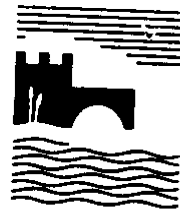




An Agency within the
Department of the Environment
for Northern Ireland



ENVIRONMENT
AND HERITAGE
SERVICE

DEPARTMENT OF THE ENVIRONMENT FOR NORTHERN IRELAND

DECLARATION OF AREA OF SPECIAL SCIENTIFIC INTEREST AT WHITE ROCKS, COUNTY ANTRIM. ARTICLE 24 OF THE NATURE CONSERVATION AND AMENITY LANDS (NORTHERN IRELAND) ORDER 1985.

The Department of the Environment for Northern Ireland (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 'White Rocks area of special scientific interest'.

The coastal section of the White Rocks exhibits a range of notable geological and geomorphological features. These include, from oldest to youngest, the Cretaceous chalk series, the Tertiary vent features and the coastal landforms. The cliffs also support a range of plant communities and provide suitable habitat for a range of breeding birds.

The cliffs at White Rocks and the nearby quarry at Ballymagarry contain excellent exposures of the Ulster White Limestone Formation dating from the Cretaceous period and are some 85 million years old. Included are the type sections for the Portrush Chalk, Ballymagarry Chalk and Tanderagee Chalk Members. Type sections are localities recognised as containing the best example of a particular rock series. The Ulster White Limestone or chalk exposed here formed in an ancient warm sea and is composed of the skeletal remains of microscopic marine organisms.

The White Rocks also show clear evidence of explosive activity which was associated with the onset of Tertiary igneous events in Antrim some 60 million years ago. This activity was probably phreatomagmatic due to magma moving upwards into water-saturated sediments at shallow depths.

The initial phase of eruption in Antrim featured explosive activity, primarily seen in a series of vents exposed in north Antrim, and including the much larger occurrence at Carrickarede. These small scale vents are concentrated in a relatively narrow zone between the White Rocks and Dunluce Castle. The source of the gas to provide the explosive force was a magma body moving to the surface from depth. The volume of gas was increased by steam produced as a result of the hot magma vaporising the water contained in the sediments through which it

passed. It is significant that these vents are near the centre of the large, roughly circular outcrop of the Portrush Sill which forms Ramore Head at Portrush and the islands of the Skerries. The vents contain agglomerates comprising shattered chalk with flint and basalt while the walls are often well defined, showing agglomerate in contact with undisturbed chalk.

While there is an undoubted volcanic origin for many of these features, there is a possibility that elsewhere within the site some similar features are the result of the collapse of basaltic material into solution hollows on the chalk surface.

The White Rocks also demonstrate coastal landforms typical of chalk coasts, with cliffs, shore platforms, caves, arches, and sea stacks all present. For 2 km. east of the Curran Strand, the shore is formed of near vertical chalk cliffs fronted by a platform with occasional inlets and small embayments. The cliffs extend to Dunluce Castle where a fault re-introduces the basalt shoreline. The Irish Cretaceous chalk is extremely hard and highly resistant to erosion.

The shoreline comprises a rampart of chalk cliffs and associated features, including caves at various stages of development, blowholes, shore platforms and cliff benches, stacks, and sea arches. The cliff itself has a characteristic profile known as slope-over-wall cliffs, distinctly different from those developed in basalt. The cliff-base platform is not continuous, being dissected by a series of joints which match the orientations of numerous caves in the chalk headlands. In addition, areas of chalk affected by Tertiary vent activity have also been weakened. It is these lines of weakness that the sea has exploited to produce the coastal scenery in this area. All stages of this erosion process can be seen, with features ranging from small wave gullies and incipient caves developing along well defined joints, to large caves, arches and sea stacks which have formed by progressive enlargement of the smaller caves.

