

# Sussex Seasearch Annual Report 2012

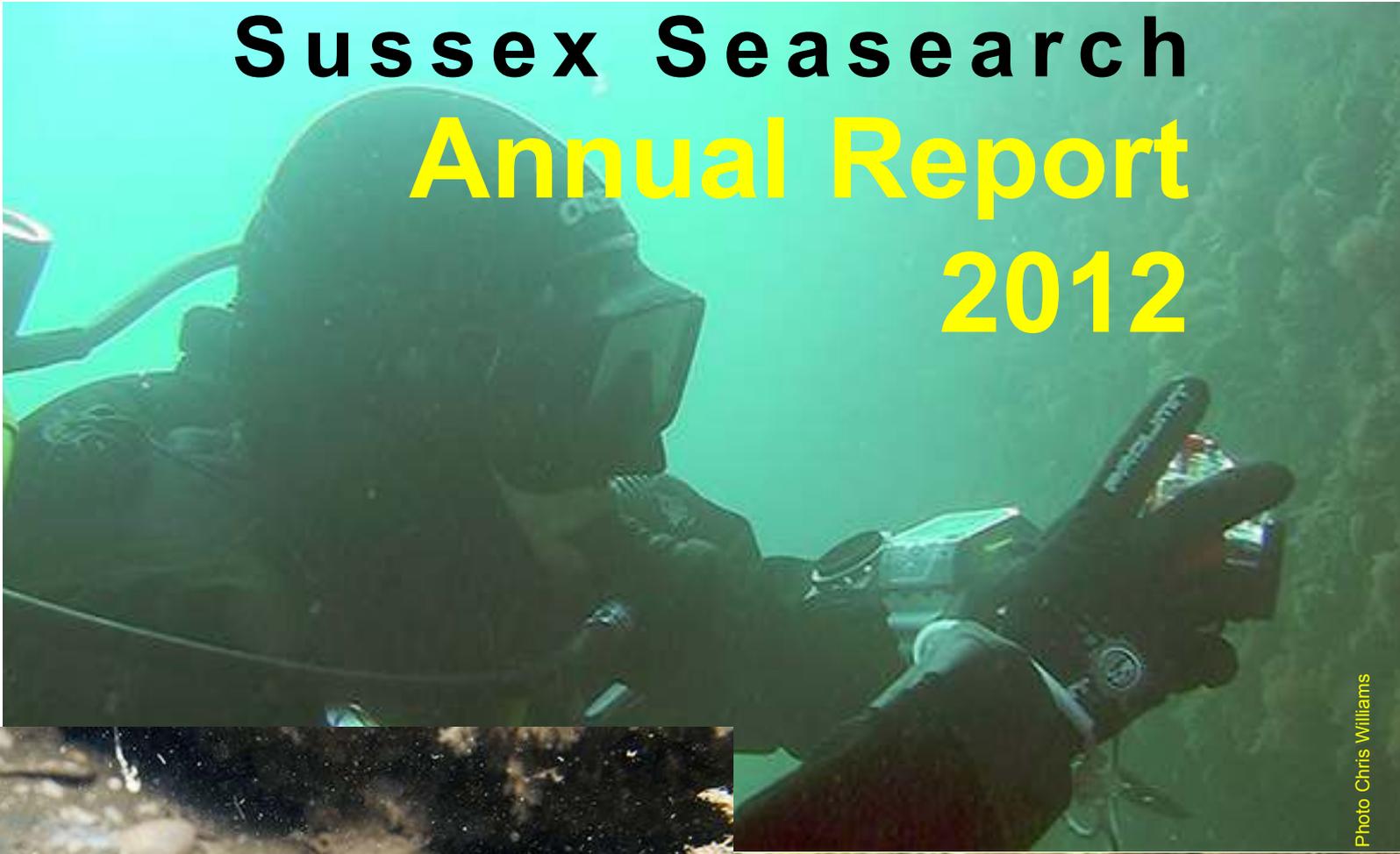


Photo Chris Williams



Photo Gerald Legg



Photo Gerald Legg



Photo Gerald Legg



Photo Gerald Legg

# Sussex Seasearch 20 Years of Surveying Newsletter 2012

Before reviewing 2012 we owe a special thank you to **all** the divers who have collected data over the years. Sussex Seasearch has been running since 1992 – 20 years of data gathering. These data have helped to lift the veil off the hidden wonders of our undersea world. Increasing our understanding led to the recognition and ultimately the designation of our *Marine Sites of Conservation Importance*, (MSNCIs), see [http://www.sussex.ac.uk/geography/research-projects/coastview/Habitats/Sussex\\_marine\\_sites\\_of\\_nature\\_conservation.pdf](http://www.sussex.ac.uk/geography/research-projects/coastview/Habitats/Sussex_marine_sites_of_nature_conservation.pdf) and more recently the suggested and recommended Marine Conservation Zones (MCZs). Although MSNCIs have no statutory protection at least they highlight areas of significant value and have since been instrumental in helping to develop the proposed Marine Conservation Zones.

[Note - copy/paste www links into your browser to view them]

2012 has been a critical year for all of us with work on the proposed Marine Conservation Zones (MCZs) (ref) coming to a head and leading to the rather disappointing recommendations by the Department of the Environment, Food and Rural Affairs (DEFRA) and Natural England. DEFRA recommended to Government <http://www.defra.gov.uk/environment/marine/protect/mpa/mcz/> only 31 sites out of the 127 sites put forward; six of these were off Sussex. Illustrated reports of the surveys in the Mixon Hole and The Hounds and Kingmere rMCZs have been produced: Kingmere <http://www.seasearch.org.uk/downloads/KingmereSurveyReport.pdf>, Selsey and the Hounds, <http://www.seasearch.org.uk/downloads/SelseyandHoundsSurveyReport.pdf>; for Beachy Head West. see: [http://jncc.defra.gov.uk/PDF/BS\\_FinalRecommendationsSites\\_Part2.pdf](http://jncc.defra.gov.uk/PDF/BS_FinalRecommendationsSites_Part2.pdf).

In 2012, with the valuable assistance of Seasearch divers, further data from the recommended sites (rMCZs) were accumulated. This together with other evidence will hopefully help provide protection at least for the three sites.

Whilst the poor weather and visibility led to some of our 2012 dives being cancelled, successful dives were carried out in the Selsey Bill and The Hounds, Kingmere, and Beachy Head West rMCZs. These were organised by Marine Conservation Society (Mixon Hole and the Hounds), Worthing BSAC (Kingmere) and Sussex Diving Club (Beachy Head West). The data from all of these was submitted to DEFRA during the rMCZ consultation period to help counter the perceived lack of data for some sites.



Unfortunately for 2012 the weather and visibility put the mockers on our diving with many dives being cancelled. This was particularly galling as several of these were to look at the rMCZs in order to find additional supporting data: a

