

REEDBEDS IN OXFORDSHIRE

1. INTRODUCTION

Reedbeds are wetlands dominated by stands of common reed *Phragmites australis*. They often incorporate areas of open water and ditches and can be associated with areas of wet grassland and carr woodland.

UK Biodiversity Action Plan - Priority Species associated with reedbeds

Otter
Water vole
Bittern
Reed bunting

UK Biodiversity Action Plan - Species of Conservation Concern associated with reedbeds

Water shrew
Reed warbler
Sedge warbler
Cetti's warbler
Water rail
Bearded tit

Associated Habitats

Fens and flushes
Rivers and ditches
Gravel pits and other lakes
Grazing marsh and neutral grassland

Five kinds of reedbed have been identified, most of which are associated with nutrient rich shallow water. These are: (i) short-lived reedbeds which appear quickly on artificial sites (such as clay pits) (ii) reedbeds at the margins of natural lakes (iii) floodplain reedbeds formed either naturally or over ancient peat diggings as in the Norfolk Broads (iv) coastal floodplain reedbeds (v) reedbeds on the tidal reaches of rivers (Everett, 1989).

Reedbeds can also be divided into two broad categories according to their hydrology: (i) reedswamps, which are more-or-less permanently flooded reedbeds and (ii)

reedfens, which occur where water normally lies at or below the surface in summer (Hawke and José, 1996).

2. CURRENT STATUS

2.1.1 Current status in the UK

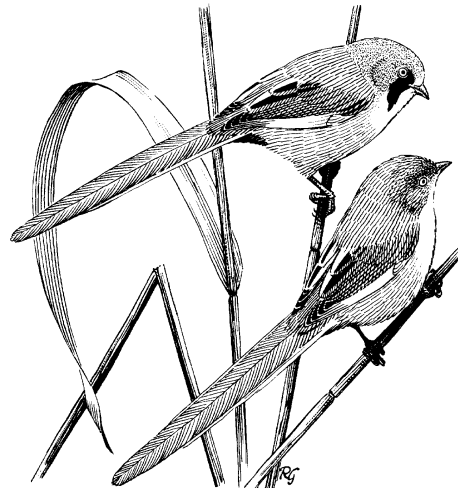
2.1.1.1 Habitat extent

There are approximately 900 reedbed sites in the UK, covering a total area of about 5000 hectares. The vast majority of these sites are fragmented and occur in small blocks of less than 1 ha, only about 50 sites cover areas greater than 20 ha.

2.1.1.2 Physico-chemical status

Common reed is a relatively tolerant species which will grow successfully in both fresh and brackish water. Reed growth is optimum at about 0.5 m water depth, however, it can form extensive stands on damp ground and may persist as relict populations in former wetlands that have been drained. Reed can also grow in water up to about 1 m deep and may form floating rafts which extend out over water of even greater depth (Everett, 1989).

Reedbeds are essentially 'temporary' habitats. An actively spreading and unmanaged reedbed shows a succession from young reed colonising open water or wet ground through a gradation of increasingly dry ground. If the drier parts of the reedbed are managed by cutting or grazing they will form mixed fen. As reedbeds age, they build up a considerable litter layer which eventually rises aboveground



Bearded tits *Panurus biarmicus*

or water level, and ultimately provides opportunities for carr, scrub or woodland invasion. In tidal sites, silt accumulation may be the main cause of succession.

2.1.3 Biological status

Reedbed is a nationally uncommon habitat, so plant and animal species which rely on them are often themselves inherently scarce.

In the UK four bird species are highly dependent on reedbeds for their survival: reed warbler, bearded tit, marsh harrier and bittern. Other species of national conservation interest include Cetti's warbler, Savi's warbler and, locally, autumn migrating aquatic warblers. Many other bird species also use reedbeds and their associated habitats, notably reed bunting, sedge warbler, cuckoo, water rail and a variety of water birds such as teal that loaf at reed/water margins (Everett, 1989; Hawke and José, 1996).

In botanical terms, flooded reedbeds (i.e. reed swamp) can often be relatively impoverished habitats, largely comprising monodominant stands of *Phragmites* or associated with a limited range of other tall emergents such as reedmace and branched bur-reed. As water levels decline and reed dominance decreases, however, the number of associated plants rises, and high quality reed fen can be an exceptionally rich and varied plant habitat. The National Vegetation Classification, for example, distinguishes at least 16 types of reed-dominated tall herb fen, some of which can support very localised plants such as marsh pea, crested buckler fern and milk parsley (Rodwell, 1995).

At least 700 species of invertebrates have been found associated with reedbeds in the UK. Some 64 insect species are known to be dependent on reed to some extent, 40 being entirely dependent (Fojt and Foster, 1992), including moths, micromoths, flies, ground beetles and reed beetles. All stages in the development and disappearance of reedbeds support important invertebrate communities including: aquatic species which live amongst reed in shallow water; invertebrates which depend on reed litter; species which live on, or in, reed itself and species such as the dotted footman moth whose larvae feed on algae on scrub in reed beds (Kirby, 1992; Fojt and

Foster, 1992). Some reed invertebrates are of exceptional conservation importance including the internationally rare Fenn's wainscot and the swallowtail butterfly, which is associated with milk parsley in reedfen communities (Kirby, 1992; Hawke and José, 1996).

Fish and amphibians are often associated with reedbed areas that border open water. These include pike, tench, rudd, bream and eel, stickleback and minnow, frogs, toads and more rarely newts. The grass snake is a common inhabitant of reedbeds where it hunts primarily for frogs. Water voles, water shrews and harvest mice can thrive amongst reed stems and large reedbeds may attract otters.

2.2 Current status in Oxfordshire

Archaeological evidence suggests that reedbeds were once a common habitat in the low-lying areas of Oxfordshire, spreading extensively across the floodplains of the Thames and its tributaries. Today no large remnants of these reedbeds remain.

Data describing the extent or distribution of smaller reedbeds has not been compiled for the whole of Oxfordshire. However, small areas of reed occur widely in the county (i) fringing gravel pit lakes (e.g. pits in the Cassington complex), (ii) associated with river channels, particularly the River Thames, (iii) associated with fens such as Cothill, and (iv) as pockets scattered throughout the county, such as on the Trap Grounds in Oxford. The total area of reedbed in West Oxfordshire has been estimated to be 22 ha (Hawker, 1998).

In recent years there has been a welcome trend towards the re-creation of reedbed habitats for nature conservation in Oxfordshire, particularly as part of enhancement works undertaken by the Environment Agency and partners. These include small reedbeds which form part of a wetland complex e.g. Pinkhill Meadow and a new site just upstream of Pinkhill (Shrike Meadow) which Thames Water developed in collaboration with the Environment Agency.

The most important new scheme in the county is the 22 ha reedbed area being created on Otmoor by the RSPB in partnership with the Environment Agency. This forms part of a larger proposal to transform c200 hectares of

arable land into a wetland comprising: reedbed, wet meadows, open water and ditches which is being carried out in partnership with Defra/RDS using funding from the Ministry's ESA scheme.



Common reed *Phragmites australis*

3. REFERENCES

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