

# Annual Report 2008

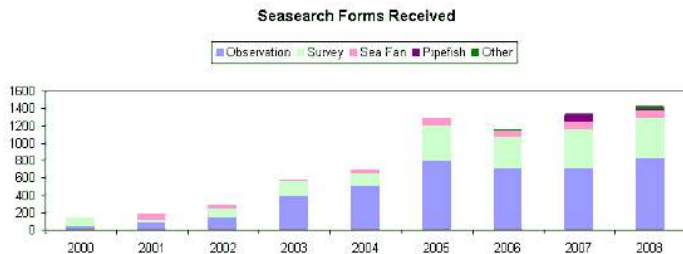


This report summarises Seasearch activities in 2008. It includes a summary of the main surveys undertaken and reports produced and a summary of the data collected. This includes a summary of records of Biodiversity Action Plan habitats and species records and nationally scarce and rare species. It also includes information on how the data is managed and made available and a summary of the training courses run for volunteer divers.

All of the reports referred to may be downloaded from the Seasearch website and the species data may be accessed through the National Biodiversity Network website.

## A record year for Seasearch recording

More Seasearch records were made by volunteer divers in 2008 than ever before, with 1,428 forms received, a 7% increase on the previous highest number in 2007. See page 7 for further information on the make up of the data and where it can be seen and used.



The Observation and Survey form data (1,303 forms) has been entered into the Marine Recorder database and is available to use and download from the National Biodiversity Network website. It has been gathered into 80, area based, surveys from Shetland in the north to Sark in the south and Republic of Ireland in the west to Norfolk in the east. The number of surveys in each area is:

Scotland	27
Northern Ireland	7
Republic of Ireland	1
Wales	10
Northern & eastern England	4
South-east England	2
South-west England	26
Channel Islands	2

In addition to these 80 surveys there are separate datasets for pink sea fan (71), skate and ray eggcase (33) and pipefish (21) survey forms.

A summary of the main surveys carried out in each area is shown on pages 2 and 3. Summary or full reports for many of these surveys are available to download in PDF format from the Seasearch website. The surveys for which a report is available are marked ®

## Focus on BAP species and habitats

Seasearch has continued to focus on Biodiversity Action Plan (BAP) species and habitats following the review in 2007. Dedicated surveys have looked at both pink and northern sea fans, sea grass beds and fragile sponge and anthozoan communities. Other BAP species and habitats have been recorded where seen and these are set out on pages 4 and 5.

One species which we continue to find new sites for is the sunset cup-coral, *Leptopsammia pruvoti*. In 2008 the new site was in the Eastern Isles in the Isles of Scilly (photo right).



## Lyme Bay and Lamlash Bay receive protection

During 2008 both Lyme Bay in Dorset/Devon and Lamlash Bay in Arran received statutory protection from bottom trawling. Seasearch data has been an important contributor to the case for protection in both places and we hope that it will be possible to show recovery of habitats and species diversity as a result of the monitoring now taking place.



Seasearch is co-ordinated by the Marine Conservation Society on behalf of the Seasearch Steering Group which comprises the Marine Conservation Society, Wildlife Trusts, Joint Nature Conservation Committee, Natural England, Countryside Council for Wales, Scottish Natural Heritage, Northern Ireland Environment Agency, Environment Agency, Marine Biological Association, Nautical Archaeological Society, British Sub Aqua Club, Sub Aqua Association, Professional Association of Diving Instructors, Scottish Sub Aqua Club and independent marine life experts. Financial support in 2007 at a national level has been given by the partners whose logos are shown above.

## Surveys undertaken in 2008

These pages summarise the main surveys undertaken in 2008. These were all arranged by Seasearch Coordinators and in many cases Summary Reports © can be downloaded from the Seasearch website.

In addition to the surveys outlined here there were many other dives both organised by Seasearch coordinators and undertaken by individual divers.

There are also area based summary reports for Northern Ireland, South Wales, Devon, Dorset, Hants/IOW, Kent and East Anglia on the Seasearch website.

The map shows the sites from which all of the records were received.

**4 Ramore Head, Portrush:** In 2006, the sewage outfall pipe on Ramore Head was turned off. Over the next 3 years, we will be recording what effect this has on the species present. One day of surveying took place in 2008.

**5 Antrim Coast Sea Caves:** Poor weather thwarted many of the planned surveys. One set of caves to the east of Carrick-a-Rede rope bridge was surveyed.

### **6 Strangford Lough seagrass beds:**

Surveys of two seagrass beds to ascertain location, size, density and associated species ©

**7 Isle of Man:** local divers began surveys covering a range of sites from shallow rocky areas to deep wrecks. Both maerl beds and horse mussel beds were recorded.

**8 North East Anglesey:** four sites surveyed including one with large numbers of sea cucumbers, *Ocnus sp.* and brittlestars, *Ophiothrix fragilis.* ©

**9 Llyn peninsula and Tremadog Bay:** almost 30 sites were surveyed, from seagrass beds to reefs, and at most sites searches were made for skate and ray eggcases. None were seen though catshark egg cases were numerous.

