6.6 Provide information to gathered to JNCC and thence to the World Conservation Monitoring Centre. Three year report in preparation.

7. Steering Group consists of Alison McDonald (ANHSO), Kathy Warden, Camilla Lambrick (ANHSO), and Helen Lancaster (EN) and Paul St Pierre or another representative from EA. Meets annually.

8. Communications and publicity

Short note in Oxford Urban Wildlife Group newsletter.

9. Revise the Action Plan at the conclusion of first the three year project, in 1997.

This was done. The population on port Meadow is flourishing (probably over 1000 plants) except when winter flood water persists on the meadow till June when widespread plant death occurs (probably because of reducing conditions and build up of sulphide ions). The restored site at Binsey is being well managed. Experimental introductions have been made at North Hinksey and New Marston with mixed success. A visit to five sites in Holland and Belgium showed the plant in similar communities but also able to flourish in a mown sward.

2. Tower mustard - *Arabis glabra*

1. Current Status - A biennial of light calcareous soils which has declined rapidly, now surviving in 31 10km squares in south east England. Present in Oxon at three sites in the 1970's, now absent.

Protection - none

2. Causes Causing Decline - change in agricultural practices.

3. Current Action - A Species Action Plan has been written by Plantlife which envisages restoration at three historic sites.

5. Action -

Discussed by Plantlife with Cotswold Rare Plants Group at annual meeting.

5.1 Search former sites and determine suitability for restoration.

5.2 Scarify former sites to raise buried seed.

5.3 If necessary reintroduce.

5.4 Introduce to display site (Warburg, BBOWT or Northmoor Trust).

3. True Fox sedge - *Carex vulpina*

1. Current Status - A perennial of damp, neutral grassland, always uncommon, not easily distinguished from its closest relative *Carex otrubae*. Widely distributed in Europe

south of 60 N. One current site in Oxfordshire near Blackthorn, Bicester, one in Otmoor spinney SSSI last seen in 1992, and one plant confirmed by DNA study at Asham Meads BBOWT reserve (=Murcott Meadow SSSI).

Protection - IUCN vulnerable, in RDB, on Schedule 8 of Wildlife and Countryside Act 1981. The current site is in the Upper Thames ESA .

2. Factors Causing Decline - probably loss of habitat.

3. Current Action - English Nature has contracted the Rare Plants Group ANHSO on a five year plan.

4. Actions

A workshop was held to assess the present distribution of the true fox sedge in BBO
Annual monitoring of plant at Blackthorn and Otmoor Spinney

Consider possibility of reinforcement of population on adjacent arable reversion at Blackthorn.

Reinforce population at Asham Meads. C. 40 plants were grown from seed from the Asham plant in 2003 by Colin Smith. These are due to be planted out in March 2004.

5.2 Policy and legislation - Consider current site for national or local designation

5.3 Site safeguard and management

5.3.1 Agree a management plan for the current site with the owner.

5.3.2 Agree site management at former site to promote germination of buried seed.

5.4 Species management and protection

5.4.1 Collect seed from current site for cultivation, and for National Seed Bank, Wakehurst Place.

6. Monitoring and research

6.1 Search former and doubtful sites, and establish whether suitable habitat is present or could be restored.

6.2 Investigate the ecological requirements of the species.

7. Steering Group Ron Porley (EN) Helen Lancaster (EN), Camilla Lambrick and Susan Erskine (Rare Plants Group ANHSO).

4. Deptford pink - *Dianthus armeria*

1. Current Status - A perennial of open dry soils which is now nationally scarce in the UK - found in 36 10 km squares in 1995. In 1992 it was present in three tetrads in vice county 23 (old Oxon). Formerly present on golf course at Frilford Heath SSSI. Searched for and not seen since 1994.

Nationally Scarce

2. Factors Causing Decline - probably habitat loss.

3. Current Action - none.

4. Action Plan Objectives - None

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5. Red-tipped cudweed - *Filago lutescens*

1. Current Status - An annual of open and arable areas. Formerly around Cothill, Frilford. At nine sites, last seen 1968. Recorded by Druce at Lewknor, Nettlebed and Wargrave.

Protection - Schedule 8 of Wildlife and Countryside Act 1981.

