

Annual Report 2014

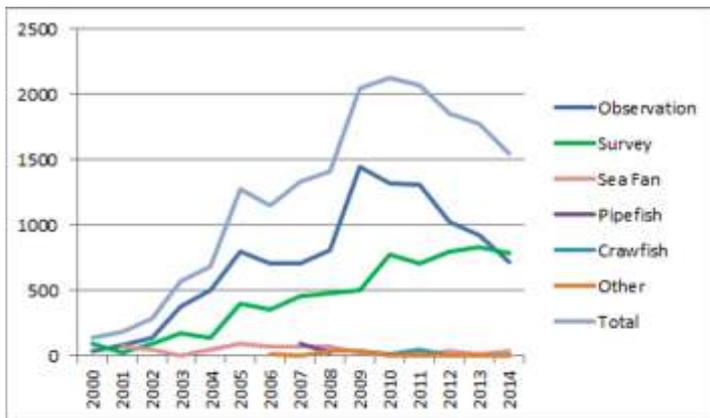


This report summarises Seasearch activities throughout Britain and Ireland in 2014. It includes a summary of the main surveys undertaken (pages 1-4), reports produced and a summary of the data collected. This includes records of Priority habitats and species, locally important features and nationally scarce and rare species (pages 4-6) and habitats (pages 7-8). It also includes a summary of the training courses run for volunteer divers (page 9) and information on how Seasearch is organised and the data is managed and made available (page 10).

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. More detailed datasets are available on request.

Seasearch Surveys 2014

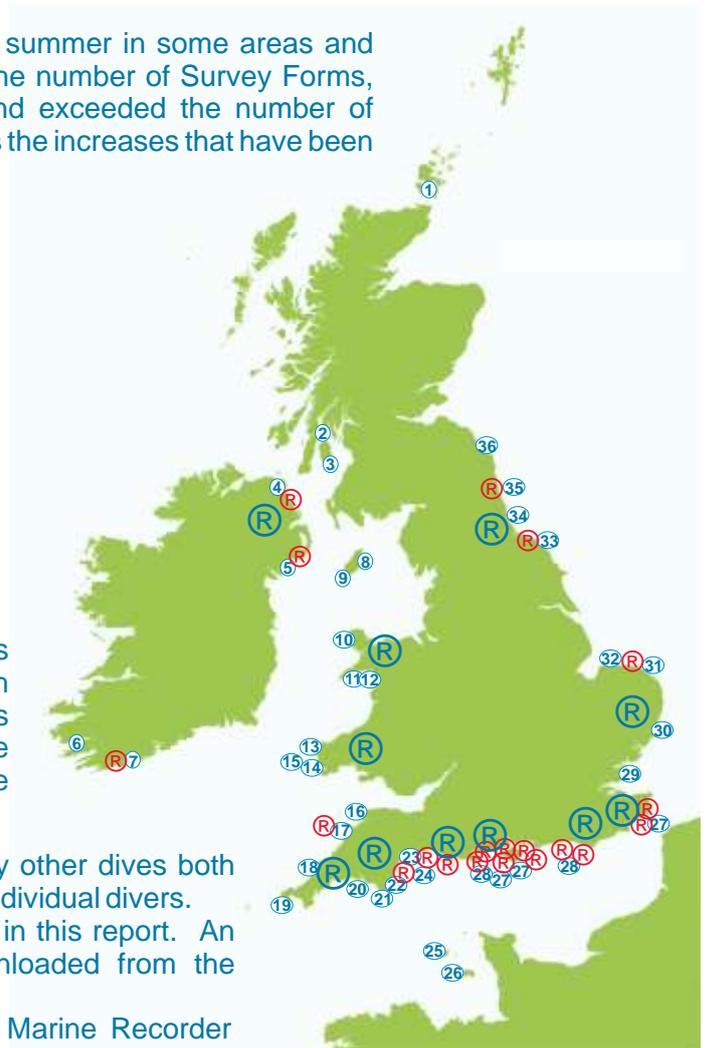
The effects of the winter storms lingered throughout the summer in some areas and limited the number of surveys undertaken. Despite this the number of Survey Forms, which provide the most information, was maintained and exceeded the number of Observation Forms for the first time. The chart below shows the increases that have been made since the project was re-launched in 2003.



The following pages summarise the main surveys undertaken in 2014. They were arranged by Seasearch Coordinators and other volunteers and in many cases Summary Reports ® can be downloaded from the Seasearch website. We would like to thank all of the organisations who supported survey activity at a local level.

In addition to the surveys outlined here there were many other dives both organised by Seasearch coordinators and undertaken by individual divers. The map shows the location of the surveys summarised in this report. An interactive map of all the 2014 records can be downloaded from the Seasearch website and opened using Google Earth.

Data from all of the surveys has been entered into the Marine Recorder database and can be freely accessed on the National Biodiversity Network website www.nbn.org.uk. In addition to this, there are separate datasets for crawfish and pink sea fan survey forms..



Seasearch is co-ordinated by the Marine Conservation Society on behalf of the Seasearch Supporters which comprise the Marine Conservation Society, Wildlife Trusts, Joint Nature Conservation Committee, Natural England, Natural Resources Wales, Scottish Natural Heritage, Department of the Environment Northern Ireland, 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 Irish Underwater Council.

Financial support in 2014 at a national level was given by the partners on the right.



Seasearch is coordinated and delivered locally in England by Wildlife Trust and MCS local coordinators, in Scotland, Wales, Northern Ireland and the Isle of Man by MCS Coordinators and in the Republic of Ireland by the Irish Underwater Council.

Scotland

1 Scapa Flow wrecks: Seasearch divers have continued to survey the famous wrecks from the angle of the marine life they support. Particular records in 2014 were of flame shells, horse mussels and maerl.

