

EXAMPLES OF NATIONALLY
IMPORTANT MARINE AREAS IN
THE TERRITORIAL WATERS
AROUND ENGLAND AND WALES

Dr Susan Gubbay

for the

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INFORMATION SOURCES

The examples cited have been taken from existing publications and have been selected to highlight *sublittoral* sites that fall outside the boundaries of currently proposed or candidate Special Areas of Conservation. The list is not intended to be comprehensive.

MCS COASTAL DIRECTORY

The Marine Conservation Society published a Coastal Directory for Marine Nature Conservation in 1988. This included a review of the status and species features of a range of coastal and marine habitats, communities and species, as well as an inventory of sites considered to be of marine nature conservation interest. The inventory was based on a review of survey reports, publications, a questionnaire survey and interviews with individuals who had specialist knowledge of particular areas.

Gubbay, S. (1988) A Coastal Directory for Marine Nature Conservation. Marine Conservation Society, Ross-on-Wye. 319pp.

IMPORTANT AREAS FOR MARINE WILDLIFE AROUND ENGLAND

English Nature published a Strategy for Conserving England's Marine Heritage in 1993. This included the identification of nationally important subtidal marine areas around England (Sensitive Marine Areas) to trigger interest and awareness of important wildlife areas, and to stimulate discussion of management issues. Some of these sites were also identified by the (then) Department of the Environment and the Welsh Office as possible Marine Consultation Areas.

English Nature (1993) Conserving England's Marine Heritage. A Strategy. English Nature, Peterborough.

English Nature (1994) Important Areas for Marine Wildlife around England. English Nature's Sensitive Marine Areas. English Nature, Peterborough.

JNCC COASTAL DIRECTORIES

The Joint Nature Conservation Committee "Coastal Directories project" set out to collect and collate summary information to provide an overview of coastal and marine resources and human activities at national and regional levels around the coast of the UK. They were published during the 1990s as a series of 17 regional reports. Each report has a description of the marine and estuarine environments of the region, including important locations and communities.

Coasts and Seas of the United Kingdom. Seventeen Volumes. Various Authors.

SUSSEX SITES OF MARINE NATURE CONSERVATION IMPORTANCE

These sites were identified by surveys carried out between 1992 and 1998 for the SEASEARCH project developed by the Marine Conservation Society in conjunction with the Nature Conservancy Council's Marine Nature Conservation Review. The West Sussex SEASEARCH project recommended that certain sites, found to be of particular interest,

should warrant some form of conservation recognition, if not protection. East and West Sussex County Councils requested that these sites be formalised as Sussex Marine Sites of Nature Conservation Importance. They were chosen by a Selection Panel consisting of marine biologists, nature conservation and local government ecologists. The reports note that many marine SNCIs would merit SSSI status if this designation were ever extended beyond low water mark.

Irving, R. (1996) A Dossier of Sussex Marine Sites of Nature Conservation Importance. Compiled on behalf of the Sussex Marine SNCI Steering Group.

Irving, R. (1999) Report of the Sussex SEASEARCH Project, 1992-1998. Published by the Sussex SEASEARCH Project. English Nature, Lewes and Brighton & Hove Council, Brighton.

RSPB REPORTS & OBSERVATION

Information on areas of importance for seabirds and seaduck have been taken from a range of RSPB reports, surveys and county bird reports. They do not represent in any way a comprehensive list of sites likely to be of national importance for wintering seaduck and breeding seabirds.

Lock L. & Robins R. (1994) Wintering divers, grebes and seaduck in inshore coastal waters of SW England. RSPB report

Slade S. (1996) Nearshore winter seabird survey of SW England. RSPB report.

Lock L. & Slade S (1996) Wintering Seabirds in nearshore waters of the channel coast of South East England. RSPB report

Site Number	Ref No. in citation	SITE NAME	MCS Coastal Directory	EN Important marine areas	Sussex mSNCIs	JNCC Coastal Directories	RSPB reports & observations
1	2	Robin Hood's Bay		✓		✓	
2		Sizewell to Southwold					✓
3		Dungeness					✓
4	12	Royal Sovereign Shoals			✓	✓	
5	8	Seven Sisters		✓			✓
6	EC 2/8	Hope Gap	✓	✓		✓	
7	EC 3/8/11	Seaford Head/Gullies	✓	✓	✓	✓	
8	10	Looe Gate			✓	✓	
9	9	South-west rocks			✓	✓	
10	EC 5/8	Worthing Lumps	✓		✓	✓	✓
11	6	Shelly Rocks			✓	✓	
12	5	Waldrons reef			✓	✓	
13	3	Inner Mulberry Harbour			✓		
14	4	Outer Mulberry Harbour			✓	✓	
15	7	HMS Northcoates			✓	✓	
16	EC 8/2	Mixon Hole	✓		✓	✓	
17	EC 9/1	Bracklesham Bay/Balls	✓		✓	✓	
18		Shoal of Lead				✓	
19	10	Poole Bay		✓		✓	✓
20	WC 1/10	Kimmeridge	✓	✓		✓	
21	WC 2/11	Portland Harbour	✓	✓		✓	✓
22	11	Isle of Portland		✓			
23	WC 4/12	Lyme Bay	✓	✓		✓	✓
24	14	Torbay to Start Point		✓		✓	
25	15	Bolt Tail to Start Point		✓		✓	✓
26	WC 8	Hilsea Point/Fairland	✓				
27	16	Eddystone Rocks		✓		✓	
28	WC 18/17	The Whelps	✓	✓			
29	17	The Bizzies		✓			
30	17	The Manacles		✓		✓	
31	19	St.Ives Bay		✓		✓	✓
32	20	North Cornwall		✓		✓	
33	SW 1/20	Merope Rocks	✓	✓			
34	SW 3/20	Kellan Head	✓	✓		✓	
35	22	North Devon		✓		✓	
36		Cymran Strait				✓	
37		The Skerries					✓

