# Scottish MPA Project
# Fisheries Management Guidance

## SEAMOUNT COMMUNITIES

*JULY 2013*[1]

The fisheries management guidance has been produced to provide advice on the impact various fishing activities may have on MPA search features in Scotland's seas. The advice is organised by features and gear types. Fishing gears are grouped to combine those with broadly similar impacts, but where there is likely to be variation within a group of features (e.g. for high and low energy sand habitats), this has been taken into account. Where possible the guidance has been based on evidence from peer-reviewed scientific journals.

**The advice on fisheries management falls into three broad categories:**

- Gear/feature combinations that are unlikely to cause unacceptable impacts (except possibly at very high levels of effort) and so no additional management is likely to be required;
- Gear/feature combinations that are likely to cause unacceptable impacts and for which no possible mitigation measures could be identified at this stage other than closure to that gear;
- Gear/feature combinations that are likely to cause some degree of impacts but for which management may be possible to mitigate the effects (e.g. modification or restriction of certain gears, partial or temporary area closures, effort limitation).

In the last type of cases in particular, further site-specific evidence gathering and discussion with stakeholders will be required to determine the appropriate management measures.

The fisheries management guidance has been used, along with the FEatures Activities Sensitivities Tool (FEAST), to inform the development of management options papers for each possible MPA.

[1] Based on Version 1.1 of the fisheries management guidance

# SEAMOUNT COMMUNITIES

Seamounts are undersea mountains, usually of volcanic origin that can rise up to 1000m from the seabed[1]. Seamounts support rich communities of animals, particularly on their steep sides and surrounding parasitic cones (high rising, erect, conical features which can exist around the seamount made from volcanic material[3]). These diverse communities include various species of corals (both hard and soft), sponges, hydroids and sea squirts. A variety of fish are found on seamounts including various commercial species such as orange roughy[1,2,3]. Three seamounts can be found in Scottish waters: Anton Dorhn, Rosemary Banks and Hebrides Terrace. Biotopes found on these seamounts are similar to those found elsewhere in deep water and include deep-sea sponge aggregations, coral gardens and cold water coral reefs[11].

## Impacts

### All demersal towed gears (including otter trawl, beam trawl)

The animal communities found on seamounts tend to be composed of erect and fragile species that are sensitive to physical disturbance, particularly deep-sea stony corals, gorgonians and black corals, sea anemones, hydroids and sponges[2,3,4]. Trawling can cause mortality to species by disturbance on the seabed or by bringing them to the surface resulting in a reduction in abundance[2,5,6,7]. Recovery from such damage is estimated to be measured in decades, depending on the environmental conditions[4,7].

### All demersal static gears (including gillnets, trammel nets, longlines, pots and traps)

No studies providing evidence of the effects of static gears on Scottish seamounts were found, however impacts occurring on analogous vulnerable habitats and species, such as sponges and corals in Scottish waters are applicable[8]. Impacts can arise from hooks, lines, nets and ropes becoming entangled with corals and other fragile species, including 'plucking' them from the seabed during hauling[7,8,9,10]. While the degree of damage from individual fishing operations is likely to be lower than for trawling, cumulative damage may be significant[7,8].

## JNCC/SNH Advice

Given the nature of sensitivity to physical disturbance the options for suitable management options to mitigate the effects of fishing are limited. JNCC and SNH therefore advise that the use of demersal bottom contacting gears (static and mobile) should be avoided at locations where vulnerable seabed communities/features are located.

## Confidence in advice

**Demersal towed gears** - High certainty. The conclusions are supported by good quality, directly relevant scientific information from Scottish waters.

**Demersal static gears** - High certainty. There is no evidence relating directly to seamounts in the Scottish sea area, but based evidence from analogous features found within Scottish waters is relevant.

### Evidence

[1]Baxter *et al.,* 2011; [2]Clark & Tittensor, 2010; [3]Long *et al.,* (unpublished); [4]Clark *et al.,* 2010; [5]Kaiser *et al.,* 1996; [6]Jennings *et al.,* 2008; [7]ICES, 2010; [8]Muñoz *et al.,* 2010; [9]OSPAR, 2010 ; [10]Mortensen et

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| al., 2005; [11]Howell *et al.,* 2010. | | | | | | | |
| There is good evidence for the impacts of trawling on Seamounts and their associated habitats and species. Evidence has been found from recent surveys from Anton Dohrn in addition to other scientific litterature from Scottish waters. The quality of the evidence to be considered high.<br><br>No direct evidence was found for the impacts of static gears on the biota of seamount communities however there is good quality, highly relevant scientific information to directly support the conclusion based on the same habitats found elsewhere. | | | | | | | |
| Directly relevant peer reviewed literature | ✔ | Directly relevant grey literature | ✔ | Inference from studies on comparable habitats, gears or geographical areas. | ✔ | Expert judgement or anecdotal evidence | ✔ |