SITE SYNOPSIS

Site Name: Clew Bay Complex SAC

Site Code: 001482

Clew Bay is a wide, west-facing bay on the west coast of Co. Mayo. It is open to the westerly swells and winds from the Atlantic, with Clare Island giving only a small amount of protection. This drumlin landscape was formed during the last glacial period when sediments were laid down and smoothed over by advancing ice. The sea has subsequently inundated the area, creating a multitude of islands. The geomorphology of the bay has resulted in a complex series of interlocking bays creating a wide variety of 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):

[1140] Tidal Mudflats and Sandflats
[1150] Coastal Lagoons*
[1160] Large Shallow Inlets and Bays
[1210] Annual Vegetation of Drift Lines
[1220] Perennial Vegetation of Stony Banks
[1330] Atlantic Salt Meadows
[2110] Embryonic Shifting Dunes
[2120] Marram Dunes (White Dunes)
[21A0] Machairs (* in Ireland)
[91A0] Old Oak Woodlands

[1355] Otter (*Lutra lutra*)
[1365] Common (Harbour) Seal (*Phoca vitulina*)

Within the shallow bay, subtidal sediments are characterised by typical bivalve communities in fine sand (*Chamelea striatula* and *Ensis* sp.), and by the polychaete worm *Euclymene* sp. and the bivalve *Thyasira flexuosa* in muddy sand. The intertidal sediment communities are characterised by polychaetes and bivalves in the mid shore and by the sand mason worm *Lanice conchilega* in the low shore. In areas where there is maerl debris with small amounts of live maerl, the infaunal community has a mixture of species characteristic of coarse sand (e.g. the bivalves *Timoclea ovata*, *Spisula* sp., and the polychaetes *Nepthys cirrosa* and *Glycera lapidum*) and medium sand (e.g., the bivalve *Ensis* sp. and the polychaetes *Lanice conchilega*, *Scoloplos armiger* and *Sthenelais boa*). The bivalves *Timoclea ovata*, *Tapes rhomboides* and the polychaetes *Branchiomma bombyx* and *Glycera lapidum* are typical of gravels and medium sands,

whereas the bivalves *Abra alba, Corbula gibba*, *Thyasira flexuosa* and *Mysella bidentata* and the polychaete *Euclymene* are characteristic of muddy sands. Beds of live maerl of *Lithothamnion corallioides* are also present in a number of areas.

Around the edges of the inner part of the bay are shores of mixed boulders, cobbles, gravel with some sand and mud. They have a typical zonation of intertidal communities found on sheltered shores of mixed substratum. The shore at Murisk is unusual as a distinct zone characterised by archiannelids occurs above the sandhopper zone in the upper shore under the boulders and cobbles. This is an unusual habitat. In sheltered areas of shallow water with little sand scour a well-developed community of hydroids, sponges and solitary sea squirts is present. Where the sediments include gravel and mud the species richness in the area can be exceptionally high (180 species). A number of marine species that are rarely recorded are found in Clew Bay: the stalked jellyfish *Lucernariopsis cruxmelitensis*; the polycheates *Anitides rosea*, *Clymenura clypeata*, *Pterosyllis formosa* and *Pionosylis* sp. and the snail *Clypterea chinensis.*

Clew Bay is considered to have the most significant shingle reserves in the country, and has (on the islands) the only examples of incipient gravel barriers in Ireland. Associated with the shingle (and dunes) are good examples of annual vegetation of drift lines. Characteristic species found in these habitats include: Spear-leaved Orache (*Atriplex prostrata*), Red Fescue (*Festuca rubra*), Sea Sandwort (*Honkenya peploides*), Thrift (*Armeria maritima*), Common Scurvygrass (*Cochlearia officinalis*), Sea Mayweed (*Matricaria maritima*) and Sea Campion (*Silene vulgaris* subsp. *maritima*).

