



The RSPB is bringing reedbeds to life across the UK.

We are finding out what makes reedbeds tick for the variety of wildlife that lives there, every *buzzing, crawling, slithering, fluttering* part of them.

## GET INVOLVED!

For the latest information on our partnership programme of research, habitat audits, workshops and training courses, visit

[www.rspb.org.uk/reedbeds](http://www.rspb.org.uk/reedbeds)



The RSPB speaks out for birds and wildlife, tackling the problems that threaten our environment. Nature is amazing – help us keep it that way.



The RSPB is part of BirdLife International, the global partnership of bird conservation organisations.

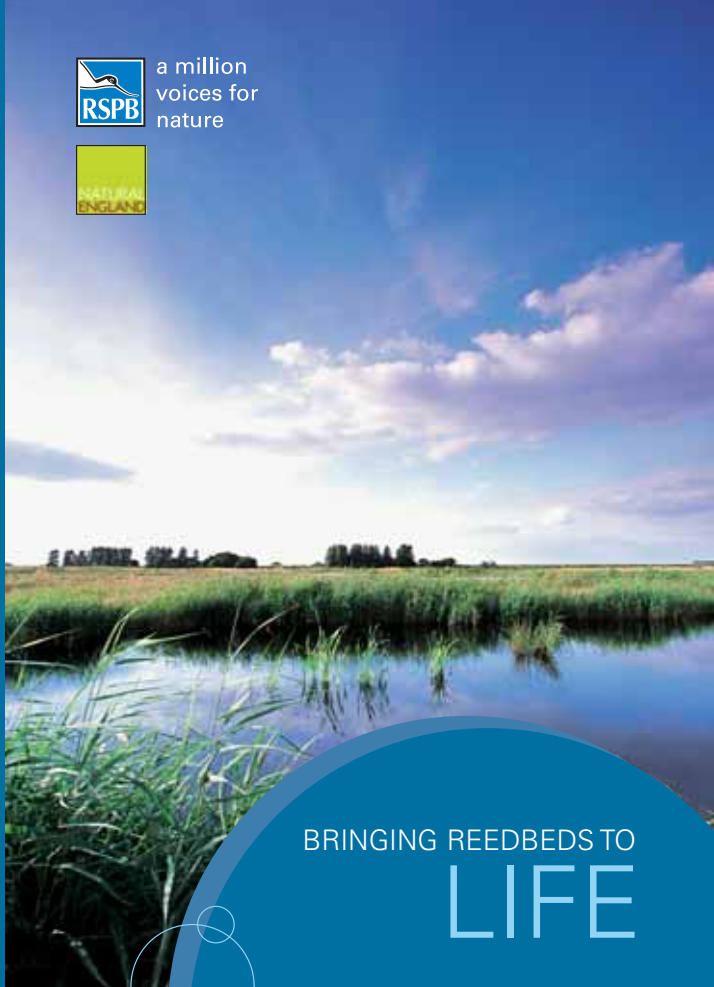


RSPB Sutton Fen reserve, RSPB Leighton Moss reserve and white water lily by Ben Hall, RSPB Minmere reserve by David Tipling, RSPB Lakenheath Fen reserve by Andy Hay, moorhens by Ben Hall, drinker moth caterpillar by David Norton, water vole by Steve Austin, otters by Tony Hamblin, marsh fern by Ben Hall, bearded tit by Danny Green, three spined stickleback and swallowtail butterfly pupa by Richard Rowe, grass snake by Danny Green (all rspb-images.com), reed management, water level management and connectivity by Nick Droy (RSPB).

The Royal Society for the Protection of Birds (RSPB) is a registered charity: England and Wales no. 207076, Scotland no. SC037654 223-0100-09-10



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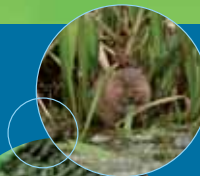


BRINGING REEDBEDS TO  
**LIFE**

# Delving into reedbeds

Reedbed wetlands, big or small, support a wide range of wildlife, including some very specialised or rare species. Maintaining a diverse habitat structure within a reedbed is important, and usually requires management to maintain or create suitable conditions, often including control of water levels.

