Fens Local habitat Action Plan

1 Definition

Fen habitats are permanently waterlogged wetland habitats made up of a mosaic of plant communities. These range from wet heath with sphagnum moss and patches of heather, to swamps of tall neglected reeds, open pools, species-rich grazed meadows and wet fen woodland of alder and willow.

Unlike bogs and mires which rely on rainwater to keep them saturated, fens can be fed by either ground water, surface water run-off or rainfall. This gives a higher level of nutrients within the peaty soil and also a less acidic pH (4.5-7.5) than bogs. There are no true bogs in Suffolk due to the low rainfall. The complex hyrdrology of fen habitats contributes to the diversity of plant communities. Where fens are water-logged, scrubbing over with willow and alder is prevented. Fens would have been periodically grazed and/or burned to maintain grassland habitats. Fen habitats support a diversity of plant and animal communities. Some can contain up to 550 species of higher plants, a third of our native plant species; up to and occasionally more than half the UK`s species of dragonflies, several thousand other invertebrate species, as well as being an important habitat for a range of aquatic beetles and breeding birds.

Fens can be described as `poor-fens` or `rich-fens`. Poor-fens, where the water is derived from base-poor rock such as sandstones occur mainly in the uplands, but are also associated with lowland heaths. They are characterized by short vegetation with a high proportion of bog mosses *Sphagnum* spp. and acid water (pH of 5 or less). Rich-fens are fed by mineral-enriched calcareous waters (pH 5 or more) and are mainly confined to the lowlands. The ‘rich fens’ predominate in Suffolk and are characterised by an open vegetation structure of mosses and species-rich grassland. There are two main types; valley fens and floodplain fens.

Valley fens occur in the Little Ouse valley and tributaries, the Waveney Valley, Suffolk Coastal river valley fen meadows and the Stour Valley. There are only 43 valley fens in the UK and a high proportion of these are in East Anglia. Although floodplain fens are more widespread in the UK as a whole, they only occur around the broadland area of north Suffolk, in the lower Waveney valley at Barnby Broad, Carlton and Oulton Marshes.

Habitats covered by this Plan include rushy pastures and fen meadows. All sites with substantial fen interest should be regarded as eligible for inclusion in this Action Plan. There may be overlap with the following habitats: grazing marsh; reedbeds; lowland heath, eutrophic standing waters; and wet woodland. Other species associated with fens include Otter, Water Vole, a rare leaf beetle (Pashford Poors), Desmoulin's Whorl Snail and Fen Raft Spider.

2 Current status

2.1 National

The area of fen in the UK has declined markedly throughout the Twentieth Century through agricultural intensification, scrub encroachment, drainage, and water abstraction. The UK is thought to hold a substantial proportion of the remaining European resources.

2.2 Local

The area of fen in Suffolk is not known precisely but is thought to be less than 250ha (Beardall & Casey, 1994). There are a few large sites with a range of valley and floodplain fen communities, and probably the majority of fen habitat is within these few sites. Most are protected as Sites of Special Scientific Interest (SSSIs) and some also have international protection. There are many smaller sites with a narrower range of fen communities. Many are remnant stands of tall herb fen or fen meadow in a degraded state, often part of larger wet grassland sites. Many of these sites are designated as County Wildlife Sites (CWS).

3 Current factors affecting fens in Suffolk

- A number of key fen sites are outside conservation management and sympathetic ownership, despite the availability of agri-environment scheme support or other positive management agreements.
- Sites or parts thereof are still being lost to agricultural improvement, particularly the smaller, more vulnerable ones.
- There is a lack of livestock for grazing in arable areas. This is exacerbated by many sites being very small and below the critical size for economic management, which leads to their neglect.
- Fens are dynamic semi-natural systems and in general, management is needed to maintain open-fen communities and their associated species richness. Without appropriate management (e.g. mowing, grazing, burning, peat cutting, scrub clearance and maintenance of adequate water levels), natural succession will lead to scrub and woodland forming.
- Priorities for sustainable management are lacking. Old methods of fen management are too labour-intensive and expensive to be sustainable. Lack of, or inappropriate management of existing fens leading to drying, scrub encroachment and succession to woodland.
- Most fen sites are low fertility sites, now isolated in a high fertility agricultural landscape. Consequently there are chronic long-term water quality problems, raising fertility within the fen.

- Some Water Level Management Plans have not been adequate to provide the required hydrological regime, and do not cover issues of groundwater or water quality. Flooding, drainage and abstraction can all impact upon fens.
- Valley fens are particularly susceptible to agricultural run-off and afforestation within the catchment.
- Many fens have historically been neglected and there is a big backlog of restoration work required. This work is progressing, for example the fens in the Waveney and Little Ouse valleys.

4 Current Action

Legal Status

- The majority of fens are notified as Sites of Special Scientific Interest (SSSI) and many are notified as Wetlands of International Importance under the Ramsar Convention and as Special Protection Areas (SPAs) under the EC Birds Directive. Several types of fen are listed in the Habitats Directive including transition mire, poor and rich fen, and alkaline fens (rich-fen). A number of fens have been proposed as SACs under the EC Habitats Directive for these types.

