WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

Saint Kilda (Hirta) (UK) ID N° 387 Bis

Background note: St. Kilda was inscribed on the World Heritage List in 1986 under natural criteria (iii) and (iv). At the time IUCN noted that:

The scenery of the St. Kilda archipelago is particularly superlative and has resulted from its volcanic origin followed by weathering and glaciation to produce a dramatic island landscape. The precipitous cliffs and sea stacks as well as its underwater scenery are concentrated in a compact group that is singularly unique.

St. Kilda is one of the major sites in the North Atlantic and Europe for sea birds with over one million birds using the Island. It is particularly important for gannets, puffins and fulmars. The maritime grassland turf and the underwater habitats are also significant and an integral element of the total island setting. The feral Soay sheep are also an interesting rare breed of potential genetic resource significance.

IUCN also noted: *The importance of the marine element and the possibility of considering marine reserve status for the immediate feeding areas should be brought to the attention of the Government of the UK.*

The State Party presented a re-nomination in 2003 to:

a) seek inclusion on the World Heritage List for additional natural criteria (i) and (ii), as well as cultural criteria (iii), (iv), and (v), thus re-nominating St. Kilda as a mixed site; and

b) to extend the boundaries to include the marine area.

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1. DOCUMENTATION

i) **IUCN/WCMC Data Sheet:** 25 references.

ii) **Additional Literature Consulted:** Stattersfield. A.J. *et al.*,1998, **Endemic Bird Areas of the World: Priorities for Biodiversity Conservation.** Birdlife International, Cambridge, U.K; UNESCO, 2003, **Draft UNESCO World Heritage Marine Strategy**; S. Palumbi, 2003, **Marine Reserves – A tool for ecosystem management conservation**, Pew Oceans Commission; **MPA News** related to spatial MPA design for marine ecosystems: (Vol4#6 Channel Islands lessons; Vol5#4 High Seas Targets; Vol5#6 Fisheries yields in reserve design; Vol5#3 Open Ocean MPAs); **OSPAR Quality Status Report 2000 – Celtic Seas**; JNCC Dec. 2003 website (www.jncc.gov.uk/marine/), DEFR, 2000, **Deep Water Demersal Fisheries**; Scottish Coastal Forum, 2003, **A Strategy for Scotland's Coasts and Inshore Waters** - Tourism and Recreation Task Group; Discussion Paper by the Scottish Executive, 2003, **The Sustainable Development of Scotland's Marine Resources: Towards New Management Framework Options?,** CORDAH Ltd.; **St. Kilda World Heritage Site Risk Assessment**, 2003, for the Scottish Executive.

iii) **Consultations:** 4 External reviewers.

iv) **Field Visit:** J. Thorsell, June 1986.

2. SUMMARY OF NATURAL VALUES

The St. Kilda Archipelago (SKA) is a remote Atlantic island group lying 64 km west of the Outer Hebrides off the west coast of Scotland. Currently, the St. Kilda World Heritage site (IUCN Category IV Protected Area) includes the terrestrial area of the archipelago totaling 854.6 ha above the Mean High Water Spring Mark, with four islands (Hirta, Boreray, Soay and Dun) and numerous sea stacks (the three largest being Levenish, Stac an Armin and Stac Lee). This re-nomination proposes to extend the boundary into the marine area surrounding SKA, thus including an additional 23,346.8 ha, from the Mean High Water Spring Mark out to the boundary. The total area of the proposed site is therefore 24,201.4ha, an increase of 96% to the World Heritage site. No buffer zone is proposed.

From an oceanographic and geomorphologic perspective, SKA is near the western margin of the Hebrides Shelf, and further west is located the Rockall Basin. SKA is considered an oceanic North East Atlantic archipelago in the Palaearctic realm. It reveals a rich fabric of interlinked natural features that reflect the 50-60 million years of geological history. The oceanic islands character of SKA creates many complex and different ecological niches given the combination of steep rock formations, wave exposure, water depth, water clarity, isolation and limited disturbance that have resulted in a highly specialized marine and terrestrial biodiversity.

The marine biodiversity is associated to three key zones: (a) the intertidal (high-low water) or 'eulittoral' marine zone, generally 5 metres between mean high and low tides, is highly variable with wave and tide changes and is dominated by limpets, barnacles, mussels and fucoid algae; (b) the infralittoral zone are between – 5m > 60 m, and are dominated by kelp beds, very thick in the upper areas, but spreading to a 'forest or park' further down with less light. Some of the more 'intertidal' kelps extend into the beginnings of this zone due to the high water clarity that occurs in SKA, and; (c) the Sublittoral or Circalittoral zone extends down from about – 60 m to – 80 m and spreads out to the continental shelf. Encrusting animals dominate this zone, including scavenging and grazing sea slugs, gastropods, crabs and echinoderms.

