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INVERPOLLY
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 817

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Purpose

This is a public statement prepared by SNH for owners and occupiers of the SSSI. It outlines the reasons it is designated as an SSSI and provides guidance on how its special natural features should be conserved or enhanced. This Statement does not affect or form part of the statutory notification and does not remove the need to apply for consent for operations requiring consent.

We welcome your views on this statement.

This statement is available in Gaelic on request.

Natural features of Inverpolly SSSI	Condition of feature (and date monitored)	Other relevant designations
Quaternary of Scotland (sediments beneath Loch Sionascaig)	Not yet assessed	
Oligotrophic loch (low-nutrient loch)	Favourable, maintained (July 2004)	Inverpolly Special Area of Conservation (SAC) and Cam Loch SSSI
Upland assemblage	Favourable, recovered (December 2005)	Some features of Inverpolly SAC (listed in Annex 1) are components of this feature
Blanket bog	Unfavourable, declining (November 2005)	Inverpolly SAC
Upland birch woodland	Unfavourable, declining (February 2005)	Inverpolly SAC
Norwegian mugwort (*Artemisia norvegica)*	Favourable, recovered (July 2007)	
Beetles	Favourable, maintained (July 2003)	
Moths	Not yet assessed	
Breeding bird assemblage	Favourable, maintained (June 2003)	Black-throated diver are also a feature of Inverpolly, Loch Urigill and nearby lochs Special Protection Area (SPA)

See Annex 1 for a list of natural features of overlapping Natura sites.

A small part of Loch Veyatie overlaps with Cam Loch SSSI which is notified for geological interests, oligotrophic loch and upland birch woodland. Please see the Site Management Statement for Cam Loch SSSI for our advice on the management of these features.

Description of the site

Inverpolly Site of Special Scientific Interest (SSSI) is located approximately 15km north of Ullapool, in northwest Sutherland. The site includes the steep-sided Torridonian sandstone hills of Cùl Mòr, Cùl Beag, and Stac Pollaidh which rise from low-lying rugged areas of “cnoc and lochan” ground underlain by Lewisian Gneiss, as well as stretches of coast and offshore islands. Inverpolly SSSI has an outstanding range of upland habitats and species. The site is internationally important for upland habitats, blanket bog, woodland, lochs, freshwater pearl mussel, otter and black-throated diver. The site is nationally important for breeding birds, rare plants, beetles and moths, and the sequence of sediments beneath Loch Sionascaig.

Quaternary of Scotland (sediments beneath Loch Sionascaig)

The Quaternary is the geological period spanning the last 2.6 million years. This includes the Devensian Late glacial and Holocene geological periods which cover the 14,500 years since the end of the last Ice Age. Sediments have been deposited beneath Loch Sionascaig during this period. These have been studied and used to interpret the environmental history of northwest Scotland. Analysis of pollen grains preserved in the sediments on the floor of the loch, supported by radiocarbon dating, record how the vegetation has changed in this area since the end of the Ice Age. The chemistry of the sediments provides an independent record of soil changes within the catchment, indicating important information on the relationship between vegetation and soil. Analyses of the remains of diatoms (a major group of algae that live in water) also provide information on changes in the loch's water chemistry and nutrient status. In addition, radiocarbon-dated pollen from a bog on Eilean Mór (an island within Loch Sionascaig) provides a detailed record of the plants which have grown in this area. Because of the level of detail in which it has been investigated, Loch Sionascaig is a key site for study of the past environment in this area.

Oligotrophic loch (low-nutrient loch)

Inverpolly SSSI includes numerous lochs, many of which are part of the ‘oligotrophic loch’ interest. Loch Sionascaig, Loch Veyatie, Lochan Sal, Loch Lurgainn, Loch Bad a’ Ghaill and Fionn Loch are some of the largest of these. These low-nutrient lochs have clear water and stony shores and support a diversity of plant species, such as shoreweed, water awlwort, quillwort, alternate water-milfoil and water lobelia. Spring quillwort, a plant with a restricted distribution, is found in Loch Veyatie. Some of the lochs also have species that are generally found in more nutrient-rich waters such as translucent stonewort in Loch Sionascaig and intermediate water starwort and long-stalked pondweed in Loch Veyatie.