2 Horse Mussels in Argyll: Five sites where horse mussels, *Modiolus modiolus*, had been recorded in the past were re-visited with mixed results. At three sites no mussels were found apart from an empty shell, at one site four individuals were found and finally at the fifth site in Loch Creran over 100 mussels were recorded.

As there were only a limited number of surveys organised in 2014, due to a funding and coordination gap, the majority of the records came from individual divers on their own trips covering a wide range of sites.

Northern Ireland ®

3 Red Bay Seagrass: Seasearch dives were undertaken in Red Bay in 2008 and 2012. They concentrated on the seagrass beds which we believe to be the largest in Northern Ireland. Whilst we did not undertake any additional survey work in 2014 we did propose that the seagrass bed be included as a Marine Conservation Zone in the ongoing identification and designation process in Northern Ireland. ®

4 Ardglass Gullies and Guns Island:

These sites both comprised infralittoral surge gullies and are an unusual physical feature in Northern Ireland. A notable record was the nationally scarce southern cup-coral *Caryophyllia inornata* (Ardglass). Seasearch has proposed that these areas be included in the MCZ programme. At present it is understood that the designated features of the Strangford Lough MCZ could be amended to include the Guns Island features but that the Ardglass Gullies are not being put forward for protection. ®



Republic of Ireland

5 Kenmare River: A week-long survey included rock, cave and sediment sites in this deep water inlet. Notable sightings were northern sea fans (*Swiftia pallida*) and fireworks anemones (*Pachycerianthus multiplicatus*) and this area is the most southerly known occurrence of both species. Also surveyed were seagrass and extensive maerl beds.

6 Lough Hyne: Regular surveys were carried out in this, Ireland's first Marine Nature Reserve, which has been the subject of extensive studies over many years. A report of the findings was produced. ®

Isle of Man

7 Non-Native Species Surveys: Surveys were undertaken in Douglas Harbour following a course early in the year on non native species in Manx waters.

8 Porcupine MNHS surveys: A group of divers from the Porcupine Marine Natural History Society carried out Seasearch surveys in the southern part of the island and amassed a considerable body of data. Unfortunately weather conditions were not the best and boat based surveys had to be cancelled on some days with shore dives substituted.

Wales ®

9 Borthwen and Criccieth Seagrass: Survey dives confirmed that the seagrass, *Zostera marina*, beds at Borthwen on Holy Island and Criccieth, Tremadog Bay, are still present (albeit very patchy in the case of that at Criccieth), following earlier Seasearch surveys.

10 Mantis shrimps near Abersoch: Dives were made to establish if the mantis shrimp colony first recorded in 2000 was still present. It took two goes to find them but on the second attempt 3 living shrimps were seen amongst many apparently empty burrows.

11 Spoon worms in Tremadog Bay: A potential bed of the Echiuroid spoon worm *Maxmuelleria lankesteri* was discovered in Tremadog Bay. This species has only rarely been recorded in Wales - it belongs to a group of marine species called echiurans and has an important role in turning over (bioturbating) the sediment it lives in.

12 Crawfish in St Brides Bay: Dives were carried out at 4 sites on the north side of the bay to compare crawfish populations there with those surveyed in 2011 in North Pembrokeshire. Only two crawfish were found, both juvenile, compared to a much larger number of other commercially fished crustaceans. ®

13 Nudibranch Bioblitz:

The aim of this survey was to record as many nudibranch species as possible during a single weekend at Martins Haven within the Skomer MCZ. 33 species were recorded in 2014 and, together with 2010 records, make a combined total of 40 species for the one site.



14 Hats and Barrels: An exposed site 18 mile offshore with strong tidal streams, this is an extensive area of reefs only once dived by Seasearch before in 2007. The reef surfaces were heavily silted and had huge numbers of reef building amphipods, *Jassa falcata*, and skeleton shrimps.

England

15 Lundy seafans: We continued to monitor the condition of the pink sea fan population on Lundy. Again sadly weather conditions did not allow us to look at our sites on the west side of the island. Recovery is slow following disease in the early 2000s and seems to be confined to re-grow of old colonies with no sign of new juvenile recruitment.®

16 Hartland Point: Members of Appledore SAC Surveyed two sites off Hartland Point within the proposed Hartland to Tintagel MCZ. Crawfish and sea fans were recorded, both priority species and, on such a difficult to dive coast, records from local divers are especially valuable.®

17 Newquay and The Gannel rMCZ: Another proposed MCZ, the area is famous for its surfing beaches, though regular swells mean diving is often difficult, so there was limited dive data available to support the designation. Through the Newquay Marine Group, teams of Seasearchers completed eight dives within the rMCZ, many to previously unexplored sites.

18 Lands End rMCZ: The Runnel Stone was the highlight of the 7 sites dived in this proposed MCZ.. Here the prolific marine life included elegant and jewel anemones in every colour imaginable and a profusion of oaten pipe hydroids and nudibranchs.



19 Plymouth after the storms: Several sites revealed considerable movement of sand during the winter storms. There was damage to the sea fan populations too with detached fans lying in gully bottoms and tangled in netting. Elsewhere movement of boulders and cobbles had affected the diversity of animal life. However, the damage was limited, large healthy populations of sea fans remained and the suspended silt settled out of the water column by mid-summer.

20 Start Point and Prawle Point: New sites were surveyed in this part of the newly designated Skerries and surrounds MCZ. Anemones and bryozoans were prominent, with fields of Dahlia anemones at one site (above), Both these and Sunstar, *Crossaster papposus*, are relative rarities in the south.®

21 Torbay: Another newly designated MCZ where our surveys concentrated on reefs on the north and south sides of the bay and seagrass beds at Fishcombe and Beacon Coves within the bay itself.®

22 Lyme Bay: Surveys took place on both the Devon and Dorset sides of Lyme Bay. Early season dives reported overturned rocks and detached sea fans following winter storms, but later on it was good to find extensive sea fan forests in areas protected by the current ban on scallop dredging.