1. ROBIN HOODS BAY

MAIN FEATURES: Rocky reefs and sandy seabed.

SITE DESCRIPTION: Between Scarborough and Whitby (N Yorks), a popular destination for seaside holidaymakers. The Bay is representative of moderately exposed sites on the North Yorkshire coast. The rocky shore is dominated by fucoids with communities of mussels, barnacles and limpets in places. Sheltered rockpools on the reefs, particularly towards the lower shore, support sediment-tolerant algae, while the large boulders towards the northern part of the Bay are richly encrusted with sponges. Rocky reefs extend offshore where there are also a variety of sediment types including rippled sand and slightly muddy sand plains with boulders. At Maw Wyke Hole, offshore sediments are poorly sorted, ranging from muddy sand to coarse shell gravel. The fauna is dominated by polychaetes, amphipods, decapods and pleuronectid fish and is species-poor. At Beast Cliff the occurrence of the brown alga *Taonia atomaria* is of note since it does not appear to have been recorded further north in Yorkshire. This site has been identified as a Sensitive Marine Area.

2. BAY BETWEEN SOUTHWOLD AND SIZEWELL

MAIN FEATURES: On the Suffolk coast, the area often has nationally (and frequently internationally) important concentrations of red-throated divers in winter, which feed on fish offshore. The stretch of coast includes the RSPB's Minsmere reserve.

3. DUNGENESS

MAIN FEATURES: Headland on the Kent coast about half way between Folkestone and Hastings. Nationally important numbers of great crested grebes (1000+) and red-throated divers (300+) in winter. In summer, the area is a feeding ground for internationally important breeding populations of common terns, as well as

for breeding little terns and Mediterranean gulls.

4. ROYAL SOVEREIGN SHOALS

MAIN FEATURES: Extensive offshore sandstone reef and part chalk reef.

SITE DESCRIPTION: The reef covers an area of about 1km². Most of the Shoals are of sandstone but there are also outcrops of chalk in the north-western part. The reef rises from a surrounding seabed of gravel, muddy sand and sand, and the area is subject to strong tidal currents which reach 2.6 knots at spring tides. The Shoals display a wide range of habitat types within a relatively small area and provide a good example of an offshore sandstone reef. Upward facing rock surfaces have a covering of small foliose red algae with many small, silt amphipod tubes. Commonly seen animals include a variety of sponges, anemones, seasquirts, hydroids, bryozoans and starfish. In places rectangular slabs of sandstone bedrock are piled on one another creating deep fissures, overhangs and caves up to 2m deep and 50cm high. On the under-slab surfaces there are soft corals, colonies of tubeworms and small bushy bryozoans. The elephant's ear sponge is present and this may be the most easterly record for this species. It may also be the most eastern record for the Ross coral and cuckoo wrasse. Large numbers of bib and poor cod frequent the area together with goldsinny and ballan wrasse. The surrounding sediment is coarse sand and cobbles at the surface, which is unstable but has been colonised by some chimney sponges and anemones that can tolerate the conditions.

5. SEVEN SISTERS

MAIN FEATURES: Chalk reefs, areas of boulders and sediment and a section of greensand reef. Breeding fulmars, herring gulls and kittiwakes feed locally, and the area is also occasionally important for wintering divers and auks.

SITE DESCRIPTION: Chalk reefs extend from the intertidal to the sublittoral with

the amount of bedrock and height of the ridges generally decreasing with depth and increasing distance from the shore. The combination of exposure to currents on the ridges and shelter from currents in the gullies gives a high diversity of habitats. The sublittoral communities on the upper surfaces of the ridges are characterised by a range of red algae. These become sparser with depth and are replaced by a rich sessile fauna with large populations of sponges. There are also substantial communities of small hydroids and bryozoans. Large areas of vertical surfaces are encrusted with polychaete worms. The lower parts of the ridges are often bare, owing to the abrasion of loose sand but, away from these areas, there are large colonies of burrowing worms. The chalk is bored by a number of bivalves and areas of sediment-covered substratum are populated by silt-favouring species. The harder greensand reefs off Head Ledge do not support these boring species, but do hold a number of species of sponge. This site has been identified as a Sensitive Marine Area.

