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Scotland's Nature Agency
Buidheann Nàdair na h-Alba

MULL OAKWOODS SPECIAL AREA OF CONSERVATION (SAC)

CONSERVATION ADVICE PACKAGE

Mull Oakwoods © NatureScot

Site Details

Site name:	Mull Oakwoods
Map:	https://sitelink.nature.scot/site/8335
Location:	Highlands and Islands
Site code:	UK0030219
Area (ha):	1,405.45
Date designated:	17 March 2005

Qualifying features

Qualifying feature	SCM assessed condition	SCM visit date	UK overall Conservation Status
Western acidic oak woodland (Old sessile oak woods with Ilex and Blechnum in the British Isles) [H91A0]	Unfavourable Declining	2 November 2001	Unfavourable - Bad
Otter (Lutra lutra) [S1355]	Favourable Maintained	30 September 2012	Favourable

Notes:
Assessed condition refers to the condition of the SAC feature assessed at a site level as part of NatureScot's Site Condition Monitoring (SCM) programme.
Conservation status is the overall condition of the feature throughout its range within the UK as reported to the European Commission under Article 17 of the Habitats Directive in 2019.

Overlapping Protected Areas:

Ardura - Auchnacraig Site of Special Scientific Interest (SSSI)
Ben More - Scarisdale SSSI
Cnuic agus Cladach Mhuile Special Protection Area (SPA)

Key factors affecting the qualifying features

Western acidic oak woods
This habitat type comprises a range of woodland types dominated by mixtures of oak and birch. It is characteristic of base-poor soils in areas of at least moderately high rainfall. A key feature of importance within this habitat type is the well-developed Atlantic bryophyte communities it can support.

This complex of woodlands on the island of Mull is the largest remaining example of native woodland in the Hebrides. The Ardura-River Lussa section of the site features open oak-birch *Quercus-Betula* woodland with ash-hazel *Fraxinus excelsior-Corylus*

avellana on base-rich soils, and alder *Alnus glutinosa* along stream courses. The stands of open oak woodland at Loch Ba have been less intensively exploited in the past than other deciduous woods on Mull, resulting in older stands and fewer multiple-stemmed trees. Birch woodland characteristically dominates the upper slopes. The site, which lies at the southern limit of the Mid-west Atlantic bryophyte zone, supports a rich assemblage of oceanic lichens, bryophytes, flowering plants and ferns.

A key factor that can affect this habitat is inappropriate levels of grazing. The habitat requires low but not zero grazing.

The western acidic oak woods feature has been assessed through NatureScot's Site Condition Monitoring programme as being in unfavourable declining condition at Mull Oakwoods SAC due to high levels of grazing having distorted the natural structure of the woodlands (especially within the oak populations) leading to woodland dominated by older trees and lacking normal representation of intermediate life classes. The presence of non-native species such as rhododendron has also impacted the habitat, preventing natural regeneration and reducing understory diversity. In the future new stresses to the feature, particularly from climate change and novel pests and pathogens, are anticipated.

Otter

Otter require continued proximity to unpolluted open water either freshwater or coastal. There should be a plentiful food supply and habitats for providing shelter for both resting and breeding. They are wide ranging and normally occur at low densities. At this site, otter associated with the SAC are likely to have holts or resting places outside the site boundary as well as within the site itself. Recreational disturbance can have an effect but they have large ranges and can largely avoid people.

Monitoring has observed abundant signs of otter within Mull Oakwoods SAC, and they are widespread on the island. Coastal habitat varies from rocky shorelines to areas of saltmarsh and mudflats. The rocky shores to the various lochs and the associated woodland cover provide favourable habitat for otter resting sites. Freshwater streams and small pools provide ample opportunities for coat washing too. Active otter holts and breeding signs were confirmed at each of the constituent SSSIs.

Previous population declines in otters were primarily due to pollution and persecution. Otters can be trapped and drown in disused equipment such as eel traps. They are regularly killed on roads by traffic, for example the Loch na Keal coastal road.

Further information about these species and habitats can be found on the JNCC website.

Conservation Priorities

There are no priority qualifying features within the site and no apparent management conflicts between the qualifying features. If any conservation management conflicts between the qualifying features were to arise consideration should first be given to the western acidic oak woodland currently in unfavourable condition and the primary reason for site selection. However, the impact of any proposed management measure on all the qualifying features should first be considered as part of a Habitats Regulations Appraisal.

In practice, there is unlikely to be any conflict between management of the qualifying features of Mull Oakwoods SAC. Habitat and species distribution is mainly determined by environmental conditions.

