

## World Heritage Sites

Protected  
Areas and  
World  
Heritage



### ST KILDA

#### UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

*The remote and scenically spectacular St Kilda archipelago has some of the highest cliffs in Europe, which provide a refuge for the most important colony of seabirds in the north-eastern Atlantic, and one of the major breeding sites for northern gannets, fulmars and puffins. The islands have preserved ecosystems intact for thousands of years virtually unchanged by man; also a well documented fossilised cultural landscape. The local Soay sheep is the most primitive domesticated animal in Europe, unchanged from Neolithic times. St Kilda is also of national importance for its geology, flora, other fauna, marine interest and old vernacular buildings.*

#### COUNTRY

United Kingdom

#### NAME

St Kilda

#### MIXED NATURAL AND CULTURAL WORLD HERITAGE SITE

1986: Inscribed on the World Heritage List under Natural Criteria vii, ix and x.

2004: Extended to include the former village and an area of marine reserve as a Cultural Landscape.

2005: Inscribed on the World Heritage List under Cultural Criteria iii and v.

#### STATEMENT OF OUTSTANDING UNIVERSAL VALUE [pending]

#### IUCN MANAGEMENT CATEGORY

IV Habitat & Species Management Area

#### BIOGEOGRAPHICAL PROVINCE

Scottish Highlands (2.31.12)

#### GEOGRAPHICAL LOCATION

This very isolated group of four small islands lies on the Atlantic continental shelf 65 km west of the Outer Hebrides and 165 km west of the mainland of northern Scotland. Including its surrounding marine zone the site is contained within the coordinates 57°54'36"N x 08°42'W, 57°46'N x 08°42'W, 57°46'N x 08°25' 42"W and 57°54'36"N x 08°25'42"W.

#### DATES AND HISTORY OF ESTABLISHMENT

1957: Declared a National Nature Reserve under Section 16 of the National Parks & Countryside Act;

1963, 1972 & 2002: Scheduled Ancient Monuments designated;

1976-2002: Designated a UNESCO Biosphere Reserve: delisted by a change in criteria;

1979: Listed under the Ancient Monuments and Architectural Areas Act;

1981: Declared a National Scenic Area;

1984: Designated a Site of Special Scientific Interest for its geology under Section 28 of the Wildlife & Countryside Act; also a Geological Conservation Review Site;

1990: Declared a Marine Consultation Area;

- 1992: Designated a Special Protection Area under the E.U. Wild Birds Directive and a Marine Site Special Area for Conservation under the E.U. Habitats Directive for its cliffs, vertical reef communities and sea caves;
- 2004: Site extended to include the former village and the surrounding marine habitats;
- 2005: Site inscribed under cultural criteria.

## LAND TENURE

The National Trust for Scotland (NTS) which has managed the Reserve since May 2003 on behalf of Scottish National Heritage (SNH). Rights to the foreshore between high and low tide levels are vested in NTS; the seabed and mineral rights are owned by the state for 12 nautical miles from the low water mark. 3 ha on Hirta, the main island, were sub-leased to the Ministry of Defence (MOD) in 1957 for a small radar tracking station for the Benbecula missile range. It is controlled by very strict lease agreements.

## AREA

24,201.4 ha. Land: 854.6 ha. Sea: 23,346.8 ha (measured above and below the mean spring high water mark). Hirta, 628.5 ha, Soay, 96.8ha, Boreray, 86.5 ha, Dun, 32 ha, and six islets, 10.8 ha

## ALTITUDE

Sea-level to 425.8m (Conachair).

