

LIVING SEAS

A metre or more of muscle, a wolf fish makes short work of an edible crab at St Abbs marine reserve off Berwickshire. These fanged predators usually lurk in crevices at 100-300 metres



St Abbs pics: oceanphoto.com

Imagine standing on a clifftop looking down to the sea billowing below, reaching out for miles into the unknown. It's a familiar sight. But now imagine you're standing beneath the waves, with the power to see through miles of seawater. Just as on the cliff top, the sea bed would slope away from you with plains, mountains, sandbanks, reefs and crevasses – an undersea landscape of extraordinary mystery and diversity.

That's what the sea is really like, all round the UK: not a flat surface that stops at the waves, but a world as varied and unexpected as anything on land. And perhaps the least known part is off the eastern coast of England and Scotland: the North Sea. Battered for many decades by commercial fisheries, shipping, oil and gas exploration and development, it remains – at least in a few places – astonishingly diverse. So step on board our imaginary submersible and hold tight as we power up the engines and dive beneath the waves.

We begin our journey off the Scottish border, to discover the great northeastern rocky reef. As we look into the water around us, our eyes adjust to the light, revealing a mass of colour. Crowds of pink and white deeplet sea anemones greet us, waving hundreds of tiny arms in the current. Among them on the rocks is the white glow of light bulb sea squirts. Shoals of silvery pollack glitter in the darkness and out the corner of our eye we catch a dart of orange from a passing cuckoo wrasse. Then, between the cracks in the rocks, looms the fearsome face of a wolf-fish (left). Time to back off. ➤

Riches of the North Sea

It's been over-exploited for decades. Now 15 Wildlife Trusts, from the Scottish border to the Thames, are working on a new project to investigate and save its endangered ecosystems

KIRSTEN SMITH

A marine biologist at Yorkshire Wildlife Trust, Kirsten is The Wildlife Trusts' North Sea marine advocacy officer



Angler fish, Berwickshire



Dahlia anemone, Norfolk

mainphoto.co.uk



Lesser octopus, Berwickshire



Yellow bread crumb sponge and Sagartia anemones in tidal rapids, Berwickshire

We move south carefully, through gullies and forests of waving brown kelp. A shadow appears alongside, then moves closer to reveal large, dark eyes. We've met our first seal.

The Yorkshire coastline approaches, revealing dark openings in a series of cliff faces. We investigate, and the headlights of our submersible light the walls of a sea cave encrusted in a mosaic of red algae. Suddenly bullets fly past us. Are we under attack? The darting forms belong to hundreds of gannets, diving down at speeds of 60mph to feed. We decide to give them room, and continue our journey over a spectacular landscape of chalk and limestone reef. It's the largest chalk reef in Europe, towering up from the gloom, creating pillars of chalk from which giant kelp fronds strain towards the light above.

We creep down, twisting and turning between the pillars. The sea bed below us appears to be moving. It's a living faunal turf of anemones, sponges and starfish. Above us is the Flamborough Front, a 200-mile nutrient cool northern and warm southern waters.

We follow the path of the front out to the sandy mountains of Dogger Bank, once a land

bridge for woolly mammoths and still up to 40m high. Life flashes around us: thornback rays rowing their wings up and down as they go, millions of tiny sandeels shuffling the sand as they bury themselves from view.

Gliding through golden ripples back towards land we see the water become shallower. As we pass by the Lincolnshire coast a mass of playful grey seals race around us. We edge further inland to the Wash, but not too far, to avoid getting stuck on the muddy seafloor. Beneath us are thousands of mussels, their shells snapping shut as our shadow passes over them.

As we reach the Norfolk coast our computer shows a depth of 20 metres, 12

“The chalk pillars tower out of the gloom, their kelp fronds straining towards the light.”

Seven great North Sea reserves to visit

- 1 Annstead Dunes, Northumberland WT**
Sand dunes, ponies and cattle, plus the chance to see redshank, sanderling, ringed plover and curlew.
- 2 Blackhall Rocks Durham WT**
Extraordinary eroded limestone cliffs and caves, with rare grassland flowers and 15 butterfly species.
- 3 Flamborough Cliffs, Yorkshire WT**
Chalk caves and cliffs with fantastic summer views of

- puffins, razorbills, fulmars, guillemots and kittiwakes from the cliff-top path.
- 4 Spurn Point, Yorkshire WT**
A 3.5 mile peninsula formed by retreating glaciers, Spurn is a true wilderness and a place of constant change. Its bird life is exceptional.
- 5 Donna Nook, Lincolnshire WT**
Famous for its uncommon migrant birds in spring and autumn, and breeding grey

- seals in early winter. Last year 1,330 pups were born.
- 6 Holme Dunes, Norfolk WT**
More than 320 bird species frequent this fantastic mix of dunes, mudflats, pines, foreshore, fresh water, salt/ grazing marsh, and reeds.
- 7 Colne Point, Essex WT**
The salt marsh, mudflats, shell banks and shingle pools throng with birds, especially waders in autumn and winter.



