Marine Conservation Society

www.seasearch.org.uk

SEASEARCH SURVEYS IN ENGLAND 2009

A report to Natural England

April 2010

NATURAL ENGLAND

INTRODUCTION

This report has been prepared for Natural England to summarise the survey work undertaken by Seasearch volunteer divers in England during 2009. It comprises:

This report has been prepared by Chris Wood, National Seasearch Coordinator, as a part of contract FST20-84-170. It is drawn from the Seasearch reports and the data entered in the Marine Recorder, pink sea fan and crawfish databases.

Photographs are by Chris Wood, Sally Sharrock, Dan Bolt, Rob Spray and Phil Lightfoot.

Cover Photo: Seasearch diver recording underwater, Phil Lightfoot.

Marine Conservation Society,
Unit 3, Wolf Business Park, Alton Road,
Ross-on-Wye, HR9 5NB.

SUMMARY OF CONCLUSIONS AND RECOMENDATIONS

The prime aim of Seasearch has been to provide and make available data which can be used for marine conservation purposes. It has not made recommendations for action in most cases but past reports have singled out areas with important species and habitats that have not been protected.

We were therefore glad to see the proposed SaCs in southern and western England, which cover a number of these areas, including

- Worbarrow Bay Dorset
- Lyme Bay Dorset/Devon
- Gara Point to Stoke Point, Devon
- Plymouth Drop Off, Devon

The notable exception is The Manacles in Cornwall which because of its reef formations and populations of BAP species *Eunicella verrucosa* and *Amphianthus dohrnii* deserves protection from damaging activities, which it does not currently receive.

We look forward to continuing to contribute to work to establish a coherent network of marine conservation areas, including a significant proportion of highly protected sites where all extractive and other damaging activities would not be permitted. All of our data is available for use by the MCZ programmes currently underway.

Many of our past recommendations arise from work on the pink sea fan and can be found in a variety of reports. Of particular significance is our recommendation that a monitoring programme be carried out and we have suggested a spread of monitoring sites in different geographical locations and with different types of habitat. These are: Lundy, Bawden Rocks, Manacles, Rosehill wreck, offshore reefs south-west of Plymouth, Plymouth Drop Off, Plymouth Breakwater Fort, 2 sites in Bigbury Bay and 2 sites in Lyme Bay. (Pink Sea Fan Survey 2004-2006 – Marine Conservation Society)

We remain willing to take part in such a monitoring process and believe that the results already achieved demonstrate that this could be undertaken by volunteer divers providing support was available from Natural England.

The major achievement in 2009 was the high level of data obtained from poorly recorded areas such as the Durham Heritage Coast, Yorkshire, East Anglia and Kent. In addition to the raw data, there are a number of summary reports from these areas. Because these are areas where few divers venture these reports and data are highly dependant on effective local Seasearch coordinators and almost none of these records come from independent dives. These areas are therefore likely to be disproportionately affected by the withdrawal of the national level funding for Seasearch in 2010 by Natural England.

We report on species recorded, concentrating on BAP, and nationally scarce or rare species. The report does not identify many new sites for BAP species, except for *Leptosammia pruvoti* in the Isles of Scilly. Sadly records of a number of some

once common species such as anglerfish, *Lophius piscatorius*, and crawfish *Palinurus elephas* remain very low indeed, despite a specific focus and online recording for the latter. We also failed to relocate the previously surveyed *Atrina fragilis* populations in Plymouth. All of this suggests no improvement in the populations of most BAP species.

We are however, glad to be able to report new growth of pink sea fans in Lyme Bay in the area now closed to bottom trawling. This suggests that there was good larval dispersal in 2008 after the ban came into force and we will continue to observe changes in the closed area.

We also report on species newly recorded in England. These include the first mainland sighting of the red blenny, *Parablennius ruber*, at The Manacles, the first Seasearch record ever of the slipper lobster *Scyllarus arctus* (Isles of Scilly) and the first record from England of the sponge *Axinella frustra* (Isles of Scilly). There are also some interesting eastward extensions of range including the black-face blenny *Tripterygion deleasi*, with the first record for this southerly species from Sussex and records of two nationally rare cup corals, *Caryophllia inornata* and *Hoplangia durotrix*, both from the same artificial habitat in Sussex.

In the light of a number of records in recent years we believe the JNCC's nationally scarce and rare species lists should be revised, and also extended to include fishes. This would enable species records to be put into a more up to date context. It would make sense for this to be done on a regional, or at least country, basis as has happened with local BAP species identified in Wales and Scotland.

SEASEARCH ORGANISATION IN ENGLAND 2009

The aim of Seasearch is to gather information on seabed habitats and associated marine wildlife in Britain and Ireland through the participation of volunteer recreational divers.

This aim is to be achieved by pursuing the following objectives:

- To encourage the participation of volunteer recreational divers in marine conservation through gathering data, particularly for areas where little data exists or where there is a conservation need,
- To provide training in recording skills to enable volunteer recreational divers to participate in Seasearch,
- To make quality assured Seasearch data available to partner organisations and the general public,
- To raise public awareness of the diversity of marine life and habitats in Britain and Ireland through the dissemination of information gathered and the identification of issues arising from it.

Since 2003 Seasearch has been organised on the basis of a mixture of national and local coordination.

The National Coordinator is responsible for overall coordination, national promotion and reporting, data merging and management of the national dataset, website and the preparation and distribution of training materials. He is also responsible for encouraging activity in areas without a local coordinator. The National Coordinator is employed by the Marine Conservation Society on behalf of the Seasearch Steering Group and reports to the Steering Group.

There is also a network of local coordinators. In England these are based in a number of different organisations, unlike in Scotland, Wales and Northern Ireland where they are also administered by MCS and the National Coordinator has responsibility for them.

Area	**Coordinator**	**Organisation**
North-East	Carrie Pillow	MCS
East Anglia	Dawn Watson	MCS
Kent	Bryony Chapman	Kent WT
Sussex	Chris Williams	Natural England
Hants/IOW	Amy Dale	Hants/IOW WT
Dorset	Kathryn Dawson	Dorset WT
Devon	Sally Sharrock	MCS
Cornwall	Tom Hardy	Cornwall WT

Seasearch received financial support in 2009-10from all of the UK country conservation agencies (Natural England, Countryside Council for Wales, Scottish Natural Heritage and Northern Ireland Environment Agency), and the Environment Agency. Local activities are also supported by the Wildlife Trusts and other organisations.

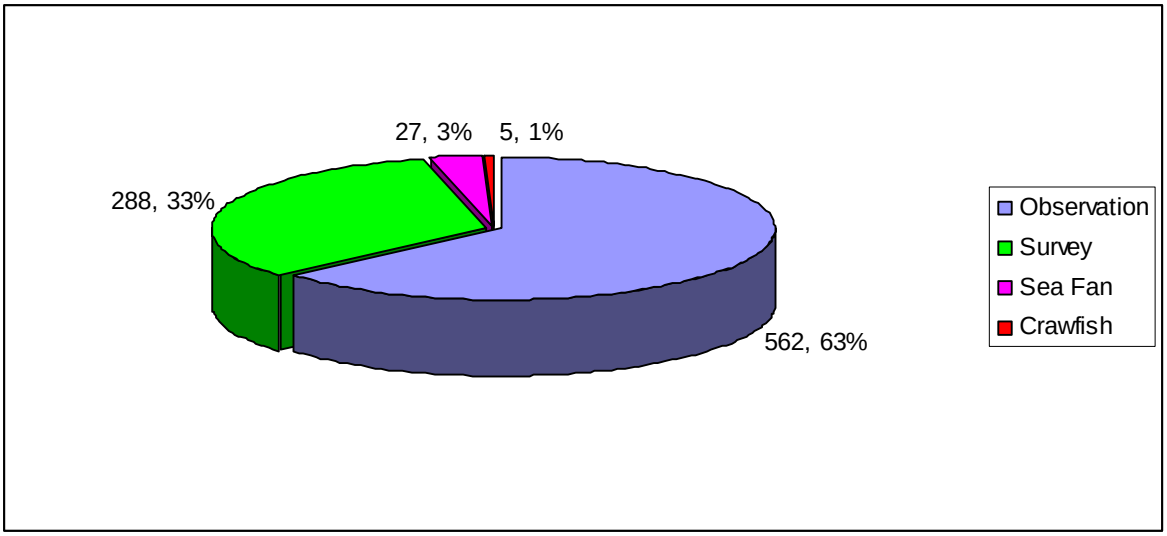
SEASEARCH SURVEYS IN ENGLAND 2009

Seasearch surveys are carried out in a variety of ways but the three main mechanisms in England are:

