



**Site Name: Carrowmore Dunes SAC**

**Site Code: 002250**

Carrowmore Dunes are situated on the south-western coast of Co. Clare, roughly midway between Milltown Malbay and Kilkee, and extend from Carrowmore Point in the north to Doonbeg Bay in the south. Fine sandy beach merges into a cobble beach on the seaward side of a sand dune system. Exposed bedrock marks the northern and southern boundaries of the site. Seaward, the site extends for 500 m from the shore to include shallow marine waters. The geology of the site comprises Upper Carboniferous sandstone and shale. Pure sand dominates the soils on the seaward side, with increasing organic content further inland.

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):

- [1170] Reefs
- [2110] Embryonic Shifting Dunes
- [2120] Marram Dunes (White Dunes)
- [2130] Fixed Dunes (Grey Dunes)\*
- [1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*)

Fixed dune with herbaceous vegetation is the largest dune habitat present within the site. Typically, the high dunes have an abundant Marram (*Ammophila arenaria*) cover and in places attain a height of up to 25 m. At the landward side, in the drier sheltered hollows a closed grassy community with Red Fescue (*Festuca rubra*), White Clover (*Trifolium repens*), Bulbous Buttercup (*Ranunculus bulbosus*), Ribwort Plantain (*Plantago lanceolata*) and Field Wood-rush (*Luzula campestris*) has developed. Species diversity is generally higher in these undisturbed areas, with Lady's Bedstraw (*Galium verum*), Daisy (*Bellis perennis*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Mouse-ear (*Cerastium fontanum*) and Yarrow (*Achillea millefolium*) being well represented. Notable species present include Squinancywort (*Asperula cynanchica*) and an uncommon pansy, *Viola* cf. *lutea*. Generally, there is little bare sand and a good cover of mosses (*Homalothecium lutescens* and *Calliergon cuspidatum* most commonly) and lichens (particularly *Peltigera canina*).

Marram dunes occur on the steeper, seaward slopes of the dunes above the beach and at the edges of blow-outs. Typically the cover of Marram is high and there is little ground vegetation over bare sand. Common Scurvygrass (*Cochlearia officinalis*) and Colt's-foot (*Tussilago farfara*) occur occasionally amongst the Marram on the seaward side, with Red Fescue, Common Ragwort (*Senecio jacobaea*), White Clover

and Cat's-ear (*Hypochoeris radicata*) increasing inland. Due to the exposure and high levels of coastal erosion at this site, the embryonic shifting, or fore dunes are not significantly developed, and consist of a loose sand slope grading into the back of the beach. Characteristically, there is much bare sand (typically associated with the first stages of dune building) and the habitat is species-poor, being dominated by Sand Couch (*Elymus farctus*). Unlike similar habitat types in east coast dunes, the intensity of the erosional processes are greater than the depositional ones, so that separate ridges of different ages are not clearly discernible in this dune system.

Intertidal reefs occur on the seaward side of the site, and are particularly well developed about Magrath's Point at the southern end of the site. Here the shore is moderately exposed to wave action and comprises a wide expanse of shallowly sloping bedrock that is stratified and set at an incline to form shallow ridges and furrows running obliquely or horizontally across the shore. There are extensive rock pools in the mid shore and, below this, an area of unstable boulders, cobbles, pebbles and gravel. The reef is particularly rich in algal and invertebrate species and supports a number of rare taxa, including the snapping shrimp *Alpheus macrocheles* and the algae *Phyllophora sicula* and *Pterosiphonia pennata*.

This site contains a relatively small area of intertidal sandflats, comprised of fine to coarse sand. The main expanse of sandflats occurs along the length of the site before merging northwards and southwards with low exposed reefs. Other than occasional Eelgrass (*Zostera marina*), plant species are typically scarce. The sandflats provide feeding areas for wintering wildfowl and waders.

The site supports a population of the rare snail *Vertigo angustior*, a species that is listed on Annex II of the E.U. Habitats Directive. Towards the back of the dune system there are two wetland areas that serve as important refuges for *V. angustior*, particularly in drier summers. The vegetation can reach heights in excess of 2 m, and is dominated by reeds, sedges (*Carex* spp.) and Yellow Iris (*Iris pseudacorus*), with an understorey of Great Willowherb (*Epilobium hirsutum*), Meadowsweet (*Filipendula ulmaria*), Water Horsetail (*Equisetum fluviatile*), Creeping Bent (*Agrostis stolonifera*) and the moss *Calliargon cuspidatum*. Common Reed (*Phragmites australis*) is dominant in the wettest areas.

The site is used by a number of bird species, including Chough (a species that is listed on Annex I of the E.U. Birds Directive), Curlew, Dunlin, Oystercatcher, Ringed Plover, Lapwing, Wigeon, Black-headed Gull and Common Gull. A number of other species are intermittent visitors and use a range of other sites along this coastline.

The Carrowmore Dunes site is of considerable conservation significance, supporting good examples of four habitats that are listed on Annex I of the E.U. Habitats Directive, as well as a population of the rare Annex II snail, *Vertigo angustior*.