

UK Biosphere Reserves: status, opportunities and potential

A preliminary review and assessment of opportunities and potential with particular reference to the criteria set out in Article 4 of the Statutory Framework of the World Network of Biosphere Reserves



Loch Druidibeg and the Uists

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1 Summary

- 1) The existing Biosphere Reserve (BR) at Loch Druidibeg in South Uist, Western Isles, no longer meets the revised UNESCO criteria. Although of exceptional ecological quality it fails to encompass sufficient gradation of human intervention or opportunity for sustainable development
- 2) It would be possible to expand the current BR (also a National Nature Reserve NNR) into a new-style BR covering a much larger area. This might encompass S Uist and Benbecula, and possibly also N Uist.
- 3) The current reserve itself well meets the criteria for a *core area*. There are sufficient SSSIs in the surrounding area to achieve a satisfactory, if somewhat scattered *buffer zone* without affecting existing land management or causing local inconvenience.
- 4) A wider *transition zone* covering the remainder of the islands would offer opportunities for sustainable development. Given the nature of existing land ownership and management organisations, the whole of South Uist and Benbecula suggests itself as an obvious transition zone, though a larger area including North Uist might also be considered. It would be possible to extend this transition zone into the sea, including the fishing industries that are so vital to these islands.
- 5) The community land buy-out of South Uist and Benbecula confers the advantage that one landowner, Storas Uibhist, which has active sustainable development plans already, owns almost all the land on S Uist and a good part of Benbecula, and would serve as an obvious starting point for organisational structures. This, combined with the close historical relationship between crofting land use and wildlife interests, now encouraged by various management plans, makes this essentially a Biosphere Reserve already. An expanded BR would score well against all the UNESCO criteria (see Table 1, section 5.8 for a summary preliminary assessment).
- 6) The issue is therefore primarily one of costs and benefits. The added value of BR designation is unclear.
 - a. Although designation would probably strengthen the existing niche special interest and wildlife holidays, there are significant constraints on further tourism development. The area is not easily accessible, although recent introduction of road-equivalent tariff may improve the situation.
 - b. Storas Uibhist already has sustainable development plans, and a large estate to run.
 - c. The nature of the land, climate and access to markets is a significant constraint on agricultural opportunity.
- 7) Further work would be required to weigh up the overall costs and benefits, but a critical issue would be the level of local support. This is a complex, inter-woven community just coming to terms with being its own landlord, with all the diplomatic and practical difficulties this entails. Hopefully this report, written necessarily without the benefit of knowledge of the complex community interactions, will be of some use to Storas Uibhist and others in their deliberations, and to UK Man and the Biosphere (MAB) in terms of facilitation and advice.

2 Introduction

2.1 The origin and nature of biosphere reserves

The origin of Biosphere Reserves goes back to the "Biosphere Conference" organized by UNESCO in 1968, the first intergovernmental conference to seek to reconcile the conservation and use of natural resources, thereby foreshadowing the present-day notion of sustainable development¹. In 1973, the concept of Biosphere Reserves was formally established within UNESCO's Man and the Biosphere (MAB) programme. Their functions were to conserve biodiversity and provide facilities for research, education and training.

The MAB philosophy and programme was substantially revised at the 1995 Seville Conference that created a "*Statutory Framework of the World Network of Biosphere Reserves*" and associated criteria for designation. According to Article 3 of this framework, Biosphere Reserves (BRs) are expected to be "*sites of excellence to explore and demonstrate conservation and sustainable development on a regional scale*". BRs are expected to combine three functions: conservation; sustainable development; and logistic support (education, training, exchange etc)

Management of BRs is conceived within a threefold zonation – a **core zone** of high biodiversity value subject to some form of legal protection; a **buffer zone** managed in such a way as to secure the qualities of the core while at the same time encouraging sustainable use; and a **transition zone**, which may include urban areas, in which the ethos of sustainable development can be pursued more broadly, and where the links and inter-dependencies with the core and buffer zones can be explored and demonstrated.

The most recent interpretation of the nature and purpose of biosphere reserves is to be found in the Madrid Action Plan (MAP: UNESCO, 2008), which includes the following vision statement: "*The World Network of Biosphere Reserves of the Man and the Biosphere Programme consists of sites of excellence to foster harmonious integration of people and nature for sustainable development through participation, knowledge, well-being, cultural values and society's ability to cope with change, thus contributing to the [Millennium Development Goals]*".

The term Biosphere Reserve is therefore a misnomer: the designation is neither restrictive nor exclusive, except in so far as a legally designated core zone is required. Taken as a whole it is not a protected area as defined by the International Union for the Protection of Nature (IUCN). Rather it is the *only* global designation – or accreditation – for an area demonstrating excellence in sustainable development in practice.

Governance of Biosphere Reserves is highly variable, ranging from relatively autonomous facilitating teams, through a variety of representative and participatory structures, to relatively formal and powerful institutions – and there is no international consensus or indeed guidance on the best governance model. This diversity has been allowed, if not encouraged by UNESCO to maximise the opportunities for learning and demonstration. There is one key proviso however. The Statutory Framework specifies the need for participatory decision-making structures, involving

¹ UNESCO MAB "Biosphere Reserves in a nutshell".

a wide range of stakeholders, as well as provisions for a “management policy or plan for the area as a biosphere reserve”.

2.2 Status of BRs in the UK

In 1976, the UK Government put forward thirteen National Nature Reserves to be part of the global Biosphere Reserve network. All were designated by UNESCO.

A UK review was carried out in 1998 and published in 1999, following which 4 reserves were de-listed because it appeared unlikely that they could meet the revised criteria in the Statutory Framework. The remaining Biosphere Reserves in the UK are:

- Taynish, Scotland
- Beinn Eighe, Scotland
- Silver Flowe/Merrick Kells and Cairnsmore of Fleet in Galloway, Scotland
- Loch Druidibeg, Scotland
- Dyfi Valley, Wales
- Moorhouse-Upper Teesdale, England
- North Norfolk Coast, England
- Braunton Burrows-North Devon, England

Of these Braunton Burrows has been expanded and developed to meet the new criteria and was officially re-designated in 2002. An expanded Dyfi Valley Biosphere Reserve, Wales has been proposed to UNESCO for re-designation under the new criteria. Several feasibility studies have been undertaken in respect of a new style BR based around the existing Silver Flowe/Merrick Kells and Cairnsmore of Fleet BRs, and there is significant local interest in progressing this to full UNESCO designation/accreditation.

The remaining five BRs, though still formally members of UNESCO's World Network of Biosphere Reserves, have, to date, not been redeveloped in line with the new criteria, and are in a sense “in limbo”, with both re-designation and delisting as possible options. We refer to them below as “lapsed” BRs.

2.3 Purpose and structure of this report

This report and associated exercise for DEFRA/UKMAB are designed to assess the current status and activities of the 5 “lapsed” BRs, and the degree to which there is the desire and potential to expand, redevelop and re-designate them to meet the new criteria; or whether they should be delisted.

A primary purpose of this report is to present a preliminary assessment of the area, and alternative possibilities for taking forward a biosphere reserve, against the standard “Seville” criteria. This should serve as a resource for local people, the UK MAB Committee and the MAB Programme and inform any possible initiatives. The assessment should also serve as a starting point for a full proposal to UNESCO, should local people and organisations decide they wish to progress the concept.

The report offers:

- a brief overview of the history and status of the existing reserve;
- a resume of some of the views and perspectives expressed at the scoping meeting held at the Polochar Inn, South Uist on 12 November 2008.

- a preliminary assessment of alternative areas and possible management structures against the standard UNESCO criteria;
- A summary assessment of possible social economic and environmental benefits which might arise from BR designation;
- A summary assessment of the strengths and weaknesses of the area in terms of potential to realise the ideals of sustainable development.

3 The status and functioning of the existing Biosphere Reserve

The current Biosphere Reserve (BR) extends to 1,677 ha in central South Uist and is co-incident with Loch Druidibeg National Nature Reserve (NNR). There has been some recent uncertainty over the continuation of the NNR status. The reserve includes Loch Druidibeg, the machairs of Stilligarry and Drimsdale, Loch a'Mhachair and Loch Stilligarry. The National Nature Reserve is in itself an SSSI, and together with other surrounding SSSIs is also a Ramsar site and Special Protection Area for birds. Part of the NNR/BR is in the South Uist Machair National Scenic Area and is also within the Uists Environmentally Sensitive area. Details of the SSSIs on which many of these designations are based can be found in annex 2. SNH own all of the current BR, with the machair sections of Stilligarry and Drimsdale being managed under Nature Reserve Agreements with crofting tenants and with the new owners of South Uist estates, the residents themselves.

Loch Druidibeg NNR/BR is currently run as a relatively low profile National Nature Reserve with no visitor facilities on-site but a self-guided trail. The trail leaflet, available from SNH and tourist offices, is attractive and informative. The reserve straddles the main north-south road in central South Uist, where the local SNH office is situated, and the start of the reserve trail is easily accessed by car. As advertised, the reserve is indeed a place “where opposites meet”² and a good place to see a range of island habitats and wildlife within one area, stretching from the Atlantic coast almost to the Minch and encompassing miles of beach, machair, loch and moorland.

Local community involvement is largely through the active land management involved in the joint preservation of crofting agriculture and the machair grasslands. Organised events in the past few years have been less than hoped for because of the uncertainty of the NNR status but there have been guided walks, a new interpretative leaflet and a newsletter³.