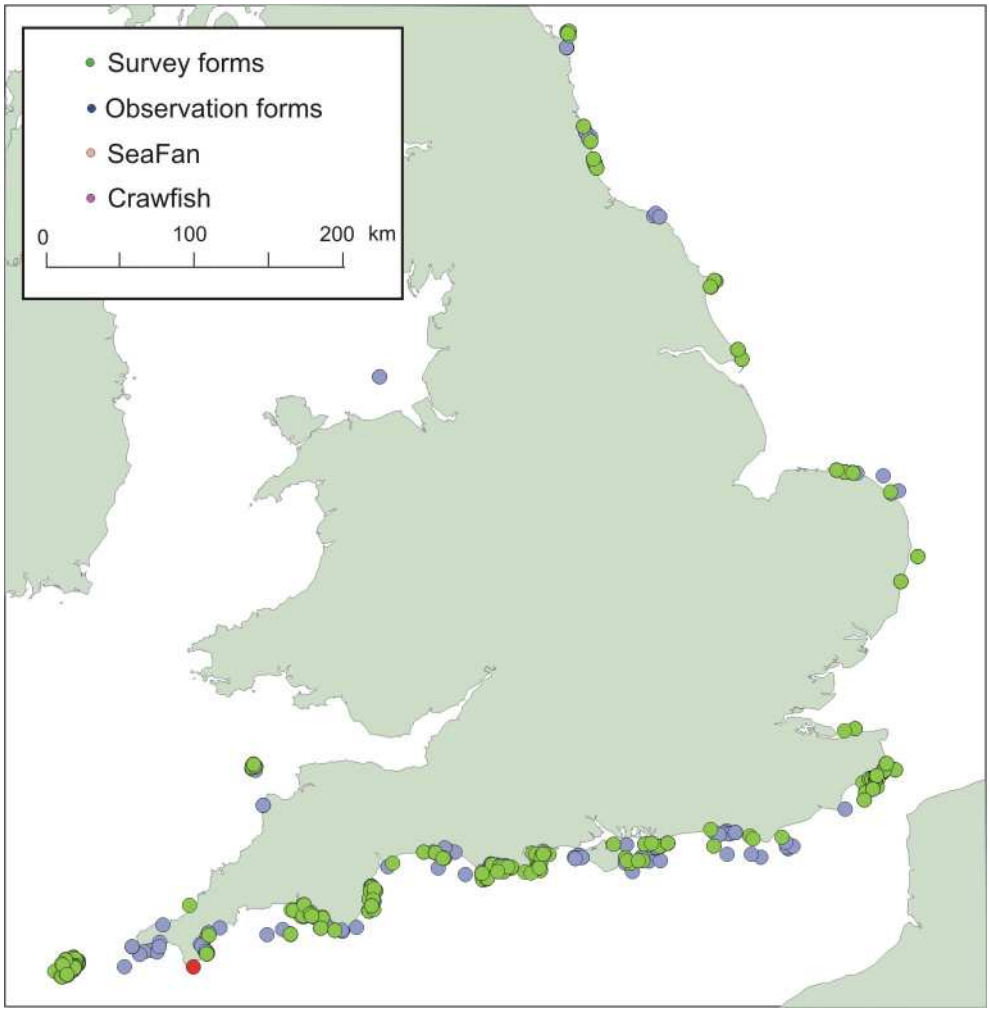
- One-day or weekend surveys organised by local Seasearch coordinators and targeting a specific area,
- MCS surveys organised by volunteers (Farne Islands, Manacles and Isles of Scilly),
- *Ad hoc* recording carried out by individual volunteers and clubs.

Seasearch data is recorded mainly on Seasearch Observation and Survey Forms. The Observation Form provides basic habitat and species information for the dive site as a whole. The Survey Form separates the site into separate habitats which are described individually and each of which has a species list attached. Most volunteers begin with Observation Forms and move onto the Survey Form once they have gained sufficient experience.

A total of 889 forms were received from England in 2008, which represents 44% of the Seasearch data as a whole. This is an increase of 33% in the number of forms received compared to 2008 and is the highest ever recorded. Of the forms received from England 63% were Observation Forms and 33% Survey forms but the proportions vary greatly between areas.



The locations of the data received in England in 2009 are shown on the map on the following page. Where there are multiple records from one location the Survey Forms are on the top and may obscure other forms of record.

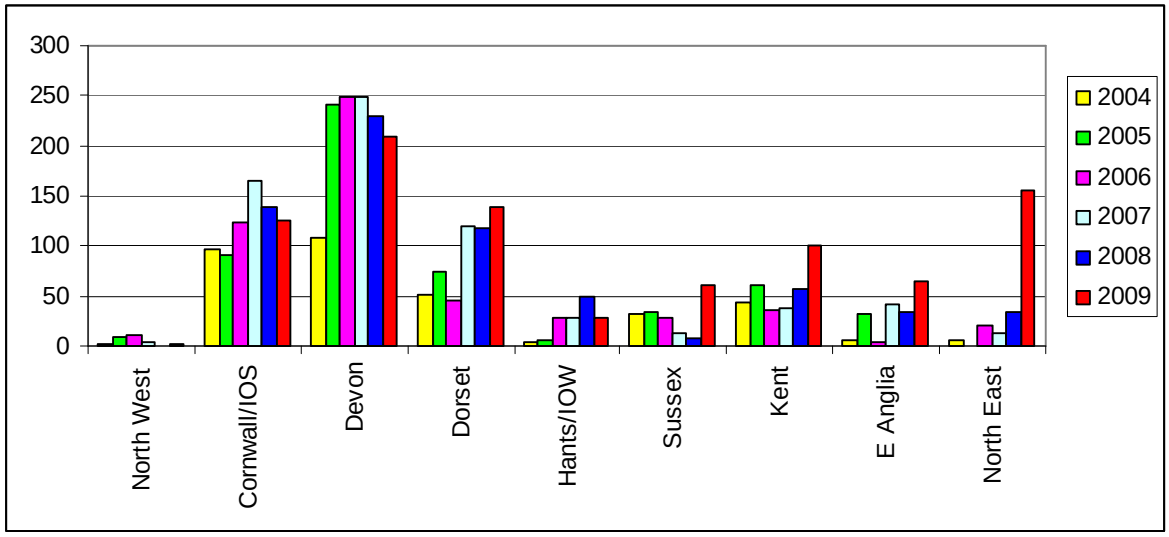


Records on the Observation and Survey forms are entered into Marine Recorder in separate area-based surveys. Each survey consists either of a group of records from one area on one event (such as a weekend of diving), or a group of records from a defined area collected over the whole year on a variety of occasions and by a variety of recorders. The table shows the surveys and survey events entered for 2009 and the number of survey events in previous years.

Survey	**Number of survey events**						
	2004	2005	2006	2007	2008	**2009**	
						surveys	**events**
North East							
Farne Islands/Northumberland	3	10	12	10	25	1	**31**
Tyne & Wear	2	-	5	-	4	1	**21**
Durham Heritage Coast	-	-	-	-	-	1	**25**
Yorkshire	1	-	2	-	2	3	**39**
East Anglia							
North Norfolk	6	15	3	24	30	2	**44**
Suffolk	-	-	-	-	-	1	**7**
Essex	-	-	-	-	-	1	**1**

South-East							
Kent	44	49	34	38	57	1	**102**
Sussex	40	39	26	9	0	1	**64**
Hampshire and Isle of Wight	4	-	38	26	44	1	**26**
South-West							
Dorset (whole coast)	48	74	35	76	87	1	**96**
Lyme Bay (Devon and Dorset)	36	15	11	7	17	1	**13**
Devon (whole south coast)	41	166	129	159	143	14	**124**
Cornwall (whole south coast)	40	74	46	93	36	7	**40**
Isles of Scilly	19	12	16	24	33	3	**73**
North Cornwall	13	15	8	16	11	1	**1**
Lundy & North Devon	-	16	14	24	34	2	**28**
North-West							
Cumbria/Liverpool Bay	1	-	12	3	-	1	**2**
Total	298	485	391	509	523	43	**737**

In addition to Observation and Survey Forms there were separate forms for recording pink sea-fans and crawfish in 2009. There were 27 pink sea fan records and 5 crawfish records.