Conservation Objectives for western acidic oak woods (old sessile oak woods with *Ilex* and *Blechnum* in the British Isles)

1. To ensure that the qualifying feature of Mull Oakwoods SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status
Favourable Conservation Status (FCS) is considered at a European biogeographic level. When determining whether management measures may be required to ensure that the conservation objectives for this site are achieved, the focus should be on maintaining or restoring the contribution that this site makes to FCS. When carrying out appraisals of plans and projects against these conservation objectives, it is not necessary to understand the status of the feature in other SACs in this biogeographic region. The purpose of the appraisal should be to understand whether the integrity of the site (see objective 2) would be maintained. If this is the case then its contribution to FCS across the Atlantic Biogeographic Region will continue to be met. Further details on how these appraisals should be carried out in relation to maintaining site integrity is provided by objective 2 (including parts a, band c). If broader information on the feature is available then it should be used to provide context to the site-based appraisal. Note that “appropriate” within this part of the conservation objectives is included to indicate that the contribution to FCS varies from site to site and feature to feature.

2. To ensure that the integrity of Mull Oakwoods SAC is restored by meeting objectives 2a, 2b and 2c for the qualifying feature.
The aim at this SAC is to restore the western acidic oak wood to a favourable condition as a contribution to its wider conservation status. Therefore any impacts to the objectives shown in 2a, 2b or 2c below must not persist so that they prevent the achievement of this overall aim. When carrying out appraisals of plans or projects the focus should be on restoring site integrity, specifically by meeting the objectives outlined in 2a, 2b and 2c. If these are met then site integrity will be restored. Note that not all of these will be relevant for every activity being considered. Any impacts on the objectives shown in 2a, 2b or 2c below must not persist so that they prevent the restoration of site integrity. Temporary impacts on these objectives resulting from plans or projects can only be permitted where they do not prevent

the ability of a feature to recover and there is certainty that the features will be able to quickly recover.

This objective recognises that the qualifying habitat is exposed to a wide range of drivers of change. Some of these are natural and are not a direct result of human influences. Such changes in the habitats' extent, distribution or condition within the site which are brought about by natural processes, directly or indirectly, are normally considered compatible with the site's conservation objectives. An exception to this is when the favourable condition of a habitat is dependent on halting or managing natural succession. An assessment of whether a change is natural or anthropogenic, or a combination of both, will need to be looked at on a case by case basis.

2a. Maintain the extent and distribution of the western acidic oak woods habitat within the site

The extent of the western acidic oak woodland feature, taken from the Standard Data Form, has been estimated at 477.85 ha. This should be maintained or allowed to increase through natural regeneration. There should be no measurable net reduction in the extent of the habitat and its distribution throughout the site.

To avoid any permanent reduction in the extent or distribution of the habitat, no habitat loss should take place from within or at the edge of the woodland, through further agricultural reclamation, wild fires or dumping of waste.

This conservation objective is considered to be met if the conditions to ensure the habitats' long-term existence are in place.

2b. Restore the structure, function and supporting processes of the western acidic oak woods habitat

Woodlands are extremely complex ecosystems, and in order to maintain and enhance the structure, function and processes supporting the habitat the key elements that should be in place include:

- Mixed age classes of trees, canopy cover, deadwood/fallen trees, understorey, ground flora & epiphytic plants. At this site there are low levels of native tree species regeneration. A more natural ground flora, shrub layer and canopy cover should also be allowed to regenerate.

- Large, long lived trees with the characteristics of existing species, especially the defining species of oak (bark chemistry and structure, shade, leaf litter, fruiting, senescence and deadwood development).

- Low levels of herbivore impacts to allow all species of trees and shrubs to regenerate, and healthy growth of ground flora, including flowering and fruiting. At this site livestock and deer grazing is contributing to the lack of regeneration by native tree species and affecting the composition of ground flora, shrub layer and canopy cover within the site.

- Levels of humidity capable of supporting characteristic bryophyte and lichen assemblages.

- Absence of invasive non-native species, especially rhododendron. Rhododendron is present on this site.

- Prevention of pathogen arrival, establishment and spread e.g. chalara ash dieback.

The field layer is generally species-poor, characterised by ericoid shrubs, bracken and grasses. As Mull Oakwoods is oceanic and influenced by a wetter climate the diversity of ferns and particularly lichens and bryophytes dominates the species interest.

The main reason for the unfavourable status of Mull Oakwoods SAC is overgrazing by livestock and the presence of rhododendron. Mull Oakwoods has suffered from overgrazing by livestock and deer for many years, and this is evident with some areas having low levels of regeneration, few young trees and an impoverished ground flora. Seedlings within the woodlands can be prolific, however these are often grazed as they breach through the ground vegetation. The woodlands at Benmore and Scarisdale have been enclosed with deer fencing to reduce herbivore pressures and promote regeneration. Barring a few small enclosures, the remaining component woodlands are exposed to deer and livestock grazing at levels which inhibit regeneration. A review of grazing management is desirable, supported by funding from the Agri-Environment Climate Scheme.