6. HOPE GAP

MAIN FEATURES: Chalk reefs.

SITE DESCRIPTION: An intertidal wave-cut platform with boulder beds, rocky reefs and rock pools grading into offshore chalk reefs that are considered to be some of the best developed in the Sussex area. The reefs lie perpendicular to the coast with currents passing across them and therefore provide a combination of current exposed and sheltered habitats. The vertical and sloping sides of the gullies support the greatest range of marine life. Kelp is found on the upper surfaces with foliaceous red algae below. The vertical surfaces are colonised by sponges, bryozoans and tubeworms. The absence of the common sea urchin from the eastern Channel allows a luxuriant mixed animal turf to develop. The site is within the Seven Sisters Sensitive Marine Area.

7. SEAFORD HEAD & GULLIES

MAIN FEATURES: Shallow, nearshore chalk gullies and ridges.

SITE DESCRIPTION: Seaford is close to Newhaven (East Sussex). A series of chalk gullies and ridges extending from just above low water to about 600m offshore. In the shallowest areas there is dense kelp cover, and this grades into areas dominated by smaller brown and red seaweeds. Below the dense algal zone the upper surfaces of the chalk ridges support large growths of the breadcrumb sponge and other sponges in less exposed places. The sides of the ridges have a covering of animal turf including various tubeworms, with the tubes possibly helping to prevent erosion of the soft rock. The bases of the ridges are scoured but there is often a narrow band between the animal turf and bare rock which is colonised by large numbers of the horseshoe worm. The gully floors are of chalk, overlaid with silty muddy sand with occasional cobbles and pebbles. Common fish associated with the reefs include the tompot blenny, long-spined sea scorpion and the leopard spotted goby, which is near the eastern limit of its distribution. The site is within the Seven Sisters Sensitive Marine Area.

8. LOOE GATE

MAIN FEATURES: Chalk cliff, silty sand mixed with shells.

SITE DESCRIPTION: Low-lying chalk cliff up to 1.5m high in places and approximately 220m long surrounding by a seabed of silty sand with shell debris. The profile varies from vertical with an undercut base, through a low series of terraces, angled faces and smooth slopes, to jumbled chalk boulders and broken bedrock. The uppermost part of the cliff supports a sparse foliose red algal turf and a varied and densely packed attached fauna except on broken surfaces. The dominant elements are sponges and bryozoans but there are also anemones, soft coral, two species of piddock and a good variety of sea squirts. The surrounding seabed has a fauna typical of

this type of sediment, with anemones, crabs, the topshell and occasional chains of slipper limpets. A variety of fish have been recorded from the site with bib and poor cod being common, and goldsinny and corkwing wrasse also present.

9. SOUTH-WEST ROCKS

MAIN FEATURES: Chalk cliff, sand and pebbles.

SITE DESCRIPTION: Approximately 270m of exposed vertical chalk cliff, reaching a maximum height of 2m. The cliff is undercut at its base giving way to a seabed of fine sand and pebbles. The vertical face and upper horizontal surfaces are the most densely covered by marine life with hydroids, foliose red algae, sponges and bryozoans. There are also numerous small holes made by boring piddocks. A small group of burrowing sea cucumbers were found occupying abandoned holes (in 1990) and are believed to be the only record of this species in the eastern part of the Channel, although they have not been recorded since then. The cowrie *Trivia arctic* is common in some areas and, although crustaceans are not as common as one might expect, fish such as bib, poor cod, ballan wrasse and the goldsinny wrasse are frequently seen.

10. WORTHING LUMPS

MAIN FEATURES: Chalk cliff with small boulders, gravel and sand. Important area for wintering red-breasted mergansers.

SITE DESCRIPTION: Two northerly-facing chalk cliff exposures ranging in height from 2-3m, separated by an area of pebbles/gravel/sand approximately 200-300m wide off the coast of Worthing (West Sussex). On a national basis, sublittoral exposures of chalk are rare, though they are relatively common off the Sussex coast. This site probably represents the best exposures of sublittoral chalk cliffs in Sussex.

The cliff formation provides a wide range of microhabitats with an associated

diversity of marine life. Foliaceous red algae dominate the upper horizontal chalk surfaces while the vertical faces have a covering of faunal turf with hydroids, bryozoans, tubeworms and the black tar sponge. The upper parts of the cliff are bored by piddocks. There is a good variety of mobile life including crabs, leopard-spotted gobies and tompot blennies. Large numbers of lesser-spotted dogfish have been recorded in the area during October.

11. SHELLY ROCKS

MAIN FEATURES; Mixed sediment of boulders, cobbles, gravel and sand.

SITE DESCRIPTION: An extensive area of shallow boulders, cobbles and mix of gravel/shell sand on chalk bedrock or exposures of grey clay. This is typical of much of the seabed off West Sussex and this area has been selected because of the wide range of seabed types found in a relatively small area. There are a rich variety of sessile animal species where the seabed is stable and patches of clean ground with little attached life where it is mobile. Kelp, bootlace weed and other algae may provide 80-90% cover during the summer months. Boring organisms including piddocks and sponges are found on the chalk cobbles and flint cobbles are dominated by growths of the leafy bryozoan (*Flustra*), seasquirts and sponges. Mobile life includes hermit crabs, common whelks, and several species of crabs as well as butterfish, small juvenile gobies and flatfish such as plaice and sole. Lump sucker fish come into these shallow waters to lay their eggs early in the year. Cuttlefish may also be found at the site around the same time.

