

**Scottish MPA Project  
Fisheries Management Guidance**

**CORAL GARDENS**

*JULY 2013<sup>1</sup>*

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.

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<sup>1</sup> Based on Version 1.1 of the fisheries management guidance

# CORAL GARDENS

The main characteristic of a coral garden is a relatively dense aggregation of colonies or individuals of one or more coral species. Coral gardens can occur on a wide range of soft and hard seabed substrata<sup>1</sup>. The biological diversity of coral garden communities is typically high and often contains several species of coral belonging to different taxonomic groups, such as leather corals (*Alcyonacea*), gorgonians (*Gorgonacea*), sea pens (*Pennatulacea*), black corals (*Antipatharia*) and hard corals (*Scleractinia*)<sup>2</sup>.

## Impacts

### Demersal towed gears (including otter trawl, beam trawl)

Coral gardens are highly sensitive to physical disturbance. Mobile benthic gears can result in significant damage and mortality<sup>2,7</sup> and over time, the structural and biological diversity of the habitat will be reduced. Coral gardens on soft bottoms within fishing depths are particularly vulnerable, however, where they occur on low relief hard substrate coral gardens may be accessible to rockhopper gears<sup>2</sup>. Re-establishment of individual specimens of corals is likely to occur within 50 to 100 years but the time taken for complex coral garden habitat to develop is likely to be longer<sup>3</sup>.

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

Demersal static fishing gears also have the potential to impact on coral garden habitats, usually where corals entangled in ropes/lines or nets can be plucked off the seabed during hauling<sup>2,3,4,5</sup>. Bottom longlining may pose the highest risk to large erect species such as gorgonians, cup corals, soft corals, black corals and lace corals<sup>(2,6)</sup>. Where static gears do cause mortality or damage to coral garden habitats, the recovery and re-establishment characteristics are the same as those above (for mobile gears above).

## JNCC/SNH fisheries management 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 this vulnerable feature is located.

## Confidence in advice

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

## Evidence

<sup>1</sup>ICES, 2007 ; <sup>2</sup>OSPAR, 2010; <sup>3</sup>ICES, 2010 <sup>4</sup>Mortensen *et al.*, 2005; <sup>5</sup>Bowden, 2010; <sup>6</sup>Muñoz *et al.*, 2010; <sup>7</sup>Muñoz *et al.*, 2011.

There is little direct evidence of trawling impacts on coral gardens in the North-east Atlantic. There is anecdotal evidence that coral gardens in Icelandic waters have been negatively impacted by trawling<sup>1</sup>. Similar changes have been reported in Canada and Alaska (OSPAR 2010).

There is direct evidence of damage to coral gardens from longlining from the North East Atlantic in Scottish offshore waters<sup>6</sup>, Canada, and the Azores<sup>1</sup>. This was supported by evidence of effects on similar species in the Antarctic<sup>5</sup>.

Directly relevant peer reviewed literature	✓	Directly relevant grey literature	✓	Inference from studies on comparable habitats, gears or geographical areas.	✓	Expert judgement or anecdotal evidence	✓
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