23 Chesil Beach and Stennis Ledges: Surveys continued in this newly designated MCZ using the Dorset bathymetric map to pinpoint areas of interest. One of these turned out to be a 3m-high wall of Oxford clay with numerous overhangs and ledges – a perfect habitat for the large crustaceans we found there but also very soft and friable so extremely susceptible to damage from mobile gear.®

24 Guernsey: Following a course in August we had a keen group of local divers on Guernsey bringing back new data from the island, which has seen very little Seasearch activity in the past.

25 Jersey: A week-long survey covered sites all along the north side of the island, including The Paternosters and Les Ecrehou. Once again a number of southerly species were recorded which are rarely, or never, found elsewhere in Britain and Ireland. Maerl sites were also surveyed.

26 South Coast (Tranche 2) rMCZs: Much of the survey effort in south and south eastern England in 2014 went into the areas included in the list of 36 sites being considered for protection in the second tranche of MCZs. In the stretch of coastline from Kent to Dorset surveys were carried out and reports produced for 7 sites. Unfortunately of these three did not even make the consultation - Studland Bay, Yarmouth to Cowes and Bembridge. However the other four, The Needles, Utopia, Dover to Folkestone and Dover to Deal, were all the subject of consultation in early 2015. Reports of our surveys in all seven areas are on the Seasearch website. Native Oysters (below) are a feature of many of these areas.®



27 South Coast MCZs: Surveys also continued in some of the newly designated MCZs on the south coast. Poole Rocks, Kingmere and Beachy Head West; and again reports are available for each of them.® It is important to continue to record in these designated areas and to report any adverse changes which may be taking place.

28 Blackwater Estuary: We explored several new sites in the Blackwater by inflatable boat and kayak. The water was surprisingly clear and communities based around reefs of slipper limpets proved more exciting than we'd imagined; green sea hare, *Elysia viridis*, several pipefish and juvenile grey gurnard were all seen.

29 Orfordness, Suffolk: Here we put in place several colonisation plates after surveying many possible sites. The visitor pontoons remain the most biodiverse part of the area with mermaids glove sponge prominent, but newly formed shallow marine and brackish lakes from winter inundation also have their own collection of species.

30 Cromer Shoal rMCZ; Seasearch surveys resulting in 94 forms were undertaken at 20 sites in this rMCZ in 2014. The chalk reefs (below) are the main feature of the area but records were also made of other priority habitats, including subtidal clay and ross worm reef.®



31 Cley Fossilised Forest: This 'reef' of compressed peat topped with whole fallen trees and a partial cap of ice age clay, is covered in a huge range of hydroids and bryozoans, many of which haven't been seen on other sites in the area. We explored more than three quarters of a mile of this reef in 2014.

32 Runswick Bay rMCZ: Shore dives were carried out in this proposed MCZ which was the subject of consultation in early 2015. ®

33 Durham Heritage Coast: Four more sites were surveyed, and over 150 species recorded. Our dives continue to show the amazing recovery that is taking place since the dumping of colliery spoil at sea ended some 20 years ago.

34 Coquet to St Marys rMCZ: The sites surveyed were all in the southern half of the rMCZ between Newbiggin-by-the-Sea and Seaton Sluice and ranged from shallow kelp habitats to deeper reefs and wrecks dominated by faunal turf. This site was also included in the MCZ second tranche consultation in early 2015. ®

35 Diving on the English/Scottish border: Seasearch continues to fill the gaps in data between the Farne Islands and St Abbs. Two dives were carried out close to Marshall Meadows Bay and at Spittal Hearst, a pinnacle with its peak at 17m depth. Species records included the white crevice sea cucumber *Pawsonia saxicola*, and spiny starfish *Marthasterias glacialis*, both more commonly recorded in the south and west.

Species recorded in 2014

A total of almost 49,000 species records were made during 2014. The following table provides a summary of the species recorded and identifies both the most commonly recorded species and the species of special interest. Priority (formerly 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 JNCC list has not been revised for some years and the records also include some nationally scarce and rare fishes which are not in the JNCC list and records of other southerly species which have only been recently recorded in our area. The list also identifies non-native species, based on the Marine Biological Association guide.

Commonly recorded species (more than 200 records)

Priority (P), Scarce (S), rare (R) non-native (NN) species

Foraminifera, (2 records - neither identified to species)

Porifera, Sponges (75 species)

Cliona celata, boring sponge (560)
Amphilectus fucorum, shredded carrot sponge (362)
Dysidea fragilis, goosebump sponge (327)
Scyon ciliatum (*Scypha ciliata*), purse sponge (321)
Pachymatisma johnstonia, elephant hide sponge (285)
Hemimycale columella, crater sponge (271)
Halichondria panicea, breadcrumb sponge (239)

Stryphnus ponderosus (R) 3 records from Hampshire, Dorset & Isles of Scilly (uncertain)
Thymosia guernei, mashed potato sponge (S) 26 records from Pembrokeshire, Lundy & S Devon
Dysidea pallescens (R) 3 records from Norfolk
Adreus fascicularis (R) 16 records from Lyme Bay, S Devon and Jersey
Suberites massa (R) 1 record from S Devon
Axinella damicornis, crumpled duster sponge (S), 47 records from Pembrokeshire, N Devon & Cornwall, Is of Scilly, S Devon & Sark
Desmacidon fruiticosum (R) 1 record from Isles of Scilly
Tethyspira spinuosa (S) 3 records from Lyme Bay

Cnidaria, Jellyfish, hydroids, siphonophores, anemones and corals (126 species)

Jellyfish (9 species)

stalked jellyfishes (P) *Craterolophus convolvulus* - 1 record from Dorset, *Lucernariopsis campanulata* - 3 records from W Scotland and Isle of Man, *L. cruxmelitensis* - 2 records from Cornwall & Dorset

Hydroids (59 species)

