

Site Name: Lough Hyne Nature Reserve and Environs SAC

Site Code: 000097

This is a large coastal site (>400 ha) situated just east of Roaringwater Bay some 5 km south-west of Skibbereen, Co. Cork. It includes Lough Hyne Nature Reserve on its western end, Ballyally Lough, the adjacent marshland area along the Bealariree stream and the coastline eastwards to Gokane Point, including Tragumna Bay. The site therefore encompasses a range of both marine and terrestrial habitats.

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

Lough Hyne is a deep landlocked bay joined by a narrow channel (Barloge Creek) to the sea. It is situated on alternating bands of lower Old Red Sandstone and Carboniferous slates. Approximately 4,000 years ago this was a freshwater lake, but due to the post-glacial rise in sea-level it is now saline. The narrowness of the connecting sea channel means that the tidal fluctuations are reduced to approximately 1 m and consequently the zonation of the intertidal communities is confined to a narrow band along the shore. Another unusual feature of the site is the rapids created in the narrow channel when the tidal levels inside and outside the Lough differ.

The site contains reefs which are very exposed to wave action on the open coast, as well as extremely sheltered reefs within the Lough itself. The latter is a very rare habitat in Ireland. Many of the communities found on the reefs are more characteristic of the exposed open coast and in Lough Hyne the sponge-dominated communities occur at much shallower depths than on the open coast. Lough Hyne has been extensively studied and is known to have a very high species diversity and very high species richness for such a small area.

On the open coast and within the Lough the rocky shores are renowned for the presence of the Purple Sea Urchin *Paracentrotus lividus*. This is the most easterly limit for this species in Ireland. Dense stands of the kelp *Laminaria saccorhiza* are found in the rapids with a species-rich faunal community under the boulders. Within the Lough the shallow subtidal reefs are in some areas characterised by a mixed kelp forest of *L. saccharina* and *Sacchariza polyschides* with some *Laminaria digitata* and

foliose red algae, while in other areas *L. saccharina* and *Cystoseira* species are the characterising algae.

At the entrance to the Lough where there is strong water movement the brown algae *Halydris siliquosa* and mixed kelp species are characteristic, a community that is typical of moderately exposed tide-swept areas. With increasing depth at this area communities more characteristic of areas exposed to wave action on the open coast are found; sponges hydroids, cup-corals, solitary sea squirts and red algae dominate the boulders. The vertical surfaces are colonised by the jewel anemone, the sponge *Esperiopsis fucorum* and solitary sea squirts; a bryozoan turf of *Crisia* species may also be present. Cobbles, pebbles and gravel support a community of keel worm *Pomatoceros triqueter*, the barnacle *Balanus crenatus* and bryozoan crusts.

In sheltered areas away from the turbulent water entering the Lough much of the rock is covered by solitary sea squirts and sponges. The cliffs within the Lough support a wide variety of sponges, the cup coral and a community characterised by the rare soft coral *Paraerythropodium coralloides*, which is more characteristic of open water. Rare sponges that are known to occur within the Lough includes *Plakortis simplex* and *Halicnemia patera*. Two rare gobies are found in Lough Hyne: Couche's Goby *Gobius couchi* and the Red-mouthed Goby *Gobius cruenatatus*. Two sea-slugs more commonly found in the Mediterranean occur in Lough Hyne: *Dicata odhneri* and *Facelina dubia*. The Southern Cup Coral *Caryophyllia inornatus* occurs close to the rapids and is the only known site in Ireland for this species. 75% of the marine algae on the national species list have been recorded in the area. These include the rare species *Osmundea truncata*, *Gymnogongrus devoniensis* and *Notastoma canariensis*. Large mats of the red algae *Trailiella* also occur.

Much of the floor of Lough Hyne is soft mud, but areas of pebbles, gravel and muddy sand also occur in shallow water around the edges of the Lough. In sheltered areas the pebbles and gravel are colonised by solitary sea squirts, while the sand and mud are colonised by burrowing anemones. The scallop *Pecten maximus* may also be present and in some areas the Dublin Bay prawn *Nephrops norvegicus* is common. Outside the Lough in Southern Bay and Barloge Bay dense stands of Eelgrass (*Zostera marina*) occur growing on coarse sand.

There is a large cave on the south-western side of Bullock Island. The brown alga *Laminaria hyperborea* occurs at the entrance and a short distance into the cave due to good light penetration. The red alga *Cryptopleura ramosa* occurs on the sides of the cave and into the intertidal areas within the cave. Rockpools within the cave are characterised by sheets of the jewel anemone *Corynactis viridis*, a species found in areas subject to wave action.

To the north of Lough Hyne is the mixed woodland of Knockomagh, whose species include Sessile Oak (*Quercus petraea*), Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*), with some Holly (*Ilex aquifolium*) and Yew (*Taxus baccata*). However, there has been much planting of coniferous species such as Sitka Spruce (*Picea*

sitchensis), Lodgepole Pine (*Pinus contorta*) and larch (*Larix* spp.) in the wood over the last 30 years.

Surrounding the Lough are areas of heathland with Western Gorse (*Ulex gallii*) and Bracken (*Pteridium aquilinum*), scrub woodland and some improved agricultural grassland. The land to the east includes Ballyally Lough and Bealariree Marsh. The northern end of the marsh supports some wet woodland with Willow (*Salix* spp.) and Alder (*Alnus glutinosa*); the marsh itself is dominated by the Common Reed (*Phragmites australis*), with much Wild Celery (*Apium graveolens*) in the upper reaches of Bealariree stream.

Fields to the north-east of Gokane Point contain the rare Red Data Book species, Sharp-leaved Fluellen (*Kickxia elatine*).

The remainder of the site follows the rocky coastline, whose physical features include marine caves, cliffs and a blow-hole.

The cliffs on the eastern edge of Tragumna Bay are used by small numbers of breeding seabirds, as well as breeding Raven, Peregrine and Chough. The last two species are listed on Annex I of the E.U. Birds Directive.

Due to the fact that it is nearly land-locked, with relatively little tidal exchange of water, Lough Hyne is vulnerable to the effects of eutrophication. Polluting operations around the lake (including heavy fertilization of agricultural land), and pollution of the streams and drains which feed into the Lough, should be prevented where possible. The Lough is also used by scuba-divers and field studies groups, and disturbance of the habitats and the removal of biological material, especially of shellfish (e.g. Scallop, Sea Urchins and Lobster) is a potential threat.

Lough Hyne has been recognised as an internationally important ecological site, with both botanical and zoological interest. The surrounding coastland area also supports a range of habitats which are both scientifically interesting and very scenic. This site contains important examples of three habitats listed on Annex I of the E.U. Habitats Directive, with the habitat 'large shallow inlets and bays' making up over 60% of the site. The high species diversity and the presence of a number of rare and unusual species adds further interest to the area.