

DEPARTMENT OF THE ENVIRONMENT

**DECLARATION OF AREA OF SPECIAL SCIENTIFIC INTEREST AT
OUTER ARDS, COUNTY DOWN. ARTICLE 24 OF THE NATURE
CONSERVATION AND AMENITY LANDS (NORTHERN IRELAND)
ORDER 1985.**

The Department of the Environment (the Department), having consulted the Council for Nature Conservation and the Countryside and being satisfied that the area described and delineated on the attached map (the area) is of special scientific interest by reason of the flora, fauna, geological and physiographical features and accordingly needs to be specially protected, hereby declares the area to be an area of special scientific interest to be known as the 'Outer Ards Area of Special Scientific Interest'.

The Outer Ards area is important for its geological features, and its coastal plant and animal communities.

The Outer Ards coast is composed of Lower Palaeozoic sedimentary rocks of deep marine facies, strongly folded, faulted and weakly metamorphosed. The area is part of the Scottish Southern Uplands / Irish Down - Longford Terrane, one of a series of terranes assembled through the closure of the Iapetus Ocean at the end of the Silurian period, 395 Million years ago (Ma). A terrane is a geological unit, discrete in terms of structure and age, and distinct from adjoining areas.

The terrane is primarily composed of well-bedded greywacke sandstones and shales. Characteristically, bedding dips steeply with sedimentary structures commonly demonstrating inversion. Most of the beds young or face north-westward, yet fossil evidence indicates a regional decrease in the age to the south - east. This paradox is solved by dividing the terrane into a fairly large number of elongated, parallel tracts, each between one and five kilometres across and divided by faults.

Since 1977, the terrane has attracted international interest because of its interpretation as an accretionary prism. There is ongoing debate concerning the geographical position of the sediments which now form the rocks of this region, namely whether they were fore-arc or back-arc sediments. Irrespective of this, sediments were accreted on the north-western, Laurentian, shore of the Iapetus Ocean during plate collision and ocean closure. The unresolved argument between proponents of these rival hypotheses is critical to understanding of the British and Irish Caledonides.

Orlock Bridge affords the most spectacular example of fault associated rock deformation in Northern Ireland. Mylonites and breccias have been generated from the country rocks by movement on the Orlock Bridge Fault. This major fracture separates the Upper Ordovician Northern Belt from the mainly Silurian Central Belt along a line traced from County Cavan to south of Dunbar.

Coalpit Bay, near Donaghadee, is the best-developed and most historically important outcrop of Moffat Shales in Ireland. These are a condensed succession of grey or black, often richly fossiliferous, graptolitic shales ranging in age from Caradoc (454 Ma) to Upper Llandovery (400 Ma). Interbedded with the shales are some 50 bands of bentonite clay, each representing a fall of fine-grained volcanic material spewed out from some neighbouring volcanic arc. The coarse greywacke sandstones outcropping for a kilometre to the south of the bay, have many spectacular sole markings on their upturned bedding surfaces.

The rock series on the east side of Knockinelder Bay provides excellent exposure of fold geometry and fold cleavage relationships in deformed calcareous siltstones and shales. Well-developed conjugate kink bands are present, as are numerous lamprophyre dykes and sills.

Over 1,000 dykes ranging in thickness from a few centimetres to about 16 metres, and a much smaller number of sills, are found along the coast. One dyke has been dated, giving an age of some 415 Ma.

A notable lamprophyre dyke near Ballywhiskin Bay contains xenolithic material comparable to the Borrowdale Volcanic series of the Lake District. This indicates an important depth relationship between this series and the County Down Silurian defined by an underlying thrust slice.

Notable post-glacial raised cobble beaches are present at Kearney and Ringboy Points, while the former also exhibits a clearly defined modern storm ridge feature. Development of the major boulder and cobble units which comprise Green and Bird Islands appear to be related to raised sea-level events.

Modern coastal process sites include the recurved spit at Cloghy Bay, a cusp-dominated cobble storm beach at Knockinelder Bay and the ridge and runnel features developed on the sand beach at Ganaway Bay.

The maritime vegetation along this exposed coastline has been strongly influenced both by the physiography and by human activity. Although some more extensive areas remain, most of the terrestrial semi-natural vegetation is now confined to a narrow, fragmented shoreline strip and includes areas of dune and maritime grassland, maritime heath and cliff ledge vegetation, in addition to saltmarshes, tidal and non-tidal fens and wet flushes.

Some areas still display the natural transition from maritime to terrestrial vegetation. This sequence is most typical of sheltered bays, where saltmarshes, which themselves display a zonation of lower, middle and upper community types, give way either through brackish fen to freshwater fen, or through inundation grassland to wet flushes

and maritime grassland. Incorporated within these transitions are a number of notable vegetation communities, including those characterised by Sea-purslane *Atriplex portulacoides* and by Saltmarsh Flat-sedge *Blysmus rufus*, both found within the saltmarsh. On the rocky shores the sequence is more abrupt, with cliff ledge vegetation giving way to maritime grassland and in a few locations, maritime heath. The maritime cliff community characterised by Spring Squill *Scilla verna* is particularly notable.