Lough Furnace is located at the north-eastern corner of Clew Bay. The lough is a good example of a deep, stratified, saline lake lagoon in a very natural state. Salinity levels can vary considerably here depending on rainfall and tides. The lake is one of the very few permanently stratified lakes known in Ireland and Britain. The lake is ringed by Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*), with small patches of Great Fen-sedge (*Cladium mariscus*) and Bottle Sedge (*Carex rostrata*). Lough Furnace supports a relatively high faunal diversity (41 taxa recorded in a 1996 survey), including a number of important invertebrate species. The relict mysid species *Neomysis integer*, the isopods *Jaera albifrons, J. ischiosetosa* and *J. nordmanni*, and two rare amphipods (*Lembos longipes* and *Leptocheirus pilosus*) have all been recorded from the lake. Both Irish species of tasselweed (*Ruppia maritima* and *R. cirrhosa*) occur in the lagoon. Eel, Flounder and Mullet also occur in the lake waters. Mallard nest around the lough, while Saint's Island contains nesting Black-headed Gull.

At the north-western end of Lough Furnace lie two associated lakes, Lough Napransky and Lough Navroony. A stream drains from the latter into the main lake. The area contains flush and quaking-mire vegetation, which is of interest as Irish Heath (*Erica erigena*) is found there, with bog mosses (*Sphagnum* spp.), Black Bog-rush (*Schoenus nigricans*), Bog Asphodel (*Narthecium ossifragum*), Common Cottongrass (*Eriophorum angustifolium*) and Round-leaved Sundew (*Drosera rotundifolia*). Bog Orchid (*Hammarbya paludosa*), a species listed in the Irish Red Data

Book and the Flora (Protection) Order, 2015, is also found in this area. Beyond the wet area there is a Hazel (*Corylus avellana*) dominated woodland growing over abandoned fields. Downy Birch (*Betula pubescens*), Hawthorn (*Crataegus monogyna*) and Holly (*Ilex aquifolium*) are common, with occasional Sessile Oak (*Quercus petraea*). The ground flora contains such species as Bluebell (*Hyacinthoides non-scripta*), Sanicle (*Sanicula europaea*) and Wood-sorrel (*Oxalis acetosella*).

Keeloges Wood is a medium-sized woodland on the north-east corner of Clew Bay. The woodland lies in a sheltered location between several drumlins and occurs on a shallow, moist, brown-earth soil with an organic-rich A horizon which is occasionally peaty. The soil is gleyed near streams and flushes. The woodland is dominated by Sessile Oak, with Downy Birch and occasional Ash (*Fraxinus excelsior*). Hazel, Holly and Hawthorn are the principal components of the shrub layer. In moister sites Rusty Willow (*Salix cinerea* subsp. *oleifolia*) and Alder (*Alnus glutinosa*) occur. The woodland is at the more fertile end of the spectrum of oak woodlands and is transitional to Ash woodland. Consequently the field layer is species-rich. Elements of oak woodland, e.g. Hard Fern (*Blechnum spicant*), Greater Stitchwort (*Stellaria holostea*), Great Wood-rush (*Luzula sylvatica*) and Honeysuckle (*Lonicera periclymenum*), are mixed with elements of Ash woodland, e.g. False Brome (*Brachypodium sylvaticum*), Lords-and-ladies (*Arum maculatum*), Enchanter's-nightshade (*Circaea lutetiana*) and Wood Speedwell (*Veronica montana*), as well as indicators of poorly-drained soil, e.g. Tufted Hair-grass (*Deschampsia cespitosa*), Meadowsweet (*Filipendula ulmaria*) and Marsh Hawk's-beard (*Crepis paludosa*). The epiphyte *Lobaria pulmonaria* is also present, together with numerous other lichen and bryophyte species (including *Usnea* spp).

The wood was cut during the second World War so most of the trees are approximately 60 years old, but a few very much larger oaks occur, principally on the shoreline. There is a low but well-developed canopy with a well-developed shrub layer and often luxuriant field layer. There is good regeneration of trees. A most unusual feature is the juxtaposition of oak woodland with saltmarsh where the woodland borders the shoreline. The wood has been well-managed in recent times with occasional filling in of wind-blown coupes with trees derived from seed collected on-site. A stock-proof fence has been maintained along the land boundary. No invasive exotics were encountered during recent survey. The woodland appears on the 1st Edition Ordnance Survey map indicating that it is long-established and possibly ancient. The species-list also supports this contention with at least 14 species present here which have been found to be significantly more frequent in potentially ancient woodlands. This woodland is of particular significance in view of its location in the extreme north-west of the country where there is very little woodland, its position on the coast, its species-richness, excellent structure and its possible ancient status.

