

**SCOTTISH
NATURAL
HERITAGE**



**Firth of Lorn
Special Area of Conservation**

Advice under Regulation 33(2)
of The Conservation (Natural Habitats, &c.) Regulations 1994
(as amended)

30 March 2006

About this Package:

Section 1 of this document provides a general introduction and Sections 2 and 3 fulfil Scottish Natural Heritage's duties under Regulation 33(2) of The Conservation (Natural Habitats, &c.) Regulations 1994 (Habitats Regulations) (as amended by The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004). This requires that SNH advises other relevant authorities as to the conservation objectives of the site (see Section 2) and any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, in so far as such disturbance could be significant, for which the site has been designated (see Section 3).

Annexes A and B provide supplementary, non-statutory information. Annex A gives information on the sensitivity and vulnerability of the qualifying interest: 'Reefs'. Annex B gives some indication as to the extent, distribution, structure, function and processes that affect the qualifying interest. It should be noted that this is indicative and not definitive, and as more site information is gathered these sections may be updated.

The Firth of Lorn was designated by Scottish Ministers as a Special Area of Conservation (SAC) on 17th March 2005. This site is also referred to as a 'European site' (Regulation 10(1)). A 'European marine site' is a 'European site' which is wholly or in part marine (Regulation 2(1)) and is hereafter referred to as a marine SAC.

Although the following statutory information is for the benefit of relevant authorities (see below for explanation of their role), it can also be used by other competent authorities when assessing plans or projects.

1 Introduction

1.1 Background

The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended by The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004), commonly referred to as the Habitats Regulations, transpose the EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) into domestic legislation. Regulation 33(2) gives Scottish Natural Heritage a statutory responsibility to advise other relevant authorities as to the conservation objectives for marine SACs in Scotland, and any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species for which the site has been designated.

This document presents the Regulation 33 advice, plus supporting information, for the Firth of Lorn SAC to assist relevant and competent authorities, local interest groups and individuals in considering management (including any management scheme) of the site. This advice, plus supporting information, will also help to determine the scope and nature of any “appropriate assessment”, which the Habitats Directive requires to be undertaken for proposed plans and projects that are not connected to the conservation management of the site and are considered likely to have a significant effect. Where necessary Scottish Natural Heritage will also provide more detailed advice to relevant, and other competent, authorities to inform assessment of the implications of any such plans or projects.

1.2 Relevant and competent authorities

Within the context of a marine SAC, a relevant authority is a body or authority that has a function in relation to land or waters within or adjacent to the site (Regulation 5) and include: a nature conservation body; a local authority; water undertakers; a navigation authority; a harbour authority; a lighthouse authority; a river purification board (SEPA); a district salmon fishery board; and a local fisheries committee. All *relevant authorities* are *competent authorities*.

A competent authority is defined in Regulation 6 as “any Minister, government department, public or statutory undertaker, public body of any description or person holding a public office”. In the context of a plan or project, the *competent authority* is the authority with the power or duty to determine whether or not the proposal can proceed.

1.3 The role of relevant authorities

The Habitats Regulations require relevant authorities to exercise their functions so as to secure compliance with the Habitats Directive. A management scheme may be drawn up for each marine SAC by the relevant authorities as described under Regulation 34. For marine SACs with overlapping interests, a single management scheme may be developed.

Where a management scheme is in place the relevant authorities must ensure that all plans for the area integrate with it. Such plans may include shoreline

management plans, Sites of Special Scientific Interest (SSSI) management plans, local Biodiversity Action Plans (BAPs) and sustainable development strategies for estuaries. This must occur to ensure that only a single management scheme is produced through which all relevant authorities exercise their duties under the Habitats Regulations.

1.4 Responsibilities under other conservation designations

Other designations within or adjacent to the Firth of Lorn marine SAC are: Scarba, Lunga and The Garvellachs National Scenic Area; The Garvellachs SSSI; Kinuachdrach SSSI; West Coast of Jura SSSI. The obligations of relevant, and other competent authorities and organisations under such designations and legislation are not affected by the advice contained in this document.

1.5 Conservation objectives

Section 2 of this document contains the conservation objectives for the Firth of Lorn marine SAC, a site which consists entirely of a marine qualifying interest. The conservation objectives have been developed to ensure that the obligations of the Habitats Directive are met.

1.6 Advice as to operations

The operations, set out in Section 3, are those which SNH advise may cause deterioration of natural habitats for which the site has been designated. This does not necessarily mean that the operations are *presently* ongoing or, if they are, that they are at levels incompatible with the conservation objectives.

1.7 Plans and projects

The Habitats Regulations require that, where an authority concludes that a development proposal is unconnected with the nature conservation management of a Natura site and is likely to have a significant effect on that site, it must undertake an appropriate assessment of the implications for the qualifying interest for which the area has been designated.