There are also numerous smaller lochs and dubh lochans, many of which are too small to be named. These lochs also have low levels of nutrients but have fewer species than the oligotrophic lochs and generally have *Sphagnum* mosses growing at their edges. They are part of the SAC ‘Acid peat-stained lakes and ponds’ interest.

Loch Sionascaig and Loch Veyatie are representative examples of oligotrophic lochs. These were monitored in 2004 and were assessed as being maintained in favourable condition. No non-native or invasive species were recorded and the ecology and hydrology of the lochs continued to be influenced by natural processes.

Upland assemblage (upland plant communities)
The upland assemblage has several component habitats. **Alpine moss heath and associated vegetation** is largely confined to the summit of Cùl Mòr, with some small patches on Cùl Beag. Mixed heath and grassland dominated by mat grass and stiff sedge is the most widespread vegetation type, with widespread areas of wavy hair grass. The nationally rare Norwegian mugwort grows here. Nationally scarce plants that can be found in this habitat include Alpine bearberry, pyramidal bugle which is mostly found in rocky crevices, and thyme broomrape which is a parasite of wild thyme.

Alpine heath occurs in wind-exposed locations on higher ground between 300 and 750m principally on Cùl Mòr, but with some areas on Cùl Beag and the summit of An Laogh. This habitat is dominated by heather and *Racomitrium* moss. Other species found here include wavy hair grass, cypress-leaved plait-moss and two nationally scarce eyebrights. **Subalpine dry heath** occurs in wind-exposed locations on ground between 300 and 750m, including on Stac Pollaidh. Plants that grow here include heather, juniper, wavy hair grass, woolly fringe moss, cypress-leaved plait-moss, dwarf tree lichen and kidney lichen.

Spring-head, rill & flush is a relatively rare habitat on the site. It occurs on the north side of Cùl Mòr and includes plants such as blinks, yellow saxifrage and the nationally scarce bog orchid which occurs on mats of Sphagnum moss where there is a slow but continuous flow of water. Bog orchid seldom grows taller than 12cm and can be as small as 3cm, making it extremely difficult to find.

Subalpine wet heath covers slopes at an intermediate altitude and forms part of a mosaic of peatland vegetation which covers the undulating landscape. Some larger uninterrupted areas of wet heath are found on the slopes of Stac Pollaidh. Deergrass and cross-leaved heath dominate this habitat. Carnation sedge can also be found in the more exposed places.

Surveyor measuring the growth of seedlings at Drumrunie in 2007	Norwegian mugwort *Artemisia Norvegica* on Cùl Mòr
	

The upland assemblage was monitored in 2005 and was assessed as having recovered to favourable condition. The area of each habitat had been maintained and damage from trampling by sheep and deer had reduced. A reduction in sheep

numbers on Inverpolly Estate in 2003 and 2004 and ongoing deer management are likely to have helped the upland habitats to recover. We still have some concerns over levels of trampling and browsing, particularly in areas of dry heath, as highlighted by a study in 2007. The upland assemblage has been assessed as being in favourable condition because dry heath is only one of the habitats that are included in the upland assemblage and the other habitats have recovered from damage caused by sheep and deer. When the dry heath is assessed alone, it is still in unfavourable condition. Deer and sheep numbers need to be kept low to ensure that the upland assemblage is not damaged by trampling and grazing.

Blanket bog

Blanket bog is widespread across Inverpolly SSSI, especially on the gentler slopes north and west of Loch an Laoigh, south of Druim Donn and east of Stac Pollaidh. It is also the dominant vegetation type in the hollows between the knolls in the cnoc and lochan landscape north of Cùl Mòr and north and west of Loch Sionascaig. Inverpolly has the largest area in the UK of western blanket bog. This type of blanket bog is dominated by deergrass and hare's-tail cotton grass. Heather and *Sphagnum* mosses are also common plants here and sundew and *Cladonia* lichens are characteristic species. Cloudberry is also found in blanket bog on the higher parts of site.

The blanket bog was monitored in 2005 and was assessed as remaining in unfavourable condition. A reduction in sheep numbers on Inverpolly Estate in 2003 and 2004 and ongoing deer management should contribute to recovery of this feature in the longer term. However, as with the upland assemblage feature, a survey in 2007 shows that there are still some problems with trampling damage.