2. Factors Causing Decline - Changing agricultural practice.

3. Current Action - Plantlife is leading an Action Plan and has surveyed former sites in 1997.

4. Action Plan Objectives none

6. Broad-leaved cudweed - *Filago pyramidata*

1. Current Status - An annual of open ground, formerly widespread, now only found at a few sites in the UK. Present at two Oxfordshire sites, abundant at the Chilterns site and down to a handful of plants at the western one (an SSSI) where possible hybrids with the common cudweed are present. Lost from at least 11 sites in the county, and since 1960 from at least two sites (Frilford Heath and Dry Sandford Pit SSSIs).

Protection - IUCN - endangered, Schedule 8 of Wildlife and Countryside Act 1981.

2. Factors Causing Decline - changes in agricultural practice.

3. Current Action - Plantlife are preparing an action plan. Seed has been collected from both Oxon sites, deposited at Wakehurst Place and Oxford University Botanic Garden.

Rare Plants Group of Ashmolean Natural History Society of Oxfordshire with Plantlife surveyed the two extant and two former sites in 1997.

4. Action Plan Objectives

4.1 Maintain population at the large site

4.2 Enhance population at the small site

4.2 Restore or reintroduce at one former site (BBOWT).

4.3 Introduce at demonstration sites in county (BBONT and Northmoor Trust)

5. Actions

5.1 Set up a steering group and write a costed action plan following the national plan

5.1 Site management

Management of the two known sites is being discussed with owners: OCC with owners of Chilterns site, little management is required there.

At the SSSI area half a dozen plants present in 1997 were on the verges of the bridlepath. This has been scarified by the RPG-ANHSO to enable buried seed to germinate and the plant to spread. The plant was more abundant in 1995, and some of its former areas should be scarified.

Scarify area of one former site (Dry Sandford Pit SSSI) and use seed from the Carswell site (bulked up in a botanic garden) for reintroduction if necessary (BBONT). This is a good site for the public to see the plant.

The other former site is a filled in quarry at Frilford Heath Golf Course (SSSI) where there is a good population of other annuals and plants of disturbed habitats. However since the area was levelled in the 1960's it is not likely that a viable seed bank could be activated.

Introduce at two demonstration sites (BBOWT and Northmoor Trust)

5.2 Species management - Bulk up seed from the Chilterns site for demonstration sites.

6. Monitoring and Research

6.1 Devise and implement a way of recording the populations.

6.2 Research - DNA analysis to detect hybrids carried out as student project under Stephen Harris Plant Sciences Department, University of Oxford, in 1999.

7. Steering group - Susan Erskine (RPG-ANHSO), Helen Lancaster (EN), Camilla Lambrick (RPG-ANHSO), Phil Wilson (Plantlife). Annual meeting with Plantlife in Feb/March (with Cotswold Rare Plants Group). Also discussed at annual meeting with EN in October.

7. Red hemp-nettle - *Galeopsis angustifolia*

1. Current Status - An annual of arable fields, known from 61 10 km squares in 199 . Known last century from Shippon and Cothill, early this century from Goring and Tackley. One current site on a field margin near Charlbury.

2. Factors causing decline - agricultural improvement.

3. Current Action - site monitored by Jo Dunn with the Cotswold Rare Plants Group in consultation with land owner.

This species is on the search list of the Rare Arable Flora group

4. Action Plan Objectives

4.1 Maintain and enhance existing populationow population in 2001-2, 24 plants in 2003

4.2 Research and survey former sites

5. Actions

5.1 Set up a steering group

5.2 Site management

Agree site management with owner, possibly through whole farm plan.

5.3 Species management

Collect seed to be held at Wakehurst Place and Oxford Botanic Garden

Grow on at Botanic Garden for demonstration

Establish at demonstration sites (BBONT)

6. Monitoring

Devise and implement monitoring system for existing site – eing monitored,

7. Steering Group – discussed at annual meeting of Plantlife and Cotswodl Rare Plants Group including Jo Dunn

8. Corn Cleavers - *Galium tricornutum*

1. Current status - An annual weed of arable fields, now much declined. One known UK site at Rothampstead, and last seen at Oxon site in 1980s; five pre-1967 sites in Oxon.