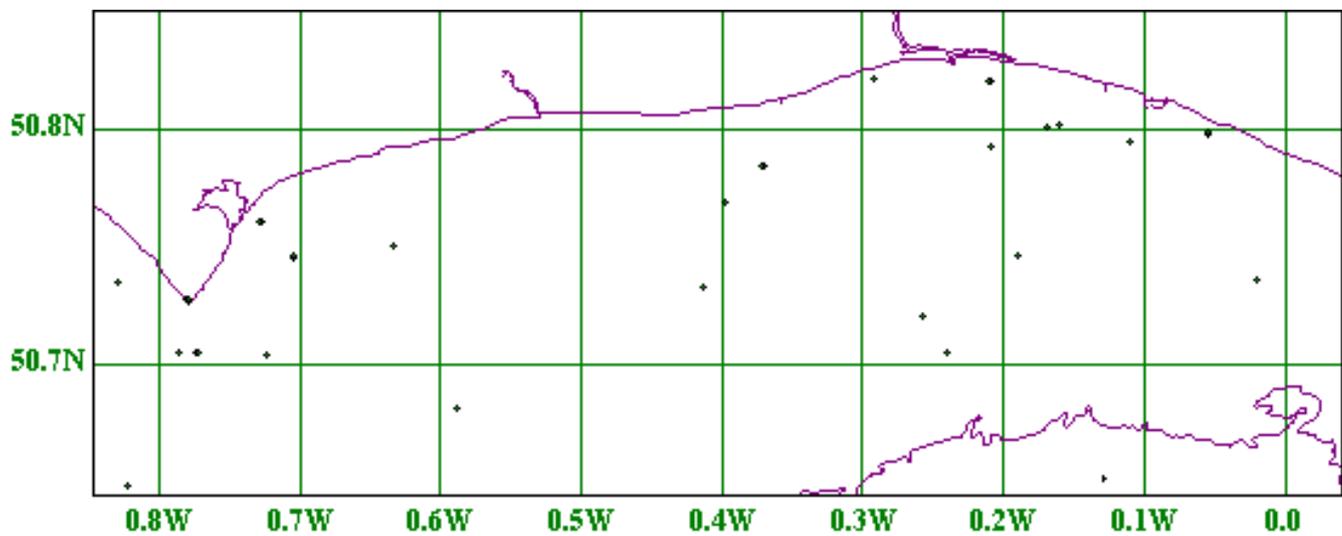
'lack of data' being a criticism leveled by DEFRA. Despite the setbacks, 51 forms were submitted: 22 Survey; 29 Observation. We extend our thanks to all our contributors: Alison Dack, Anya Frampton, Becky Hitchin, Belinda Vause, Cat Briggs, Charlotte Bolton, Chris Williams, Chris Wood, Christine Bohea, Ed Smith, Emma Collins, Emma Davies, Fiona Ravenscroft, Gerald Legg, Graham Jackson, James Lucey, Lesley Smith, Mike Duggan, Pete Farrell, Phil Lavery, Richard Clegg, Russell Turner, Sam Wilson, Theresa Blignaut, Tim Mapstone, Warren Crawford and Zoe Caals. If you are not included, my apologies. We also hope that YOU and other divers will continue to dive and provide the valuable information needed to help protect our under-sea world. Please spread the word and encourage fellow divers to get involved so we



can make 2013 a record year.

## Sites Visited

Data received came from surveys that were focused in the west of the County. It was hoped that in the east, the



Map showing the positions of the 2012 events (several sites were visited on more than one occasion).

Royal Sovereign Shoals would be dived as they form a large part of the rMCZ Beachy Head West. Unfortunately weather conditions put a stop to those dives.

### Chalk Reefs

The Sussex iconic biotopes are formed from limestone, notably chalk. This soft rock forms a series of different habitats including reefs, sublittoral gullies, platforms, boulders, cobbles etc. Even where there are areas of sediment covered seabed, the chalk is often only a small distance beneath the surface. In shallow water this can be seen by the growth of algae rooted on the hidden rock or attached to flint and chalk cobbles and boulders overlying the chalk.

The main chalk reef site dived in 2012 was the Worthing Lumps (see image on left), which lies within the Kingmere rMCZ. Divers from Worthing BSAC and National Coordinator Chris Wood surveyed this following a Seasearch course. The Worthing Lumps is a northerly facing chalk cliff between two and three meters high with a



Photo Chris Wood



Photo Chris Wood

dock bored faced providing microhabitats for a wide variety of marine fauna. An interesting record from this site was the southerly Baillon's Wrasse, *Symphodus bailloni*,

(see <http://www.marlin.ac.uk/speciesinformation.php?speciesID=2723> ) which had not been recorded on Seasearch dives in Sussex before.