Maintaining and enhancing the existing biodiversity interest should always remain the primary conservation objective. You may need consents or licences from appropriate statutory bodies in connection with any planned works.



## Mammals

• Water vole

Reedbed wetlands can provide good quality habitat for water voles, and may also provide refuges from mink predation. The diversity of aquatic and bankside vegetation is extremely important. Sites that flood for protracted periods in winter are unsuitable, unless they offer good above the flood water level.

Management should provide a high complexity of habitats, with a good internal network of ditches and pools away from main channels. Create large blocks of wet reed throughout spring/summer, and islands above high water level for burrowing and refuge in winter. Targeted, small-scale summer cutting of reed may increase plant diversity and site suitability, but ensure areas of cover and food remain in place.

• Otter

Healthy reedbed wetland systems that support ample prey items such as fish, amphibians, small waterfowl and mammals will offer suitable feeding sites for otters. Otters will make use of tall, dense, undisturbed areas of reed and other vegetation as suitable resting areas, and possibly as dens for rearing cubs, especially in areas of ground that are above high-flood water levels. Retain occasional trees and scrub, which may provide additional holt sites.

## Plants

The number of plant species in a reedbed generally decreases as reed becomes more dominant. However, other fen habitats that support rare plant species can also be dominated by reed. The range of wetland plants is affected by variations in landform, hydrology and vegetation management, which, to some extent, can be managed and/or created.

Undertake rotational management of reed vegetation through cutting, burning and/or grazing, and removal of reed litter from the reedbed surface, to encourage floristic diversity. It is important to vary the timing, frequency and extent of management, all of which affect species composition.

## Invertebrates

At least 25 species of invertebrates depend on reedbeds, with many more rare and threatened species being associated with a range of stages of habitat development. Many reedbed invertebrates are very localised, including internationally scarce or endangered animals like the White-mantled wainscot, Desmoulin's whorl snail and British swallowtail.

In general, management should focus on providing the right habitats for the most endangered species of invertebrate present. Small scale variation within a broader mosaic, including succession stages from young reed in shallow water to old reed with scrub and dense litter, is usually desirable. Small scale reed cutting or burning is likely to encourage such a mosaic habitat, but largescale management may harm small populations of rare species. Grazing can be used to produce a mosaic, but should be used with care as wetland snail populations can be very sensitive to trampling.



## Fish

Fish, including rudd and eels, are an important component of reedbed wetlands, both in their own right and as prey items for other species. Fish typically show seasonal variations in distribution and habitat use. Adult fish generally gather in deeper, more enclosed waters during the winter. In spring, shallow, marginal areas of open water with aquatic vegetation are important for spawning and sheltering of fry. Large pools are generally more productive than narrow ditches during summer.

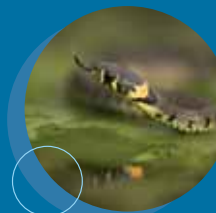
Reedbed wetlands should provide diversity in underwater structure, with variations in bed depth and deeper refuge areas. This will help to provide suitable habitat for different species, and meet their seasonal requirements. Management should also ensure good water quality and abundant submerged and emergent plants. Retention of occasional overhanging bankside trees or scrub will provide additional habitat.



## Amphibians and reptiles

Amphibians are important predators and prey within wetlands. Habitat requirements vary between species, but in general they benefit from well-vegetated, unshaded, fish-free waterbodies. The transition zones between reedbed and other wetland habitats can be very beneficial for such species, whilst large stands of continuous reed may be less suitable. Create a varied wetland mosaic with a variety of different types of water body and associated terrestrial habitat for dispersal, feeding and cover.