Nemertesia antennina, antenna hydroid (546)
Tubularia indivisa, oaten pipes hydroid (260)
Obelia geniculata, kelp fur (238)
Nemertesia ramosa, branched antenna hydroid (236)

Aglaophenia kirchenpaueri (S) 15 records from N Wales, Pembrokeshire, N Cornwall, S Devon & Dorset
Lytocarpia myriophyllum (S) 3 records from Isles of Scilly
Hartlaubella gelatinosa (S) 3 records from Norfolk
Obelia bidentata (R) 2 records from Norfolk

Cnidaria continued**Anemones and corals** (55 species)

Alcyonium digitatum, dead men's fingers (709)
Urticina felina, dahlia anemone (487)
Caryophyllia smithii, Devonshire cup-coral (482)
Metridium senile, plumose anemone (336)
Sagartia elegans, elegant anemone (327)
Corynactis viridis, jewel anemone (300)
Anemonia viridis, snakelocks anemone (267)
Actinothoe sphyrodeta, white striped anemone (253)



Alcyonium hibernicum, pink fingers (S) 7 records from Firth of Lorn, Isle of Man, Northern Ireland, and S Devon
Swiftia pallida, northern sea fan (P) 18 records from W Scotland & SW Ireland
Eunicella verrucosa, pink sea fan (P) 166 records from Donegal, Pembrokeshire, N Devon & Cornwall, Isles of Scilly, S Devon & Cornwall, Dorset, Channel Islands
Funiculina quadrangularis, tall sea pen (P) 2 records from W Scotland
Pachycerianthus multiplicatus, fireworks anemone (P, S) 8 records from Argyll and SW Ireland
Pachycerianthus indet. (southerly) 7 records from Jersey (photo left)
Parazoanthus anguicomus, white cluster anemone (S) 6 records from W Scotland, Northern Ireland & Isles of Scilly
Parazoanthus axinellae, yellow cluster anemone (S) 36 records from Pembrokeshire, Lundy, Scilly, S Devon, S Cornwall & Channel Is.
Aiptasia mutabilis, trumpet anemone (S) 51 records from Dorset, Lyme Bay, S Devon & Cornwall, Jersey, Lundy, Pembrokeshire & Cork
Amphianthus dohrnii, sea fan anemone (P, R) 7 records from N Devon, Isles of Scilly, S Devon and Cornwall
Mesacmaea mitchellii, Policeman anemone (S) 3 records, Lundy, Lyme Bay and Jersey
Caryophyllia inornata, southern cup-coral (R) 27 records from Northern Ireland, SW Ireland, Lundy, Isles of Scilly, S Devon, Lyme Bay, Dorset and Jersey
Hoplanguia durotrix, Weymouth carpet coral (R) 3 records from Lyme Bay & Dorset
Balanophyllia regia, scarlet and gold star coral (S) 5 records from North Cornwall, S Devon and Jersey
Leptopsammia pruvoti, sunset cup-coral (P, R) 7 records from Lundy, Isles of Scilly, and Lyme Bay

Ctenophora, Comb Jellies (3 species)**Platyhelminthes, Flat worms** (6 species)**Nemertea, Ribbon Worms** (3 species)**Annelida, Segmented worms** (35 species)

Spirobranchus lamarkcii/triqueter, keel worms (452)
Janice conchilega, sand mason worm (303)
Bispira volutacornis, double spiral worm (254)
Sabella pavonnina, peacock worm (243)

Sabellaria alveloata, (Priority Habitat in UK) 1 record from Cork
Sabellaria spinulosa, rosworm (Priority Habitat - reefs) 14 records from Northumberland, Durham, Norfolk, Kent, Sussex, Isle of Wight, Dorset, Lyme Bay (mostly not reef forming)
Sabella spallanzanii, (southerly) 4 records from Jersey
Serpula vermicularis, organ pipe worm (Priority Habitat in UK) 34 records including reefs in Loch Creran, W Scotland

Pycnogonida, Sea spiders (2 species)**Crustacea, Barnacles, amphipods, isopods, crabs, lobsters and prawns** (78 species)

Cancer pagurus, edible crab (811)
Necora puber, velvet swimming crab (703)
Homarus gammarus, lobster (427)
Maja squinado, spiny spider crab (311)
Pagurus bernhardus, common hermit crab (294)
Carcinus maenas, shore crab (260)

Periclimenes sagittifer, anemone prawn (southerly), 5 records from Dorset & Channel Islands
Achaeus cranchii (S), 1 record from Isle of Man
Palinurus elephas, crawfish (P) 23 records from, Donegal, Mayo, Kerry, Cork, Waterford, Pembrokeshire, Lundy, N Devon & Cornwall, Isles of Scilly, S Devon & Jersey
Dromia personata, sponge crab (S) 11 records from Pembrokeshire, Lundy, N Devon & Jersey

Mollusca, shells, sea slugs, bivalves and cephalopods (162 species)

Calliostoma zizyphinum, painted topshell (559) below
Gibbula cineraria, grey topshell (294)
Pecten maximus, great or king scallop (213)



Haliotis tuberculata, ormer (southerly) 1 record from Jersey
Crepidula fornicata, slipper limpet (NN) 170 records from Norfolk to Devon, Jersey & Milford Haven
Aeolidia alderi, (S) 1 record from Dorset
Tritonia nilsodhneri, sea fan sea slug (S) 16 records from Lyme Bay, S Devon & Cornwall
Okenia elegans, (S) 2 records Pembrokeshire & S Devon
Trapania maculata, (R) 4 records from Dorset
Trapania pallida, (S) 1 record from N Cornwall
Hero formosa, (S) 1 record from deep water east of Shetland
Thecacera pennigera, orange specked sea slug (S) 15 records from N Wales, Pembrokeshire, Cornwall, Lyme Bay, Dorset, & Suffolk
Doris sticta, sponge sea slug (S) 4 records from S Cornwall & Scilly Isles
Modiolus modiolus, horse mussel (beds - Priority habitat) Loch Creran, Argyll +19 records of smaller numbers from Orkney, West Scotland, Isle of Man, Northumberland and Norfolk
Ostrea edulis, European oyster (P) 70 records from Northern Ireland, Galway, Milford Haven, Suffolk to S Devon & Jersey
Crassostrea gigas, Pacific oyster (NN) 1 record from Suffolk
Arctica islandica, Icelandic cyprine (P) 2 records. Orkney & Pems