1.8 Review of Consents

Competent authorities are required by the Habitats Regulations to undertake a review of all consents and permissions for activities affecting the site as soon as reasonably practicable after it becomes a European site. This will have implications for discharge and other consents, which will need to be reviewed in the light of the conservation objectives.

2 Statutory advice given by SNH under Regulation 33(2) Conservation Objectives

2.1 Introduction

This section provides conservation objectives, which have been developed by SNH in agreement with the Scottish Executive and are to be provided to the relevant authorities in fulfilment of the requirements under Regulation 33(2) of The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended by The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004).

The conservation objectives ensure that the obligations of the Habitats Directive are met; that is, there should not be deterioration or significant disturbance of the qualifying interest. This will also ensure that the integrity of the site is maintained and that it makes a full contribution to achieving favourable conservation status for its qualifying interest.

The Firth of Lorn marine SAC has been designated for the habitat 'Reefs', which is listed on Annex I of the Habitats Directive.

The Firth of Lorn SAC consists entirely of a marine qualifying interest.

The conservation objectives for the Firth of Lorn marine SAC are as follows:

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| To avoid deterioration of the qualifying habitat (Reefs) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for the qualifying interest. |
| To ensure for the qualifying habitat that the following are maintained in the long term: |
| • Extent of the habitat on site |
| • Distribution of the habitat within site |
| • Structure and function of the habitat |
| • Processes supporting the habitat |
| • Distribution of typical species of the habitat |
| • Viability of typical species as components of the habitat |
| • No significant disturbance of typical species of the habitat |

3 Statutory advice given by SNH under Regulation 33(2) Operations

The following advice as to operations to be considered by relevant authorities is provided by SNH with respect to the Firth of Lorn marine SAC in fulfilment of the requirements under Regulation 33(2)(b) of The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended by The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004). The advice identifies those operations, either on or affecting the SAC, which may cause deterioration of the marine natural habitats or the habitats of species, or disturbance of species, for which the site has been designated. These include operations that may not be currently affecting the Firth of Lorn marine SAC.

Operations (in alphabetical order)

Aquaculture

Finfish farming
Shellfish farming

Coastal Development

Agriculture
Civil engineering
Forestry operations

Discharges / Waste Disposal

Discharge of commercial effluent
Discharge of sewage

Fishing

Hydraulic fishing
Mobile gear: Dredging
Mobile gear: Trawling
Static gear: Creel / Pot fishing
Static gear: Netting

Gathering / Harvesting

Bait gathering
Diver collection of shellfish
Harvesting of seaweed subtidally
Intertidal gathering of cast seaweed
Intertidal collection of shellfish

Marine Traffic

Boat maintenance and antifoulant use
Commercial vessels

Recreational Activities

Boat anchorages
Boat moorings
Charter / recreational vessels
Scuba diving

Scientific Research

Scientific research

Annex A

Non-statutory advice given by SNH Sensitivity and Vulnerability of the Firth of Lorn SAC 'Reefs' to activities listed in Section 3

The comments below are general and should not be considered to be definitive. They are made without prejudice to any comments SNH may provide or any assessment that may be required for specific proposals to be considered by a relevant authority. The level of any impact will depend on the location and intensity of the relevant activity. This advice is provided to assist and focus the relevant authorities in their consideration of the management of these operations.

| Operations | Comments |
|----------------------------|--|
| Aquaculture | |
| Finfish farming | Finfish farming has the potential to cause deterioration of reef habitats and communities through changes in water quality, smothering from waste material and physical disturbance from mooring systems. There is potential for accidental introduction of new non-native species and increasing the spread of existing non-native plants and animals (e.g. <i>Caprella mutica</i> Japanese skeleton shrimp), which are already widely distributed in the UK. Invasive species have the potential to cause deterioration of the qualifying interest by altering community structure and quality. |
| Shellfish farming | This activity has the potential to cause deterioration of the reef habitats and communities through physical damage (e.g. installation of mooring blocks and continued scouring by riser chains) and changes in community structure caused by smothering from pseudo-faeces (undigested waste products) and debris (including dead shells) falling from the farm. There is also potential for accidental introduction of new non-native species and increasing the spread within the UK of existing non-native plants and animals (e.g. <i>Sargassum muticum</i> Wireweed), through importation or translocation of shellfish stocks. Invasive species have the potential to cause deterioration of the qualifying interest by altering community structure and quality. |
| Coastal Development | |
| Agriculture | Diffuse run-off from agricultural practices has the potential to cause deterioration of reef habitats and communities through the smothering of qualifying interest, and / or altering water quality through discharge of organic and inorganic pollutants. |
| Civil engineering | The construction and maintenance of structures, both within and adjacent to the sea have the potential to cause direct loss of reef habitat and deterioration of adjacent reef habitats and communities as tidal currents and therefore coastal processes are affected. For example coastal structures such as linear coastal defences or erosion control measures (e.g. gabions) can affect local sediment suspension and deposition patterns and therefore have the potential to cause deterioration of reef habitat through smothering. Installation, replacement and maintenance of undersea cables have the potential to cause direct loss of reef habitat as well as local deterioration of reef habitats and communities. |

