European Site Conservation Objectives: Draft Supplementary advice on conserving and restoring site features

Shortheath Common Special Area of Conservation (SAC) UK0030275

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About this document

This document provides Natural England's supplementary advice about the European Site Conservation Objectives relating to Shortheath Common SAC.

This advice should therefore be read together with the SAC Conservation Objectives available here.

You should use the Conservation Objectives, this Supplementary Advice and any case-specific advice given by Natural England, when developing, proposing or assessing an activity, plan or project that may affect this site.

This Supplementary Advice to the Conservation Objectives presents attributes which are ecological characteristics of the designated species and habitats within a site. The listed attributes are considered to be those that best describe the site's ecological integrity and which, if safeguarded, will enable achievement of the Conservation Objectives. Each attribute has a target which is either quantified or qualitative depending on the available evidence. The target identifies as far as possible the desired state to be achieved for the attribute.

The tables provided below bring together the findings of the best available scientific evidence relating to the site's qualifying features, which may be updated or supplemented in further publications from Natural England and other sources. The local evidence used in preparing this supplementary advice has been cited. The references to the national evidence used are available on request. Where evidence and references have not been indicated, Natural England has applied ecological knowledge and expert judgement. You may decide to use other additional sources of information.

In many cases, the attribute targets shown in the tables indicate whether the current objective is to 'maintain' or 'restore' the attribute. This is based on the best available information, including that gathered during monitoring of the feature's current condition. As new information on feature condition becomes available, this will be added so that the advice remains up to date.

The targets given for each attribute do not represent thresholds to assess the significance of any given impact in Habitats Regulations Assessments. You will need to assess this on a case-by-case basis using the most current information available.

Some, but not all, of these attributes can also be used for regular monitoring of the actual condition of the designated features. The attributes selected for monitoring the features, and the standards used to assess their condition, are listed in separate monitoring documents, which will be available from Natural England.

These tables do not give advice about SSSI features or other legally protected species which may also be present within the European Site.

If you have any comments or queries about this Supplementary Advice document please contact your local Natural England adviser or email HDIRConservationObjectivesNE@naturalengland.org.uk

About this site

European Site information

Name of European Site	Shortheath Common Special Area of Conservation (SAC)
Location	Hampshire
Site Map	The designated boundary of this site can be viewed here on the MAGIC website
Designation Date	1 April 2005
Qualifying Features	See section below
Designation Area	58.94 ha
Designation Changes	Not applicable
Feature Condition Status	Details of the feature condition assessments made at this site can be found using Natural England's Designated Sites System
Names of component Sites of Special Scientific Interest (SSSIs)	Shortheath Common SSSI
Relationship with other European or International Site designations	None

Site background and geography

Situated on the western Weald, Shortheath Common lies within the Wealden Greensand National Character Area (NCA Profile 120), in north-east Hampshire. Set within a mixed rural landscape of farmland, woodlands, heathlands and small settlements, the site sits just inside the boundary of the South Downs National Park.

Overlying the sandstones of the Folkestone Beds, Shortheath Common embraces a wide range of heathland habitats. Although extensively colonised by bracken *Pteridium aquilinum* and oak *Quercus*/birch *Betula* woodland following the abandonment of traditional commons management practices in the late 19th century, large areas of open heathland and associated habitats remain, and the seral stages of the succession to oakwood contribute to the considerable habitat diversity of the site as a whole.

The focal point of the site, underlain by Head deposits, is a substantial valley mire of outstanding structural and biological interest. It includes a large area of "schwingmoor", a mat of vegetation floating on highly fluid peat. Also present within the mire complex are areas of wet woodland, some of which appear to occur in stable combinations with the mire vegetation.

The site is registered common land with public access, and managed as a Local Nature Reserve. It includes a lake that has been heavily modified for fishing. A minor road splits the common and a number of small settlements and individual dwellings are established around the boundary of the site, some of which also utilise tracks across the common for vehicle access.

About the qualifying features of the SAC

The following section gives you additional, site-specific information about this SAC's qualifying features. These are the natural habitats and/or species for which this SAC has been designated.

Qualifying habitats:

- **H4030. European dry heaths**

European dry heaths typically occur on freely-draining, acidic to circumneutral soils with generally low nutrient content. Ericaceous dwarf-shrubs dominate the vegetation. The most common is heather *Calluna vulgaris*, which often occurs in combination with gorse *Ulex* spp., bilberry *Vaccinium* spp. or bell heather *Erica cinerea*, though other dwarf-shrubs are important locally. Nearly all dry heath is semi-natural, being derived from woodland through a long history of grazing and burning.

Areas of dry heath dominated by heather *Calluna vulgaris* occur throughout Shortheath Common SAC, including on raised areas within the mire complex. In some areas lichens *Cladonia* spp. are frequent. The H4030 feature at Shortheath Common is predominately characterised by the H1 *Calluna vulgaris-Festuca ovina* dry heath community, occurring in mosaic throughout the site.

- **H7140. Transition mires and quaking bogs; Very wet mires often identified by an unstable `quaking` surface**

The term 'transition mire' relates to vegetation that in floristic composition and general ecological characteristics is transitional between acid bog and H7230 Alkaline fens, in which the surface conditions range from markedly acidic to slightly base-rich. The vegetation normally has intimate mixtures of species considered to be acidophile and others thought of as calciphile or basophile. Many of these systems are very unstable underfoot and can therefore also be described as 'quaking bogs'.