Annex 4 details some of the recent survey programmes of the current reserve.

4 Alternatives and opportunities for a future Biosphere Reserve in the area

² SNH Loch Druidibeg NNR Reserve Leaflet.

³ SNH Personal communication

4.1 Overview of the area, people, economy and ecology

The current Biosphere Reserve is on South Uist, in the Outer Hebrides or Western Isles, a crescent-shaped chain of islands separated from the northwest coast of Scotland by a stormy stretch of water known as the Minch. Benbecula is sandwiched between North and South Uist and linked to both by stone causeways. To go anywhere else, such as to Stornoway, the capital of the Western Isles, or to the Scottish mainland involves a flight from Benbecula's own airport or a ferry. The reserve itself is accessed from the A865, the main north-south road linking the Uists through Benbecula. The nearest villages to the current reserve are Geirinis, two miles to the north, and Lochboisdale, a larger village of some 1,100 people fourteen miles to the south. However, there is a significant population scattered throughout the Western coastal strip of the Uists, supported historically through small-scale crofting agriculture.

The Outer Hebrides are famed for landscape and wildlife. Some 40% of the land area is designated as National Scenic Area and 12.9% is SSSI ⁴. South Uist, like the rest of the Hebrides, is an area of geographical extremes. To the south east of the current NNR are the mountains of Hecla (606m) and Beinn Mhor (527m). To the west are long sandy beaches backed with acres of machair grassland, covered in over two hundred species of flowers: a mecca for wildlife. The reserve itself is home to nationally important populations of breeding waders, including redshank, dunlin, lapwing and ringed plover. There are greylag geese, corncrakes and hen harriers. The many protected areas relate mainly to machair, corncrake and wetlands/lochs. Between the machair and the inhospitably steep hills lies open moor, common grazing, dotted with lochs and lochans. It is a lonely landscape in spite of the scattered crofts, challenging in bad weather, sparkling in good. A destination for the intrepid tourist and home to a society underpinned by Gaelic culture and with a strong spirit of community and place.

The Outer Hebrides comes under the remit of the Western Isles Council (Comhairle nan Eilean Siar) and South Uist is in the multi-member ward of Barraigh. Loch Druidibeg and immediate surroundings are also covered by Bornish Community Council and Lochboisdale Community Council.

The population of the Western Isles as a whole is declining, down to about 26,300, nearly 6% down since 1997 ⁵ and 42% lower than in 1901, not in itself unusual in a Scottish island community. The real worry is that it is continuing to decline, and faster than any other Scottish island populations. If current trends continue an increasing percentage of the population will be elderly and not economically active. Overall, the Western isles has the highest percentage of people of pensionable age in Scotland ⁶ (approximately 24% as opposed to 19%) but data extracted for this study shows a more complex picture, with some areas such as the north of South Uist and Benbecula having a very low percentage of older people (see Annex 3 for more detail).

The economy of the Western Isles is characterised by a lack of indigenous resources, limited private investment and a trade deficit of some £163.4 million per annum ⁷. In 2003 it was the fish-farming sector that contributed most to the trade balance, exporting goods to the value of £30.7million. Fish processing (much also

⁴ Comhairle nan Eilean web factfile, extracted January 2009.

⁵ Comhairle nan Eilean Siar web factfile, socio-economic review January 2009

⁶ Migration Study, Comhairle nan Eilean.

⁷ Comhairle nan Eilean Siar web factfile, socio-economic review January 2009.

associated with salmon farming) followed at nearly £20million. Approximately 90% of the fish catching sector is shellfish, mainly for Norway Lobster or “prawns”. Tourism is estimated to be worth some £39 million annually, with an estimated 179,000 visitors.

Over 30% of Western Isles employees work in the public sector, and nearly 6% are employed in the fishing industry, compared with less than 1% in Scotland. There are approximately 550 full time equivalent jobs in or directly associated with the fish farming industry, and about 1200 in the catching sector. Unemployment is lower than in Scotland as a whole and a higher percentage of the working age population is economically active. There is a continuing need for public sector intervention in the economy and various projects and initiatives, some based around the administrative capital of Stornoway, Lewis, and others more widespread, including a countryside access project and work based on the considerable archaeological interest of the islands. The regular ferry services to the mainland are a lifeline, particularly given the importance of fish exports, and the recent introduction of Scottish Government (SG) subsidised road equivalent pricing for car crossings is designed to stimulate the local economy.

Statistically, South Uist is 311 sq km with a population of 1933 ⁸. This translates to a population density of a little over six people per square kilometre, compared with sixty-five for the whole of Scotland. It is not, compared with some other rural areas of Scotland, sparsely populated. There are a further 1586 people on Benbecula and 1281 on North Uist. All the datazones covering the Uists and Benbecula are below 50% on the Scottish Index of Multiple Deprivation. South Uist is below 40%. (See Annex 3 for detail). In 2006 the community bought most of South Uist (except the SNH-owned Loch Druidibeg NNR), Benbecula and Eriskay. This is a total of 93,000 acres, costing £4.5m, and was the biggest community buyout in Scotland at the time. It was done under the auspices of Stòras Uibhist ⁹(Gaelic for “The wealth of Uist”), who now administer the community estate with and for the 850 tenants, with all the associated legal duties and obligations of a regular landowner. Stòras Uibhist also lets and manages the old estate shooting lodge ¹⁰ and the associated sporting and fishing activity and manages the crofting estate in-house. They have development land to let and are involved in major port development plans at Lochboisdale, renewable energy initiatives and the re-vamping of a famous local golf course ¹¹. There is excellent fishing on South Uist, with wild brown trout, sea trout and salmon. The lochs are not stocked and the lack of fish farms on the Western shore is advertised as being of advantage to the salmon fishing.

Tourism is important to the economy of South Uist and, apart from the wildlife, attractions include the sixteenth century Clanranald stone in the Kildonan Museum and the ruins of the house where Flora Macdonald was born. A good local website ¹² is a valuable resource for the visitor and includes excellent links for accommodation and travel, and good photographs. In the north west of the island is a missile testing range, built in the 1950’s to test nuclear weapons. This range is still owned by the Ministry of Defence but operated for them by a private company, QuinetiQ as a missile testing facility. There is a school, a hospital and an airport on Benbecula. It is a good long runway and allows for the operation of scheduled flights to Barra,

⁸ 2001 census updated to 2007, Scottish Neighbourhood Statistics. See Annex 3 for statistical detail and sources.

⁹ Stòras Uibhist Website at <http://www.storasuibhist.com/>

¹⁰ Grogarry Lodge (www.grogarrylodge.com).

¹¹ Built by the same person who designed the famous course at St Andrews, Tom Morris.

<http://www.storasuibhist.com/askernish/>

¹² <http://www.southuist.com/>

Stornoway and Glasgow and an air ambulance if required. There are three primary schools on South Uist, one on Eriskay and one on Benbecula, and a large secondary school on Benbecula, Lionacleit ¹³.

This is an unusual place. Not particularly accessible, fairly well populated, culturally independent yet highly reliant on public sector employment and tourism. .

4.2 Outcome of the scoping meeting – interest in taking this forward

This was an introductory meeting, with relatively few though fairly representative persons present. Much of the meeting was taken up with clarifications of what a “new style” BR could mean for the local people and economy, and it is far too early to ascertain views. This is a learning process and requires much discussion and thought before local views are crystallized.

Nonetheless there was what might be termed as “wary enthusiasm” for the idea amongst those present. The “Biosphere Reserve” name does not help here; there is a history of mistrust of designations, and some designations have become more restrictive over time, reinforcing this mistrust. There will need to be clarification and reassurance that BR management will be in the hands of local people and will not require “micro-management” of natural resources for conservation objectives. There is recognition that the designation – in this case more of an *accolade* for existing resource management – could bring significant prestige to the island/s and may benefit several activities, including crofting, fishing, shellfish processing, tourism and education (see Annex 1 for a summary of perspectives).

4.3 Possible alternatives in terms of area and scope

The Biosphere Reserve at Loch Druidibeg NNR, as currently constituted, probably does not meet the UNESCO criteria, which have changed since the designation was first made. The Loch Druidibeg site is a reasonable size at 1677ha and includes an excellent spectrum of habitats from moorland through to coastal machair, but has no buffer or transition zone and few people. But it is a fine core area, accessible yet satisfyingly wild, already well protected by the strongest of UK and EC legislation. There are opportunities to extend the scope of this BR (and in particular the “transition zone”) to encompass sustainable natural resource use and enterprise over a wider area and better meet the new criteria.

There are five SSSIs on South Uist apart from Loch Druidibeg itself, and these would serve as an adequate buffer zone. Buffer zones do not have to be contiguous, or indeed need to form an enclosing protective ring around the core area. They can act as support for the core area simply by being areas of valuable habitat in the vicinity, which makes sense in terms of food supply for a valuable bird population. These other local SSSIs might do well as a buffer zone, and one that is achievable without local inconvenience or changes to existing SSSI management agreements.

The transition zone is currently non-existent, which removes much of the opportunity for social and economic benefits. The transition zone boundary can be fuzzy, spreading into the sea; but the key issue would be which land areas to include.

¹³ http://www.sgoillionacleit.org.uk/about_us.htm

Storas Uibhist being such a force as a community landowner we could not envisage any scenario which did not include all of their land, including Eriskay¹⁴ and Benbecula. A larger alternative is also considered which includes North Uist.