12. THE WALDRONS REEF

MAIN FEATURES: Sandstone reef with large boulders.

SITE DESCRIPTION: An extensive area of sandstone bedrock outcrops with boulders and areas of cobbles, pebbles, gravel and sand offshore to east of Bognor Regis (West Sussex). The rock has eroded to form many fissures, crevices, overhangs

and variously shaped holes. The site is regarded as portraying many features of sandstone reefs. Jumbled masses of large angular boulders can be found in certain areas providing a range of horizontal, vertical and undercut surfaces. The precise origin of these boulders, known as 'sarcens', is much debated. One theory is that they were deposited as drift-ice melted during a glacial phase, another that they are discarded ballast stones from early shipping. Pink calcareous algae encrust much of the bedrock. Foliose algae with sparse, stunted kelp plants dominate the uppermost surfaces. The site is particularly rich in sponges, with 24 species recorded, including some rarities. The variety of invertebrate species is poorer than one might expect but crustaceans are common. Cuttlefish have been seen on numerous occasions and fish seen around the reef include ballan wrasse, goldsinny and tompot blennies. The areas of mixed sediment support burrowing anemones, slipper limpets, bryozoans, stalked sea squirts and hermit crabs.

13. INNER MULBERRY HARBOUR UNIT

MAIN FEATURES: Wreckage of World War Two Mulberry units on seabed of pebbles, gravel & silty sand.

SITE DESCRIPTION: on the coast of West Sussex between Bognor Regis and Worthing. An artificial reef of steel-reinforced concrete which has eroded in places to expose steel rods and interior flotation compartments accessible through open manholes. The surfaces support a substantial growth of kelp and are colonised by sessile organisms that are characteristic of a typical exposed rocky shore/shallow infralittoral community. This includes barnacles and mussels in the shallowest parts with red algae, sponges and sea squirts in deeper waters. The internal surfaces are colonised by plumose anemones and the native oyster (a Biodiversity Action Plan priority species). Frequently seen fish include the ballan wrasse, goldsinny wrasse, corkwing wrasse, and pollack.

14. OUTER MULBERRY HARBOUR UNIT

MAIN FEATURES: Wreckage of World War Two Mulberry units on seabed of pebbles, gravel & silty sand.

SITE DESCRIPTION: Artificial reef providing a hard and stable surface, with inclined sheltered and exposed surfaces on a flat seabed of gravel, sand, shells and pebbles. The uppermost surfaces are colonised by kelp while foliose red algae dominate the horizontal unshaded surfaces. The wreckage is heavily colonised by a low faunal turf of hydroids and bryozoans as well as occasional sponges and anemones. Plumose anemones and soft coral dominate the overhanging wall. Jewel anemones and Devonshire cup corals have been recorded here. Large shoals of fish surround the wreck, particularly bib, but also blennies, gobies and goldsinny wrasse.

15. H.M.S NORTHCOATES

MAIN FEATURES: Wreck in deep water.

SITE DESCRIPTION: Wreck of fishing vessel converted for minesweeping duties in World War Two. The wreck remains largely intact, upright on a seabed of silty gravel and coarse shell fragments. The communities present are typical of many deep-water wrecks found off the coast of West Sussex. A turf of bryozoans and hydroids dominates the vertical surfaces. There are also a few patches of Devonshire cup corals and jewel anemones, which are of special note as they are more common in the clearer water of the western English Channel, and are therefore at the eastern edge of their known distribution. Other anemones, soft corals and sponges also grow on the wreck while the surrounding seabed is colonised by sandmason worms, mussels, burrowing anemones and the finger bryozoan. An unusual record was a small colony of zoanthid anemones, thought to be *Epizoanthus couchii*, partially buried in the gravel. The wreck has many fish associated with it with bib and poor cod the most common.

16. MIXON HOLE

MAIN FEATURES: Underwater cliff off Selsey Bill (West Sussex).

SITE DESCRIPTION: Clay cliff on the northern side of the Hole extending to a pebble/boulder/shell seabed. The Hole is believed to be a segment of an ancient river gorge swept clear by tidal currents. The upper part of the cliff is a cap of limestone bedrock, which breaks the water at low water spring tides. At around 4m it forms a ledge with loose limestone slabs covered by foliose red algae. Below this the soft grey clay of the main cliff is exposed, with numerous ledges, crevices and fissures. The unstable areas are uncolonised. Other areas are extensively bored by piddocks, with many crustaceans and fish on the ledges and in shoals off the cliff. Hydroids, keel worms and sea squirts have colonised the cobbles and small boulders near the base of the cliff. There is a less impressive and smaller cliff on the southern side of the Hole. The clay cliff is possibly a unique feature. It is also of interest to marine archaeologists because of the remains of worked stone at its base known to date from Roman times.

