Start Point to Land's End Maritime Natural Area

A Nature Conservation Profile
October 1997

Sea Cliffs, Cliff Tops & Offshore Islands (including Maritime Grassland, Heath and Scrub)

Resource

Outside of the drowned river valleys (rias) the coast of the NA is dominated by prominent headlands and extensive lengths of 50-100m high cliffs in varied sedimentary, metamorphic and igneous rocks. The spectacular cliffs of the West Lizard are topped with a relatively flat peninsula which is a very distinctive landscape feature within the NA. The cliffs at Rame Head and Whitsand Bay display an unusual 'cliff-over-slope' form, where a cliff with a fairly gentle slope (30-45 degrees) lies over an almost vertical wave cut cliff.

The cliffs are generally stable although those in periglacial Head deposits around Downderry are prone to landslips and cliff recession. Cliff recession of hard cliffs occurs in a few locations, at Porthleven for example.

The cliffs of The Lizard Peninsula have been selected as a candidate Special Area of Conservation (SAC) because of the European importance of their vegetated sea cliffs and heathland types (one of which is confined to The Lizard Peninsula in Britain). A fuller description of the earth science interest of seacliffs is given in section 4.1.2.

Characteristic wildlife
The south facing coast between Start Point and the Helford, fringing the English Channel, is moderately exposed while the hard cliffs of The Lizard and Land's End, particularly those which face west in the prevailing south westerly winds, are subject to very strong winds and heavy spray deposition. Cliffs are among the least modified of terrestrial habitats, especially offshore islands, stacks and the cliff faces themselves. However the cliff top zone, particularly the landward edge has usually been influenced by man's activities, such as grazing, burning and improvement for agriculture.

Lichens dominate the base of the cliffs and offshore islands, at or immediately above Mean High Water Mark, where the exposure to salt spray is greatest. There is a distinct zonation of species which is reflected in a sequence of colour bands, ranging from black at the lowest levels through yellow/orange to green. Typical species of the yellow/orange zone are Xanthoria parietina and Caloplaca marina, the black zone is often dominated by Verrucaria maura with Lecanora atra, a great lichen. Higher up the cliffs and in crevice/ledge habitats, green lichens such as Ramelina siliquosa are found.

Maritime crevice and ledge plant communities occur above the lichen dominated zone. These are generally composed of strictly salt-tolerant maritime species rooted amongst bare rock, forming an open and often fragmentary vegetation cover. When in flower, characteristic species such as thrift, rock samphire, golden samphire, English stonecrop, sea campion, common scurvy-grass, rock sea-spurrey, bucks-horn plantain and wild cabbage can form spectacular natural rock gardens.

Distinctive plant communities develop on cliffs and offshore islands where sea birds roost and nest as a result of the repeated disturbance to the vegetation and soils and the large amounts of nutrient from accumulated droppings. Spear-leaved orache, sea beet and tree mallow are characteristic here. Some lichens are distinctive components of the rock vegetation in sea cliff bird roosts, where the rocks are enriched by bird droppings.

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The exposed nature of the cliffs and salt laden spray favours the development of maritime grassland over much of the bard cliffs of the NA, often forming a mosaic with maritime heath and scrub. Coastal grassland swards are generally dense and herb-rich with a combination of strictly maritime species and species found in grassland types away from the coast. Red fescue typically dominates the turf and associated herb species commonly occurring are thrift, sea campion, bird's-foot-trefoil, wild thyme, sea carrot, spring squill, sheep's-bit, restharrow and kidney vetch. Species like green-winged orchid and bloody cranesbill are confined to the basic soils of The Lizard Peninsula.

One of the prime habitats within the NA is maritime heathland, specifically that of The Lizard Peninsula which is of international importance. Two types of heath are of special note, Dry Lizard heath, which only occurs in Britain on the base rich serpentinite soils of The Lizard and is characterised by the presence of the nationally rare Cornish heath, together with western gorse, bell heather, tormentil and betony.

Dry heathland is characterised by the occurrence of acid loving species growing in close proximity with plants usually found on lime-rich soils. The second heathland type is Wet heathland with cross-leaved heath, together with species such as purple moor-grass and lousewort. This heathland type occurs on mainly acidic, nutrient poor, shallow peat or sandy soils with impeded drainage. The Lizard contains what is considered to be one of the best examples of the latter heathland type in Britain.

The coastal heathlands, especially those of the west coast of The Lizard, produce spectacular swathes of purple heathers and golden gorse in late summer and early autumn. The coast to the south of Land's End also supports extensive traces of maritime heath and the exposure to the prevailing winds causes the heather plants to die back on the windward side and grow progressively towards the leeward side, which creates a distinctive waved appearance. The lichen flora of maritime heath

between Start Point to Bolt Tail in Down and Nare Head and The Lizard Peninsula in Cornwall is of national importance.

