

# ANNUAL REPORT 2018

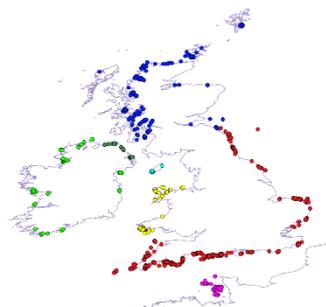


This report summarises Seasearch activities throughout Britain, Ireland and the neighbouring Crown Dependencies of the Channel Islands and the Isle of Man in 2018. It includes a summary of the main surveys undertaken (pages 2-11), reports produced and a summary of the data collected. This includes records of Priority habitats and species, locally important features and nationally scarce and rare species (pages 12-15) and habitats (pages 15-18). It also includes a summary of the training courses run for volunteer divers (page 19) and information on how Seasearch is organised and the data is managed and made available (page 20).

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 (NBN) Atlas website at [nbnatlas.org](http://nbnatlas.org), where Seasearch now provide the second-largest marine dataset (after the historical Marine Nature Conservation Review of the late 1980s and early 1990s).

## Seasearch Surveys 2018

Celebrations for the thirtieth anniversary of Seasearch were scattered throughout 2018, with planned dives to re-visit the first-ever Seasearch surveys in various regions. Some of these were cancelled due to unfavourable weather conditions which prevailed in early spring, before the prolonged good weather brought settled conditions and excellent underwater visibility to England in the summer. Highlights of the year included:



The year of the crawfish, and the octopus (especially in the south-west of England) Non-native species continued to expand their ranges and be recorded 'in the wild' (outside harbours/marinas) – *Asterocarpa humilis* in Dorset, *Corella eumyota* in Norfolk, Kent and Northumberland, *Undaria pinnatifida* along the south coast. Unusual sea slug sightings including some first Seasearch NBN records – *Pruvotifolia pselliotes*, *Hermaea variopicta*, *Hancockia uncinata* MPA 'wins' – tranche 3 MCZ consultation in England (designation by June 2019), crawfish no-take in Sark (April 2018), Loch Carron protection.

The following pages summarise the main surveys undertaken in 2018. They were arranged by Seasearch Coordinators and other volunteers; we would like to thank all of the organisations who supported survey activity at a local level. There were many other dives both organised by Seasearch coordinators and undertaken by individual divers. Data from all of the surveys has been entered into the Marine Recorder database and can be freely accessed on the National Biodiversity Network (NBN) Atlas at [nbnatlas.org](http://nbnatlas.org). In addition to this, there are separate datasets for crawfish and pink sea fan survey forms. In some cases, Summary Reports (denoted ®) can be downloaded from the Seasearch website.

Seasearch is co-ordinated by the Marine Conservation Society (MCS) 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 2018 at a national level was given by the partners on the right in addition to the MCS.



Seasearch is coordinated and delivered locally in England by Wildlife Trust and MCS coordinators, in Scotland, Wales, Northern Ireland, the Channel Islands and the Isle of Man by MCS coordinators and in the Republic of Ireland by the Irish Underwater Council/Comhairle Fo-Thuinn.

## SCOTLAND®

During 2018, 18 days organised diving took place, involving more than 54 divers and contributing to a total of 500 forms, a record high for Seasearch Scotland and representing 31% of the overall total. The proportion of survey forms compared to observation forms was also very high (35.8% vs. 64%) for Scotland.

Highlights of the year included a targeted survey effort on Loch Creran, following its MPA designation, to help gap-fill known extent of features. No further extent was recorded but a number of unknown patches were confirmed not to contain maerl or flameshells (below).



*Limaria hians* (Peter Bardsley)

Another huge highlight has been the collaboration and strengthening of interworking relationships with other conservation organisations around the Seasearch 30th anniversary celebrations. Without this kind of partnership working in action we would have been unable to carry out many of the surveys.

### Loch Carron e/ncMPA:

Seasearch has been involved heavily (following discussions with Scottish Natural Heritage, SNH) over the last 18 months following the survey of the PMF Flame shells following damage by a scallop dredger by a group of divers including Seasearchers, which led in part to the designation of the Loch Carron eMPA. Following this, Seasearch liaised with SNH to target areas of data gaps with the aim of better mapping the extent of PMF features. This area has received a lot of attention from divers who were keen to be involved, and as such we ran a trip in March with North East Dive RIB, based at Dornie lodges. The diving conditions were difficult due to extremely low water temperatures, which limited our dive time. Despite this the 7 volunteers completed 2 dives a day over 4 days and successfully recorded data on Flame shells, Horse mussels and maerl from Loch Carron, as well as providing data on gaps in the distribution further south in the Loch.

### Outliers liveaboard expedition:

The outliers trip run in August, which although it didn't reach the outliers islands due to bad weather did manage to record live skate eggs on a dive near Cape Wrath, further adding to our knowledge of where Skate may

breed - much further North than the current MPA designated area for this species.



### The Borders – St. Abbs and Eyemouth:

Much of the data from this ever-popular area comes from independent dives, which is very gratifying. Seasearch is involved with the Voluntary Marine Natural Reserve at St Abbs to provide ground-truth data for the ambitious project mapping the seabed of the reserve.

### Argyll:

The 30th anniversary year turned out to be an exceptional one for the west of Scotland. A record number of two hundred forms were received, representing four hundred volunteer days diving over sixty-two survey days. In total fifty-three divers volunteered their time to collect Seasearch data, plus a number of non-diving volunteers involved who provided accommodation, boats and other assistance to allow the surveys to go ahead. Surveys were carried out from Loch Long to the Summer Isles and all points between.

### Loch Sunart ncMPA:

There was much activity focused around the isle of Carna and surrounding area (Loch Sunart, Loch Teacuis) in 2018. During a week-long expedition in June with Bingham SAC, a large Flame Shell (*Limaria hians*) reef was located at the north end of Carna and the derelict state of the Serpulid reefs in Loch Teacuis was confirmed.

Relict serpulid reef in Loch Teacuis (Owen Paisley)



A solitary Fireworks Anemone (*Pachycerianthus multiplicatus*) was recorded close to the collapsed Serpulid reefs. A further week-long visit in September visited the area in Loch Teacuis missed by the earlier

survey to check for live Serpulid reefs, once again with disappointing results. On a more positive note the presence of all three types of Sea Pens along with Fireworks Anemones was confirmed to the East of Carna and more work carried out on mapping the Flame Shell reef at the northern end of the island.

### Wester Ross ncMPA and the Summer Isles:

A five-day diving expedition to the Summer Isles in Wester Ross was organised with participants coming from a variety of clubs including Bingham BSAC, Inverness BSAC, Campbeltown SSAC and PADI. Highlights of the week included diving on a Maerl bed to the East of Tanera Beg and diving on a Horse Mussel/Flame Shell bed in Loch Broom.

### Arran:

An Observer course was run in the new COAST offices in Lamlash Bay, Arran and included all of the COAST staff. The course was livened up by reports of Orcas in the Clyde which was something of a distraction. Once again, some of the participants were snorkellers, this time interested in using Seasearch techniques over eelgrass beds.

## IRELAND

### Northern Ireland®:

As well as being the 30 Year Anniversary, 2018 will also be remembered for the long summer of unparalleled hot, sunny and calm weather, allowing for fantastic underwater visibility and diving. The good conditions (and a little help from David Attenborough!) helped to promote our cause, encouraging new divers to get involved and resulting in fully booked dive boats and training courses.

Funding from the Sea Deep and Living Seas projects, both supported by Ulster Wildlife, covered 50% of costs for 6 boat dive days (one lost to bad weather), targeting shark, skate and ray habitats to inform Sea Deep, as well as under-recorded sites and priority habitats to support Living Seas.

### Northern Ireland – Co. Londonderry and Co. Antrim:

Dives out of Ballycastle and Portstewart concentrated on elasmobranch-friendly habitats and were rewarded with sightings of rays, catsharks and eggs (and a crawfish!) Hunting for previously-recorded maerl beds off Cushendall was less successful, though an abundance of eggs suggested that a catshark breeding area had been discovered. A dive on the Dalriada seagrass beds within the Waterfoot MCZ found them in good condition.

