

**Site Name: Kilkee Reefs SAC**

**Site Code: 002264**

The Kilkee Reefs are situated north of the River Shannon Estuary on the Co. Clare coast. The site stretches for approximately 12 km from Ballard Bay to Castle Point. The reefs are exposed to the full force of Atlantic swells from the west. A small shallow bay, Moore Bay, offers some shelter from wave action and a beach is present. The bedrock is Carboniferous millstone grit and flagstone. A few small islands are included, the largest being Bishop's Island.

The site is a 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):

[1160] Large Shallow Inlets and Bays
[1170] Reefs
[8330] Sea Caves

The reefs are very exposed to wave action and support excellent examples of communities for this habitat, including one dominated by the mussel *Mytilis edulis*. Deep rock pools have the brown alga *Bifurcaria bifurcata*, whereas the shallower pools towards the low shore have the sea urchin *Paracentrotus lividus*. The low shore has communities characterised by the brown thong weed *Himanthalia elongata* and *Alaria esculenta*. These communities, which are typical of western Ireland, are quite distinct from communities in similar habitats elsewhere in Ireland or north-west Europe. Sub-tidally there are good examples of a variety of reef communities. In shallow water the reefs are steeply sloping with kelp forests of algal species tolerant to sand scour. Communities with less dense kelp and red foliose algae occur and may be very species rich. In deeper water the gently sloping rock is characterised by good examples of the Axinellid sponge community with the sea-fan *Eunicella verucosa*. The sponge *Phakellia vermiculata* which is rare in shallow water is present. Vertical cliff faces are characterised by the jewel anemone *Corynactis viridis* in both shallow and deep water.

The rocky shores within the site are extensive platforms with short vertical steps and have good examples of the range of communities found on shores that are extremely exposed to wave action. There are extensive zones of lichens, channel wrack (*Pelvetia canaliculata*) and barnacles. The upper shore has an extensive community (300 m) of barnacles and limpets on an even platform of bedrock. Cracks and crevices provide a refuge for anemones (e.g. *Actinia equina*), mussels and snails (e.g. *Littorina saxatilis* and *Nucella lapillus*). The mid shore has an extensive community of *Fucus vesiculosus*, with the barnacles *Chthamalus montagui*, *C. stellatus* and *Semibalanus balanoides*, and

the limpet *Patella vulgata*. Deep rock pools are characterised by pink encrusting coralline algae and *Corallina officinalis* under a canopy of brown algae (*Laminaria saccharina*, *Himanthalia elongata*, *Bifurcaria bifurcata*, *L. digitata* and *Fucus serratus*).

The lower mid shore is characterised by extensive, dense beds of mussels, mixed with barnacles on higher, less exposed rock and with *Corallina officinalis* in damp, protected areas. This zone may also be very wide (300 m). Shallow pools with pink coralline crusts and the Purple Sea Urchin (*Paracentrotus lividus*) living in pits, are abundant. The subtidal fringe is characterised by a narrow band of *Himanthalia elongata* and *Alaria esculenta* on exposed vertical faces and *Laminaria hyperborea* and *L. digitata* on horizontal surfaces. The walls of a surge gully are characterised by a dense faunal turf with the hydroid *Tubularia indivisa* and the jewel anemone *Corynactis viridis* the most abundant species. The boulders at the base of the gully support a kelp community with foliose and filamentous red algae, snails and crabs. The surge gully contains a diverse biota, with 86 species recorded.

The shallow sublittoral reefs are steeply sloping and extremely or moderately exposed to wave action. They are characterised by communities typical of this level of wave exposure. Cliff faces are populated by the jewel anemone *Corynactis viridis*. Red algae grow on the ledges and the overhanging faces support the sponge *Haliclona viscosa* and bryozoans (*Scrupocellaria scruposa* and *Crisia eburnea*). These reef communities may be very species rich. *Laminaria hyperborea* and sand scour tolerant red algae such as *Polyides rotundus* and *Ahnfeltia plicata* characterise the horizontal surfaces in moderately exposed areas of Moore Bay. The kelp species *Laminaria saccharina* and *Saccorhiza polyschides* are also present. With increasing depth the *L. hyperborea* forest thins to a park and the brown alga *Dictyota dichotoma* becomes more common. The kelp was not recorded below 24 m. Horizontal surfaces are dominated by red algae (*Delesseria sanguinea*, *Rhodomenia pseudopalmata*, *Heterosiphonia plumosa* and *Rhodophilis divaricata*). With a further increase in depth there are fewer algae and sponges (*Polymastia boletiformis* and *Cliona celata*); bryozoans become more common on the ledges and the sea fan *Eunicella verrucosa* and sea slug *Crimora papillata* are present. Vertical surfaces are colonized by the sponges *Pachymatisma johnstonia* and *Thymosia guernei*, while the sea cucumber *Aslia lefevrei* occupies the crevices.

At depths below 25 m the reefs have animal-dominated communities with sparse algae. The vertical bedrock is characterised by the jewel anemone *Corynactis viridis* and the sponges *Cliona celata*, *Pachymatisma johnstonia* and *Haliclona viscosa*. Gently sloping and upward facing reefs at 31-36 m are characterised by the Axinellid cup sponge community with a high diversity of sponges, including *Phakellia vermiculata*, the sea fan *Eunicella verrucosa* and its associated sea slug *Tritonia nilsodhneri*. The red soft coral *Alcyonium glomeratum*, the hydroid *Gymnangium montagui*, the starfish *Stichastrella rosea*, the bryozoans *Pentapora foliacea* (rose 'coral') and *Porella compressa* (staghorn 'coral'), are also present.

The site contains a number of submerged marine caves which have been formed due to the erosion of the sedimentary rock. These are known to occur in areas such as Donegal Point, George's Head and Biraghty Mor. The caves give shelter to a range of

fauna species, including lobsters, crayfish, spider crabs and conger eels, and in summer may be visited by sunfish and triggerfish. Where light permits, soft corals, sponges, jewel anemones and colonial sea squirts crowd the walls.

The sandy beach at Kilkee is composed of brown-coloured, poorly sorted sand and is fairly flat over most of its width. There is a small amount of drift weed on the strand line and a sandhopper community is present. In the mid shore, polychaete worms (*Scolelepis foliosa* and *Arenicola marina*) are occasional to abundant. At the low shore, polychaete worms (*Nephtys hombergii*, *Scolelepis foliosa* and *Arenicola marina*) are abundant and amphipod crustaceans (e.g. *Bathyporeia pelagica*) are common.

This site is of conservation importance as it has excellent examples of reefs and includes examples of a shallow bay and marine caves, all habitats listed on Annex I of the E.U. Habitats Directive.