Brachipods, lamp shells (1 species)**Bryozoa, sea mats and sea mosses** (75 species)

Alcyonidium diaphanum, finger bryozoan (406)
Bugula plumosa, spiral bryozoan (324)
Flustra foliacea, hornwrack (306)
Electra pilosa, kelp fur (256)
Membranipora membranacea, sea mat (228)

Bugula neritina (NN) 5 records Suffolk, Sussex & Cornwall
Watersipora subtorquata (NN) 1 record from Milford Haven

Phoronida, horseshoe worms (1 species)**Echinodermata, starfish, sea urchins and sea cucumbers** (40 species)

Asterias rubens, common starfish (775)
Echinus esculentus, common sea urchin (572)
Marthasterias glacialis, spiny starfish (469)
Henricia oculata/sanguinolenta, bloody henry (396)
Antedon bifida, common featherstar (203)

Paracentrotus lividus, purple sea urchin (R) 1 record from Kerry, Ireland

Tunicata, sea squirts (57 species)

Clavelina lepadiformis, light bulb sea squirt (513)
Botryllus schlosseri, star sea squirt (347)
Morchellium argus, four spot club sea squirt (246)
Ascidia mentula, red sea squirt (210)

Polysyncraton bilobatum (R) 9 records from Isle of Man, Norfolk, Dorset & Pembrokeshire
Polysyncraton lacazei (R) 4 records from Jersey
Perophora japonica (NN) 7 records from Norfolk
Corella eumyota, orange tipped sea squirt (NN) 12 records from Suffolk, Dorset, S Cornwall, Pembrokeshire & Eigg (W Scotland)
Asterocarpa humilis, compass sea squirt (NN) 1 record Milford Haven
Styela clava, leathery sea squirt (NN) 58 records from Suffolk, Sussex to Portland, Milford Haven, N Wales & Argyll

Pisces, fishes (94 species)

(fish are not included in the JNCC rare and scarce species lists)

Labrus bergylta, ballan wrasse (488) below
Ctenolabrus rupestris, goldsinny (404)
Pollachius pollachius, pollack (298)
Labrus mixtus, cuckoo wrasse (256)
Parablennius gattorugine, tompot blenny (253)
Taurulus bubalis, long spined sea scorpion (224)
Scyliorhinus canicula, lesser spotted catshark (214)
Symphodus melops, corkwing wrasse (200)



CWo

Torpedo mamorata/nobliana, electric ray (southerly) 1 record from Jersey
Raja undulata, undulate ray (P) 4 records from Sussex, Dorset & Lyme Bay
Lophius piscatorius, anglerfish/monkfish (P) 12 records from Orkney, SE Scotland, Sligo, Kerry, Northumberland and S Cornwall
Gadus morhua, cod (P) 25 records from Scotland, Ireland, Isle of Man Norfolk & S Devon
Molva molva, ling (P) 19 records widely distributed from Orkney to Scilly Is
Hippocampus hippocampus, short snouted seahorse (P) 1 record, Sussex
Spondyllosoma cantharus, black bream (southerly) 11 records from N Wales, Dorset & Jersey
Symphodus bailloni, Baillon's wrasse (southerly) 7 records Dorset & Jersey
Parablennius ruber, red blenny (southerly) 8 records from Isles of Scilly & Cork
Tripterygion deletasi, black-face blenny (southerly) 29 records from Dorset, S Devon and Cornwall & Jersey
Gobius couchi, Couch's goby (R) 6 records from Dorset & Cork
Pleuronectes platessa, plaice (P) 49 records widely distributed
Solea solea, sole (P) 9 records from Yorkshire, Norfolk, Kent, Sussex, Isle of Wight, Jersey & Cork

Aves & Mammalia, birds & mammals (3 species of seals, dolphin and porpoise)**Algae, seaweeds****Rhodophycota, Red seaweeds** (132 species)

Delessaria sanguinea, sea beech (296)
Heterosiphonia plumosa, siphoned feather weed (219)
Calliblepharis ciliata, red fringed weed (211)

Asparagopsis armata, harpoon weed (NN) 12 records from Isle of Man, Cornwall, Dorset, Isle of Wight and Jersey
Heterosiphonia japonica (NN) siphoned Japan weed, 4 records from Sound of Mull and Dorset
Maerl (Priority habitat) 66 records. most not identified to species, from Orkney to Jersey. high abundances (maerl beds) in, Harris, Loch Sween, Kerry and Jersey
Gracilaria bursa-pastoris, shepherd's purse wart weed (S) 5 records from Sussex, Dorset & Jersey

Chromophycota, Brown seaweeds (43 species)

Laminaria hyperborea, cuvie or forest kelp (366)
Dictyota dichotoma, brown fan weed (247)

Zanardinia typus, pennyweed (S) 1 record from Dorset
Carpomitra costata, tassel weed (S) 1 record from Isles of Scilly
Undaria pinnatifida, wakame (NN) 7 records from marinas/harbours in Suffolk, Dorset & S Devon
Sargassum muticum, wireweed (NN) 91 records as far north as Isle of Man

Chlorophycota, Green seaweeds (16 species)**Angiospermae, flowering plants** (2 species)

Zostera marina, eelgrass (Priority habitat) 43 records from Isle of Man, North Wales, Pembrokeshire, Kerry, Cork, S Devon & Cornwall, Dorset and Isle of Wight

Total Species Recorded = 956

Habitats and Biotopes

Seasearch records habitats and animal and plant communities in two ways.