### Northern Ireland – Belfast Lough:

Smelt Mill Bay at Brompton is a popular site for local Seasearch divers, providing easy access, shelter, diverse flora and fauna and a variety of habitats – a perfect venue for Observer training dives.

An autumn shore dive to link up with the UK Big Beach Clean weekend saw divers tasked with collecting any litter they came across. This generated some interest

from the local beach cleaning group and was featured in the County Down Spectator. Marine plastics and litter are a very hot topic at present.



### Northern Ireland – Strangford Lough:

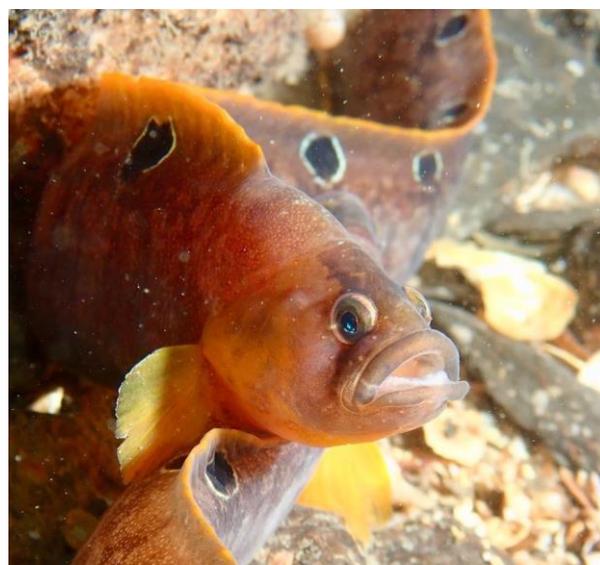
Sightings of scampi/langoustine/Dublin Bay prawns are a good indication of an undisturbed seabed (thanks to a ban on scallop dredging).



*Nephrops norvegicus* in Strangford Lough (Phil Wilkinson)

### Carlingford Lough BioBlitz:

The Marine BioBlitz of Carlingford Lough organised by CEDaR at the start of October enabled Seasearchers to contribute to the 256 marine species recorded over the course of the weekend. On the rocky, boulder seabed at the first site, Buoy no. 9, divers recorded a number of fish species, including the tompot blenny and an abundance of butterfish that were paired up and displaying apparent mating behaviours.



Mating butterfish, *Pholis gunnellus* (Phil Wilkinson)

The second dive site, off the shore at Greenore (and next to the ferry terminal), doesn't look exciting from the surface, but turned out to be a great dive. Divers recorded more fish species including pogue, flounder and blennies, along with a diversity of anemones and echinoderms, including the swimming feather stars.

#### **Republic of Ireland:**

Seasearch divers in Ireland have been collaborating with researchers from NUI Galway, assisting with field research and sample collection on kelp, sponges and sea squirts respectively. This has allowed the collection of records of species, particularly sponges, that are difficult to identify in the field and a number of publications are in print using data collected on Seasearch dives.

#### **Republic of Ireland – Donegal and Sligo:**

A hotbed of recording activity - 35 Observer forms were submitted by divers from Ireland and visiting divers from Northern Ireland.

#### **Republic of Ireland – Mayo:**

September 2018 saw a group of recorders to decamp to Belmullet, Co. Mayo for a joint recording trip, with the Porcupine Natural History Society and the Conchological Society of Great Britain & Ireland, organised by Julia Nunn. There were no previous Seasearch records for Belmullet and indeed there was a curious gap in the distribution of the shore crab (*Carcinus maenas*) with no record in the National Biodiversity Data Centre for the southern tip of Blacksod Bay. A report detailing the collating the findings of both the intertidal work and the sublittoral is being prepared.

#### **Republic of Ireland – Galway:**

Recorders in Galway have been monitoring 5 sites at a regular basis since 2016 and have combined this with transect surveys of *Serpula* reefs at Leitir Calladh and firework anemones at Rosskeda.

#### **Republic of Ireland – the south-west:**

A number of survey trips were organised in the marine research centre at Lough Hyne, an opportunity afforded to us through the collaboration with Dr. Schoenrock.

#### **Republic of Ireland – the east coast:**

A group of Seasearch recorders have been recording the species re-colonisation of Greystones Harbour after construction work a number of years ago while two sites in Dublin Bay are monitored as part of the Irish National Marine Monitoring Scheme.

### **ISLE OF MAN**

During 2018 we discovered a lot of rooted *Zostera marina* washed up on the Ramsey foreshore, and after obtaining numerous licences from DEFA these were replanted in Port Erin bay where there was historical evidence of beds of eelgrass. We shall see after the winter gales if any has survived. We also undertook a dive off Gansey Point where a bed of *Zostera marina* was located a few years ago. As the bed is in a controlled

restricted area, no damage has been done by either dredging or potting. It appears that the beds have thrived and extended around the headland. Eelgrass beds in Laxey Bay and Ramsey Bay will be the focus of 2019 surveys.

### **WALES®**

A list of target dive areas was drawn up at the beginning of the year after discussions with Natural Resources Wales. Within Pembrokeshire it was agreed, when conditions allowed, to continue to aim for sites in St Brides Bay and the offshore islands. Weekend dive plans were kept flexible so that most sites could be selected based on the weather and tides. A total of 11 survey days were planned and went ahead, with none lost to bad weather.

#### **Crawfish (*Palinurus elephas*) ®:**

Dedicated crawfish survey dives were carried out in Pembrokeshire at two sites that were identified as suitable habitat for crawfish with regular sightings by divers. The numbers recorded during the survey are very low in contrast to higher numbers recorded by divers during the 1970s and 1980s. Crawfish were recorded from early May to October with higher numbers recorded in the late May, July and August surveys.



Crawfish, *Palinurus elephas* (Kate Lock)

A healthy number of juvenile animals were found showing that new recruits are entering the population. There were a good range of adult sizes again indicating a good age distribution in the population.

#### **North & West Anglesey:**

Unfortunately, again due to the weather, our planned dives targeting NRW priority points between North and South Stack and around Cemaes Bay were unreachable. Our divers, however, still managed to collect data from around Holy Island, in addition to exploring the Hope of Star wreck near Holyhead Harbour, known for its abundance of flint.

### South Anglesey (Menai Strait & Conwy Bay SAC):

During a successful nudibranch hunt in the Menai Strait (Perch Rock and beneath the Menai Suspension Bridge), our Seasearchers recorded a total of 22 species over 3 days. With Ian Smith's knowledge and microscope, Seasearchers were able to confidently ID the more cryptic of species and benefited greatly from the guidance. Aside from the nudi diving, re-visit dives were undertaken around Puffin Island as part of Seasearch's 30th anniversary, with the aim to produce a comparative report between the first data collected in the area and the data recorded this year, 30 years later.

### Llyn Peninsula (Pen Llŷn a'r Sarnau SAC):

Re-visit dives were also undertaken North East of Porth Ysgaden, in order to produce a similar report to that of Puffin Island, again using data collected 30 years apart. In addition to the 30th anniversary dives, the Angel Shark Project: Wales was due to begin with surveys commencing around Shell Island (near Harlech). Unfortunately, the weather blew out both planned weekends, however, we have learned from this and will use a more reactive approach to the surveys next year.

### Milford Haven:

The Milford Haven waterway is a very active area with both commercial and recreational interest, containing many habitats and species of national importance: tidal rapid reefs, eelgrass *Zostera marina* beds and the native oyster *Ostrea edulis*. There are also high numbers of non-native species like the invasive slipper limpet *Crepidula fornicata*. Two sites were dived in the entrances of Milford Haven waterway in 2018: Lindsay reef located on the north side of Dale Bay and Montreal reef, close to Little Castle Head in Sandy Haven bay. East Pickard Bay (south of the Angle Peninsula) is a proposed location as a Marine Energy Test Area (META) and the data from the Seasearch dives has been provided to Marine Energy Wales.

### Skomer MCZ:

A Nudibranch identification course and nudibranch focused diving was completed in June with shore diving at Martins Haven, contributing to the Skomer MCZ nudibranch 2018 survey. The survey recorded 29 species were recorded including *Doto floridicola*, *Diaphorodoris alba* (below), *Eubranchus linensis* and *Thecacera pennigera* (which are rare or scarce in the UK).

