Views About Management

ENGLISH NATURE

A statement of English Nature's views about the management of North Solent 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

Coastal saltmarsh

Saltmarshes form the upper vegetated portions of intertidal mudflats in sheltered coastal locations, such as estuaries, lagoons and beach plains. There is typically a zonation of vegetation, from plants adapted to regular immersion by the tides (halophytes), through to more widespread plant species in the areas less frequently covered by the sea. The halophyte plant species are confined to this type of habitat, and areas of structurally diverse vegetation provide good invertebrate habitat. Saltmarshes are also important nursery sites for several fish species, and important refuge, feeding and breeding grounds for wading birds and wildfowl.

Where saltmarshes require management this has traditionally been achieved by grazing, and previously used regimes should be continued. Grazing provides a variety of different habitats, particularly for wintering bird species, and if grazing were to cease there may be a loss of botanical diversity. The precise timing and intensity will vary according to local conditions and requirements, for example the type or availability of stock, or the need to avoid trampling ground nesting birds. However on many sites, the aim will be to create a short turf that can be attractive to over-wintering wildfowl, with a reduction in stock density in the early summer for the benefit of ground-nesting birds. Indeed, careful reduction of grazing can increase the

number of breeding birds, without significantly altering the plant species composition. Care should be taken not to overgraze the site, as this may reduce the diversity of animal and plant species that the saltmarsh is able to support, as well as potentially impact the sediments supporting the saltmarsh.

Not all saltmarsh habitats require active management to retain their conservation interest. Where there has not been a history of grazing, the saltmarsh will be able to maintain itself and grazing-sensitive species are likely to be present, therefore grazing should not be introduced.

There are a number of factors that are contributing to saltmarsh change that management may need to take into consideration. These include coastal erosion as a result of coastal flood-defence works, rising sea-levels, variations in sediment deposition, and land claim for development.

Vegetated shingle

Shingle is defined as sediment with particle sizes from 2-200mm. Shingle beaches form where sediment is first deposited on the shore by wave action. These deposits can then build up into more stable spits, bars or forelands. The types of vegetation that occur on shingle depend on the stability and structure of the shingle itself, but all must be able to cope with the unique physical and hydrological conditions typical of this habitat. This results in some communities being unique to shingle; including unusual moss- and lichen-rich communities that are of great conservation value. Shingle structures also provide important habitats for invertebrates and breeding birds.

A key management requirement is to avoid or minimise surface disturbance, especially in the more open communities. Many of the vegetation types and species associated with shingle are fragile and vulnerable to damage from trampling. This breaks up the fine humus that develops in the upper layers of the shingle that is vital for the plants to survive. Where recreational pressures are significant enough to result in the loss of vegetation cover, or prevent its recovery, it may be necessary to take steps to manage access. Disturbance of areas important for breeding birds should be minimised during the breeding season.

Where there is more closed vegetation cover, light grazing, by rabbits for example, may be all that is needed to prevent scrub encroachment on areas of grassland and heath. In some cases grazing is not necessary, because of the low rates of plant growth on shingle structures, and can even be damaging, due to the fragility of shingle habitats. The introduction of grazing where it has not been traditionally practiced would not be beneficial.

Littoral sediments (mud and sand flats)

Intertidal mud and sand flats include a range of generally muddy or sandy low-gradient shores that are exposed to air during low tide and submerged during the higher tides. High energy shores, such as those on open coasts, are generally sandy in nature whilst more sheltered, low energy flats are muddier. They support a wide variety of marine invertebrates that represent an important food source for many fish and bird species.

Good water quality and sediment quality should be maintained, and the sediment budget within the estuarine or coastal system should not restricted by anthropogenic influences.

The birds that use mud and sandflats for feeding and roosting are vulnerable to disturbance from human activities, for example, bait digging, dog walking and wildfowling. These activities can lead to reduced time spent feeding, or individuals being restricted to areas with a poor food supply. Disturbance should therefore be minimised, especially at times when bird populations may be stressed, such as during severe winter weather.

The location and extent of mud or sandflats is dependent on the extent to which the estuary or coast where they occur is constrained from responding to sea level rise and changing sediment regimes. Management needs to create space to enable landward roll-back to take place in response to sea-level rise, and should also allow the system to be dynamic and retain the flexibility to respond to associated changes such as the movement of physical features within the system, e.g. migrating subtidal sandbanks.