**10 Cardigan Bay:** dolphin 'hotspots' have been identified in the bay and Seasearch completed diving surveys at some of the inshore sites. We concluded that there could be some limited foraging in the habitat for the dolphins but that they were likely to be primarily following shoaling fish in the currents. ©

**11 North Pembrokeshire coast:** continued collection of habitat and species data between Abercastle and Strumble Head including a new most northerly limit for pink sea fans in Wales (BAP species) and rich sponge and anthozoan communities at Strumble Head (BAP habitat) photo to right.

**12 South of St Brides Bay: Hen and Chicks and Stack Rock:** surveys providing additional habitat and species data for these sites.

**13 Castlemartin Range, South Pembrokeshire:** surveys of rocky coastal habitats at Bullslaughter Bay and Crow Rock.

**14 Lydstep, South Pembrokeshire:** 6 coastal sites surveyed, records included a variety of sea slugs and stalked jellyfish (BAP species)

**15 Lundy, North Devon:** surveys on the east side of the island following a marine life ID course. In addition to the Lundy 'specials', records included crawfish in the no take zone and many more red band fish burrows than in recent years,

**16 North Cornwall:** Pink sea fan surveys on sites in the Newquay area.

**17 Isles of Scilly:** 11 new sites surveyed including an additional site for sunset cup-corals (BAP species), and records of other BAP species and habitats including pink sea fans, sea fan anemones, seagrass beds, stalked jellyfish and single sightings of anglerfish and cod. ©

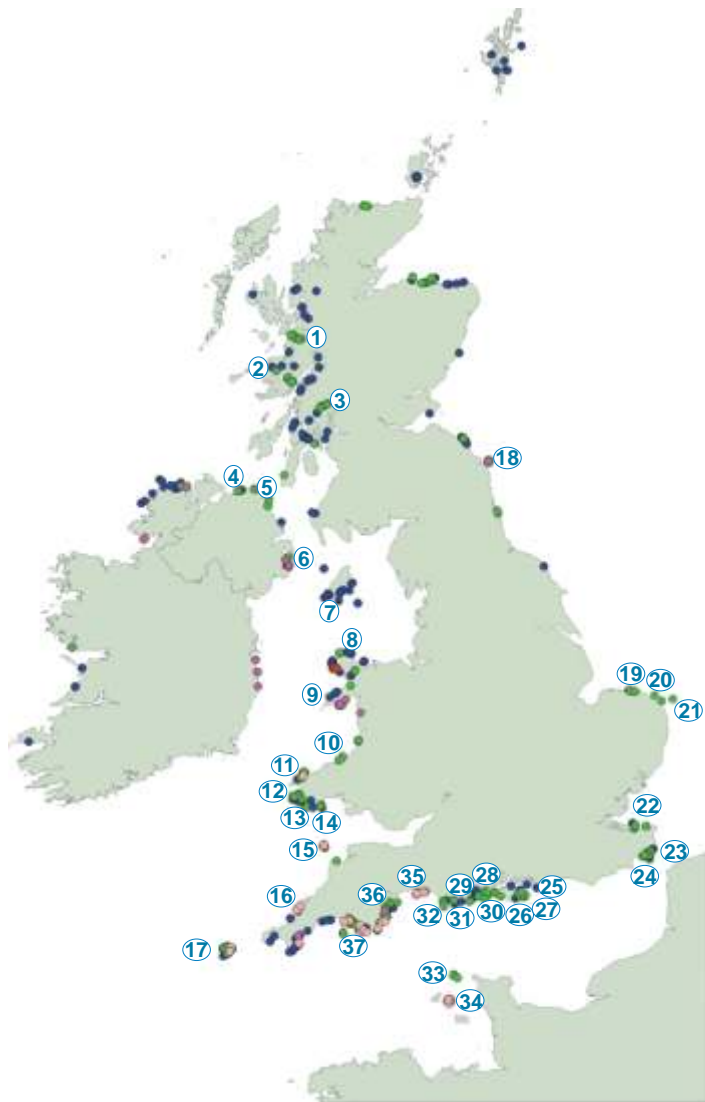
**1 Loch Nevis:** recording the mud habitats with tall sea pens & spoon worms and sheltered rock reefs covered in sea squirts & echinoderms with frequent thornback rays.

**2 Sound of Mull:** MCS had received a fan shell record near the wreck of the Thesis. Although this was not confirmed, older records of flame shells were. New seagrass, maerl and tall sea pen records.

**3 Loch Fyne:** Four additional sites surveyed for fireworks anemones, *Pachycerianthus multiplicatus.* (Photo below) Abundant populations at two sites. ©



**18 Farne Islands:** dives targeting unsurveyed sites especially around the Crumstone, which had a very diverse anthozoan fauna on one side, and was distinctly different to the, more typical, urchin grazed surfaces on the other. ®



**33 Alderney:** survey covered two additional offshore to add to those recorded in 2007 and a survey of the extent of an eelgrass bed threatened by the laying of a cable for a tidal power turbine. ®

**34 Sark:** a week long survey of reef sites around Sark visiting 11 sites. Records included species not found on the north side of the English Channel such as the starfish *Echinaster sepositus*, tube anemone *Pachycerianthus sp.* and ormer *Haliotis tuberculata* and a further 14 species which are nationally scarce or rare in the UK. ®

**35 Lyme Bay:** surveys in April and August, the latter following the ban on bottom trawling, concentrating on sunset cup corals and pink sea fans. One site was found to have considerable recent damage.