## PHYSICAL FEATURES

The archipelago comprises four small islands: Hirta, Soay, Boreray, 7.5km northeast, and Dun, plus the islets of Stac an Armin, Stac Lee, Levenish and two small stacks off Soay. They are the remnants of a Tertiary ring volcano, weathered, glaciated and carved by violent storms into a precipitous and dramatic landscape. The cliffs of Boreray and Soay rise sheer to over 370m and the north face of Conachair on Hirta is 426m high. Two rock stacks off Boreray are the highest in the Great Britain: Stac an Armin 191m and Stac Lee 165m. The igneous rocks were intruded about 55 million years ago above the Hebrides Shelf, a platform of PreCambrian rock, cut by seas at earlier far lower levels into terraces at 80m and 120m down. The rocks of Hirta are predominantly a complex of dolerite and microgranites with gabbro along the castellated west coast, intruded by basalt dykes. Soay and Boreray are formed of a breccia of gabbro and dolerites. Geologically this assemblage of unusual forms of contact metamorphism with simultaneously intruded acidic and basic magmas is unique in the British Tertiary Volcanic province. The soils are acid and peaty, balanced by guano, sheep dung and salt-spray which impart a pH of 5.8 - 6.2, although behind the village they are improved by organic manure.

The steep island coasts are riddled with caves, arches, stacks, geos and blowholes formed by frost, ice and wave action. Hirta has two deep bays in Village Bay (Loch Hiort) and Glen Bay. The islands' steep cliffs continue under water another 40m to rock rubble and 70m to the first platform, thinly veneered with gravels and sands. The cold surrounding waters are clear, allowing sunlight to penetrate deeply and a rich marine life to flourish among submarine caves, tunnels and arches. These now form nearly 70% of the property, and the subtidal reefs, shingle beaches, sea cliffs and islets another 25%.

## CLIMATE

The climate is oceanic, of a cool Atlantic type with extremely high humidity and strong winds from the southwest and south, particularly in the winter months. These average 110kph and can gust over 185kph, carrying salt spray as high as 60 meters. The tidal range averages 2.9m and the ocean swell generates 2-meter waves most of the year but 5-meter waves for 10% of the year, often make access impossible. The average rainfall is 1,400mm, evenly spread but heavier in winter and less between mid-April and mid June. The mean temperature in January is 5.6°C and in July 11.8°C. Studies of the pollen profile reveal 6,000 years of climatic change in an environment relatively undisturbed by man.

## VEGETATION

The heath and bogland vegetation is typical of oceanic islands with a cool north Atlantic climate. This is modified by the prevailing high humidity, giving peaty soils and a wide distribution of oceanic plants such as liverwort *Frullania teneriffae*, and also by the effect of salt spray even hundreds of metres inland, resulting in *Plantago*-dominated swards on cliff tops. The fertilising effects of vast numbers of nesting seabirds create a rich turf. Over 184 species of vascular plants have been recorded from the islands, 170 species of fungi, 194 lichens and 160 bryophytes, but no trees. The full range of habitats includes dwarf shrub heath, dwarf shrub moss tundra, low bog, meadow, freshwater marsh lair

grassland, maritime communities and twelve grassland associations. Pollen analysis shows that the islands were partially covered with birch-hazel scrub between 5,200 and 6,400 years ago. Subsequent climatic change led to the extinction of tree cover and the expansion of halophytic communities. However, *Salix herbacea* is still present. After the evacuation of Village Bay, there was an increase in heather moorland. There is little intertidal vegetation due to the extreme exposure of the shores. The sub-littoral supports wrack, *Fucus* spp., *Alaria esculenta* and a dense forest of kelp *Laminaria hyperborea* and below it, parks of kelp as deep as 35 meters. These shelter a great variety of unusual species of invertebrates, which also blanket rock walls. The water is so clear that pink algae thrive at 70 meters, and, even at that depth, the effect of the ocean swell is felt.

Salt tolerant plants such as sea pink *Armaria maritima*, sea campion *Silene uniflora* and sea plantain *Plantago maritimus*, *Asplenium marinum* and *Grimmia maritima* occur even inland. Much of the grassland, as on Soay and Boreray, has a sub-maritime character consisting of *Holcus lanatus*, *Agrostis stolonifera*, *A. capillaris*, *Festuca rubra* and *Anthoxanthum odoratum*. The less maritime communities occurring on Hirta are mainly a range of acid-loving species: poor submontane grassland and heaths of ling and cottongrass *Calluna vulgaris*-*Eriophorum vaginatum* bog, extensive mixed *Nardus-Calluna-Rhacomitrium lanuginosum* heath with *Luzula sylvatica* grassland dominant on the summit of Conachair. Northern Atlantic species include *Botrychium lunaria*, *Ophioglossum vulgatum*, *Gentianella campestris*, *Ligusticum scoticum* and *Sedum rosea* with Arctic-Alpine montane species such as *Silene acaulis* and *Saxifraga oppositifolia*. The Mediterranean-Atlantic liverwort *Fossombonia angulosa* also occurs here, at its northernmost locality. The *Agrostis-Festuca* grassland of Hirta, Boreray and Soay is heavily grazed by sheep. Soay has dry cottongrass bog with *Holcus lanatus*. Dun is species-poor but has been ungrazed for 75 years and has a rich *Festuca* and *Rumex* sward.