The rare nudibranch *Diaphorodoris alba* (Emily Morgan)



A dive was completed on the North Marloes Peninsula to verify historical records of the ross worm, *Sabellaria spinulosa*; biogenic reefs of this species are protected under the EU Habitats Directive and are a feature of the Pembrokeshire Marine SAC. Also recorded was the long-lived mollusc Icelandic quahog, *Arctica islandica* (a Section 7 priority species in Wales).

### ENGLAND

#### North West England – Dukes Dock, Liverpool ®:

Since the opening of The Albert Dock complex for leisure purposes in 1986, the marine life has taken hold and continues to flourish. The main features of the habitat are silty seabed (with lots of 'introduced' objects providing a substrate for marine life) and stone dock walls. *Mytilus edulis* (blue mussels) thrive with the absence of the main predator, *Asterias rubens* (common starfish). The sessile polyp-stage scyphistoma of moon jellyfish (*Aurelia aurita*) were very common on the dock walls in 2018.



Sessile life finds a firm substrate for growth in Duke's Dock (Glynn Phillips)

#### NW England – Liverpool Bay & Morecombe Bay:

This area has very challenging conditions for diving but local clubs Chester SAC and West Lancs SAC have taken up the challenge of sending in Seasearch records from their club dives there. The historic wreck of the submarine Resurgam II was re-visited in 2018 by Chester

SAC and the findings compared to a survey carried out in 1998 by the Sub-Map project. Unsurprisingly the wreck was dominated by a covering of plumose anemones (*Metridium dianthus*, see below) but the surrounding seabed of cobbles, pebbles and coarse sand was also teeming with life (starfish, urchins and burrowing anemones).



### North-East England:

A Seasearch Surveyor course was held at Newcastle University's Dove Marine Laboratory in July 2018, and five participants went on to complete all their qualifying dives that summer. As a result, 2018 was the first year in which this region received a higher proportion of Survey forms (68% of total) than Observation forms (32% of total).

In 2017 we trialled snorkelling to survey sites and habitats that are not accessible to divers. This was very successful and in 2018 20% of Seasearch forms for North East England were generated by snorkelling, many from sites which had never previously been surveyed.

### Berwickshire and North Northumberland Coast SAC:

This large MPA straddling the England-Scotland border contains the diving hotspots of the Farne Islands, Eyemouth and the St. Abbs VMNR. Between these locations, access to the coast is tricky but the gaps are being filled with snorkel surveys.

Over twenty sites were surveyed in 2018, from the Farne Islands to Boulmer. Having discovered a local population of the jellyfish *Calvadosia cruxmelitensis* in 2017, we re-surveyed the site and were pleased to find several individuals of this conservation priority species

Low water at Sugar Sands Bay, Longhoughton (Paula Lightfoot)



### Coquet to St Mary's MCZ and Tyne & Wear:

With financial support from the North Sea Wildlife Trusts, Seasearch dives and snorkels were carried out at fourteen sites in Coquet to St Mary's MCZ and the surrounding Tyne and Wear area. Highlights included seeing Curled Octopus, *Eledone cirrhosa* and monkfish, *Lophius piscatorius*, on a shallow reef south of St Mary's Island. However, towards the end of summer we recorded large numbers of sea urchins, *Echinus esculentus*, affected by greenish-black lesions and lost spines. We believe this is due to a bacterial disease known as Bald sea urchin disease, which may have been exacerbated by the hot weather.

### Tyne to Tees – the Durham Heritage Coast:

With support from the Durham Heritage Coast Partnership, Seasearch divers continue to monitor the fascinating Magnesian Limestone coast between the Tyne and the Tees. Despite its industrial past, this area supports diverse marine life and always has a surprise in store for Seasearch divers. On a visit to Pincushion Rocks in September, we found the entire reef densely covered in juvenile mussels, *Mytilus edulis*, which we have not seen on previous surveys at this site. In 2017 we spotted a single specimen of the nudibranch *Favorinus blianus* south of the Tyne, generating the first record for the English East Coast. This year, we saw numerous *Favorinus blianus* on several dives, and one specimen of the closely related *Favorinus branchialis* which currently has no records on the NBN Atlas for the east coast of England. This stretch of coastline is the focus of the new Lottery funded 'SeaScapes' programme, which will deliver a range of projects to protect and celebrate the area's rich heritage ([www.exploreseascapes.co.uk](http://www.exploreseascapes.co.uk)). Seasearch is delighted to be supporting this project.

### Yorkshire:

Thanks to collaboration with South Bay Scuba dive club, Seasearch dives were carried out on four reefs near Scarborough, with additional data collected by snorkel surveys at Flamborough, Filey and Sandsend.

### East Anglia:

2018 was a much better year for Seasearch records than 2017, with calmer weather for longer periods meaning that solid weeks and weekends of diving were possible. The first and last dives of the year were May 20th and November 17th respectively, with intertidal and marina surveys taking place from January 1st to December 26th! A good number of quality forms (175, of which 91 (52%) were survey forms and 84 (48%) Observer compared to 155 in 2017) were received.

Several keen new trainees worked through the Observer training process and went on to take part in dives and intertidal surveys over the season, including one pair

who found our first seahare (*Aplysia punctata*) of the season during their first qualification survey!

'The 'Beast from the East' storm in early March had long ranging effects over the year, including a lack of adult common starfish and shore crabs until late in the season, replaced by swarms of juveniles, which gradually grew and thinned as the year progressed. Seaweeds were also severely knocked back, with smaller and sparser growth noted.

#### Lincolnshire and The Wash:

Only three forms were received for Hunstanton on the coast of the Wash in 2018. Sadly, available dates and suitable weather failed to line up with the EIFCA for dives from their boats. We hope to dive with them during 2019, though their focus is more ground-truthing in the Cromer Shoals MCZ. One exciting species record was a Curled octopus (*Eledone cirrhosa*) discovered alive on the beach at low tide and returned to the sea.

#### East Anglia - North Norfolk:

The 'Beast from the East' storm event caused a huge amount of sand movement, with sand waves up to 1.5m high quickly colonised by dense *Lanice conchilega* beds which kept them stably in place until they were fully predated in November. This meant that hard rock features at many sites were buried for up to 300m from shore, causing many divers to change their habits. Dives at Cley more than doubled in number, while Overstrand was much less popular.

The sandy tube of a fanworm, *Pectinaria belgica*



Dawn Watson and Rob Spray Seasearch East 2018

The stabilised sand provided a home to unusual worms and crustaceans, many live *Pectinaria belgica* were seen (*photo below left*), having only been observed as empty tubes in previous years. Species highlights included a first sighting of *Micronephrys lilljeborgii* (Norway bullhead, *photo above*) at West Runton and large numbers of stalked jellyfish, nut crabs (*Ebalia* spp., *photo below left*) and mating sea hares at several sites in Norfolk. The bullhead was particularly exciting, as only two records currently exist for Britain on the NBN Atlas, though they are clearly under-recorded.

#### East Anglia – Suffolk:

Two days of surveying were done at Orfordness and Levington marina – visibility never cleared at all in Suffolk, so no dives were done at Lowestoft. The spring survey at Levington in April was dominated by the algae *Undaria pinnatifida* and *Desmarestia viridis*, but both were absent when surveyed again in August, when grey mullet were observed repeatedly leaping from the water.

#### East Anglia – Essex:

A day of intertidal shore surveys at Walton on the Naze, Jaywick and Point Clear revealed a surprisingly diverse range of animal species, though seaweeds were almost absent in common with much of East Anglia after the weather event in March. The brittle star *Amphipholis squamata* and the bryozoan *Anguinella palmata* were both occasional and small white Pycnogonids were surprisingly frequent.