As for many islands, the terrestrial fauna and flora show low species diversity but the islands have large breeding populations of seabirds. The flora, impoverished due to the small size of the islands, nonetheless presents 184 species of ferns, flowers and grasses and 170 species of funghi. St. Kilda is, however, rich in some lower plants with 194 species of lichen and 160 species of bryophyte.

The SKA is Europe's most significant seabird colony and major seabird breeding station in the NE Atlantic. During the summer months the SKA is home to over a million seabirds, including 700,000 breeding pairs. The four main islands and associated sea stacks and rocky cliffs provide a rich diversity of breeding habitat. Oceanic vegetation on the islands provides nesting materials. The island of Boreray and its 'sea stacks' support the world's largest colony of gannets, and one of the largest colony of northern fulmars. It is also the most important breeding station of Leach's storm-petrol in the NE Atlantic. The key species in the SKA include: northern fulmar, manx shearwater, European storm-petrol, leach's storm petrol, northern gannet, European shag, arctic skua, great skua, mew gull, lesser black-backed gull, herring gull, great-black backed gull, black-legged kittiwake, common guillemot, razor bill, black guillemot, atlantic puffin.

Ten species of cetaceans have been sighted with minke and killer whales, harbour porpoises, Risso's dolphins, Atlantic white-sided dolphin and white-beaked dolphin as regular visitors. Between 300 and 400 Atlantic Grey seals are present at the SKA throughout the year, with approximately 50 breeding pups due to limited haul out sites.

3. COMPARISONS WITH OTHER AREAS

In relation to criteria (i) on geological considerations, the re-nomination claims global importance significance for the St Kilda site on the basis of the significance of on-going

geological processes and significant geomorphic or physiographic features. More specifically, the claim for outstanding universal value is focused on coastal and submarine geomorphology. It is noted that the primary geological significance of the St Kilda archipelago in a global context is that it is an eroded remnant of an ancient (Palaeocene) volcanic massif. However the great majority of the world's oceanic islands (including several World Heritage sites) are eroded volcanoes of one form or another. St Kilda is neither unique nor exceptional in relation to this aspect.

The re-nomination document claims that the archipelago exhibits "a complex terrestrial landscape extending uninterrupted into the submarine zone" and that "such a combined terrestrial and marine landscape in an island setting is unique in the Palaearctic Realm." This is questioned, since on all islands (and all continents) the terrestrial landscape extends in an uninterrupted manner below sea level. A case is also made for the exceptional coastal landforms, including "the most spectacular cliff scenery in Great Britain" – but these attributes are already recognised in World Heritage terms by the property's inscription under criterion 44(a)(iii).

In the marine zone, the two conspicuous submerged former coastlines and associated landforms, subsequently "drowned" by post-glacial rise in sea level, are noted as exceptional in the nomination document. In fact, this phenomenon is commonplace and globally ubiquitous around islands and continents. The seabed sediments are highlighted (and were re-mapped for the nomination), but no attempt is made to relate their contribution to outstanding geological value – and they are referred to as having regional significance only.

On land, the evidence of Pleistocene glaciation and associated landforms, and the periglacial deposits are unexceptional in global terms, including on islands. Macquarie I., Heard & McDonald I. and the NZ Subantarctic Islands are among the existing World Heritage island sites that display classical and widespread glacial and periglacial processes and forms (despite the NZ islands not being listed for their geological values).

In relation to biodiversity values there is only one other island site with marine features in the 'Palaearctic Realm' - the complex of Cape Girolata-Cape Porto, Scandola Nature Reserve in Corsican France. However it is typical marine fauna of the Mediterranean, which is extremely different from that of the North Atlantic for a range of climatic, ocean and geographic reasons. This Corsican site is only 12,000 ha total, of which only 4,200 ha is marine, in comparison to the ~24,000 marine hectares proposed for the nominated site.

The rest of the island-marine site complexes that have any ecological similarity to SKA are in the southern hemisphere – one in the 'Australian Realm' (Lord Howe Island); two in the Antarctic realm (e.g. Heard and McDonald Islands in Australia, New Zealand Sub-Antarctic Islands in NZ and the Gough Island Wildlife Reserve on Tristan de Cuna in the South Atlantic under UK jurisdiction) and three in the Neotropical Realm (Fernando de Noronha/Atol das Roca in Brazil, Cocos Island in Costa Rica and the Galapagos in Ecuador.) Hence the SKA site is unique in the Northern Hemisphere from a WH perspective.