17. BRACKLESHAM BAY AND BRACKLESHAM BALLS

MAIN FEATURES: Boulder-sized concretions embedded in level, mixed sediment.

SITE DESCRIPTION: Area of sand and gravel with clay outcrops forming ridges across the seabed. The ridges are up to 1m high and in some areas the clay is capped by limestone. Common species include piddocks, slipper limpets, and tube worms on the stable gravel and sandmason worms in the deeper sand. The '*Bracklesham Balls*' are spherical and hemispherical boulders up to 1.5m in diameter which are in two areas in Bracklesham Bay in approximately 6m depth of water. They are believed to be concretions of the Myocarida Bed and resemble 'shells embedded in clay' standing proud of the seabed. They provide a most unusual, though not unique, geological feature. The

tops of the shallowest boulders may be colonised by kelp plants and an assortment of red foliose algae. In deeper water hydroids and bryozoans are more dominant with occasional anemones and soft corals, sponges and sea squirts. The surrounding seabed is muddy sand, gravel and shells.

18. SHOAL OF LEAD

MAIN FEATURES: Current-swept area with overfalls.

SITE DESCRIPTION: Area of overfalls, 8km south-east of Selsey Bill, on the eastern side of the Outer Owers where the seabed drops steeply from 0-67m. This feature is believed to be the only example of its kind in the British Isles.

19. POOLE BAY

MAIN FEATURES: Open bay with mixed sediments. Nationally important for red-breasted mergansers and several species of grebe.

SITE DESCRIPTION: The area is sheltered from the prevailing south-west winds. It has a mixed, very gently sloping substratum, mostly of sand mixed with gravel, stones and shells. From Hengistbury Head hard ironstone reef extends south-east for 5km. Two species of maerl (A Biodiversity Action Plan priority habitat) occur in the Bay off Handfast Point. This is their most easterly known location in the English Channel. There is a rich associated fauna dominated by polychaetes and amphipods. The Ross coral is well represented off the Purbeck coast. Off Durlstone Head, below Swanage Bay, cetaceans are often sighted at particular times of the year and include a small, regularly recorded group of bottle-nosed dolphins together with large numbers of migrating individuals, and smaller numbers of common dolphins and pilot whales. Seals are also occasionally seen. This site is part of the Poole Bay and Isle of Purbeck Sensitive Marine Area. Nationally important populations of red-breasted mergansers and great crested

grebes winter, and the area also holds more than 1% of the UK's wintering slavonian, black-necked and red-necked grebes.

20. KIMMERIDGE

MAIN FEATURES: Ledges and rocky reefs interspersed with sandy areas.

SITE DESCRIPTION: Shallow water extends from the shore to a submerged collapsed former cliff line 1-2km offshore. The site is mid-way between the eastern and western basins of the Channel with species characteristic of each on both hard and soft substrates.

A turf of small bushy red seaweeds, often interspersed with large numbers of snakelocks anemones, covers the ledges in the shallow waters of the bay. Kelp is restricted to a few small areas where the seabed is firm enough to provide a secure hold. Common fish are ballan wrasse and corkwing wrasse as well as pollack and two-spot gobies. Shoals of sandeels also frequent the area. The ledges provide suitable habitat for many crustaceans such as lobsters, squat lobsters, edible crabs and spiny spider crabs. Further offshore the vertical rock surfaces, caves and overhangs of the ledges are colonised by kelp, foliose red algae, sponges, tubeworms, bryozoans, anemones and cup corals. This site is within the Poole Bay and Isle of Purbeck Sensitive Marine Area.

21. PORTLAND HARBOUR

MAIN FEATURES: Sheltered harbour with fine mud, with patches of coarse sand and pebbles. Nationally important for wintering red-breasted mergansers.

SITE DESCRIPTION: Sheltered, enclosed water mass, of high scientific interest for its marine communities and species. In particular, it contains rich sediment communities, including mud plains dominated by the sea pen *Virgularia mirabilis* and large populations of the Mediterranean polychaete *Sternappis scutata*. The southern species of sea squirt, *Phallusia mammillata*, and the

Mediterranean red band fish are also found in the harbour. The subtidal rocky surfaces are densely covered by a variety of foliose, filamentous and encrusting algae. The black goby, snakelocks anemone, the rare southern anemone *Aiptasia mutabilis*, and the very rare black-faced blenny are all found here. The large assembly of molluscs in the harbour is particularly unusual and includes a number of localised and rare species of turrids, tusk shells and bivalves. The substratum is coarser at the entrances where there is more current. The area has a nationally important wintering population of red-breasted mergansers and small numbers of red-necked and black-necked grebes. This site is within the Portland & Fleet Sensitive Marine Area.

22. ISLE OF PORTLAND (Blacknor Point – Portland Bill)

MAIN FEATURES: Rocky ledges and boulder seabed down to sand and gravel.