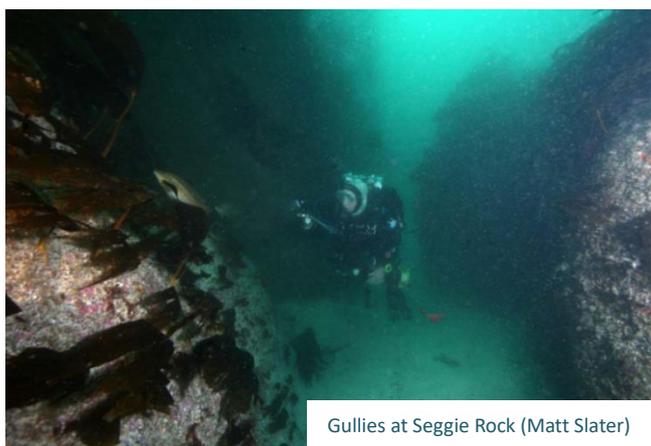
#### North Devon & Lundy:

Enthusiastic observers and surveyors continue to visit popular sites on Lundy. At Brazen Ward, a curled octopus was recorded so this year octopuses have been spotted in numerous locations around the entire Devon coast.

The Knoll Pins sunset cup corals *Leptopsammia pruvoti* continue to thrive and reproduce successfully. The Thistlemor wrecksite provides an oasis of life on the sands of Bideford Bay.

#### **Cornwall ®:**

The excellent summer weather permitted some exciting exposed sites off Land's End and on the north coast to be explored in 2018, including some deeper wreck sites from independent divers. An unusual red blenny was spotted at Seggie Rock, within the Runnelstone MCZ – these fish could be mistaken for the far more common tompot blenny, but love exposed offshore sites (which probably accounts for the low number of records as we don't often get to dive those!)



Gullies at Seggie Rock (Matt Slater)

#### **Crawfish in Cornwall & Devon:**

Partnership working with the Cornwall IFCA has established Falmouth Bay as a local hotspot for these crustaceans which are making a comeback across the south-west. Boiler tubes on wrecks are a favoured haunt for juveniles but a range of size-classes are being recorded regularly.

Over in Devon the collection of carapace length and individual abundance data has been targeted this year and suggests all cohorts of the recovery are present in good numbers. Certain sites have abundant juveniles.

Appropriate management is urgently required to ensure a sustainable fishery in the south-west

#### **South Devon:**

This part of the south coast is particularly well-endowed with marine protected areas with stunning reef habitats. Organised dives took place along the south Devon coast from the offshore iconic Eddystone Reef area round to Dartmouth, with independent dives contributing further interesting records from Torbay, including rare nudibranchs (*Pruvotfolia pselliotes* which seems to particularly like Torbay) and the perennial favourite of a short-snouted seahorse at Babbacombe.

#### **Lyme Bay – Devon & Dorset:**

Exceptional conditions in the early part of the summer (late May through to mid-July) saw visibility in excess of 20m in Lyme Bay. This was a pleasant surprise after the murky 1-2m endured earlier in May on the joint Seasearch / Porcupine Marine Natural History Society spring field trip which surveyed some interesting sites within the SAC chosen from the DORIS multibeam map. That exceptionally fine weather had a dramatic effect on the depth distribution of algal species, with Lyme Bay reefs (20-25m bsl) normally lacking algae (other than tiny scraps) dominated by ephemeral brown and red algae and giving the impression of a site impacted by nutrient enrichment.

Independent dives explored some of the deeper wrecks and reefs in Lyme Bay and crawfish records were also sent in by one of the local boat skippers, collected from contemporaneous diver reports.

Dives in the lesser known Devon part of Lyme Bay provided rich rewards at six new sites. The DORIS multibeam sonar maps (courtesy of Dorset Wildlife Trust) suggested potential sites to explore and several proved to be exceptional - fascinating diverse reefs with significant pink sea fan cover. Beer Fans 4 was described as a complex mosaic of 'microhabitats' contributing to exceptional diversity and with some rare finds such as a juvenile fan shell *Atrina fragilis* (photo below by Nick Owen).



A tiny fan mussel *Atrina fragilis* (Nick Owen)

#### **Chesil Beach and Stennis Ledges MCZ:**

An independent dive on Stennis Ledges revealed a veritable forest of pink seafans (*Eunicella verrucosa*), one of the designated features of this MPA. Most of the activity centred on the ever-popular site of Chesil Cove where more independent dives contributed records of octopus, undulate rays and a decent-sized crawfish, the latter a welcome eastern extension to the range.



Pink seafan forest on Stennis Ledges (Mike Markey)

It was very exciting to hear of an electric ray (*Torpedo marmorata*) in the Cove; this southern species is much more commonly sighted in the Channel Islands.



Marbled electric ray at Chesil Cove (Graham Brown)

#### South Dorset – Purbeck, Swanage and Poole Bay:

Crawfish have been reported east of Portland Bill in reasonable numbers for the first time in many years. The picture shows a juvenile on the reef near the wreck of the Black Hawk bow at Worbarrow Bay, which is the furthest east record for which we've yet had evidence in the form of a photo (as opposed to third-hand reports...)



Juvenile crawfish at Worbarrow Bay (Paul Dawson)

We continued to explore some very tide swept sites around Swanage; these sites have a very brief slack water

and unsurprisingly diverse, colourful faunal turf dominated by sponge crusts and sea squirts.

A research dive organised by the National Oceanography Centre resulted in a sighting of a short-snouted seahorse at Studland Bay at the end of July (this species is NOT listed as a feature of the recommended MCZ).

#### Hampshire, the Solent and Isle of Wight:

A day of organised Seasearch diving in Sandown Bay at the end of July failed to find much in the way of live maerl despite covering almost 1km on an exciting drift over a seabed of sculpted sand waves with very occasional chalk boulders and a scattering of dead maerl.



Overtaking drift algae in Sandown Bay, Isle of Wight (Charlotte Bolton)

Other independent dives on Yarmouth Pier (NW Isle of Wight) and in the relatively-unsurveyed Christchurch Bay established some interesting records for algae and non-native species.

#### Sussex ®:

The area around Selsey Bill (itself a recommended MCZ) in West Sussex was the base for both independent and training dives, including a re-run of the first-ever Sussex Seasearch dive on Waldrons Reef in 1992. That site comprises a sandstone reef with many large boulders, the upper surfaces covered in encrusting pink and foliose red algae. Animal turf dominated by sponges was prevalent on vertical surfaces with other encrusting life, such as various bryozoans, also present. The remains of the Mulberry Harbours, which have been underwater for over 60 years off Pagham Harbour, are also very popular dives for training and independent dives.

#### East Sussex – Beachy Head East rMCZ:

Two dives were organised within this recommended MCZ just in time for the data to be included in the consultation for the third and final tranche of MCZ designations. A drift across mostly fine undulating sand with scattered cobbles, boulders and occasional patches of exposed bedrock revealed that patches of Ross worm, *Sabellaria spinulosa*, (a feature of the rMCZ and easily damaged by

bottom-towed fishing gear) were present in the area. A second dive on the Royal Sovereign Shoals, stretching out to the south-east from Beachy Head, presented a very different habitat - low and rugged sandstone reef with numerous fissures, wide gullies and overhangs covered in animal turf dominated by hydroids, bryozoans and sponges.

#### Kent MCZs ®:

Kent Seasearch divers carried out surveys at depths from 10m to 27m, in nine different locations within three MCZs – Dover to Folkestone, Dover to Deal and Folkestone Pomerania. A total of six diving days were organised, only one of which had to be cancelled due to strong winds. The most commonly recorded species was the common starfish *Asterias rubens*, followed by hornwrack *Flustra foliacea*, deadman's fingers *Alcyonium digitatum*, oaten-pipe hydroids *Tubularia indivisa*, and dahlia anemones *Urticina felina*, all reflecting the tide-swept habitats of this part of the English Channel.

A classic 'raspberry ripple' colour morph of the dahlia anemone (*Urticina felina*) at Hyas Heaven (Debbie Phillips)



An unusual observation was the presence of a sunstar *Crossaster papposus* which is not commonly recorded in Kent.



Common sunstar (*Crossaster papposus*) at Hyas Heaven (Fiona White)

Also in the Dover to Folkestone MCZ, a dive on an interesting-looking sounder mark turned out to be a

previously undiscovered wreck lying at a depth of 21m! The steel wreck sat upright on a seabed of pebbles and was covered in a dense turf of oaten pipe hydroids *Tubularia indivisa* and orange anemones *Diadumene cincta*.

#### CHANNEL ISLANDS

##### Alderney seagrass snorkelling:

Snorkel surveys of the seagrass in various Alderney bays (Braye, Longis, Saye) continued until curtailed by maternity leave! Establishing the presence and extent of seagrass in Alderney and Guernsey will be a priority for 2019, feeding data into management plans for various Ramsar protected areas.