Upland birch woodland

The area contains many separate and widely scattered woods including on some of the offshore islands. The largest woodland is over 90ha but most are much smaller. Birch is the most common tree species but rowan, alder, bird cherry and holly are also widespread. Oak is currently limited to a few areas within the site but the soil is suitable for it to grow in all the woodlands, apart from those on the south side of Loch Veyatie. All the woods apart from those on the south side of Loch Veyatie are therefore included in both the SSSI 'upland birch woodland' interest and the SAC 'western acidic oak woodland'. The woods on the south side of Loch Veyatie are only part of the SSSI 'upland birch woodland' interest.

Species that grow beneath the trees throughout the site include common bent grass, sweet vernal grass, heath bedstraw, common wood sorrel and mountain fern moss. A wider range of plants is found in areas where the rocks are more nutrient-rich. These include enchanter's nightshade, Alpine enchanter's nightshade, melancholy thistle, wild strawberry, globeflower, red campion, sanicle and greater butterfly orchid. A number of the birch woods are rich in mosses and liverworts that grow in relatively warm, wet areas close to the coast. Many lichens grow in these woods including Lobarion (lungwort) macro-lichens which are restricted to areas with low levels of air pollution.

The woodland was monitored in 2005 and was assessed as having declined to unfavourable condition due to lack of sufficient tree regeneration outside the deer fenced exclosures. There are pockets of successful tree regeneration outside the exclosures but most of the unenclosed woodland is either moderately or heavily affected by grazing. The level of grazing is currently too high to allow enough young

trees to grow to replace the old trees. Both seedling and sapling trees are growing successfully within the exclosures, demonstrating that the mature trees can still produce viable seed and that the woodland will regenerate successfully if sheep and deer grazing is reduced.

Norwegian mugwort
Norwegian mugwort is a nationally rare plant with a yellow flower. It was first recorded on Cùl Mòr in 1958. Only two other colonies of Norwegian mugwort are known in the UK. This species has an extremely restricted and scattered world distribution, being found elsewhere only in arctic Norway and the northern Ural mountains.

Norwegian mugwort was monitored in 2007. The plants were in flower though most of the new rosettes were found close to older plants implying that vegetative spread may be the main form of regeneration. The Norwegian mugwort was assessed as having recovered to favourable condition because the plant was flowering in 2007 whereas levels of grazing had previously appeared to be too high to allow this plant to flower.

Beetle (*Otiorhynchus auropunctatus*)
The rare species of weevil *Otiorhynchus auropunctatus* was first recorded in the UK from Stac Pollaidh in 1964, at an altitude of just over 500m. It is often found at higher altitudes amongst dwarf shrubs and feeds on many species of plants.

Monitoring in 2003 assessed the weevil as being in favourable condition. The area of suitable montane habitat for adults and larvae had been maintained.

Moths
A rare micro-moth *Acrolepiopsis betulella*, whose larvae feed in the flower and seed heads of wild garlic, was first recorded in the UK near Allt Gleann an t-Srathain on Inverpolly. It was thought to be extinct until rediscovered here in 1984. It has now been found in four other parts of Scotland.

The nationally scarce slender-striped rufous moth is found on damp heathland and open moorland. The adults of this species fly in September. The broad-bordered white underwing moth is found at higher altitudes. The larva of this species feed on crowberry and bearberry. The adults fly during the day in May and June.

Two moths with restricted distributions are also found in the moorland on this site: the sword-grass and the argent & sable. The sword-grass is a cylindrical brown moth whilst the argent & sable is a distinctive black and white moth.

The moth interest on Inverpolly SSSI has not yet been monitored.

Breeding bird assemblage of upland waters
The mosaic of lochs, wet heath and blanket bog on this site attract a wide variety of birds that breed near lochs or streams. Red-throated diver, black-throated diver, heron, greylag goose, wigeon, teal, goldeneye, red-breasted merganser, snipe, curlew, greenshank, common sandpiper and grey wagtail all breed on this site.