Coastal lagoons

Coastal lagoons are saline water bodies separated from the sea by a barrier (e.g. sand, shingle or rock sill). A small number are separated by tidal narrows which restrict the flow of water into and out of the lagoon. This separation from the sea makes them unique among coastal habitats and means that saline lagoons are either tideless, or where inlets occur, the tide has only a restricted effect on the lagoon. They retain part of their water-body at low tide, and this water may be either saline or brackish. They often support unusual assemblages of marine, estuarine and aquatic plants and animals, including lagoonal specialist species.

Any management needs to be carefully tailored to the needs of each individual lagoon and should be based on an understanding of the natural features of importance and the external factors affecting the lagoon. Indeed, where a lagoon is in a good and stable condition, active management is unlikely to be necessary. Maintaining salinity and water depths can be a key management priority, particularly where some lagoons become increasingly separated from the sea as a result of natural coastal processes - the balance between freshwater (e.g. from rainfall, streams or artificial outputs) and saline (i.e. sea water) inputs may change as a result. It may be necessary to actively manage freshwater and seawater input to favour certain species or communities. Whilst freshwater input is not essential to the conservation of lagoons, some connectivity with seawater is.

The water depth is also critical to many of the lagoonal specialist species with a depth between 0.5 and 1m being desirable. Some deeper water refuges are also beneficial. Siltation from surrounding land run-off may need to be addressed.

Water quality, and any direct and/or diffuse inputs from the surrounding land, can have a profound effect upon the productivity of lagoons and well-being of specialist species. Saline lagoons can show extreme reactions to a build up of some types of nutrients and therefore it may be necessary to actively manage inputs, especially where in close proximity to farmland.

In some cases, it may be desirable to allow vegetation to encroach into the lagoon to increase the diversity of habitats present, particularly for some breeding and migratory bird species. However vegetation should not be allowed to encroach to such an extent that it significantly reduces the areas of open water and shallow water, thus reducing the variety of habitats available to specialist species within the lagoon itself.

Islands in saline lagoons can be important for breeding birds and some management of the vegetation on these islands may be necessary to provide the best conditions for breeding birds. Two typical methods of vegetation control include flooding and hand clearance.

Neutral hay meadow, neutral pasture and marshy grassland

The above habitats 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.

In neutral hay meadows, the above objective 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 the precise timing depends 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.

In neutral pasture and marshy grassland, management is achieved by grazing. This 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, but should aim to keep a relatively open sward without causing excessive poaching. Cattle are often the preferred stock on the wetter pastures, 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 a mix of cattle and ponies can be used if necessary. 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.

For damper pastures, regular and careful maintenance of surface drainage including ditches and drains can be essential to prevent adverse changes in the plant species composition of the sward. Deepening of surface drainage should be avoided.

Lowland acid grassland

Free-draining, acidic soil is the key requirement of the grassland communities at this site, but their maintenance also depends on active management. If neglected, the

sward becomes dominated by tall, vigorous grasses or bracken which, together with an associated build up of dead plant matter, suppress less vigorous species and reduce the botanical richness of the site. Eventually the sward reverts to scrub and even woodland. Traditionally, management has consisted of stock grazing and this remains the most appropriate management tool. Grazing, through the removal of plant matter and nutrients, helps to maintain an open sward of small tussocky grasses. It also, through disturbance and trampling, creates areas of open ground suitable for colonization by the lichens, ephemeral plants and invertebrates that are often characteristic of this type of grassland. However, rabbit grazing, though difficult to control, can also be a useful management tool in some situations. Occasional management of invasive scrub and bracken may be necessary.

Valley mire

Fen often develops within valleys and the origins and movement of the water within the fen give rise to a number of different vegetation zones. The variety of plant and animal life in the valley mire is closely linked to the number and type of zones it contains.

Management should aim to maintain the groundwater quality and quantity, though the quantity is not likely to be naturally constant throughout the seasons or between wet and dry years. The groundwater is often susceptible to contamination by agricultural fertilisers, or by pollution leaking from landfill sites.