##### Guernsey ®:

A week at the start of June and a visiting club trip in August provided the bulk of the records for Guernsey but support under the Guernsey Biodiversity Strategy for capacity-building there will hopefully engage local divers in 2019 and beyond. The highlight of the June visit was diving the exposed Les Hanois lighthouse at the south-western tip of Guernsey in a fortuitous break in the fog on World Ocean Day.

Les Hanois lighthouse at the SW point of Guernsey (Charlotte Bolton)



As first reported on the 2016 liveaboard expedition to the Channel Islands, the pink seafans in Guernsey seem to be in poor condition so will provide a focus for ongoing recording, as will building up records for other priority species (crawfish, seagrass).

##### Sark crawfish:

Local diver and videographer Sue Daly scored a great win for conservation in April 2018 when her call for crawfish to be protected around Sark was successful. The ban lasts for three years during which time the population will hopefully recover to a sustainable level. Check out Sue's film at <https://vimeo.com/234074069>

**Jersey reef week:**

The annual week of reef surveys took place at the end of August, visiting some exciting high-energy sites (BIG tides in Jersey!) around the Minquiers Plateau and south coast. The data generated by Jersey Seasearch is being used to positive effect to inform management there – reef areas now closed to bottom-towed gear.

**Jersey seafans:**

Focused seafan surveys revisiting some popular wrecks will enable a baseline of data to be established, looking at size and condition of seafans, plus any associated species such as the seafan nudibranch, anemone and false cowrie.

## Species recorded in 2018

A total of 52,143 taxon records were made during 2018. The following table provides a summary of the species recorded and identifies both the most commonly recorded species and those of special interest.

Priority (formerly Biodiversity Action Plan) species and habitats continue to be a major 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<sup>1</sup>.

Phyla and commonly recorded species (> 200 records)	Priority (P), Scarce (S), Rare (R) & Non-native (NN) species
<b>FORAMINIFERA</b> , (21 records - 3 taxa)	
<b>BACTERIA</b> , (8 records, 2 taxa)	
<b>ENTOPROCTA</b> , (18 records, 1 taxon)	
<p><b>PORIFERA</b>, Sponges (4913 records, 95 taxa)</p> <p><i>Cliona celata</i> (464 records), crusts (not identified to species) (370), <i>Dysidea fragilis</i> (299), <i>Amphilectus fucorum</i> (292), <i>Pachymatisma johnstoni</i> (242), <i>Sycon ciliatum</i> (208), <i>Hemimycale columella</i> (216), <i>Halichondria panicea</i> (213)</p>	<p><i>Desmacidon fruticosum</i> (R, 1 record from Isles of Scilly)</p> <p><i>Dysidea pallescens</i> (R, 17 records in Dorset, Devon and Norfolk)</p> <p><i>Suberites massa</i> (R, 16 records in Norfolk)</p> <p><i>Adreus fascicularis</i> (S, 14 records in Dorset, Devon, Guernsey and Jersey)</p> <p><i>Axinella damicornis</i> (S, 112 records in Pembrokeshire, Isles of Scilly, Cornwall, Devon and Guernsey)</p> <p><i>Tethyspira spinosa</i> (S, 3 record from Dorset and Pembrokeshire)</p> <p><i>Stelletta grubii</i> (S, 1 record from Dorset)</p>
<p><b>CNIDARIA</b>, Jellyfish, hydroids, siphonophores, anemones and corals (7570 records, 155 taxa)</p> <p><b>Jellyfish</b> (362 records, 17 taxa)</p> <p><b>Hydroids</b> (2803 records, 77 taxa)</p> <p><b>Anemones and corals</b> (4404 records, 70 taxa)</p>	<p><i>Lucernariopsis campanulata</i> (P, 45 records in Norfolk, Pembrokeshire, Co. Mayo, West Scotland and Orkney)</p> <p><i>Lucernariopsis cruxmelitensis</i> (P, 5 records in Northumberland and Loch Broom/Summer Isles)</p> <p><i>Haliclystus auricula</i> (P, 10 record in Isle of Man and Orkney)</p> <p><i>Aglaophenia kirchenpaueri</i> (S, 7 records from Pembrokeshire, Dorset and Devon)</p> <p><i>Laomedea angulata</i> (S, 1 record in Jersey)</p> <p><i>Tamarisca tamarisca</i> (S, 2 records in Loch Carron)</p> <p><i>Amphianthus dohrnii</i> (P/R, 12 records from Devon and Isles of Scilly)</p> <p><i>Eunicella verrucosa</i> (P, 228 records from Channel Islands, Dorset, Devon, Cornwall, Isles of Scilly, Co. Donegal, Co. Clare and Co. Sligo)</p> <p><i>Swiftia pallida</i> (P, 24 records from Sound of Mull, Loch Sunart, Loch Alsh and Loch Laxford)</p> <p><i>Pachycerianthus multiplicatus</i> (P, 27 records from Lochs Long, Fyne, Sunart, Duich, Creran and Alsh)</p> <p><i>Funiculina quadrangularis</i> (P, 42 records from West Scotland)</p> <p><i>Leptosammia pruvoti</i> (P, 9 records from Dorset, Devon and Isles of Scilly)</p> <p><i>Hoplangia durotrix</i> (R, 2 records from Devon and Dorset)</p> <p><i>Aiptasia couchii</i> (was <i>A. mutabilis</i>) (S, 41 records from Dorset, Devon, Cornwall, Pembrokeshire, Jersey and Co. Cork)</p> <p><i>Parazoanthus anguicomus</i> (S, 2 records from Devon and Orkney)</p>
<b>CTENOPHORA</b> , Comb Jellies (70 records, 6 taxa)	
<b>PHORONIDA</b> , Horseshoe worms (36 records, 3 taxa)	
<b>PLATYHELMINTHES</b> , Flat worms (53 records, 3 taxa)	
<b>NEMERTEA</b> , Ribbon Worms (69 records, 7 taxa)	

**Phyla and commonly recorded species (> 200 records)**

**Priority (P), Scarce (S), Rare (R) & Non-native (NN) species**

**ECHIURA**, Spoon Worms (9 records, 2 taxa)

**ANNELIDA**, Segmented worms (2688 records, 63 taxa)

*Spirobranchus* (638 records), *Lanice conchilega* (329), *Bispira volutacornis* (234), *Sabellia pavonina* (244)



*Amalosoma eddystonense* (S, 1 record from Loch Sunart)

*Sabellaria spinulosa* (Priority habitat when reef-forming, 56 records from Anglesey, Devon, Dorset, Hampshire, Sussex, Kent, Norfolk, North-East England and Pembrokeshire; most not reef-forming) (photo left)

*Serpula vermicularis* (Priority habitat when reef-forming, 128 records from Orkney, West Scotland, Co. Galway, Co. Mayo, Cornwall, Devon and Dorset; most not reef-forming)

*Sabellia spallanzani* (southerly) – 1 record from Jersey

**PYCNOGONIDA**, Sea spiders (42 records, 2 taxa)

**BRACHIOPODA**, Brachiopods (21 records, 2 taxa)

**CRUSTACEA**, Barnacles, amphipods, isopods, crabs, lobsters and prawns (6175 records, 119 taxa)

*Cancer pagurus* (733), *Necora puber* (622 records), *Cirripedia* (455), *Pagurus bernhardus* (389), *Homarus gammurus* (372), *Carcinus maenas* (354), *Maja brachydactyla/squinado* (305), *Macropodia* (287), *Inachus* (232), *Liocarcinus depurator* (208)

*Palinurus elephas* (P, 118 records in Co. Donegal, Co. Antrim, Cornwall, Devon, Pembrokeshire, North-west Scotland, Orkney, and Channel Islands)

*Dromia personata* (S, 8 records in North Wales, Pembrokeshire and Jersey)

*Austrominius modestus* (NN, 4 records in Devon, Dorset and Isle of Wight)

*Periclimenes sagittifer* (southerly) – 3 records in Cornwall and Jersey

**MOLLUSCA**, shells, sea slugs, bivalves and cephalopods (5204 records, 63 taxa)

*Calliostoma zizyphinum* (488 records), *Steromphala/Gibbula cineraria* (292), *Pecten maximus* (248)