The maritime grasslands and heaths often grade into scrub communities, particularly in the more sheltered locations. These are characteristically dominated by blackthorn, gorse, bramble or bracken with a range of species including wild privet, Yorkshire fog, wild madder, honeysuckle and bluebell, reflecting soil types and previous management history.

These areas of scrub are often important for birds including stonechat, wheatear, linnet and whitethroat.

Many of the cliffs in the NA support a wide range of invertebrates including butterflies such as the marbled white, green hairstreak, grayling, dark-green fritillary and silver-studded blue are associated with the heaths and grasslands.

There are no major sea bird colonies within the NA though smaller colonies are present and include cliff-nesting birds such as cormorant, shag, fulmar, herring gull, kittiwake, kestrel, raven and rock pipit. Species such as stonechat, skylark, wheatear, linnet and whitethroat are associated with the heaths, grasslands, and scrub of the cliff tops and slopes, while wintering, black redstart are associated with sheltered rocky coasts. Coastal habitats, particularly cliffs, paths and heaths, provide essential habitats for Britain's amphibians and reptiles, such as adders, slow-worms and common lizard.

Special species

The cliffs within the NA support a great number of rare and uncommon plant species, the most important locations are from Start Point to Bolt Tail and The Lizard Peninsula. The Lizard is one of the richest botanical areas in Britain and is of considerable European importance because of its unusual ecology and outliers of rare species.

Cornwall and Devon are the stronghold for the nationally rare slender bird's-foot trefoil, the NA (between Polruan and Penlee Point and Prawle Point to Start Point) contains one of the three main British populations of this species. Other nationally rare species occurring within the NA include hairy greenweed, wild asparagus, smaller tree mallow and Babington's leek.

The nationally scarce early meadow grass has a British range which is confined to south-west England.

The serpentinite rocks of The Lizard Peninsula are particularly rich in rare plant species, the sole British populations of the fringed rupturewort occurs in the maritime grassland of the cliff tops. The list of Lizard rarities is a long one, some of the nationally rare and scarce species are yellow centaury (The British stronghold is on The Lizard and in Wales), twinNA headed clover, long-headed clover, upright clover, hairy birdsfoot clover, wild asparagus, land quillwort, wild chives, spotted catsear and Cornish heath (confined in the British Isles to The Lizard Peninsula and County Fermanagh in Northern Ireland).

Nationally scarce plant species found on cliff habitats include, musk storks bill, rock sea lavender, autumn squill, balm-leaved figwort, carrot broomrape, thyme broomrape, maidenhair fern, twiggy mullein, golden samphire, wild cabbage, hairy bird's- foot trefoil, sea radish, birdsfoot clover, western clover and spring sandwort. The mild, oceanic climate and clean air provide ideal conditions for the development of a rich and diverse flora of mosses, liverworts and lichens (lower plants), including important oceanic species and southern European species at the northern limits of their range.

Important lower plant localities occur in coastal grassland. The exposed rock between high water mark and the cliff top can also be an important habitat for lichens. The lichen flora of the maritime heath between Start Point and Bolt Tail in Devon and at Nare Head and on The Lizard is of national importance; species include the nationally rare ciliate strap lichen, Nephroma tangeriense and Parmelia tinctina. The nationally rare and distinctive, golden-hair lichen (Teloschistes flavicans) occur at scattered coastal localities throughout the NA, on bare rocks, heathland and tree bark. This is the most important mainland population in England).

The Lizard Peninsula is one of the richest stretches of cliff and cliff top in Britain for lower plants and several species have their only British locations on the base rich serpentinite soils here. National rarities include the liverworts *Riccia nigrella*, *R bifurca*, *R crozalsii*, *Gongylanthus ericetorum, Fossombronia angulosa* and *Cephalozieela calyculata*. The moss *Tortula rhizophylla* is only recorded from three locations in Britain, one of these is on The Lizard. The Lizard Peninsula also supports many nationally rare lichens including,
Caloplaca aractina, Cladonia mediterranea, Collema latzeli, Parmelia tinctina, Physcia tribaciode, Solenopsora liparina, Ramalina chondrina and golden-hair lichen. *Telaranea nematodes*, a nationally rare liverwort and a sub-tropical and tropical species, has its main UK populations on the west coast of Ireland, while in England its only site is near Land's End. The nationally rare moss *Tortula canescens* has its British stronghold in Cornwall and Devon and occurs in scattered locations across the NA, as far west as The Lizard Peninsula. The Bright green cave moss (*Cyclodictyon laetevirens*), a southern species previously only recorded from Cornwall in England has been recently re-discovered within the NA.