**36 Torbay;** surveys of infrequently visited sites, including eelgrass beds, and a seahorse sighting.

**37 Bigbury Bay:** sites surveyed included wrecks and reefs, including a number of new ones. Notable records included sea fan anemones on the well known Persier wreck, anglerfish and the rare Steven's/Couch's goby.

**19 North Norfolk inshore wrecks:** popular training dives, the Vera and Rosalie were also surveyed in more detail and we are increasing the species list for this, little recorded, coast.

**20 Weybourne chalk gullies:** initial surveys of part of a large area of chalk outcrops from 0.5 to 2m high, with areas of chalk rubble and coarse sand between. Breadcrumb sponge and *Diplosoma spongiforme* squirts making up most of the sessile life.

**21 Sea Palling wrecks:** records from a number of wrecks, none of which had been previously surveyed. *Sabellaria spinulosa* reefs (BAP habitat) were found in the protection of the wrecks as well as numbers of individual horse mussels. Dominant species were plumose anemones, large crustaceans and shoals of bib.

**22 North Kent:** 5 sites surveyed, all of which were new to Seasearch. Habitats included artificial substrata, sediment overlying clay, mud and muddy sand.

**23 Kent chalk reefs:** sites surveyed included chalk platform (Crab Bay), chalk boulders and bedrock (Shakespeare Chalk Bumps, Empire Lump). A seahorse was recorded in Shakespeare Bay.

**24 Kent wrecks:** 4 wrecks off Dover were surveyed some of which had ross worm, *Sabellaria spinulosa*, reefs formations (BAP habitat) around them.

**25 Hants/Isle of Wight sand and gravel:** Three surveys were undertaken in an aggregate extraction zone to the east of the Isle of Wight.

**26 Isle of Wight chalk reefs:** subtidal chalk reefs (BAP habitat) were surveyed off Culver Cliff (east IOW)

**27 Hampshire/Isle of Wight wrecks:** 8 wrecks were surveyed, both inshore and offshore. The most notable record was of a short snouted seahorse, *Hippocampus hippocampus* (BAP species) on one of them.

**28 Brownsea Island, Poole Harbour:** survey of habitats and species in shallow water around the island. ®

**29 Swanage shrimp survey:** surveys to ascertain numbers of *Pereclimenes sagittifer* shrimp in snakelocks anemones at Swanage Pier, - a new arrival from across the English Channel. ®



**30 Swanage and Purbeck:** Ground thruthing of remote sampled features included a sloping rock site east of Swanage with a variety of sponge and hydroid species.

**31 Lulworth Banks:** survey of part of this extensive area of reefs and sand and gravel. Records included pink sea fans (BAP species) and large *Pentapora foliacea*.

**32 Chesil and west Portland;** sites on the west side of the Isle of Portland, mostly from close inshore and from Chesil Beach. Records included the nationally rare southern cup-coral *Caryophyllia inornata*, from two sites

## Species recorded in 2008

The following table provides a summary of the species records made in 2008.

Biodiversity Action Plan species and habitats continue to be a particular focus for our surveys and are highlighted in the table as are occurrences of nationally scarce and rare species as defined by the JNCC. The records also include some nationally scarce and rare fishes which are not in the JNCC list and records of other southerly species..

**Commonly recorded species** (no of records in brackets)     **BAP, Scarce (S) and rare (R) species**

**Foraminifera**, (8 records from Loch Nevis & Sound of Mull - cannot be identified to species)

### Porifera, Sponges (71 species)

*Cliona celata*, boring sponge (315)  
*Dysidea fragilis*, goosebump sponge (211)  
*Hemimycale columella*, crater sponge (182)  
*Pachymatisma johnstonia*, elephant hide sponge (179)  
*Amphilectus fucorum*, shredded carrot sponge (175)  
*Tethya citrina (aurantium)*, golf ball sponge (152)  
*Raspailia ramosa*, chocolate finger sponge (142)  
*Axinella dissimilis*, yellow staghorn sponge (136)  
*Scypha ciliata*, purse sponge (126)  
*Polymastia boletiformis*, hedgehog sponge (119)

*Stelletta grubii*, (S) 2 records from Dorset  
*Stryphnus ponderosus* (R) 1 record from Dorset  
*Thymosia guernei*, mashed potato sponge (S), 14 records from Lundy, N Pembrokeshire, S Devon, Lyme Bay  
*Suberites massa* (R) 1 record from Dorset  
*Adreus fascicularis* (R) 7 records from Isles of Scilly, Sark & Alderney  
*Axinella damicornis*, crumpled duster sponge (S), 51 records from N Pembrokeshire, Lundy, Isles of Scilly, S Devon, Sark & Alderney  
*Desmacidon fruiticosum*, (R) 2 records from Isles of Scilly  
*Stylostichon dives* (S) 4 records from Isles of Scilly  
*Dysidea pallidescens* (R) 1 record from Dorset  
*Tethyspira spinuosa* (S) 8 records from N Llyn, N Pembrokeshire & Alderney  
*Hexadella racovitzai* 2 records from Alderney and Sark