*Ostrea edulis* (P, 18 records from Cornwall, Devon, Dorset, Hampshire, Sussex, Kent, West Scotland and Co. Louth)

*Arctica islandica* (P in Wales (9 records in Isle of Man, Orkney, Pembrokeshire, Lochs Sunart, Carron and Duich)

*Atrina fragilis* (P, 1 record in Devon)

*Limaria hians* (Priority habitat, 18 records from West Scotland and Orkney)

*Modiolus modiolus* (Priority habitat, 77 records from West Scotland, Orkney and Shetland)

*Okenia elegans* (R, 6 records from West Scotland and Orkney)

*Tritonia nilsodhneri* (S, 51 records from Channel Islands, Dorset, Devon, Cornwall, Isles of Scilly, Co. Donegal and Co. Sligo)

*Doris sticta* (S, 3 records from Pembrokeshire, Cornwall and Guernsey)

*Crepidula fornicata* (NN, 92 records from Cornwall, Devon, Dorset, Hampshire/IOW, Sussex, Norfolk, Pembrokeshire and Jersey)

Southerly species:

*Haliotis tuberculata* (photo left; 10 records in Guernsey and Jersey)

**BRYOZOA**, sea mats and sea mosses (3287 records, 86 taxa)

*Alcyonidium diaphanum* (339 records), *Electra pilosa* (295), crusts (not identified to species) (299), *Membranipora membranacea* (268) *Flustra foliacea* (211), *Pentapora foliacea* (207)

*Schizobrachiella sanguinea* (R, 6 records in Lyme Bay)

*Bugula neritina* (NN, 1 record in Dorset)

*Tricellaria inopinata* (NN, 2 records in Dorset and Hampshire)

*Watersipora subatra* (was *W. subtorquata*) (NN, 7 records in Dorset)

**PHORONIDA**, horseshoe worms (36 records, 3 taxa)

**ECHINODERMATA**, starfish, sea urchins and sea cucumbers (4699 records, 60 taxa)

*Asterias rubens* (856 records), *Echinus esculentus* (678), *Marthasterias glacialis* (542), *Henricia* (467), *Antedon bifida* (288), *Crossaster papposus* (291)

*Ophiopsila aranea* (R, 5 records from South Devon)

**TUNICATA**, sea squirts (4003 records, 71 taxa)

*Polysyncraton lacazei* (R, 12 records from Jersey and Guernsey)

## Phyla and commonly recorded species (> 200 records)

*Clavelina lepadiformis* (388 records), *Botryllus schlosseri* (284), *Ascidia mentula* (262), *Asciodiella aspersa* (208), *Ciona intestinalis* (201)

## Priority (P), Scarce (S), Rare (R) & Non-native (NN) species

*Pycnoclavella aurilucens* (S, 51 records from Sussex, Channel Islands, Dorset, Devon, Cornwall, Isles of Scilly, Pembrokeshire, Anglesey and Co. Cork)  
*Phallusia mammillata* (S, 67 records from Jersey, Dorset, Devon, Co. Cork, Co. Donegal and Co. Antrim)  
*Asterocarpa humilis* (NN, 2 records in Dorset)  
*Corella eumyota* (NN, 4 records in Dorset, Kent, Norfolk and Northumberland)  
*Perophora japonica* (NN, 31 records in Norfolk)  
*Botrylloides diegensis* (NN, 7 records in Dorset and Suffolk)  
*Botrylloides violaceus* (NN, 1 record in Dorset)  
*Styela clava* (NN, 42 records in Dorset, Jersey, North Wales, Co. Galway, Cornwall, South Devon, West Scotland, Hampshire/IOW, Sussex and Suffolk)

## PISCES, fishes (5174 records, 45 taxa) (fish are not included in the JNCC rare and scarce species lists)

*Labrus bergylta* (453 records), *Ctenolabrus rupestris* (325), *Labrus mixtus* (249), *Pollachius pollachius* (271), *Pomatoschistus* (235), *Gobiusculus flavescens* (215), *Scyliorhinus canicula* (207), *Taurulus bubalis* (278), *Thorogobius ephippiatus* (209)



Dawn Watson and Rob Spray Seasearch East 2018

*Anguilla anguilla* (P, 8 records in Jersey and Norfolk; **photo left**)  
*Gadus morhua* (P, 56 records in Orkney, Shetland, Arran, West Scotland, Norfolk, Northumberland, Co. Antrim, Co. Down, Co. Donegal and Pembrokeshire)  
*Merlangius merlangus* (P, 4 records from Dorset, Tyne & Wear, Arran and Loch Duich)  
*Molva molva* (P, 34 records from Shetland, Orkney, Scotland (all coasts), Co Donegal, Co. Sligo, Isle of Man, Pembrokeshire, Devon, Cornwall and Dorset)  
*Lophius piscatorius* (P, 16 records from Isle of Man, East Scotland, Shetland, Durham Heritage Coast, Yorkshire, Devon, Dorset and Cornwall)  
*Pleuronectes platessa* (P, 46 records from all coasts)  
*Solea solea* (P, 8 records from Cornwall, Devon and Norfolk)  
*Dipturus batis* (P, 2 records from North-west Scotland)  
*Raja undulata* (P, 7 records from Devon, Dorset and Jersey)  
*Raja clavata* (P in Scotland (2 records))

### Southerly species:

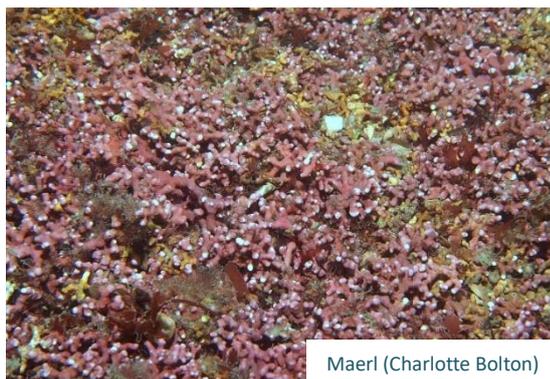
*Tripterygion delaisi* (11 records)  
*Parablennius ruber* (7 records)  
*Parablennius pilicornis* (3 records)  
*Symphodus ballioni* (6 records)  
*Balistes capriscus* (3 record)  
*Spondylosoma cantharus* (8 records)  
*Torpedo marmorata* (1 record)  
*Torpedo nobiliana* (2 records)

## AVES & MAMMALIA, birds & mammals (19 records of birds, seals and dolphins, x taxa)

## ALGAE, seaweeds (8014 records, 250 taxa)

## Rhodophycota, Red seaweeds (3993 records, 154 taxa)

Rhodophyta (393 records), *Delessaria sanguinea* (288), *Plocamium* (201)



Maerl (Charlotte Bolton)

*Gracilaria bursa-pastoris* (S, 2 records from Dorset)  
*Gracilaria multipartita* (S, 1 record from Dorset)  
*Asparagopsis armata* (NN, 53 records from Channel Islands, IOW, Dorset, Devon, Cornwall, Isle of Man, Co. Galway, Co. Mayo, Co. Down, Arran, Loch Sween, Moray Firth)  
*Bonnemaisonia hamifera* (NN, 6 records from Channel Islands, Dorset, Co. Down and Loch Carron)  
*Antithamnionella ternifolia* (NN, 5 records from Dorset)  
*Dasysiphonia* (was *Heterosiphonia*) *japonica* (NN, 20 records from Co. Mayo, Co. Down, West Scotland, Isle of Man, Pembrokeshire, Dorset and Isle of Wight)  
*Anotrichium furcellatum* (NN, 1 record from Dorset)  
*Solieria chordalis* (NN, 6 records from Jersey, Cornwall and Dorset)  
Maerl (Priority habitat, 73 records, most not identified to species, from Isle of Wight to Orkney on south/western coasts; high

