2.0 Reasons for designation as European marine sites

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2.1 General description

The NE Kent European marine sites comprise two candidate Special Areas of Conservation (SACs) and a Special Protection Area (SPA), the boundaries of which are shown in Map 1. The marine components of all three of these sites are European marine sites.

The NE Kent European marine sites are located on the north eastern coast of Kent, on the south side of the mouth of the greater Thames estuary, covering a stretch of coastline from Swalecliffe (but excluding the Herne Bay frontage) to just north of Deal.

Points to note about the NE Kent European marine sites:

- Thanet is the eastern-most outcrop of chalk in Europe, (apart from certain areas in Denmark).
- Thanet contains one of the best examples of chalk caves in Britain and of chalk reefs[4] in south-east Britain.
- The Thanet Coast has the longest continuous stretch of coastal chalk in Britain
- It represents about 20% of UK coastal chalk
- It represents 12% of the coastal exposure in Europe.
- The chalk cliff face, cave and tunnel habitats and communities here are very uncommon in Europe and therefore important internationally.
- The intertidal reef, together with the mudflats and sandflats provide valuable feeding grounds for wintering birds and shingle and sand above the high water mark provide their roost sites. Of the these, turnstone and golden plover occur here at internationally important numbers.
- In summer, shingle provides an important breeding site for little terns.
- Wintering golden plover roost on mudflats in Pegwell Bay

2.2 Thanet Coast cSAC

The Thanet Coast qualifies as a SAC for the following Annex I habitats as listed in the EU Habitats Directive:

- **Reefs**
- **Submerged or partially submerged sea caves**

The boundaries of the Thanet Coast cSAC are illustrated in Map 1 and the distribution and extent of the interest features in Maps 3-4.

2.2.1 Importance of Thanet Coast reefs

The Isle of Thanet is a peninsula and chalk outcrop at the extreme north east of Kent. The chalk cliff face, cave and tunnel habitats and communities here are very uncommon in Europe. They are considered to be the best examples of their kind in the UK and of the highest international nature conservation importance.

Although less than 1% of the UK coastline is chalk, the UK has 75% of the chalk reefs in Europe. At Thanet the 23 km of chalk cliffs with caves, stacks and arch formations form the longest continuous stretch in Britain. The chalk here is unusual because it is softer than other types of chalk. This means it is more easily worn away by the action of the sea and bored into by animals. The intertidal chalk reef covers approximately 250 ha of foreshore, and represents the largest continuous area of intertidal chalk in the UK.

The coastal areas of Kingsgate, North Foreland, Dumpton and Pegwell are particularly important because the coastal profile of cliff, foreshore and subtidal reef remains in a natural or near natural state interrupted in only a few locations by man made structures such as sea walls. These portions of cliff amount to about 6 km of the total 23 km.

Botany Bay

The reef communities on Thanet are strongly influenced by the amount of sediment and chalk particles in the seawater here. A further strong influence on the reef communities is the softness of the chalk and the plants and animals that occur in this area are either adapted to living on soft, easily eroded rock, or they are the kind of species which are good at using chance opportunities. As a result some communities that are typical of UK reefs are absent on Thanet, whilst other communities rare elsewhere in the UK, are widespread on the chalk reef.

Thanet is also important as a location for scarce species, such as the specialist algae which form distinct orange, brown and black coloured bands on the cliffs and caves around the high water and splash zones.

The site is of historic interest for these habitats and species with information in older publications, and museum specimens going back almost two centuries. Thanet was the first place in Britain where chalk cliff algae were studied; this work took place in the 1930's. Further studies have been undertaken over subsequent years by the Natural History Museum in particular.

2.2.2 Importance of sea caves on the Thanet Coast

The Thanet coast has the second most extensive chalk caves in the UK after Flamborough Head in Yorkshire where the chalk is harder and supports different species.

Caves are frequently subject to conditions of strong wave surge and scour by coarse sediment. The rapid change in physical conditions from cave entrance to the inner parts of the cave often leads to a marked zonation in the communities present. The caves along the Thanet coast support a unique range of marine algal and lichen communities which form distinct velvety orange, brown or black bands at and around the high water mark. Some of these are restricted to the shaded damp walls and ceilings of the caves and they have not been recorded from anywhere else. Although only 25% of the cliff face remains in a natural state, Thanet still has a wide range of examples of north, east and south facing caves and tunnels which are of international importance.

