

Site Name: Kilkieran Bay and Islands SAC

Site Code: 002111

Kilkieran Bay and Islands SAC is located just north of Galway Bay and extends from Keeraun Point, south of Carraroe, westwards to Mace Head, west of Carna, all in Co. Galway. The site contains a large area of open marine water, many islands and rocky islets, and the coastline is much indented with a series of bays (notably the inter-connected Kilkieran Bay and Greatman's Bay), channels and inlets. The entrances of the bays face the prevailing south-westerly winds and they are subject to strong tidal streams as the sea funnels between islands and through channels. A number of streams, lakes and lagoons drain into the bays. The bedrock of the site is igneous, composed of granite, felsite and other intrusive rocks rich in silica. Generally, the site has a rocky shoreline which in most places gives way to mud in shallow water. The surrounding land is dominated by lowland blanket bog, with rock outcrops and small hills to the north.

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):

- [1140] Tidal Mudflats and Sandflats
- [1150] Coastal Lagoons*
- [1160] Large Shallow Inlets and Bays
- [1170] Reefs
- [1330] Atlantic Salt Meadows
- [1410] Mediterranean Salt Meadows
- [21A0] Machairs*
- [3130] Oligotrophic to Mesotrophic Standing Waters
- [6510] Lowland Hay Meadows

- [1355] Otter (*Lutra lutra*)
- [1365] Common (Harbour) Seal (*Phoca vitulina*)
- [1833] Slender Naiad (*Najas flexilis*)

The marine habitats found within Kilkieran Bay and Greatman's Bay are of very high conservation value. Both bays have a wide variety of habitats and Kilkieran Bay has a very high diversity of marine species (only Kenmare River is more diverse than Kilkieran Bay, according to studies thus far carried out). A high number of species that are rare or considered to be worthy of conservation in Ireland occur in the area. Communities of particular importance are the extensive and varied beds of free-

living red calcareous algae or maerl (which may be known locally as 'coral'). Kilkieran Bay is one of three known localities in Ireland where the maerl species *Lithothamnion corallioides*, *Lithophyllum dentatum* and *Lithothamnion fasciculatum* co-occur. The range of maerl deposits in Kilkieran Bay, including banks of maerl debris, live maerl and mixtures of maerl, gravel and mud gives rise to a variety of communities. Within these communities are a number of rare anemones, e.g. *Scolanthus callimorphus*, *Mesacmaea mitchellii* and *Aureliania heterocera*. The last-named species is rare in Ireland, being known only from Donegal Bay and Kilkieran Bay, as well as a small number of areas on the north-east coast. The population in this site is the largest on the west coast. Kilkieran Bay is the only known Irish locality for the anemone *Mesacmaea mitchellii*. *Scolanthus callimorphus*, another anemone species, is known only from Kilkieran Bay, Valencia Harbour in Co. Kerry and the Dorset coast in the U.K. The best recorded example of the community characterised by the sea cucumber *Neopentadactyla mixta* occurs in the banks of dead maerl of Kilkieran Bay. The very rare anemone *Halcampoides elongatus*, known only from Kilkieran Bay and Ards Bay in Ireland, occurs in a narrow bed of clean dead maerl at the edges of some of the live maerl beds. Greatman's Bay, like Kilkieran Bay, has extensive maerl beds. A population of the large burrowing anemone *Pachycerianthus multiplicatus* occurs at two muddy sites within Kilkieran Bay and is known from only three other localities in Ireland. The seagrass *Zostera marina* occurs in a number of areas in Kilkieran Bay and in some areas co-occurs with maerl. This association is known from a number of areas in Ireland but has not been recorded in the U.K. Beds of the native oyster *Ostrea edulis* occur in Inner Kilkieran Bay. The outer part of the site has sandy bays, e.g. Mweenish Bay, which support populations of polychaetes, burrowing anemones and bivalves. Sheltered shores have a variety of communities down the shore, with the lower shore generally being species-rich and supporting a variety of polychaetes and bivalves.