A valley mire forms the focal point of Shortheath Common SAC. Set in a shallow basin, a floating raft of vegetation covers much of the mire, dominated by bog-mosses. It is particularly notable for its high cover of cranberry *Vaccinium oxycoccos*. Other characteristic species include white and bottle sedges *Carex canescens* and *C.rostrata*, common cottongrass *Eriophorum angustifolium*, cross-leaved heath *Erica tetralix* and round-leaved sundew *Drosera rotundifoila*. The dominant NVC communities are M2 *Sphagnum cuspidatum/recurvum* bog pool community; and M4 *Carex rostrata - Sphagnum recurvum* mire.

- **H91D0. Bog woodland**

Under certain combinations of physical circumstances in the UK, scattered trees can occur across the surface of a bog in a relatively stable ecological relationship as open woodland, without the loss of bog species. This true Bog woodland is a much rarer condition than the progressive invasion of bogs by trees, through natural colonisation or afforestation following changes in the drainage pattern which leads eventually to the loss of the bog community.

A birch *Betula spp*.-dominated variant of Bog woodland occurs where birch *Betula* spp. or willow *Salix* spp. occur in long-term stable combinations with bog vegetation. The habitat type has not previously been well described in the UK, and consequently knowledge of its ecological characteristics is limited. Within the central mire basin, areas of W4 – *Betula pubescens - Molinia caerulea* woodland are thought to fit this description in the context of southern Britain.

Qualifying Species:

Not applicable

Table 1: Supplementary Advice for Qualifying Features: H4030. European dry heaths