## FAUNA

St Kilda is Europe's most important seabird colony with the world's largest colony of northern gannets nesting on Boreray and the sea stacs. The seabird population, with some 350,000 breeding pairs of 17 species, and over 300,000 migratory birds, is the largest and most densely populated seabird colony in the British Isles. A total of 228 sea and water bird species has been recorded though only 140 species have been seen over the course of one year. This includes the huge colony of northern gannet *Morus bassanus* - 60,428 pairs in 1999/2000 - which is 23.6% of the northeastern Atlantic population; the largest and oldest British colony of northern fulmar *Fulmaris glacialis* (67,000 pairs); and 30% of the British population of the Atlantic puffin *Fratercula arctica* (135,732 pairs). This species was formerly estimated at two to three million pairs but numbers have dropped substantially. The islands are also one of the very few European breeding stations of Leach's storm petrel *Oceanodroma leucorhoa*, with 92% of the British population (45,433 pairs in 1999, but only 14,400 nest sites seen in 2003: JNCC, 2003). Predation by a small but growing number of great skuas *Catharacta skua* (170 pairs) may be partly responsible for the decline of both species. The numbers of common guillemot *Uria aalge* (23,378) are also high but falling. European storm petrels *Hydrobates pelagicus* numbered 1,121 pairs in 2003 (NTS). However, historically the bird populations have fluctuated from year to year.

St Kilda is an outstanding example of the ecological colonisation of a remote island and of the genetic divergence caused by the isolation of small populations. For instance, the endemic St Kilda long-tailed field mouse *Apodemus sylvaticus hirtensis* (which survived the human depopulation where the house mouse did not), and St Kilda wren *Troglodytes troglodytes hirtensis* (~230 pairs in 2002). The terrestrial avifauna of 10 species is impoverished but the terrestrial invertebrate fauna includes 200 species of fly, 150 beetles and over 280 lepidoptera. Soay sheep *Ovis aries*, now free ranging on Hirta as well as Soay, is the most primitive domesticated animal in Europe, a living Neolithic artifact unchanged for thousands of years. Those introduced from Soay to Hirta in 1932 are subject to crashes in the population which ranges between 600 and 2000. A dense but healthy population averaging about 400 blackface-cross sheep on Boreray are quite unmanaged. Grey seals *Halichoerus grypus* and harbour porpoises *Phocoena phocoena* now breed on the islands and bottlenose dolphins breed offshore. Ten species of cetaceans are seen: among them minke *Balaenoptera acutirostrata* and killer whales *Orcinus orca*, and Risso's, white-sided and white-beaked dolphins, *Grampus griseus*, *Lagenorhynchus obliquidens* and *L. albirostris*. The marine invertebrate fauna of all three zones, intertidal, infralittoral and sublittoral, is extremely diverse: sea anemones, sponges, bryozoans, corals, sea slugs and topshells, which encrust the caves and submarine cliffs. As a result of the relatively mild ocean ambience some southern species find their northern limit and some northern species their southern limit around the islands.

## CONSERVATION VALUE

The scenically spectacular St. Kilda archipelago has preserved its ecosystems intact for thousands of years virtually unchanged by human settlement. It is one of the most important seabird colonies in the world and one of the most important breeding sites in the North Atlantic. Some of the highest cliffs in Europe provide a refuge for colonies of rare and endangered bird species, for thousands of puffins and the largest colony of gannets in Britain. St. Kilda is also of national importance for its geology, vegetated sea cliffs, sea caves, reefs and submarine life, and for a well documented fossilised cultural landscape with relict vernacular buildings. The site lies within a WWF Global 200 Marine Eco-region. Being uninhabited, it is no longer recognised as a UNESCO MAB Biosphere Reserve.