The chart above shows the number of data forms of all types received from each part of England and for each year from 2004-2009. The highest number of forms continues to come from Devon, though there has been a slight reduction in numbers of forms both there and in Cornwall. This is partly because composite forms are filled out on behalf of the whole group on some surveys. The greatest increase in number of forms was in North East England and there were also significant increases in Kent, Sussex and East Anglia. This shows the successful result of a concerted effort to target lesser dived areas in 2009.

A summary of the surveys in each area follows. In all cases the Observation and Survey form data is available in Marine Recorder format and in a Snapshot database. It is also on the NBN Gateway. Summary reports have been prepared in some cases. These are listed in Appendix 1 and identified here by the symbol ®. All of the reports can be viewed on and downloaded from the Seasearch website.

North-Eastern England
This was an area of great achievements in 2009 from a low baseline, and reflects the amount of training carried out and an effective local coordinator. There were three main targeted surveys, for each of which there is a detailed report:
Durham Heritage Coast® This survey was planned to re-survey sites which had been the subject of a previous survey in 1992. At that time the coastline was heavily impacted by run off from coastal coal mines and most of the seabed was badly silted and relatively barren. The surveys showed a significant improvement in water clarity and the variety of habitats and species present now that the disposal of mine waste has ceased.
A small **No Take Zone®** has been established south of **Flamborough Head** and a Seasearch team carried out a preliminary baseline survey of the area. The NTZ has a significant amount of barren sand within it, but there are also areas of chalk boulders. The number and variety of crustaceans is already high (below left) and it also contains a BAP habitat – blue mussel beds on sediment. However it is less varied both in habitats and species than the chalk reefs around the head itself.

The **Easington/Dimlington®** reefs had been identified as an area of interest in a generally sediment dominated coastline, but, as far as we are aware, had never been dived and there were no habitat and species records. The area contained grey clay reefs with colonial worm masses and encrusting sponges, and also an extensive area of sponge dominated cobbles and small boulders (above right). All three of these areas are planned to be visited again in 2010 to expand the knowledge of them.
Other records were received from the **Farne Islands,** both from experienced recorders and volunteers under training, and training survey dives also took place in the **Tynemouth** area.

East Anglia ®
Surveys in East Anglia were curtailed by poor visibility and boat problems but did succeed in surveying a number of new sites, including the first in both Suffolk and Essex. Survey targets in Norfolk were the BAP habitats of chalk reef off **Sheringham** and West Runton and a newly identified edible mussel bed on sediment at **Sea Palling** (image below), as well as training dives on the now well-known inshore wrecks of the Vera and Rosalie in North Norfolk.

In Suffolk surveys were undertaken of an offshore wreck and remains of the sunken village at Dunwich. Visibility was poor at both sites and the biodiversity limited with no sponges, sea squirts or algae recorded. A single record from Essex was received, the first ever. However conditions in the Colne Estuary were very poor and no marine life was recorded.

Kent ®

All of the data for Kent in 2009 has been combined into a single survey for entry into Marine Recorder. The surveys undertaken covered four main areas:

- North Kent – 2 sites were surveyed, both sediment habitats with limited visible fauna
- Dover-Folkestone inshore – 13 sites were surveyed. Habitats included chalk reef (Kingsdown, St Margarets Bay and Gullies, Crab Bay), ross worm reef and mussel bed (Rossworm Reef), clay boulders and bedrock (Wear Bay Gully, Angelus Ridge),mixed sediments (Shakespeare Bay, Helene Slope) and artificial structures (Dover and Folkestone Harbour walls/pier.
- Dover- Folkestone offshore – 6 sites were surveyed. Habitats included fine sediments (Freshwater springs) mixed sediments, some with ross worm formations (Shakespeare Bay mixed ground, Folkestone Ridge) and wrecks (West Bank and Pomerania).
- Dungeness – 2 sites surveyed Habitats were coarse sand and mixed sediments.).

Sussex

Whilst there was little organised Seasearch activity in Sussex in 2009 significantly more records were received than in previous years from a variety of sources, including training dives. They have been combined into a single survey for entry into marine Recorder. Habitats surveyed included:

- **sandstone reefs** of the Royal Sovereign Shoals,
- **offshore wrecks**, including some off Eastbourne with populations of both jewel anemones and cup-corals, both at the easterly extent of their range in this area
- **chalk reefs** between Brighton and Worthing (previously surveyed)
- re-survey of the **Outer Mulberry®** harbour unit off Selsey which proved to have significant numbers of three cup-corals, *Caryophyllia smithii* (Devonshire cup-coral), *Caryophyllia inornata* (southern cup-coral) and

Hoplangia durotrix (Weymouth carpet coral) photo below. The two latter species are listed as nationally rare by JNCC, and had not been recorded here before. The areas and density of jewel anemones were measured and recorded.

- **seal foraging areas** in Bracklesham Bay (® in Hants/IOW summary) , had mixed seabeds including clay reef, boulders, sand and gravel and were not particularly diverse.

Hampshire and Isle of Wight ®

All of the data for Hampshire and the Isle of Wight in 2008 has been combined into a single survey for entry into Marine Recorder. The surveys undertaken covered five main habitats:

- **chalk reefs** – subtidal chalk reefs (BAP habitat) were surveyed off Culver Cliff and Scratchells Bay, the Isle of Wight.
- **mixed ground** - areas of mixed sediment surveyed in a number of locations
- **sand and gravel** – surveys were undertaken in an aggregate extraction zone to the east of the Isle of Wight
- **seagrass beds** (BAP habitat) were surveyed at two sites on the Isle of Wight
- **wrecks** – seven wrecks were surveyed, both inshore and offshore. Significant species records were Devonshire cup-corals (towards eastern end of range) and the sea slug *Thecacera pennigera* (nationally scarce).

Dorset ®

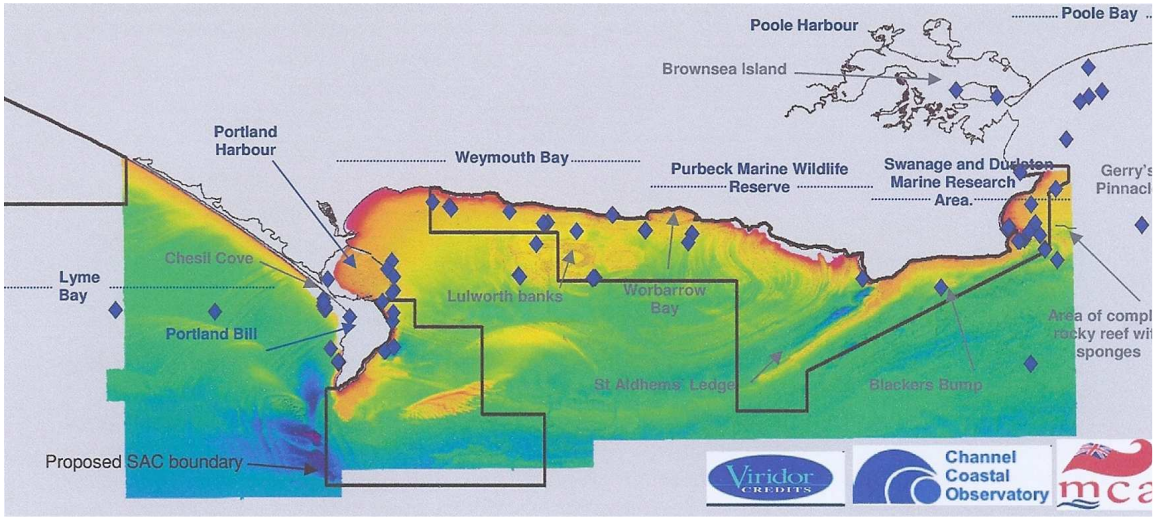
All of the data from Dorset for 2009 has been combined into a single survey for entry into Marine Recorder.