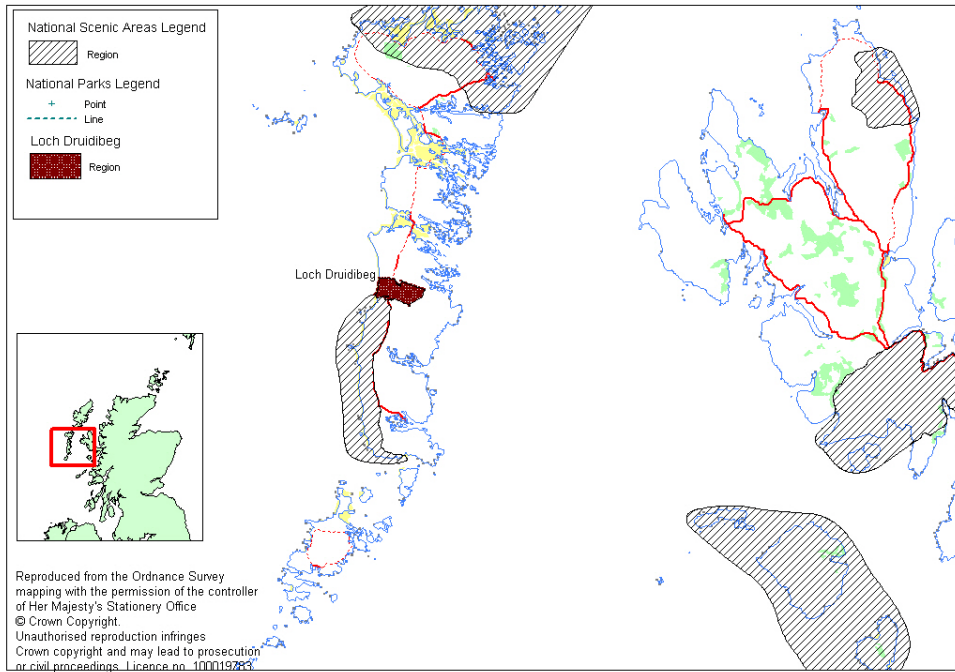
The three scenarios are therefore:

1. Current situation. BR = Loch Druidibeg NNR only. Not an option.
2. Local BR. Expand into the other local SSSIs and surrounding ground as possible and across the whole of the Storas Uibhist estate (South Uist, Benbecula and Eriskay) as transition zone. Take the transition zone boundary out to sea.
3. Regional BR. Expand into the other local SSSIs and surrounding ground as possible and across the whole of the Storas Uibhist estate (South Uist, Benbecula and Eriskay) and North Uist as transition zone. Take the transition zone boundary out to sea.

These options are not offered as hard-and-fast alternatives – there are many intermediate possibilities - but are offered as a basis for further thought and to begin rigorous assessment against UNESCO's criteria.

¹⁴ Population 140. Linked to South Uist by causeway. See <http://scotland-inverness.co.uk/south-uist.htm#eriskay>

Map of Loch Druidibeg and the Uists



5 Assessment of alternatives against Article 4 Criteria

5.1 Ecological systems

Criterion 1: It should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions

***Overall assessment.** The existing BR meets this criteria to some extent. As a local or regional BR, South Uist, South Uist and Benbecula, or the Uists as a whole score very highly against this criterion*

Existing BR

The existing Loch Druidibeg NNR/BR encompasses beach, machair grasslands, loch and moorland. The site was originally notified for blanket bog, breeding birds, geology, greylag geese, machair, machair loch, oligotrophic loch, sand dunes, scrub and subalpine dry heath. SNH describe the site as follows:

“Loch Druidibeg, and its associated catchment and coastline, is part of the largest machair system in the British Isles, and provides one of the best examples in the Western Isles and in the national series, of a complete transition of habitats from the western coastal machair system to the inland acid moorland and blanket bog. This range of habitats supports many notable plants and animals.”

Even the current restricted BR scores highly in terms of ecological systems. The machair grassland is a very specific example of the positive results of human intervention, the results being a great contrast with the moorland above.

Local BR

South Uist is itself a complex ecological system, encompassing the mountains in the east through the central strip of peatbog and lochans to the machair of the west coast and the rich coastal and marine environment. A local BR would include a far greater area of land (Storas Uibhist own some 37,000 ha) with the same kind of rich and varied ecological interest as Loch Druidibeg NNR/BR described above, and would also include (possibly as a buffer zone) specific local SSSIs, including two notified for geological interest. The range of human intervention would necessarily be greater, and the inclusion of the hills of Hecla and Beinn Mhor would lend weight to the argument that this was a major biogeographic zone. The people of South Uist are a key part of this “agro-ecological system”. Crofting agriculture is essential to the maintenance of the machair, a mosaic of wetland, crops and flowery pasture, which generates both agricultural and ecological benefits. Peats are still cut from the moor, while sheep and deer graze the higher mountains.

The area is internationally recognised for its ecological qualities and a system of sustainable land use that has enriched rather than degraded the environment. The

ability to extend the transition zone boundary out to sea would add massively to the ecological interest of the reserve.

Regional BR

Including North Uist would add significantly to the area covered. The suggested local BR already covers a full suite of the ecological systems found in the area, but it should be emphasised that the machair habitat and the transition through peatlands to mountain stretches the length of South Uist and Benbecula, and the natural values are high throughout. It is possible that the range of human intervention is extended in that land management practices on North Uist are a little different from those in the South. The crofts and farms are bigger, and more likely to be a full-time occupation, which might lead to different management practices and a different mix of species and habitats.

5.2 Biological Diversity

Criterion 2: It should be of significance for biological diversity conservation.

Overall assessment: *The BR as currently constituted scores well against this criterion. If extended to a local or particularly a regional BR, including the whole of South Uist and possibly also Benbecula, it would score very highly.*

Existing BR

The significance of the BR and the Uists as a whole for biodiversity conservation is internationally recognised. Quoting from the 1997 review:

“Over 200 species of flowering plants have been recorded on the reserve, some of which are nationally scarce. Nationally important populations of breeding waders are also present, including redshank, dunlin, lapwing and ringed plover. The machair is also home to the corncrake, a summer migrant once common in Britain and Ireland but now largely confined to the Hebrides. The Loch itself hosts a small population of native breeding greylag geese which, in the Uists, remain throughout the year.”

Local BR

Extending the reserve to cover all of the Storas Uibhist Land would bring in 93,000 acres of land (37,600ha). The additional SSSIs this includes are clearly of significance for biological diversity conservation, as indeed is the wider countryside joining them. There is *Bornish and Omiclate*, where beach, rock and machair support the largest concentration of breeding ringed plover in the Western Isles, together with dunlin, redshank, oystercatcher and terns. *Howmore* estuary is one of the best national examples of transformation from salt to freshwater habitats, with a great range of aquatic plants and a high number of breeding dunlin and redshank. *Loch Bee* and machair is the largest shallow brackish water loch in the Western Isles, with six species of breeding waders. *Loch Hallan* is a fine machair wetland with a great range of plant communities and is a Ramsar and SPA site for breeding birds. All these sites are on South Uist (see annex 2 for full details of site notifications).

On Benbecula there is West Benbecula Lochs SSSI, and all the associated coastline interest. Eriskay has no designated SSSIs but is in itself a valuable place for landscape and diversity.

Regional BR

Widening the BR to include North Uist brings in all the biological diversity associated with another 30,305 ha and at least 60 miles of coastline. Of note are:

- Loch an Duin SSSI, a 3606 ha Ramsar site designated for breeding birds, including the red-throated diver, and for otters and seals.
- Loch Obisory: 354 ha of deep brackish loch, one of the best examples in the UK
- Balranald Bog and Loch Nam Feithean SSSI, 838 ha, also an RSPB reserve. Designated for machair and associated breeding birds, this reserve has a visitor centre and a nature trail.

The extension of the transition zone into the sea would also cover a great area, including areas such as the *Baleshare and Kirkibost Islands SSSI*, off the west coast of North Uist. This is part of the *North Uist Machair and Island Ramsar/SPA* site, designated for breeding birds.

5.3 Regional sustainable development

Criterion 3: It should provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale.

Overall assessment: *The existing BR does not meet this criterion. A local BR would score well against this criterion, and a regional BR would score highly. The existing pattern of land use is recognised as underpinning much of the nature conservation interest, and there are additional opportunities to promote and develop sustainable resource use and associated economic activities including active and special interest holidays.*

General

The Uists are already widely recognized as an area of excellence for sustainable land management because of the way in which crofting agriculture maintains ecological interest. The people of South Uist, through the crofting tradition, have a rare level of involvement with the land they live on. Because the continued significance of this land for nature conservation depends on the continuance of crofting management this is an ideal area to demonstrate practical sustainable development at a regional scale. This is particularly the case because the values of the machair and associated wetlands depend on the maintenance of diverse and small-scale agricultural activity across a large swathe of land. This creates a “dynamic mosaic” of changing habitats that cannot easily be conserved through individual site protection.

On South Uist crofting generally provides a top-up income stream, a useful addition to money brought in from other necessary work. The land is not of sufficient agricultural capability to easily rear stock through to finishing, and the livestock here has historically been sold store, that is for fattening elsewhere. This means that development through adding value to agricultural produce is not an easy option and other economic activities are required to enable crofting households to stay on the

island. This firmly links the sustainability of crofting with all its' ecological advantages to the maintenance of a local economy within which the crofting community can find sufficient other work. Salmon farming and fishing (mainly for Norway lobster ("prawns") and scallop) are also significant, further reinforcing the links between people and environment.