4 The word reef refers to the habitat of the chalk outcrops on the shore and sea bed around Thanet and includes algal and lichen communities at the chalk cliff.

2.3 Sandwich Bay cSAC

Sandwich Bay qualifies as a SAC for the following Annex I habitats as listed in the EU Habitats Directive:

- **Fixed dunes with herbaceous vegetation (grey dunes)**,
- **Embryonic shifting dunes**,
- **Shifting dunes with marram grass (white dunes)**,
- **Dunes with creeping willow,**
- **Humid dune slacks**

These features do not, however, occur within the European marine site, ie below high water and therefore within this document, as they occur above Highest Astronomical Tide. The cSAC does however contain a significant intertidal area which forms the feed sediments for the dunes and the affect of shoreline management on them is considered in section 6.4.

2.4 Thanet Coast and Sandwich Bay SPA

Thanet Coast and Sandwich Bay qualifies as a SPA under the Birds Directive in that it supports:

- **Internationally important populations of regularly occurring bird species listed in Annex 1 of the Birds Directive**.

  Little tern in summer and wintering golden plover

- **Internationally important populations of regularly occurring migratory species**.

  Wintering turnstone

Thanet Coast and Sandwich Bay were designated as a SPA in June 1992 and it is that citation on which this advice is based. The SPA was subsequently classified in July 1994. The boundaries of the Thanet Coast and Sandwich Bay SPA are illustrated in Map 1 and the distribution and extent of the SPA interest features in Maps 5-7.

2.4.1 Importance of Internationally important populations of regularly occurring Annex 1 species

Little terns *Stena albifrons* return to sites in Europe in the summer to breed after spending the winter in the coastal areas of west Africa. In Sandwich Bay, little terns breed at Shell Ness in small, single-species colonies on areas of shingle and sand, many of which are occasionally overtopped by the sea (Map 4). They also use a site at Plumpudding on the northern coast. Little terns feed in the shallow coastal waters around their breeding sites foraging on small fish and invertebrates.

In the five year period 1986-90, an average of 30 pairs of little terns bred within the Thanet Coast and Sandwich Bay SPA, representing 1% of the British breeding population. The maximum number of pairs that attempted to breed during this period was 67 in 1986. It has been observed that numbers of little terns have been decreasing dramatically in recent years and this is thought to be largely as a result of increased disturbance.

Turnstone

Habitats of importance within the marine sites for little tern:

Shingle shores- Sparsely vegetated shingle areas are an important nesting area for little terns within the SPA. The little tern breeding sites are located on areas of sandy shingle at Plumpudding and Shell Ness which are occasionally overtopped by seawater. These relatively open areas with some sparse vegetation are used by little terns each summer. Successful breeding is largely dependent on relatively little disturbance and limited predation.

Shallow coastal waters- Little tern feed in shallow coastal waters mainly on small fish (e.g. sandeel, pipefish, and gobies) and also crustaceans (shrimps, prawns and crabs). When the tide is in, feeding activity occurs in Sandwich Bay and in the lower reaches of the River Stour. The extent and location of feeding areas around Plumpudding have not been recorded.

Golden plover *Pluvialis apricaria* arrive in autumn to winter on land around Sandwich Bay. In recent years the golden plover have taken to roosting in large numbers on the intertidal mudflats of the bay (see Map 7). It is likely that, whilst there, some feeding takes place but this is not their prime feeding habitat.

Their main feeding habitat is on arable fields and grazing marsh located inland of the dunes of Sandwich Bay. This habitat does not occur within the marine part of the SPA and is therefore not described within this document.

During the five year period 1985/86-1989/90, an average peak count of 1,980 golden plover were recorded, representing 1% of the British wintering population.

Habitat of importance within the marine sites for golden plover:

Intertidal mud and sandflats - Mudflats and sandflats in Pegwell Bay and Sandwich Bay provide roosting grounds for golden plover.