In early winter, a bull grey seal sits out a sandstorm at Yorkshire's Spurn Point – a true 'big wildlife' spectacle

paullhobson.co.uk



Urchin-grazed kelp, Farne islands. Many species find shelter and food in such underwater forests



Butterfish, Norfolk. These snake-like fish are fine parents, taking turns to care for their young

marinephoto.co.uk

Repro: Please blend map into grey panel as per 'map blend demo.pdf' thanks

The North Sea's amazing wildlife

This map, produced by Natural England, shows some of the North Sea's most precious and mysterious marine life. The UK's landscape variety doesn't really end at the seashore, but continues far out to sea.

What it can't show (due to its complexity) is the way many larger animals move around the North Sea at different times of year. A tagged female grey seal from Lincolnshire Wildlife Trust's Donna Nook reserve, for example, regularly swam up to 80 miles out to sea to feed at Dogger Bank between July and November 2005.

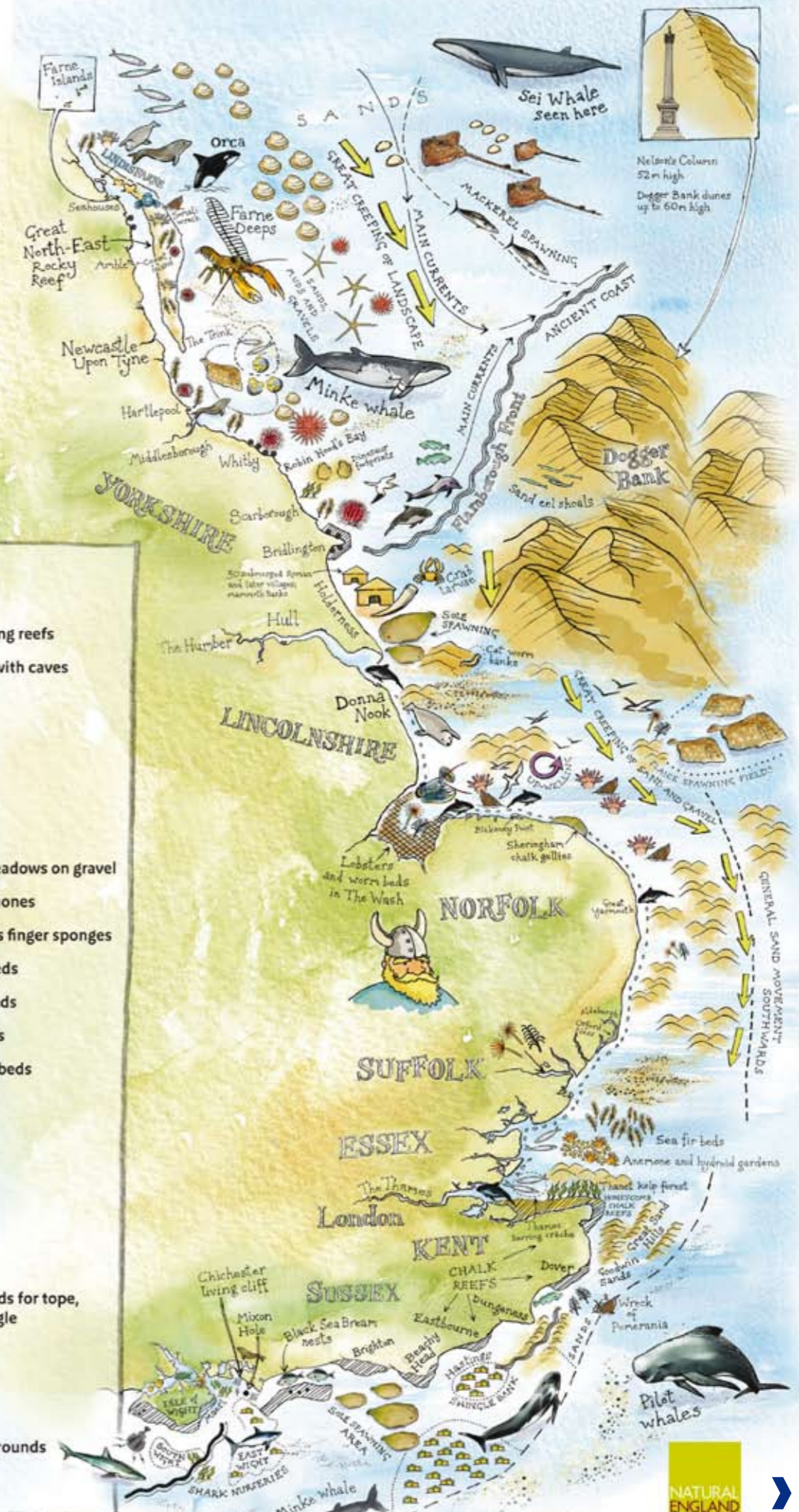
Also not shown are the human activities that threaten the North Sea's health: dredging, industrial fishing, pollution, coastal degradation and climate change. There's also a lost megafauna of tuna, dolphins, porpoises and whales. Fortunately the Marine Bill (p4) could begin the process of recovery.