Rhododendron is a threat for all component sites. Sporadic treatment occurs within the SAC and more investment is required to treat all of areas of concern; Loch Ba Woodland SSSI is encroached at the northern boundary by a substantial and unmanaged stand of rhododendron.

2c. Restore the distribution and viability of typical species of the western acidic oak woods habitat

The habitat corresponds broadly to the western oakwoods described in previous accounts of UK woodlands. Mull Oakwoods contains NVC types:

- W11 Quercus petraea – Betula pubescens – Oxalis acetosella woodland
- W17 Quercus petraea – Betula pubescens – Dicranum majus woodland
- W4 Betula pubescens - Molina caerula woodland with purple moor-grass
- W7 Alnus glutinosa - Fraxinus Excelsior - Lysimachia nemorum woodland

Constant tree species are: oak (*Quercus robur* and/or *Q. petraea*) and birch (*Betula pendula* and/or *B. pubescens*). There is significant variation between individual stands of the habitat in domination by either oak or birch. Holly and hazel are also important components of the habitat.

The ground flora is varied across the site: some areas are species rich although others are less diverse due to overgrazing or an abundance of *Rhododendron ponticum*.

Constant species are:-

Pteridium aquilinum	bracken
Rubus fruticosus aggr.	Blackberry spp.
Galium saxatile	heath bedstraw
Vaccinium myrtillus	blaeberry
Oxalis acetosella	wood-sorrel
Potentilla erecta	common tormentil
Viola riviniana	dog-violet
Agrostis capillaris	common bent
Anthoxanthum odoratum	sweet vernal grass
Deschampsia flexuosa	wavy hair-grass

Rare species are:-

Goodyera repens	creeping lady's-tresses
Adelanthus decipiens	deceptive featherwort
Sematophyllum micans	sparkling signal-moss
Graphis alboscripta	white script lichen

Western acidic oak woodland supports an important component of Britain's oceanic bryophyte flora and lichen mycota. The distribution and viability of these assemblages should be maintained with particular focus on nationally rare, scarce and/or threatened species and on assemblages that indicate a long period of ecological continuity.

Conditions needed for lichens include maintaining sheltered but open old-growth conditions where the impact of shade, due to regeneration and climber growth, is balanced at the site scale against the need for continued woodland regeneration.

There are significant sections of Mull Oakwoods that are dominated by older trees due to chronic grazing impacts. Monitoring in all three component sites has found very little diversity in age structure. There has been structural improvement in those sections within herbivore exclosures but management needs to focus on reducing grazing levels at a site level. Livestock numbers have been reduced across the SAC, with only limited grazing by sheep now occurring. In addition, where woodland condition allow, lower and limited levels of cattle grazing are to be promoted. Red deer numbers remain too high. Deer numbers are therefore to be monitored and control measures will be implemented if necessary.

Colonisation by invasive species, such as rhododendron, on the site could result in the loss of typical species through shading and competition for resources. Some rhododendron treatment occurs within the SAC, however further discussions and investment is required to treat all areas.

This habitat also supports badgers, tawny owls, woodpeckers and treecreepers.

Conservation Objectives for otter (*Lutra lutra*)

1. To ensure that the qualifying feature of Mull Oakwoods SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status.

Favourable Conservation Status (FCS) is considered at a European biogeographic level. When determining whether management measures may be required to ensure that the conservation objectives for this site are achieved, the focus should be on maintaining or restoring the contribution that this site makes to FCS.

When carrying out appraisals of plans and projects against these conservation objectives, it is not necessary to understand the status of the feature in other SACs in this biogeographic region. The purpose of the appraisal should be to understand whether the integrity of the site (see objective 2) would be maintained. If this is the case then its contribution to FCS across the Atlantic Biogeographic Region will continue to be met. Further details on how these appraisals should be carried out in relation to maintaining site integrity is provided by objective 2 (including parts a, band c). If broader information on the feature is available then it should be used to provide context to the site-based appraisal.

Note that "appropriate" within this part of the conservation objectives is included to indicate that the contribution to FCS varies from site to site and feature to feature.

2. To ensure that the integrity of Mull Oakwoods SAC is restored by meeting objectives 2a, 2b and 2c for otter

The aim at this SAC is to maintain otter in a favourable condition as a contribution to its wider conservation status. Therefore any impacts to the objectives shown in 2a, 2b or 2c below must not persist so that they prevent the achievement of this overall aim.