The breeding bird assemblage was monitored in 2003 and was assessed as being maintained in favourable condition. All the birds listed above were recorded breeding

and/or feeding on the site and the extent of habitats used by the birds had been maintained.

Other interests

Otters forage both on inland lochs and rivers and on the coast including the offshore islands. Freshwater pearl mussels are found in a number of rivers in the SSSI, including the River Polly, River Kirkaig and Uidh Fhearna. Golden eagle, buzzard and merlin are resident. Dotterel breed on Cùl Beag. A variety of dragonfly species are found on this site including the Highland darter whose distribution is restricted to northwest Scotland and western Ireland. The impressive landscape of Inverpolly SSSI forms a key part of the Assynt – Coigach National Scenic Area and the North West Highlands Geopark.

Past and present management

Inverpolly SSSI is part of three estates. Inverpolly Estate and Eisg Brachaidh Estate are privately owned, and are managed for agricultural, tourism and sporting interests. Inverpolly Estate holds the agricultural tenancy on the Eisg Brachaidh Estate. The Drumrunie Estate is owned by the Assynt Foundation, a community trust. This was historically a sporting estate and is now managed primarily for nature conservation. The southern part of the SSSI is managed by Scottish Wildlife Trust (SWT) as part of the much larger SWT Ben More Coigach nature reserve.

Sheep and cattle are grazed on Inverpolly and Eisg Brachaidh Estates. A substantial reduction in sheep numbers and changes to sheep management were funded on Inverpolly Estate through the Rural Stewardship Scheme in 2003 and 2004. More recently, further reductions of sheep numbers and their removal during winter from the upland areas have been funded through the Scotland Rural Development Programme (SRDP) Rural Priorities scheme.

Inverpolly SSSI has been covered by Management Agreements between the estate owners and SNH (previously called Nature Conservancy Council) since 1961. A new 50 year Management Agreement was entered into when the Drumrunie Estate was sold to the Assynt Foundation in 2006.

All three estates are members of the West Sutherland Deer Management Group. The Drumrunie Estate agreed to reduce deer numbers in 2006, and prepared a Deer Management Plan with the Deer Commission for Scotland. In 2009 these agreements were amalgamated into a Collaborative Habitat Management Plan for all three Estates. In 2010 this was used as the basis of a Section 7 Control Agreement across the whole SSSI. These agreements aim to reduce the deer numbers and monitor the response in the habitats.

Angling takes place on the inland lochs, the River Polly and the River Kirkaig. A fish hatchery has been developed at the head of Loch Veyatie. Little muirburn has been carried out in the area over the past 10 years.

Over thirty exclosures have been erected to promote woodland regeneration since 1965. This resulted in over 530ha of the site being fenced to exclude grazing animals. In the 1980s and 1990s, 380ha of this land was included within Woodland Grant Schemes. Where regeneration has been successful, a number of fences have been removed and the woodlands opened up for some browsing as part of natural woodland

management. Further removal of fences is planned with funding from SRDP Rural Priorities, and some further fencing to protect and expand the most vulnerable areas of woodland is also planned.

Cùl Mòr, Cùl Beag and Stac Pollaidh are popular with hill walkers. Stac Pollaidh is the most popular of these hills for both walking and rock climbing, with a car park and information board near the foot of the hill. Footpaths have been made to reduce erosion caused by walkers on Stac Pollaidh and Cùl Mòr. A footpath and board walk also provides access from the public road to Loch Sionascaig. This path is used mainly by anglers, and Inverpolly Estate hires boats from here.

Objectives for Management (and key factors influencing the condition of natural features)

We wish to work with land managers to protect the site and to maintain and where necessary enhance its features of special interest. SNH aims to ensure that site condition surveys, monitoring and research are continued as appropriate, to increase our knowledge and understanding of the site and its natural features and to monitor the effectiveness of the management.

The EU Habitats and Birds Directives oblige Government to avoid, in SACs and SPAs, the deterioration of natural habitats and the habitats of species, as well as disturbance of the species for which the areas have been designated, where such disturbance could be significant in relation to the objectives of these Directives. The objectives below have been assessed against these requirements. All authorities proposing to carry out or permit to be carried out operations likely to have a significant effect on the European interests of this SSSI must assess those operations against the relevant Natura conservation objectives (which are listed on our website through the SNHi - SiteLink facility).