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Extent and distribution of the feature	**Extent of the feature within the site**	Restore the total extent of the H4030 feature.	There should be no measurable reduction (excluding any trivial loss) in the extent and area of this feature, and in some cases, the full extent of the feature may need to be restored. The extent of an Annex I habitat feature covers the sum extent of all of the component vegetation communities present and may include transitions and mosaics with other closely-associated habitat features. Where a feature is susceptible to natural dynamic processes, there may be acceptable variations in its extent through natural fluctuations. Where a reduction in the extent of a feature is considered necessary to meet the Conservation Objective for another Annex I feature, Natural England will advise on this on a case-by-case basis. The overall character of significant areas of the site is that of dry heath. The Favourable Condition Table (FCT) indicates that areas of bracken, U2 grassland and even W10 or W16 woodland are restorable to dry heath.	NATURAL ENGLAND, 2013(a)
Extent and distribution of the feature	**Spatial distribution of the feature within the site**	Maintain the distribution and configuration of the H4030 feature, including where applicable its component vegetation types, across the site	A contraction in the range, or geographic spread, of the feature (and its component vegetation and typical species, plus transitional communities) across the site will reduce its overall area, the local diversity and variations in its structure and composition, and may undermine its resilience to adapt to future environmental changes. This may also reduce and break up the continuity of a habitat within a site and how well its typical species are able to move around the site to occupy and use habitat. Such fragmentation can impact on their viability and the wider ecological composition of the Annex I habitat. Smaller fragments of habitat can typically support smaller and more isolated populations which are more vulnerable to extinction. These fragments also have a greater amount of open edge habitat which will differ in the amount of light, temperature, wind, and even noise that it receives compared to its interior. These conditions may not be suitable for some of the typical	WESSEX ENVIRONMENTAL ASSOCIATES, 2003.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			and more specialist species associated with the Annex I habitat feature. While the area of H4030 within the site identified at point of designation was apparently relatively small, the overall character of much of the site is that of dry heath. The FCT indicates that areas of bracken, U2 grassland and even W10 or W16 woodland present at designation are restorable to dry heath.	
Structure and function (including its typical species)	**Vegetation community composition**	Ensure the component vegetation communities of the feature are referable to and characterised by the following National Vegetation Classification types: H1 *Calluna vulgaris - Festuca ovina* heath, with transitions to acid grassland U1 *Festuca ovina - Agrostis capillaris - Rumex acetosella* grassland.	This habitat feature will comprise a number of associated semi-natural vegetation types and their transitional zones, reflecting the geographical location of the site, altitude, aspect, soil conditions (especially base-status and drainage) and vegetation management. In the UK these have been categorised by the National Vegetation Classification (NVC). Maintaining or restoring these characteristic and distinctive vegetation types, and the range of types as appropriate, will be important to sustaining the overall habitat feature. This will also help to conserve their typical plant species (i.e. the constant and preferential species of a community), and therefore that of the SAC feature, at appropriate levels (recognising natural fluctuations). The following communities may also have been derived from dwarf-shrub heaths: U2 *Deschampsia flexuosa* grassland, U20 *Pteridium aquilinum – gallium saxatile* bracken community.	WESSEX ENVIRONMENTAL ASSOCIATES, 2003.
Structure and function (including its typical species)	**Vegetation community transitions**	Maintain any areas of transition between this and communities which form other heathland-associated habitats, such as dry and humid heaths, mires, acid grasslands, scrub and woodland.	Transitions/zonations between adjacent but different vegetation communities are usually related to naturally-occurring changes in soil, aspect or slope. Such 'ecotones' retain characteristics of each bordering community and can add value in often containing species not found in the adjacent communities. Retaining such transitions can provide further diversity to the habitat feature, and support additional flora and fauna. This is an important attribute as many characteristic heathland species utilise the transitions between vegetation types or use different vegetation types during different stages of their life cycle.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Structure and function (including its typical species)	**Vegetation structure: cover of dwarf shrubs**	Restore an overall cover of dwarf shrub species which is typically between 25-90%	Variations in the structure of the heathland vegetation (vegetation height, amount of canopy closure, and patch structure) is needed to maintain high niche diversity and hence high species richness of characteristic heathland plants and animals. Many species also utilise the transitions between vegetation types or use different vegetation types during different stages of their life cycle. The structural character of the heathland feature is strongly influenced by the growing habits of its dominant species which in most cases will be ericoids (i.e. plants that look like heathers, The ericaceous species heather or ling *Calluna vulgaris*, bell heather *Erica cinerea*, cross-leaved heath *Erica tetralix*, along with bilberry *Vaccinium myrtillus* and dwarf gorse *Ulex minor* are the commonest and most characteristic dwarf-shrubs. The 2013 SSSI condition assessment indicates a below-target frequency of dwarf shrubs.	NATURAL ENGLAND, 2013(b).
Structure and function (including its typical species)	**Vegetation composition: bracken cover**	Maintain a cover of dense bracken which is low, typically at <10%	The spread of bracken *Pteridium aquilinum* is a problem on many lowland heathlands. The unpalatable nature and density of bracken as a tall-herb fern, and its decomposing litter, can smother and shade out smaller and more characteristic heathland vegetation. Usually active management of bracken is required to reduce or contain its cover across this habitat feature. But this fern also has some nature conservation value, for example on sites where fritillary butterflies occur and utilise bracken litter habitat.	
Structure and function (including its typical species)	**Vegetation structure: cover of gorse**	Maintain cover of common gorse *Ulex europaeus* at <25%	Gorse as a component of heathland is a very valuable wildlife habitat, and often a marker of relict heath and common. Both dense and spiny, it provides good, protected cover for many wildlife species: birds, mammals and reptiles; breeding habitat for rare or declining bird species, and excellent winter roosting. The flowers, borne at a time of year when other sources of pollen or nectar are in short supply, are particularly good for	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			insects and other invertebrate pollinators. However gorse may cause problems if unchecked by dominating an area, eliminating other typical heathland species. Mature stands may increase fire risk.	
Structure and function (including its typical species)	**Vegetation structure: tree cover**	Restore the open character of the H4030 feature, with a typically scattered and low cover of trees and scrub (<15% cover) in each block of dry heath	Scrub (mainly trees or tree saplings above 1 m in height) and isolated trees are usually very important in providing warmth, shelter, cover, food-plants, perches, territorial markers and sources of prey for typical heathland invertebrates and vertebrates. But overall cover of scrub and trees across this habitat feature should be maintained or restored to a fairly sparse level, with a structurally complex edge and with characteristic heathland vegetation as ground cover. The Site Improvement Plan for Shortheath Common SAC identified inappropriate scrub control as a threat. The 2013 SSSI condition assessment indicates excessive cover of trees and scrub.	NATURAL ENGLAND, 2013(b). NATURAL ENGLAND, 2014.
Structure and function (including its typical species)	**Vegetation structure: heather age structure**	Maintain a diverse age structure amongst the ericaceous shrubs typically found on the site	Each phase of growth associated with the characteristic heathers which dominate this feature also represents different microclimatic conditions and microhabitats which may provide shelter or food to other organisms. Therefore, it is important to maintain a mosaic of heather in different phases of growth. Typically this age structure will consist of between 10-40% cover of (pseudo) pioneer heathers; 20-80% cover of building/mature heathers; <30% cover of degenerate heathers and less than <10% cover of dead heathers	
Structure and function (including its typical species)	**Vegetation: undesirable species**	Maintain the frequency/cover of the following undesirable species to within acceptable levels and prevent changes in surface condition, soils, nutrient levels or hydrology which may encourage	Undesirable non-woody and woody vascular plants species may require active management to avert an unwanted succession to a different and less desirable state. Often they may be indicative of a negative trend relating to another aspect of a site's structure and function. These species will vary depending on the nature of the particular feature, and in some	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		their spread: Rhododendron *Rhododendron ponticum,* gaultheria *shallon,* Japanese knotweed *Fallopia japonica*.	cases these species may be natural/acceptable components or even dominants.	
Structure and function (including its typical species)	**Key structural, influential and/or distinctive species**	Maintain the abundance of the typical species listed below to enable each of them to be a viable component of the Annex 1 habitat: Heather *Calluna vulgaris*, bell heather *Erica cinerea*, dwarf gorse *Ulex minor*, sand sedge *Carex arenaria*, wavy-hair grass *Deschampsia flexuosa,* and lichens *Cladonia* spp. Assemblage of Orthoptera species including field cricket *Gryllus campestris*	The term 'typical species' is used in the Habitats Directive. Some plant or animal species (or related groups of such species) make a particularly important contribution to the necessary structure, function and/or quality of an Annex I habitat feature at a particular site. These species will include; • **Structural** species which form a key part of the Annex I habitat's structure or help to define that habitat on a particular SAC (see also the attribute for 'vegetation community composition'). • **Influential** species which are likely to have a key role affecting the structure and function of the habitat (such as bioturbators (mixers of soil/sediment), grazers, surface borers, predators or other species with a significant functional role linked to the habitat) • **Site-distinctive** species which are considered to be a particularly special and distinguishing component of an Annex I habitat on a particular SAC. There may be natural fluctuations in the frequency and cover of each of these species. The relative contribution made by them to the overall ecological integrity of a site may vary, and Natural England will provide bespoke advice on this as necessary. The list of species given here for this Annex I habitat feature at this SAC is not necessarily exhaustive. The list may evolve, and species may be added or deleted, as new information about this site becomes available.	NATURE CONSERVANCY COUNCIL, 1974, rev.1985 NATURAL ENGLAND, 2018
Structure and function (including its	**Functional connectivity with wider**	Maintain the overall extent, quality and function of any supporting features within the	This recognises the potential need at this site to maintain or restore the connectivity of the site to its wider landscape in order to meet the conservation objectives.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
typical species)	**landscape**	local landscape which provide a critical functional connection with the site	These connections may take the form of landscape features, such as habitat patches, hedges, watercourses and verges, outside of the designated site boundary which are either important for the migration, dispersal and genetic exchange of those typical species closely associated with qualifying Annex I habitat features of the site. These features may also be important to the operation of the supporting ecological processes on which the designated site and its features may rely. In most cases increasing actual and functional landscape-scale connectivity would be beneficial. Where there is a lack of detailed knowledge of the connectivity requirements of the qualifying feature, Natural England will advise as to whether these are applicable on a case by case basis. Shortheath Common is part of a chain of important lowland heathland sites around Bordon, some of which are components of the Wealden Heaths II Special Protection Area (SPA).	
Structure and function (including its typical species)	**Adaptation and resilience**	Maintain the H4030 feature's ability, and that of its supporting processes, to adapt or evolve to wider environmental change, either within or external to the site	This recognises the increasing likelihood of natural habitat features to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning. Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary. Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the	NATURAL ENGLAND, 2015.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			feature's long-term viability. The overall vulnerability of this SAC to climate change has been assessed by Natural England (2015) as being high, taking into account the sensitivity, fragmentation, topography and management of its habitats. This means that this site is considered to be the most vulnerable sites overall and are likely to require the most adaptation action, most urgently. A site based assessment should be carried out as a priority. This means that action to address specific issues is likely, such as reducing habitat fragmentation, creating more habitat to buffer the site or expand the habitat into more varied landscapes and addressing particular management and condition issues. Individual species may be more or less vulnerable than their habitat itself. In many cases, change will be inevitable so appropriate monitoring would be advisable.	
Structure and function (including its typical species)	**Soils, substrate and nutrient cycling**	Maintain the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal:bacterial ratio, to within typical values for the habitat.	Soil is the foundation of basic ecosystem function and a vital part of the natural environment. Its properties strongly influence the colonisation, growth and distribution of those plant species which together form vegetation types, and therefore provides a habitat used by a wide range of organisms. Soil biodiversity has a vital role to recycle organic matter. Changes to natural soil properties may therefore affect the ecological structure, function and processes associated with this Annex I feature. Soils supporting the H4030 feature are underlain by the Folkestone Beds and characteristically sandy, free-draining, very acidic and nutrient-poor.	
Supporting processes (on which the feature relies)	**Conservation measures**	Restore the management measures (either within and/or outside the site boundary as appropriate) which are necessary to restore the structure, functions	Active and ongoing conservation management is needed to protect, maintain or restore this feature at this site. Further details about the necessary conservation measures for this site can be provided by contacting Natural England. This	ENGLISH NATURE, 2005. NATURAL ENGLAND, 2013 NATURAL ENGLAND, 2014