<b>Phyla and commonly recorded species (&gt; 200 records)</b>	<b>Priority (P), Scarce (S), Rare (R) &amp; Non-native (NN) species</b>
	abundances (maerl beds in <b>Jersey, Ireland, Falmouth (photo left) and West Scotland</b> )
<b>Ochrophyta</b> , Brown seaweeds (2677 records, 68 taxa) <i>Laminaria hyperborea</i> (467 records), <i>Dictyota dichotoma</i> (251), <i>Saccharina latissima</i> (236)	<i>Carpomitra costata</i> (S, 15 records from Guernsey, Devon, Cornwall and Isles of Scilly) <i>Sargassum muticum</i> (NN, 84 records from Channel Islands, Devon, Cornwall, Isles of Scilly, Hampshire/IOW, Dorset, Ireland, West Scotland and Isle of Man) <i>Undaria pinnatifida</i> (NN, 12 records from Cornwall, Devon, Dorset and Suffolk) <i>Colpomenia peregrina</i> (NN, 31 records from Jersey, Dorset, Devon, Cornwall, Co. Mayo, Isle of Man, Loch Sween and Northumberland)
<b>Chlorophycota</b> , Green seaweeds (528 records, 26 taxa)	
<b>ANGIOSPERMAE</b> , flowering plants (46 records, 3 taxa)	<i>Zostera marina</i> (Priority habitat, 45 records from Scotland, Isle of Man, North Wales, Ireland, Cornwall, Devon, Dorset, Hampshire/IOW and Channel Islands)

**TOTAL TAXA RECORDS = 52,143**

### 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 15.03 suite devised by the Joint Nature Conservation Committee<sup>2</sup>. This is carried out by a post survey assessor rather than the recorder themselves as it requires specialist knowledge of the biotope system.

During 2018 3598 SCTs and Biotopes were identified, of which 66% (2369) were MNCR Biotopes & 34% (1229) SCTs.

### MNCR 15.03 Biotopes

The 2369 biotopes assigned were divided by main habitat as follows:

- Littoral rock/sediment 59
- Infralittoral rock 772
- Circalittoral rock 800
- Sublittoral sediment 738

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<sup>3</sup>. Whilst these are not identified in the same way in Ireland, Irish records have been included below. Priority habitat records were as follows:

### Seabed Cover Types

The 1229 SCTs recorded were divided as follows:

- Kelp forest and kelp park 209
- Mixed seaweeds 286
- Encrusting pink algae 54
- Short animal turf on rock 313
- Tall animal turf on rock 209
- Animal beds (*e.g.* mussels, brittlestars) 1
- Sediment with life apparent 130
- Barren sediment 27

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.

<sup>2</sup> JNCC (2015) The Marine Habitat Classification for Britain and Ireland Version 15.03 [Online]. [Accessed 2019-03-04]. Available from: [jncc.defra.gov.uk/MarineHabitatClassification](http://jncc.defra.gov.uk/MarineHabitatClassification)

<sup>3</sup> See <http://jncc.defra.gov.uk/page-5706> and links therein

## Subtidal chalk

CR.MCR.SfR: Soft rock communities; 9 records from Norfolk, Kent, Sussex and Dorset

CR.MCR.SfR.Pid: Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay; 15 records (not all on chalk) from Dorset, Hampshire, Kent and Norfolk

CR.MCR.SfR.Pol: *Polydora* sp. tubes on moderately exposed sublittoral soft rock: 28 records from Norfolk

## Tide-swept channels

CR.HCR.FaT: Very tide-swept faunal communities: 2 records from Menai Strait

CR.HCR.FaT.CTub: *Tubularia indivisa* on tide-swept circalittoral rock: 7 records from Cornwall, Devon, Dorset and Norfolk

CR.HCR.FaT.CTub.Adig: *Alcyonium digitatum* with dense *Tubularia indivisa* and anemones on strongly tide-swept circalittoral rock: 3 records from Dorset

CR.HCR.FaT.CTub.CuSp: *Tubularia indivisa* and cushion sponges on tide-swept turbid circalittoral rock: 2 records from Pembrokeshire

IR.MIR.KR.LhypT: *Laminaria hyperborea* on tide-swept, infralittoral rock: 2 records from St Abbs

IR.MIR.KR.LhypT.Ft: *Laminaria hyperborea* forest, foliose red seaweeds and a diverse fauna on tide-swept upper infralittoral rock: 4 records from Arran, West Scotland and Jersey

IR.MIR.KR.LhypT.Pk: *Laminaria hyperborea* park with hydroids, bryozoans and sponges on tide-swept lower infralittoral rock; 5 records from Jersey, Cornwall, Devon, Anglesey and West Scotland

IR.MIR.LhypTX: *Laminaria hyperborea* on tide-swept infralittoral mixed substrata: 3 records from Devon, Loch Sunart and Co. Down

IR.MIR.LhypTX.Ft: *Laminaria hyperborea* forest and foliose red seaweeds on tide-swept upper infralittoral mixed substrata: 2 records from Devon and Loch Sunart

IR.MIR.LhypTX.Pk: *Laminaria hyperborea* park and foliose red seaweeds on tide-swept upper infralittoral mixed substrata: 3 records from West Scotland

IR.MIR.KT: Kelp and seaweed communities in tide-swept sheltered conditions: 4 records from Devon and Loch Carron

IR.MIR.KT.LsacT: *Laminaria saccharina* with foliose red seaweeds and ascidians on sheltered tide-swept infralittoral rock: 1 record from Cumbrae

IR.MIR.KT.XKT: Mixed kelp with foliose red seaweeds, sponges and ascidians on sheltered tide-swept infralittoral rock: 2 records from Loch Sween

IR.MIR.KT.XKTX: Mixed kelp and red seaweeds on infralittoral boulders, cobbles and gravel in tidal rapids: 8 records in Isle of Wight and West Scotland

## Fragile Sponge and Anthozoan Communities

CR.HCR.XFa.ByErSp.DysAct: Mixed turf of bryozoans and erect sponges with *Dysidea fragilis* and *Actinothoe sphyrodeta* on tide-swept wave-exposed circalittoral rock: 4 records from Pembrokeshire and Anglesey

CR.HCR.XFa.ByErSp.Eun: *Eunicella verrucosa* and *Pentapora foliacea* on wave-exposed circalittoral rock: 33 records from Isles of Scilly, Cornwall, Devon, Dorset and Jersey

CR.HCR.XFa.ByErSp.Sag: Mixed turf of bryozoans and erect sponges with *Sagartia elegans* on tide-swept circalittoral rock: 2 records from Norfolk and Anglesey

CR.HCR.XFa.SwiLgAs: Mixed turf of hydroids and large ascidians with *Swiftia pallida* and *Caryophyllia smithii* on weakly tide-swept circalittoral rock: 1 record from West Scotland (Loch Laxford)

CR.MCR.EcCr.CarSwi: *Caryophyllia smithii* and *Swiftia pallida* on circalittoral rock; 8 records from West Scotland

CR.MCR.EcCr.CarSwi.Aglo: *Caryophyllia smithii*, *Swiftia pallida* and *Alcyonium glomeratum* on wave-sheltered circalittoral rock: 1 record from West Scotland (Loch Sunart)

### ***Sabellaria spinulosa* reefs**

CR.MCR.CSab.Sspi: *Sabellaria spinulosa* encrusted circalittoral rock: 3 records from Sussex and Dorset

CR.MCR.CSab.Sspi.As: *Sabellaria spinulosa*, didemnids and other small ascidians on tide-swept moderately wave-exposed circalittoral rock: 1 record from Dorset

CR.MCR.CSab.Sspi.ByB: *Sabellaria spinulosa* with a bryozoan turf and barnacles on silty turbid circalittoral rock; 1 record from Sussex

### **Subtidal sands and gravels**

This habitat has a broad definition and 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: 89 records

SS.SCS.ICS: Infralittoral coarse sediment: 111 records

SS.SSa: Sublittoral sands and muddy sands: 10 records

SS.SSa.CFiSa: Circalittoral fine sand: 12 records

SS.SSa.CMuSa: Circalittoral muddy sand: 6 records

SS.SSa.IFiSa: Infralittoral fine sand: 58 records

SS.SSa.IMuSa: Infralittoral muddy sand: 57 records

### **Horse mussel beds**

SS.SBR.SMus.ModHAs: *Modiolus modiolus* beds with fine hydroids and large solitary ascidians on very sheltered circalittoral mixed substrata: 7 records from West Scotland (Summer Isles and Loch Creran)