### Cnidaria, Jellyfish, hydroids, siphonophores, anemones and corals (95 species)

#### Jellyfish (6 species)

stalked jellyfish (BAP) 7 records from Harris, N Antrim, S Pembrokeshire, Isles of Scilly, S Devon & Dorset

#### Hydroids (34 species)

*Nemertesia antennina*, antenna hydroid (361)  
*Tubularia indivisa*, oaten pipes hydroid (184)  
*Nemertesia ramosa*, branched antenna hydroid (140)  
*Obelia geniculata*, kelp fir (119)

#### Anemones and corals (52 species)

*Alcyonium digitatum*, dead men's fingers (599)  
*Caryophyllia smithii*, Devonshire cup-coral (313)  
*Urticina felina*, dahlia anemone (290)  
*Metridium senile*, plumose anemone (270)  
*Corynactis viridis*, jewel anemone (210)  
*Actinothoe sphyrodeta*, white striped anemone (188)  
*Sagartia elegans*, elegant anemone (184)  
*Anemonia viridis*, snakelocks anemone (179)  
*Cerinathus lloydii*, burrowing anemone (164)  
*Eunicella verrucosa*, pink sea fan (160)

*Alcyonium hibernicum*, pink fingers (S) 6 records from S Devon & Sark  
*Swiftia pallida*, northern sea fan (BAP) 3 records from Mull & Loch Fyne  
*Eunicella verrucosa*, pink sea fan (BAP) 136 records + dedicated survey records. Most from Devon & Cornwall but also N Pembrokeshire, Skomer, Lundy, Isles of Scilly, Lyme Bay, Lulworth Banks, Alderney & Sark

*Funiculina quadrangularis*, tall sea pen (BAP) 12 records from Lochs Nevis Duich and Aline

*Pachycerianthus multiplicatus*, fireworks anemone (S, BAP) 9 records from Lochs Duich, Nevis, Aline & Fyne

*Pachycerianthus indet.* (Dorothy) 1 record from Sark - picture left

*Parazoanthus anguicomus*, white cluster anemone (S) 4 records from Loch Carron, Sound of Mull, N Antrim & Co. Clare

*Parazoanthus axinellae*, yellow cluster anemone (S) 43 records from N Pembs, Lundy, Isles of Scilly, S Devon, Lyme Bay, Alderney & Sark

*Anthropleura thallia*, glaucus pimplet (S) 1 record from Isles of Scilly

*Aiptasia mutabilis*, trumpet anemone (S) 41 records from Galway, Lundy, Isles of Scilly, Lyme Bay & Dorset

*Amphianthus dohrnii*, sea fan anemone (R, BAP) 6 records from Isles of Scilly & S Devon

*Halcampoides elongatus*, night anemone (R) 1 record from Dorset

*Mesacmaea mitchelli*, policeman anemone (S) 9 records from Lundy & Exmouth

*Nematostella vectensis*, starlet sea anemone (S) 1 records from Poole Harb.

*Caryophyllia inornata*, southern cup-coral (R) 19 records from N Llyn, Lundy, Isles of Scilly, S Devon, Lyme Bay & Sark

*Hoplangia durotrix*, Weymouth carpet coral (R) 1 record from Lundy

*Balanophyllia regia*, scarlet and gold star coral (S) 5 records from Isles of Scilly & Sark

*Leptopsammia pruvoti*, sunset cup-coral (R, BAP) 9 records from Lundy, a new site in Isles of Scilly, Lyme Bay & Sark



### Ctenophora, Comb Jellies (3 species)

#### Platyhelminthes, Flat worms (1 species)

#### Nemertea, Ribbon worms (2 species)

#### Gastrotricha (1 species)

#### Nematoda, Flat worms (1 species)

#### Chaetognatha (1 species)

#### Echiura, Spoon worms (1 species)

#### Annelida, Segmented worms (34 species)

*Pomatoceros triqueter/lamarckii*, keelworm (283)  
*Bispira volutacornis*, double spiral worm (215)  
*Lanice conchilega*, sand mason worm (180)  
*Sabella pavonina*, peacock worm (120)

*Sabella alveolata*, (BAP Habitat) 2 records from Aberystwyth

*Sabellaria spinulosa*, ross worm (BAP Habitat - reefs) 24 records from N Llyn, E Norfolk, Kent, Isle of Wight, Lyme Bay, & Torbay

### Pycnogonida, Sea spiders (13 records, most not identified to species)

**Commonly recorded species** (no of records in brackets)      **BAP, Scarce (S) and rare (R) species**

**Crustacea, Barnacles, amphipods, isopods, crabs, lobsters and prawns** (79 species)

*Necora puber*, velvet swimming crab (598)  
*Cancer pagurus*, edible crab (527)  
*Homarus gammarus*, lobster (265)  
*Maja squinado*, spiny spider crab (256)  
*Pagurus bernhardus*, common hermit crab (240)  
*Carcinus maenas*, shore crab (139)

*Periclimenes sagittifer*, anemone prawn, 2 records from Swanage & Sark  
*Alpheus macrocheles*, snapping prawn, 1 record from Dorset  
*Palinurus elephas*, crawfish (BAP) 16 records from Co. Clare, Kyle of Tongue, N Aberdeenshire, N Llyn, N Pembs, Lundy, Plymouth, Sark  
*Dromia personata*, sponge crab (S) 3 records from N Pembs & Lundy  
*Ebalia granulosa* (S), 1 record from S Devon