Grazing is important in the management of the valley mire. Animals help to break up the tussocks of rank grasses such as purple moor grass, opening the sward up to a greater variety of plants. The precise timing and intensity of grazing will vary according to local conditions and requirements. Some (but not excessive) trampling is necessary to create open soil, for invertebrates, mosses and seedling establishment. Grazing also limits the spread of willow, alder and birch carr, which naturally tends to develop around the central watercourse and it should be restricted to this area, other than for a few isolated clumps elsewhere for the benefit of birds and invertebrates. Swamps are also important for invertebrates and birds and the inclusion of some swamp vegetation, such as reedbed, within the mosaic of habitats present will add to the conservation value of the site. However, excessive spread of reed, reed canary grass, or reed sweet grass is likely to be an indication of worsening water quality, the cause of which should be investigated and addressed to maintain the characteristic fen communities.

Stock feeding, or the location of grazing infrastructure, for example stock shelters, should take place downstream of the valley mire. This is to ensure the mire vegetation does not become enriched by nutrients from animal food or dung, or even from carcases, causing unwanted changes in the composition of the characteristic mire vegetation in favour of tall, species-poor communities.

Drainage schemes should not intercept the sources of ground and surface water to the valley mire. It is important for the watercourses of the valley mire not to receive run-off from fertilised land or surface water from farmyards. The bed of the watercourse should not be lowered, nor should its water level be artificially raised, other than as part of a well thought-out conservation scheme. This will ensure the various

vegetation components of the valley mire are maintained in their ideal proportions, and that 'head-ward' erosion is not triggered, in which increased flow gradually erodes the peat and silt on which the valley mire has developed.

Dry and wet lowland heath

On this site, a mosaic of both wet and dry heath communities occur. Heathland supports the greatest diversity of plants and animals (including a diverse invertebrate fauna and a number of characteristic bird species) where management maintains the open nature of the heath and by promoting a varied structure of uneven-aged stands of native heathers and other characteristic plants. It is generally beneficial if all stages of the heather life cycle are present. Without such management, heathland becomes progressively dominated by bracken, gorse and, on wet ground, purple moor grass tussocks. Eventually scrub and trees will invade. The precise management requirements will vary both between and within sites according to the needs of the different heathland interests present and site conditions.

Low intensity grazing is a suitable means of managing areas of dry heath. Generally areas of wet heath require limited management but light grazing may also be useful for maintaining the variation in vegetation composition and structure, and for controlling invasive grasses such as purple-moor grass. By feeding selectively in different areas and on different plants, free-roaming livestock help to maintain variation in the vegetation composition and structure. They can also suppress scrub encroachment and provide some light poaching to create small pockets of bare peat and sandy ground that are of benefit to a variety of specialised plants, invertebrates and reptiles. Cattle or a mix of cattle and hardy ponies may be used, although care must be taken to avoid damage to the heather by trampling. An appropriate stocking rate should take into account local conditions and the timing and length of grazing, but an off-take of between 30-40% of the current growth increment is desirable. Heavy grazing should be avoided on wet heath as it can lead to a decline in characteristic dwarf shrub cover in favour of grass and sedge species, as well as excessive poaching and erosion of the underlying peat.

Alternatively, cutting or mowing may be useful options for managing dry heath where a mosaic of patches of heather of different ages is desired. The cut material should be removed to avoid nutrient accumulation on site and to allow the cut plants to re-sprout successfully. However, mowing or cutting may not be suitable on wet heath or on mature stands of dry heath of importance for rare reptiles.

Prescribed burning can also be a useful tool for maintaining the structural diversity of some dry heathlands and for re-establishing areas of pioneer heath required by certain species, but special care is required when sensitive species are present and burning should not be used on wet heath vegetation. Burning must be used with caution, as inappropriate burning can be very damaging to both plant and animal communities and careful consideration should be given to the timing of the burn.

There is some benefit in retaining a few scattered individual trees and some small patches of scrub. For example, the maintenance of scattered mature Scots pine in undisturbed locations will provide suitable nest sites for hobbies. However, this should not encroach on the open nature of the habitat, and mechanical control or

manual cutting followed by the careful application (spot application on areas of wet heath) of a suitable herbicide may be necessary to prevent this. Bracken invasions may need to be controlled in the same way.

Where gorse is present, scattered stands with a bushy structure rather than large continuous blocks are of greater benefit to the characteristic bird and invertebrate species associated with gorse scrub. For example, Dartford warbler require areas of open heath (with less than 25 trees per hectare) with over 50% cover of mature heather (preferably over 30 cm tall) and patches of dense, compact, mature gorse bushes (0.5-3 m tall) to be maintained. Winter cutting of 'leggy' stands of gorse and the removal of cut material will maintain gorse at different stages of re-growth and avoid nutrient accumulation in the soil.