The rocky shores of the site are comprised of bedrock or a mixture of bedrock, boulders and gravel; they support a very wide variety of shore communities, with the zonation being typical of shores that range from being exposed to wave action through to extremely sheltered shores and some tide-swept shores. Shores exposed to wave action have a zonation of Channel Wrack (*Pelvetia canaliculata*) and barnacles in the upper shore, Bladder Wrack (*Fucus vesiculosus*) and barnacles in the mid shore, Serrated Wrack (*Fucus serratus*) in the low shore and the kelp *Laminaria hyperborea* on the very low shore. Sheltered shores have the mid shore dominated by Knotted Wrack (*Ascophyllum nodosum*). In the inner part of both bays the brown alga *Ascophyllum nodosum* var. *mackii*, which has very specific habitat requirements, is found. The rapids at Carrickagleun Bridge, Lettermore Island, are extremely species-rich (119 species recorded) and include the rarely-recorded star fish *Asterina phylactica*. This represents the highest number of species recorded on any shore in a recent Irish survey. The inner parts of Kilkieran Bay have channels to several extensive lagoons.

Mixed kelp forests of *Laminaria hyperborea* and *Laminaria saccharina* frequently form a canopy in the very sheltered areas. In contrast, in exposed situations there are extensive areas of *Laminaria hyperborea*, in particular to the south of Golam Head. The

rare alga *Dermocorymus montagnei* is known only from the very sheltered narrow inlet Coill Saile on the northern shore of Kilkieran Bay and a handful of sites in Brittany, France. Also in this creek are large plants of the maerl species *Phymatolithon polymorphum* on which the rare, creeping red alga *Gelidiella calcicola* and the recently described *Gelidium maggsiae* occur. The creek is also unusual for its large population of the red alga *Meredithia microphylla*, which is more characteristic of exposed areas, and for the large form of the sea slug *Akera bullata* var. *farrani*.

In Kilkieran Bay, on subtidal reefs dominated by animals, the sponge/sea squirt community of *Raspailia ramosa* and *Corella parallelogramma* is widespread; the best examples in Ireland of this community occur in Gurraig Sound within the site, where a high diversity of encrusting and branching sponges and ascidians are found. The rare sponges *Plakortis simplex* and *Tricheurypon viride* are found in this community. In more exposed situations such as the Namackan Rocks there are good examples of the Axinellid sponge community with the sea fan *Eunicella verrucosa*. The sponge *Axinella damicornis* occurs here and although it is found at ten locations on the west coast it is never abundant. *Phakellia vermiculata*, a deep-water species, has been recorded in shallow water at only a limited number of locations on the south-west and west coasts of Ireland.

The site is extremely important for the number of lagoons that it includes - it is considered to be one of the best sites in the country for this habitat and provides an excellent example of a particularly unusual type of saline lake lagoon situated on peat. This habitat type appears to be rare in Europe but characteristic of south Connemara. Examples of lagoons in the site include Lettermullen Pool, Lough Tanai, Mill Lough, Carafinla Lough, the Lough Fhada complex and Loch an Aibhnín.

Taking one lagoon as an example, Lettermullen Pool is approximately 1 ha in size, and represents a particularly good example of a rock lagoon lying on granite. Salinity is generally high, but freshwater is received from a small stream and from several small groundwater springs at the edges. The vegetation comprises an interesting community of Spiral Tasselweed (*Ruppia cirrhosa*) and the stonewort *Lamprothamnion papulosum* (both of which are lagoonal specialists), along with Eelgrass (*Zostera marina*) and small amounts of red algae. This community is found only in south Connemara. The fauna is rich, particularly for such a small lagoon, with 52 taxa recorded from a wide range of ecological groups, with five lagoonal specialists.