The population size of the nationally rare cirl bunting has declined dramatically over the last 50 years and it is now considered to be one of the most threatened birds in England. This species is of particular importance in the NA as it is almost totally confined to south Devon and a few sites in Cornwall. It is associated with coastal scrub, arable land and hedgerows between Plymouth and Exeter. Another nationally rare bird associated with coastal scrub (gorse), is the Dartford warbler. Peregrines breed in internationally important numbers along the high cliffs of the NA, where they are well established. The chough, the County emblem of Cornwall, is now extinct in England, although it previously bred on the cliffs along this NA.

The cliffs and cliff tops support a rich diversity of vegetation types and therefore provide associated habitats for a large number of invertebrate species, particularly the warm, south facing slopes. The Lizard Peninsula and the section of cliffs from Bolt Head to Bolt Tail are recognised as being of national importance for their invertebrate interest and the coastal section from Start Point to Prawle Point is of regional

importance. Many species which have a western or southern range occur here. Several species have a significant part of their known British range along the coast of the NA. Assemblages of species associated with rocky cliffs, coastal heaths and grassland, foreshore, sand dunes and coastal woodland are particularly well represented within the NA.

Butterfly species of note on cliff habitats include silver-studded blue and small pearlbordered fritillary.

Cathormiocerus attaphilus, an internationally rare globular weevil occur in maritime grassland feeding mainly on Buckthorn plantain. Other nationally rare weevils occurring on cliffs include *Anchonidium unguiculare* (also found in sessile Oak woodland) and the ground dwelling *Otiohynchus ligustica* and *Cathormiocerus britannicus*, a weevil unknown outside of Cornwall.

The only British records for the spider *Callilepis nocturna* are from two sites in Devon and the British distribution of the rare six-banded cuckoo bee (*Nomada sexifasciata*) has declined to a single site in south Devon. *Lasiacantha capucina*, a nationally rare lacebug which feeds on thyme, is confined to Cornwall and is extremely localised even here (mainly on the Lizard). Other scarce insect species are associated with threatened plants; for example the larvae of the micro-moths *Phyllonorycter staintonella* and *Syncopacma suecicielle* feed exclusively on the Hairy greenweed. Another national rarity, the beautiful gothic moth (*Leucochlaena oditis*) has a very localised distribution in south-west England and the Isles of Wight; it frequents grassy slopes and sea cliffs within the NA.

Lesser horseshoe bats occur in coastal caves and mine adits in coastal cliffs. Grey seals breed and haul-out at the back of sea caves and on isolated stretches of the coast. Only a few suitable sites occur within the NA, at Lizard Point and the west Lizard coast and Land's End and these are small.

Protected sites
Significant areas of the cliffs, cliff top and offshore islands throughout the length of the NA are SSSIs. A total of 19 SSSIs, notified for their biological interest, contain important cliff, cliff top and offshore island habitats. The Lizard NNR site at West Lizard and Predannack also fall within this NA.

In recognition of its international importance the Lizard Peninsula has been selected as a candidate Special Area of Conservation (SAC) under the EC Habitats and Species Directive for the occurrence of habitat types and species which are rare or threatened in a European context. The cSAC interests which are relevant to the cliffs, cliff tops and offshore islands are Vegetated sea cliffs, Wet heathland with cross-leaved heath and Dry heath with Cornish heath and shore dock (see table 3). The Shore dock interest is also included within the sections on rocky shores and intertidal sediments and beaches as this coastal species grows in wet coastal flushes, at the base of cliffs and on rocky and sandy beaches. The international importance of The Lizard Peninsula is further recognised by the designation of 1,300 ha of heathland as a Biogenetic Reserve (all of this area is within SSSI and NNR).

MAFFs Countryside Stewardship Scheme includes a specific category for the management of coastal land for the cirl bunting.

The outstanding scenic value of the cliffs and estuaries of the NA are recognised in the designation of the vast majority of the coastline within Areas of Outstanding Natural Beauty (AONB), similarly Heritage Coast designations cover most of the coastline of the NA. The National Trust also owns and manages extensive stretches of the coast for its wildlife and landscape interest.

The MoD own six coastal sites within the NA, Wembury, Staddon Heights, HMS Raleigh, Rame (Pier Cellars),Tregantle and Predannack. There are active MoD Conservation groups which cover the Rame/Tregantle, St. John's Lake and Predannack sites. The Duchy of Cornwall own most of the foreshore within Cornwall.

Current factors affecting sea cliffs, cliff tops and offshore islands

Cliffs are among the least modified of terrestrial habitats, although the cliff top zone has been affected by a variety of human activities, sometimes leading to major habitat loss. The most extensive influences on cliff top vegetation have been grazing, burning, lack of management and agricultural improvement, either for pasture or conversion to arable. The major issue along much of the cliffs is neglect; which has led to the loss of open grassland/heathland cliff habitats through scrub invasion. This has contributed to the extinction of the chough and the large blue butterfly, the decline of the cirl bunting and declines in coastal plants and invertebrates. The National Trust have carried out excellent work on coastal grassland/heathland restoration through programmes for the re-establishment of scrub management and livestock grazing.