2.4.2 Importance of the internationally important populations of regularly occurring migratory species

The Thanet Coast and Sandwich Bay SPA supports an internationally important population of wintering turnstone *Arenaria interpres.* Turnstones feed on sandy beaches and rocky shores along the north-east Kent coast particularly in areas of loose stones or seaweeds (Map 6). Their preferred food includes peeler crabs, small crustaceans such as shrimps, and barnacles, as well as marine molluscs such as periwinkles, for which they forage with their bills by turning over small stones or pushing aside fronds of seaweed or probing sand. They may continue to forage at high tide on areas of washed up weed at the tideline. Roosting within the SPA occurs from Swalecliffe to Pegwell Bay mainly on areas of sand and shingle but also on man made structures.

Natural habitats of importance within the marine sites for turnstone:

Sand and shingle shores - Turnstones can roost on coarse intertidal sediments as well as areas above the high tide mark. Additionally, some birds roost on fields at the top of the cliffs and other areas of open space landward of the boundary of the SPA. The roost sites are dotted around the coast from Swalecliffe to Pegwell Bay, some of which are used regularly while others are used occasionally when adverse weather conditions and disturbance prevent them from using their preferred roost site.

Turnstone in flight

Intertidal mud and sandflats - Mudflats and sandflats, predominantly located west of Minnis Bay, in Pegwell Bay and in Sandwich Bay, also provide feeding grounds for turnstones, as do the sandy beaches located in the bays between the outcropping chalk platform. Turnstones feed on crustaceans such as shrimps and crabs under stones, within the sediment, and in the strandline.

Chalk shores - The chalk foreshore provides important foraging areas for turnstones which forage on loose stones and seaweed for periwinkles and crustaceans. Mussel beds, which support a range of marine invertebrates, also provide an important source of food.

Man made structures used by birds:

Other roost sites - As described under 2.2 much of the coast is protected with sea walls and there are other man-made structures in or adjacent to the site (such as the hoverport pad). In the absence of natural roost sites these man made structures, if undisturbed, are used by the turnstone for roosting.

2.5 Other features of importance

The features of the cSACs and the SPA which fall within the marine parts of the sites and are covered by the Habitats Regulations are described above. However, these sites are based on Sites of Special Scientific Interest (SSSI), a national designation for sites supporting nationally important natural features and wildlife. SSSI are protected under UK legislation: the Wildlife and Countryside Act 1981 as amended. The latest changes are via the Countryside and Rights of Way Act 2000 which provides significant new powers for site protection. English Nature consents are required for activities affecting SSSI.

It is important that management decisions taken for the cSACs or SPA features do not lead to the damage or deterioration of the SSSI interest. (The SSSI citations have been included in Appendix G).

2.5.1 Bird species

As well as the species listed above, the Thanet Coast and Sandwich Bay SPA also supports nationally important wintering populations of a further four species: ringed plover *Charadrius hiaticula*, grey plover *Pluvialis squatarola*, sanderling *Calidris alba* and Lapland bunting *Calcarius lapponicus*. In addition, large numbers of migratory species pass through the site during the spring and autumn migration periods. These migratory birds have been monitored since 1952 by the Sandwich Bay Bird Observatory.

There is also a population of skylark at Foreness. Skylark are on the red list of the Kent Biodiversity Action Plan. They do not use the intertidal parts of the SPA.

The grassland at Bishopstone Cliffs Local Nature Reserve also supports a population of breeding skylarks which has been monitored by Kent Wildlife Trust since 1995.