The combination of chalk reef, chalk loosely covered by sediments provides the ideal conditions for Black Bream, *Spondyliosoma cantharus*, making the areas nationally important. In May male Black Bream, excavate shallow depressions in the gravel. Successful females are attracted to the best nests and lay their eggs that the male fertilises and subsequently cares for them, the females moving on. They appear to like the close proximity of reefs in order to shelter. See the Sussex Inshore Fisheries for further information: [http://www.sussex-ifca.gov.uk/index.php?option=com\\_content&view=article&id=63&Itemid=159](http://www.sussex-ifca.gov.uk/index.php?option=com_content&view=article&id=63&Itemid=159)

Sandstones also form reefs, exposures occurring off both the east and west of the county. In the west, Lump Suckers, *Cycloperus lumpus*, find the reefs attractive and can be seen in spring and early summer off Selsey nestling in nooks and crannies.

## Clay Cliffs

Clay exposures are unusual underwater, are a priority feature and the reason the Mixon Hole and The Hounds were put forward as a recommended MCZ and 'no take' Reference Area. They are naturally prone to erosion that can be exacerbated by human impacts. The Mixon Hole is a south facing clay cliff beneath a limestone cap extending to a depth of over 20m and riddled with



Photo Chris Williams (ex video)

Seasearch diver recording at the Mixon Hole

Piddock *Pholas dactylus*, holes that provide homes not only for piddocks but also other molluscs, crustacea and even fish. The upward facing surface of the limestone cap has a significant and unusual assemblage of seaweeds. The Hounds Reef is shallower and is also formed of clay with



Photo Chris Wood

faces up to 3m high and a rich algal turf on the top. It had not been dived by Seasearch prior to the surveys in 2012. It is intensively potted and this may cause some erosion of the soft clay features.



Photo Chris Wood

On dives late in the summer grey triggerfish, *Balistes capriscus*, {see <http://www.marlin.ac.uk/speciesinformation.php?speciesID=2723> ) were observed at the Mixon Hole. This fish is a southerly species that occurs in UK waters in late summer but is not believed to breed here. There are occasional records from Sussex but it is not at all common.

## Wrecks

Many divers love wrecks, and it therefore not surprising that a lot of our records are from metal substrates. In the case of the Mulberries both metal and concrete provide perfect surfaces for sessile life to earn their living. The wrecks visited and the number of times dived are given below:

|                                 |   |
|---------------------------------|---|
| Wreck: Ashford                  | 1 |
| Wreck: City of London           | 1 |
| Wreck: Indiana                  | 3 |
| Wreck: Pentrych                 | 1 |
| Wreck: Shirala                  | 1 |
| Wreck: steam trawler            | 2 |
| Wreck: Frode                    | 1 |
| Wreck: the 'Tea Pot' = Briggita | 1 |



Photo Gerald Legg

Antenna hydroid, *Nemertesia antennina* on cobble adjacent to SW Rocks chalk reef Brighton.

## Some information about the wrecks

*City of London/ Ikeda* – cargo ship built 1891 torpedoed by UB40 1918; there is some confusion over this wreck.

*Briggita* – WW1 armed merchantman built in 1894 and sunk by a mine in 1917.

*Frode* – cargo ship built 1917 sunk 1943 by a mine.

*Ashford* – cargo ship built in 1892 sunk following a collision with the German barque, Pirat of Hamburg, in 1906



Photo Gerald Legg

**Deadman's Fingers, *Alcyonium digitatum*, Anemone *Diadumena cincta*, Jewel Anemone *Corynactis viridis*, Oaten Pipe Hydroid *Tubularia larynx*, Leathery Seasquirt *Styela clava* and other life on the 'Steam Trawler' off Brighton.**

*Shirala* – cargo ship built in 1901 and torpedoed in by UB57 in 1918

*Indiana* – cargo ship built 1891, sunk following a collision in in fog in 1901

*Pentrych* – cargo ship built in 1899 and torpedoed in 1919 by submarine UB40

Inner Mulberry and Far or Outer Mulberry – strictly speaking these are two of the 146 caissons destined to to build the two Mulberry Harbours at Arromanche for the D-day Landings. They are two 'Phoenix' types which could not be refloated prior to being towed to France. For further information see [http://en.wikipedia.org/wiki/Mulberry\\_harbour](http://en.wikipedia.org/wiki/Mulberry_harbour) and <http://www.ukho.gov.uk/Media/News/Pages/Mulberry-Harbour-survey.aspx>

**Selsey Lifeboat Station**

Of course, Selsey Lifeboat Station provided the most records as it is a popular training area for both divers and Seasearchers alike. Mulberry Divers use this site on a regular basis. With its seabed of cobbles, pebbles, shells, sand and the odd piece of concrete, metal and even rubber, combined with the lifeboat station's supporting legs there is always a rich and varied array of life to see. Of special note are the native oysters [image] which is a UK Biodiversity Action Plan (BAP) species (see: <http://jncc.defra.gov.uk/page-5659> ).



