



Views About Management

Wildlife and Countryside Act 1981 Section 28(4)

A statement of Natural England's views about the management of Swanscombe Peninsula Site of Special Scientific Interest (SSSI)

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

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.

This Statement does not constitute consent for any of the 'operations requiring Natural England's consent'. The written consent of Natural England is required before carrying out any of those operations. Natural England 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.

Background

Post-industrial sites may support considerable nature conservation interest, particularly when they provide habitat connectivity with remnant semi-natural habitats, including saltmarshes and intertidal areas, and function as important refuges for wildlife within urban and intensive agriculture landscapes. For example, old quarries, industrial workings and old landfill areas can provide free-draining and impoverished substrates with unusual pH and mineral content within a varied topography. Where opportunities allow, these conditions enable a range of dry to wetland habitats to develop within a mosaic providing important transitions between them for the benefit of many animals and plants.

Management principles

A range of management approaches are required to maintain the special features of this SSSI in a favourable condition. Broadly speaking, they can be summarised as follows:

- Geological features – the management aim is to ensure that features remain intact, accessible for study and free from tree or scrub roots, which penetrate the deposits.
- Intertidal mudflats and saltmarsh – these habitats do not generally require active management. The priority is to maintain suitable water quality and tidal and sediment supply processes.
- Wet grassland – this habitat requires active management, primarily to remove each year's growth of vegetation, and the maintenance of a seasonally-high water table.
- All other habitats (including dry and wetland open mosaic habitats on previously developed land, scrub, ponds and swamp/fen) – the management aim is to maintain the overall extent and relative proportions of these habitats and the transitions between them in a complex mosaic. The distribution and juxtaposition of components of the mosaic will shift over time in line with vegetation succession and periodic, rotational management interventions to arrest that succession.

Management should seek to maintain the favourable hydrological conditions and levels of saline intrusion that support the range of coastal wetland habitats. The habitats within this site are highly sensitive to inorganic fertilisers and pesticides, applications of which should be avoided. Herbicides may be useful in targeting certain invasive species but should be used with extreme care. Access to parts of this site, and any recreational activities within it, may also need to be managed.

Even where the management aims summarised above are similar, the methods for achieving them in different parts of the site may vary significantly, as described in more detail below. It is also important

to avoid any incidental damage when carrying out site management; for instance, vegetation clearance in breeding bird habitats should avoid the nesting season.

The site contains features that reflect its industrial past. Some of these may provide valuable supporting habitat for key species within the invertebrate assemblages. Management should ensure that where necessary these man-made structures are retained on site and, where appropriate, allowed to decay naturally.

Due to its qualities and history, the site has an important role to play in better understanding the ecological requirements of key invertebrates; for instance, by experimenting with innovative techniques to inform the management of other sites. Some species within the invertebrate assemblages require conservation at a metapopulation level and an abundant forage resource within the wider landscape. Consequently, we acknowledge the importance of sympathetic management within a wider landscape.

Geology

The geological interests within the SSSI at Bakers Hole are shallow, finite, sensitive and irreplaceable. The main management principles are to conserve the resource in the long-term, while permitting scientific usage, which involves accessing the sediments via exposing temporary sections, trial pits and boreholes as well as specimen collecting with consent. Balancing these two opposing principles is the key to long-term positive management.

Judgment of how much collecting can be permitted, while sustaining the resource, must be made on a case-by-case basis. Collecting of specimens requires very careful management to ensure that the geological resource is conserved. Where there is any doubt, caution should be applied before removing or allowing any material to be removed.

Sites such as this with a finite geological resource are particularly sensitive because the important interest features are typically restricted in volume. In addition to unconsented specimen collecting, any activity which disturbs, conceals, or requires removal of part or all of the geological interest features can cause irreparable damage or destruction, and should not be permitted. Any structure or proposal that restricts access to the feature for sampling (for example by excavation, boreholes and trial pits), should also not be allowed.

Vegetation control, involving sensitive removal of large trees and scrub, is required at Bakers Hole to avoid root penetration disrupting the shallow, finite deposits and to enable re-exposure of the geological features when required for study. The maintenance of permanent exposures is not advisable at Bakers Hole due to the soft nature of the geology.

