

Briefing 1: Site integrity and reefs

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Interactions between the habitats listed in Annex I of the Habitats Directive and the typical species associated with them are at the core of the meaning of **'site integrity'** and the management of marine protected areas covered by Article 6 of the Habitats Directive (marine Natura 2000 sites).¹ The available scientific research undertaken on temperate reefs should be used to show their worth, both as an intrinsic ecosystem and in relation to the species they support (Stottrup et al., 2014; Stal et al., 2008).

1. The meaning of site integrity - brief legal background

Article 6 of the Habitats Directive imposes a duty on Member States to avoid adverse effects on the integrity of marine Natura 2000 sites. 'Site integrity' is not defined by the legislation. However, the primary goal of the Habitats Directive is the achievement of 'favourable conservation status' for habitats listed in Annex I of the Habitats Directive, and species listed in Annex II.² It follows that favourable conservation status for these features must be achieved, in order to avoid adverse effects on site integrity. In addition, the legal definition of 'favourable conservation status' and interpretation of these words by the European Court of Justice³ in the context of avoiding adverse effects on site integrity, confirm that factors beyond the state of the designated feature itself must also be considered. Specifically, in order to avoid adverse effects on site integrity, the **'typical species'** associated with Annex 1 habitats must also be maintained at, or restored to, favourable conservation status (ClientEarth and MCS, 2013; Rees et al., 2013). Therefore, assessments of the impact of activities on 'site integrity' (and consequent management measures) must not only look at the feature(s) for which a site has been designated but must also take account of the wider ecological context of the site as a whole.

2. 'Typical species' associated with reefs

In the case of Annex 1 reef habitats, 'typical species' might include seaweeds, fish and invertebrates (e.g. crustaceans, worms, molluscs, corals, sponges and bryozoans). Many species with reasonably large home ranges may use the habitat only sporadically, such as dolphins, seals, bass, and some shark species. Some will migrate to the habitat for breeding (e.g. catsharks; fish) or use it both as a nursery area and for feeding (e.g. cod) whilst others are permanent residents (e.g. molluscs, crustaceans, small sharks). There is no reason why the former should not be considered 'typical species' associated with these types of habitats.

As explained above, all 'typical species' must be at favourable conservation status on and within the reef community.

3. Protecting the full range of reef-associated species in buffers around reefs

Measures introduced to protect reefs should create buffer areas around the locations of reefs within Natura 2000 sites. These buffer zones can prevent accidental damage to the reef from vessels turning their trawl nets. In addition, buffer zones around reefs have recently been shown to support the potential for population expansion of reef-associated species (Sheehan et al., 2013). Article 6 of the Habitats Directive provides that adverse effects on site integrity must be avoided. This means that fishing activities that are potentially damaging to the site's features or typical species, and thus threaten their conservation status, must be appropriately managed. This includes ensuring that the potential for the site's features or typical species to *recover* to favourable conservation status, is not being inhibited.

For example, trawling has been shown to be damaging to Annex I reef features and its typical associated species (Rees et al., 2013). Therefore, ensuring that adverse effects on 'site integrity' are avoided in the case of Annex I reef features means prohibiting the trawling over the reef *and* in a significant buffer area around the reef. This is in order to allow for the potential recovery of the surrounding seabed to its natural 'reef-like' assemblage of species (Rees et al., 2013). The site is not being maintained at, or allowed to recover to, favourable conservation status if this potential for re-growth or re-establishment of reef-features is not allowed to occur.

In addition, because the precautionary principle is embedded in Article 6 of the Habitats Directive, activities that may have adverse effects on site integrity may not be permitted unless the operator of the activity can prove *beyond scientific doubt* that the activity is not having adverse effects on site integrity. This is in line with the underlying principle of 'ecosystem-based management' found in the current EU marine policy (e.g. MSFD), which looks at all interactions within an ecosystem and considers humans to be part of this ecosystem. It reflects the idea that the sea should be managed in a sustainable way.

¹ This includes protected sites required the Wild Birds Directive.

² Article 2(2), 3(1) and 4(4), Habitats Directive.

³ Article 1(e), Habitats Directive and Case C-258/11 Peter Sweetman, Ireland, Attorney General, Minister for the Environment, Heritage and the Local Government v An Bord Pleanála [2014] P.T.S.R. 1092 (Sweetman), see in particular paras 37-39.

4. Case study – Lyme Bay England

Lyme Bay is an area of flat geogenic sandstone bedrock in southern England. It was listed as a Natura 2000 site in 2011. It was previously dredged and trawled over for reef- and near-reef-associated species of demersal fish and scallops. However, since the dredging and trawling activities have been stopped in over 200km² of the site, in both the rocky and adjacent sand/cobble habitat, the reef-associated species (corals, hydroids, bryozoans, decapods) have ‘expanded’ out to areas hundreds of metres outside the rocky pavement reef into cobble and sandy ground (Sheehan et al., 2013). This is because the damaging scallop dredging was restricted from both the rocky and sandy grounds near to the reefs. This example can be used to prompt authorities to consider the nature of management both for the reef itself and the surrounding seabed, in order to achieve site integrity (Rees et al., 2013).

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Appendix 1: Protection of reef, cobble habitat and rich seabed between reefs in South Devon, England at the Start Point Special Area of Conservation (from bottom trawling and dredging). Note that bottom trawling is banned from access between the reefs.