**Mollusca, shells, seaslugs, bivalves and cephalopods** (159 species)

*Calliostoma zizyphinum*, painted topshell (328)  
*Pecten maximus*, great or king scallop (216)  
*Gibbula cineraria*, grey topshell (134)  
*Hinia reticulata*, netted dogwhelk (129)  
*Buccinum undatum*, common whelk (120)



*Haliotis tuberculata*, ormer (does not occur in UK) 1 record from Sark  
*Tritonia nilsodhneri*, sea fan sea slug (S) 30 records from Lundy, Isles of Scilly, Manacles, S Devon, Lyme Bay, Alderney & Sark  
*Okenia elegans*, a sea slug (S) 3 records from S Llyn, N Pembs & S Devon  
*Trapania pallida*, a sea slug (S) 1 record from Isle of Wight  
*Thecacera pennigera*, orange speckled sea slug (S) 5 records from N Pembrokeshire, Lundy & Sark  
*Doris sticta*, sponge sea slug (S) 3 records from Isles of Scilly and Sark  
*Modiolus modiolus*, horse mussel (reefs are BAP habitat) 27 records from Shetland, Orkney, western Scotland, Donegal, Farne Islands & Norfolk  
*Limaria hians*, flame shell (BAP habitat) 5 records from W Scotland  
*Ostrea edulis*, european oyster (BAP) 21 records from S Devon, Lyme Bay, Poole, Isle of Wight & Kent. (photo left)  
*Arctica islandica*, icelandic cyprine (BAP) 11 records W Scotland & N Llyn

**Brachipoda, lamp shells** (1 species)

**Bryozoa, sea mats and sea mosses** (57 species)

*Pentapora foliacea*, potato crisp bryozoan (213)  
*Flustra foliacea*, hornwrack (200)  
*Membranipora membranacea*, sea mat (161)  
*Alcyonidium diaphanum*, finger bryozoan (153)



**Phoronida, horseshoe worms** (1 species), photo right

**Echinodermata, starfish, sea urchins and sea cucumbers** (45 species)

*Asterias rubens*, common starfish (536)  
*Echinus esculentus*, common sea urchin (456)  
*Marthasterias glacialis*, spiny starfish (321)  
*Crossaster papposus*, common sunstar (135)  
*Holothuria forskali*, cottonspinner (116)

*Echinaster sepositus*, red starfish, (does not occur in UK) 1 record Sark  
*Paracentrotus lividus*, black sea urchin (S) 3 records from Loch Creran  
*Cucumaria frondosa*, pudding (S) 1 record from Orkney

**Tunicata, sea squirts** (41 species)

*Clavelina lepadiformis*, light bulb sea squirt (226)  
*Ascidia mentula*, red sea squirt (131)  
*Botryllus schlosseri*, star sea squirt (121)  
*Stolonica socialis*, orange sea squirt (107)

*Phallusia mammillata*, giant sea squirt (S) 19 records from Torbay, Lyme Bay & Portland  
*Microcosmus claudicans* (R) 1 record Lulworth Banks

**Pisces, fishes** (93 species)

(fish are not included in the JNCC rare and scarce species lists. Rarity below is based on records in the NBN)

*Labrus bergylta*, ballan wrasse (340)  
*Ctenolabrus rupestris*, goldsinny (318)  
*Labrus mixtus*, cuckoo wrasse (220)  
*Pollachius pollachius*, pollack (218)  
*Scyliorhinus canicula*, lesser spotted catshark (191)  
*Parablennius gattorugine*, tompot blenny (191)  
*Thorogobius ephippiatus*, leopard spotted goby (185)  
*Gobiosculus flavescens*, two-spot goby (172)  
*Trisopterus luscus*, bib (150)  
*Callionymus lyra*, dragonet (133)



*Cethorinus maximus*, basking shark (BAP) 2 records Donegal & S Cornwall  
*Torpedo mamorata*, electric ray rare, 1 record Sark  
*Raja batis*, common skate (BAP) 1 record Lyme Bay  
*Lophius piscatorius*, angler fish (BAP) 2 records from I of Scilly & S Devon  
*Molva molva*, ling (BAP) 25 records Moray Firth, E England, W Scotland, Isle of Man, S Cornwall  
*Hippocampus hippocampus*, short snouted seahorse (BAP) 4 records from Solent, Poole Bay & Dover  
*Hippocampus ramulosus*, spiny seahorse (BAP) 2 records Torbay and Poole  
*Cepola rubescens*, red band fish. 2 records from Lundy and Exmouth  
*Crenilabrus (Symphodus) bailloni*, Baillon's wrasse. (R - recent addition to UK species lists) 4 records Poole Bay  
*Parablennius ruber*, red blenny (R - recent addition to UK species lists) 7 records from Isles of Scilly  
*Tripterygion deletasi*, black faced blenny (R) photo left. 12 records of this southerly species from S Devon, Lyme Bay & Sark  
*Buenaia jeffreysii*, Jeffrey's goby (S - most records offshore) 1 record L. Nevis  
*Gobius couchii*, Couch's goby (R) 1 record S Devon