Footpaths, especially the long distance Coast Path, have heavy usage in some part of the NA, leading to local erosion , trampling of vegetation and, occasionally, fire damage. Car parks which take advantage of the fine views from cliff tops and headlands are common. However, with large tracts of the coast in National Trust ownership, much attention is paid to careful visitor management and to appropriate management of natural habitats. In addition to the, work done by the National Trust and the Heritage Coast & Countryside Services play a keyrole in conserving and managing cliff habitats, often working in partnership with MAFF through the Countryside Stewardship Scheme.

Although most of the cliffed coast of the NA is undeveloped there are areas where coast defence works are an issue. At Porthleven the extensive hard engineered coastal protection works have resulted in loss of some important geological exposures and have affected the natural coastal processes of this section of coast.

• Agricultural improvement and intensification has reduced substantially the area of natural maritime cliff-top vegetation and resulted in a sharp transition between the farmed land and semi-natural habitats which are now often confined to narrow clifftop strips.

• Many of the remaining areas of maritime grassland and heath now rarely form part of the farm economy and are therefore largely unmanaged, often resulting in scrub invasion of these important habitats and significant losses of species diversity.

However, agri-environment schemes, such as Countryside Stewardship, can bring unmanaged areas under appropriate management.

• MAFF's Countryside Stewardship Scheme has provided for the establishment of grassland on more intensively managed arable land. However, it is important to retain some areas of coastal arable land, managed in a way that is compatible with maintaining populations of birds and arable weeds (see section 6.2.14), and also to reestablish maritime grassland.

• Increasing visitor pressure, particularly on section of the long distance Coast Path and around 'honeypot' car parks, has led to local erosion, trampling of vegetation, fire damage and disturbance by humans and dogs.

• Recreational disturbance, especially by rock climbing, has affected nesting seabirds and caused damage to maritime vegetation communities on cliffs locally. However the British Mountaineering Council Liaison Group has succeeded in reducing the impact of climbing on cliffs in Cornwall, a Code of Conduct for cliffs in west Cornwall has been agreed.

• The re-introduction of appropriate management of semi-natural habitats, for example, grazing on maritime grassland and heath, which often requires fencing, can lead to conflict with visitors' expectations.

• There is a risk that coastal protection works and the extraction of intertidal and marine
mineral aggregates may lead to the modification of active coastal processes.

• The continued encroachment of exotic species has led to the loss of semi-natural maritime grassland and heathland habitats, for example the Hottentot fig on the Lizard coast.

Key nature conservation objectives for Sea Cliffs, Clifftops & Offshore islands within the Start Point to Land's End Natural Area:

1. Maintain extent of natural cliff and clifftop vegetation and characteristic species. Where this has been lost, restore natural vegetation (maritime heath and grassland) through a programme of habitat re-creation.

2. Re-establishment of appropriate levels of grazing to control scrub invasion and non-native species (eg: Hottentot fig on The Lizard), particularly of maritime grassland and heath, maintain these habitats and the associated rare plant and animal communities, particularly invertebrates.

3. Promote sustainable mixed farming on the coast through agri-environmental schemes such as Countryside Stewardship and the Wildlife Enhancement Scheme.

4. Ensure visitor pressure and recreational activities do not exceed sustainable levels, avoiding erosion and damage to maritime habitats and conflict with farming activities (eg: trampling of sensitive vegetation / deliberate fire lighting). Prevent
disturbance at key bird breeding times and minimise damage to sensitive sites, involving all user groups.

5. Identify, restore and manage areas of habitat for the establishment of the chough and other key species lost to the NA.

6. Monitor, maintain and where possible, increase populations of rare and uncommon plant sand animals such as early meadow grass, wild asparagus, vigur's eyebright, rock sealavender, slender bird's-foot trefoil, ciliate strap lichen, golden hair lichen, shore dock, peregrine, spider wasp, beautiful gothic moth and Carthormiocerus britannicus (a broadnosed weevil).

7. Increase public appreciation and understanding of maritime habitats and key species in the NA through education and interpretation.

8. Maintain natural coastal processes affecting sea cliffs through the production and implementation of Shoreline Management Plans and ensure that they also include fully integrated nature conservation objectives. Promote the use of soft rather than hard engineering and ensure that informed planning decisions are made.

9. Review and update knowledge on the maritime cliff and slope resource, and identify important/key areas for undertaking additional research (eg: invertebrates, lower plants, habitat restoration and habitat communities).