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		and supporting processes associated with the feature	information will typically be found within, where applicable, supporting documents such as Natura 2000 Site Improvement Plan, Site Management Strategies or Plans, the Views about Management Statement for the underpinning SSSI and/or management agreements. • Maintain low nutrient levels to maintain high numbers of species through the management activities of grazing, burning, mowing, turf-cutting and scrub/tree cutting. Management of succession is a critical aspect of management for this habitat, by a combination of active processes and grazing/cutting. • A range of invertebrates and plants require bare ground/peat where it is not too frequently disturbed by vehicles or feet. The Site Improvement Plan for Shortheath Common SAC identified inappropriate scrub control as a threat. The 2013 SSSI condition assessment indicates excessive cover of trees and scrub.	
Supporting processes (on which the feature relies)	**Air quality**	Restore as necessary, the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk).	This habitat type is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species associated with it. Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH3), oxides of nitrogen (NOx) and sulphur dioxide (SO2), and critical loads for nutrient nitrogen deposition and acid deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case basis.	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System (www.apis.ac.uk). NATURAL ENGLAND, 2014

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales. The Site Improvement Plan for Shortheath Common SAC (Natural England 2014) identified levels of atmospheric nitrogen deposition exceeding site relevant critical loads.	
Version Control Advice last updated: n/a				
Variations from national feature-framework of integrity-guidance: • A number of species removed from the list as they are not indicative of the dry heath communities present at Shortheath				

Table 2: Supplementary Advice for Qualifying Features: H7140. Transition mires and quaking bogs; Very wet mires often identified by an unstable `quaking` surface