### **Mud Habitats in deep water**

SS.SMu.CFiMu: Circalittoral fine mud: 14 records from West Scotland, Devon, Co. Cork and Co. Louth

SS.SMu.CFiMu.BlyrAchi: *Brissopsis lyrifera* and *Amphiura chiajei* in circalittoral mud: 1 record from Loch Sunart

SS.SMu.CFiMu.SpnMeg: Seapens and burrowing megafauna in circalittoral fine mud: 8 records from West Scotland and Dorset

SS.SMu.CFiMu.SpnMeg.Fun: Seapens, including *Funiculina quadrangularis*, and burrowing megafauna in undisturbed circalittoral fine mud: 14 records from West Scotland

### **Maerl beds**

SS.SMp.Mrl: Maerl beds: 20 records from Jersey, Cornwall (Falmouth), Co. Galway, Co. Mayo, West Scotland and Orkney

SS.SMp.Mrl.Lgla: *Lithothamnion glaciale* maerl beds in tide-swept variable salinity infralittoral gravel: 2 records from Loch Sween (Argyll)

SS.SMp.Mrl.Pcal: *Phymatolithon calcareum* maerl beds in infralittoral clean gravel or coarse sand: 2 records from Arran

SS.SMp.Mrl.Pcal.R: *Phymatolithon calcareum* maerl beds with red seaweeds in shallow infralittoral clean gravel or coarse sand: 2 records from Arran and Orkney

### **Serpulid reefs**

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

### **Seagrass beds**

SS.SMp.SSgr.Zmar: *Zostera marina/angustifolia* beds on lower shore or infralittoral clean or muddy sand: 30 records from Jersey, Alderney, Dorset, Devon, Cornwall, Arran, West Ireland and Co. Antrim.

## Seasearch Training in 2018

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. The Observer qualification involves participation in the course and completion of 5 Observation Forms.

There were 29 Observer (33 scheduled but four cancelled due to lack of numbers) courses held in 2018 in England (15), Scotland (6), Ireland (all) (4), Channel Islands (2) and Wales (2). Over 230 divers took part in the Observer courses, the vast 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.

Only two Surveyor Courses were held in 2018, taking place in England (Plymouth and Cullercoats), involving 10 participants in total. Five 'recorder workshops' aimed primarily at Surveyor-level volunteers also took place in 2018.

Seasearch **Specialist** courses are aimed at either teaching new survey skills or improving knowledge and identification of marine life. Thirteen courses were held in 2018. Subjects covered general marine life ID (West Wales, Galway & Plymouth), fish ID (West Scotland), ascidians (NE Scotland & Dorset), seaweeds (Dorset, Sussex & Galway), nudibranchs (Pembrokeshire) and sponges in Cornwall.

Seasearch Observer and Surveyor training courses are delivered by our team of tutors, all of whom are experienced Seasearch recorders and active divers. Fiona White (Kent) and Rory O'Callaghan (Ireland) became Observer tutors in 2018.

**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 2018 29 volunteers achieved the Observer qualification and 11 volunteers the Surveyor qualification.

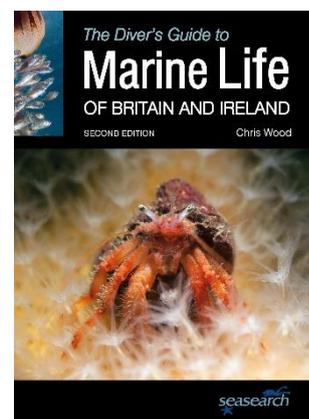
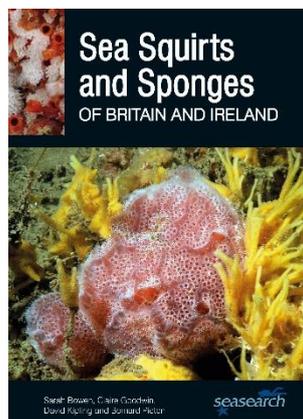
The qualification process not only acts as a reward to participants but is also an official recognition of the skills available within the Seasearch community of volunteer divers and thus the validity of their observations.

## 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 field identification guides. We now have five titles in the series.



The general Marine Life Guide is popular as an introductory guide and sells primarily on Observer Courses. We now have four more specialised Guides covering Seaweeds, Bryozoans and Hydroids, Sea Anemones and Corals and Sea Squirts and Sponges.



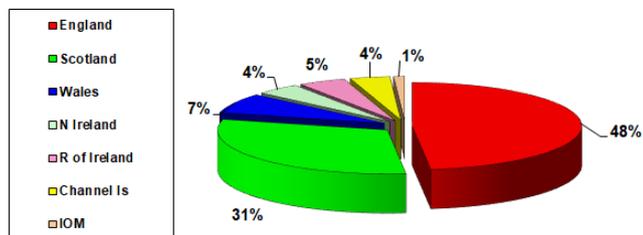
The brand-new Sea Squirts and Sponges guide was published in June 2018 and a much expanded second edition of the Marine Life guide at the start of December 2018.

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, through regional co-ordinators and can also be purchased online via the MCS shop.

## Seasearch Data

A total of 1,629 forms were received from dives in 2018. The returned forms were split almost equally between observation (50%) and survey (48%) forms with the remainder being crawfish forms, reflecting the population increase of this species in the south-west. It was a record year in Scotland with 500 forms returned.

The pie chart shows the origin of each form.



The 2018 dataset comprises 93 surveys with 1208 survey events, and contains 52143 taxon records and 3598 biotope/habitat records. All of the data is made available on the National Biodiversity Network Atlas, where Seasearch is now the second-largest provider of marine data. Additional data on pink sea fans and crawfish is entered into separate databases.

## Seasearch Co-ordination and Promotion

The day to day activities are organised by the National Co-ordinator and a team of Local Co-ordinators throughout Britain & Ireland. At the end of 2018 the team was as follows:

National Co-ordinator	Charlotte Bolton MCS
Scotland	Natalie Hirst MCS
West Scotland	Owen Paisley MCS
Northern Ireland	Sally Stewart-Moore MCS
Republic of Ireland	Tony O'Callaghan IUC/CFT
Isle of Man	Tony Glen MCS
North Wales	Holly Date 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	Sarah Ward Sussex WT
Hants/Isle of Wight	Cathryn Quick
Dorset	Lin Baldock Dorset WT
Devon	Chris Webb MCS
Cornwall	Matt Slater Cornwall WT
Jersey	Kevin McIlwee MCS

**Thanks to all the Seasearch Tutors and co-ordinators for their enthusiasm, organisational and teaching skills during 2018. Thanks also to all of the volunteer divers who have participated in Seasearch training, recording and promotion – without your contributions Seasearch would not exist.**

Text by Charlotte Bolton with contributions from co-ordinators. Images by Peter Bardsley, Charlotte Bolton, Graham Brown, Paul Dawson, Mart Holloway, Paula Lightfoot, Kate Lock, Mike Markey, Emily Morgan, Nick Owen, Owen Paisley, Debbie Phillips, Glynn Phillips, Matt Slater, Rob Spray, Dawn Watson, Fiona White, Phil Wilkinson and Dave Wood. Original design by Chris Wood.

## Data validation and management

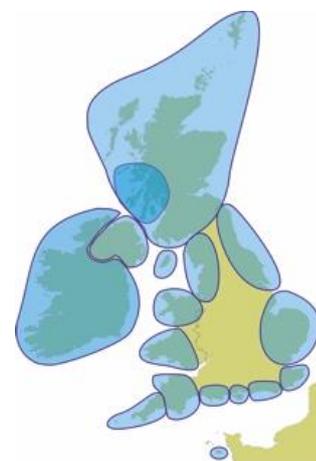
On receipt of a Seasearch form, summary information is recorded in a database and the position mapped in Google Earth. This also acts as the first stage in the validation process for the data which is carried out by the local co-ordinator, national co-ordinator or a Seasearch tutor.

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 assignation 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 Co-ordinator.

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

The National Co-ordinator 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 Co-ordinators are responsible for Seasearch activities within their own areas (see map right). This includes promotion to local dive clubs and other groups, communication with local volunteers and arranging training courses and surveys.



**This report has been produced on behalf of Seasearch by the Marine Conservation Society, Overcross House, Ross Park, Ross-on-Wye HR9 7US.**

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