From a seabird perspective, the SKA proves critical and has some of the world's highest densities for small area size for some species. For example – the Brazilian Atlantic Islands site has the largest concentration of tropical seabirds in the western Atlantic, with over 150,000 breeding birds, while the SKA has over 700,000 breeding birds in an area less than ½ the size of the Brazil site. The NZ Sub-Antarctic site has 40 species of breeding seabirds, while the SKA has 17 species in an area less than 1/3 the size of the NZ site. It is clear that St. Kilda is unique due to the very high bird densities that occur there, conditioned by the complex and different ecological niches existing in the site.

More detailed comparisons for SKA with other World Heritage Islands are shown in Table 1 below:

Table 1: Comparisons with other World Heritage island sites

WH Site	Land Area	Marine Area	Overall context	OUV significance for marine-island evolution
SKA,UK	854.6 ha	Proposed: 23,346.8ha (16km^2)	North Atlantic UK, warm temperate, seabirds, fishes, invertebrates, plants	Southern-northern range limits, undisturbed, High insularity
Heard and McDonald Islands, Australia	36,800 ha	Out to 12 nm limit	Southern Ind. Ocean, Aust. Limestone and volcanic accumulations on submarine plateau, cool maritime,	5 sps seals, 15 birds, no discussion of marine in WCMC sheet, but all terr waters out to 12 nm is included, no est. given.
NZ Sub-Antarctic Islands, New Zealand	76,458 ha	Out to 12 nm limit	Five island groups, between Antarctic and Subtropical convergence zones,	Pelagic seabirds and penguins, no data on marine ecosystems in WCMC report
Gough Island, UK	6,500 ha	Out to 3nm (extension requested out to 12nm)	South Atlantic, cool temperate zone, undisturbed	Seabirds, seals, endemic land plants 3 paras on marine, 2 algal zones; fishing limits/juridis 200 nm
Scandola, Corsica	7,800 ha	4,200 ha	Mediterranean, warm	Marine algae, birds.

4. INTEGRITY

4.1. Legal Status

The SKA was designated a National Nature Reserve as early as 1957. From 1976 to 2002 it was designated a UNESCO Biosphere Reserve for the coastal and terrestrial ecosystems. The site was however delisted in 2002 due to changing Man and Biosphere (MAB) criteria.
In 1981 it became a National Scenic Area, and in 1984, a Site of Scientific Interest and site for Geological Conservation Review for its tertiary igneous geology, quaternary geology and coastal geomorphology. This latter status facilitates regular review by government authorities to conserve national and international sites of geomorphologic significance. In 1992 it was designated a Special Protection Area (SPA) under the European Wild Birds Directive.

The site is currently a candidate as a Special Area for Conservation (SAC) and European Habitats Directive Marine Site. In the UK 'candidate' sites are managed with the same level of authority as fully implemented sites. According to allowable EU SAC categories, SKA is nominated for the vertical reef communities on the underwater parts of the islands, the sea caves and the vegetated sea cliffs.

At present an extension is being proposed to coincide with the proposed World Heritage marine area boundaries, as well as management scheme to complement the WH marine management plan elements. The site is also at present a Marine Consultation Area (Scotland), a site deserving special attention due to its marine environments. There is no statutory authority but the designation requires a consultative process on marine issues.

There is currently a UK Department of Trade and Industry (DTI) oil and gas moratorium on the site, a temporary moratorium on oil and gas explorations licences within a 70 km radius of the SKA.

First of all, the above suite of instruments covers the needs of all of the physical and biological areas/species in question. Additionally, all of these designations are backed up by supporting legislation.

The National Trust for Scotland (NTS), a conservation charity, owns the archipelago of St. Kilda with barony title to the low water mark. The UK government owns the sea bed and mineral rights from the mean low water mark to the 12 nm. The sea itself is 'commons' through which there is free right of passage.

4.2. Boundaries

The re-nomination effectively expands the World Heritage area by 96%, all marine area. This boundary is the same as the EU Habitats Directive SAC area which highlights marine features. It also takes into account the boundaries of all of the other designations (largely terrestrial) and the Marine Consultative Area. However, it is not clear why these boundaries were selected, as they do not reflect ecological/geological features.