Some added value activities take place including seafood processing and niche marketing. As noted above livestock production is mainly focused on store for fattening elsewhere, although there is a small producer of traditional meats on Benbecula. The limited meat processing and lack of dairy production relates in part to the challenging climatic conditions and to the part time nature of production. Any opportunities for developing local value added products with a BR brand would therefore need to be rigorously assessed.

Tourism is also significant – mainly outdoor "activity" style holidays such as cycling, bird watching, fishing and shooting. Many of these activities/opportunities naturally lend themselves, indeed depend upon, the sustainable management and development required by the Biosphere criteria. In a sense the aim of sustainable development here is not to "improve" natural resource use practices but rather to sustain and promote what is already happening, encouraging a thriving local economy on the one hand to reinforce and sustain the population and crofting tradition.

Additional activities that might be promoted under a BR banner include:

- Education and interpretation/visitor centres (such as the "ecomuseum" initiatives found in many other BRs)
- Associated wildlife/activity holidays
- Branding of seafood products
- Further development of marine products for food and health markets

Existing BR

Very few people live on the current reserve ¹⁵. A certain number of visitors will be attracted to the area by the NNR designation having drawn attention to the wildlife interest. As it exists, the current NNR designation may have some educational purpose, and indeed have a small but sustainable effect on visitor numbers to the area, but the existing BR designation has done nothing to increase these effects. The BR designation is currently not linked with regional sustainable development, however defined, and opportunities within this area are strictly limited.

Local BR

Extending the reserve to encompass all of South Uist, Benbecula and Eriskay (essentially the Storas Uibhist area) would bring in approximately 3,520 people and 850 crofts. Of the people, about 700 would be school age, 660 would be pensioners and the remaining 2160 of working age ¹⁶. There are at least twelve bed and breakfast establishments, six hotels, a campsite and a hostel. It is possible that the publicity that could be associated with a re-vamped and extended BR would contribute to the sustainable development of this definite geographical area. The NNR/core area is accessible and attractive and there are enough local tourist providers to share the benefit. The Storas Uibhist estate is itself associated with tourist provision through the letting of their shooting lodge, and shooting on a

¹⁵ There are less than ten properties, not all inhabited, exact population unknown.

¹⁶ Mid 2007 population estimates. See Annex 3.

Biosphere Reserve might have a certain cachet, as might the venison. Fishing on all the hills lochs is centrally organised and one permit covers all the hills lochs except Loch Druidibeg, which can be fished with a separate permit. This is already a well-known place for keen anglers, and at £30 a week, from post offices, is an accessible hobby, in keeping with the concept of a BR for all. The crofting land does not lend itself to finishing stock, so opportunities for other local sustainable products are limited, unless the extension of the transition zone into the sea could include fish farm sites, which would be interesting.

Crucially, there is a good secondary school and community facility at Lionacleit, Benbecula through which much could be made of the educational opportunities associated with the concept of local sustainable development. And there are 700 children, over 300 of them at the secondary school. Benbecula has an airport (not many Biosphere Reserves have their own airport) and Lochboisdale has the ferry to Oban.

Although difficult to define what is meant by regional development, this local area is (or certainly was) in some senses quite a discrete unit in itself, being essentially one huge estate. With the facilities of Benbecula and Lochboisdale there are opportunities to use a BR designation to encourage and label the type of sustainable development that is already planned by Storas Uibhist. Development opportunities currently planned include:

- Harbour and marina development at Loch Boisdale (for fisheries, cruise ships, ferries, yachts)
- Historic local golf course – extension and redevelopment
- Renewable energy
- Rural Development Programme - crofting
- Croft-based tourism
- Coastal protection

Regional BR

Extending the local reserve to include North Uist would bring in approximately another 560 crofts and 1280 people, of which 167 would be children, 366 would be pensioners and 747 would be of working age. The reserve would now include, on top of the provisions of the local reserve area as previously discussed, at least another two bed and breakfast establishments, three more hotels, another hostel and an outdoor activities centre ¹⁷. This extension would bring in the port of Lochmaddy, with the ferry across the sound of Harris to Harris/Lewis, and the ferry to Skye, which is now, due to the Skye bridge, effectively a link to the Scottish mainland. The inclusion of many more people and this important gateway transport link is perhaps the most convincing argument for including North Uist. Leaving North Uist and Lochmaddy out of the BR risks losing out on the publicity afforded by an important transport gateway, and also losing out on the wildlife attractions of North Uist, particularly the RSPB Reserve at Balranald.

¹⁷ From where it is possible to go to St Kilda by RIB, carrying kayaks.

5.4 Three Biosphere Reserve functions

Criterion 4: It should have an appropriate size to serve the three functions of biosphere reserves, as set out in Article 3¹⁸.

Overall assessment: *The existing BR boundaries significantly limit opportunities in terms of the three functions, and especially sustainable development. A larger local or regional BR would enable it to meet this criterion.*

The three functions are conservation, development, and support for research and education. As has previously been made clear, the BR as currently constituted is large enough to have some conservation function and fulfill some research needs but is not big enough to encompass development. A viable BR under the new criteria needs people, and a buffer and transition zone. South Uist, although linked to Benbecula, and hence to North Uist by causeway, is very much an entity to itself. It differs in culture and to some extent in land use patterns from neighbouring North Uist. South Uist itself is large enough to serve all the three functions of a Biosphere Reserve, and as an island has an admirably clear boundary which would lend itself to some extension out to sea if this was thought appropriate. Extending the reserve to include Benbecula is an obvious option, since this would then bring in the school and college at Liniclate, a hospital, an airport, and a range of public service offices. Benbecula is also similar to S Uist in geography and ecology, and is closely associated with South Uist through land ownership as previously discussed.

Existing BR

The current NNR/BR of Loch Druidibeg is good for conservation, education and research but has too few people and little or no opportunity for appropriate development. It is necessarily a highly protected habitat so development is not going to happen.

Local BR

This has good potential to fulfil all three functions. The existing NNR/BR would be a fine core area for education and research, and the remainder of South Uist and Benbecula is well populated enough to build on the publicity that could be generated by a BR designation. The educational aspect would be reinforced by the BR occupying a bigger area and being seen to include people and work. The continuing links between people and their land through the crofting tradition and community ownership further reinforce the BR concept. Involving the fishing industry, both farm and catching, could raise interesting new sustainable development issues for the community.

(i) conservation - contribute to the conservation of landscapes, ecosystems, species and genetic variation;
(ii) development - foster economic and human development which is socio-culturally and ecologically sustainable;
(iii) logistic support - support for demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development.
From Article 3 of the Criteria for the Statutory Framework of Biosphere Reserves

Regional BR

As for a local BR, but this bigger area might have more impact in the tourist market, partly because it would include the terminal for the ferry route from Skye, and the RSPB Reserve. Development opportunities would be enhanced, particularly if fish processors could benefit from the BR “tag”.

5.5 Zonation

Criterion 5: It should include these functions, through appropriate zonation, recognizing:

Criterion 5a) A legally constituted core area or areas devoted to longterm protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives

***Overall assessment:** The BR as currently constituted meets this criterion, as would an extended BR (local or regional)*

The current Biosphere Reserve at Loch Druidibeg is legally constituted as a National Nature Reserve. The Uists also host 3 SSSI and 3 Natura 2000 sites, including one marine site. Taken together these are more than adequate to constitute one or more significant core areas, although it is quite possible that Loch Druidibeg itself would suffice.

Criterion 5b. A buffer zone or zones clearly identified and surrounding or contiguous to the core area or areas, where only activities compatible with the conservation objectives can take place

***Overall assessment:** The existing BR meets this criterion through a range of lesser designations and agreements across sensitive habitat. Buffer zones for a wider area, a local or regional BR can also be easily envisaged, but would require local discussion and agreement.*

Agreement on buffer zones, and the objectives and management appropriate to them would be more difficult. From an ecological perspective the croft lands as a whole provide an ideal buffer zone, since this is a form of land use that underpins ecological objectives. However, there may be resistance to the idea that the buffer zone is managed primarily for conservation objectives - even if these are compatible with crofting objectives. It might be quite acceptable to have a scattered buffer zone made up of local SSSIs; these are already subject to appropriate management agreements and might be perfectly acceptable as is, with little or no inconvenience. A buffer zone does not have to form a protective ring around the core as long as it is supportive of the conservation interest, which, as birds feed in different places, it is. This is an issue which would require locally organized “round the map” discussion, perhaps with the support of a UKMAB committee member or consultant.

Criterion 5c) An outer transition area where sustainable resource management practices are promoted and developed.

Overall assessment: *The existing BR does not comprise such a zone. The remaining parts of South Uist, Benbecula and possibly North Uist, as a local or regional BR, would score well against this criterion.*

Outside the core and buffer zones, the remainder of South Uist might be a most suitable transition area, with a fuzzy boundary extending into the sea. Depending on how people thought about this, one could bring in other islands or not. Certainly South Uist and Benbecula are large enough to display the good effects of sustainable resource management practices. Indeed it already does so, with sustainable agriculture, and tourism very much oriented towards sport fishing, walking, cycling and bird-watching and other outdoor pursuits dependant on the quality of the environment. Areas of particular conservation value within the transition zone are still protected by a range of national and European designations, so the zone could be extended as far as the community feel is appropriate, perhaps to include North Uist.