Grass snakes can be abundant in reedbeds, but they also require drier areas that provide a mosaic of vegetation cover and open patches. Retain piles of cut vegetation for egg-laying sites, as grass snakes may return to the same sites year on year.



## Birds

Breeding bitterns prefer big, wet reedbeds with plenty of open water and reed/water edge, where an ample supply of fish, eels and amphibians is available. Females usually choose large, wet areas of undisturbed reed to nest in. In winter, bitterns will make use of much smaller areas of reed and open water, if these provide sufficient food and cover.

Marsh harriers require large open areas for foraging and an undisturbed area of tall vegetation, such as reeds, for nesting. They feed on small birds and animals in and around wetlands.

Bearded tits benefit from a diverse mixture of mixed wet and dry reedbed, with ample litter and an extensive reed/water interface. Manage reed to provide a diverse structure with lots of 'edge', ensuring some areas are cut on longer rotations to ensure seed and litter are present.





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# BRINGING REEDBEDS TO LIFE

## Management for wildlife:

### 1. Aquatic habitat

**A mosaic of lakes, pools, ditches and ponds provides maximum benefit.** Aim for differing depths, some at least 1.5 m to limit reed growth and provide fish refuges, some shallow or temporary, containing an abundance of submerged and emergent wetland plants. Springs and seepages within reedbeds should be maintained and kept open where possible. Very occasional fringing scrub is beneficial. Ensure a variety of successional stages from open to overgrown.

### 2. Reed management

**Use a combination of cutting, grazing and/or burning at different times of year to provide a diversity of vegetation age, structure and habitat niches.** Grazing the margins or transition zones of reedbeds in conjunction with other habitats may produce a dynamic and valuable "blue zone". Ensure pools and ditches are kept open on rotation of varying periods. Large machines may assist with management. Remove cut reed and consider using it to produce compost, biomass, thatching material, or habitat piles at the edge of the reedbed (which are beneficial for grass snakes and many beetles and flies).

### 3. Water level management

**Aim for a 'natural' regime that favours any rare or specialised species already present.** This generally means higher water levels in late winter/spring, allowing gradual draw down as summer progresses, but varies with local conditions. Maintain some large blocks of wetter reed for longer if possible. Damp/drier areas that do not normally flood are also extremely beneficial and may also be dominated by reed. Variation in landform/heights, including islands, will ensure a variety of conditions and refuge areas from flooding or fluctuating levels are available.

### 4. Scrub and other vegetation

**Scrub can be a valuable habitat feature for a range of reedbed wildlife.** Allow occasional scrub to develop in discrete areas, such as the edges of reedbeds, or drier areas, and maintain on rotation to avoid excessive encroachment. Occasional fringing scrub around water bodies may also be beneficial, as long as it does not create excessive shading. Old stands of Alder are of particular importance to biodiversity. Summer cutting of discrete areas of reed, given the appropriate water regime, may promote additional plant diversity and habitat niches.

### 5. Connectivity with other habitats

**Where appropriate, connectivity with adjacent rivers or water sources through careful design and use of water control structures may be beneficial.** Integrate reed dominated habitats with adjacent (wetland) habitats, to provide dynamic transition zones, with shared or integrated management, allowing more natural processes and functions to operate across broader areas.

### 6. Water quality

**The main water inputs to a reedbed should ideally be of good quality, with low levels of nutrients and other pollutants.** Consider creating a silt and nutrient trap that is regularly cleaned out, to act as a filter, if required. Reedbeds may also help to trap silts and reduce nutrient/pollution levels further as water moves through them, providing a valuable eco-system service.

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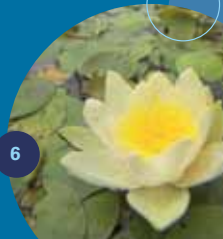
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Please visit [www.rspb.org.uk/reedbeds](http://www.rspb.org.uk/reedbeds) for further information.