

Reedbed, swamp, fen and marsh

WHAT ARE REEDBED, SWAMP, FEN AND MARSH ?

These are wetland habitats that can sometimes be difficult to distinguish from each other as there are often no distinct boundaries. All four habitat types frequently occur together, as well as alongside features such as open water, ditches and wet grassland. They usually represent different stages in the natural succession from open water to dry land, although in some instances they can represent climax communities.

Marshes usually develop on mineral soils where the water level is close to the surface for most of the year. Marsh is a diffuse habitat category covering a number of types of grassland with a high proportion of rush and sedge species, and meadowsweet, as well as wet meadows and pastures predominately supporting marsh marigold or broadleaved herbs. Unlike marginal vegetation, marsh occurs on level ground and not on the banks of watercourses or open water.

Fens are wetlands overlying peat. They receive most of their nutrients from local soil, rock, ground water and rainfall. Fens can be divided into "poor -fens" and "rich-fens". Poor-fens occur where water is derived from base-poor rock (below pH 5) and tend to occur in the uplands or in association with lowland heaths. Rich-fens are fed by mineral-rich calcareous waters (above pH 5) and are mainly confined to the lowland. Fens, depending upon their classification, often have intimate relationships with flushes and springs.

Swamps have the water table distinctly above the substratum for much of the year and are often located on the margins of open water or in ditches. Swamps are dominated by reeds, tall grasses and large sedges in single or mixed-species stands which may cover extensive areas. Typical plants include: *Typha latifolia*, *Phalaris arundinacea*, *Glyceria maxima*, *Carex paniculata*, *C. acutiformis*, *C. rostrata* (or other tall sedges). These communities are often species-poor and may be dominated by one species.

Reedbeds are swamps that are dominated by stands of the common reed *Phragmites australis*. They are a very important habitat for breeding birds including, nationally: bittern, marsh harrier, Savi's warbler and bearded tit. Of more importance in the local context are reed warbler, water rail and reed bunting.

Carr is a type of wet scrubby woodland, dominated by willow and alder, which is often found in association with swamps and marshes.

WHERE ARE THEY FOUND IN THE UK?

There are 5,000 hectares of reedbeds in the UK, but of the 900 or so sites contributing to this total, only about 50 are greater than 20 hectares. These are mainly concentrated in the south and east of England and make up the majority of the total area. Reedbeds are amongst the most important habitats for birds in the UK. The UK holds a large proportion of the surviving fen in Europe,

although this has declined in the last century.

WHY ARE REEDBED, SWAMP, FEN AND MARSH OF CONSERVATION IMPORTANCE?

These wetland habitats are extremely important for many wetland invertebrates and breeding birds. They also provides niches for a wide range of important vertebrate species e.g. otter, as well as a broad sweep of flowering plants.

REEDBED, SWAMP, FEN AND MARSH IN THE DURHAM AREA

WHAT IS THE STATE OF REEDBED, SWAMP, FEN AND MARSH IN THE DURHAM AREA?

These are all restricted habitats within the area of the Plan. The Durham Wildlife Audit documents a total of 8.64 ha of fen in County Durham. It records some 56 swamp sites in County Durham, mainly in the eastern lowlands. Only 31 ha of these habitats are recorded across the county, this includes marginal and inundation vegetation.

Some of the largest areas of swamps are of recent origin, having developed around water bodies on the site of extractive industries or at subsidence ponds. Reedbeds are very limited in distribution in Durham and they are now less extensive than they once were. As with other wetland habitats, modern drainage has played a major role in restricting the extent of this habitat. It is essentially a lowland habitat in distribution, with only a few sites in the west. This undoubtedly reflects the pattern of widespread drainage.

As these wetland habitats mature and dry out plant debris and soil accumulates, shrubs and trees such as willows, alder and birch invade and the successional process progresses towards carr and then woodland. Such classic seral zonation is rarely encountered and is limited to a small number of sites, mainly within cut-off river meanders along the River Wear, south of Durham City.

WHERE DOES IT OCCUR IN THE DURHAM AREA ?

Fens are concentrated principally in the southern part of the Plan area. The total fen resource of the Plan area is spread between four local authority districts, Darlington, Sedgefield, Wear Valley and Derwentside. There are no fens noted elsewhere in the Plan area.

Easington, Durham City and Darlington have the largest number of swamps, with a significantly sized example also being present at Shibdon Pond L.N.R. in Gateshead. Reedbeds are also a scarce habitat, in both extent and distribution, the largest is at Hardwick Park near Sedgefield, with other significant stands at Monkton in South Tyneside, the Wildfowl and Wetlands Trust Washington, Coxhoe on the River Wear and at Shibdon Pond L.N.R.

REEDBED, SWAMP, FEN AND MARSH ARE AT RISK FROM:

The small total area of habitat and the critically small population sizes of several key species that are dependent on these habitats.

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A lack of suitable management - e.g. mowing, grazing, burning, peat cutting, scrub clearance. Without appropriate management, reedbed, swamp, fen and marsh, as a result of natural succession, will dry out and scrub and woodland will form.