5.6 Organisation:

Criterion 6. Organizational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.

Overall assessment: *The BR as currently constituted does not have any such arrangements. There are however strong local institutions concerned with land and water use which might take on such a role over a local or regional BR*

South Uist (and Benbecula) has a strong community and cultural identity. There is already a strong “sense of place” and locally based organizations concerned with land and water management and the local economy. The people of South Uist and Benbecula have just bought most of their islands in the biggest community land buyout in the history of Scotland. Eight hundred and fifty crofters bought out 93,000 acres in a deal worth over £4.5 million. Storas Uibhist now manages the land on behalf of the crofters. Comhairle nan Eilean Siar and Highland and Islands Enterprise, both of which have local offices, are a supportive presence. There is a local school and community center and a strong local music scene. Cultural identity and sense of place are unusually well supported by organizational arrangements, which bodes well for any Biosphere Reserve governance.

Whatever the scope of a BR, the key to success would be to make organisational arrangements as simple as possible – and not add yet another administrative layer. A possible model here is that used in France for some of the “Regional Parks”. In this case there is no significant management organisation, rather a “*Charte*” or Charter – a set of agreed principles which all the various parties and partners agree to. The detail of implementation is left very much to individual actors. The only sanction is

that of peer pressure – and the option for the other partners to exclude partners who fail to adhere to the *Charte* principles¹⁹.

5.7 Necessary provisions:

Criterion 7. In addition, provisions should be made for:

Criterion 7a) mechanisms to manage human use and activities in the buffer zone or zones

The BR as currently constituted does not have buffer zones and associated management mechanisms. If a local or regional BR could use SSSIs as a buffer zone the management arrangements already exist and would score well against this criterion

Management mechanisms for a re-developed BR would depend on the nature and boundaries of the buffer zone(s). It is possible that existing land/water management objectives in areas surrounding potential core areas are already adequate to meet this criterion. Indeed this might well be a criterion for the identification and selection of such areas. Otherwise there are two options, which could be used together:

- use existing designations such as the SSSIs on South Uist and possibly Benbecula as scattered buffer zones for the core NNR/BR area;
- negotiate with crofting tenants to agree on a ring of buffer zone around the core area.

Agreement on the boundaries of the various zones and corresponding management mechanisms will require facilitated roundtable/map discussions. Our own view is that any such mechanisms should be very simple and couched in terms of broad principles and outcomes, coupled with reference to existing management provisions, of which there are many.

Criterion 7b: a management policy or plan for the area as a biosphere reserve;

Assessment: The existing BR does not have any such policy. A local or regional BR would need to develop a plan to meet this criterion

If there is interest in taking the BR forward in a bigger area, then facilitated round table discussion would be required to begin to generate such a policy or plan. But it needs to use existing resources and emphasise that much of this is already happening.

Our own view is that given the plethora of existing designations and associated plans, this should be limited to a simple and concise policy rather than plan, based on a set of broad principles, outcomes and mechanisms. Reference to Storas Uibhist development proposals and discussion with Comhairle nan Eilean with regard to any

¹⁹ Examples and discussion of this approach can be found in Hambrey Consulting, 2008. A review of relevant experience of coastal and marine national parks. Scottish natural Heritage Commissioned Report No. 271 (ROAME No. RO7NC). Report available at http://www.snh.org.uk/pdfs/publications/commissioned_reports/Report%20No271.pdf. Individual case studies available from Hambrey Consulting.

relevant plans they may have should be adequate to meet most of the requirements of this criterion.

Criterion 7c: *a designated authority or mechanism to implement this policy or plan*

The existing BR does not have any such provisions (except with respect to the conservation and access arrangements for the existing NNR/BR as organised by SNH). Local discussion would need to determine how to meet this criterion for a local or regional BR.

Again, we believe that this could be kept very simple, by drawing together existing mechanisms or organizations. Some BRs have no more than a designated officer answering to a “steering group”. Rather than implementation of a complex plan, the key to success should be effective facilitation and coordination of existing mechanisms and organisations, and identification and promotion of positive opportunities as they arise.

Criterion 7d: *programmes for research, monitoring, education and training.*

Overall assessment: *The existing BR as does not have any such provisions. A local or regional BR would need to develop programmes to meet this criterion*

The existing BR does not have a high profile; while most people are aware of the coincident NNR designation they are generally not aware of the BR – even those who live on it.

At the present time there are no Criterion 7 provisions in place, although there has been periodic research and education associated with the NNR.

If however local people were to be persuaded that the BR could be beneficial and wished to continue the designation under the new criteria, there exists significant organizational capacity strongly related to land and water use. Storas Uibhist as the major landowner in the area has its own management team. The Crofting Union and Fishermen’s Association are both influential in the local community. Comhairle nan Eilean has a history of support for community initiative, as has Highlands and Islands Enterprise. The school and college at Liniclate offers an important potential focus for educational activity.

5.8 Summary

Table 1: summary assessment against article 4 criteria

Criteria	Existing BR	Local BR	Regional BR
Mosaic of ecological systems/gradation of human intervention	Good	Excellent	Excellent
Significance for biological diversity	Good	Excellent	Excellent
Opportunity to explore and demonstrate sustainable development on a regional scale	Poor	Good	Good
Adequate size to promote conservation, sustainable development and education/research	Limited	Good	Good
Opportunities for agreed zonation	Non-existent	Good	Good
Opportunity for community/stakeholder participation	Moderate	Excellent	Good
Management mechanisms	Limited	Good	Moderate (More difficult than the local BR due to >1 landlord)

6 Potential social, economic and environmental benefit of a new-style Biosphere Reserve based on Loch Druidibeg NNR

In this discussion we are making the bold assumption that the BR, if the community decide to go ahead with one, would have Loch Druidibeg NNR as the core area, a buffer comprising slightly scattered SSSIs on South Uist and Benbecula, and a transition zone that is either South Uist and Benbecula or North and South Uist and Benbecula.

Social and economic benefits would depend almost entirely on how the idea was “sold”, both to the local community and to the tourist market, and the extent to which local businesses could increase their turnover and profits by making effective use of the designation. Environmental benefits would be limited, but only because the buffer and core zones are already well protected by statutory designation.

6.1 Assessment against sustainability criteria

The following assessment of potential benefit is based on a framework developed in previous work undertaken by Hambrey Consulting on Biosphere Reserves for DEFRA²⁰.

Table 2: Analysis of potential benefits using a sustainability framework

Key:

- *grey*: significant marginal benefit unlikely
- *cream*: * limited benefits possible
- *amber*: **potential for benefit
- *dull green*: ***modest benefit likely
- *bright green*: ****significant benefit likely

²⁰ Hambrey Consulting 2008. The Potential for Biosphere Reserves to achieve UK social, economic and environmental goals. CR 0393 DEFRA Research. Available at <http://www.hambreyconsulting.co.uk/recent-reports-g.asp>

Dimensions	Criteria/potential benefit	Identified benefit *
A healthy environment		
Biodiversity	species diversity, range and abundance	This is well catered for by existing designations and management initiatives. It is unclear that the designation will add significant value
	habitat extent and condition	This is well catered for by existing designations and management initiatives. It is unclear that the designation will add significant value
	structural diversity and connectivity	***This may be partly addressed in the evolving RDP. However, there is potential to focus the conservation function of the BR in this area adding value to the existing conservation management which remains very site and species/habitat specific.
Landscape	character, condition and qualities	***This largely catered for through the existing NSA. However, a BR might focus especially on linking structural diversity and connectivity with landscape quality and character.
Ecosystem services	quality and productivity of soil, water, air	**Water and air quality is well catered for through SEPA, the Water Framework Directive and other major environmental management programmes. Soil quality is an area often neglected and there may be some opportunities to add value in this area.
	efficient drainage	**Again this is largely catered for through the Water Framework Directive, though there may remain opportunities to integrate that work with initiatives related to landscape and biodiversity as described above
	erosion resistance	**This relates closely to issues of drainage, water quality, landscape and ecological connectivity/diversity. There have been specific initiatives relating to dune erosion, but it is unclear that BR designation would enhance or lead to better funding of these initiatives.
	carbon sinks	**This relates closely to issues of drainage, water quality, landscape and ecological connectivity/diversity
	other ecosystem services	

A healthy society		
Recreation and access	active recreation	**** A "biosphere reserve" sounds like a healthy place to be, and the brand could well help business development in this area.
	access	Access is already good due Scottish legislation
	passive recreation and inspiration	**** The BR designation is likely to strengthen and promote media production of all kinds
Understanding and awareness	understanding and awareness	****A BR over a wider area, well supported by existing community initiatives, could raise awareness among visitors, particularly regarding crofting land-use.
Community	engagement <i>with</i> community	***The existing BR is necessarily limited by its statutory obligations and priorities as NNR/SSSI. A BR with stronger emphasis on sustainable development should facilitate engagement.
	involvement <i>of</i> community	**Establishing a BR would require involvement of the community. In this sense it would either add value, or fail. For the reasons noted above, it is likely that greater engagement of the local community will be achieved for an initiative whose primary objective is sustainable development, rather than the more conservation orientated objectives of the NNR
	vitality and cohesion	The area is already fairly cohesive by virtue of strong crafting traditions, and the community buyout. It is impossible to predict the effect of a BR, which might on the one hand strengthen pride in place, or on the other reinforce existing differences of perspective.
The quality of places to live	near environment (greenspace)	**This is largely dealt with under landscape above
	houses and gardens	Limited

A healthy economy		
Employment and income	direct employment and income	***The hotel trade is important – can only strengthen this. A BR tag may also help the fishing industry, farm and catch.
	indirect employment and income	***ditto
	job quality	***May facilitate move to a higher quality tourism experience and more interesting/skilled associated jobs
	income and jobs foregone	unlikely
Business	business opportunities and constraints	***Probably good for tourism based business, and especially the outdoor/adventure/wildlife sub-sectors. Might also benefit the fishing/fish farming sector.
	short term investment	***Could well attract investment – if well promoted and marketed
	long term investment	As above
	human resources	*Insofar as there are opportunities for education, training and business development it should strengthen human resources; more generally benefits in this area are rather intangible
Resource use	conservation of resources with an economic value	*These are largely addressed through existing management provisions in respect of water and fisheries. There may be more novel initiatives relating to e.g. soils and peat.
	conservation of resources with <i>potential</i> economic value	No obvious benefits here
1.1.1.1.1 Other	<i>any other economic impacts</i>	<i>Not determined</i>

6.2 Strengths and weaknesses of future alternatives

The following table offers a preliminary assessment of the strengths and weaknesses of re-designating a BR at alternative geographic scales.