| Coastal Development contd. | |
|--------------------------------------|---|
| Forestry operations | Increased concentrations of dissolved nutrients from fertiliser run-off has the potential to cause deterioration of reef habitats and communities. Large-scale run-off of terrestrial sediment, from forestry operations, has the potential to cause deterioration of reefs through smothering. |
| Discharges / Waste Disposal | |
| Discharge of commercial effluent | Commercial effluent has the potential to cause deterioration of reef habitats and communities. This would be through the effects of pollution and / or nutrient enrichment, which may cause subsequent changes in community structure. |
| Discharge of sewage | Sewage effluent (whether treated or untreated) has the potential to cause deterioration of reef habitats and communities. This would be through the effects of pollution and / or nutrient enrichment, which may cause subsequent changes in community structure. |
| Fishing | |
| Hydraulic fishing | Hydraulic fishing has the potential to cause deterioration of the reef habitats and communities through the large volumes of sediment disturbed by this method smothering the qualifying interest. |
| Mobile gear: Dredging | Benthic dredging has the potential to cause deterioration of reef habitats and communities through direct contact with dredge gear, and sedimentation when dredging occurs close to the qualifying interest. |
| Mobile gear: Trawling | Benthic trawling has the potential to cause deterioration of reef habitats and communities through direct contact with trawling gear, and sedimentation when trawling occurs close to the qualifying interest. |
| Static gear: Creel / Pot fishing | The use of creels and / or pots in a localised area has the potential to cause deterioration of qualifying reef habitats and communities through direct contact, particularly during their deployment and / or recovery. |
| Static gear: Netting | The use of bottom-set nets has the potential to cause deterioration of reef habitats and communities, particularly fragile and erect species, mainly during deployment and / or recovery. |
| Gathering / Harvesting | |
| Bait gathering | Bait gathering on the foreshore has the potential to cause deterioration of reef habitats and communities through physical damage and disturbance of intertidal habitats and communities. This may cause deterioration of the qualifying interest by indirect impact through loss or imbalance of associated species, communities and ecosystems. |
| Diver collection of shellfish | Collection of shellfish by diving has the potential to cause deterioration of the reef habitats and communities where the target species is a key component of that community, or where the collection method involves the use of invasive techniques (e.g. hydraulic equipment). Diving amongst reefs could cause deterioration and physical damage, in particular to erect and fragile species. |
| Harvesting of seaweed subtidally | Harvesting of seaweed subtidally has the potential to cause deterioration of reef habitats and communities by physical damage or through the loss of target species, which can cause imbalances in community and ecosystem structures. |
| Intertidal gathering of cast seaweed | The gathering of cast seaweed has the potential to cause deterioration of intertidal reef habitats and communities through physical damage and disturbance (trampling). Removal of the target species can cause an imbalance of communities and ecosystems within the intertidal area, which may affect reef qualifying interest. |

| Gathering / Harvesting contd. | |
|--------------------------------------|--|
| Intertidal collection of shellfish | Collection of shellfish from intertidal areas has the potential to cause deterioration of reef habitat and communities through physical damage and disturbance to qualifying habitat (trampling and turning stones), and removal of the target species, which can cause an imbalance of communities and ecosystems. |
| Marine Traffic | |
| Boat maintenance and antifoulant use | Most antifoulant products are designed to kill or discourage naturally occurring organisms and, as such, cause damage to the water environment if used carelessly. Under such circumstances use of antifoulant has the potential to cause deterioration of reef habitats and communities within this site. |
| Commercial vessels | The pumping of bilges, discharge of ballast, accidental grounding, or accidental oil (or other chemical) spillage from commercial vessels could occur within or close to this SAC. Such incidents have the potential to cause deterioration of reef habitats and communities through direct and / or indirect impacts. Local authority emergency plans and oil spill contingency plans should take into account specific qualifying and recognise the importance of marine SACs should such incidents occur. |
| Recreational Activities | |
| Boat anchorages | Anchors and continual scouring by riser chains have the potential to cause deterioration of reef habitats and communities through direct contact with the qualifying interest. |
| Boat moorings | Moorings and continual scouring by riser chains have the potential to cause deterioration of reef habitats and communities through direct contact with the qualifying interest. |
| Charter / recreational vessels | Boats have the potential to cause deterioration of reef habitats and communities through repeated launching and recovery in specific areas, accidental grounding, and accidental fuel spillages. |
| Scuba diving | Recreational diving in specific areas has the potential to cause deterioration of reef habitats and communities, in particular to erect and fragile species. |
| Scientific Research | |
| Scientific Research | Research activities have the potential to cause deterioration of reef habitats and communities through direct alteration, removal or manipulation of this qualifying interest and its associated species. |