**Aves & Mammalia, birds & mammals** (6 species of birds, seals, dolphin and porpoise)

**Algae, seaweeds** (126 species)

*Laminaria hyperborea*, cuvie or forest kelp (227)  
*Delessaria sanguinolenta*, sea beech (148)  
*Laminaria saccharina*, sugar kelp (143)

*Gracilaria bursa-pastoris* (S) 3 records from Poole  
*Zanardinia prototypus*, pennyweed (S) 4 records N Pembrokeshire & Dorset  
*Carpomitra costata* (S) 9 records from North Pembrokeshire & Lundy  
*Sargassum muticum*, japweed (non-native species) 33 records from as far north as Galway, Strangford Lough & Isle of Man,

**Angiospermae, flowering plants** (1 species)

*Zostera marina*, eelgrass (BAP habitat) 24 records from Donegal, N Wales, Isles of Scilly, S Devon and Cornwall, Alderney CI

**Total species recorded = 821**

## Sea fan recording in 2008

Seasearch has targeted pink sea fans, *Eunicella verrucosa*, in surveys since 2001 with a dedicated recording form which, in addition to location and abundance, provides information on the dimensions and condition of each sea fan recorded. A number of reports have been produced, including a second major report in 2007 which covers the records received in 2004-2006.

During 2008 pink sea fan surveys were carried out in Lundy, North Cornwall, Manacles, Bolt Head/Tail, Lyme Bay and Sark @, with incidental records from Donegal, North Pembrokeshire, Isles of Scilly and Whitsand Bay.

On the wreck of the Scylla in Whitsand Bay we recorded growth of the sea fans which had newly appeared in 2007.

The tallest 'stick' had grown to 17cm in a year but most were smaller and had started to branch (photo right). There appeared to have been some losses, as might be expected at this stage, and the colonies will continue to be monitored in subsequent years.



In Lyme Bay in August we visited a reef which we hoped would provide a good control site against which to record population recovery. Instead we found many broken and flattened colonies. The site had clearly been recently trawled, presumably just prior to the ban on bottom fishing coming into force.

At Lundy the population still shows signs of the disease which caused big losses in 2001-2. The average condition score in 2008 was 3.5 which is higher than 2005 (3.1) and 2006 (2.7). There were also a number of new 'stick' colonies which is a positive sign of new recruitment.



In Sark our surveys found that the sea fan colonies were, on average, larger than those elsewhere and that there was a good range of colony sizes with a number of small colonies showing recent recruitment. A large colony is shown in the photo, left.

However, there were a number of standing dead colonies and the average condition score was lower than for Britain and Ireland as a whole.

It is not clear if these dead colonies represent disease in the past or are merely a reflection of the stable conditions in which colonies that have died from natural causes remain standing indefinitely.

## Skate and Ray Eggcase Recording

In North Wales surveys were undertaken to look for skate and ray eggcases *in situ*. Eggcases washed up on the shore have been recorded by the Shark Trust for some years but this is the first sublittoral recording programme.

Unfortunately no live skate and ray eggcases were found, though lesser and greater spotted catshark 'mermaids purses' are regularly seen.

## Seabed litter

One of the things recorded on Seasearch forms is human impacts on the seabed, including litter. Unfortunately the Marine Recorder database does not allow this information to be easily stored and retrieved.

There are two main types of litter recorded, plastics/cans and fishing debris. Plastic bags and cans are usually removed by the diver, but fishing debris is much more widespread and difficult to remove.

Fishing debris comprises angling line, hooks and weights, netting and pots. Angling line, hooks and weights are frequently seen wrapped around kelp stalks, and also around sea fans where they cause fouling and can lead to colony mortality. What is not clear is how many sea fans are actually torn off the reef as a result. Seasearch divers normally cut such lines off sea fans and recover them to the surface, but care needs to be taken not to further damage the sea fan or the diver's suit from any hooks.

Netting is usually in the form of nets set close to wrecks and reefs that have become entangled in wreckage or marine life and cannot be recovered by the fisherman. One example in 2008 was on the wreck of the Vera in North Norfolk. Here Seasearch divers retrieved a net tangled around the wreck to the shore and then spent an hour freeing nearly 200 dead and dying shore, velvet and edible crabs from it (photo below).

Lobster pots that have been lost by fishermen can also continue to ghost fish. It is only when the netting has deteriorated so that marine life cannot get trapped inside can the pot become a benign addition to the sea bed habitat.



## Pipefish Surveys in 2008

The pipefish recording scheme established in 2007 was continued in 2008. However there were many fewer records received, 21 compared to 94 in 2007. There were, however, more records from general Seasearch surveys (132 compared with 90 in 2007).

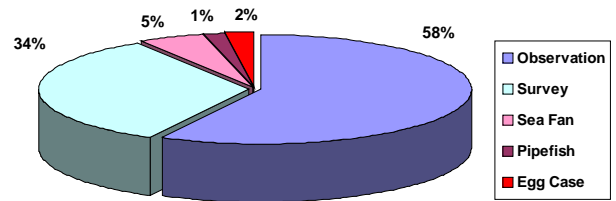
Snake pipefish, *Entelurus aequoreus*, were observed in large numbers only from North East Scotland, Northumberland and S Lyn. This suggests a decrease in numbers since the very high records in 2007, but it is not yet clear if this is a return towards historic levels or if numbers will remain relatively high for the foreseeable future.