The list of Operations Requiring Consent, and the discussions on land management involved in the issuing of formal consents, are intended to minimise the threat of any damage to the natural features.

1. To avoid disturbance of the sediments beneath Loch Sionascaig
The sediments in Loch Sionascaig should be left undisturbed to ensure that the layers of sediment remain in sequence. This will allow future research to take place on the layers of sediment that have accumulated since the Ice Age. Activities which require substantial moorings or anchoring, such as fish farming, should be avoided in the loch.

2. To maintain the water levels, water quality, extent and distribution of the lochs
Management around the lochs should avoid activities that would release sediment, excessive nutrients or chemicals into the water. Activities that might alter water levels of lochs should be avoided. This objective can readily be achieved by maintaining the present management of lochs that allows natural processes to continue with minimal intervention or disturbance.

3. To maintain the condition of the upland habitats, enhance the condition of the blanket bog and maintain the extent and distribution of the both upland habitats and blanket bog
Although the upland assemblage has recovered to favourable condition, a survey of herbivore impacts in 2007 (An assessment of herbivore impacts on notified features

within the Inverpolly SAC and SSSI, Janine Morris 2008) shows that there are still some problems with trampling and browsing damage on blanket bog and dry heath, particularly in areas to the north of Stac Pollaidh. We are currently working with the owners to improve deer and habitat management.

A habitat management plan, prepared on behalf of the estates in 2009, has been agreed and implemented. This plan identified what is required to allow recovery of all the upland and woodland notified features across the whole of the SSSI.

Muirburn should not be carried out on blanket bog, in accordance with the advice in the Scottish Muirburn Code (SEERAD 2001).

4. To enhance the condition, extent and distribution of the woodland habitat

To ensure the long-term survival of the woodland, grazing pressure from deer, cattle and sheep should be at a level that allows the natural woodland progression from one stage to another. This might be achieved through fencing or by reducing herbivore impacts outwith fenced areas. If fenced exclosures are used, they need to be of a sufficient size to maintain the continuity and extent of the woodland. Any future exclosures to encourage woodland regeneration may benefit from scarification or other ground preparation to make conditions suitable for successful seedling establishment. New fencing must also be assessed for risks and impacts according to the Joint Agency statement on deer fencing 2008 (amended May 2010). Fencing also needs to take into account use of the site by otter, for example, large fence mesh or mini-pivoting water gates could be used to maintain otter access. The 2009 habitat management plan includes a number of proposals for such fences and funding for these is being sought by the estates through SRDP Rural Priorities scheme.

Dead wood, whether standing or fallen should be left on the site in a natural state. Fires should not be lit within the woodland as this would damage both trees and plants that grow on the woodland floor. Care should also be taken not to allow any fires on adjacent ground to spread into areas of woodland.

5. To maintain the population, distribution and extent of Norwegian mugwort

The nationally rare Norwegian mugwort grows on Cùl Mòr. Soils are thin and fragile and plant growth rates are low at this altitude, making the soil vulnerable to erosion. Plants are slow to recover from any damage caused by trampling or grazing. It is therefore important to maintain low levels of deer use on the summit of Cùl Mòr. This will minimise erosion caused by trampling that might lead to loss of the soil required by Norwegian mugwort and direct damage to the plants themselves from tramping or grazing. It is particularly important that grazing levels are low in summer so that the Norwegian mugwort can flower and set seed.

6. To maintain habitats suitable for moths and beetles

As long as the woodland and upland habitats are maintained following the advice given above, habitats suitable for both the rare moth and beetle species should also be maintained.

7. To maintain populations of breeding birds and protect them from disturbance during the breeding season

If the upland and freshwater habitats on this site are managed as advised above, breeding bird populations are also expected to be maintained as long as the birds are

not disturbed during the breeding season. It is important that activities on the site are carefully planned to safeguard nesting birds.

This site is currently suitable for several rare birds including black-throated diver and so changes in management should be avoided if these would be harmful to divers and other birds. The main changes that might affect nesting divers include artificially fluctuating water levels. Fluctuating water levels can be problematic for nesting divers since they nest very close to the edge of lochs and their nests can easily be flooded if the water level rises.

