Scottish Natural Heritage

Papa Stour
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 1267

Northern Isles Area
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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.

Natural features of Papa Stour SSSI	**Condition of feature** (and date monitored)	**Other relevant designations**
Coastal Geomorphology of Scotland	Favourable Maintained (November 2006)	SAC (Sea Caves)
Silurian - Devonian Chordata	Favourable Maintained (May 2003)	
Maritime cliff	Unfavourable Declining (August 2002)	
Rocky shore	Favourable Maintained (August 2003)	SAC (Reefs)
Arctic skua (*Stercorarius parasiticus*), breeding	Unfavourable Declining (June 2008)	
Arctic tern (*Sterna paradisaea*), breeding	Unfavourable Declining (June 2008)	SPA
Ringed plover (*Charadrius hiaticula*), breeding	Favourable Maintained (May 2007)	SPA

Description of the site

Papa Stour SSSI is located on the island of Papa Stour off the west side of Shetland. It includes the common grazings land in the north and west of the island, the entire coastline and skerries. The crofting in-bye land and remaining common grazings to the east of Hamna Voe are excluded from the site.

The coastline of Papa Stour contains an assemblage of hard-rock coastal forms representing the distinctive features of the Shetland coastline within a small area. The rocks of Papa Stour comprise two thick flows of rhyolite lavas (acidic volcanic rock) with tuff (volcanic ash) deposits in between and underlain by basalts and sandstones. The lavas are exposed along the west coast of the island creating impressive orange-red sea cliffs. They were formed mostly during the Devonian geological period, between 400 and 360 million years ago. The extreme wave-action that these cliffs are exposed to has led to the formation of geos, littoral and sublittoral sea caves, arches and tunnels along joint planes and faults in the rhyolite, thus creating a highly indented coastline. The subterranean caves and passages on Papa Stour are some of the best examples of their type in Britain.

During Devonian times Shetland lay on the edge of a broad basin, known as the Orcadian Basin, which extended from what is now the Moray Firth to Orkney and Shetland. At its lowest point, it contained a lake or series of lakes. The lake periodically expanded as a result of climatic changes, covering a large part of the basin with layers of fine silty sediments containing the fossil remains of fish. Lake deposits of this kind can be seen at Lambar Banks. They contain fossils of both bony and armoured fish and also plant remains from a nearby shoreline, showing that they were deposited in shallow water on the margins of the lake.

Most of the rocky shores around the island are characterised by wide lichen zones, rock pools, barnacles and small mussel crusts, with dense red algae, sparse fucoids and kelps such as dabberlocks *Alaria esculenta* and oarweed *Laminaria digitata*. These are good examples of extremely wave-exposed rocky shores. The nationally rare brown seaweed *Fucus distichus* has been found on Swarta Skerry in the south-west of the island. There are also good examples of relatively sheltered shores within the three main voes, including areas with characteristic tide-swept and under-boulder communities.

Inland, the site covers most of the common grazings. In the past, the land was scalped of peat. This has left a thin soil which supports a lichen-rich heathland with a strong maritime influence. Vegetation is prostrate and dominated by ling with thyme, mountain everlasting, spring squill, sea plantain and woolly hair moss.

The heathland supports important breeding colonies of Arctic terns, ringed plover and Arctic skua. There are also populations of fulmar, shag, great skua (bonxie), guillemot, razorbill, black guillemot, great black-backed gull, common gull, kittiwake and red-throated divers. In total 15 seabird species have bred on the island in recent years.

Maritime cliff	Brown seaweed *Fucus distichus*
	

Coastal geomorphology was assessed in November 2006. No evidence was found of any significant change in the condition of the site, nor of any potential threats. Similarly, the fish bed exposure was in favourable condition when monitored in May 2003. Erosion of the banks above the beds was noted. Coastal heath was assessed in August 2002. Its condition was favourable on most of the site except at North Ness, where vegetation was very short and frequent patch of bare ground apparent. Monitoring of rocky shores in August 2003 found reef habitats and communities in favourable condition, and no negative impact of any activity was observed. Breeding ringed plover were surveyed in May 2007. Though in decline since the previous count in 2003, their number was still above the minimum target for the species. Breeding Arctic skuas and Arctic terns were monitored in June 2008. Counts showed a significant decline from previous surveys. The trend is in line with population declines elsewhere in Shetland and is attributed to a succession of poor breeding years due to a reduction in the availability of food resources, in addition to competition with great skuas in the case of Arctic skuas.

Past and present management

Most of the grazing land on the island was scalped of its original layer of peat sometime during the last century. Until the mid 1980s all of the common grazings was used as unenclosed grazing. Management was organised communally and all stock were Shetland sheep.

In the western part of the site, apportionments were taken out in the mid 1980s. Two of the areas were fenced to allow more effective stock management whilst the others have remained unenclosed. 243 ha of unfenced apportionments were entered into management agreements to support protection of heathland habitat and maintenance of open land. Heathland and beaches are used for rough grazing by sheep.

Scottish Water manages a reservoir within the site. The island's water supply is extracted from Gorda Water.

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

We wish to work with the owner to protect the site and to maintain and where necessary enhance its features of special interest. SNH aims to carry out site survey, monitoring and research as appropriate to increase our knowledge and understanding of the site and its natural features and monitor the effectiveness of the management agreements.

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, in so far as 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).

1. **To ensure the continued natural evolution of Papa Stour's coastal geomorphology**

The coastline of Papa Stour will evolve naturally in response to natural changes in local wind patterns, storminess and relative sea level, together with any associated increases in wave action. In the long term this could mean dramatic changes in the form of the coastal edge with some features being completely lost. These processes are natural and should be allowed to occur as they form part of the geological interest of the site. Any development affecting these features such as modification of the cave systems, quarrying of the cliff-line or baffling of offshore wave energies should be avoided.

2. **To keep the rock outcrops at Lambar Banks clearly visible**
3. **To maintain coverage and condition of heathland habitat**

The heathland is fragile and particularly sensitive to grazing pressure. Livestock levels should be kept sufficiently low to allow plants to flower and set seed and limit the extent of bare ground. It is also vulnerable to damage from quads and similar vehicles, which use should be restricted. The Rural Development Contracts - Rural Priorities scheme provides support to encourage conservation management of heathland, in particular where management agreements have expired. One area has recently been proposed.

4. **Maintain the extent, diversity, species richness and distribution of the intertidal habitats and their associated communities**

The habitats and communities will change naturally over time in response to natural variations in the chemical and physical environment. Threat may however be caused by activities that would have a physical impact on the site including: dumping of spoil or rubbish, vehicle use, laying of cables and pipelines and construction of walls.

5. **To maintain and increase populations of Arctic skua, Arctic tern and ringed plover by avoiding significant disturbance**

The populations of breeding seabirds on the island will be subject to long and short term fluctuations and will be affected by external factors, such as food supply and winter mortality. Any activities that cause physical disturbance to nesting birds on the heathland during the breeding season may also have an impact on population sizes and should be avoided.

Date last reviewed: 11 January 2011