Photo Gerald Legg

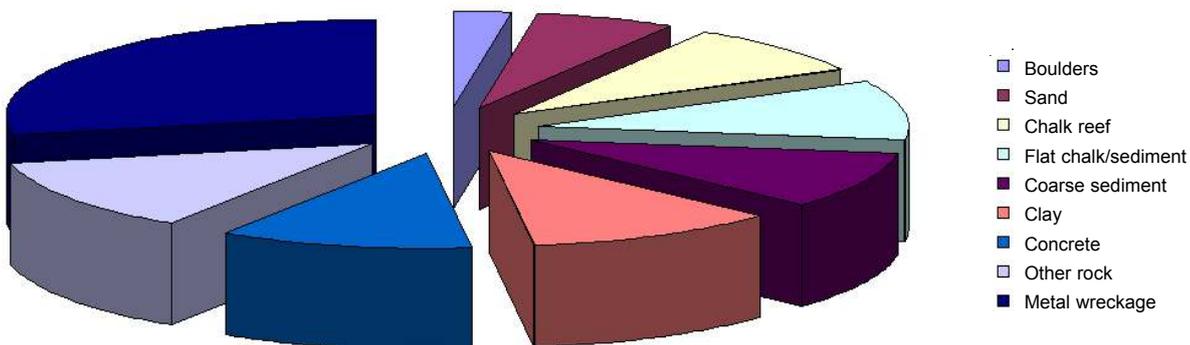
Oyster encrusted with sponges etc.

**Sites and number of dives**

|                             |   |
|-----------------------------|---|
| Inner Mulberry              | 4 |
| Jenny Grounds               | 2 |
| Kings West Ledges           | 2 |
| Marina Reef                 | 1 |
| Mixon Hole                  | 5 |
| Old Selsey Lifeboat Station | 1 |
| Far or Outer Mulberry       | 3 |
| Rottingdean Gullies         | 2 |
| Brighton Ledges             | 1 |

**Substrates Summarised**

Below is a breakdown of the proportion of the different substrata visited during the year. Wrecks, including those of metal and concrete, were the most frequented sites. Boulders and sand being the least recorded.



## Photography

The advent of relatively inexpensive relatively high resolution digital underwater cameras many divers now take a camera on their dives. Records of spectacular or unusual species can easily be recorded, but what can be more useful are close-up images of selected areas of the substrate, something along the scales of the images of the species on the steam trawler and the cup-coral below. Carefull post-dive analysis can often provide details of additional species not spotted and noted during the dive. Such additional information can add a great deal to the Seasearch record. It would be appreciated if divers could send high resolution images to Dr Gerald Legg. Full copyright remains with the photographer and if an image is thought to be worth publishing on the web or in a newsletter this would only be done with their approval. Images can be sent to [gerald@chelifer.com](mailto:gerald@chelifer.com). Details of Sussex sites are being put together on a website, see [http://www.chelifer.com/?page\\_id=92](http://www.chelifer.com/?page_id=92).

## Interesting Finds – some things to keep a look out for

*You never know what you might come across; always expect the unexpected.*



Photo Chris Bohea

**Devonshire Cupcoral, *Caryophyllia smithii*.** (see: <http://www.marlin.ac.uk/speciesinformation.php?speciesID=2899>) has also been found on the wreck of the Pentrych (see adjacent photograph). However as the corallites are fused together, which is not normal for this species, it may in fact be *Hoplanguia durotrix* (see <http://www.marlin.ac.uk/speciesinformation.php?speciesID=3521>) the Weymouth Carpet Coral. Both species have been recorded from the Outer Mulberry.