For the Observation Form data the recorder identifies one or more Seabed Cover Types (SCT) for the whole of their record from a list of nine options. For the Survey Forms the data is separated into a number of different Samples and each sample is given a Biotope Code using the MNCR 04.05 suite devised by the Joint Nature Conservation Committee. This is carried out by a post survey assessor rather than the recorder themselves as it requires a specialist knowledge of the biotope system. During 2014 3,361 SCTs and Biotopes were identified. 55% (1,844) were MNCR Biotopes & 45% (1,517) SCTs.

MNCR 04.05 Biotopes

The 1,844 biotopes assigned were divided by main habitat as follows:

Littoral rock	27
Infralittoral rock	552
Circalittoral rock	704
Sublittoral sediment	561

In almost all cases more detailed biotopes were assigned within these broad categories. These are based on variations in the type of physical habitat, and different communities of plants and animals.

Some habitats have been assessed as priority habitats for conservation in the UK. Whilst these are not identified in the same way in Ireland, Irish records have been included below. Priority habitat records were as follows:

Subtidal chalk

CR.MCR.SfR; Soft rock communities; 22 records from Norfolk, Kent, Sussex and Isle of Wight

CR.MCR.SfR.Pid; Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay; 28 records (not all on chalk) from Norfolk, Kent, Sussex and Isle of Wight

CR.MCR.SfR.Pol; *Polydora sp.* tubes on moderately exposed sublittoral soft rock: 18 records from Norfolk and Kent

Tide-swept channels

CR.HCR.FaT.BalTub: *Balanus crenatus* and *Tubularia indivisa* on extremely tide-swept circalittoral rock; 2 records, The Buroo (Calf of Man) and Sylvia Rock (Ramsey Sound)

CR.HCR.FaT.CTub: *Tubularia indivisa* on tide-swept circalittoral rock
4 records, Calf of Man (2 sites), Barrel Rock (Pembrokeshire), Raglans (Cornwall)

CR.HCR.FaT.CTub.Adig: *Alcyonium digitatum* with dense *Tubularia indivisa* and anemones on strongly tide-swept circalittoral rock; 5 records Waternish Point (Skye), North Cuan Sound, Burro (Calf of Man), Prawle Point (Devon)

IR.MIR.KR.LhypT; *Laminaria hyperborea* on tide-swept, infralittoral rock: 3 records from Newquay (Cornwall) & Jersey

IR.MIR.KR.LhypT.Ft; *Laminaria hyperborea* forest, foliose red seaweeds and a diverse fauna on tide-swept upper infralittoral rock: 13 records from N Uist, Small Isles (Eigg & Muck). Sound of Mull. Kenmare River (Ireland), Rhoscolyn Head (Anglesey), Farne Islands, Lizard (Cornwall) and Jersey

IR.MIR.KR.LhypT.Pk; *Laminaria hyperborea* park with hydroids, bryozoans and sponges on tide-swept lower infralittoral rock; 14 records from Loch Hourn, Barra, Rathlin and Isle of Muck (Northern Ireland), Calf of Man, St Brides Bay, Milford Haven and Crow Sound (Pembrokeshire), Farne Islands, Nare head and the Lizard (Cornwall) and Jersey

IR.MIR.KT.FilRVS; Filamentous red seaweeds, sponges and *Balanus crenatus* on tide-swept variable-salinity infralittoral rock: 1 record Milford Haven (Pembrokeshire)

IR.MIR.KT.XKT; Mixed kelp with foliose red seaweeds, sponges and ascidians on sheltered tide-swept infralittoral rock: 1 record from Eigg (Small Isles)

IR.MIR.KT.XKTX; Mixed kelp and red seaweeds on infralittoral boulders, cobbles and gravel in tidal rapids: 1 record from Fleet narrows (Dorset)

Fragile Sponge and Anthozoan communities

CR.HCR.XFa.ByErSp.Eun: *Eunicella verrucosa* and *Pentapora foliacea* on wave-exposed circalittoral rock; 24 records from Newquay (Cornwall), Isle of Scilly, Lizard, Plymouth, Bigbury Bay (Devon), Lyme Bay (Devon & Dorset)

CR.HCR.XFa.ByErSp.Sag; Mixed turf of bryozoans and erect sponges with *Sagartia elegans* on tide-swept circalittoral rock: 2 records from Maxwell Bank (Eigg) and St Agnes (Cornwall)

CR.HCR.XFa.SwiLgAs; Mixed turf of hydroids and large ascidians with *Swiftia pallida* and *Caryophyllia smithii* on weakly tide-swept circalittoral rock: 8 records from Uist and Small Isles

CR.MCR.EcCr.CarSwi; *Caryophyllia smithii* and *Swiftia pallida* on circalittoral rock; 1 record from N Uist

CR.MCR.EcCr.CarSwi.Aglo; *Caryophyllia smithii*, *Swiftia pallida* and *Alcyonium glomeratum* on wave-sheltered circalittoral rock: 1 record from Kenmare River (Ireland)

Sabellaria spinulosa reefs

CR.MCR.CSab; Circalittoral *Sabellaria* reefs (on rock): 1 record from Lyme Bay (Dorset)

CR.MCR.CSab.Sspi; *Sabellaria spinulosa* encrusted circalittoral rock: 1 record from Lyme Bay (Dorset)

CR.MCR.CSab.Sspi.ByB; *Sabellaria spinulosa* with a bryozoan turf and barnacles on silty turbid circalittoral rock; 1 record from Lyme Bay (Dorset)

SS.SBR.PoR.SspiMx; *Sabellaria spinulosa* on stable circalittoral mixed sediment: 1 record from Norfolk

Seabed Cover Types

The 1,517 SCTs recorded were divided as follows:

Kelp forest and kelp park	270
Mixed seaweeds	327
Encrusting pink algae	47
Short animal turf on rock	418
Tall animal turf on rock	238
Animal beds (mussels, brittlestars)	19
Sediment with life apparent	175
Barren sediment	23

This data provides a broad indication of the habitats and communities present at the site. In some cases it is apparent that the level of detail on the record is sufficient to assign a MNCR Biotope to an Observation Form.

