Views About Management

ENGLISH NATURE

A statement of English Nature's views about the management of Papercourt Site of Special Scientific Interest (SSSI).

This statement represents English Nature's views about the management of the SSSI for nature conservation. This statement sets out, in principle, our views on how the site's special conservation interest can be conserved and enhanced. English Nature has a duty to notify the owners and occupiers of the SSSI of its views about the management of the land.

Not all of the management principles will be equally appropriate to all parts of the SSSI. Also, there may be other management activities, additional to our current views, which can be beneficial to the conservation and enhancement of the features of interest.

The management views set out below do not constitute consent for any operation. English Nature's written consent is still required before carrying out any operation likely to damage the features of special interest (see your SSSI notification papers for a list of these operations). English Nature welcomes consultation with owners, occupiers and users of the SSSI to ensure that the management of this site conserves and enhances the features of interest, and to ensure that all necessary prior consents are obtained.

Management Principles

Artificial standing waterbodies

Artificial standing waterbodies include manmade lakes, reservoirs, gravel pits, subsidence pools, and flooded peat diggings. They may support wildlife equal to that of natural lakes, and can be important habitats for a range of specialised aquatic plant and animal species. They often support important populations of wintering wildfowl and breeding bird assemblages, as well as a varied invertebrate fauna (in particular dragonflies and damselflies).

Conservation value is largely determined by structural diversity and water quality. Increases in the amount of nutrients within the waterbody can lead to a loss of aquatic plants in favour of excessive growths of algae. This may result in a fundamental shift in the way a waterbody functions, reducing plant and invertebrate abundance and diversity, both of which are important food sources for a range of wetland birds. Increases in the amount of sediment entering a lake may smother stony beds and plants, reduce water depth in shallow lakes and also increase the amount of nutrients present. Some lakes may also be susceptible to acidification though control of this will require action at a catchment scale.

Sympathetic management of water levels is necessary for the maintenance of optimal water depths throughout the year (according to the requirements of the plant and animal species present). For example, the presence of extensive shallow water and wet marginal substrates will provide the feeding conditions required by a variety of wintering, passage and breeding wildfowl, such as dabbling ducks and waders, whilst other species may require areas of water at least 3 metres in depth. Water level management should take into account the requirements of submerged aquatic plants that are restricted to areas where there is sufficient light for growth and minimal wave action. In shallow waterbodies (with an average water depth of less than 3 metres) plants may be able to grow throughout the waterbody, whilst in deeper waters plants will be restricted to the shallow margins. Changes in waterlevels can also alter nutrient regimes.

Management should aim to maintain the habitats associated with shallowly sloping margins that are not too exposed to wave action, as they are important for many species associated with standing open waters. For example, the maintenance of structural diversity within and between stands of aquatic vegetation (including emergent, floating and submerged vegetation) can provide important habitat for the immature stages of different dragonfly and damselfly species that require a wide variety of vegetation types.

Artificial waterbodies are susceptible to the introduction of invasive species, such as non-native crayfish, bottom feeding coarse fish, and plant species such as Australian swamp stonecrop, therefore some management may be necessary to control these. Where native crayfish are present any measures which may limit the risks of transferring non-native crayfish or crayfish plague (such as information and awareness-raising initiatives amongst visitors to the waterbody) should be encouraged. The control or removal of the natural aquatic vegetation can lead to a decrease in aquatic plants in favour of algae, and should therefore be avoided.

Standing waters and their surroundings are often also a popular environment for recreational activities such as angling and boating which should be managed sympathetically to avoid conflict with the management of the waterbody for nature conservation.

Rivers and streams

Rivers and streams naturally provide a diversity of habitats for plants and animals, including invertebrates, fish, mammals and birds). Some of these habitats are directly connected with the physical form of the channel and its banks; others are created by the vegetation which the river's form supports. Despite their varied character however, there are some common management principles that apply to all rivers and streams.

The rivers natural structure and form should be maintained. This will support a natural flow regime that will help conserve the geomorphological features of interest. It will also ensure the provision of resting pools for fish, conserve the quality of the riverbed as fish spawning habitat, and avoid the creation of artificial barriers to the passage of migratory fish and other animals, such as otters. Natural barriers to the movement of fish (such as waterfalls) should be left alone. Where artificial modifications have

occurred - such as weirs and impoundments, embankment, straightening and dredging – the restoration of natural channel profiles and dynamics is desirable where appropriate. Any new infrastructure, such as road and rail bridges should be carefully designed to avoid the constriction of the river or blockage of its floodplain. Opportunities should be taken to create additional riparian areas where flooding is acceptable, in order to reconnect the river with its floodplain.

Management should maintain the natural flow regime of the river or stream, including natural erosion and sedimentation processes, in order to meet the requirements of the full range of flora and fauna it supports. Abstraction levels should be managed to protect the characteristic flow regime, including seasonal base flows and flushing flows. Compensation flows are generally not an acceptable alternative to reducing abstraction, and river transfers may also have an undesirable effect on river ecology.

Bank-side vegetation should be allowed to develop, allowing characteristic plants to flourish as well as benefiting those animals that spend part of their life-cycle out of the water. A mix of trees, bushes, tall and short fen and grass is desirable and can be encouraged by careful management. For example, grass swards are best managed by cutting once or twice a year or lightly grazing with stock at low densities. If it is not possible to reduce stocking densities on bank-side habitats, it may be necessary to consider fencing the bank-side habitat as an alternative measure to addressing artificially exacerbated bank-side erosion caused by excessive trampling by livestock. Associated habitats, such as oxbow lakes, areas of marshland, vernal pools and floodplain woodland, can all be very important for invertebrates and should be considered integral with the river system.