SITE DESCRIPTION: Limestone rocks in the form of large blocks, with small caves and overhangs, and boulders grading into sand and gravel at over 30m. At Pulpit Rock the ledges drop off into deep gullies. A current-swept area supporting a rich variety of life including hydroids, sea squirts and sponges and showing classic zonation from shallow to deep water within a short horizontal distance. During the summer months various species of wrasse are common.

Portland Bill is at the eastern limit of the outer basin of the English Channel, and consequently a number of southern species reach their eastern limit of distribution within the area. Some species with a southern distribution such as the black-faced blenny are rarely recorded elsewhere in Britain. This site is within the Portland & Fleet Sensitive Marine Area.

23. LYME BAY

MAIN FEATURES: Shallow, open bay with bedrock and mudstone reefs, areas of cobbles, boulders, gravel, dead maerl and

sand. Important populations of little and common terns.

SITE DESCRIPTION: The Bay spans part of the transition zone between the cold Boreal and warmer Lusitanian biogeographic provinces of the north-east Atlantic and contains a range of habitats and a considerable diversity of community types within a small area. The area is relatively shallow and gently shelving with a substratum predominantly of sand, dead maerl and gravel, which in places forms large ripples. There are several areas of mixed bedrock and, especially moving further offshore, extensive bedrock reefs and areas of cobbles and small rocks or boulders overlying the sand, dead maerl and gravel. At Beer Home Ground there are mudstone reefs forming short cliffs and ledges colonised mainly by hydroids and tubeworms.

The reefs within the bay form one of the most easterly locations for a number of Mediterranean-Atlantic species, such as the pink sea fan *Eunicella verrucosa* (a Biodiversity Action Plan priority species which is also listed on Schedule V of the Wildlife & Countryside Act, 1981). These species are found in very high densities along with a very rich epifauna, including a high diversity of sponges. The saw-tooth ledges are one of only a few sites in Great Britain where the southern sunset coral *Leptopsammia pruvoti* (a Biodiversity Action Plan priority species) has been found. The reefs also support large numbers of cuckoo wrasse and small shoals of bib and poor cod. Where cobbles and boulders overlie level sand, dead maerl and gravel such as at Eastern Heads and Lane's Ground there is a high diversity of erect and branching sponge species with a dense turf of bryozoans, hydroids and tunicates covering cobbles and boulders. Large colonies of the Ross coral, soft coral and sea fans are common. Where sandy patches exist, scallops and burrowing cucumbers are found. Sublittoral sediments support an extremely diverse fauna, with over 400 taxa being recorded from grab samples.

The sandy areas within the Bay are home to populations of sandeels, which in turn support little and common terns in the summer months. The site has been identified as a Sensitive Marine Area.

24. TORBAY TO START POINT

MAIN FEATURES: underwater bedrock walls, tideswept pebbles and cobbles, steeply-sloping muddy channel, exposed open coast, intertidal and sublittoral caves, and tidally swept channels.

SITE DESCRIPTION: The seabed at the entrance to the Dart supports diverse communities of sponges, hydroids, bryozoans and ascidians as well as a variety of red algae. Large colonies of sponges often bind stones together as well as encrusting shells and cobbles. Cup corals and soft coral occur on the more stable cobbles while bryozoans are also common. Outside the estuary there is a rich and diverse fauna comprising a large number of encrusting and sessile organisms including many sponges, bryozoans and tubeworms. In sections affected by sand scour certain tunicates are abundant. Offshore, fine sediment areas support animal communities dominated by brittlestars, feather stars and starfish as well as an abundance of anemones and the sandmason worm. The caves at Berry Head are unique, ranging from exposed sites in sea cliffs to extremely sheltered sites, and a wide range of species have been recorded in them. The subtidal area off Torbay is relatively uniform muddy sand, supporting a diverse and abundant burrowing faunal community dominated by bivalve molluscs and various echinoderms, and good examples of beds of eel grass. The tidally swept channels around Flat Stone, Ore Stone and Thatcher's Rock harbour rich and varied communities on extensive limestone ledges and vertical faces. This site has been identified as a Sensitive Marine Area.

25. BOLT TAIL TO START POINT

MAIN FEATURES: Steep-sided drowned river valley (ria), bedrock, fine and coarse sand mixed with shell gravel. Important

populations of a number of seabird species.

SITE DESCRIPTION: The Salcombe-Kingsbridge inlet has a high diversity of littoral and sublittoral habitats with associated diverse communities and several species restricted in their distribution in Britain. It is of significant marine biological importance for the presence of many southern species. There are also a number of rarely recorded algae found in the area including the nationally important red algae *Gracilaria foliifera*. The sublittoral area of the inlet is mainly silty hard sand with pebbles and shell gravel. Areas of exposed bedrock penetrate the silt at various points along the sides and in the middle of the channels. The sublittoral area between Prawle Point and Start Point supports dense forests of kelp and a lush turf of red algae, sea squirts, sponges and bryozoans. The offshore sands have rich communities of echinoderms, molluscs and crustaceans. The bed of the main channel from the entrance to Salcombe Harbour to the Salt stone is of mixed sediments with stones and shells. The communities are very rich in algae and animals including several rare or unusual species. Castle Rocks, within the Salcombe inlet, has an exceptional flora and a rich fauna including many sponges and crustaceans. Basking sharks (a Biodiversity Action Plan priority species) are often seen in the summer months, and the area is one of the top sites in Britain for surface sightings of this species.