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Extent and distribution of the feature	**Extent of the feature within the site**	Restore the total extent of the H7140 feature.	There should be no measurable reduction (excluding any trivial loss) in the extent and area of this feature, and in some cases, the full extent of the feature may need to be restored. The baseline-value of extent given has been generated using data gathered from the listed site-based surveys. Area measurements given may be approximate depending on the methods, age and accuracy of data collection, and as a result this value may be updated in future to reflect more accurate information. The extent of an Annex I habitat feature covers the sum extent of all of the component vegetation communities present and may include transitions and mosaics with other closely-associated habitat features. Where a feature is susceptible to natural dynamic processes, there may be acceptable variations in its extent through natural fluctuations. Where a reduction in the extent of a feature is considered necessary to meet the Conservation Objective for another Annex I feature, Natural England will advise on this on a case-by-case basis. The 2013 condition assessment indicates a loss of extent of the H7140 mire feature due to *Molina* dominance.	NATURAL ENGLAND, 2013(b).
Extent and distribution of the feature	**Spatial distribution of the feature within the site**	Maintain the distribution and configuration of the feature, including where applicable its component vegetation types, across the site	Distribution includes the spatial pattern or arrangement of this habitat feature, and its component vegetation types, across the site. Changes in distribution may affect the nature and range of the vegetation communities present, the operation of the physical, chemical, and biological processes in the system and the resiliency of the site and its features to changes or impacts.	WESSEX ENVIRONMENTAL ASSOCIATES, 2003.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Structure and function (including its typical species)	**Vegetation community composition**	Ensure the component vegetation communities of the H7140 feature are referable to and characterised by the following National Vegetation Classification types: M2 *Sphagnum cuspidatum/recurvum* bog pool community and M4 *Carex rostrate - Sphagnum recurvum* mire	This habitat feature will comprise a number of associated semi-natural vegetation types and their transitional zones, reflecting the geographical location of the site, altitude, aspect, soil conditions (especially base-status and drainage) and vegetation management. In the UK these have been categorised by the National Vegetation Classification (NVC). Maintaining or restoring these characteristic and distinctive vegetation types, and the range of types as appropriate, will be important to sustaining the overall habitat feature.	WESSEX ENVIRONMENTAL ASSOCIATES, 2003.
Structure and function (including its typical species)	**Key structural, influential and/or distinctive species**	Maintain the abundance of the typical species listed below to enable each of them to be a viable component of the Annex 1 habitat: Bog-mosses *Sphagnum recurvum, S.capillifolium, S. papillosum* Cranberry *Vaccinium oxycoccus,* common cottongrass *Eriophorum angustifolium,* marsh cinquefoil *Potentilla palustris,* cross-leaved heath *Erica tetralix,* round-leaved sundew *Drosera rotundifolia,* sedges *Carex rostrata* and *Carex canescens,* sharp-flowered rush *Juncus acutiflora* Bog bush cricket *Metrioptera brachyptera*	Some plant or animal species (or related groups of such species) make a particularly important contribution to the necessary structure, function and/or quality of an Annex I habitat feature at a particular site. These species will include; • **Structural** species which form a key part of the Annex I habitat's structure or help to define that habitat on a particular SAC (see also the attribute for 'vegetation community composition'). • **Influential** species which are likely to have a key role affecting the structure and function of the habitat (such as bioturbators (mixers of soil/sediment), grazers, surface borers, predators or other species with a significant functional role linked to the habitat) • **Site-distinctive** species which are considered to be a particularly special and distinguishing component of an Annex I habitat on a particular SAC. There may be natural fluctuations in the frequency and cover of each of these species. The relative contribution made by them to the overall ecological integrity of a site may vary, and Natural England will provide bespoke advice on this as necessary. The list of species given here for this Annex I habitat feature at this SAC is not necessarily exhaustive. The list may evolve, and species may be added or deleted, as new information	ENGLISH NATURE, 2005.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			about this site becomes available. This Annex 1 habitat is not well-defined in the JNCC guidance and includes a wide range of 'transitional' wetland vegetation. A much clearer definition and scope has been established in Tratt, 2013. This clarifies the various types of vegetation encompassed by the term 'transition mire' and includes some excluded by the JNCC (e.g. some examples of M21) and others currently often included in other Annex 1 types, e.g. M14.	
Structure and function (including its typical species)	**Invasive, non-native and/or introduced species**	Ensure invasive and introduced non-native species are either rare or absent, but if present are causing minimal damage to the feature	Invasive or introduced non-native species can be a serious potential threat to the structure and function of these habitats, because they are able to exclude, damage or suppress the growth of their associated typical species, reduce structural diversity of the habitat and prevent the natural regeneration of characteristic site-native species. Once established, the measures to control such species may also impact negatively on the features of interest (e.g. use of broad spectrum pesticides).	
Structure and function (including its typical species)	**Presence/ cover of woody species**	Maintain a low cover (<10% of the area) of scrub or trees within open stands of H7140.	Native trees and shrubs occur naturally on bog and fen surfaces but an abundance of scrub and trees on bogs and fens is sometimes regarded as detrimental because they are indicators and perpetrators of drying out and may cause damage to vegetation structure through shading effects. Birch, pine, willow and rhododendron (an invasive non-native species) are the main species of concern. The seeds of most invasive woody species are wind dispersed, so trees are able to establish on raised bog and fen surfaces.	
Structure and function (including its typical species)	**Hydrology**	At a site, unit and/or catchment level (as necessary), restore natural hydrological processes to provide the conditions necessary to sustain the H7140 feature	Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and	WETLAND FRAMEWORK PROJECT, 2003 WHEELER *et al*, 2009