When carrying out appraisals of plans or projects the focus should be on restoring site integrity, specifically by meeting the objectives outlined in 2a, 2b and 2c. If these are met then site integrity will be restored. Note that not all of these will be relevant for every activity being considered. Any impacts on the objectives shown in 2a, 2b or 2c below must not persist so that they prevent the restoration of site integrity. Temporary impacts on these objectives resulting from plans or projects can only be permitted where they do not prevent the ability of a feature to recover and there is certainty that the features will be able to quickly recover.

This objective recognises that the qualifying species is exposed to a wide range of drivers of change. Some of these are natural (e.g. population fluctuations/ shifts or habitat changes resulting from natural processes) and are not a direct result of human influences. Such changes in the qualifying species' distribution and use of the site, which are brought about by natural processes, directly or indirectly, are normally considered compatible with the site's conservation objectives. An assessment of whether a change is natural or anthropogenic, or a combination of both, will need to be looked at on a case by case basis.

2a. Maintain the population of otter as a viable component of the site

The conditions for the long-term existence of otter at Mull Oakwoods SAC should be maintained.

An estimate of the number of otters occupying the site is not available and therefore there is no numerical baseline that can be given for the site.

This conservation objective is considered to be met if the conditions for the species' long-term existence are in place. This includes:

- Avoiding effects that could lead to a permanent reduction in the otter population through mortality, injury, or impacts caused by disturbance or displacement. This includes for example the effects caused by development, river engineering, water pollution, roads without adequate crossing provision for otters or suitable culverts, or entanglement in fishing gear. Otters can drown in unprotected or disused fishing gear such as eel traps or fyke nets, so these should be removed.
- Maintaining the species' ability to use all areas of importance within the site (to be considered under conservation objective 2b)
- Maintaining access to, and availability of, undisturbed resting places
- Maintaining access to, and availability of, supporting habitats and prey (to be considered under conservation objective 2c).

Otters are wide-ranging and highly mobile. The population at Mull Oakwoods is reliant on suitable habitat in the surrounding wider terrestrial, freshwater (for example Loch Ba and the River Lussa) and coastal environments, including Sunart SAC, and is unlikely be viable (capable of functioning) in isolation. The home range of an otter will vary depending on their sex, habitat quality and food availability. It will also vary between freshwater and coastal environments. In coastal areas otter densities may be as high as 0.5 - 0.7 animals/km. At

this SAC otter will also feed in coastal waters that lie outwith the boundary of the site (for example Loch Na Keal and Loch Spelve). Males living in rivers and streams can have a mean linear range size of around 40 km and females living in the same habitat can have a linear home range of around 20 km. Ranges are thought to have some degree of overlap and males have been known to range as far as 80 km

In 2012 SCM found Mull Oakwoods SAC to be in a favourable maintained condition with positive signs of otters at the 11 selected survey sites. No significant threats to the otter population on the site were identified. However, heavy grazing of loch shore woodland was found to have reduced habitat availability and roads, separating holt habitats from feeding grounds, were identified in the report as possibly having minor impacts on the population. The Loch na Keal coastal road is noted in particular, for causing otter mortality. A review of management of the site for this species is not considered necessary at this time as none of these impacts were considered as having a significant impact on the otters.

When assessing the effects of any plan or project consideration should be given to whether impacts outwith the SAC could affect achievement of this conservation objective.

Otters are a European protected species (EPS) and it is an offence to deliberately or recklessly capture, injure, kill, harass or disturb them in certain circumstances, or to damage or destroy their breeding or resting places anywhere in Scotland unless a licence has been issued to do so. A licence can only be issued for particular purposes which the law allows. Further, there must be no satisfactory alternative and no detrimental impact on the contribution to the maintenance of otter at a favourable conservation status for a licence to be issued. This assessment considers impacts on the otter population at a local and regional level. The licensing requirement is in addition to considering whether a plan or project will result in any impacts (including incidental impacts) to the otter population within the SAC.

2b. Maintain the distribution of otter throughout the site

The spatial extent of otter within Mull Oakwoods SAC should be maintained.

The ability for otter to use and access all areas of importance within the SAC should be maintained.

Distribution of otters within the site can be affected by disturbance originating both within and outwith the site. Plans and projects that cause displacement and barrier effects to the species can also affect species distribution. Examples include use of night-time floodlighting of watercourses, road and bridge construction works and general disturbance from human activity (and dogs) by watercourses especially at dusk/night-time.

Monitoring has recorded signs of otter across all sections of Mull Oakwoods SAC.