There were 53 records of greater pipefish, *Syngnathus acus*, usually in small numbers, though it was recorded as common on one occasion, in a seagrass bed in N Lyn,

More interest was shown in 2008 in recordings of seahorses in southern England. There are 6 records in the Seasearch database for 2008 from Dover in the east to Torbay in the west.

## Data management and availability

A total of 1,428 forms was received from dives in 2008, with more continuing to trickle during mid 2009. The diagram to the right shows that just over half were Observation forms. However the number of Survey forms, which provide the most detailed information, was the highest ever recorded at 479 forms making 34% of the total. This is a positive development and shows that the recording skills of the volunteer divers are increasing with time.



### Data validation and management

On receipt of a Seasearch form, summary information is recorded in a spreadsheet and the position mapped in Google Earth. This data is available to download from the Seasearch website and is updated throughout the year. Clicking a record displays the date, type, recorder and any significant findings. This also acts as the first stage in the validation process for the data which is carried out by the local coordinator, national coordinator and/or local tutor.

All Observation and Survey Form data is entered into the Marine Recorder database by a variety of organisations. They are responsible for the second stage of verification of the data. It is retained locally and also passed on and merged with all the other data to produce a single Seasearch dataset for the year. At this stage the third validation check is carried out by the National Seasearch Coordinator and any errors identified are returned to the data entry point for checking and amendment as appropriate.

The combined dataset is available to all Seasearch partners in Marine Recorder format or as a snapshot of the data in Microsoft Access. The dataset is also passed to the National Biodiversity Network and is made available on the NBN Gateway website for all to use. A second Google Earth map is made available to download from the Seasearch website providing a summary of the information that has gone into Marine Recorder.

The 2008 dataset comprises 80 surveys, including 1,058 'survey events' and contains 30,706 individual species records, covering 810 different species.

### Biotope allocation

During 2008 further work was undertaken to assign JNCC biotopes to Seasearch Survey Form data. A second, simpler, key to biotopes was produced 'the Rough Guide' and this was tested during the entry process for the 2008 data.

As a result 81.3% of 2008 survey level samples have had JNCC biotopes assigned at some level. Of these 67.6% have been identified to biotope complex or above and 41.7% to biotope or sub-biotope. This is a much higher percentage than anticipated from the approach taken in the Rough Guide and shows that the range of assistance now available is giving people the confidence to assign biotopes at a fairly high level in the majority of cases.

### Sea fan and pipefish data

The data from the separate sea fan and pipefish surveys are entered into separate databases and do not yet appear on the NBN. Work on this is underway.

## Seasearch Coordination and Promotion

Seasearch is organised on behalf of a Steering Group which meets twice a year and on which all of the Seasearch partners are represented. The Steering Group sets the priorities and general direction for Seasearch.

The day to day activities are organised by the National Coordinator and a team of local coordinators throughout the UK. During 2008 the team has been as follows:

National Coordinator	Chris Wood	MCS
Scotland	Calum Duncan	MCS
North East Scotland	Chris Rickard (part)	MCS
West Scotland	Owen Paisley	MCS
Northern Ireland	Claire Goodwin	MCS
North Wales	Liz Morris	MCS
West Wales	Kate Lock	MCS
South Wales	Vicki Howe	MCS
North East England	Carrie Pillow	MCS
East Anglia	Dawn Watson	MCS
Kent	Bryony Chapman	Kent WT
Sussex	Kate Cole	E Sussex CC
Hants/Isle of Wight	Angie Gall (part)	Hants WT
Dorset	Kathryn Dawson	Dorset WT
Devon	Sally Sharrock	MCS
Cornwall	Tom Hardy	Cornwall WT
Isle of Man	Tony Glen	

The National Coordinator is responsible for publicity and promotion at a national level, managing the training programme, budgetary control and development of Seasearch activities in new locations. For 2009 this will include the expansion of Seasearch activities to the Republic of Ireland.

The Local Coordinators are responsible for Seasearch activities within their own areas. This includes promotion to local dive clubs and other organisations, communication with local volunteers, training courses, surveys and representing Seasearch on local organisations such as Biodiversity Action Planning groups.

In addition to the Coordinators there is a network of Seasearch Tutors. At the end of 2008 there were 27 active recognised tutors and 7 others going through the training and accreditation programme. The tutors are responsible for delivering Observer and Surveyor training courses. In addition to the tutors, a number of other experts provide specialist training courses. In 2007 these included Dr Frances Dipper (fish), Bernard Picton (sponges), Jim Anderson (nudibranchs), and Paul Naylor (photography).



Seasearch coordinators and tutors at the 2008 annual Seasearch Workshop.

## Seasearch Training in 2008

The Seasearch training programme provides courses and survey skills at three levels, Observer, Surveyor and Specialist.

The **Observer** level training consists of a one-day course for divers without previous survey experience. This covers an introduction to Seasearch, identifying marine habitats and species, and a series of practical skills from position fixing to recording from filmed surveys. The aim is to equip participants to complete the Seasearch Observation Form. Dives are arranged where participants can undertake survey dives with a tutor present to help with form completion and identifications.