Protection - Schedule 8 of Wildlife and Countryside Act 1981. The current site is within the Wytham Woods SSSI.

2. Factors Causing Decline - agricultural improvement.

3. Current Action - Resumption of ploughing at Upper Seeds, Wytham Wood SSSI.

4. Action Plan Objectives

4.1 Search former site and replough if not found, done in 2001, 2 and 3

5. Action

5.2 Include in the proposed book on the Arable plants of Oxfordshire

6. Research and monitoring

7. Local Steering Group - Discussed at the annual meeting with EN Alison McDonald (Rare Plants Group-ANHSO)

9. Early Gentian - *Gentianella anglica*

1. Current Status - Endemic to the UK. An annual of thin chalk grassland in southern England, especially Dorset, Wiltshire and the Isle of Wight. Extending to Buckinghamshire, Gloucestershire and Northamptonshire. In Oxfordshire abundant at Hackpen Hill SSSI on the Wessex Downs, frequent Whitehorse Hill SSSI and rare at Weathercock Hill, Kingston Down (Oxon Wildlife Site) and in the Cotswolds at Taynton Quarry SSSI. All sites have SSSI status. Lost from several sites in Oxon.

Protection - EC Habitats Directive Annex 1V, Schedule 8 of Wildlife & Countryside Act 1981.

2. Factors causing decline - loss of short grassland due to reduced grazing.

3. Current Action - Plantlife with the Wildlife Trusts is implementing a national Action Plan and English Nature has prepared a plan for Berkshire, Buckinghamshire and Oxfordshire which is its first year has had a survey of known SSSI sites surveyed by the Rare Plants Group. Plantlife has surveyed former non-SSSI sites. The National Plan does not envisage restoration of sites in this county.

4. Action Plan Objectives

4.1 Maintain populations at the two main sites, the National trust is monitoring the population at White Horse Hill which is doing well
Taynton Quarry population of more than 100 when last monitored

5. Actions

5.2 Site management

Agree management plans with owners of existing sites.

5.3 Species management

Collect seed for the National Seed Bank, Royal Botanic Garden, Kew.

6. Local Steering group - should include Helen Lancaster (EN), Phil Wilson (Plantlife) and Camilla Lambrick (RPG, ANHSO).

10. Shepherd's needle - *Scandix pecten-veneris*

1. Current Status - An annual of arable habitats which has suffered a dramatic decline. Known in 85 10km squares in UK since 1980. In Oxfordshire known from 23 tetrads in 1960s. Now known from six sites, none protected.

Protection - none, Nationally Scarce.

2. Factors causing decline - agricultural improvement.

3. Current Action - Monitored in 1996 by Alan Showler and RSR Fitter at its Chinnor site; found by the 1996 Arable flowers survey at SP 446008 and 443008 and in the 1997 survey in 6 fields in Tubney parish and at three of Quentin Kay's sites; also Childrey Field, Hackpen (KJ Warden 1999).

4. Action Plan Objectives

4.1 Maintain and enhance at all known sites

4.2 Take seed into national Seed Bank and grow at demonstration sites

4.4 Introduce at demonstration sites

5. Proposed Actions and Lead Agencies

Set up a steering group and write a costed action plan to include:

5.1 Policy and legislation

Consider adding species to Schedule 8 of Wildlife and Countryside Act.

Encourage land owners to enter Countryside Stewardship scheme

5.2 Site safeguard and management

Encourage owners to leave untreated field margins

5.3 Species management and protection

Collect seed for National Seed Bank, Royal Botanic Garden, Kew.

6. Future research and monitoring

Monitor known sites (Rare Arable Flora Group)

7. Steering Group - to include Shirley Leach (RPG-ANHSO), Rod D'Ayala (BBOWT).

8. Communications and publicity

Grow at demonstration sites (Warburg Reserve BBOWT)

Publish booklet on arable plants of Oxfordshire (Rare Arable Flora Group).