Loss of reedbed, swamp, fen and marsh by drainage. Conversion to intensive agriculture-in some parts of the Plan area has lead to major habitat losses in the past.

Excessive water abstraction from aquifers may dry up or reduce spring line flows, and generally lower water tables. Abstractions have also affected the natural balance between the differing water qualities of ground water and surface water, adversely affecting reedbed, swamp, fen and marsh.

Agricultural run-off and afforestation within their water catchments. In this context, valley fens are particularly susceptible.

Nutrient enrichment (eutrophication), which causes an increased growth and dominance of vigorous plant species, can lead to a loss of biodiversity and may cause reed death.

REEDBED, SWAMP, FEN AND MARSH BENEFIT FROM:

Adequate supplies of high quality, unpolluted water – especially initiatives formulated to address nutrient runoff problems and the pollution of ground water.

Management appropriate to the habitats and its specific state of seral succession, e.g. properly formulated grazing regimes for marshes.

Strategic management (regulation) of water abstraction at the catchment level of these habitats.

Sensitive, complementary management of buffer zones within the hydrological catchment of each of these habitats.

IMPORTANT SPECIES FOR REEDBED, SWAMP, FEN AND MARSH:

Otter	**	Water vole	**
Reed warbler		Bittern	
Marsh harrier		Bearded tit	
Water rail		Reed bunting	**
Grass snake	*	Great crested newt	**
Smooth newt	*	Toad	*
Common frog	*	Dragonflies and damselflies	

OTHER HABITAT ACTION PLANS COVERING ISSUES RELEVANT TO REEDBED, SWAMP, FEN AND MARSH:

Wet woodland	**
Ponds, lakes and reservoirs	**

N.B. ** indicates action plan produced in 1998.

* indicates action plan produced in 2000.

TARGETS FOR THE CONSERVATION OF REEDBED, SWAMP, FEN AND MARSH IN THE DURHAM AREA:

	DATE
Target 1 Halt the loss and decline in quality of all reedbeds, swamp, fen and marsh.	2004
Target 2 Identify priority reedbed, swamp, fen and marsh sites in critical need of rehabilitation, and initiate works to this end.	2005
Target 3 Maintain existing and new reedbeds to ensure a balanced age structure through appropriate management.	ONGOING
Target 4 Designate all reedbed, swamp, fen and marsh sites with rare communities, not already designated as SSSIs, as second tier sites.	2004
Target 5 Ensure appropriate water quality and water quantity for the continued existence of all SSSI reedbed, fens, swamps and marshes.	2005
Target 6 Create 10 new reedbeds, amounting to a total of at least 30 ha by 2010.	2010
Target 7 Create at least one reedbed of significant size (to act as a flagship site - at least 20 ha is needed to attract bittern and bearded tit) within the Plan area.	2010
Target 8 Raise public awareness in the region of the importance of reedbed, swamp, fen and marsh habitats.	ONGOING

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REEDBED, SWAMP, FEN AND MARSH ACTIONS			
ACTION	DATE	POSSIBLE PARTNERS	MEETS TARGET NO.
<u>POLICY AND LEGISLATION</u>			
1. Ensure that all fens in Plan area are given protection by designation as CWS/SNCIs or SSSIs as a matter of urgency.	2002	EN, EA, LAs, DBAP	1,4
2. Ensure that the best examples of reedbed, swamp, and marsh in the Plan area are designated as CWS/SNCI's or SSSI's.	2004	EN, EA, LAs, DBAP	1,4
3. All existing reedbed, swamp, fen and marsh should receive appropriate management and monitoring.	2004	EN, DBAP, Site managers	1,3
<u>SITE SAFEGUARD AND MANAGEMENT</u>			
4. Continue to give high priority to the conservation of reedbed, swamp, fen and marsh in statutory sites.	2005	EN, DBAP, Site managers	1,5,2
5. Encourage implementation of appropriate management regimes on all reedbed, swamp, fen and marsh sites.	ONGOING	EN, DBAP, Site managers, LAs	1,2,3
6. Seek to avoid damage or drainage work that may affect the hydrology of reedbed, swamp, fen and marsh sites.	2005	EA, EN, NWL, LAs	1,2,5
7. New areas of reedbed habitat should be created. Promote the planting of new reed beds in association with new developments, where appropriate.	2010	EA, EN, RSPB, DWT, NWL, LAs	6,7,8
8. New areas of fen should be created if possible. This could be done in level areas that have a high (or potentially high) water table.	2010	EA, EN, RSPB, DWT, NWL	6,7,8
<u>ADVISORY</u>			
9. Secure the restoration of damaged or declining wetland habitats through grant assistance and advice.	ONGOING	EA, EN, RSPB, FWAG, Local specialists	3,8
<u>RESEARCH AND MONITORING</u>			
10. Instigate research and monitoring programme for wetlands habitats.	2000	EN, DWT, Local specialists, Universities.	8
<u>COMMUNICATION AND TRAINING</u>			
11. Ensure landowners and managers are aware of the presence of reedbed, swamp, fen, and marsh on their land and of the appropriate management methods for each habitat.	ONGOING	LA's DWT, FWAG, MAFF, DBAP, EN, EA	1,8