The chalk landforms are best developed in two locations at either end of the site. At the western end, near Slidderycove Point, there are a number of deep caves and an impressive arch. At this location a number of sea stacks also emerge from the sand as semi-fossil features. At the eastern end of the site stands the spectacular Gulls Point arch with basalt cap rock on the cliffs to the landward side. Associated with this arch are a number of caves, smaller incipient arches and sea stacks. The great depression of The Riggin appears to be a collapse structure - a former chalk cavern or system of caves that has suffered roof collapse. Waves now enter The Riggin through several openings in the narrow chalk ridge which separates it from the sea.

The site contains a range of plant communities typical of coastal cliffs. The cliff top is generally dominated by grasses, notably Red Fescue *Festuca rubra* but also Yorkshire-fog *Holcus lanatus*, Cock's-foot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius* and Common Bent *Agrostis capillaris* and occasional, low growing Gorse *Ulex europaeus*. Associated species are rather limited where the grass sward is rank and include Tormentil *Potentilla erecta*, Ribwort Plantain *Plantago lanceolata*, Bush Vetch *Vicia sepium*, Meadow Vetchling *Lathyrus pratensis*, and Red Clover *Trifolium pratense*. Areas where the grass cover is reduced support a more diverse range of species with Thrift *Armeria maritima*, Common Bird's-foot-trefoil *Lotus corniculatus* and Sea Campion *Silene uniflora* typically present. Creeping Cinquefoil *Potentilla reptans* is locally frequent in very open situations.

Vegetation type on the cliff face appears to relate more to slope stability and soil depth rather than rock type. Where the soils are deeper, the vegetation is dominated by Red Fescue *Festuca*

rubra with frequent Hogweed *Heracleum sphondylium*, Thrift *Armeria maritima*, Sea Mayweed *Tripleurospermum maritimum* and Sea Campion *Silene uniflora*. Where the soils are much thinner, the rock ledges are dominated by Wild Thyme *Thymus polytrichus* with occasional Lady's Bedstraw *Galium verum*. On the lower rocks, Buck's-horn Plantain *Plantago coronopus* and Sea Campion *Silene uniflora* occur in small pockets along narrow ledges. The unstable nature of the cliff faces is indicated by the frequent presence of Ragwort *Senecio jacobaea*, Colt's-foot *Tussilago farfara* and Common Nettle *Urtica dioica*.

The western end of the site is dominated by rank dune vegetation consisting of small pockets of Marram *Ammophila arenaria* grassland between dense Bracken *Pteridium aquilinum*. Red Campion *Silene dioica* also occurs locally in the sward.

The site regularly supports breeding Peregrine Falcon *Falco peregrinus* while caves and rock fissures provide nesting locations for a notable population of Black Guillemot *Cepphus grylle*.

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 reclamation and extraction of minerals, including rock, sand and gravel.
2. 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.
3. The storage or dumping, spreading or discharge of any material.
4. 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.
5. 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.
6. Burning.
7. Introduction of tree or woodland management, including afforestation and planting.
8. Construction, removal or disturbance of any permanent or temporary structure including building, engineering or other operations.
9. Alteration of natural or man-made features, the clearance of boulders or stones and grading of rock faces.

10. Operations or activities which would affect wetlands (including rivers and streams), e.g.
 - i) change in the methods or frequency of routine drainage maintenance;
 - ii) modification to the structure of any watercourse;
 - iii) change in the management of bank-side vegetation.
11. The disturbance, killing or taking of any wild animal except where such killing or taking is treated as an exception in Articles 5,6,11,12,16,17,20,21 and 22 of the Wildlife (Northern Ireland) Order 1985.
12. The following activities undertaken in a manner likely to damage the interest of the area:
 - i) educational activities;
 - ii) research activities;
 - iii) recreational activities.
13. Changes in game, waterfowl, or fisheries management or fishing or hunting practices.
14. 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.
15. Use of vehicles or craft likely to damage the wildlife or geological features of the area.

Sealed with the Official Seal of the
Department of the Environment for
Northern Ireland on 20 November 1997



ROBERT C MARTIN
Assistant Secretary

R. Hutchings
Civil Servant in Charge
Local Belfast

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.