Black-throated divers are particularly sensitive to human presence and are protected by special legislation. Disturbance during the nesting season (April – June) can lead birds to desert their nests and increase the opportunities for predators to take eggs or chicks. While young are on the water (June – July) they should not be disturbed unduly. Anglers and canoeists should look out for divers and keep as far away from their nests as possible. A leaflet on 'Black-throated divers and anglers' is available from SNH on request explaining how anglers can help divers by avoiding their nests. Trampling by herbivores or indiscriminate use of hill vehicles can also disturb nesting habitats, so activities that might concentrate livestock or deer (such as feeding) and vehicle use should be avoided close to the edges of the lochs.

8. To maintain water levels and quality to benefit the freshwater pearl mussel and otter populations

Water levels and water quality play a crucial role in the suitability of the rivers for otters as well as freshwater pearl mussels and their host fish species (salmon and trout). Any increase in drainage, abstraction or other activities affecting the hydrology of the river catchments should be avoided. Agriculture, quarrying and forestry operations within the catchments should be carefully managed to prevent the input of sediment, chemicals or nutrients, in order to maintain the high water quality required by freshwater pearl mussels and otters. The Forestry Commission's Forests and Water Guidelines should be carefully adhered to when carrying out any forestry operations within the SAC catchments. Any fencing that is likely to cross otter routes should take this into consideration (large fence mesh or mini-pivoting water gates could be used to allow otters to pass through the fences).

Other factors affecting the natural features of the site

Egg collecting: Some of the rare birds that breed on Inverpolly SSSI are potential targets for illegal egg collecting. Any suspicious activity, including car number plates, should be reported as soon as possible to the Police.

Climate change: Many of the montane habitats, rare plants and upland birds on this site are at risk from climate change. Inverpolly SSSI is already close to the most southern or lowest altitude limit of the range of some of these species so if the climate were to become warmer these habitats and species might be lost from the site.

Date last reviewed: 31 March 2011

Annex 1. List of natural features of Natura sites that overlap Inverpolly SSSI

Features of overlapping Natura sites.	Feature condition (date monitored)	Designation
Acid peat-stained lakes and ponds (dubh lochans)	Favourable - maintained (July 2004)	Inverpolly SAC
Acidic scree	Unfavourable - recovering (December 2005)	Inverpolly SAC
Alpine and subalpine heaths[1]	Unfavourable - no change (November 2005)	Inverpolly SAC
Blanket bog[2]	Unfavourable – no change (November 2005)	Inverpolly SAC
Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels[3]	Favourable - maintained (July 2004)	Inverpolly SAC
Depressions on peat substrates[2]	Unfavourable - recovering (November 2005)	Inverpolly SAC
Dry heaths[1]	Unfavourable - no change (December 2005)	Inverpolly SAC
Montane acid grasslands[1]	Unfavourable - no change (October 2005)	Inverpolly SAC
Plants in crevices on acid rocks	Favourable – maintained (November 2005)	Inverpolly SAC
Very wet mires often identified by an unstable 'quaking' surface[2]	Favourable - maintained (November 2005)	Inverpolly SAC
Western acidic oak woodland[4]	Unfavourable - declining (February 2005)	Inverpolly SAC
Wet heathland with cross-leaved heath[1]	Favourable - recovered (December 2005)	Inverpolly SAC
Freshwater pearl mussel	Unfavourable - declining (July 2008)	Inverpolly SAC
Black-throated diver, breeding[5]	Favourable - maintained (June 2008)	Inverpolly, Loch Urigill and nearby Lochs SPA
Otter	Favourable - maintained (September 2004)	Inverpolly SAC

[1] These SAC features are part of the Inverpolly SSSI upland assemblage feature.
[2] These SAC features are part of the Inverpolly SSSI blanket bog feature.
[3] This SAC feature is the same as the Inverpolly SSSI oligotrophic loch feature and overlaps the Cam Loch SSSI oligotrophic loch feature.
[4] This SAC feature includes all woodlands on the site and includes the Inverpolly SSSI upland birch woodland feature.
[5] This SPA feature is part of the Inverpolly SSSI breeding bird assemblage feature.