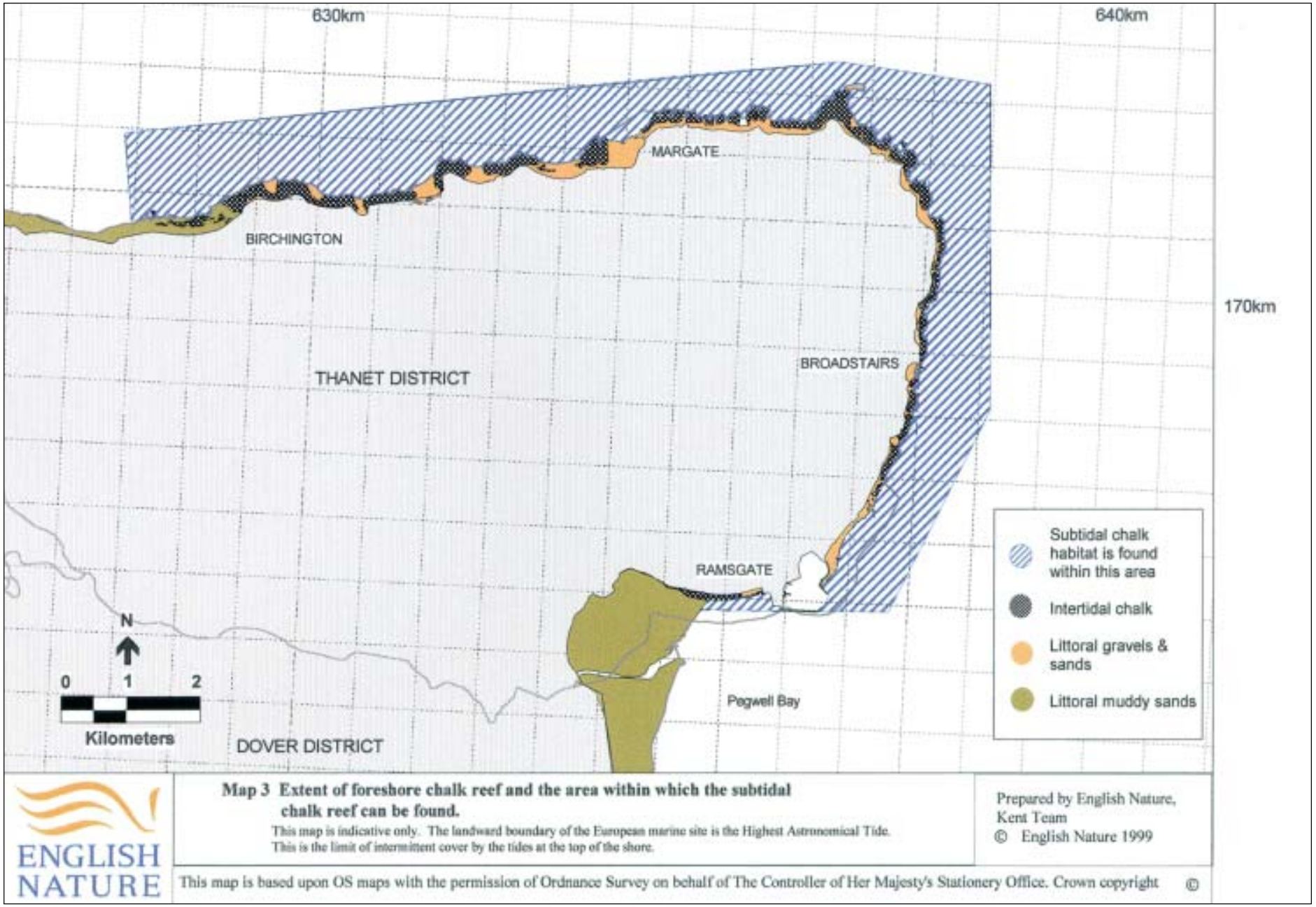
2.5.2 Geology

The chalk cliffs and foreshore are nationally and internationally important for rocks of the Santonian Age (85 million years ago), parts of which form the national reference locality for rocks of this stage. The chalk cliffs at Walpole Bay and Grenham Bay are cut by a series of closely spaced fractures. These were formed while the Alps were being created and allow geologists to study the cause and effects of such mountain building episodes. The cliffs around Broadstairs are also important for ice age studies (Quaternary - 50,000 years ago) as the site shows detailed evidence for the last main glacial phase of the ice age when glaciers covered much of northern and upland Britain but failed to reach this area.

On the north coast, west of Reculver, exposed sandstones and clays are rich in fossils which were laid down in a shallow sea 60 million years ago (Palaeogene). These rocks are recognised as a national and international reference with which rocks from elsewhere are compared.

2.5.3 Terrestrial features

There are also terrestrial features of national and international importance adjacent to the marine areas and it is important that management decisions taken for the SPA and SAC do not lead to their damage or deterioration. Such features include cliff top chalk grassland supporting unusual and rare plants and insects.



Map 3 Extent of foreshore chalk reef and the area within which the subtidal chalk reef can be found.

This map is indicative only. The landward boundary of the European marine site is the Highest Astronomical Tide. This is the limit of intermittent cover by the tides at the top of the shore.

