



Site Name: Porcupine Shelf SAC

Site Code: 002267

Porcupine Shelf SAC overlays the continental shelf margin extending from an area approximately due west of Clew Bay, Co Mayo, northwards, to a line extending west from Malin Head, Co Donegal. The site is approximately 340 kilometres long and about 50 kilometres wide. Almost the entirety of this site is deeper than 400 m and extends down to in excess of 2500 m. This site is contiguous with the North West Porcupine Bank SAC 2330.

The site is a candidate Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1170] Reefs

An extensive offshore survey of this site was completed in 2017 using the ILV Granuaile and the Holland I ROV. This survey was completed by a team of internationally recognised deep sea ecologists. A total of 50 dives were completed during this leg of the survey. The survey identified biologically sensitive Annex I reef-forming, cold-water coral species (*Desmophyllum pertusum* [syn. *Lophelia pertusa*] and *Madrepora oculata*) at numerous locations. Vulnerable marine ecosystems were recorded on almost every dive. This site also recorded a third species of cold-water coral, *Solenosmilia variabilis*, forming reefs at depths previously unrecorded (>1600 m).

The ecology of the Porcupine Shelf is dependent on the substrate, like all benthic environments. The shelf is incised by a large number of canyons with extensive coral gardens on cobbles and boulders, and on pinnacles and cliffs. There is high heterogeneity from the southern to the northern portion, with exceptionally large areas of high quality reef habitat all along its length. Areas of boulders host bamboo corals including *Acanella*, the black corals *Leiopathes* sp., *Stauropathes* sp. *Bathypathes* sp. and *Parantipathes* sp., and the gorgonian coral *Paramuricea*, along with very large sponge specimens. Brisings (mobile and stalked crinoid echinoderms), hydrozoans, cup corals, the soft coral *Pseudoanthomastus* and hormathid anemones are present sporadically. Some of the less conspicuous fauna include shrimp, hermit crabs, glass sponges including *Aphrocallistes* and encrusting sponges. Soft sediments have evident xenophyophores, black corals including *Bathypathes*, sea pens (*Umbellula* sp. and *Anthoptilium* sp.), and sponges. In boulder areas, a wide diversity of species has been found to occur, including ophiuroids, hormanthid anemones, the soft coral *Anthomastus* sp., hydroids, pycnogonids, *Galatheid* crabs and echinoids. The very distinctive pigtail coral, *Radicipes c.f. gracilis* was also recorded. Sheer and cliff faces are colonised by hydroid coral *Stylasteridae* sp., encrusting sponges and serpulid worms and patches of *Desmophyllum* coral. Large numbers of orange roughy, grenadiers and

sharks, including many juveniles, were observed here. The upper slopes of mounds host many juvenile *Synaphobranchus kaupii* eels and *Apristus* sp. sharks and may be an important nursery ground for these species.

The site is of conservation importance for reefs, a habitat that is listed on Annex I of the E.U. Habitats Directive.