- **Poole Harbour** – surveys were undertaken at Brownsea Island in predominantly sand and muddy sediments with some boulders , cobbles and pottery shards. There was a seagrass bed and also records of two non-native seaweeds wakame, *Undaria pinnatifida*, and wireweed, *Sargassum muticum*.

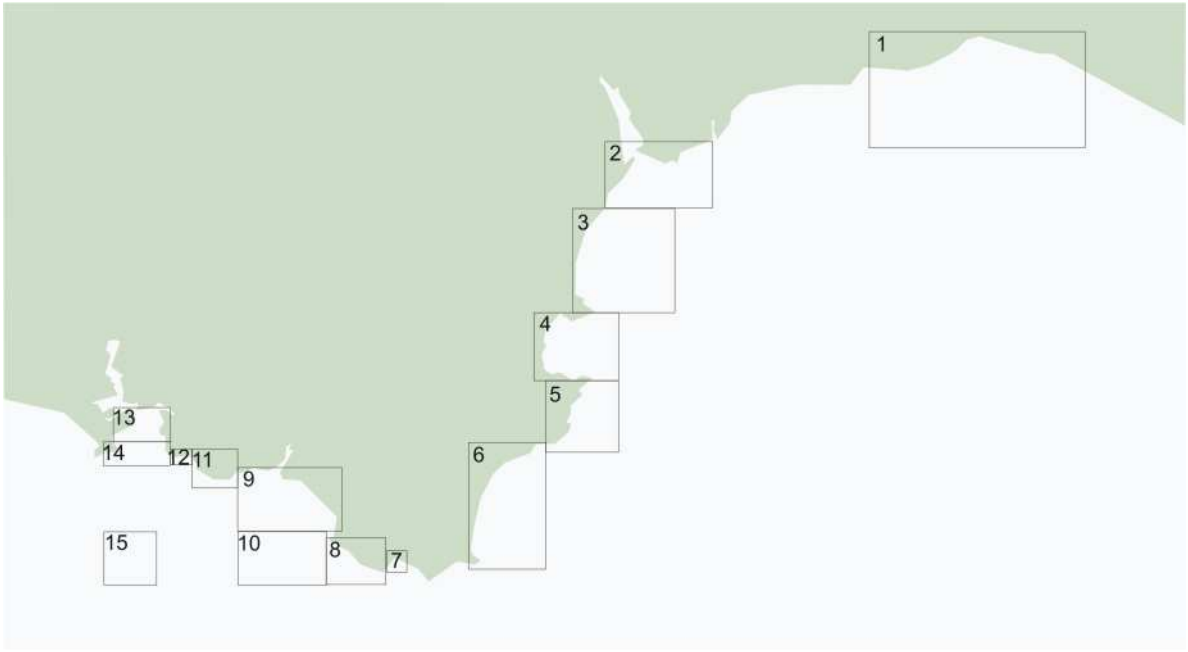
- **Poole Bay** – surveys on patch reefs in the centre of the bay. A survey was also undertaken to look for anemone prawns, *Pereclimenes sagittifer* in Studland after an incidental report, but none were found.
- **Durlston and Swanage** – records from a variety of habitats, both infralittoral and sublittoral, including Swanage Pier, diverse rocky sites around Peveril Ledge, and reefs east of Swanage and south of Dancing Ledge. On the latter there were large areas of silted mats of the sea squirt *Pycnoclavella aurilucens*.
- **Purbeck Marine Wildlife Reserve** - records included mixed faunal turf, mixed sediments and soft rock communities as well as areas of dead maerl.
- **Weymouth Bay** – records from rocky ledges, coarse mixed sand, and fine barren sediment. Species records included a number of scarce and rare species including couch's goby and pink sea fans.
- **Portland Harbour** – records from within the harbour confirm the continuing presence of slender sea pens, *Virgularia mirabilis*, which is found in England only here and in Plymouth Sound, and the nationally scarce sea squirt *Phallusia mammilata*. The non-native slipper limpet was also common.
- **East Portland** – records from mixed tide-swept habitats, both infralittoral and circalittoral.
- **West Portland and East Lyme Bay** – records from wrecks in Lyme Bay included pink sea fans and jewel anemones. On the west side of the Isle of Portland habitats included sand and gravel with queen scallops and boulders on gravel. Species recorded included the pennyweed *Zanardinia prototypes.*

Seasearch data was also used by Dorset Wildlife Trust to respond to the consultation on proposed Special Areas of Conservation, and a number of the survey dives were in areas outside the pSAC to confirm the presence or otherwise of rocky habitats.

The map below shows the Seasearch surveys sites as blue diamonds superimposed on the bathymetric map that has been produced by the Dorset Integrated Seabed Study (DORIS), along with the majority of the Dorset portion of the proposed boundaries for the Poole Bay to Lyme Bay Special Area of Conservation.



Devon ®
The Devon Seasearch records for 2008 have been divided into 17 area surveys for entry into Marine Recorder. Those on the south coast are shown in the map below. Activities were focussed on information gap filling, BAP species and training of volunteers. 2009 saw the designation of several proposed Special Areas of Conservation (pSAC) within the Devon area and many of the dives have been within these areas.



1 Lyme Bay. Four sites were surveyed, three of which were new to Seasearch and all were within the designated no bottom trawling area and pSAC.
At two of the sites young sea fans from 5cm upwards (photo right) were recorded in good numbers appearing to indicate a recent successful settlement period for the larvae and reflecting the more stable conditions following cessation of bottom trawling.

Another site was a flat sediment seabed which contained maerl. This was species rich with colonies of organ pipe worm *Serpula vermicularis* being visually dominant, although not yet forming reefs, many tunicates, scallops and small spider crabs. The maerl was patchy but in places gave an estimated 5% live cover. This area has been trawled in the past but indications were that it was recovering well and a very varied fauna developing.

2 Exmouth. Two shallow shore dives on seaweed dominated habitats.

3 Hopes Nose to Dawlish Warren. Inshore sites from Hope's Nose on the north edge of Torbay extending northwards to Dawlish Warren and encompassing Babbacombe Bay. Most within the pSAC.

4 Torbay. Surveys in and around Torbay have concentrated lesser dived sites including a number of eelgrass beds (BAP habitat), which were looked at in 2009 as a part of the CRESH cuttlefish egg recording project. Other sites dived included the Orestone swim through with dense mussel beds, the former sewage outlet at Hopes Nose and a random site in the centre of the bay with soft sediment supporting a fauna of mainly of burrowing species of anemones, worms and molluscs together with crustaceans, including the square crab *Goneplax rhomboides.*

5 Berry Head to Inner Froward Point (Dartmouth). Survey targeted at new or unrecorded rocky reef sites within the pSAC and monitoring sea fans on the Datmouth Mewstone.

6 Start Bay A single record from Hallsands Bay,

7 Salcombe and 8 Bolt Head to Bolt Tail. Records from four, previously recorded, wrecks.

9 Bigbury Bay and 10 Outer Bigbury Bay. Surveys were carried out within the pSAC at the East Rutts reef where the rare sponge *Adreus fascicularis* was found together with other varied sponges and many pink sea fans. A large discarded net with many dead and dying crabs was retrieved and disposed of.
Within Bigbury Bay the Persier reef was surveyed and found to have a continuing good population of Steven's goby *Gobius gasteveni,* both adults and juveniles. On the wreck of the Persier both pink sea fans and sea fan anemones were recorded together with a number of small sea fan recruits.

11 East of Plymouth – Gara Point to Stoke Point Mostly Observer training forms, from dives out of Plymouth covering the rocky reefs eastwards from Gara Point at the mouth of the Yealm estuary, along the coastline to Stoke Point at the start of Bigbury Bay. This area is within the new pSAC and covers a variety of habitats including the BAP habitat fragile sponge and anthozoan turf,

12 Wembury Bay. An extensive seagrass bed known as the Tomb was surveyed using towed GPS. BAP species of stalked jellyfish *Haliclystus auricula* and *Lucernariopsis campanulata* were both recorded plus a thornback ray *Raja clavata*, cuttlefish *Sepia officinalis* and *Sepiola atlantica* together with the non-natives, wireweed *Sargassum muticum* and harpoon weed *Asparagopsis armata.*

13 Plymouth Sound. Surveys include Observer course training dives, forms from individual dives and a one day survey of the site off Plymouth Hoe for *Atrina pectinata (fragilis).*

14 Approaches to Plymouth Sound. An area also regularly used for training survey dives. Records include many Observer Course training forms and individual forms, mostly from inshore sites.
Records also include a group of forms which contribute to an intensive survey of the **Plymouth Drop Off ®** area carried out between 2006 and 2009.