See more fabulous undersea landscapes like this at naturalengland.org.uk/campaigns/marine.

UNDERSEA LANDSCAPES of EASTERN ENGLAND

Key

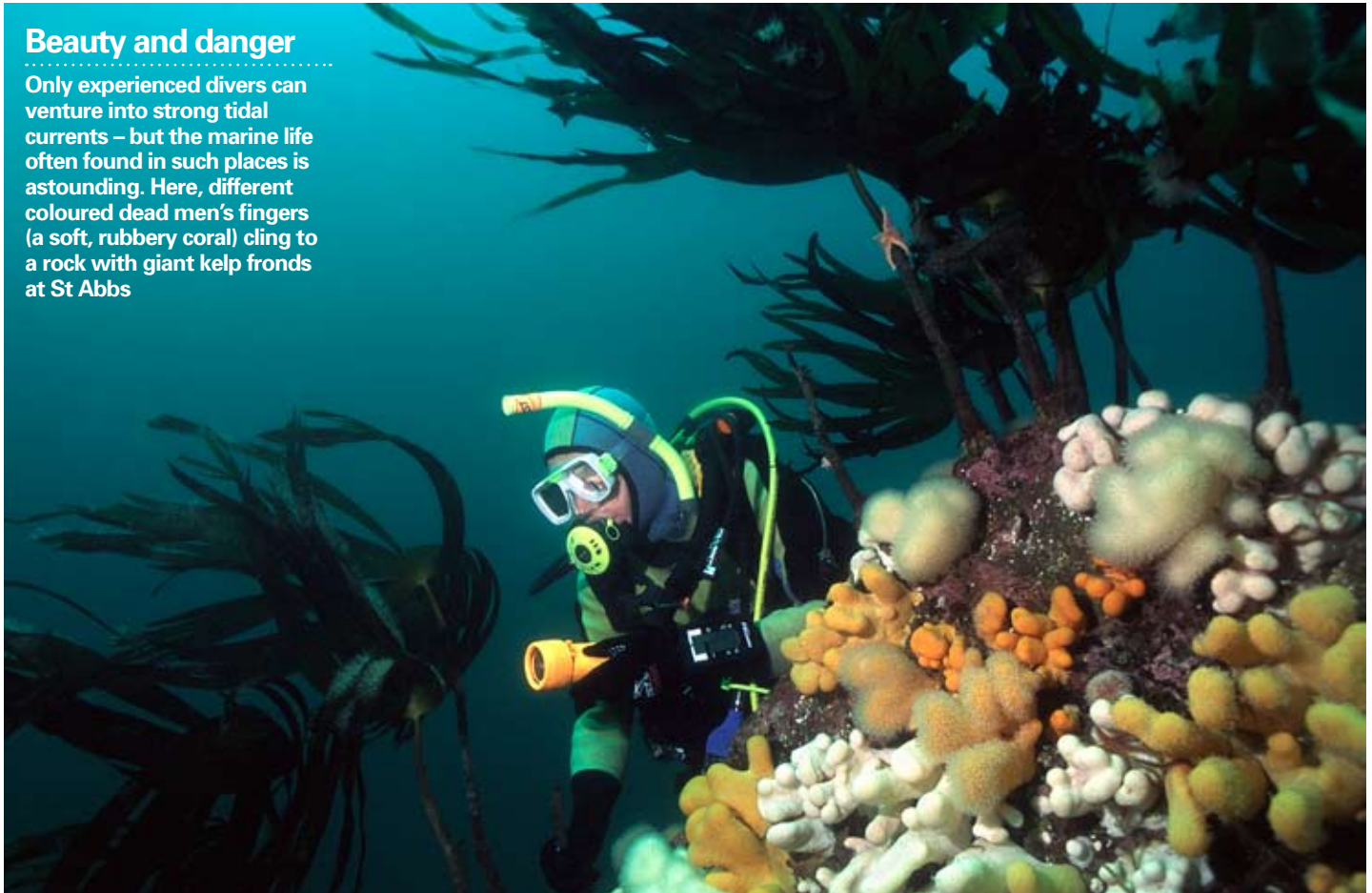
- Sea fronts
- Undersea caves
- Peacock / Ross worm living reefs
- Chalk / sandstone reefs with caves
- Sand hills
- Kelp forests
- Sea fir beds
- Sea urchin ranges
- Devonshire cup coral
- Anemone and sponge meadows on gravel
- Wrecks supporting anemones
- Boulders with dead man's finger sponges
- Rich muds and mussel beds
- Venus clam sands and beds
- Bean-like tellin clam beds
- Brittlestar and anemone beds
- Herring spawning area
- Scampi burrows
- Lobster
- Sole nurseries
- Cod spawning
- Wolf fish
- Nursery / pupping grounds for tope, electric ray and porbeagle
- Common seals
- Bottlenose dolphin
- Harbour porpoise
- Thornback ray hunting grounds
- Bird hotspots