Intertidal mudflats and saltmarsh

Mudflats often occur in the upper intertidal zones of estuaries, eventually progressing to saltmarsh in the highest part of the tidal range and beyond the tidal limit. Mudflats and saltmarshes are important feeding sites for water birds, with saltmarshes additionally providing refuge and breeding grounds. Saltmarshes are also an important habitat for invertebrates, particularly in areas of structurally diverse vegetation.

Muddy coasts are natural habitats generally dominated by tidal processes and the need for active management is usually minimal. However, their proper management requires an understanding of inputs and processes, both natural and anthropogenic. Maintenance of good water quality and sediment quality is important, and the sediment budget within the estuarine or coastal system should not be restricted by anthropogenic influences.

The birds that use mudflats and saltmarshes are vulnerable to disturbance from human activities, for example, bait digging, dog walking and wildfowling. Increased disturbance can lead to reduced time spent feeding, or individuals being restricted to areas with a poor food supply. Management should seek to minimise any such disturbance.

The location and extent of mudflats and saltmarsh is dependent on the ability of the estuary or coast where they occur to respond to sea level rise and changing sediment regimes. Where appropriate management needs to create space for landward roll-back in response to sea-level rise and to allow the system to respond to associated changes, such as movement of physical features.

Wet grassland

Wet grasslands occur on land that is subject to periodic flooding or has a seasonally high water table and is waterlogged for much of the year. They often support a wide variety of plants and animals and are an important habitat for breeding waders and wintering wildfowl.

Wet 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. They also tend to produce a rather uneven, structurally diverse sward. Grazing usually takes place between late spring and early autumn and should aim to produce a sward averaging 5cm in height by early November. The precise timing and intensity will depend on local conditions and requirements. Introducing grazing before mid-June in areas where breeding waders are present should be avoided, unless at very low densities and with older or more benign cattle to avoid trampling ground-nesting birds. Heavy poaching should be avoided but light trampling can be beneficial in breaking down leaf litter and providing areas for seed germination. Agricultural operations in general, for example topping and hay cuts should be avoided before mid-June to minimise disturbance to breeding birds or the destruction of nests. An element of managed scrub, both within and fringing the grassland can be of importance to birds and invertebrates.

A mosaic of winter flooded and permanently un-flooded grassland is desirable, with both temporary and permanent pools present. By mid-March, between 25-30% coverage of open water across the field area should be aimed for. From April onwards, the area of standing surface water should be reduced to increase the area available for nesting waders and to concentrate aquatic invertebrates in small pools to provide suitable feeding areas for their young. Some shallow areas of flooding should be maintained until late June to provide patches of bare muddy ground on which the birds and their young can feed as raised sward height makes feeding on the drier areas more difficult. The birds using these features are directly vulnerable to disturbance, which can cause them to lose time spent feeding or drive them to areas with a poorer supply of food. Management should seek to minimise any harmful disturbance.

Careful maintenance of existing ditches and drains is usually acceptable practice, but abandonment or deepening of ditches can be harmful. Cultivation and increased drainage are likely to be damaging and should be avoided.

All other habitats (including dry and wetland open mosaic habitats on previously developed land, scrub, open water, swamp and fen)

Much of this site comprises a complex mosaic of habitats which have formed on previously developed land, as well as remnants of habitats with more semi-natural origins. This mosaic includes free-draining herb-rich grassland, disturbed bare ground, open swards, scrub, open waters, swamp, fen and wetlands with brackish transitions. The component habitats grade into one another and the transitions between them are important. Many of the special invertebrates and breeding birds rely on several elements of the mosaic, so it is essential that management maintains the full range and broad proportions of habitats and transitions, near to one another and with complex structural variation.

The mosaic of habitats will change over time if processes of natural succession continue unchecked. For instance, if the site is not managed it is likely that areas currently supporting open and flower-rich grassland will become increasingly dominated by robust, species-poor vegetation and affected by shading-out from trees, scrub or bramble. Appropriate timing and levels of cutting, soil disturbance and tree/scrub/bramble removal may be necessary to maintain the desirable balance of successional stages of key habitats within the site.