15 The Eddystone. Individual survey records from within the pSAC.

North Devon

Lundy. The organised Devon Seasearch trips to Lundy were supplemented by forms from several other groups and individuals. A particular effort was made to survey a site on the west side where sunset cup corals had been reported in the past but never verified – unfortunately the divers again drew a blank but did record two juvenile crawfish.

North Devon Coast. The north coast of Devon is a very challenging dive area due to a combination of tides, weather and visibility. However a group of Seasearch divers carried out a survey dive on a reef to the west of Knapp Head which had previously been unsurveyed. The results show a low tide-swept faunal turf of varied sponges with pink sea fans recorded as rare. There are undoubtedly other rocky reefs in this area with similar 'fragile sponge and anthozoan turf' cover and a series of dives are planned in this area for 2010.

Cornwall

A single Seasearch survey at the Manacles was organised by MCS. All other records come from individual divers or divers diving with their clubs.

1 Whitsand Bay. 6 Observation level records from the wrecks of the Scylla and James Egan Layne.

2 Offshore South Cornwall. 2 Observetion level records from Hand Deeps and Hatt Rock (within pSAC)

3 Falmouth. 5 Observation and 1 Survey level records from sites within the Falmouth estuary, including a maerl bed (BAP habitat) near St Mawes

4 Helford. 2 Observation level records from Helford Estuary

5 The Manacles and Lizard peninsula. 3 Survey and 7 Observation forms completed by a variety of Seasearch volunteers on club, MCS and own organised dives.

6 Penzance and Lands End. 2 Observation forms.

7 North Cornwall. 1 Survey form from Bawden Rocks

8 Cornwall General. 10 Observation forms from assorted locations including Longships, Runnel Stone and Wolf Rock

Isles of Scilly

Seasearch surveys in the Isles of Scilly in 2009 were organised by Isles of Scilly Wildlife Trust (39 survey events) and Devon Seasearch/MCS (21 survey events). There were also a significant number of records from visiting divers (13 survey events). The total of 73 survey events is the highest annual total for the area.

The surveys covered a wide range of sites and habitats, a number of which had not been previously surveyed.

There are a considerable number of new species records, including some identified by visiting experts.

BIODIVERSITY ACTION PLAN SPECIES & HABITAT RECORDS 2009

Biodiversity Action Plan species and habitats are a focus for many Seasearch surveys and are also recorded where seen on all Seasearch surveys. Only some of the BAP species are capable of being recorded by volunteer divers. Those that require a specialist to identify them are not included.

BAP Species

The BAP species recorded on Seasearch surveys in 2009 are as follows (in taxonomic order):

Three species of **stalked jellyfish** (*Haliclystus auricula, Lucernariopsis campanulata & L. cruxmelitensis*) are in the BAP species list. Stalked jellyfish do not lend themselves to *in situ* identification to species, except where photographs are taken

There were 4 records from England during 2009. Two were from the, newly surveyed eelgrass bed in Wembury Bay Devon - *Haliclystus auricula* (occasional) and *Lucernariopsis campanulata* (rare) and the other two - *Lucernariopsis campanulata* and *Lucernariopsis sp*. were from different sites in the Isles of Scilly. Whilst the records from the eelgrass bed are in the normal habitat for these species the two records in the Isles of Scilly were from a wooden, historic wreck and a vertical wall.

Pink sea fans, *Eunicella verrucosa*, continue to be a focus for Seasearch recording. There were 175 records from Seasearch Observation and Survey data from England in 2009, divided as follows:

Lundy	20
North Devon	1
Isles of Scilly	42
South West Cornwall	12
South East Cornwall	2
Offshore reefs (S Devon & Cornwall)	5
Approaches to Plymouth Sound	40
Plymouth Sound	1
South Devon (Plymouth to Start Point)	26
Dartmouth area	5
Exmouth and Lyme Bay	11
Dorset	8

In addition there were 18 dedicated pink sea fan record forms completed in 2009. These were from:

Lundy	2
Isles of Scilly	2
South West Cornwall	5
Offshore reefs (S Devon & Cornwall)	1
Approaches to Plymouth Sound	1
South Devon (Plymouth to Start Point)	2
Dartmouth area	2
Exmouth and Lyme Bay	3

Sea fans were recorded as superabundant at the Plymouth Drop Off (1 record), abundant at the Plymouth Drop Off (6 records) and The Silvas in Lyme Bay and common from Lundy (2), Isles of Scilly (2), SW Cornwall – including the Manacles (4), offshore reefs S Devon/Cornwall (3), Plymouth sound approaches, including the Drop off (13), Bigbury Bay (6), Lyme Bay (2).
Many of these sites are in the pSACs in Dorset, Devon and Cornwall, with the exception of The Manacles (photo below) which is not currently recommended for any sort of protection.
All of the records are within the known range for sea fans but the record from Knapp Head is the first recent record from the North Devon coast.

Sea fan anemones, *Amphianthus dohrnii*, are targeted where sea fans occur. There were 8 records in 2009, 8 of which were from the Isles of Scilly (6 sites) and one from the Plymouth Drop Off.
These are both areas from which there are previous records.
As the pink sea fan population around the Isles of Scilly is relatively small this suggests that the incidence of sea fan anemones here is greater than at other sites.

Sunset cup-coral, *Leptopsammia pruvoti*, is an extremely rare but conspicuous species which is looked for in all suitable locations. There were 11 records in 2009 as follows:

- Lundy, 3 records from the Knoll Pins – a known location;
- Isles of Scilly, 4 records from different sites all within the range of recorded sites on the south east side of the islands:
- Plymouth Drop Off, 3 records from sites along the drop off feature, one abundant;
- Lyme Bay, 1 records from Sawtooth Ledge – a known location.

Crawfish, *Palinurus elephas*, was the subject of publicity in 2009 and an online recording facility was added to the Seasearch website. Despite this records of crawfish in England remained low. There were only 9 records in 2009, 4 from general Seasearch recording and 5 from the online recording facility. They were from :

Lundy	2
Isle of Scilly	3
South West Cornwall	3
Plymouth Sound approaches	1

As a conspicuous and easily identified species this does suggest that numbers are very low indeed.

Fan mussels, *Atrina fragilis*, have been recorded previously from south Devon. There were no records in 2009, despite a search in the known area for them in Plymouth Sound.

European oyster, *Ostrea edulis*, 32 records from England in 2009, a significant increase on 2008. Locations were:

- Farne Islands (2)
- Kent (1)
- East Sussex (1)
- West Sussex (10)
- Hampshire/Isle of Wight (4)
- Poole Bay (5)
- Poole Harbour (4)
- Purbeck and Swanage (4)
- Lyme Bay (1)

Abundance was recorded as occasional or rare, except for one site in West Sussex where oysters were frequent.

The records from the Farne Islands are unusual, but are supported by a photograph.

Icelandic cyprine, *Arctica islandica*, 2 records in England in 2009, from Whitsand Bay in Cornwall and Weymouth Bay in Dorset.

Seahorses, *Hippocampus hippocampus* and *Hippocampus guttulatus,*
There were no records of seahorses on Seasearch dives in 2009.

Anglerfish, *Lophius piscatorius*, There were no records of anglerfish on Seasearch dives in England in 2009.

Skates and Rays. There was one record of common skate, *Dipturus batis*, from Weymouth Bay, Dorset and 2 records of undulate ray, *Raja undulata*, from Poole Bay, Dorset and Bracklesham Bay, West Sussex.

Cod, *Gadus morhua*, 5 records from England in 2009, abundance rare at each location:

- Tynemouth (1 site)
- Norfolk (3 records from 2 sites)
- West Sussex (1 site)

The majority of these records came from inexperienced observers and may be questionable.

Ling, *Molva molva,* 6 records from England in 2009, abundance rare at each location:

- Farne Islands, Northumberland (2 sites)
- Lyme Bay (1 site)
- South Cornwall (3 sites)

Half of the records were from wrecks, a frequent habitat for diver sightings of ling.