## CULTURAL HERITAGE

St. Kilda's name probably derives from the islanders' pronunciation ("hilt") of its Gaelic name, Hiort (from *skildar*, the old Icelandic for shield). The islands have a wealth of archaeological remains including evidence of Bronze Age occupation, Vikings and early Christian carvings. They are believed to have been fairly continuously occupied for some 2,000 years with settlement concentrated at Village Bay with Gleann Mor for summer sheilings. 1,400 *cleiteans*, turf-covered stone storage huts, have been found all over the islands. For the last 800 years St.Kilda was owned mainly by the Macleods of Dunvegan. In 1724 smallpox decimated the population which, at the end of the century, was 180.

The village was reestablished in a spirit of improvement in 1834 and 1861 with 16 new houses plus a manse and a school ranged around the bay, the traditional blackhouses end-on to the sea being kept on for animals. But emigration in 1852 left only about 70 inhabitants. The people grazed up to 2,000 sheep and harvested seabird colonies, mainly gannets and puffins, of which they took scores of thousands every year for oil, feathers, food and fertiliser, paying their rent with them. Their skill in climbing the cliffs to do this, not only for necessity, documented by a traveller, Martin Martin at the end of the 17th century and more recently, is seen as the first example of recreational rock climbing in Britain. For such a primitive community St.Kilda has been unusually well preserved and well documented, partly because of the 18<sup>th</sup>-19<sup>th</sup> century idealisation of the noble savage and sublime landscapes, which adds to its cultural significance.

## LOCAL HUMAN POPULATION

In the late 19<sup>th</sup> century, tourists began visiting St.Kilda, for whom the islanders made goods for sale. But with increased contact with the world, which started with disease and puritanical religious missionising, the islanders' self-sufficiency and morale diminished and emigration increased. The islands were finally evacuated in 1930. Poorer crops may also have contributed to the emigration, which are now attributed to toxic accumulation in the seabird bodies traditionally used to fertilise the fields. The few hectares previously cultivated have now reverted to grassland and heath, and bracken is encroaching. Some lobster and crab fishing is still carried out from the mainland. But St.Kilda remains the remotest British island to be inhabited since the siting in 1969 of a radar-tracking station for the Ministry of Defence, maintained by 12 civilians. In summer a nature warden and an archaeologist are also employed by Scottish Natural Heritage and the NTS jointly for six months and four months respectively, and up to 15 researchers may stay during the summer.

## VISITORS AND VISITOR FACILITIES

Since 1995 there have been between 1,500 and 2,000 visitors a year between mid-May and August but the islands remain hard to reach and numbers may not increase. Seasonal volunteer working parties from NTS are housed in the restored cottages. Several charter companies run short trips but visitors remain on board at night (SNH, pers. comm., 1995). Landings are controlled by the warden who will sometimes guide tours around the islands. The row of village houses with walled enclosures is the main exhibition although there is a small museum, a reconstructed house, a shop, bar and a small campsite. The challenging cliffs are valued by Scottish mountaineers who are campaigning to have them made accessible to the sporting public (MCOS, 2001). The clear water and striking submarine formations also provide the best diving sites in Britain.

## SCIENTIFIC RESEARCH AND FACILITIES

Much intensive field work, mainly on Hirta, has taken place over the last 100 years: the large number of scientific publications attest to the value of the islands as an outdoor laboratory, and studies have been carried out by teams from seven or more universities. Geological surveys were first made in 1927-8, and between the 1960s and 1980s. There has been some systematic recording of migrant birds since 1910, and an annual summer survey since 1957. Scottish Natural Heritage monitors the flora and fauna, particularly the sea bird populations, and Soay sheep, on which detailed studies of their biology and

population dynamics have been made for 25 years. From 1958 onwards, volunteer work parties have restored ruins and annually since the mid 1980s, have run archaeological excavations. The whole intact primitive crofting township is designated an Ancient Monument. Six restored cottages are used to provide dormitories, common room, kitchens and museum space. SNH has recently run a six year research program on intertidal, sublittoral and benthic sites, with surveys in 1997 and 2000. There is a high level of cooperation between the NTS and the MOD which has assisted the scientific programme in many ways by providing conservation and scientific teams with transport, laboratory facilities, accommodation and catering facilities. The Marine Extension is a Marine Conservation Area deserving special attention.