Areas of saltmarsh occur frequently throughout the site - a thin fringe of saltmarsh is found along most stretches of coastline. The habitat occurs most frequently in the many sheltered bays in the eastern half of the site and has developed in the lee of causeways built to connect islands to the mainland, e.g. Gorumna Island. The area of saltmarsh between Costelloe and Kinvara is particularly well-developed and extensive. The saltmarshes in the site are of the fringe type and most occur on peat. Although there are a large number of discrete and often narrow areas, taken together the habitat within the site is likely to be one of the largest areas of saltmarsh on peat in the country. The saltmarshes on the site include both the Atlantic and Mediterranean types, but low-growing Atlantic salt meadow appears to be the most

common. The vegetation is typically dominated by various mixtures of species such as Thrift (*Armeria maritima*), Red Fescue (*Festuca rubra*), Common Saltmarsh-grass (*Puccinellia maritima*), Creeping Bent (*Agrostis stolonifera*), Sea Plantain (*Plantago maritima*), Buck's-horn Plantain (*P. coronopus*) and Sea Aster (*Aster tripolium*). Stands of Sea Rush (*Juncus maritimus*) occur in the site, and these correspond to the Mediterranean salt meadow type.

Machair occurs most extensively on Mweenish Island, Finish Island and Mason Island, which lie in the west of the site. These machair areas appear to be the remains of formerly more extensive systems; they are some of the most southerly machair systems in the country and are of conservation value from both vegetational and geomorphological perspectives. Common species include Red Fescue, White Clover (*Trifolium repens*), Yarrow (*Achillea millefolium*), Daisy (*Bellis perennis*), Sand Sedge (*Carex arenaria*), Bulbous Buttercup (*Ranunculus bulbosus*), Ribwort Plantain (*P. lanceolata*), Wild Thyme (*Thymus praecox*), Common Mouse-ear (*Cerastium fontanum*), Selfheal (*Prunella vulgaris*), among others, as well as a number of moss species.

Lowland hay meadows are relatively rare within the site, but some good examples are known. The habitat is most commonly found in small, unimproved fields located behind beaches, which are influenced by blown sand. Perhaps the most extensive area of the habitat is to be found at Ardmore Point. The vegetation here is dominated by a species-rich mixture of grasses and low- to medium-sized forbs. A number of relatively rare orchids and other vascular plants have been recorded from this site, including Lesser Butterfly-orchid (*Platanthera bifolia*), Common Twayblade (*Listera ovata*) and Autumn Lady's-tresses (*Spiranthes spiralis*).

The submerged aquatic plant Slender Naiad (*Najas flexilis*) occurs in several of the coastal freshwater lakes. These are oligotrophic lake systems and include Lough Keeraun, Lough Truskan, Lough Killa and Lough Natawnymore. Slender Naiad is listed on Annex II of the E.U. Habitats Directive and also on the Flora (Protection) Order, 2015.

Otter, a species also listed on Annex II of the E.U. Habitats Directive, occurs commonly throughout the site. The site is used by Common Seal (maximum count of 116 in the all-Ireland survey of 2003). Grey Seal is a regular visitor and may breed.

The islands and islets of Kilkieran Bay, mainly those on its western side, are important for their colonies of seabirds, particularly breeding terns - Arctic Tern (99 pairs recorded in 1995; 308 pairs, 1984), Common Tern (47 pairs, 1995; 371 pairs, 1984), Little Tern (7-9 pairs, 1995; 11 pairs 1984). All of these tern species are listed on Annex I of the E.U. Birds Directive. Inishmuskery, and probably other islands, are used by a population of Barnacle Goose in winter (370 in spring 1994), a species that is also listed on Annex I of the Birds Directive. Eagle Rock is of interest for its population of Black Guillemot (30 individuals, 1984). The site also supports colonies of gulls - Herring Gull (310 individuals, 1994), Great Black-backed Gull (6 individuals, 1984) and Black-headed Gull.

Kilkieran Bay and Islands is an extensive coastal complex site that is of high conservation value, particularly for the fine examples of marine and terrestrial E.U. Habitats Directive Annex I habitats that it supports and for its important Slender Naiad, Otter, seal and seabird populations.