The characteristic aquatic plant communities associated with in-channel vegetation should be allowed to flourish, including fringing emergent vegetation and beds of submerged plants. Any cutting of vegetation should aim to leave at least 50% of the channel vegetated, comprising an active marginal fringe and a mosaic of submerged and floating beds that are allowed to flower and set seed.

Rivers and streams are susceptible to the introduction of invasive plant and animal species e.g. mink and signal crayfish. Surrounding Japanese knotweed and Himalayan balsam should also be controlled.

The maintenance of good water and sediment quality are essential to maintaining a healthy river system. Management should minimise pollution of the river from point and diffuse sources, including discharges of domestic and industrial effluent, and run-off from agriculture, forestry and urban land. Effluents entering the river directly or indirectly should be treated to reduce the levels of phosphorus contained within them to concentrations that will not lead to a proliferation of algae or the disappearance of characteristic plants and animals. Organic pollution should also be controlled to avoid de-oxygenation of the water or any toxic effects on aquatic animals and plants. Siltation of the river bed can smother and infill coarse gravels, which can affect fish spawning success and the establishment of submerged plants, as well as having an impact on the invertebrates living in and on the riverbed. Riparian areas and the wider catchment need to be managed sensitively to avoid excessive run-off of soil particles and nutrients into the river. Ploughing should not be allowed to destabilise

river banks and an unploughed strip of at least 2m should be left adjacent to the riverbank.

Swamp

Swamp habitats develop on the fringes of open water, or in shallow depressions with permanent standing water. The plants may be rooted in the submerged soil or form a floating mat of inter-twined roots, rhizomes and stems. Swamps usually consist of a dominant single species of plant (e.g. reeds, tussock sedges, reedmace, reed sweet grass, reed canary grass and bull rushes) with a few other species thinly distributed among them. In common with most other types of wetland, swamps represent a transient stage in the change from open water to dry land.

Management should either seek to retain swamp communities in the same place or should acknowledge the dynamics of succession by ensuring there is always a new niche for the swamp communities to develop in. The succession from swamp into floodplain fen, for example, as the diversity of species present increases, may be slowed by raising the water table and by periodically removing any encroaching scrub. If the vegetation surface of the whole wetland appears to be building up or drying out for some other reason it may be necessary to lower the ground level by creating scrapes or ponds. A programme of rotational cutting to maintain the reedbed may be necessary to encourage the vigorous growth of reed whilst preventing excessive build up of litter. Cutting should take place during the winter (November – March) and all cut material should be removed.

Management should ensure that appropriate water quality is maintained according to the requirements of the wetland communities present. Where swamp is in continuity with a waterbody, the water quality in the waterbody will affect the swamp. While some communities, such as reed swamp are unlikely to be very sensitive to nutritional enrichment, others, such as tussock sedge and narrow leaved reedmace, will be out-competed by other species (e.g. reed or reed sweet grass) where any increase in the amount of nutrients present occurs.

Swamp habitats have often survived where the vegetation has traditionally been cut for a variety of purposes, including use as building materials or animal bedding. It may be beneficial to consider re-instating these traditional management practices where they are not in conflict with other nature conservation objectives, such as the specific requirements of certain birds or invertebrates.

Marshy grassland

Marshy grassland requires active management if it is to retain its conservation interest. Generally, each year's growth of vegetation must be removed. Otherwise the sward becomes dominated by tall, vigorous grasses and rushes which, together with an associated build up of dead plant matter, suppress less vigorous species and lower the botanical richness of the sward. Traditionally, this management is achieved by grazing. Cattle are often the preferred stock, being relatively tolerant of wet conditions and able to control tall grasses and rank vegetation. Cattle also tend to produce a rather uneven, structurally diverse sward. However, ponies, or even hill sheep, can be used if necessary. Grazing usually takes place at times between late spring and early autumn, but the precise timing and intensity will depend on local

conditions and requirements, such as the need to avoid trampling ground-nesting birds or destroy Marsh Fritillary butterfly colonies. Heavy poaching should be avoided but light trampling can be beneficial in breaking down leaf litter and providing areas for seed germination. An element of managed scrub, both within and fringing a field can be of importance to birds and invertebrates, as can a surrounding hedge. Careful maintenance of existing ditches and drains is usually acceptable practice, but abandonment or deepening of ditches can be harmful.

Neutral hay meadow

Neutral hay meadows require active management if they are to retain their conservation interest. In order to maintain a species-rich sward, each year's growth of vegetation must be removed. Otherwise the sward becomes progressively dominated by tall and vigorous grasses which, together with an associated build up of dead plant matter, suppress less vigorous species and reduce the botanical diversity of the site. This is traditionally achieved by closing the fields to stock in the autumn and cutting the resultant growth as hay. The cut is usually done in early July, but may vary depending on local factors, including past management and current weather conditions. It should always be after ground-nesting birds have fledged their young and any short-lived, characteristic plants have set seed. The aftermath is then grazed in late summer/autumn. Aftermath grazing is important for maintaining a species-rich sward, both through controlling competitive grasses and through hoof-prints providing suitable sites for seedlings to establish. Heavy poaching must be avoided, however. Periodic dressings of well-rotted farmyard manure may be acceptable if the sward does not receive regular input of nutrients from flooding. Occasional dressings of lime may be acceptable.

All habitats

The habitats within this site are highly sensitive to inorganic fertilisers and pesticides, applications of which should be avoided both within the site itself and in adjacent surrounding areas. Herbicides may be useful in targeting certain invasive species, but should be used with extreme care. Access to this site, and any recreational activities within, may also need to be managed.