## **MANAGEMENT**

The islands were bought in 1931 by an ornithologist, the 5th Marquess of Bute, who bequeathed them in 1957 to the National Trust for Scotland which has managed the Reserve since May 2003. The whole archipelago was leased to Scottish Natural Heritage who declared it a National Nature Reserve and, with funds from the United Kingdom government, were responsible for managing the islands under the Wildlife and Countryside Act of 1981 and the Natural Heritage (Scotland) Act 1991 between 1956 and 2003. It was also designated a National Scenic Area in 1981, a Site of Special Scientific Significance in 1984 and an EU Special Protection Area for seabirds in 1992. A large part of the main island of Hirta has been progressively scheduled as an Ancient Monument and the village has been restored to its 1957 condition. It is also considered a Geological Conservation Review site. As a National Scenic Area it is covered by additional development controls and any proposed development has to seek the advice of the Countryside Commission for Scotland as well as SNH. The NTS has enforced a byelaw prohibiting climbing to protect climbers, birds and flora. This is currently being challenged by the Mountaineering Council of Scotland.

The islands are protected by their remoteness and climatic exposure. The NTS aims to manage the islands as a model of integrated conservation, balancing natural processes and historic conservation with minimum intervention. The wildlife has been undisturbed since 1930 and active intervention is not generally required to conserve the site's values. The seabirds are regularly monitored, the frequency depending on the species. A seasonal warden employed jointly by SNH and NTS is present from April to mid-September. All the larger islands except Dun are grazed by feral sheep. There is no planned management of the sheep population, or of past cultivations. The activities of the MOD station are strictly controlled. The National Trust for Scotland organises ongoing volunteer working parties in consultation with Historic Scotland, who restore the village ruins: from 1958, six cottages, the church, school house, many *cleateans* and walls have been rebuilt and drains cleared. These working parties are planned to continue, following detailed archaeological management and action plans. The surrounding marine area was recently incorporated and a five year management plan prepared by SNH in preparation for revised World Heritage status for marine and cultural values. Management has begun of the marine habitats around the islands which are increasingly popular with Scuba divers.

## **MANAGEMENT CONSTRAINTS**

The three hectares occupied by the MOD as a missile radar tracking station has a local effect - the road up to the radar mast remains a scar - as have areas of derelict turf cutting and derelict cultivation. But in consultation with SNH and NTS, the MOD retains the right to construct within the leased area. The pressure of visitors is lessened by the remoteness and uncertain weather. The only notable threats are of the accidental introduction of rats and other alien species and of polystyrene or nylon fishing lines which could kill seabirds feeding at sea. The risk of oil pollution is slight since the main shipping lane lies to the east and the winds prevail from the west. However, one effect of climatic warming has been an increase in the difficulty that seabirds have in finding the staple food for their chicks. Recent years have seen poor breeding seasons for guillemots and kittiwakes, and the breeding success for puffins on St Kilda in 2005 was 26% compared with the normal figure of 71% (RSPB, 2005).

## **BUDGET**

Funds are received from the U.K. government to meet the SNH commitment. The rest is financed by the NTS St. Kilda Fund, by Historic Scotland and by donations from the St. Kilda Club and other charities.

## **STAFF**

The summer Warden is an experienced naturalist who oversees and sometimes guides visitors. He is backed by a staff of science graduates at the Reserve administrative office on South Uist. The summer Archaeologist, with NTS archaeological guidance, supervises the work parties. A regional building surveyor is responsible for maintenance and repairs.

## LOCAL ADDRESSES

Warden and Reserve Administration, Sub-Area Office, Scottish Natural Heritage, 135 Stilligarry, South Uist HS8 5RS, Hebrides, Scotland.