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		within the site.	timing of water supply can have significant implications for the assemblage of characteristic plants and animals present. This target is generic and further site-specific investigations may be required to fully inform conservation measures and/or the likelihood of impacts. Wheeler *et al*. (2009) provide range and mean for summer & winter water levels for those wetland NVC types constituting Annex 1 habitats. This provides a rough guide to appropriate levels, but it is critical that individual sites and their needs are considered as there is considerable variation within the NVC communities listed and recorded water levels. The H7140 feature is understood to be predominately groundwater-fed. Activities within the local catchment may affect the feature by altering water quantity, quality or chemistry. The mire has also been subject to some modification: there are historic drains present and a weir structure on the outflow. These modifications are likely to have had or continue to have an adverse effect on natural water levels.	
Structure and function (including its typical species)	**Water chemistry**	Restore the surface water and groundwater supporting the hydrology of the bog at a low nutrient status.	UKTAG (2012) provides threshold values for nitrate concentration in groundwaters for different wetland types. The threshold values will mainly be used in the characterisation of GWDTE status for the WFD, primarily as a risk screening tool, to assess if sites are 'at risk' or 'not at risk' from groundwater mediated nutrient pressure. Due to the complex cycling of nutrients within many GWDTE, these threshold values are less well suited for application within sites but rather just to groundwater that is directly feeding the site. At Shortheath Common the H7140 feature is understood to be predominately fed by circumneutral or slightly acidic groundwater. Surface water flow into the mire basin, e.g. from agriculture or	UK TAG, 2012. WETLAND FRAMEWORK PROJECT, 2003

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			road run-off, should be avoided as a potential source of nutrient enrichment. There is some evidence to indicate that road run-off may be draining into the mire and encouraging tree growth.	
Structure and function (including its typical species)	**Hydrology**	Maintain a high piezometric head and permanently high water table (allowing for natural seasonal fluctuations) on groundwater dependent sites.	Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present. This target is generic and further site-specific investigations may be required to fully inform conservation measures and/or the likelihood of impacts. It is critically important to understand the eco-hydrological context of all sites. At Shortheath Common the H7140 feature is understood to be predominately groundwater-fed.	WETLAND FRAMEWORK PROJECT, 2003
Structure and function (including its typical species)	**Adaptation and resilience**	Maintain the feature's ability, and that of its supporting processes, to adapt or evolve to wider environmental change, either within or external to the site	This recognises the increasing likelihood of natural habitat features to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning. Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary. Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the feature's long-term viability. The overall vulnerability of this SAC to climate change has	NATURAL ENGLAND, 2015.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			been assessed by Natural England (2015) as being high, taking into account the sensitivity, fragmentation, topography and management of its habitats. This means that this site is considered to be the most vulnerable sites overall and are likely to require the most adaptation action, most urgently. A site based assessment should be carried out as a priority. This means that action to address specific issues is likely, such as reducing habitat fragmentation, creating more habitat to buffer the site or expand the habitat into more varied landscapes and addressing particular management and condition issues. Individual species may be more or less vulnerable than their habitat itself. In many cases, change will be inevitable so appropriate monitoring would be advisable. The local area has commercially attractive sand deposits; future proposals for extraction should consider possible impacts on groundwater levels and long-term resilience of the H7140 feature.	
Supporting processes (on which the feature relies)	**Air quality**	Restore as necessary, the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk).	This habitat type is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species associated with it. Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH3), oxides of nitrogen (NOx) and sulphur dioxide (SO2), and critical loads for nutrient nitrogen deposition and acid deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System (www.apis.ac.uk). NATURAL ENGLAND, 2014.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			basis. Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales. The Site Improvement Plan identifies levels of atmospheric nitrogen deposition exceeding site relevant critical loads. It is currently not understood how air quality may be affecting the SAC habitats.	
Supporting processes (on which the feature relies)	**Conservation measures**	Maintain the management measures (either within and/or outside the site boundary as appropriate) which are necessary to maintain the structure, functions and supporting processes associated with the feature	Active and ongoing conservation management is needed to protect, maintain or restore this feature at this site. Further details about the necessary conservation measures for this site can be provided by contacting Natural England. This information will typically be found within, where applicable, supporting documents such as Natura 2000 Site Improvement Plan, Site Management Strategies or Plans, the Views about Management Statement for the underpinning SSSI and/or management agreements. This habitat in most cases requires ongoing cutting or grazing to maintain its open character.	ENGLISH NATURE, 2005.
Version Control Advice last updated: n/a				
Variations from national feature-framework of integrity-guidance: - 'Structure and function – exposed substrate' deleted as vegetation floats above the ground. 'Structure and function – supporting off-site habitat' deleted as there is no significant dependence on off-site habitat				