A formal buffer zone has not been delineated, and, as the dossier highlights, there are many over-riding legal and conservation protection measures already in place for the World Heritage proposed 're-nomination' area. Most noteworthy and influential is the candidate SAC designation, addressing in-situ and ex-situ activities that could impact the site. Since this is a European law which can over-ride Scottish planning law, it is hence more powerful than national designations.

There are also other 'de facto' buffers in place. For example there is a 70 km radius around the SKA restricting oil or gas research. There is a 30 km radius for shipping near St. Kilda. There are EIA requirements under Scottish Planning Law apply to this area. There are also EU compliance requirements for SAC sites relating to impacts, both within the site and outside it.

From a geological perspective, the enlarged marine area enables inclusion of submarine elements of the eroded sub-aerial (terrestrial) volcanic landscape, and the full diversity of rock types. It also provides for inclusion of bathymetric features such as ancient shorelines that tell a more complete story of Pleistocene sea level changes and associated glacial and coastal landform development both on land and on the formerly exposed sea floor. However, as noted above, the geology and landforms of St Kilda are not rated by IUCN as universally outstanding.

4.3 Management

There has been cooperative management between the National Trust for Scotland (NTS), Scottish Nature Heritage (SNH) and the Ministry of Defence for the past 50 years. These organisations meet as needed as well as during annual tripartite meetings. Previously the Trust managed the cultural and archaeological elements while SNH the natural heritage. However, the Trust recently enhanced its cadre of conservation professionals and will be overseeing both the natural and cultural heritage aspects, although the partnership approach developed during the past 50 years will be continued, as well as with Historic Scotland, and the Western Isles Council (CNE Siar).

There is a very high level of interest from various stakeholders, the SKA. The management capacity is very high, as is the overall nature conservation capacity of the UK. As detailed in the SK 2003-08 management plan, there will be: a) Full-time permanent NTS staff including an Area Manager for Western Islands with line management to the St. Kilda Ranger and St. Kilda Archaeologist. The Area Manager, based in the Outer Hebrides (Benbecula) will frequent SKA regularly, as well as oversee the NTS properties on the rest of the Western Isles (4 properties). There are also St. Kilda work parties – (supervised by the Area Manager) which are highly coordinated volunteer teams for carrying out various maintenance and monitoring programmes.

A fully comprehensive and highly consultative management plan has been prepared. Both this plan and the re-nomination document have been publicly available on the internet. Additionally as part of this process a comprehensive 'Risk Assessment' was conducted to inform the process and the plan and clarify any issues especially with relation to the marine resources. The assessment is clear, concise and well documented and details a number of concerns and opportunities touched on below in items 4.4, 4.5 and 5.

4.4 Human impacts

The Risk Assessment for predominately marine issues and features reviews the case of existing and potential threats from humans, in particular: fishing, oil and gas, tourism, defence, scientific research, management, renewable energy and multiple activities. They characterise, analyse and rank risk types, e.g. oil spills, chemical spill, effluent, trampling/climbing, fishing, alien species, visual impacts etc. They provide a management gap analysis and a range of recommendations related to the 'delivery of World Heritage Marine Management'.

4.4.1. Impacts of development

There are very strict guidelines through the cultural and nature windows designed to maintain the 'SKA experience' as a remote, living museum, hence it is highly unlikely any would be allowed. It is accepted that there are no commercially viable hydrocarbon reserves in the 70 km radius around SKA. The present moratorium for the 70 km radius should be continued.

4.4.2. Alien species

There are measures in place to work with the shipping and tourism industries regarding ballast water and effluent, and this is an area with very rough water conditions, thus hospitable to few species.

4.4.3. Tourism pressure/visitor experience

The remoteness and climatic conditions limit most visitors to only the summer months and to a few businesses and a few private boats. If technology changes in the near future, restrictions would be needed.

4.4.4. Fisheries

By letter dated 27 February 2004 to the World Heritage Centre and in response to questions from IUCN, the State Party noted that: "*Only limited fishing activity takes place in and around the islands. This is mainly lobster creeling during the summer months, undertaken by a very small number (2-3) of local Western Isles boats. This fishery has very little impact on the sea bed or associated benthos, other than the target species, and at current levels of exploitation appears to be entirely sustainable. Although this is a very low-level, seasonal activity, it is none-the-less important for the few fishermen involved and a vital part of their livelihood in an area that offers very few other economic opportunities for them. It is not anticipated that any restrictions on such activities are necessary at current levels, but we will continue to monitor the situation. There is also a small amount of mid-water trawling in the vicinity of the islands that is undertaken by non-UK vessels. At present there is no known impact from this mid-water trawling but, again, this will be monitored and if it should become necessary then steps could be taken through the management plan to control such activities. In addition, the lee of the islands is used as a 'sheltered' anchorage on occasions by vessels seeking refuge in particularly stormy conditions".* IUCN notes and agrees with this assessment.