2c. Maintain the habitats supporting otter within the site and availability of food

The distribution and extent of otter habitat within Mull Oakwoods SAC should be maintained, together with the structure, function and supporting processes of the habitat.

Sufficiently high water quality and natural flow conditions should be maintained to provide the necessary conditions for otter and their prey.

Otters require suitable habitat for foraging, breeding and resting. Due to the geography of Mull Oakwoods SAC, otters here use both freshwater and coastal habitats. Abundant boulders, crevices and/or peat, or other cavity-forming features such as tree root systems are needed to provide secure holt sites above high water. Dense scrub is also valuable for

providing lie-ups and couches. Suitable areas supporting a healthy fish population within a nearby watercourse or still water body are required within each otter's home range, to enable foraging for key prey species such as salmonids and eels. Access to ponds, ditches, reedbeds and wetlands where amphibians may breed is also important. In coastal areas their preferred habitat is rocky shore with gently-shelving shallow inshore waters with good habitat for inshore fish species and crustaceans. Otters which forage along the coast as well as using the SAC, also need freshwater within the SAC to remove salt from their fur.

Changes to water flow and water quality can adversely affect otter habitat and prey on which they depend. Otters' food supply is normally associated with good water quality and therefore the water quality standards set out under the Water Framework Directive (2000/60/EC) should be met.

Conservation Measures

Mull Oakwoods SAC is notified as a Site of Special Scientific Interest and management changes described on the list of SSSI Operations Requiring Consent must have prior consent from SNH (NatureScot).

Current and recommended management for western acidic oak woods

Issue	Measure	Responsible party
Hydrology	Ensure natural hydrological processes are maintained where they support significant populations of typical wooded ravine bryophytes and lichens.	Landowner, SEPA, NatureScot
Herbivore impacts	Ensure herbivore impacts are low based on the FCS/SNH (NatureScot) Herbivore Impact Assessment Process. Erection of new exclosures where appropriate, or where landscape scale deer management is unsuccessful. Monitor exclosures for breaches. Promote limited grazing with cattle where woodland condition allows; sheep grazing now limited across all woodlands. Monitor deer numbers and implement further control measures if necessary. Encourage landowners to apply for funding under the Agri-Environment Climate Scheme (AECS) to help with livestock grazing pressure in the SAC.	Land managers, NatureScot, Deer Management Groups, SGRPID (GEAC)
Invasion by non-native species	Management measures are in place to remove rhododendron from parts of the site. Further work is ongoing to remove scattered bushes from the site to avoid	Land manager, NatureScot, SGRPID (GEAC)

	recolonization. Discussions and investment are required to put control measures in place across the remainder of the site. Future monitoring will inform any further works required.	
Future threats	A coordinated resilience planning process should be developed to respond to anticipated future threats to the habitat e.g. chalara ash dieback. Management actions arising from the resilience planning process, and site-level plans, should be implemented to anticipate future threats to the habitat on the site This resilience work may also include further research to understand the vulnerabilities of the habitat.	NatureScot, Land managers
Climate change	Discussions on options available and participation in available local, national and international initiatives	Land manager, Local authority, Scottish/UK government, NatureScot
Research and monitoring	To identify emerging impacts on the habitat and their causes, in order to understand the long term issues, identify refugia, review site-level resilience plans in the light of updated future threat projections and to inform future management of the habitat across Scotland.	NatureScot, Universities, land managers

Current and recommended management for otter

Issue	Measure	Responsible party
Ongoing species protection	Otter are a European protected species and therefore the species protection provisions of the Habitats Regulations apply.	All
Ongoing site protection	Encouraging natural processes of stream flow and morphology, and recruitment and survival of otter prey, by a policy of non-intervention.	All
Road mortality	Any upgrading or bridges or culverts, or widening of roads such as the B8035, or other work on roads, should be assessed and adequate allowance made for otters to safely use underpasses or culverts, so they are not forced to cross the road. Monitor road traffic accidents.	Transport Scotland, Argyll and Bute Council, NatureScot
Disturbance	Avoid disturbance in quiet areas used by	NatureScot,

	otter for holts or resting places. Promote the Wildlife Watching Code	Land managers, Argyll and Bute Ranger Service, Local Community Groups', Police Scotland – Wildlife Liaison Officer
By-catch – otter	Disused eel or fyke nets should be removed when found, and any active nets should use otter guards.	Land managers
	Advise on setting creels in deeper water (>10m) in the adjacent coastal waters.	NatureScot
Water quality monitoring	Implement and maintain monitoring of key water quality parameters.	NatureScot /SEPA

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Approved on 29 June 2020 by:

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