Table 3: Strengths and weaknesses of future alternatives in terms of geographic scale

	Local BR	Regional BR
Strengths/opportunities	<p>Good core area. Potential buffer zones available. Community ownership of all the BR promotes identity. Easier to get consensus for action</p>	<p>Good core area. More potential buffer zones available. Large transition area = more time and skills available Widespread potential benefits Inclusion of important ferry link to Skye. Inclusion of fish processing businesses. Inclusion of RSPB reserve.</p>
Weaknesses	<p>Might become insular. Risk of missing out North Uist businesses.</p>	<p>Hard to get consensus over a larger scattered group More landowners to deal with.</p>

Annex 1: Report of initial meeting. (excluding initial article 4 criteria assessment)

Held at the Polochar Inn, South Uist, on 12 November 2008

Present:

Kirsty Campbell, Development Manager Storas Uibhist
Kate MacDonald, Bornish Community Council
Anne Maclellan, Biodiversity Officer, Comhairle nan Eilean Siar
Roddy MacDonald, Economic Development, Comhairle nan Eilean Siar
Ian MacDonald, Crofter of Stilligarry, South Uist
David Muir, Scottish Crofting Foundation
Simon Smith, Scottish Natural Heritage

Richard Butler, UK MAB Committee
John Hambrey, Hambrey Consulting
Sue Evans, Hambrey Consulting

Apologies were received from Norman MacAskill and Angus Campbell both of South Uist. Thanks are also due to Diane Macpherson, Principal Policy Officer Planning, Sustainable Communities, Comhairle nan Eilean

Introduction

The aim of this meeting was to re-introduce the concept of the Biosphere Reserve to a knowledgeable local audience, see if there was interest in the idea and begin to review the potential that an expanded Biosphere Reserve would have to meet the required criteria for designation. These criteria are set out in Article 4 of the Statutory Framework of Biosphere Reserves, as published by the United Nations Educational, Scientific and Cultural Organization (UNESCO), which is attached as an annex to this meeting report.

The meeting began with an introduction by Richard Butler followed by a presentation from John Hambrey drawing on experience from other Biosphere Reserves. The general discussion that followed gave a good indication as to how an expanded Biosphere Reserve might begin to meet the required criteria.

It should be understood that the Biosphere Reserve at Loch Druidibeg NNR, as currently constituted, probably does not meet the UNESCO criteria, which have changed since the designation was first made. The Loch Druidibeg site currently extends to 1677ha and includes a spectrum of habitats from moorland through to coastal machair. There are opportunities to extend the scope of the BR (and in particular the “transition zone”) to encompass sustainable natural resource use and enterprise over a wider area and better meet the new criteria.

The crucial issue is whether or not the community here feels a Biosphere Reserve designation on a larger area, meeting the revised criteria set out below, would help fulfill their hopes for their island and whether or not they wish to run one. The following analysis is for the community, to hopefully assist them in deciding whether or not to try and do this, and also for the UK MAB Committee so that they may better assess the potential of this site and the perspective of some local people.

Views of local people

This was an introductory meeting, with relatively few though fairly representative persons present. Much of the meeting was taken up with clarifications of what a “new style” BR could mean for the local people and economy, and it is far too early to ascertain views. This is a learning process and requires much discussion and thought before local views are crystallized.

Nonetheless there was what might be termed as “wary enthusiasm” for the idea amongst those present. The “Biosphere Reserve” name does not help here; there is a history of mistrust of designations, and some designations have become more restrictive over time, reinforcing this mistrust. There will need to be clarification and reassurance that BR management will be in the hands of local people and will not require “micro-management” of natural resources for conservation objectives. There is recognition that the designation – in this case more of an *accolade* for existing resource management – could bring significant prestige to the island/s and may benefit several activities, including crofting, fishing, shellfish processing, tourism and education.

Questions and issues raised, and opinions expressed at the meeting

On the Swedish BR site (Kristianstads) used for the presentation:

- What are the core areas?
- How is the boundary drawn?
- Is this an area particularly dense in designations?

On South Uist:

- Generally, people don't know we have a BR here.
- Are we talking about moving the Loch Druidibeg boundaries?
- It is an interesting idea, pro-active, not restrictive, an opportunity.
- It is a unique club and a development opportunity
- We don't have 850 crofters here tonight.
- It is about getting recognition for what is happening.
- It should be an accolade
- Is this going to be a problem for tenants?
- Will it conflict with development already in progress?
- South Uist and Benbecula are covered in designations.
- Designations have become to be seen as very restrictive and it will be tough to prove that this one is not.
- We don't need a BR to bring us together to work for sustainable development.
- Low land capability classification
- Store producing area; generally not enough feed to finish stock.
- Crofting is a second job, used to supplement another income.
- Crofts on North Uist are larger, they tend to have more stock and are less part-time.
- Tourists here are the outdoor type. Birdwatchers, walkers, cyclists. Slightly older people looking for something different.
- The machair should be world status.
- The BR tag should be on the area, not on products.
- NGOs might use the BR status to try and reinforce existing designations?
- What is the legal status?
- We don't want to lose this yet.

Annex 2: Ecological information

SSSIs – All details extracted from SNH website.

South Uist Machair SAC

<http://www.jncc.gov.uk/ProtectedSites/SACselection/sac.asp?EUCode=UK0012713>

Kipheder to Smerclate SPA <http://www.jncc.gov.uk/default.aspx?page=1852>

Loch Druidibeg SSSI (Also NNR/Ramsar/SPA/and part of the South Uist Machair NSA).

Area. 1677 ha

Location: South Uist

Grid reference: NF 782378, OS Landranger sheet 22.

Notified for: Blanket bog, breeding birds, geology, greylag geese, machair, machair loch, oligotrophic loch, sand dunes, scrub, subalpine dry heath.

Loch Druidibeg, and its associated catchment and coastline, is part of the largest machair system in the British Isles, and provides one of the best examples in the Western Isles and in the national series, of a complete transition of habitats from the western coastal machair system to the inland acid moorland and blanket bog. This range of habitats supports many notable plants and animals.

The west-facing shore of sand and shingle, with rock outcrops as at Sgeir Drimsdale, is highly exposed to salt-spray from the Atlantic Ocean. It is fringed by low shell-sand dunes with dune slacks, and grades eastwards into a machair plain containing shallow lochs with associated fens and marshes. The shell-sand of the machair plain merges with the peat of the acid moorland and blanket bog in the 'blackland'. Parts of the machair and blackland are used for traditional crofting in rotational cultivation and seasonal stock grazing; the fallow periods on the machair encourage a rich flora, with some locally occurring plants including Cornsalad *Valerianella locusta*. Marshes and fens bordering machair lochs support a variety of wetland plants including Early Marsh Orchid *Dactylorhiza incarnata* and Lesser Tussock-sedge *Carex diandra*.

The shallow nutrient-rich lochs on the machair plain have sandy or peaty shores, and show successions from open water to species-diverse marsh and fen communities. In contrast, Loch Druidibeg and the small inland lochs surrounded by blanket bog are nutrient-poor and support a different range of freshwater species. Whereas some species, for example the 3- and the 10- spined sticklebacks *Gasterosteus aculeatus* and *Pungitius pungitius*, occur in moorland and machair lochs, molluscs are fewer in number and species in the moorland lochs; and others such as the Caddis fly larva *Polycentropus flavomaculatus* are found only in moorland lochs. Loch Druidibeg, the largest nutrient-poor loch in South Uist, is very shallow, with a mean depth of 1.5m. Variations in salinity and calcareous influences are demonstrated by the distribution of brackish water invertebrates such as the shrimp *Gammarus duebeni* and the Spire shell snail *Potamopyrgus jenkinsi*.