Table 3: Supplementary Advice for Qualifying Features: H91D0. Bog woodland

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Extent and distribution of the feature	**Extent of the feature within the site**	Maintain the total extent of the H91D0 feature.	The extent of an Annex I habitat feature covers the sum extent of all of the component vegetation communities present and may include transitions and mosaics with other closely-associated habitat features.	
Extent and distribution of the feature	**Spatial distribution of the feature within the site**	Maintain the distribution and configuration of the H91D0 feature, including where applicable its component vegetation types, across the site	A contraction in the range, or geographic spread, of the feature (and its component vegetation and typical species, plus transitional communities) across the site will reduce its overall area, the local diversity and variations in its structure and composition, and may undermine its resilience to adapt to future environmental changes. This may also reduce and break up the continuity of a habitat within a site and how well its typical species are able to move around the site to occupy and use habitat. Such fragmentation can impact on their viability and the wider ecological composition of the Annex I habitat. Smaller fragments of habitat can typically support smaller and more isolated populations which are more vulnerable to extinction. These fragments also have a greater amount of open edge habitat which will differ in the amount of light, temperature, wind, and even noise that it receives compared to its interior. These conditions may not be suitable for some of the typical and more specialist species associated with the Annex I habitat feature.	SANDERSON N. and ROSE F. 1996 ROSE F. 1998 WESSEX ENVIRONMENTAL ASSOCIATES, 2003
Structure and function (including its typical species)	**Vegetation community composition**	Ensure the component vegetation communities of the H91D0 feature are referable to and characterised by the following National Vegetation Classification type: W4 *Betula pubescens - Molinia*	This habitat feature will comprise a number of associated semi-natural vegetation types and their transitional zones, reflecting the geographical location of the site, altitude, aspect, soil conditions (especially base-status and drainage) and vegetation management. In the UK these have been categorised by the National Vegetation Classification (NVC). Maintaining or restoring these characteristic and distinctive	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		caerulea woodland	vegetation types, and the range of types as appropriate, will be important to sustaining the overall habitat feature. This will also help to conserve their typical plant species (i.e. the constant and preferential species of a community), and therefore that of the SAC feature, at appropriate levels (recognising natural fluctuations).	
Structure and function (including its typical species)	**Vegetation structure - canopy cover**	Restore an appropriate tree canopy cover across the H91D0 feature, which will typically be between 40-90%.	Canopy cover is the overall proportion of vegetative cover consisting of any woody layer ranging from established regeneration to mature and veteran stages. Woodland canopy density and structure is important because it affects ecosystem function and in particular microclimate, litter-fall, soil moisture, nutrient turnover and shading; this in turn influences the composition of plants and animals in lower vegetation layers and soil. Open canopies with just scattered trees will have less of a woodland character and reduced diversity of woodland-dependent species. Completely closed canopies across the whole woodland are not ideal either however, as they cast heavier shade and support fewer species associated with edges, glades and open grown trees, and have little space where tree regeneration could occur. In general, the woodland canopy of this feature should provide a core of woodland interior conditions with some open and edge habitat as well. Report by WEA in 2003 indicates a dense and locally impenetrable, shrubby structure i.e. small trees	WESSEX ENVIRONMENTAL ASSOCIATES, 2003
Structure and function (including its typical species)	**Vegetation structure - open space**	Restore areas of permanent/temporary open space within the H91D0 feature, typically to cover approximately 50% of area due to permanently wet soils and slow tree growth	Woodland structure includes variations in age, tree form, layering, the distribution and abundance of open space and dead wood. It plays a critical role in woodland ecosystem functioning. Having some open, sunlit and largely tree-less areas as part of the woodland community is often important to facilitate natural	WESSEX ENVIRONMENTAL ASSOCIATES, 2003.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			tree and shrub regeneration and also to provide supporting habitat for specialist woodland invertebrates, birds, vascular and lower plants. Such open space can be permanent or temporary and may consist of managed grazed areas, linear rides and glades, or naturally-produced gaps caused by disturbance events such as windthrow/fire/snow damage. Report by WEA in 2003 highlighted a dense and locally impenetrable, shrubby structure.	
Structure and function (including its typical species)	**Vegetation structure - woodland edge**	Maintain a graduated woodland edge into adjacent semi-natural open habitats, other woodland/wood-pasture types or scrub.	Woodland edge is defined as being the transitional zone between the forest feature and adjacent but different habitat types - the best woodland edges will have a varied structure in terms of height and cover. Many typical forest species make regular use of the edge habitats for feeding due to higher herb layer productivity and larger invertebrate populations. This should only be permitted to the extent that there is no adverse effect on adjacent habitats i.e. H7140 quaking bog feature.	
Structure and function (including its typical species)	**Adaptation and resilience**	Maintain the resilience of the H91D0 feature by ensuring a diversity (at least 2 species) of site-native trees (e.g. Downy birch - *Betula* pubescens Common sallow - *Salix cinerea*) across the site.	This recognises the increasing likelihood of natural habitat features needing to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning. Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary. Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in	NATURAL ENGLAND, 2015.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the feature's long-term viability. The overall vulnerability of this SAC to climate change has been assessed by Natural England (2015) as being high, taking into account the sensitivity, fragmentation, topography and management of its habitats. This means that this site is considered to be the most vulnerable sites overall and are likely to require the most adaptation action, most urgently. A site based assessment should be carried out as a priority. This means that action to address specific issues is likely, such as reducing habitat fragmentation, creating more habitat to buffer the site or expand the habitat into more varied landscapes and addressing particular management and condition issues. Individual species may be more or less vulnerable than their habitat itself. In many cases, change will be inevitable so appropriate monitoring would be advisable.	
Structure and function (including its typical species)	**Tree and shrub species composition**	Maintain a canopy and under-storey of which 95% is composed of site native trees and shrubs.	Native trees and shrubs in general support a greater diversity of associated species than non-native species, especially amongst groups of invertebrates which depend directly on trees for food and shelter. There are many plants and animals which use or co-exist with non-native trees, but many rare and threatened woodland species are specialists adapted to one or a few native trees or shrub species (birches, willows and oaks, are examples of trees that host many specialist insect species).	
Structure and function (including its typical species)	**Key structural, influential and/or distinctive species**	Maintain the abundance of the typical species listed below to enable each of them to be a viable component of the Annex 1 H91D0 habitat: Downy birch *Betula pubescens*, common sallow *Salix cinerea*, bottle sedge *Carex rostrata* and	Some plant or animal species (or related groups of such species) make a particularly important contribution to the necessary structure, function and/or quality of an Annex I habitat feature at a particular site. These species will include; • **Structural** species which form a key part of the Annex I habitat's structure or help to define that habitat on a particular SAC (see also the attribute for 'vegetation community composition').	WESSEX ENVIRONMENTAL ASSOCIATES, 2003