There are small breeding populations of fulmar, cormorant, shag, lesser black-backed gull, great black-backed gull, herring gull and kittiwake. Substantial numbers of auks feed offshore during the winter. The site has been identified as a Sensitive Marine Area.

26. HILSEA POINT/FAIRYLAND

MAIN FEATURES: Rocky pinnacle.

SITE DESCRIPTION: Offshore rock pinnacle, with central 'canyon' running parallel to the coastline, affected by tidal

streams. The top of the pinnacle is colonised by kelp and the walls with jewel anemones, pink seafans, soft corals and the solitary corals *Parazoanthus* and *Caryophyllia*. All five species of wrasse are common at the site.

27. EDDYSTONE ROCKS (including HANDS DEEP)

MAIN FEATURES: Rocky reefs surrounded by soft sediments.

SITE DESCRIPTION: The Eddystone Rocks are comprised of rare hard pink granite and rise from an area of level seabed 50-60m below chart datum. The Eddystone breaks the surface whereas Hands Deep is permanently submerged with the shallowest part at around 12m. Flat-faced, angular vertical cliffs with overhangs dominate the underwater scenery and are colonised by a turf of bryozoans, hydroids, anemones and extensive patches of jewel anemones. A high proportion of southern species are present here such as the pink sea fan (a Biodiversity Action Plan priority species which is also listed on Schedule V of the Wildlife & Countryside Act, 1981), the red soft coral *Alcyonium glomeratum* and sea cucumber *Holothuria forskali*. Similar communities occur off Hands Deep. The seabed immediately surrounding the rock pinnacles ranges from coarse muddy sand to fine gravel, with patches of shell gravel where there is tidal scour. Bivalves as well as brittlestars and the green sea urchin dominate these sediments. The substratum is more uniform and composed of clean fine sand to the south and east. This site is within the Plymouth Sound Sensitive Marine Area.

28. THE WHELPS

MAIN FEATURES: Rocky reefs.

SITE DESCRIPTION: Large outcrops of slate-like rock in shallow water giving way to gently sloping sediment broken by parallel reefs 1-2m high. Gullies with evidence of scouring. Shallow reefs supporting foliose red algae extensively covered with silt. Soft coral, sea

cucumbers, the common sea urchin and spiny starfish are abundant. The site is within the Dodman Point to Lizard Point Sensitive Marine Area.

29. THE BIZZIES

MAIN FEATURES: Rocky reefs and boulder slope.

SITE DESCRIPTION: Bedrock and boulder slope with gullies. A kelp park with abundant red foliose algae and, on the rock walls, soft coral and a hydroid/bryozoan turf. In deeper water there is an abundance of feather stars. Occasional sea fans in the gullies but many on the boulder plain at 30m (This is a Biodiversity Action Plan priority species which is also listed on Schedule V of the Wildlife & Countryside Act, 1981). The site is within the Dodman Point to Lizard Point Sensitive Marine Area.

30. THE MANACLES

MAIN FEATURES: Rocky reefs and pinnacles surrounding by soft sediments.

SITE DESCRIPTION: A small group of rocks lying about 2km offshore that are exposed to strong tidal currents. These conditions have encouraged a dense growth of sponges, hydroids and sea squirts. The pink sea fan *Eunicella verrucosa* (a Biodiversity Action Plan priority species which is also listed on Schedule V of the Wildlife & Countryside Act, 1981) and the Ross coral *Pentapora foliacea* are present on the rocks and elsewhere offshore in the area. The site is within the Dodman Point to Lizard Point Sensitive Marine Area.

31. ST.IVES BAY

MAIN FEATURES: Small bay which is important for seaduck and grebes.

SITE DESCRIPTION: A small bay 6.5km across between two rocky promontories. A small estuary enters the Bay and there is a small tidal harbour. Much of the seabed in the bay is sandy with a limited fauna where it is mobile. Buried within the sand

are razor shells, the sea potato and sponges. Shoals of sand eels, plaice, dragonet, goby and rays frequent the area. Where there is sand covered rock this is typically colonised by red and brown algae with some kelp. A belt of kelp overlying a mixed community of red and brown seaweeds typically dominates other rocky areas. At greater depths there is an abundance of sponges and anemones, while crustaceans make up a major part of the bottom-living mobile population. Large numbers of wrasse, pollack, young bib, poor cod and pipefish occur among the kelp forest.

Important for wintering long-tailed ducks, red-breasted mergansers, and small numbers of divers and grebes. This site has been identified as a Sensitive Marine Area.

32. NORTH CORNWALL (Trevose Head to Boscastle)

MAIN FEATURES: Rocky reefs, boulders cobbles and sandy seabed.