**Anemone Prawn *Periclimenes sagittifer*** in Snakelocks Anemone *Anemonia viridis* near the Mulberries. This species was first found on the UK mainland coast under Swanage Pier in 2007 (See the Seasearch website at: <http://www.seasearch.org.uk/downloads/Shrimp%20Survey%20Report%20Oct%2008.pdf>) For further information see the MarLIN website: <http://www.marlin.ac.uk/taxonomyidentification.php?speciesID=4664>

## Seasearch Training

Seasearch Observer Courses were held in Brighton and Worthing with a total of 21 participants. Tutors were Chris Wood and James Lucey and the courses were hosted by Sussex Diving Club and Worthing BSAC. In addition to the courses, training dives were held for Sussex Diving club, Brighton BSAC, Worthing BSAC and at Selsey with James and Chris as tutors to assist. Four divers



Photo Chris Wood

who had attended courses in Sussex in 2011 gained the Seasearch Observer qualification. They were Caroline and Craig Warren, Martin Hamblin and Christine Bohea.

Worthing BSAC divers heading off for a training dive after their Seasearch Course

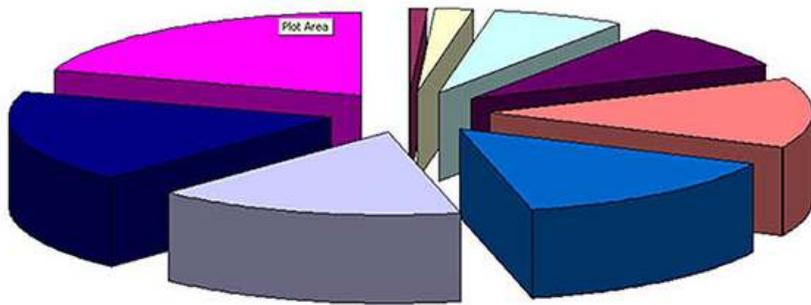


Photo Pete Farrell

## Species

Approximately 1400 species were recorded representing in the order of 246 different kinds.

## Major taxa found during 2012



|  |                                  |
|--|----------------------------------|
| <span style="color: blue;">■</span> Pycnogonida    | sea spiders                      |
| <span style="color: red;">■</span> Entoprocta      | horseshoe worms                  |
| <span style="color: green;">■</span> Echinodermata | starfish, brittle stars, urchins |
| <span style="color: cyan;">■</span> Annelida       | segmented worms                  |
| <span style="color: purple;">■</span> Tunicata     | sea squirts                      |
| <span style="color: orange;">■</span> Crustacea    | crabs etc                        |
| <span style="color: blue;">■</span> Mollusca       | snails, clams, cuttlefish        |
| <span style="color: lightblue;">■</span> Porifera  | sponges                          |
| <span style="color: darkblue;">■</span> Cnidaria   | hydroids, anemones, corals       |
| <span style="color: magenta;">■</span> Pisces      | fish                             |

## List of species for 2012

### Species

#### PORIFERA (Sponges)

*Grantia compressa*  
*Pachymatisma johnstonia*  
*Tethya aurantium*  
*Tethya citrina*  
*Polymastia boletiformis*  
*Polymastia penicillus*  
*Pseudosuberites fallax*  
*Suberites carnosus*  
*Suberites ficus*  
*Ciona celata*  
*Halichondria bowerbanki*  
*Halichondria panicea*  
*Hymeniacidon perleve*  
*Stylostichon plumosum*  
*Microciona*  
*Raspailia ramosa*  
*Haliclona cinerea*  
*Haliclona fistulosa*  
*Haliclona simulans*  
*Aplysilla*  
*Dysidea fragilis*  
*Amphilectus fucorum*  
 Porifera indet crusts