There were 33 Observer courses in 2008 from Kirkwall in the north to Falmouth in the south-west. New locations for courses included Darlington, Wolverhampton, Bedfordshire and Doolin (County Clare). 324 divers took part in the Observer courses, all of whom were new to the project.

The **Surveyor** level training is aimed at surveyors with some existing experience of marine recording, whether as a Seasearch Observer or elsewhere, and aims to equip them to successfully complete the Seasearch Survey Form. It involves a weekend course and completion of 6 survey dives.

The course was substantially overhauled in 2008 to reflect changes to the Survey form. Six Surveyor courses were held in 2008 in North Wales, South Wales, Devon (2), Dorset and Kent, involving 37 participants. A refresher course was also held in Devon

Seasearch **Specialist** courses are aimed at either teaching new survey skills or improving knowledge and identification of marine life. 11 courses were held in 2008 covering seagrass survey techniques (Northern Ireland & Hampshire), underwater photography (Swanage), fish ID (Great Yarmouth), sponge ID (Plymouth) nudibranch ID (Norfolk), bryozoan ID (North Wales) and general marine life ID and marine ecology (Northern Ireland, Ilfracombe, Plymouth and Swanage).

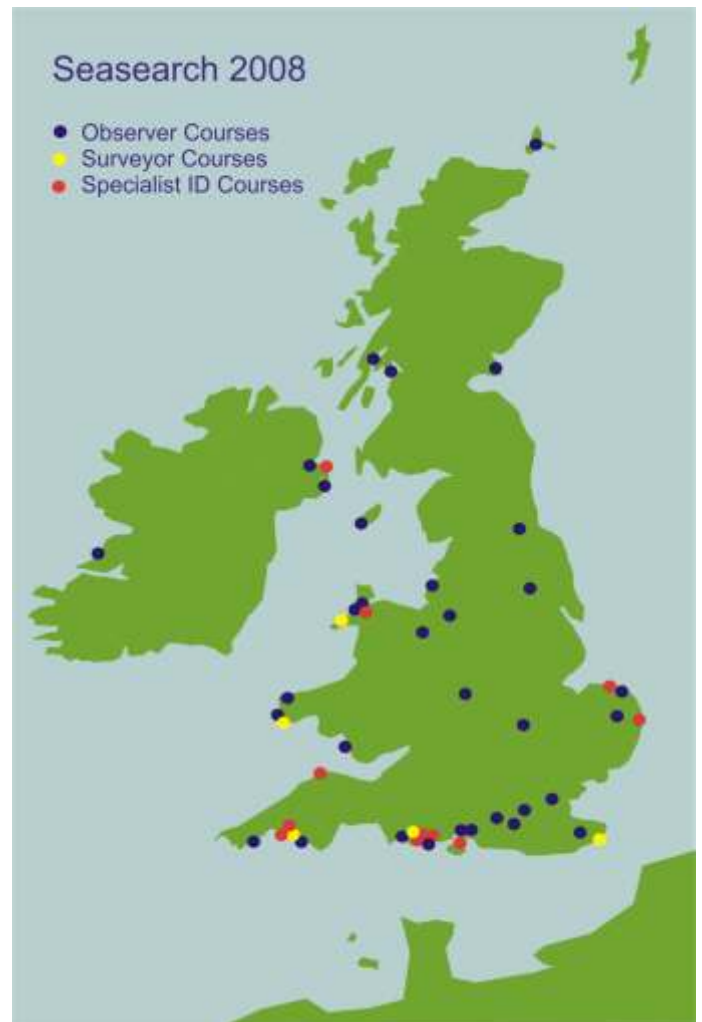
Seasearch qualifications are given to those completing the Seasearch Observer (course and 5 acceptable observation forms), or Surveyor (course and 6 acceptable survey forms) programmes. In 2008 54 volunteers achieved the Observer qualification and 7 volunteers the Surveyor qualification.



Thanks to all the Seasearch Tutors and coordinators for their enthusiasm, organising and teaching skills during 2008 and to all of the volunteer divers who have participated in Seasearch training, recording and promotion.

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Seasearch training courses are delivered by our team of 27 tutors, all of whom are experienced Seasearch recorders and active divers. Other experts in their field also give some of the specialist courses. We also have 9 assistant tutors going through the tutor training programme.

## Seasearch Identification Guides and survey materials

As a part of our aim to improve the identification skills of volunteer divers we produce a range of illustrated identification guides.

These include a general Guide to Marine Life and a Guide to Anemones and Corals. Guides to Hydroids and Bryozoans and Seaweeds are both in preparation.

In addition to the guides, Seasearch supplies underwater writing slates in two sizes and recycled plastic pencils to aid the recording of information.

In 2008 we also produced an updated manual for entry of Seasearch data into the Marine Recorder database and a 'Rough Guide to Biotopes' to help the process of assigning JNCC biotopes to Seasearch Survey Form data

This report has been produced on behalf of Seasearch by the Marine Conservation Society, Unit 3 Wolf Business Park, Alton Road, Ross-on-Wye, Herefordshire, HR9 5NB.