11. Cotswold pennycress - *Thlaspi perfoliatum*

1. Current Status - Also called perfoliate pennycress, this species is a winter annual widespread in Europe and western Asia. Restricted in the UK to the Cotswolds and South West, though sometimes distributed on ballast and gravel. Now at seven native sites in Gloucestershire. There are two native Oxfordshire sites, neither protected, Bridgefield Bridge is on Network Rail property; one probably introduced on a road verge site, and one nearby site, Dix Pit silt lagoons not seen since 198?, hand scarified 1993 and 1994, mechanically reprofiled by Hanson's 2000. One extinct site near Stonesfield is now under a larch plantation.

Protection - IUCN - Vulnerable, Schedule 8 of the Wildlife and the Countryside Act 1981.

2. Factors causing decline - agricultural improvement and changes in quarrying practice.

3. Current Action - Plantlife have been monitoring and researching this plant for some years and the species Action Plan is now in its second draft. The Rare Plants Group has been monitoring and scarifying the Oxon sites since 1994. Experiments have been carried out by the Rare Plants Group to determine the best time of year for scarification which is probably August-September.

In cultivation at Oxford University Botanic Garden and with John Campbell

4. Action Plan Objectives

4.1 Maintain or achieve viable populations at known sites.

4.2 Introduce into site(s) where it may be seen by the public.

5. Actions

5.1 Policy and legislation

Designate sites under local scheme (OCC)

5.2 Site management

Agree suitable site management with owners, done by Plantlife for Railtrack site

Designate verge site (OCC).

Discuss management of the headland site with owner.

5.3 Species management

A population of about 200 is considered viable

Ensure seed from each site is held at Royal Botanic Garden, Kew.

6. Monitoring and research

Monitoring being done by Cotswold Rare Plants Group and RGP-ANHSO.

7. Steering group to include J Dunn, Cotswold Rare Plants Group.

12. Broad-fruited Cornsalad - *Valerianella ramosa*

1. Current status - This annual of cultivated fields was formerly widespread but is now much reduced. Last century at Headington Wick and Blewbury, early this century at Headington and Woodperry Wood. 1969 Malpedurham. 1968 at Kingstanding Hill, Moulsoford, last seen at Aston Tirrold 1982.

Protection - none, Red Data Book, endangered.

2. Factors causing decline - agricultural improvement, possibly overlooked.

3. Current Action - included in Rare Arable Flowers Survey, none found in 1996 or 97.

4. Action Plan Objectives - none

13. A lichen - *Bacidia incompta*

1. Current status - This lichen preferred Elm and so is now much reduced. Recorded by Brennan in 1940 at Appleton, 1970's at Hook Norton Great Tew, Cornbury Park. Formerly at, Roundhill Wood, Appleton Lower Common, Winterbourne and Bablockhythe.

Protection - IUCN vulnerable, not scheduled

2. Factors causing decline - Dutch Elm disease.

3. Current action - none.

4. Action Plan Objectives - Search suitable areas

14. Orange-fruited Elm Lichen - *Caloplaca luteoalba*

1. Current status - Usually on bark of elm or maple or dead wood, rarely on stone. Greatly reduced in the UK by the Dutch elm disease this lichen is now known from only seven sites in the UK. A good population is however flourishing on one horse chestnut tree in the grounds of Little Wittenham Manor. Formerly at Coleshill, Cholsey, Shilton, Rycote, Wroxton Cornbury, Wilcote, Standlake, Walcote, Hook Norton, Tusmore, Shelsewell, Marsh Baldon, and Stonor.

Protection - schedule 8, IUCN vulnerable.

2. Cause of decline - loss of suitable elm trees through Dutch Elm disease

3. Current action - the owner of the site has been informed.

4. Action Plan objectives

4.1 Identify and search for further plants

Bryan Edwards, under contract with Plantlife visited in 2003 report submitted.

15. Grass-poly - *Lythrum hyssopyfolium*

Grows at Cholsey

Owner Ann Kelaart is looking after it

Monitoring visit planned for Wed 28 July 2004 Leader Shirley K Leach

16. Greater Water Parsnip - *Sium latifolium*

Monitored at Wytham Fens and Ditches SSSI in 2003

Being grazed, management advice given to Farm Animal Initiatives, managers of the University Farm

Monitoring visit planned for Tues 3 August 2004 Leader Dr A W McDonald