Horse mackerel, *Trachurus trachurus*, as a fast-swimming open water schooling species are not often seen by divers. There were no records from England in 2009.

BAP Habitats

BAP habitats are very varied, some with a very tight definition such as seagrass beds and others with very broad parameters such as subtidal sands and gravels. The following are in alphabetical order as on the UKBAP website.
Extracting data from the database is straightforward in some cases where there is a relevant Seasearch seabed cover type (e.g. mussel beds) or a single biotope (e.g. seagrass beds). However in cases where there are multiple biotopes (e.g. fragile sponge and anthozoan communities) or no close seabed cover type equivalent (e.g. subtidal chalk), we can only extract information from the Survey Form data which has been biotope coded, or from the summary reports of individual surveys.

Blue mussel beds on sediment

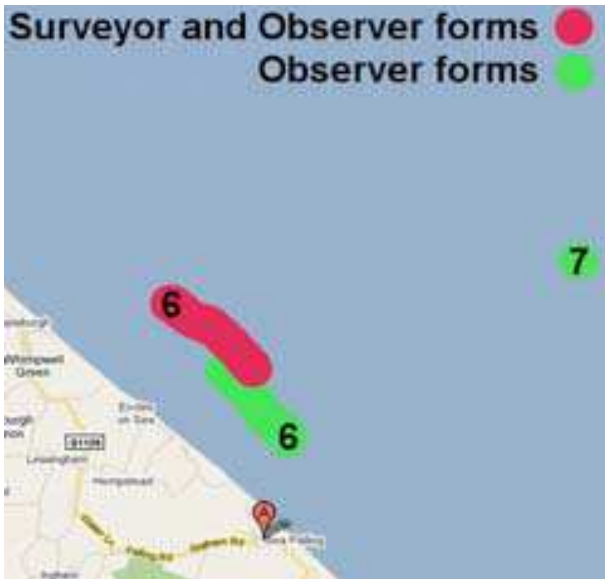
There were 7 areas of blue mussel beds recorded of which 3 were mussel beds on sediment (Biotope SS.SBR.SMus.MytSS) and thus within the BAP habitat description. They are:

Flamborough No Take Zone

An extensive area of mussel beds on sand and chalk rubble seabed, which is described in more detail in the Report of this survey. Image right.

Sea Palling, Norfolk

An extensive mussel bed off Sea Palling in east Norfolk identified during an exploratory dive.
The seabed was covered by a dense bed of Edible mussels and *Molgula spp* sea squirts. Occasional large boulders were colonised by hornwrack and antenna hydroids. Common whelks, common starfish and common brittlestars were abundant and the area appeared to be a nursery bed for common sunstars.
A second visit was made and the bed is estimated to be at least 2.5km long, though the end was not reached. The map shows the extent surveyed in two drift dives.



Elsewhere there have been reports of substantial spat fall of edible mussels in 2009, though all three of the beds shown here are likely to be considerably older.

The mussel beds recorded on rock were all in south Devon, with two sites north of Dartmouth in an area where mussel beds have been previously recorded and an inshore site at Budleigh Salterton.

Fragile sponge & anthozoan communities on subtidal rocky habitats
This is a broadly defined habitat which does not align well with the Seasearch seabed cover types. There are also at least 6 sublittoral biotopes within which it can be found. The following records come only from the Survey Form data which has been assigned to biotopes.
Where pink sea fans, *Eunicella verrucosa*, are present the biotope CR.HCR.XFa.ByErSp.Eun is appropriate. This biotope was recorded 22 times from Lyme Bay (Cod Ledge and The Silvas), Outer Bigbury Bay (East Rutts), Plymouth (Drop off (image right) and Mewstone Ledges) and Lundy (Knoll Pins and Jenny's Cove). There were also 20 records of the less specific biotope CR.HCR.XFa.ByErSp from East Sussex (Sovereign Shoals), Dorset (Lulworth Banks, Worbarrow, Mupe Rocks and Blacker's Bump), south Devon (Torbay, Thatcher Rock, East Rutts & Bigbury Bay), 12 sites in the isles of Scilly and Jenny's Cove, Lundy.

Maerl Beds
Maerl bed records were received from two sites, one at east Narrows St Mawes within the Fal Estuary, and the other off Lyme Regis.

Mud habitats in deep water
The only record of a deep muddy habitat was from Tolls Island, Isles of Scilly. However this was muddy sand rather than pure mud. Other records of mud habitats came shallower sites - Plymouth Sound, Brixham, and Babbacombe Beach.

***Sabellaria spinulosa* reefs** Ross worm reefs are a BAP habitat but the ross worm also occurs in small numbers in a variety of sediment rich locations.
There were 8 records of the biotope SS.SBR.PoR.SspiMx, all from Kent. Whilst some of these contained significant reefs (Ross Worm Reef), mounds (Folkestone Hole) or areas (Pomerania wreck), others contained small reefs (Folkestone Ridge, Shaksepeare Bay) or broken areas of ross worm (West Bank sailing ship).
There were also 4 records of the biotope IR.MIR.KR.Lhyp.Sab (*Sabellaria spinulosa* with kelp and red seaweeds on sand-influenced infralittoral rock) from North-East England – Tynemouth (Cairn Glen), Durham (Salterfen Rocks and Noses Point) and Flamborough Head. This biotope contains encrusting colonies rather than reef formations and is thus not considered to be a BAP habitat.
There were also 58 species records of *Sabellaria spinulosa* from the above areas and also from Sussex (3), Isle of Wight (1), Poole Bay (4), Purbeck (1) and Lyme Bay (1). All of these were small colonies and not reef formations.

Seagrass beds, *Zostera marina*. Records of eel grass in 2009 are shown on the map below. Solid circles represent eelgrass beds derived from biotope records and open circles individual species records:

The Tomb, Wembury is a newly identified eelgrass bed outside the Yealm entrance which was surveyed by Devon Seasearch in 2009 using floating GPS to ascertain the extent and health.

The northern edge appears to run roughly along the1m below chart datum contour. The southern and south-western edges were not reached despite the divers surfacing roughly in the centre of the estuary. From the data so far an approximate map can be drawn for part of the bed. The eelgrass itself appeared healthy although patchy, thickest in the centre and the clumps often in lines along the sand waves. The BAP species of stalked jellyfish *Haliclystus auricula* and *Lucernariopsis campanulata* were both recorded plus a thornback ray *Raja clavata*, cuttlefish *Sepia officinalis* and the little cuttle *Sepiola atlantica* together with the non-natives, wireweed *Sargassum muticum* and harpoon weed *Asparagopsis armata.*.

Subtidal Chalk

Subtidal chalk reefs come within the general soft rock biotope CR.MCR.SfR. and the more specific biotope CR.MCR.SfR.Pid (Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay). Amongst the soft rock occurrences those identified as chalk were:

- Sheringham, Norfolk,
- St Margaret's Gullies, Crab Bay, Kingsdown and Wear Bay Gullies, Kent**.**
- Seaford Head and Beach, Sussex

In addition to these biotope derived records chalk reefs were also surveyed on the western side of the Isle of Wight at Scratchells Bay. These have not been JNCC biotope coded as they are Observation level records.
All of these are known subtidal chalk locations.

Sublittoral sands and gravels
This is a widespread habitat, particularly in southern England. It is generally not the main focus of Seasearch surveys but has been specifically targeted in the Isle of Wight.

There are 48 records of sediment with life apparent, the Seasearch seabed cover type which includes sand and gravel with visible life and an additional 6 records of barren sediment, which will also often be sand and gravel. These records come from all over England.

The UKBAP habitat description identifies 10 biotopes which refer to sublittoral sand and gravel, 4 within the SS.SCS, sublittoral coarse sediment, complex and 6 within the SS.SSa, sublittoral sand complex. There are 81 records within these biotopes of which 35 were in the SS.SCS complex and 46 within the SS.SSa complex. Again the records come from all over England.

Tide-swept channels
The original definition of this habitat referred to shallow tidal rapids (usually less than 5m deep) but has been broadened to include deeper sites with strong tidal streams such as between islands or between islands and the mainland where there is a diverse community of plants and animals, nurtured by the constant supply of food in the water.

The JNCC biotopes suite includes a number of biotopes with tide swept as a part of their description**.** Records of these are as follows.