#### CNIDARIA (Anemones, Corals,

**Hydroids, Jellyfish)**  
*Chrysaora hyoscoscella*  
*Tubularia indivisa*  
*Tubularia larynx*  
*Dicoryne conferta*  
*Abietinaria abietina*  
*Amphisbetia operculata*  
*Dynamena pumila*  
*Hydrallmania falcata*  
*Sertularella rugosa*  
*Sertularia argentea*  
*Sertularia cupressina*  
*Antennella secundaria*  
*Halopteris catharina*  
*Kirchenpaueria pinnata*  
*Nemertesia antennina*  
*Plumularia setacea*  
*Aglaophenia pluma*  
*Orthopyxis integra*  
*Obelia geniculata*  
*Alcyonium digitatum*  
*Cerianthus lloydii*  
*Isozoanthus sulcatus*  
*Actinia equina*  
*Anemonia viridis*  
*Urticina felina*  
*Diadumene cincta*  
*Metridium senile*  
*Sagartia troglodytes*  
*Cereus pedunculatus*  
*Actinothoe sphyrodeta*  
*Corynactis viridis*  
*Caryophyllia smithii*  
*Hoplangia durotrix*

#### ANNELIDA (Segmented Worms)

*Micrura fasciolata*  
*Eulalia viridis*  
*Polydora ciliata*  
*Arenicola marina*  
*Sabellaria spinulosa*

*Eupolymnia nebulosa*  
*Lanice conchilega*  
*Bispira volutacornis*  
*Sabella pavonina*  
*Pomatoceros lamarcki*  
*Pomatoceros triqueter*  
*Apomatus similis*  
*Filograna implexa*  
*Salmacina dysteri*  
*Spirorbis spirorbis*

#### PYCNOGONIDA (Sea Spiders)

'Pycnogonum'

#### CRUSTACEA (Barnacles, Shrimps, Prawns, Crabs, Lobsters)

*Semibalanus balanoides*  
*Balanus crenatus*  
 Mysidae  
 Amphipoda  
*Jassa*  
*Palaemon serratus*  
*Periclimenes sagittifer*  
*Crangon*  
*Homarus gammarus*  
*Pagurus bernhardus*  
*Galathea squamifera*  
*Galathea strigosa*  
*Pisidia longicornis*  
*Maja squinado*  
*Inachus phalangium*  
*Macropodia*  
*Corystes cassivelaunus*  
*Cancer pagurus*  
*Cancer pagurus*  
*Liocarcinus depurator*  
*Necora puber*  
*Necora puber*  
*Carcinus maenas*

#### MOLLUSCA (Snails, Limpets, Clams, Cuttlefish)

*Gibbula cineraria*  
*Gibbula umbilicalis*  
*Calliostoma zizyphinum*  
*Turritella communis*  
*Crepidula fornicata*  
*Trivia arctica*  
*Trivia monacha*  
*Ocenebra erinacea*  
*Nucella lapillus*  
*Buccinum undatum*  
*Hinia reticulata*  
*Aplysia fasciata*  
*Goniodoris nodosa*  
*Acanthodoris pilosa*  
*Archidoris pseudoargus*  
*Coryphella browni*  
*Flabellina pedata*  
*Aeolidia papillosa*  
*Mytilus edulis*  
*Ostrea edulis*  
*Pecten maximus*  
*Aequipecten opercularis*  
*Clinocardium ciliatum*  
*Gastrochaena dubia*  
*Pholas dactylus*  
*Barnea candida*

*Sepia officinalis*  
*Loligo vulgaris*  
*Crisia denticulata*  
*Crisia eburnea*  
**ECTOPROCTA (Sea Mats)**  
*Alcyonidium diaphanum*  
*Alcyonidium parasiticum*  
*Aetea anguina*  
*Membranipora membranacea*  
*Electra pilosa*  
*Flustra foliacea*  
*Chartella papyracea*  
*Securiflustra securifrons*  
*Bugula plumosa*  
*Bugula turbinata*  
*Scrupocellaria*  
*Cellaria*  
*Pentapora foliacea*  
*Parasmittina*  
*Schizomavella linearis*  
*Cellepora pumicosa*  
*Bryozoa indet crusts*