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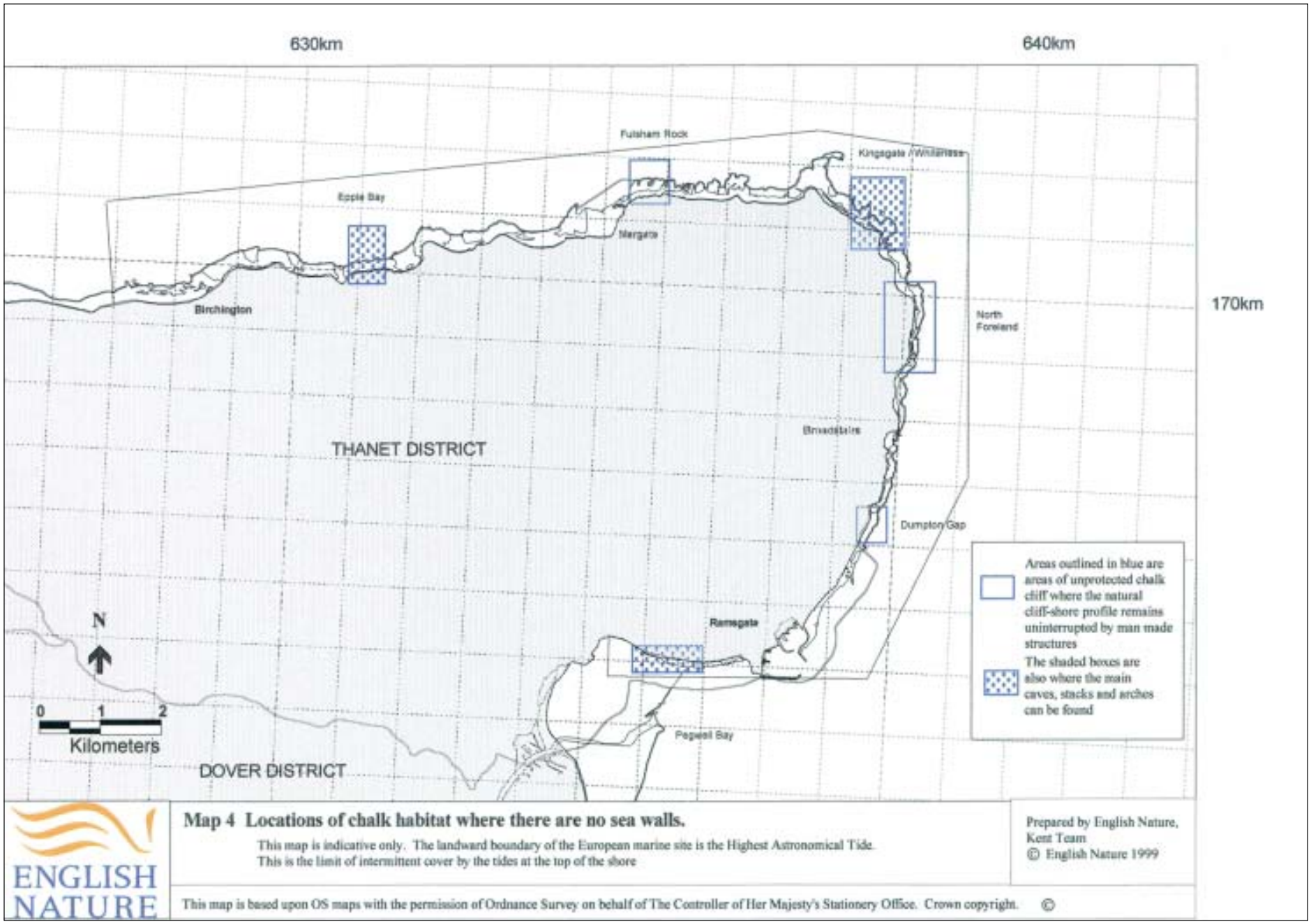
630km
640km
170km
Futsham Rock
Kingsgate / Whitehaze
Epple Bay
Margate
Birchington
North Foreland
Broadstairs
THANET DISTRICT
Dumpton Gap
Ramsgate
Pegwell Bay
DOVER DISTRICT
N
0 1 2
Kilometers
Areas outlined in blue are areas of unprotected chalk cliff where the natural cliff-shore profile remains uninterrupted by man made structures