Many of the islands in Loch Druidibeg are covered by relict woodland scrub dominated by Willows *Salix* spp, with Rowan *Sorbus aucuparia*, Birch *Betula pubescens*, Juniper *Juniperus communis* and a woodland flora of Bluebell *Endymion non-scriptus*, Primrose *Primula vulgaris* and Royal fern *Osmunda regalis* around their shores. This is one of the most important breeding grounds in the British Isles for

native Greylag geese *Anser anser*. Nationally significant numbers of waders, such as Dunlin, feed and nest particularly on the machair, whilst Herons nest on islands in Loch Druidibeg, and there are several Tern colonies. Other species of national importance also breed in the area. This coastal area is part of a single beach complex extending for more than 20km from Ardivachar to Stoneybridge. From the sandy shore eastwards to the blackland the landform sequence includes the coastal dune ridge; the low, flat seasonally flooded machair plain, with lochs; and a hilly machair backslope.

Bornish and Omiclate Machairs SSSI

Area. 662.70ha

Location: South Uist

Grid reference: NF 753309, Landranger 22

Notified for: Breeding birds, loch trophic range, machair and sand dune.

This diverse coastal site contains a wide variety of habitats, flora and fauna characteristic of the South Uist machair plain; with those at Rudha Ardvule subject to extremes of exposure and marine influences. The lochs in the Site are representative of the loch types associated with the machair plain.

The extensive sandy shores are interrupted by the rocky peninsula of Rudha Ardvule where large storm beaches have formed. Above the shores, sand dunes, with dune slacks, grade into the machair plain, which is bounded inland by rocky blackland. Much of the dry machair is cultivated in a rotational pattern, using traditional methods, and grazed seasonally by sheep and cattle; wet machair grades into marshes and reedbeds around some of the loch margins. This range of habitats is reflected in the diversity of their associated plant and animal communities. The coastal Loch Ardvule is oligohaline (slightly salty) due to seaspray and contains both brackish and freshwater plants and animals. Loch Toronish and West Loch Ollay are typical species-rich machair lochs bordered by blackland on their eastern shores. Loch Toronish has a large range of species within its dense, submerged vegetation and, unusual for a machair loch, it contains the caseless Caddis Fly larva *Polycentropus flavomaculatus*. West Loch Ollay contains a distinct zonation of aquatic plant communities, including large Reed *Phragmites australis* beds and a floating fen at the northern end. West Loch Ollay and Mid Loch Ollay, the latter being completely within the blackland, both contain several nationally scarce aquatic plants and up to ten *Potamogeton* species. Differences in the nutrient content of the lochs are apparent from the distribution of animal populations.

Many waders and wildfowl breed and overwinter on the Site. Some of the largest concentrations of breeding Ringed Plover in the Western Isles occur here, together with high numbers of Dunlin, Redshank and Oystercatcher. There is a Tern colony, and several species of national importance breed in the Site.

Howmore Estuary SSSI

Area. 424.1 ha

Location: South Uist

Grid reference: NF 756356 Landranger 22

Notified for: Breeding birds, dunlin, machair, oligotrophic loch, redshank, and the saline lagoon.

The Howmore Estuary and its catchment system in this site form one of the best examples of a transition from salt to freshwater habitats in the Western Isles, and in

the national series. The Site is also notable for the distinct transition from plant and animal communities characteristic of the coastal calcareous machair plain to those of the acidic blackland. The short estuary of the Howmore River and Loch Roag are both under tidal influence and contain aquatic plants and animals typically found in saline and brackish water as well as those only found in freshwater. Loch Fada flows into Loch Roag through sluice gates which prevent brackish water entering this freshwater loch. Attached to stones in the Howmore River are seaweeds such as *Enteromorpha intestinalis* and *Fucus ceranoides*, the latter is the main alga in Loch Roag. Growing around the inflows of Loch Roag and in the margins of Loch Fada are freshwater plants such as shore-weed *Littorella uniflora* and pondweed *Potamogeton* species. The variations in salinity are reflected in the changes in the fish and invertebrate communities.

Loch na Liana-Salaich is a seasonal machair loch. The other lochs in the Site in the catchment of the Howmore River are mainly situated in the blackland and contain relatively few aquatic species. Beside the Abhainn Roag, and on several islands in lochs, there are stunted willow *Salix* sp, and rowan *Sorbus aucuparia* trees.

The low machair plain is separated from the open, extensive shell-sand beach by a low coastal dune ridge. A dry machair flora occurs on the sloping area of the plain, whereas a wet machair flora is found in the lower, damper areas. The dry machair is cultivated, in the traditional, rotational pattern, and is also grazed seasonally by sheep and cattle. Dry machair plants such as Rue-leaved Saxifrage *Saxifraga tridactylites* indicate the traditional use of natural fertilisers and periods of fallow. The wet machair grades into marshes and fens around ditches and loch margins. Whereas machair grows on the calcareous sand, blackland, with its characteristic acidic vegetation, occurs in areas of peat overlying rock.

Waders and wildfowl feed, nest and overwinter within this Site, with nationally high numbers of breeding Dunlin and Redshank. Several species of national importance breed on the site.

Loch Bee SSSI

Area. 1172.9ha

Location: South Uist

Grid reference: NF 770430 Landranger 22

Notified for: Brackish water cockle, breeding birds, geology, machair, mute swan, saline lagoon and saltmarsh.

The largest shallow brackish water loch in the Western Isles. The loch is connected with the sea at its northwest and southeast extremities and the salinity varies throughout the loch from almost fresh to almost saltwater. This is reflected in the distribution of the co-existing marine and freshwater plants and animals.

The largest part of the loch is surrounded by either rocky grassland or acid moorland but beside the west shore there is an extensive area of saltmarsh and wet machair which, further westward, grades into dry machair. Small areas of fen occur in some localities. The loch is one of the most important feeding and breeding areas in the Western Isles for water fowl, including mute swans, whilst the western edge, especially the wet machair and saltmarsh, support very high densities of six species of breeding waders; Dunlin, Redshank, Snipe, Oystercatcher, Ringed Plover and Lapwing. It is probable that the Dunlin at least are nesting at densities higher than anywhere else in Britain and possibly Europe. The locally distributed brackish water cockle, *Cerastoderma lamarchi*, occurs in the loch. Part of a single beach complex

extending for more than 20km from Ardivachar to Stoneybridge. From beach (not in SSSI) to "blackland" the sequence includes coastal dune ridge; low, flat, seasonally flooded machair plain; retreating escarpment; hilly machair backslope and machair loch. The low machair plain represents the ultimate stage in machair development formed as a result of deflation by scarp retreat.

Loch Bee Machair SSSI

Area. 797ha

Location: South Uist

Grid reference: NF 755430. Landranger sheet 22

Notified for: Breeding birds, geology, dunlin and machair.

The Loch Bee machair together with adjoining sites form the most complete machair system in Scotland and contain virtually the whole range of machair landforms. It is notable for species-rich uncultivated and cultivated machair vegetation and internationally important numbers of breeding waders.

The machair plain, which has formed inland of the low coastal dune ridge above the continuous Atlantic-facing sand beach, contains areas of hummocky dunes, dune slacks, wet machair and marshes. The traditional cultivation and grazing patterns, along with long-term fallow areas, have allowed a rich diversity of plant and animal communities to develop.

Within the characteristic dry machair vegetation locally occurring species such as Twayblade *Listera ovata* grow. The uncultivated machair is remarkable for patches of rich dune slack communities with Baltic Rush *Juncus balticus*; in other patches Adder's tongue *Ophioglossum vulgatum*, Lesser Clubmoss *Selaginella selaginoides* and Early Marsh Orchid *Dactylorhiza incarnata* grow in unturned ground. Where Marram Grass *Ammophila arenaria* grows far inland this indicates recent dune re-formation. The occurrence of patches of heath in the machair is a very rare feature.

Fine wet machair communities include the Frog Orchid *Coeloglossum viride*. The marshes contain areas dominated by Glaucous Sedge *Carex flacca* and Common sedge *Carex nigra*; saline influence is apparent in areas where Saltmarsh Flat sedge *Blysmus rufus* and Sea club-rush *Scirpus maritimus* grow. The machair and associated marshes support exceptionally high densities of breeding waders, for Western Europe, including internationally important populations of breeding Dunlin. The dune slacks and wet machair, which merge into the western shore of Loch Bee, are a particularly favourable habitat for breeding Dunlin. Other feeding, nesting and overwintering birds that frequent the site include several species of national importance, along with a variety of Waterfowl.

This beach complex lies within the nationally important Aird a'Mhachair to Staoinebrig coastal landform assemblage. Most types of beach, dune and machair surface in the Outer Hebrides are represented within the site, and the system is particularly noted for its range of erosional and depositional forms. Eastwards from the Western shell sand beach the sequence of landforms includes a coastal dune ridge behind which there is either hummocky dune machair (1-3m high and up to 8m in diameter); or seasonally flooded machair plain bounded inland in places by retreating escarpment or a machair back slope. At Drimore and lochdar there are excellent examples of linear blow outs at every stage of development. The inland extent of Marram Grass indicates that dunes have been reworked and redeposited. The low-lying machair plain represents the ultimate stage in machair development; it has been formed as a result of deflation by dune scarp retreat.

Loch Hallan SSSI

Area. 364.1ha

Location: South Uist

Grid reference: NF 738224 Landranger 22, 31

Notified for: Breeding birds, machair, machair loch and wetland.

The Loch Hallan system is one of the finest machair wetlands in Scotland. The lochs, marshes and surrounding land are all maintained within one long-established drainage system. There is a transition of habitats from the machair on calcareous shell sand to the blackland, where sand mixes with peat, in which there are nutrient-poor lochans. These habitats support contrasting plant and animal communities.