- Many smaller fen sites are notified as County Wildlife Sites. This designation *can help protect* sites from development but not from neglect, agricultural improvement or mis-management.

- A new Fen Tier has been established in the Broads Environmentally Sensitive Area (ESA) & Suffolk River Valleys ESA schemes. The Breckland ESA is also considering fen management options. The Broads ESA and Suffolk River Valleys ESA both play an important role in protecting the fens.

- The Environment Agency (EA) is reviewing abstraction licences and discharge consents which may have an impact on Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). This review is anticipated to be complete by 2006. New licences are often refused and water level and quality management improved in and around some of the more important fen sites.

4.2 Management, research and guidance

- The water quality and water availability are key issues in managing these sites. Water Level Management Plans have been produced for all sites that are designated as SSSI.
- The statutory conservation agencies have negotiated several management agreements on SSSIs to help secure sympathetic fen management.

- Many fens are subject to water-level management plans (WLMPs) prepared by flood defence operating authorities (EA, IDBs, LAs) under a MAFF and Welsh Office initiative. Monitoring and survey work is on-going to facilitate implementation of the WLMPs.

5 Action Plan Objectives and Targets

1 *Through survey of existing fen resource, come up with a definition and more accurate picture of extent and variation in Suffolk's fenland resource.*

2 *Ensure by 2010 the long-term sustainable management (including water resources) of all fens over 5ha, which are currently in favourable condition or will be brought into favourable condition following restoration.*

3 *Promote the rehabilitation of degraded or declining fens, and encourage the creation of new fens providing the environmental conditions to allow the development of target fen communities or species to exist.*

4 *Maintain and enhance populations of key BAP species associated with Suffolk fens.*

6 Proposed Action with Lead Agencies

Action	Date	Partners
POLICY AND LEGISLATION		
Ensure compliance with Habitats Directive for designated fens in all Strategic Plans, Development Plans and Policy documents.	2007	**EN, EA, LAs, BA**
Incorporate water quality and quantity standards for fens into agri-environment schemes, by targeting key land within fen catchments for enhanced water levels and reduced fertiliser loadings.	2004 2005 2006 2007	**Defra, EA**
Consider modifying or expand existing habitat schemes and countryside schemes such as the ESA' s, Countryside Stewardshi and Nitrate Sensitive Areas to encourage the protection of fens from agricultural contaminants.	2004 2005 2006 2007	**Defra, EA, EN**
SITE SAFEGUARD AND MANAGEMENT		
Prepare and implement water level management plans for all Suffolk fens.	2007	**EA, IDBs**, EN, LAs, Defra,
Review each WLMP as they fall due, to implement agreed water quality/quantity standards. WLMPs to be produced or reviewed as part of restoration proposals, and before on-site works commence where possible.	2004 2005 2006 2007	**EA, IDBs,** Defra, BA, EN
Ensure site safeguard measures are in place to protect core fen resources. Notify as SSSI remaining sites, which meet current criteria and are threatened.	2007	**EN,** EA, SWT,
Ensure sustainable management of 80% of key fen sites for the long term, including sites subject to restoration proposals by 2010.	2004 2005 2006 2007	EN, Defra, EA, NT, RSPB, SWT

Promote reversion to fen tier (probably an addition to current grassland reversion tiers) in agri-environment schemes.	2004 2005 2006 2007	**Defra**, EN, SWT, RSPB, BA
RESEARCH AND MONITORING		
Establish the extent and diversity of Suffolk's fen resource through analysis of digital mapping and field survey.	2004	**BAP Wetland Working Group, SBRC**, EA, SWT,
Using information gathered from survey and digital mapping, produce a description of Suffolk's fen resource and draft habitat management guidelines.	2005	**BAP Wetland Working Group,** EA, SWT, SBRC
Install hydrological monitoring on international sites and maintain stations where already installed. All priority 1 sites by 2005, 50% of SSSI sites by 2010.	2005 2006 2007	**EA**, EN
Draw up and implement on-going review of water quality standards for each site on a 10-year cycle, following 10-year review of site monitoring data and review of relevant national research.	2004 2005 2006 2007	**EA**
Promote research into the ecology of fen species, particularly in relation to water quality, water quantity and management requirements using student projects and analysis of historical data.	2004 2005 2006 2007	**BAP Wetland Working Group,** EA, SWT, RSPB, EN, Defra
ADVISORY		
Organise seminar to disseminate results of research and progress with sustainable fen management techniques and publicise good practice.	2004 2005 2006 2007	**BAP Wetland Working Group,** EA, SWT, RSPB, EN, SCC, Local Authorities, Defra, BA
Organise a workshop to outline importance of Suffolk's fen habitats and their usage by key species.	2005	**BAP Wetland Working Group,** EA, SWT, RSPB, EN, Defra, BA
COMMUNICATIONS AND PUBLICITY		
Hold at least one media and demonstration event at local sites to raise awareness of the value and management of fens.	2005	**BAP Wetland Working Group,** EN, RSPB, SWT, BA