Subtidal sands and gravels This habitat has a broad definition many biotopes are included. The following are all broad scale habitats and in many cases there are more detailed biotopes in our records.

- SS.SCS.CCS; Circalittoral coarse sediment: 110 records
- SS.SCS.ICS; Infralittoral coarse sediment 78 records
- SS.SSa: Sublittoral sands and muddy sands: 8 records
- SS.SSa.CFiSa; Circalittoral fine sand: 21 records
- SS.SSa.CMuSa; Circalittoral muddy sand: 1 record
- SS.SSa.IFiSa; Infralittoral fine sand: 40 records
- SS.SSa.IMuSa; Infralittoral muddy sand: 49 records

Horse mussel beds

- SS.SBR.SMus.ModCvar; *Modiolus modiolus* beds with *Chlamys varia*, sponges, hydroids and bryozoans on slightly tide-swept very sheltered circalittoral mixed substrata: 2 records from Loch Creran
- SS.SBR.SMus.ModHAs; *Modiolus modiolus* beds with fine hydroids and large solitary ascidians on very sheltered circalittoral mixed substrata: 4 records from Scapa Flow and Loch Creran

Mud Habitats in deep water

- SS.SMu.CFiMu; Circalittoral fine mud: 8 records from Sound of Mull, Tremadog Bay (N Wales), Kenmare River (Ireland), Plymouth Sound, Lyme Bay (Devon)
- SS.SMu.CFiMu.SpMeg; Seapens and burrowing megafauna in circalittoral fine mud: 2 records from Scapa Flow and Loch Fyne
- SS.SMu.CFiMu.SpMeg.Fun; Seapens, including *Funiculina quadrangularis*, and burrowing megafauna in undisturbed circalittoral fine mud: 2 records from North Uist and Loch Sunart (Argyll)

Maerl beds

- SS.SMp.Mrl; Maerl beds: 22 records from Scapa Flow, Kenmare River (Cork), Falmouth (right) and Jersey
- SS.SMp.Mrl.Lgla; *Lithothamnion glaciale* maerl beds in tide-swept variable salinity infralittoral gravel: 1 record from Loch Sween (Argyll)
- SS.SMp.Mrl.Pcal; *Phymatolithon calcareum* maerl beds in infralittoral clean gravel or coarse sand: 1 record from Sound of Harris

Serpulid reefs

- SS.SBR.PoR.Ser; *Serpula vermicularis* reefs on very sheltered circalittoral muddy sand: 3 records from Loch Ailort and Loch Creran

Blue mussel beds on sediment

- SS.SBR.SMus.MytSS; *Mytilus edulis* beds on sublittoral sediment: 1 record from Nab Head (Pembrokeshire)

Seagrass beds

- SS.SMp.SSgr; Sublittoral seagrass beds: 1 record, Swanage (Dorset)
- SS.SMp.SSgr.Rup; *Ruppia maritima* in reduced salinity infralittoral muddy sand: 2 records, Orfordness, Suffolk
- SS.SMp.SSgr.Zmar; *Zostera marina/angustifolia* beds on lower shore or infralittoral clean or muddy sand: 27 records from Isle of Man, Rhoscolyn (Anglesey), Criccieth (Gwynedd), Skomer (Pembrokeshire), Helford River (Cornwall), Torbay (Devon), Studland Bay (Dorset) and Totland (Isle of Wight).



CWo

Pink seafan surveys 2014

Seasearch has been carrying out detailed surveys of pink sea fan, *Eunicella verrucosa*, populations since 2000. The methodology involves recording the location, density and habitat of populations as a whole together with detailed information on individual colonies including size, condition and any fouling organisms. A particular record is kept of sea fan anemones, *Amphianthus dohrnii*, sea fan nudibranchs, *Tritonia nilsodneri*, and more recently sea fan false cowries, *Simnia hiscocki*.

The main focus of our surveys in 2014 was to record the impact of the severe winter storms which were experienced throughout the sea fan distribution range in southern England in early 2014. Surveys were carried out in Dorset, south Devon and Cornwall between May and September and covered both known population hot spots and sites without previous records.

During 2014 39 sea fan survey forms were received containing detailed information on 512 individual colonies.

The earliest records were made in Eastern Lyme Bay in early May. At that time conditions were very silty with both suspended particles in the water column and a layer of silt covering the sea bed. There were detached or buried sea fans on the sea bed.

Later surveys, both in Lyme Bay and elsewhere, showed much less impact than we had feared with healthy mature populations recorded at The Manacles, sites off Plymouth, Bigbury Bay and West Lyme Bay. It was also good to be able to record large numbers of new recruits, especially at sites in the Plymouth area. ®



CWo

Seasearch Training in 2014

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 surveys with a tutor present to help with form completion and identifications.

There were 24 Observer courses held in 2014 in England (14), Wales (3), Ireland (3), Scotland (2) and the Channel Islands (2). 250 divers took part in the Observer courses, the great majority of whom were new to Seasearch.

The **Surveyor** level training is aimed at volunteers 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, completion of 6 survey dives and an ID test.

Four Surveyor Courses were held in 2014, taking place in Cornwall, Jersey, North Wales and SE Scotland. There were 32 participants. The Surveyor level training is aimed at volunteers 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, completion of 6 survey dives and an ID test.