Annex B

Non-statutory Advice given by SNH Site account

Site description

This marine SAC within the Firth of Lorn encompasses a variety of reef types, and associated communities and species, which is amongst the most diverse in both the UK and Europe. The site contains a greater variety of such diverse communities than any area of comparable size in the west of Scotland. The major Sounds of the Gulf of Corryvreckan, Clachan Sound and the Sound of Luìng are amongst the most outstanding tide-swept areas in the NE Atlantic.

The area enclosed by the Firth of Lorn marine SAC is a discrete but complex group of islands, sounds and inlets. Unusually deep water, with depths of over 200 metres, occurs close inshore on the west of the main island chain whilst depths are much shallower between the islands and the mainland. Reefs thus extend from the shore into considerable depths in many places. The area is moderately-exposed to wave action with very sheltered pockets enclosed by islands and skerries.

The littoral and sublittoral rocky reefs and the rich marine communities that they support reflect the varied physical environment. These range from reef communities characteristic of wave and current sheltered conditions to those influenced by extreme tidal conditions. In between are areas moderately exposed or sheltered from wave action with some tidal flow, where the greatest variety of fauna and flora is found. These communities include species normally characteristic of deeper water, such as the sponges *Mycale lingua* and *Clathria barleii*, and the feather star *Leptometra celtica*. There are other species considered scarce, including the brown alga *Desmarestia dresnayi*, and several with either a northern- or southern-influenced distribution, many of which reach their geographic limits in this area. These include the southern cup coral *Caryophyllia inornata*, the nationally scarce brittle star *Ophiopsila annulosa* and the northern bryozoans *Bugula purpurotincta* and *Caberea ellisii*. Of particular interest is the rarely recorded sea-fan *Swiftia pallida*, which is unusually widespread in the Firth of Lorn area.

Qualifying marine interest

Annex I Habitat: Reefs

The Firth of Lorn marine SAC is fringed by bedrock and boulder reefs, which provide a variety of littoral and sublittoral habitats in conditions ranging from the shelter of the inlets to the exposed west coast of the Garvellachs, and from still water to the highly-scoured conditions of the major sounds.

In the littoral zone, the exposed shores of the Garvellachs are characteristically animal dominated, whereas furoid dominated shores with

rich rock pool, crevice and boulder communities are found in more sheltered areas.

A wide variety of reef communities characteristic of strong tidal streams are found in the sounds. Community composition in these areas is related to both the strength of the tidal streams and the stability of the substratum. Of particular note is Clachan Sound, a tide-swept and wave sheltered channel with littoral boulders and bedrock supporting fucoids, laminarians and thongweed *Himanthalia elongata* and a rich fauna of hydroids, bryozoans and ascidians.

In the strongest tidal streams communities are restricted to crevices and areas in the lee of the tide. For example, in the Gulf of Corryvreckan, open rock is dominated by the oaten pipes hydroid *Tubularia indivisa* and barnacles: *Balanus crenatus* and *Chirona hameri*; species' indicative of a highly scoured environment. Also of note in these relatively deep, tide-swept areas is the presence of species normally considered characteristic of shallow surge gullies (e.g. the ascidian *Dendrodoa grossularia* and sponge *Clathrina coriacea*), and species typical of much more wave exposed, open coast sites (e.g. the jewel anemone *Corynactis viridis* and the starfish *Leptasterias muelleri*).

Sublittoral reefs range from sheltered bedrock and boulders to exposed rock faces on the west coast of the Garvellachs with extensive areas of sublittoral rock. As a result there is a great variety of associated communities present and the site is very rich in species. Submerged rock pinnacles and reefs of the Firth of Lorn which are moderately tide-swept support particularly rich *Laminaria hyperborea* forests and associated communities. These contain a number of rare species such as: the cup coral *Caryophyllia inornata* (for which there are very few British records); the anemone *Amphianthus dohrnii* which is commensal (although rarely recorded) on the seafan *Swiftia pallida*; a southern species of axinellid sponge *Axinella damicornis*; the red alga *Schmitzia hiscockiana*. More exposed rock in the site typically supports a community characterised by the ascidian *Diazona violacea*, the seafan *Swiftia pallida*, the feather star *Leptometra celtica* and the sponges *Axinella infundibuliformis* and *Mycale lingua* together with a diverse assemblage of hydroids, bryozoans, other sponges and ascidians.