4.4.5. Renewable Energy

The SKA is too deep for current off-shore wind farm technologies. If this situation changed, the visual impact, and impacts associated with noise and bird safety, would have to be assessed in relation to their impact on world heritage values.

4.4.6. Shipping/Risk of oil spills

There is some risk of accidents to SKA in that most large ships use a route between SKA and the Western Isles rather than the Minches (between the Scotland mainland and outer islands). Vessel tracking is needed here and elsewhere and alternatives for smaller boats to

go through inner waters. A full oil response strategy is in effect for Scotland and one is needed for SKA.

The letter of the State Party (27 February 2004) stated: "*The UK Government commissioned an independent assessment of risks to the proposed extended site from Royal Haskoning, including the risk from oil spills from maritime traffic. In carrying out this exercise, Royal Haskoning engaged CorrOcean Ltd to determine the shipping traffic pattern in an area 200Km x 200Km centred on St Kilda.*

In their final report submitted in May 2003, Royal Haskoning differentiated between the risks of oil spillage of up to 1000 tonnes (small) and those greater than 1000 tonnes (large). In their summary of conclusions they noted: "The moderate risk of small oil spills from merchant shipping accidents is the most pressing risk to St Kilda WHS. The risk increases from slight to moderate with decreasing distance from St Kilda."; and "A large oil spill whilst an extremely low probability, would represent a severe impact on the WHS during seabird breeding season. Risks from large oil spill reduce from minor to slight with distance from St Kilda.".

The reason the risks posed by even a small oil spill is assessed as no higher than moderate is that the deep water route passage round St Kilda lies to the east of the archipelago and the prevailing winds and currents mean that any spillage is far more likely to be directed towards the Western Isles thus avoiding St Kilda. In addition, it is proposed that Comhairle nan Eilean Siar and the Highland Council (the adjacent local authority) and the Department for Transport will carry out a feasibility study later this year to include the waters to the West of the Hebrides, which will analyse weather patterns and traffic movements and take account of response times to an incident and the risks to marine resources and the local economy. The study will recommend changes or improvements to navigational aids in the area.

It is also important to note that the effect of any oil spill that did reach St Kilda is likely to be relatively small due to the extremely exposed nature of the islands. In such conditions it is unlikely that oil would remain on the shores for any length of time and the animals and plants that might be affected are adapted to survive periods of high stress, be that natural or anthropogenic.". IUCN notes and agrees with this assessment, while emphasising the need for effective contingency planning for potential oil spills in this area.

5. ADDITIONAL COMMENTS

The 'island isolation' element coupled with the considerable geological history make a compelling case for SKA as a 'living marine laboratory'. The potential of such study could have other conservation benefits elsewhere, particularly in relation to marine science, climate change, nature-based ship tourism, oil and gas and fishing industry dialogues.

6 APPLICATION OF WORLD HERITAGE CRITERIA

St. Kilda, already inscribed under natural criteria (iii) and (iv), has been re-nominated under natural criteria (i) and (ii).

Criterion (i): Earth's History and Geological Features

As noted in Section 3, IUCN considers the geological values of the site to be important at a national and regional level but does not consider they are of Outstanding Universal Value.
IUCN considers that the nominated site does not meet this criterion.

Criterion (ii) Ecological Processes

As noted in Section 3, St. Kilda is unique in the very high bird densities that occur in a relatively small area which is conditioned by the complex and different ecological niches existing in the site. There is also a complex ecological dynamic in the three marine zones

present in the site that is essential to the maintenance of both marine and terrestrial biodiversity. IUCN considers that the nominated site meets this criterion.

7. RECOMMENDATION

IUCN recommends the World Heritage Committee **inscribe** St Kilda in the World Heritage List on the basis of natural criterion (ii), as well as the existing criterion (iii) and (iv), and **extend** the boundaries of the site to include the surrounding marine area of 23,346.8 ha.

IUCN also recommends that the State Party be encouraged to:

a) prepare a five year business plan and budget;

b) develop initiatives for collaborative marine research and conservation management for offshore island-marine area workshops with colleagues in New Zealand, Australia and the USA and others in the North Atlantic that are involved with site based design and marine conservation as well and national based strategic planning for offshore areas.