The shaded boxes are also where the main caves, stacks and arches can be found
ENGLISH NATURE
Map 4 Locations of chalk habitat where there are no sea walls.
This map is indicative only. The landward boundary of the European marine site is the Highest Astronomical Tide. This is the limit of intermittent cover by the tides at the top of the shore
Prepared by English Nature, Kent Team
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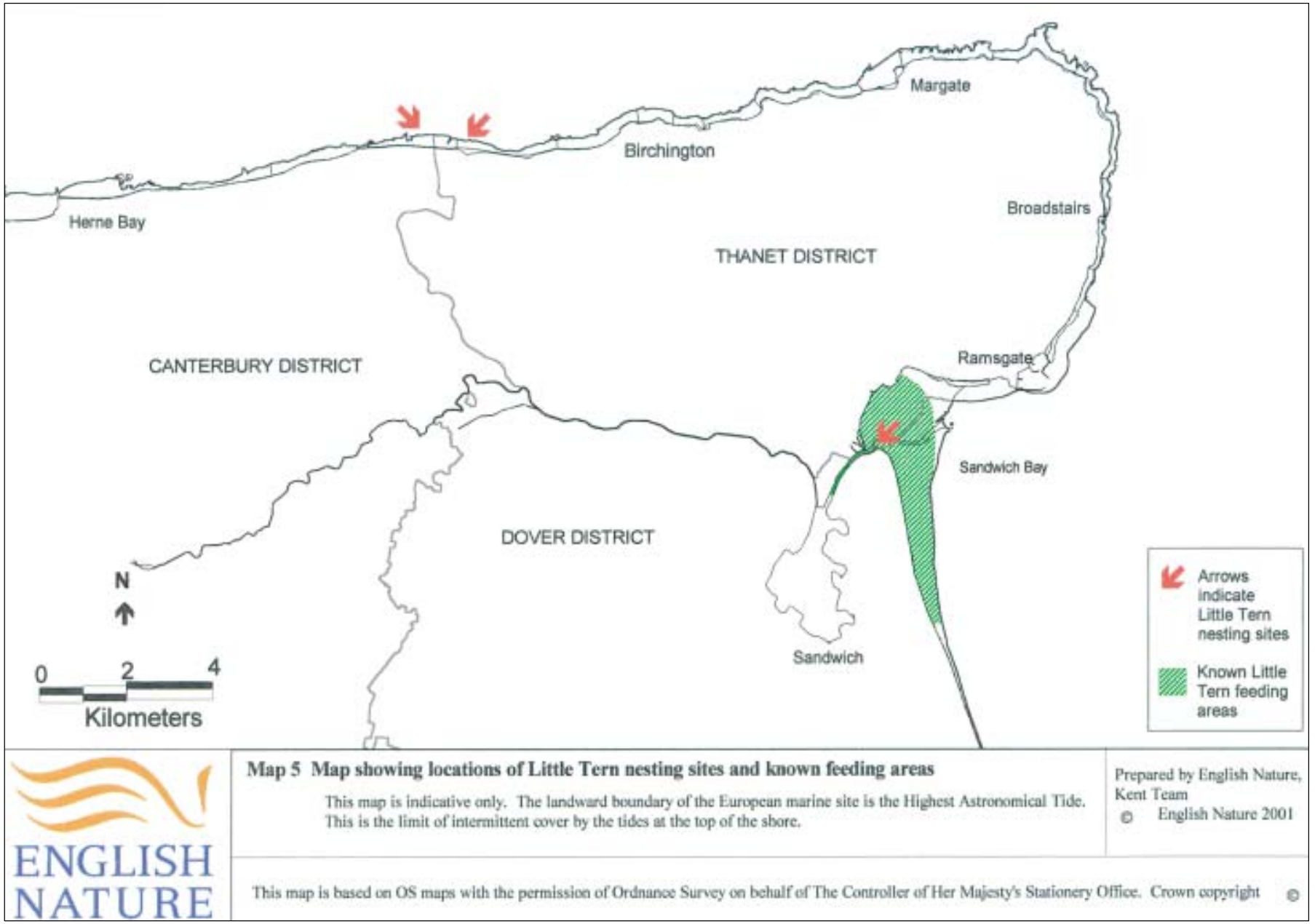