SITE DESCRIPTION: A variety of habitats on soft and hard substrata and ranging from exposed to sheltered conditions. Bedrock is exposed down to 20m with pinnacles, overhangs and deep gullies. Scour occurs in places adjacent to areas of boulders, cobbles and sand.

The open coast has dense kelp forests in shallow water with a high cover of encrusting coralline algae in exposed sites and an understorey of red algae in less exposed sites. Where algae predominate, animals, mainly bryozoans, are confined to overhangs and vertical surfaces. Where wave action or tidal streams are strong hydroids and jewel anemones form distinctive populations. Below the algal zone there are large colonies of Ross coral, soft coral, and the pink sea fan (a Biodiversity Action Plan priority species which is also listed on Schedule V of the Wildlife & Countryside Act, 1981). The area has a moderately rich fish fauna with species typical of inshore rocky areas well represented. The two most common species are pollack and ballan wrasse.

Where patches of sand are present, sand eels, dragonets and the leopard spotted goby may be found. Further north towards Tintagel Head and Boscastle the kelp zone is wider. Below this bryozoans with a variety of sponges dominate the rock faces. Grey seals breed in the vicinity of Pentire Peninsula, in particular in the caves below Rumps Point. This site has been identified as a Sensitive Marine Area.

33. MEROPE ROCKS

MAIN FEATURES: Rocky islet.

SITE DESCRIPTION: The eastern rocks are exposed to wave action and semi-exposed to tides. The seabed is one of broken bedrock, boulders with open and steep-sided gullies, and vertical and overhanging surfaces often forming pinnacles. There is a bed of sea-oak at 5m, and then the area is dominated by foliaceous red algae at 7m. Dense colonies of bryozoans and jewel anemones grow under overhangs. To the north, the rocks are more exposed. The topography is very broken with pinnacles, canyons, overhangs and steep-sided gullies as well as plains of cobble and boulder with low reefs. Hydroids and jewel anemones are abundant on the steep faces and overhangs. The site is within the North Cornwall Sensitive Marine Area.

34. KELLAN HEAD

MAIN FEATURES: Rocky seabed with gravel and soft sediment areas.

SITE DESCRIPTION: The nearshore area consists of steep, mainly unbroken bedrock, with some deep-sided gullies, overhangs and vertical faces. Further out this grades into an area of sand and then large boulders and rock outcrops with gravel, sand and some mud between. The site is semi-exposed to wave action and supports dense colonies of bryozoans and hydroids. Kelp colonises the shallow depths. The site is within the North Cornwall Sensitive Marine Area.

35. NORTH DEVON (Morte Point to Combe Martin)

MAIN FEATURES: Mixed rocky and soft sediment habitats.

SITE DESCRIPTION: This stretch of coast forms the transition between the south-west open coast and the Bristol Channel. Many species reach the eastern limit of their distribution here. There are rich intertidal communities and a wide variety of habitats and species found in the sublittoral including a few west coast or Mediterranean-Atlantic species. Below the algal zone the surfaces are colonised by encrusting and erect bryozoans, sponges, keel worms, barnacles and, in places, the dahlia anemone. The substratum at sheltered sites at Smallmouth consists of thick mud and contains the burrow crab and a species of burrowing anemone. Seals and porpoises can sometimes be seen in Rockham Bay. This site has been identified as a Sensitive Marine Area.

36. CYMYRAN STRAIT (Inland Sea)

MAIN FEATURES: Shallow partially enclosed sea area.

SITE DESCRIPTION: Narrow channel which separates Holy Island from mainland Anglesey. It consists of two broad, shallow basins, a long, narrow but complex intertidal basin and the Alaw estuary. The enclosed nature and the large extent of intertidal habitats means that most of it is extremely sheltered from wave action. There is an unusual tidal regime and consequent peculiarities in the zonation patterns of its biota. The southern end of the inlet has an area of medium-fine sand with an infaunal community characterised by polychaetes, cockles and very high numbers of the amphipod *Corophium arenarium*. North of Plas Cymyran the clean, mobile sand and gravel has sparse polychaetes. Where the channel narrows between two rocky outcrops the shore is colonised by furoid algae and dense barnacles, limpets and large mussels on the steep vertical bedrock. The sublittoral fringe is largely smothered by sand and is influenced by

strong tidal streams running through the narrows. The community here is characterised by algal species that are tolerant of sand-scour. On the west shore of Beddmanarch Bay the upper shore has a dense bed of seagrass on muddy sand. The lower shore is swept by strong tidal flow from a culvert and is of a clean gravel and sand. No sublittoral information is available for the Inland Sea.

37. YNYSOEDD Y MOELRHONIAID (THE SKERRIES)

MAIN FEATURES: Important tidal rapids which are also important for terns.

SITE DESCRIPTION: 3km off the north-west coast of Anglesey. Tidal rapids are much more common in the UK than in other European countries because of the greater tidal ranges found around our coasts. These rapids encompass a diverse range of marine habitats, which support a fantastic array of wildlife including hydroids (sea firs), bryozoans (sea mats), ascidians, brittlestars and sub-tidal mussels. The whole area is important for breeding terns (sandwich, roseate, common and arctic), which fish offshore.