At least seventeen rare or local plant species have been recorded for the area from a wide range of habitats. Some are relatively widespread, although most have rather limited distributions. They include wetland plants from intertidal muds (Eelgrass *Zostera marina* and Narrow-leaved Eelgrass *Z. angustifolia*), saltmarshes (Sea-purslane *Atriplex portulacoides*, Lax-flowered Sea-lavender *Limonium humile*, Saltmarsh Flat-sedge *Blysmus rufus* and Hardgrass *Parapholis strigosa*) and freshwater marshes (Blunt-flowered Rush *Juncus subnodulosus* and Slender Spike-rush *Eleocharis uniglumis*). Strandline species include Grass-leaved Orache *Atriplex littoralis*, Frosted Orache *A. laciniata*, Sea Radish *Raphanus raphanistrum* ssp. *maritimus* and Slender Thistle *Carduus tenuiflorus*. Additional rare species present are Dodder *Cuscuta epithymum*, which is now restricted to a single site at Cloghy, Spring Squill *Scilla verna*, Rock Samphire *Crithmum maritimum*, Sea Pearlwort *Sagina maritima* and Upright Clover *Trifolium striatum*.

Some of the coastal grasslands found along this site are important for grassland fungi. Where soil conditions are infertile, Waxcaps *Hygrocybe* spp. and other grassland fungi are often abundant with White Waxcap *Hygrocybe virginea*, Russian-leather Waxcap *H. russocoriacea* and Cow-horn Coral-fungus *Clavulinopsis corniculata* being frequent in suitable grasslands along the coast. One locality at Cloghy Dunes is of particular importance for the quantity and variety of Earth Tongues present. Of particular note is the presence of Olive-coloured Earth Tongue *Microglossum olivaceum* and Purple-brown Earth Tongue *Geoglossum atropurpureum*.

The Outer Ards is also of significance for its marine biology. It is the most sheltered stretch of open rocky coast in Northern Ireland and, consequently, exhibits a greater species richness than other open coast sites. The width of this rocky intertidal zone is determined by the orientation of outcrop, but generally comprises low platforms, up to 200 m across. These rocks are much fractured and include ridges, crevices and rock pools in places. Rocky shores are separated by wide areas of mobile sediment that form sheltered sandy bays.

A number of rocky shores are of particular conservation interest, displaying the classic shore zonation with boulders and associated communities. The best can be seen at Down Rock, Foreland Point and Kearney. Here brown seaweed, including Channelled Wrack *Pelvetia canaliculata*, Spiral Wrack *F. spiralis*, Knotted Wrack *Ascophyllum nodosum*, Bladder Wrack *F. vesiculosus*, Toothed Wrack *Fucus serratus* and Oarweed *Laminaria digitata*, occur. Green seaweeds such as *Enteromorpha* spp. and *Cladophora* spp. are associated with the rock pools, while acorn barnacles *Semibalanus balanoides* occur on the many boulders on the shore.

Sedimentary shores, ranging from muddy sand to coarse sand and gravel, are often among the best examples of their type in Northern Ireland. At Robins Bay, which has fine muddy sand, the Common Cockle *Cerastoderma edule* is frequent. Millin Bay and Wallace's Rocks are the most species-diverse and are associated with burrowing amphipods *Pontocrates* spp. and *Bathyporeia* spp. and various polychaetes, especially the lugworm *Arenicola marina*. The Sand Mason *Lanice conchilega* can be found in the sand of the tide-swept lower shore. Cloghy spit is also important as one of the few barren gravel shores in Northern Ireland.

A long established tern colony at Cockle Island, Groomsport holds an internationally significant population of Arctic Tern *Sterna paradisaea*. With a five-year average of 207 breeding pairs, this site holds some 4.7 % of the Irish population. Notable numbers of Sandwich Tern *Sterna sandvicensis* also breed at this site together with a smaller population of Common Tern *Sterna hirundo*.

The Outer Ards coastline is of international importance for the wintering populations of four species of waterfowl. Light Bellied Brent Goose *Branta bernicla hrota* utilise a number of sand and mud dominated bays, generally during the periods of late winter and early spring. The five-year average of wintering birds is 209, representing some 1.1 % of the world population of this sub-species. In contrast, Turnstone *Arenaria interpres* favour cobble and boulder shores with an average of 1210 birds, 1.7 % of the Eastern Atlantic Flyway population. Ringed Plover *Charadrius hiaticula*, which averages 516 birds, 1.2 % of the Eastern Atlantic Flyway population, occur on a range of shoreline types. Both the Ringed Plover and Turnstone at Outer Ards achieve the highest shoreline densities for these species at any exposed coastal, non-estuarine, site in the United Kingdom, with some 13 and 33 birds/km respectively. Finally, Golden Plover *Pluvialis apricaria* is an internationally important migratory species with an average of 2109 birds, 1.1% of the north-west European wintering population.