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Map 5 Map showing locations of Little Tern nesting sites and known feeding areas

This map is indicative only. The landward boundary of the European marine site is the Highest Astronomical Tide. This is the limit of intermittent cover by the tides at the top of the shore.

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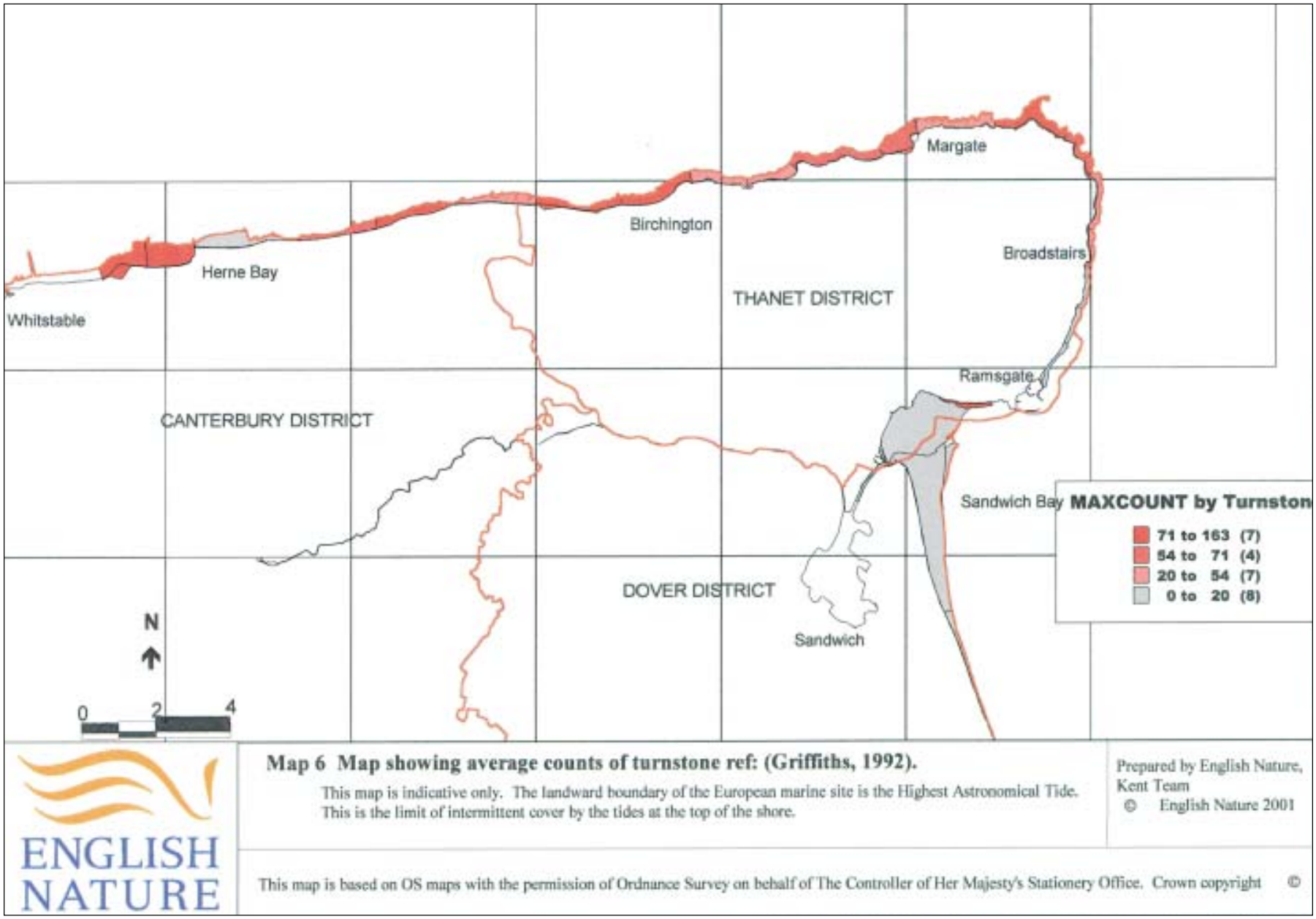
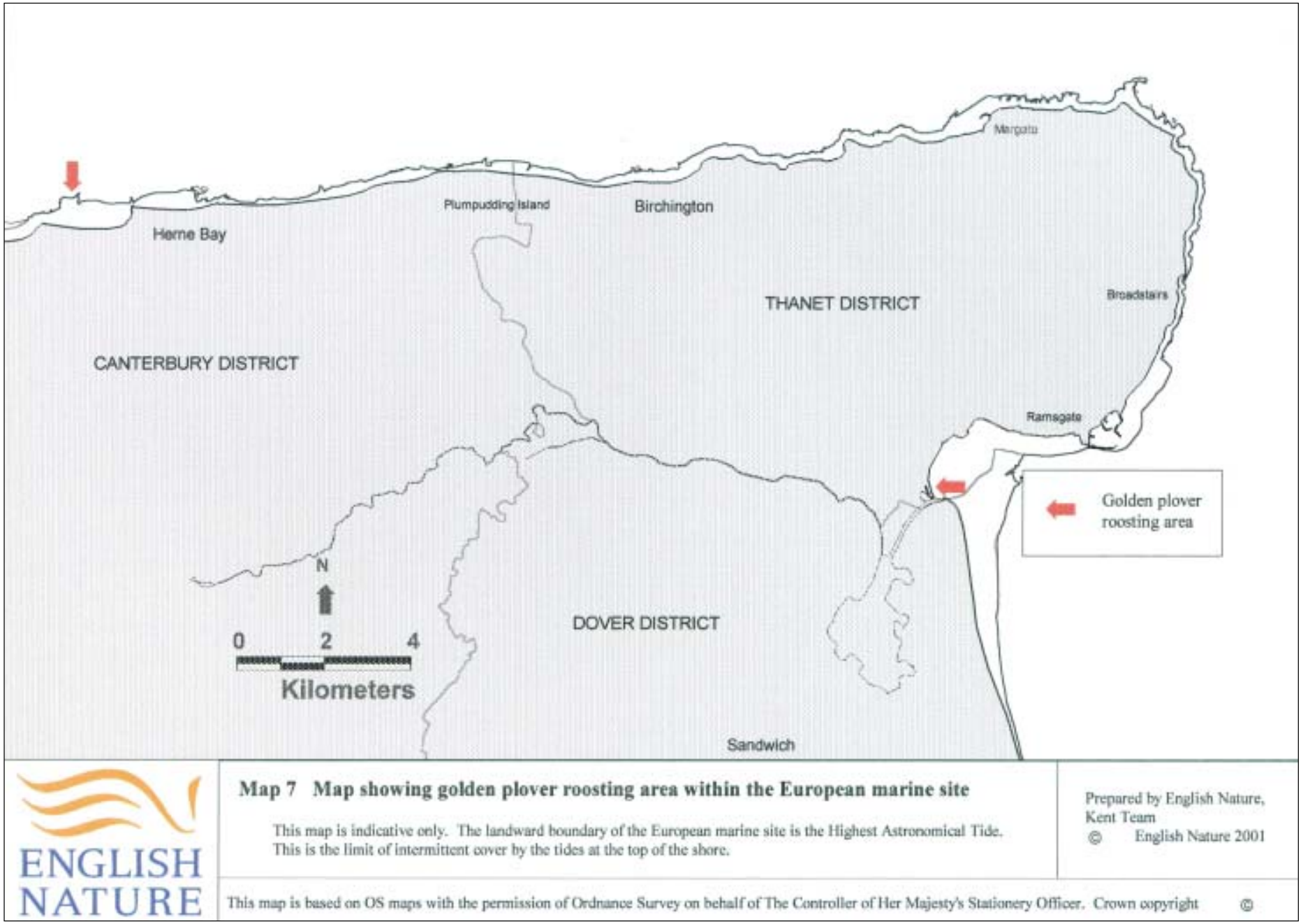


Map 6 Map showing average counts of turnstone ref: (Griffiths, 1992).

This map is indicative only. The landward boundary of the European marine site is the Highest Astronomical Tide. This is the limit of intermittent cover by the tides at the top of the shore.

Prepared by English Nature, Kent Team



Map 7 Map showing golden plover roosting area within the European marine site

This map is indicative only. The landward boundary of the European marine site is the Highest Astronomical Tide. This is the limit of intermittent cover by the tides at the top of the shore.

Prepared by English Nature, Kent Team