Broadleaved semi-natural woodland

There are many different ways in which broadleaved woodland can be managed to conserve its value for wildlife. The following gives broad views on a range of regimes that may be appropriate on your site.

A diverse woodland structure, with open space, a dense understory, and a more mature overstory is important. A range of ages and species within and between stands is desirable. Some dead and decaying wood, such as fallen logs, can provide habitats for fungi and invertebrates. However, work may be needed to make safe dangerous trees in areas of high public access. Both temporary and permanent open spaces benefit groups of invertebrates such as butterflies. They may require cutting to keep them open, and should be of sufficient size to ensure that sunny conditions prevail for most of the day.

Felling, thinning or coppicing may be used to create or maintain variations in the structure of the wood, and non-native trees and shrubs can be removed at this time. To avoid disturbance to breeding birds the work is normally best done between the beginning of August and the end of February. Work should be avoided when the ground is soft, to prevent disturbing the soil and ground flora. Normally successive felling, thinning or coppicing operations should be spread through the wood to promote diversity, but where there is open space adjacent plots should be worked to encourage the spread of species that are only weakly mobile. Natural regeneration from seed or stump regrowth is preferred to planting because it helps maintain the local patterns of species and the inherent genetic character of the site.

Deer management and protection from rabbits or livestock are often necessary. Whilst light or intermittent grazing may increase woodland diversity, heavy browsing can damage the ground flora and prevent successful regeneration. Invasive species, such as *Rhododendron* or Himalayan balsam, and non-native trees, such as Turkey oak, should be controlled.

Parts of a wood should be left unmanaged to benefit species that do best under low disturbance or in response to natural processes. Within these areas some trees will eventually die naturally and dead wood accumulate.

Lowland wet woodland
Wet woodland includes a range of different woodland types but usually is dominated by ash, alder and willow species. It often supports important invertebrate species and assemblages.

Areas usually benefit from minimum intervention and are often best left undisturbed to limit damage to their fragile soils. This allows the development of old stands where individual trees reach maturity and die naturally to create gaps in the canopy, leading to a diverse woodland structure. However, works to remove dangerous trees in areas of public access may be necessary.

Where particularly important light-demanding or glade species interests are present, including where the woodland is spreading on to valuable open wetland habitat, it may be necessary to periodically clear areas of vegetation. In some woods a more active programme of management by coppice may be appropriate, where this has been the historical management and the conditions are such that it will not lead to heavy ground disturbance.

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.

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.

Coastal Cliffs and Foreshore (EC and EF sites)

Coastal geological sites form a very important part of England's geological resource for two reasons. Firstly, in many areas the only natural rock exposures are on the coast. Secondly, coastal cliffs often provide much better exposure of geological features than comparable inland sites.

The key management principle for coastal geological sites is to maintain exposure of the geological interest by allowing natural processes to proceed freely. Inappropriate construction of coastal defences can completely conceal rock exposures and result in the effective loss of the geological interest. In addition, any development which prevents or slows natural erosion can have a damaging effect. Erosion is necessary to maintain fresh geological outcrops. Reducing the rate of erosion usually results in rock exposures becoming obscured by vegetation and rock debris.

Coastal processes are complex and no section of coastline exists in isolation. This means that coastal protection has indirect effects on other parts of the coast. Developments do not necessarily have to take place within the boundary of a site to cause damage. For example, cliff protection in one area may starve other beaches of sediment, accelerating cliff retreat elsewhere. As processes within a site can be affected by developments beyond the site boundary, it is important to take a broad and integrated approach to coastal management. This can provide significant benefits to the conservation of coastal geological sites.

Active management of coastal geological sites is often only necessary when human activity has interfered with natural rates of erosion. Clearance of vegetation or rock debris may be necessary to re-expose geological features where they have become obscured.

Collecting of geological specimens may be acceptable if undertaken in a responsible manner. However, there are some sites where the geological interest is very finite in nature and over-collecting can result in damage or destruction of the interest. Collecting of specimens requires very careful management to ensure that the geological resource is conserved.

Certain activities can cause direct damage to geological sites located on the foreshore and management should aim to avoid or, if necessary, minimise any harmful effects. Such activities include dredging, construction of pipes, heavy machinery crossing the geological features and, in some instances, the introduction of large quantities of beach feed material.

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.