Loch Hallan is a shallow nutrient-rich machair loch where the slow water movement has allowed the formation of the most extensive reed beds in the Uists. They are dominated by the Common reed *Phragmites australis* and the Grey clubrush *Schoenoplectus tabernaemontani*, with large populations of Cowbane *Circuta virosa*, which is at its northern limit in the British Isles. The reeds grade northwards and westwards into shorter herb-rich marsh vegetation dominated by Lesser tussock-sedge *Carex diandra* and Common sedge *C.nigra* with a large number of moss species for the Uists. The southern shallow sandy part of the loch is dominated by floating vegetation, in particular a *Chara* sp – Slender-leaved pondweed *Potamogeton filiformis* association, with the nationally rare Flat-stalked pondweed *P.friesii* and large rafts of Various-leaved pondweed *P.gramineus* also present. Loch na Liana Moire, in the north, has an unusually diverse flora. There are at least ten species of pondweed, including the nationally scarce Flat-stalked pondweed *P.friesii* and other rare species, such as Slender-leaved pondweed. *P.filiformis* and Long-stalked pondweed *P.praelongus* which grow amongst the algae *Chara baltica* and *Nostoc* sp. As well as extensive areas of Grey clubrush *S.tabernaemontani* there are both sand and peat based marshes by the loch shores. This loch has a characteristic machair loch fauna, and is remarkable for the high number of water beetle species. Loch na Liana Moire, in the south, and An Liana Mhor, have reed beds and marshes which support important numbers of breeding birds. The vegetation in the blackland dubh lochans reflects differences in nutrient supply to the individual lochs: for example, a *Phragmites australis* reed bed occupies most of Loch an t-Sil; whereas White water lily *Nymphaea alba* rafts cover much of Loch a'Thuathail, which has willow *Salix* sp bushes on its banks. The ditches support a range of communities, with such notable species as Red pondweed *Potamogeton alpinus*. The coastal machair plain has large populations of orchid *Dactylorhiza* species and many mosses. The machair is grazed seasonally by sheep and cattle, and parts are cultivated or left fallow in the traditional, rotational pattern, which maintains arable wild flower populations. Wet machair fens and marshes occur between the dry machair and the machair lochs and ditches. Landward from the eastern shorelines of the machair lochs typical blackland marsh vegetation reflects the acidic influence of the peat, with for example Meadow sweet *Filipendula ulmaria* and Bottle sedge *Carex rostrata*. The site is an important area for feeding, nesting and overwintering waders and wildfowl, in particular breeding Redshank, Dunlin, Peewits and Oystercatchers. Several species of national importance breed within this site. Qualifies as an Internationally Important Wetland under the Ramsar Convention and as a Special Protection Area for Wild Birds under the European Communities Council Directive, 1979.

Annex 3: Social and economic information

The following data has been collated from socio-economic reports produced by Comhairle nan Eilean Siar (Western Isles Council) ²¹, and from Scottish Neighbourhood Statistics ²² and the Scottish Index of Multiple Deprivation (SIMD) ²³ produced by the Scottish Government.

For the purposes of SIMD, Scotland is divided up into “data zones”, which typically have populations of 500-1000 people. Data zones are a statistical tool and may not always correspond to recognizable community units. For each data zone, statistical information is compiled under 7 separate “domains” covering income; employment; crime; education; health; housing and access. The combined index is used in this report. The result of the statistical process is a ranking of all 6,505 data zones from lowest to highest. Scottish Government (SG) can use the SIMD results as a means to identify areas suffering from multiple deprivations so that these can be targeted for assistance.

Annex table 3.1 Population and Scottish Index of Multiple Deprivation (SIMD) for the Uists and Benbecula datazones.

Datazone name	Datazone number	Population 2007	SIMD rank (2006) out of total of 6505	% SIMD ranking
Eriskay to south Boisdale (South Uist)	SO1002341	537	2443	37%
Loch Boisdale (South Uist)	SO1002342	770	2564	39%
Loch Eynort to Lochdar (South Uist)	SO1002343	626	1851	28%
South Benbecula	SO1002344	705	2336	36%
North Benbecula to Grimsay	SO1002345	881	2495	38%
East North Uist to Bernaray	SO1002346	699	2933	45%
West North Uist to Baleshare	SO1002347	582	2510	38%

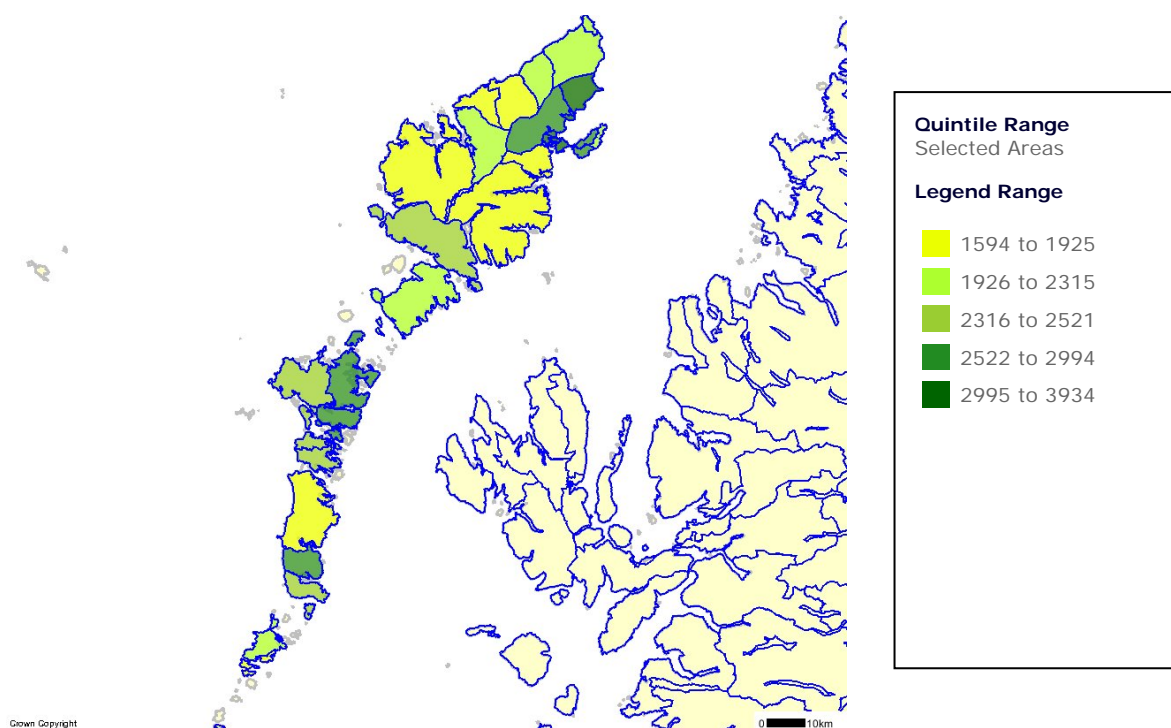
Sources: Scottish Index of Multiple Deprivation 2006
Scottish Neighbourhood Statistics 2007

²¹ <http://www.cne-siar.gov.uk/factfile/documents/Socio%20Economic%20Update%2010.pdf>
and <http://www.cne-siar.gov.uk/factfile/socioeconomicoverview.asp>

²² <http://www.sns.gov.uk/>

²³ <http://www.scotland.gov.uk/Topics/Statistics/SIMD/map.asp>

Map 3.1. Index of multiple deprivation rank 2006 - Eilean Siar.



Annex table 3.2 Population structure for the Uists and Benbecula, Western Isles and Scotland. Scottish Neighbourhood Statistics 2007.

Area/Datazone name	% Children	% Working Age	% Pension Age
Western Isles (Scotland in brackets) pop 26300	17.52 (17.82)	58.38 (62.72)	24.10 (19.45)
Eriskay to south Boisdale (South Uist)	18.44	53.63	27.93
Loch Boisdale (South Uist)	18.52	58.20	23.01
Loch Eynort to Lochdar (South Uist)	18.09	66.18	15.74
South Benbecula	21.85	60.71	17.44
North Benbecula to Grimsay	21.95	65.32	12.73
East North Uist to Bernaray	13.98	57.70	28.32
West North Uist to Baleshare	11.93	59.23	28.84

Annex table 3.3. Residents of the Western isles in employment – from 2001 Census

Industry of employment	No of residents	Western Isles %	Scotland %
Public sector *	3658	31.8	26.8
Retail, trade and repairs	1344	11.7	14.4
Construction	1216	10.5	7.5
Manufacturing	1039	9.0	13.2
Finance and business	1027	8.9	15.8
Transport and communications	931	8.1	6.7
Fishing	666	5.8	0.3
Hotels and restaurants	666	5.8	5.7
Other	555	4.8	5.3
Agriculture and forestry	175	1.5	2.1
Mining and quarrying	125	1.1	1.2
Electricity, gas and water	104	1.0	1.0
totals	11511	100	100

Annex 4: Recent community, educational and research activities.

The following have been surveyed in the last 10 years

- Blanket bog
- Breeding bird assemblage
- Geomorphology
- Greylag goose breeding
- Machair
- Machair loch
- Oligotrophic loch
- Sand dune
- Scrub
- Subalpine dry heath

Events in the past few years have been less than hoped for because of the uncertainty of the NNR status but there has been guided walks, a new interpretative leaflet and a newsletter.

Source: SNH Personal communication Jan 2009