CR.HCR.FaT	Very tide-swept faunal communities	1 record, Carrick Stone, Isles of Scilly
CR.HCR.FaT.CTub.Adig	*Alcyonium digitatum* with dense *Tubularia indivisa* and anemones on strongly tide-swept circalittoral rock	1 record, South Crumstone, Farne Islands
CR.HCR.XFa.ByErSp	Bryozoan turf and erect sponges on tide-swept circalittoral rock	22 records, Sovereign Shoals E. Sussex, Dorset (4 sites), South Devon (3 sites), Isles of Scilly (13 sites), Lundy
IR.MIR.KR.LhypT.Ft	*Laminaria hyperborea* forest, foliose red seaweeds and a diverse fauna on tide-swept upper infralittoral rock	3 records, Isles of Scilly, Lundy (2 sites)
IR.MIR.KR.LhypT.Pk	*Laminaria hyperborea* park with hydroids, bryozoans and sponges on tide-swept lower infralittoral rock	3 records, Exmouth, Wembury Devon, Isles of Scilly
IR.MIR.KT	Kelp and seaweed communities in tide-swept sheltered conditions	2 records, Wear Bay Gullies Kent, Brownsea Island Dorset
IR.MIR.KT.XKTX	Mixed kelp and red seaweeds on infralittoral boulders, cobbles and gravel in tidal rapids	1 record, Flamborough No Take Zone

The definition of this habitat needs revision and it is not clear how many of these locations and records will come within the revised description.

OTHER NATIONALLY RARE AND SCARCE SPECIES RECORDS 2008

In addition to the BAP species and habitats records there were a number of records of nationally scarce (S) or rare (R) species in England in 2009**.** These are species on the JNCC lists, which do not include fishes. For the fishes the rarity is explained in each case.

scientific name	common name	status	number of records	location of records (number of sites)	notes
Sponges					
Stelleta grubii		S	1	SE Isle of Wight	
Stryphnus ponderosus		R	1	Isles of Scilly	
Thymosia guernei	mashed potato sponge	S	11	Lundy (3), North Devon (1), Isles of Scilly (1), South Devon (3), Lyme Bay (2)	occasional or rare at all sites
Suberites massa		R	1	Brownsea Island, Dorset	
Adreus fasicularis		R	2	East Rutts, South Devon	
Axinella damicornis	crumpled duster sponge	S	53	North Devon (3), Isles of Scilly (20), South Devon (10), Dorset (1)	found at many locations in SW England
Axinella flustra			1	Isles of Scilly	first record from England
Desmacidon fruiticosum		R	16	Isles of Scilly (14), East Rutts South Devon (1)	
Tethyspira spinosa		S	4	Isles of Scilly (4)	
Hexadella racovitzi			4	Isles of Scilly (3), Plymouth (1)	Mediterranean sp. becoming more common
Cnidaria					
Alcyonium hibernicum	pink sea fingers	S	5	Isles of Scilly (1), South Devon (4)	
Parazoanthus anguicomus	white cluster anemone	S	11	Isles of Scilly (1), South Cornwall (1), South Devon (3)	
Parazoanthus axinellae	yellow cluster anemone	S	54	North Devon (5), Isles of Scilly (13), South Devon (5)	
Aiptasia mutabilis	trumpet anemone	S	33	Lundy (4), Isles of Scilly (4), Torbay (2), Lyme Bay (3) Dorset (3)	limited, southerly distribution
Cataphellia brodrichii		S	3	Isles of Scilly (2), South Dorset (1)	
Amphianthus dohrnii	Sea fan anemone	R	9	Isles of Scilly (6), Plymouth Drop Off (1)	
Caryophyllia inornata	southern cup-coral	R	13	Isles of Scilly (1), South Devon (2), Lyme Bay (2), Portland (1), Poole Bay (3), W Sussex (1)	first record in Sussex
Hoplangia durotrix	Weymouth carpet coral	R	7	Lundy (1), Isles of Scilly (1), Plymouth drop off (1), Lyme Bay (1), Dorset (2), W Sussex (1)	first record in Sussex
Balanophyllia regia	scarlet and gold star coral	S	3	Isles of Scilly (3)	
Leptopsammia pruvoti	sunset coral	R	11	Lundy (1), Isles of Scilly (4), Plymouth Drop Off (2), Lyme Bay (1)	

Crustacea					
Rissoides desmaresti	mantis shrimp	S	1	Poole Bay, Dorset	
Scyllarus arctus	paddle lobster		1	Isles of Scilly	no records on NBN
Ebalia granulosa		S	1	Angelus Ridge, Kent	
Molluscs					
Tritonia nilsodhneri	sea fan sea slug	S	23	Lundy (4), Isles of Scilly (4) Manacles (3), Whitsand Bay (1), South Devon (6), Worbarrow Dorset (1)	
Okenia elegans	elegant sea slug	S	4	Isles of Scilly (2) Torbay (1)	photo below left
Trapania pallida		S	2	Isles of Scilly (1), Worbarrow Dorset (1)	
Thecacera pennigera		S	4	Dorset (3), West Sussex (1)	
Doris sticta	sponge sea slug	S	5	Isles of Scilly (5)	
Echinoderms					
Ophiosila aranea		R	2	South Devon (2)	
Sea Squirts					
Phallusia mamillata	giant sea squirt	S	23	South Devon (2), East Devon (2) Lyme Bay (6), Weymouth & Portland (5)	
Fishes					
Crenilabrus (Symphodus) bailloni	Baillon's wrasse	-	5	Purbeck (2), Poole Bay (2)	southerly species
Parablennius ruber	red blenny	-	1	Isles of Scilly (9), Manacles (1)	southerly species, first mainland record
Tripterygion deleasi	black faced blenny	-	10	Plymouth (2), Dorset (4), Sussex (1)	southerly species, first Sussex record
Gobius couchi	Couch's goby	-	2	Weymouth and Poole Bays	rarely recorded
Gobius gasteveni	Steven's goby	-	3	Bigbury Bay (1)	rarely recorded
Balistes carolinensis	grey triggerfish	-	3	Plymouth (2), Portland (1)	southerly species
Seaweeds					
Gracilaria multipartita		S	1	Wembury, Devon	
Zanardinia prototypus	penny weed	S	3	Dorset (3)	
Carpomitra costata		S	5	Lundy (2), Isles of Scilly (1), South Devon (2)	southerly species

NON-NATIVE SPECIES

Seasearch Surveyors are on the look out for non-native species during surveys, and this forms a part of the Surveyor Course material. Not all non-natives are easily identified underwater (e.g. *Codium fragile subsp. tomentosoides*), and a number of species inhabit brackish waters which are not visited during Seasearch surveys.

Non-native species recorded in 2009 were:

scientific name	common name	number of records	location of records (number of records)	notes
Crepidula fornicata	slipper limpet	77	Norfolk (7), Kent (7), Sussex (21), Isle of Wight (5), Dorset (15), Lyme Bay (4), East Devon (16) Falmouth (1)	widespread in the English Channel. Invasive. Photo below left
Styela clava	leathery sea squirt	34	Sussex (11), Isle of Wight (3), Dorset (15), Lyme Bay (1), East Devon (2), SE Cornwall (1)	widespread in the English Channel. Benign
Asparagopsis armata	harpoon weed	13	Sussex (1), Poole Bay (5) South Devon (1), Isles of Scilly (6)	invasive
Undaria pinnatifida	wakame	3	Brownsea Island, Poole Harbour	typically found in marinas/harbours
Sargassum muticum	japweed or wireweed	24	Sussex (6), Isle of Wight (1), Dorset (7), SE Devon (3), South Devon (2), Isles of Scilly (4), Lundy (1)	invasive. Photo below right

BIOTOPE ASSIGNMENT 2009

Seasearch data has, since 2003, included a habitat coding for each sample based on a broad scale list of biotopes.

In order to make the Seasearch data more useful to the country agencies and those working at an official level on marine protected areas process we assigned JNCC biotopes to all of the Survey Form data in 2008 and have continued with the 2009 data by assigning biotopes to all of the Survey Form data and some of the Observation Form data where the amount of information made it possible. The numbers involved in the 2009 dataset are shown below.

Of the samples for which biotopes have been assigned, 87.7% have been coded to biotope complex or above. This compares with 65.8% in 2008 and should make the data even more useful.