A large number of other species are present in nationally important numbers. Cormorant *Phalacrocorax carbo* (5 year average of 221, 4.4 % of the Irish wintering population), Great Crested Grebe *Podiceps cristatus* (82, 2.7%) and Eider *Somateria mollissima* (475, 23.8 %) occur offshore. Wading species of significance are Curlew *Numenius arquata* (917, 1.1 %), Dunlin *Calidris alpina* (2239, 1.8 %), Lapwing *Vanellus vanellus* (5379, 2.2 %), Oystercatcher *Haematopus ostralegus* (1623, 3.3 %), Purple Sandpiper *Calidris maritima* (78, 7.8 %) and Redshank *Tringa totanus* (904, 3.7 %). Between them these species utilise a great range of shoreline habitats.

There are significant populations of both Grey Seal *Halichoerus grypus* and Common Seal *Phoca vitulina*. Off-shore islands and reefs are used as haul-outs, pupping and mating sites.

SCHEDULE

The following operations and activities appear to the Department to be likely to damage the flora, fauna, geological and physiographical features of the area:

1. Any activity or operation which involves the damage or disturbance by any means of the surface and subsurface of the land, including ploughing, rotovating, harrowing, reclamation and extraction of minerals, including rock, sand, gravel and peat.
2. Any change in the present annual pattern and intensity of grazing, including any change in the type of livestock used or in supplementary feeding practice.
3. Any change in the established method or frequency of rolling, mowing or cutting.
4. Any change in the annual pattern of application of manure, slurry, artificial fertiliser or lime.
5. The application of herbicides, fungicides or other chemicals deployed to kill any form of wild plant, other than plants listed as being noxious in the Noxious Weeds (Northern Ireland) Order 1977.
6. The storage or dumping, spreading or discharge of any material not specified under paragraphs 4 or 5 above.
7. The destruction, displacement, removal or cutting of any plant, seed or plant remains, other than for
 - (i) plants listed as being noxious in the Noxious Weeds (Northern Ireland) Order 1977;
 - (ii) normal cutting or mowing regimes for which a consent is not required under paragraph 3 above.
8. The release into the area of any animal (other than in connection with normal grazing practice) or plant. 'Animal' includes birds, mammals, fish, reptiles, amphibians and invertebrates; 'Plant' includes seed, fruit or spore.
9. Burning
10. Changes in tree or woodland management, including afforestation, planting, clearing, selective felling and coppicing.
11. Construction, removal or disturbance of any permanent or temporary structure including building, engineering or other operations.
12. Alteration of natural or man-made features, the clearance of boulders or stones and grading of rock faces.

13. Operations or activities which would affect wetlands (including rivers, streams and open water), e.g.
 - (i) change in the methods or frequency of routine drainage maintenance;
 - (ii) modification of the structure of any watercourse;
 - (iii) lowering of the water-table, permanently or temporarily;
 - (iv) change in the management of bank-side vegetation;
 - (v) changes in field drainage.
14. The killing or taking of any animal in a manner likely to affect the continued existence of the species within the area except as provided for under the terms of the Wildlife (Northern Ireland) Order 1985.
15. The following activities undertaken in a manner likely to damage the scientific interest of the area:
 - (i) educational activities;
 - (ii) research activities;
 - (iii) recreational activities;
 - (iv) exercising of animals.
16. Changes in game, waterfowl, or fisheries management or fishing or hunting practices.
17. Changes in the practice of bait digging and harvesting of shellfish or seaweed.
18. Sampling of rocks, minerals, fossils or any other material forming a part of the site, undertaken in a manner likely to damage the scientific interest.
19. Extraction of sand, gravel, cobble or boulders from the beach.
20. Use of vehicles or craft likely to damage the scientific interest of the area.

The Official Seal of the
Department of the Environment
hereunto affixed is authenticated
by



DR J S FAULKNER
Senior Officer of the
Department of the Environment

Dated the ~~23rd~~ of ~~December~~ 2002

FOOTNOTES

- (a) Please note that consent by the Department to any of the operations or activities listed in the Schedule does not constitute planning permission. Where required, planning permission must be applied for in the usual manner to the Department under Part IV of the Planning (Northern Ireland) Order 1991. Operations or activities covered by planning permission are not normally covered in the list of Notifiable Operations.
- (b) Also note that many of the operations and activities listed in the Schedule are capable of being carried out either on a large scale or in a very small way. While it is impossible to define exactly what is "large" and what is "small", the Department would intend to approach each case in a common sense and practical way. It is very unlikely that small scale operations would give rise for concern and if this was the case the Department would normally give consent, particularly if there is a long history of the operation being undertaken in that precise location.