The Rosmurrevagh area in the north of Clew Bay displays a high diversity of habitats, from seashore to dunes, machair and coastal grassland, as well as saltmarsh, bog and fen. The sandy beach on the seaward side grades into dunes of Marram (*Ammophila arenaria*). Adjacent to this, the saltmarsh vegetation, which is

approximately 5 m wide, comprises Thrift, Common Scurvygrass, Common Saltmarsh-grass (*Puccinellia maritima*) and 'turf fucoids' (diminutive forms of brown algae). These plant species are typical of Atlantic salt meadows. Similar saltmarshes occur scattered around the entire shoreline of the bay.

Next to the saltmarsh at Rosmurrevagh is an area of coastal grassland and machair. The majority of the machair grassland is relatively level and occurs on a fine sand substrate that is free draining. Small patches of damp machair are often found in conjunction with the saltmarsh or low-lying depressions where water from incoming high tides occasionally reaches. Many typical grassland species such as *Festuca rubra* (Red fescue), *Bellis perennis* (Daisy), and *Plantago lanceolata* (Ribwort plantain) are found on the machair. Autumn lady's-tress (*Spiranthes spiralis*) and Field Gentian (*Gentianella campestris*) are occasional in the grassland sward. Flushes introduce a species-rich bog/fen type vegetation. Yellow Iris (*Iris pseudacorus*), Soft Rush (*Juncus effusus*), Irish Heath, bog mosses, sedges, Water Mint (*Mentha aquatica*), Bog-myrtle (*Myrica gale*), Bog Asphodel and Cuckooflower (*Cardamine pratensis*) are also found.

A further dune system occurs at Bartraw in the south-west of the site. Here Marram and embryonic dunes occur along a shingle ridge which links a small island where dunes also occur. Embryonic dunes, characterised by the presence of Sand Couch (*Elymus farctus*), also occur on some of the islands in the bay.

Important populations of Otter and Common (Harbour) Seal are found in Clew Bay. A total of 95 Common Seals were recorded ashore within Clew Bay Complex SAC in August 2003 during a national aerial survey for the species. Continued land-based monitoring within the site recorded 121 seals of all ages ashore in August 2009 and 118 in August 2010. The snail species *Vertigo geyeri*, which is also listed on Annex II of the E.U. Habitats Directive, has been recorded from this site based on a finding of the species at the edge of a lagoon at Rosmoney, as reported in 2005. The *Vertigo* monitoring survey of 2008-2010 assessed the site as having very little suitable habitat and that this was a natural situation rather than due to loss of habitat. This was the only site for *Vertigo geyeri* in this SAC and no others have been found.

The Clew Bay Complex supports a good diversity of wintering waterfowl, with nationally important numbers of Red-breasted Merganser (average maximum of 70 in the winters 1995/96-1999/00) and Ringed Plover (average maximum of 142 in the winters 1995/96-1999/00). A population of Barnacle Goose (100-200 birds) frequents the islands during winter. Other species which occur in significant numbers include Great Northern Diver (14), Brent Goose (118), Shelduck (74), Wigeon (112), Teal (127), Mallard (64), Oystercatcher (250), Dunlin (450), Bar-tailed Godwit (73), Curlew (373), Redshank (172), Greenshank (10) and Turnstone (27) (all figures are average maxima for the winters 1995/95-1999/00). Species which breed in important numbers include Cormorant (115 pairs in 1985), Common Tern (20+ pairs in 2000/01), Arctic Tern (100+ pairs in 2000/01) and Little Tern (9 pairs in 2000). The various tern species, as well as Barnacle Goose, Great Northern Diver and Bar-tailed Godwit, are listed on Annex I of the E.U. Birds Directive.

The juxtaposition within Clew Bay of a wide variety of habitats, including 10 listed on Annex I of the E.U. Habitats Directive, and the combination of important flora and fauna, including one Red Data Book plant and two animals listed on Annex II of the E.U. Habitats Directive, make this a site of considerable national and international importance.