NATURAL ENGLAND

Beauty and danger

Only experienced divers can venture into strong tidal currents – but the marine life often found in such places is astounding. Here, different coloured dead men’s fingers (a soft, rubbery coral) cling to a rock with giant kelp fronds at St Abbs



miles off Blakeney Point. More than 200 ships have been wrecked around here. Ahead lies the WW2 submarine, *HMS Umpire*. At first glance it looks mouldy, furry and white. Peering closer we can see it’s covered in dead men’s fingers, a soft coral composed of finger-like colonies of tiny animals. Peacock worms reach out from the sand below, spreading feathery tentacles into the water.

Ahead, the seabed appears to become rock. In fact, it’s vast numbers of hard, tube-like structures bound together – a reef habitat created over millenia by Ross worms. Life teems around us: translucent edible shrimps, red-eyed velvet swimming crabs and the strange glow of phosphorescent algae. Local fishermen used to use the glowing sea trail of boats ahead to guide them on dark nights.

Still heading south we reach Suffolk, where we are waved across the sandy seabed by the swaying arms of hundreds of brittlestars capturing food from the water around them. As we reach the coast of Essex, we cross Maplin Sands, to be greeted by an underwater forest of green, ribbon-leaved seagrass. Hidden between the blades are millions of young fish, safely hidden from predators.

Our final stop is the Thames estuary, and as we begin our ascent we are bombarded by thousands of silvery specks – a shoal of herring racing from the sheltered inland estuary into the open sea. Their long, slender bodies are the perfect shape for rapid movement and within seconds they’ve disappeared from view, camouflaged by their colour.

What you can do to get involved



Looe Island, Cornwall Wildlife Trust



Tell your MP



Boxing day dip, Dorset Wildlife Trust

1 DISCOVER YOUR LOCAL MARINE LIFE
Enjoy a coastal nature reserve, watch a documentary, read a book. Marvel at our sea creatures on marinephoto.co.uk or oceaneyephoto.com. Learn about marine life on marlin.ac.uk.

2 CAMPAIGN FOR OUR THREATENED SEAS
Make others aware of the importance of marine life and the need for better protection by joining our SOS team at wildlifetrusts.org. Help us speak out for this silent world.

3 HELP YOUR LOCAL WILDLIFE TRUST
Perhaps you could organise a public event in National Marine Week (1-16 August 2009) – or even get involved in setting up one of the UK’s regional Marine Protected Areas. Contact your local Trust.

It’s been a short journey, and we’ve only investigated some of the North Sea’s wonders. Much of it remains almost unexplored. Each year the demands on the North Sea’s ecosystems increase, and yet the protection they are afforded remains the same – very little. That’s why 15 Wildlife Trusts have now come together to raise awareness about the North Sea, and ensure its marine life recovers, for all our sakes. In particular our project intends to ensure that the forthcoming Marine Bill sets up a network of marine protected areas by 2012. This will give our seas the chance to return to the richness they once had.

The North Sea Marine Protected Area Project

The 15 Wildlife Trusts are Northumberland, Tees Valley, Durham, Yorkshire, Sheffield, Lincolnshire, Nottinghamshire, Leicestershire & Rutland, Derbyshire, Norfolk, Suffolk and Essex; Bedfordshire, Cambridgeshire, Northamptonshire & Peterborough; Herts and Middlesex, and London. Their aim: to safeguard the health of these essential UK ecosystems, both for wildlife and for those who use the sea. Please join them.