#### ENTOPROCTA (Horseshoe Worms)

*Phoronis hippocrepia*

#### ECHINODERMATA (Starfish/Brittlestars, Urchins)

*Asterias rubens*  
*Ophiura*  
*Psammochinus miliaris*

#### TUNICATA (Squirts)

*Clavelina lepadiformis*  
*Pycnoclavella stolonialis*  
*Morchellium argus*  
*Aplidium punctum*  
*Trididemnum cereum*  
*Didemnum maculosum*  
*Diplosoma listerianum*  
*Diplosoma spongiforme*  
*Lissoclinium perforatum*  
*Ciona intestinalis*  
*Perophora listeri*  
*Asciidiella aspersa*  
*Styela clava*  
*Polycarpa scuba*  
*Dendrodoa grossularia*  
*Distomus variolosus*  
*Botryllus schlosseri*  
*Botrylloides leachi*  
*Pyura*  
*Molgula manhattensis*

#### PISCES (Fish)

*Scyliorhinus canicula*  
*Raja clavata*  
*Conger conger*  
*Gadus morhua*  
*Pollachius pollachius*  
*Trisopterus luscus*  
*Hippocampus hippocampus*  
*Syngnathus acus*  
*Aspitrigla cuculus*  
*Myoxocephalus scorpius*  
*Taurulus bubalis*  
*Cyclopterus lumpus*  
*Trachurus trachurus*

*Spondyliosoma cantharus*  
*Centrolabrus exoletus*  
*Symphodus bailloni*  
*Symphodus melops*  
*Ctenolabrus rupestris*  
*Labrus bergyllta*  
*Labrus mixtus*  
*Lipophrys pholis*  
*Parablennius gattorugine*  
*Callionymus lyra*  
*Gobius niger*  
*Gobius paganellus*  
*Gobiusculus flavescens*  
*Pomatoschistus microps*  
*Pomatoschistus minutus*  
*Pomatoschistus pictus*  
*Thorogobius ephippiatus*  
*Zeugopterus punctatus*  
*Pleuronectes platessa*  
*Solea solea*  
*Balistes capriscus*

#### Algae

#### RHODOPHYCOTA (Reds)

*Hildenbrandia*  
*Jania rubens*  
*Calliblepharis ciliata*  
*Dilsea carnosa*  
*Chondrus crispus*  
*Polyides rotundus*  
*Gracilaria bursa-pastoris*  
*Gracilaria gracilis*  
*Plocamium cartilagineum*  
*Chylocladia verticillata*  
*Ceramium*  
*Halurus equisetifolius*  
*Halurus flosculosus*  
*Heterosiphonia plumosa*  
*Cryptopleura ramosa*  
*Drachiella spectabilis*  
*Brongniartella byssoides*  
*Halopithys incurvus*  
*Osmundea*  
*Polysiphonia*  
 Rhodophycota indet. (non-calc. crusts)

#### CHROMOPHYCOTA (Browns)

*Cladostephus spongiosus*  
*Dictyopteria membranacea*  
*Dictyota dichotoma*  
*Arthrocladia villosa*  
*Desmarestia aculeata*  
*Desmarestia ligulata*  
*Chorda filum*  
*Laminaria digitata*  
*Laminaria hyperborea*  
*Laminaria saccharina*  
*Saccharina latissima*  
*Saccorhiza polyschides*  
*Cystoseira*  
*Halidrys siliquosa*  
*Ascophyllum nodosum*  
*Sargassum muticum*

#### CHLOROPHYCOTA (Greens)

*Ulva lactuca*  
*Cladophora*  
*Cladophora rupestris*  
*Codium fragile*

## Acknowledgements

Sussex Seasearch Coordinator  
Data Management  
Annual Report  
Organisation of courses and training dives  
Data recording  
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Chris Williams  
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James Lucey & Chris Wood  
All the divers who took part  
Sussex Diving,  
Worthing BSAC,  
Brighton BSAC & Mulberry Divers



Photo Gerald Legg

Mixed animal turf on a leg of the Selsey Lifeboat Station