Area Manager, Western Isles, National Trust for Scotland, Benbecula, Hebrides.

National Director, National Trust for Scotland, 28 Charlotte Square, Edinburgh EH2 4ET.

## REFERENCES

The principal sources for the above information were the original nominations for World Heritage status. The literature on St. Kilda is extensive. The NTS website is informative: [www.kilda.org.uk](http://www.kilda.org.uk).

Boyd, J. (1981). The Boreray sheep of St. Kilda, Outer Hebrides, Scotland: The natural history of a feral population. *Biological Conservation* 20: 215-227.

Buchanan, M. (ed.) (1995). *St Kilda: The Continuing Story*. HMSO, Edinburgh.

Emery, N. (1996). *Excavations on Hirta 1986-90* HMSO, Edinburgh.

Emeleus, C. & Gyopam, M. (1992). *British Tertiary Volcanic Province*. Chapman and Hall for Joint Nature Conservation Committee, London.

Harman, M. (1996). *An Isle called Hirta*. Maclean Press, Isle of Skye, Scotland.

Harris, M. & Murray, S. (1977). Puffins on St Kilda. *British Birds* 70: 50-65.

----- (1989). *Birds of St Kilda*. Institute of Terrestrial Ecology & Natural Environmental Research Council, Monks Wood, UK.

Jewell, P., Milner, C. & Boyd, J. (1974). *Island Survivors: the Ecology of the Soay Sheep of St Kilda*. Athlone Press, London.

Joint Nature Conservation Committee (JNCC)(2003). *A Summary of Research Projects Undertaken on St Kilda in 2003*.

Kearton, R. (1897). *With Nature and a Camera*. London. Reprinted 1978, Melven Press, Inverness.

Martin, M. (1698). *A Late Voyage to St Kilda*. London. Reprinted 1986, Mercat Press, Edinburgh

----- (1703). *A Description of the Western Isles of Scotland*. London.

Mountaineering Council of Scotland (2001). *St.Kilda, National Trust of Scotland. Review of Management Plan*.

Murray, S. (2002). Birds of St. Kilda in *Scottish Birds, JSOC* Vol.23 supplement. 64pp. [with updated bibliography].

National Trust for Scotland (2003). *St.Kilda Management Plan 2003-2008*. NTS Scotland. [Contains a selected bibliography of 73 references.]

Quine, D. (1988). *St Kilda Portraits*. Downland Press, Frome, U.K.

----- (2001) *St Kilda*. Colin Baxter Island Guides, Grantoun, Morayshire.

----- (ed.) (2001). *Expeditions to the Hebrides by George Clayton Atkinson in 1831 and 1833*. MacLean Press, Skye, Scotland.

Ratcliffe, D. (1977). *A Nature Conservation Review: A Selection of Biological Sites of National Importance to Nature Conservation in Britain*. Vol.2. Cambridge University Press, U.K.

RSPB Scotland (2005). Fears of poor breeding season confirmed. *RSPB News*, September

Scottish Executive (2003). *Revised Nomination of St.Kilda for Inclusion in the World Heritage List*. [Contains a very extensive bibliography.]

Seton,G. (1878) *St Kilda Past and Present*. Edinburgh. Reprinted 2000, Birlinn, Edinburgh.

Steel, T. (1994) *The Life and Death of St Kilda* (2<sup>nd</sup> edition). Fontana, Harper Collins, London.

Stell, G. & Harman M. (1988). *Buildings of St Kilda*. Royal Commission on the Ancient and Historical Monuments of Scotland / HMSO, Edinburgh.

Tasker, M., Moore, P. & Schofield, R. (1988). Seabirds of St. Kilda UK 1987. *Scottish Birds* 15(1):21-29.

Walker, M. (1984). A Pollen Diagram from St Kilda, Outer Hebrides, Scotland. *The New Phytologist* 97: 99-113.

Williamson, K. & Boyd, J. (1960). *St Kilda Summer*. Hutchinson, London [extensive bibliography].

## **DATE**

November 1986. Updated 5-1990, 7-1995, 11-2002, 4-2003, 9-2005, May 2011.