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		the bog-moss *Sphagnum recurvum.*	• **Influential** species which are likely to have a key role affecting the structure and function of the habitat (such as bioturbators (mixers of soil/sediment), grazers, surface borers, predators or other species with a significant functional role linked to the habitat) • **Site-distinctive** species which are considered to be a particularly special and distinguishing component of an Annex I habitat on a particular SAC. There may be natural fluctuations in the frequency and cover of each of these species. The relative contribution made by them to the overall ecological integrity of a site may vary, and Natural England will provide bespoke advice on this as necessary. The list of species given here for this Annex I habitat feature at this SAC is not necessarily exhaustive. The list may evolve, and species may be added or deleted, as new information about this site becomes available.	
Structure and function (including its typical species)	**Invasive, non-native and/or introduced species**	Ensure invasive and introduced non-native species are either rare or absent, but if present are causing minimal damage to the H91D0 feature	Invasive or introduced non-native species are a serious potential threat to the biodiversity of native and ancient woods, because they are able to exclude, damage or suppress the growth of native tree, shrub and ground species (and their associated typical species), reduce structural diversity and prevent the natural regeneration of characteristic site-native species. Once established, the measures to control such species may also impact negatively on the features of interest (e.g. use of broad spectrum pesticides). Such species can include Rhododendrons, snowberry, Japanese knotweed, giant hogweed and Himalayan balsam, for example. Similarly, this would include pheasants, rabbits and non-native invertebrate 'pest' species.	
Structure and function (including its	**Soils, substrate and nutrient**	Maintain the properties of the underlying soil types, including structure, bulk density, total	Soil is the foundation of basic ecosystem function and a vital part of the natural environment. Its properties strongly influence the colonisation, growth and distribution of those plant species	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
typical species)	**cycling**	carbon, pH, soil nutrient status and fungal:bacterial ratio, to within typical values for the H91D0 habitat.	which together form vegetation types, and therefore provides a habitat used by a wide range of organisms. Soil biodiversity has a vital role to recycle organic matter. Changes to natural soil properties may therefore affect the ecological structure, function and processes associated with this Annex I feature.	
Supporting processes (on which the feature relies)	**Functional connectivity with wider landscape**	Maintain the overall extent, quality and function of any supporting features within the local landscape which provide a critical functional connection with the site	This recognises the potential need at this site to maintain or restore the connectivity of the site to its wider landscape in order to meet the conservation objectives. These connections may take the form of landscape features, such as habitat patches, hedges, watercourses and verges, outside of the designated site boundary which are either important for the migration, dispersal and genetic exchange of those typical species closely associated with qualifying Annex I habitat features of the site. These features may also be important to the operation of the supporting ecological processes on which the designated site and its features may rely. In most cases increasing actual and functional landscape-scale connectivity would be beneficial. Where there is a lack of detailed knowledge of the connectivity requirements of the qualifying feature, Natural England will advise as to whether these are applicable on a case by case basis.	
Supporting processes (on which the feature relies)	**Air quality**	Restore as necessary, the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk).	This habitat type is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species associated with it. Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH3), oxides of nitrogen (NOx) and sulphur dioxide (SO2), and critical loads for nutrient nitrogen deposition and acid	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System (www.apis.ac.uk).NATURAL ENGLAND, 2014

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case basis. Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales. The Site Improvement Plan identifies levels of atmospheric nitrogen deposition exceeding site relevant critical loads. It is currently not understood how air quality may be affecting the SAC habitats.	
Supporting processes (on which the feature relies)	**Hydrology**	At a site, unit and/or catchment level (as necessary), restore] natural hydrological processes to provide the conditions necessary to sustain the H91D0 feature within the site	Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present. Further site-specific investigations may be required to fully inform conservation measures and/or the likelihood of impacts. For bog woodlands, hydrological processes (especially permanent wetness) are critical to their ecological functioning and must not be negatively impacted. At Shortheath Common the valley mire which supports the bog woodland is understood to be predominately groundwater-fed. Retained historic drainage infrastructure may impact both the H7140 mire and H91D0 woodland features.	. WETLAND FRAMEWORK PROJECT, 2003.
Supporting	**Illumination**	Ensure artificial light is	Woodland biodiversity has naturally evolved with natural	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
processes (on which the feature relies)		maintained at a level which is unlikely to affect natural phenological cycles and processes to the detriment of the feature and its typical species at this site.	patterns of light and darkness, so disturbance or modification of those patterns can influence numerous aspects of plant and animal behaviour. For example, light pollution (from direct glare, chronically increased illumination and/or temporary, unexpected fluctuations in lighting) can affect animal navigation, competitive interactions, predator-prey relations, and animal physiology. Flowering and development of trees and plants can also be modified by un-natural illumination which can disrupt natural seasonal responses.	
Version Control Advice last updated: n/a				
Variations from national feature-framework of integrity-guidance: 'Structure and function – Vegetation structure-old growth' removed from list as inappropriate in this context i.e. relatively recent tree growth within a small quaking bog. 'Structure and function – Vegetation structure-dead wood' removed from list as inappropriate in this context i.e. relatively recent tree growth within a small quaking bog 'Structure and function – Vegetation structure-shrub layer' removed from list as inappropriate in this context i.e. relatively recent, thicket-like tree growth 'Structure and function – Vegetation structure-age class distribution' removed from list as inappropriate in this context i.e. relatively recent tree growth within a small quaking bog. 'Structure and function – Browsing/grazing by herbivores' removed from list – not an issue of note for the feature at this site 'Structure and function – regeneration potential' removed from list – relates to browsing issues, not relevant at this site			

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