Management should aim to leave a complex structure with varied micro-topography after disturbance and ensure that the site supports adequate quantities of suitable bare ground (including within swards and on slopes, micro-cliffs and cliff exposures). This can be achieved by the complete clearance of areas on a rotational basis or regular disturbance within existing open areas. It is important though that all elements of the habitat mosaic are represented at appropriate spatial scales over time and this will influence the scale of clearance works that is desirable. Where appropriate (although not in areas supporting important geological or archaeological features), up-rooting scrub in wet and dry habitats may be beneficial by avoiding herbicide use and creating periodic disturbance.

Both natural and artificial open waters, such as freshwater and brackish ponds and ditches can support a wide range of aquatic plants and often provide important habitats for breeding birds, invertebrates and amphibians. Some ponds may only contain water during certain periods of the year and these temporary ponds are important for specialised plants and animals which depend on the seasonal nature of the habitat. Swamps develop on the fringes of open water, or in shallow

depressions with permanent standing water. Swamps usually consist of a single species of plant such as reeds, with a few other species thinly distributed among them. Swamps and fens represent transient stages in the change from open water to dry land.

Natural succession will lead to the gradual drying out of wetland habitats and therefore some scrub and bramble clearance may be required. Ditches and ponds may need to be de-silted on a rotational basis to slow succession down. Silt and plant material should only be removed from a portion of the pond or ditch at any one time, allowing sufficient recovery time before other areas are dredged. Additionally, a range of water depths and areas of exposed muddy margins should be retained. It may be desirable to maintain a range of ponds and ditches in various stages of succession.

Management should either seek to retain swamp and fen communities in the same place or provide new niches for the swamp and fen communities to develop in. Vegetation succession 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 create scrapes or ponds. Rotational cutting can help maintain reedbeds by encouraging reed growth and preventing excessive leaf litter. This is best undertaken during the winter (November–March) with all cut material removed.

Wetland areas (such as brackish ditches, ponds and shallow depressions) can be impacted by changes to the hydrological regime and alterations to the current levels of saline intrusion. Management should seek to maintain the favourable hydrological conditions that support the range of wetland habitats on site.

The management of wetland habitats should maintain good water quality. Nutrient increases can cause a loss of aquatic plants and increased algal growth. Other factors can also lead to a decrease in aquatic plants in favour of algae, including introduction of species such as bottom feeding coarse fish which uproot plants and disturb sediments.

Open waters and other wetlands are particularly susceptible to invasion by non-native aquatic plants such as Australian swamp stonecrop and parrot's feather. These species grow rapidly, taking up available habitat and smothering other plants. These plants should be removed as soon as they are observed. Some native species such as duckweeds are also able to take over in this way, but such growths are usually avoided by maintaining appropriate nutrient levels in the water.

Although some scrub will need to be cleared periodically to maintain open habitats and wetlands (as described above), it is an essential component of the habitat mosaic in this site. It supports breeding birds and the transitional zone between scrub and other habitats can be particularly important for invertebrates.

Often, scrub is a transitional stage that will develop into woodland if unmanaged. Structural diversity and a mosaic of age classes is important for maintaining the diversity of species that an area of scrub is able to support. For example, hawthorn scrub supports the greatest variety of bird and insect species in the early and middle stages of growth.

Scrub can be managed using rotational cutting (as part of a wider approach to managing the mosaic of habitats at this site), which should aim to maintain a mosaic of patches at different stages of growth. Where stands of scrub are to be maintained in situ, they can be cut in small patches to create an intimate mixture of scrub and grassland. Grazing is another method for managing scrub and on some sites and locations may be a more suitable management tool than cutting. By its nature, grazing can help to create a patchy mosaic of scrub. As with cutting, it can also help to maintain a range of age classes. However, stock levels need to be carefully controlled and too high a grazing pressure may lead to an impoverished vegetation structure and prevent natural regeneration, leading to a loss of cover over time. Where the objective is to increase the area of scrub an initial period of fencing to control grazing may be required.

Where scrub supports nesting grey herons *Ardea cinerea* and/or little egrets *Egretta garzetta*, or roosting or nesting long-eared owls *Asio otus*, management should aim to keep areas around the heronry, roost or nesting site quiet and undisturbed.

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