Seasearch **Specialist** courses are aimed at either teaching new survey skills or improving knowledge and identification of marine life. Eleven courses were held in 2014 with 90 volunteers taking part. Subjects covered fish ID (Cornwall), Anemones and Corals (Northern Ireland), Sponges (Dorset and Pembrokeshire), Ascidians (Dorset), Seaweeds (SE Scotland), Non-native species (Isle of Man), General marine life ID (Northern Ireland, Cork, Dorset) and Underwater photography (Dorset),

Seasearch Observer and Surveyor training courses are delivered by our team of **tutors**, all of whom are experienced Seasearch recorders and active divers. 22 of them taught on courses in 2014 including 3 new tutors, Caz Waddell (Cornwall), Kevin McIlwee (Jersey) and Tom Stamp (N Wales) all pictured below. The Specialist courses are given by Seasearch tutors and visiting experts who in 2014 included Frances Dipper (fish), David Kipling (ascidians), Tim Butter and Paul Biggin (general marine life ID).



Seasearch qualifications are awarded to those completing the Seasearch Observer (course and 5 acceptable observation forms), or Surveyor (course, 6 acceptable survey forms & an ID test) programmes. In 2014 35 volunteers achieved the Observer qualification and 12 volunteers the Surveyor qualification.

The qualification process not only acts as a reward to participants but is also a recognition of the skills available within the Seasearch community of volunteer divers and thus the validity of their observations.



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. We currently have four titles in the series. The general Marine Life Guide is popular as an introductory guide and sells primarily on Observer Courses. We have three more specialised Guides covering Seaweeds, Bryozoans and Hydroids and Sea Anemones and Corals. A fifth guide, covering Sponges and Ascidians is in preparation and is due for publication in 2015.

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

Guides and recording materials are available at Seasearch courses and events and can also be purchased online via the MCS shop.

Seasearch Data

Data Received in 2014

A total of 1,554 forms was received from dives in 2014, which was less than in recent years. This was due to poor weather conditions in the early part of the year leading to cancellations of some surveys and a the lower level of Observation Forms received. However the number of Survey Forms, which provide significantly more data, was maintained and for the first time exceeded the number of Observation Forms and comprised 51% of those received.

Of the forms received almost two thirds (61%) came from sites in England. 13% were from Wales, 9% from Scotland, 7% from Ireland, 6% from the Channel Islands and 4% from the Isle of Man.

The data is entered into the Marine Recorder database and is made available to all Seasearch partners in Marine Recorder format. The dataset is also passed to the National Biodiversity Network and is made available on the NBN Gateway website for all to use. A Google Earth map can be downloaded from the Seasearch website giving a summary for each site.

The 2014 dataset comprises 99 surveys, including 1,215 survey events and contains 49,057 individual species records, covering 956 different species and 3,361 biotopes.

Seasearch Coordination and Promotion

Seasearch is organised on behalf of the Seasearch supporters and supported by a Technical Steering Group, and the Tutors/Coordinators each of which meet on an, at least, annual basis.

The day to day activities are organised by the National Coordinator and a team of Local Coordinators throughout Britain & Ireland. At the end of 2014 the team was as follows:

National Coordinator	Chris Wood	MCS
Scotland	Georgia Conolly	MCS
West Scotland	Owen Paisley	MCS
Northern Ireland	Beatriz Gonzalez-Fernandez	MCS
Republic of Ireland	Tony O' Callaghan	CFT
Isle of Man	Tony Glen	MCS
North Wales	Tom Stamp	MCS
South & West Wales	Kate Lock	MCS
North East England	Paula Lightfoot	MCS
North West England	Wendy Northway	MCS
East Anglia	Dawn Watson	MCS
Kent	Fiona White	Kent WT
Sussex	Olle Akesson	Sussex WT
Hants/Isle of Wight	Abbi Scott	Hants WT
Dorset	Charlotte Bolton	Dorset WT
Devon	Chris Webb	MCS
Cornwall	Cat Wilding	Cornwall WT
Jersey	Kevin McIlwee	Jersey Seasearch

The picture to the right shows coordinators, tutors and Seasearchers at the annual Seasearch Workshop, this year held at the Natural History Museum in London.

Thanks to all the Seasearch Tutors and coordinators for their enthusiasm, organising and teaching skills during 2014 and to all of the volunteer divers who have participated in Seasearch training, recording and promotion.

This report has been produced on behalf of Seasearch by the Marine Conservation Society, Over Ross House, Ross Park, Ross-on-Wye, Herefordshire, HR9 7QQ.

Text by Chris Wood with contributions from coordinators. Images by Claire Goodwin, Chris Webb, Chris Wood, Hayden Close, Rob Spray, and Roland Brookes. Maps and design by Chris Wood.

Data validation and management

On receipt of a Seasearch form, summary information is recorded in a database and the position mapped in Google Earth. This data is available to download from the Seasearch website. 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 or a Seasearch tutor.

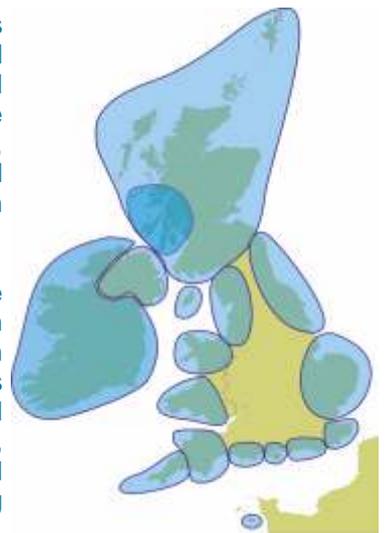
All Observation and Survey Form data is entered into the Marine Recorder database by a variety of experienced individuals and organisations. They are responsible for the second stage of verification of the data and for the assignment of MNCR biotopes. The data is retained locally and also passed on and 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.

In addition to the annual update the data is managed on an ongoing basis and amendments, updates and correction are made to earlier data as required.

During 2014 we also commenced the process of providing an online data entry facility for those volunteers who would prefer this method. The aim is to test the process with a limited number of existing Seasearchers during 2015.

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.

Local Coordinators are responsible for Seasearch activities within their own areas (see map). This includes promotion to local dive clubs and other groups, communication with local volunteers and arranging training courses and surveys



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