Area	Number of Observation Events	Number of Survey Events	Number of Survey Samples	Seasearch habitats entered	JNCC Biotopes assigned				
					Level 1 broad habitats	Level 2 main habitats	level 3 biotope complex	level 4 biotopes	level 5 sub biotopes
North West	2	0	0	no	0	2	0	2	0
North East	86	31	60	yes no	0 0	0 1	0 15	0 22	0 22
E Anglia	28	22	44	yes yes	0 0	0 0	0 33	2 10	0 1
Kent	46	58	117	no no	1 4	16 28	41 66	8 18	0 0
Sussex	51	13	25	no no	0 0	16 1	39 14	19 10	0 0
Hants / IOW	20	6	11	yes yes	0 0	0 0	0 0	0 0	0 0
Dorset	29 23	58	77	yes no some	0 0 0	0 3 6	0 23 41	0 3 27	0 0 2
Devon	123	65	148	yes yes	0 9	0 17	0 42	0 73	0 25
Cornwall	31	8	19	yes yes	0 3	0 0	0 8	0 7	0 1
Isles of Scilly	21	58	162	yes yes	0 8	0 6	0 50	0 74	0 21
Total	460	319	663		5	96	372	275	72
					0.6%	11.7%	45.4%	33.5%	8.8%

As a separate contract we have also assigned biotopes to Survey Form data from Devon and Cornwall for the years 2005-2007. The numbers of forms and biotopes assigned are shown in the table below.

Area	Year	Number of Survey Forms	Number of Biotopes assigned
Devon	2005	34	78
	2006	65	155
	2007	60	148
Cornwall and IOS	2005	29	77
	2006	16	46
	2007	28	71
Total		232	575

This means that all of the Survey form data from 2005-2007 from Devon, Cornwall and Isles of Scilly and all of the Survey Form data throughout England for 2008 and 2009 now has biotopes assigned.

SEASEARCH TRAINING IN ENGLAND 2009

Training volunteers is an important feature of Seasearch. Divers receive no training in marine life and habitats from the diver training agencies and survey techniques are also rarely taught. Proper training is essential to allow users to have confidence in the records that Seasearch volunteers produce and essential to give the volunteers the confidence to go out and commence recording.

Seasearch training comprises three levels:

- Observer Training – aimed at divers who have never taken part in marine surveys before. Trains them to complete Seasearch Observation forms,
- Surveyor Training – aimed at experienced recorders at the Observer level who wish to provide more detailed and targeted information. Trains them to complete Seasearch Survey forms,
- Specialist courses – aimed at recorders at a variety of levels who wish to look in more detail at individual groups of species, or marine life in general or who wish to learn new techniques.

Seasearch training courses held in England during 2009 were:

	number	participants
Observer	31	363
Surveyor	0	0
Specialist	10	101
Total in England	41	464
% of all Seasearch courses in England	68%	

The number of Observer Courses and participants was much higher than in previous years and brought many new participants into Seasearch recording. However, the level of interest in the Surveyor Course was low and both of the courses planned had to be cancelled because of lack of numbers. We hope that the large number of new Observers in 2009 will carry through into increased interest in the Surveyor course and qualification in 2010.

Course locations included both well established areas and new ones and were delivered for all divers in an area or primarily to individual clubs. Particular attempts were made to target courses to areas where there are relatively few divers, such as eastern and north-western England with Observer courses held in Blackpool, Oldham, York, Sheffield, Halifax, North Norfolk and Lowestoft.

Specialist courses were:

nudibranch ID (Plymouth) 1
fish ID (Great Yarmouth) 1
seaweed ID (Swanage) 1
bryozoan and hydroid ID (Poole) 1
photography for Seasearch (Poole/Swanage) 2
marine life ID/marine ecology (Swanage) 4

Seasearch courses are delivered by recognised Seasearch tutors. Specialist courses may be given by other experts in their field. During 2009 there were 17 active Observer/Surveyor tutors and 5 additional specialist tutors. They included 6 new tutors who completed their training during the year.

In recognition of the level of skill achieved volunteers can be awarded the Seasearch Observer and Surveyor qualifications. These follow attendance at a course, and an assessment on the course in the case of the Surveyor course; together with the satisfactory completion of 5 additional forms. English based volunteers achieving the qualifications have been as follows:

	Observer	Surveyor
2004	12	0
2005	27	5
2006	24	5
2007	27	5
2008	34	7
2009	42	3
total	166	25

The relatively high number of successful Observers and low number of Surveyors reflects the relative levels of training and interest. We hope that there will be more qualifying Surveyors in 2010.

APPENDIX 1: SEASEARCH REPORTS 2009

Seasearch produces reports of individual surveys and some county-wide reports. These contain a summary of the records made and identify significant species and habitats surveyed. The reports produced so far for 2009 surveys are as follows.

Durham Heritage Coast Until recently, Durham had one of the most heavily polluted coastlines in Britain, due to the presence of six coal mines along the coast and the practice of dumping of colliery waste and mine water into the sea which persisted for over a hundred years. This ended when the coal mines closed in the early 1990s, but the coastal and marine habitat was still subject to damage from vandalism, car burn outs and illegal tipping. The last Seasearch survey was carried out in 1991, before the mines closed, and this survey records just how much has changed for the better in the last 18 years.

The **Flamborough No Take Zone Survey 2009** reports the results of a one-day of the proposed No Take Zone at Sewerby, south of Flamborough Head. The aim of the survey was to provide baseline information with which future surveys can be compared. The habitats found were rippled sand and friable chalk boulders. Crabs and lobsters were already common in the boulder habitat.

The **Spurn (Easington/Dimlington) Reefs Survey 2009** represents the first sublittoral survey of these clay reefs and, sponge dominated, boulder beds (right), both a distinct contrast to the sediment seabeds found off most of the Yorkshire/Lincolnshire coast.

The **East Anglia Summary 2009** contains a summary of the successful surveys undertaken in the difficult to dive counties of Norfolk and Suffolk. They range from well known wrecks to the rarely dived remains on Dunwich village and include two BAP habitats, chalk reefs around Sheringham and mussel beds on sediment near Sea Palling.

The **Kent Summary 2009** is a summary of the most intensive year of Seasearch surveys in Kent with over 100 forms completed from Whatstable to Dungeness. Contains a brief description of each site and a summary list of species observed.

The **Outer Mulberry, October 2009** report records significant changes in the species present at this site in Sussex, since previous surveys between 1979 and 1996. The wreck now supports significant populations of three species of hard coral, Devonshire cup-coral *Caryophyllia smithii,* southern cup-coral *Caryophllia inornata* and Weymouth carpet coral *Hoplangia durotrix*. The latter two species are classified by JNCC as nationally rare and these may be the most easterly records of both.

The **Hampshire and Isle of Wight Summary 2009** is a summary of activity in the area in 2009. It includes surveys on chalk reefs (BAP habitat), mixed seabeds, sand and gravel (BAP habitat) and wrecks.

The **Dorset Summary 2009** is a summary of activity throughout Dorset and described in 8 separate areas. There is also a summary of how Seasearch data has been used in bathymetric mapping and in responding to the proposed SACs.

The **Devon Summary 2009** is a summary of all of the Seasearch activity in Devon in the year. Some of the highlights included are: sunset cup corals (BAP species) on the Plymouth Drop off, maerl bed (BAP habitat) and organ pipe worms, *Serpula vermicularis*, in Lyme Bay, Steven's Goby, *Gobius gasteveni*, positively identified at several sites, Wembury eelgrass (BAP habitat) surveyed using floating GPS, stalked jellyfish (BAP species)on eelgrass, crawfish (BAP species) recorded on both the south Devon coast and at Lundy and records of pink sea fans, including many new recruits and sea fan anemones, in Lyme Bay following the closure to bottom fishing.

The **Plymouth Drop Off Survey 2006-9** reports four years of studies of this circalittoral cliff feature off Plymouth which Seasearch has urged should be protected for some years. It is now within a proposed Special Area of Conservation. However, we hope it will be considered for a higher level of protection in the current MCZ process because of the exceptional sea fan forest, which could be easily damaged, and the presence of other BAP species, including the nationally rare sunset coral and sea fan anemones.

Copies of all of these reports are available on line from the Seasearch website www.seasearch.org.uk.