



# Devon Summary Report 2021



**By Chris Webb**

**Devon Seasearch Coordinator**

## Introduction

We are very fortunate to have a dedicated, talented and keen team of Seasearchers who love exploring our varied Devon habitats. Enthusiastic independent individuals recorded new sites in Torbay and along the difficult-to-access-and-dive North Devon coast. We had a very successful online Southwest Region Observer course with 35 students.

It was great to be able to resume Seasearch-organised surveys after the Coronavirus break last year. Eleven survey days were achieved from thirteen planned ones, with two days lost due to bad weather. All the organised survey effort was targeted in Marine Protected Areas (MPAs) and the ones that we typically dive are shown in the table below - nearly all Devon Seasearch forms came from them.

MARINE CONSERVATION ZONES	SPECIAL AREAS OF CONSERVATION
Bideford to Foreland Point MCZ	Dartmouth SAC
Hartland Point to Tintagel MCZ	Lyme Bay & Torbay SAC
Lundy MCZ	Plymouth Sound & Estuaries SAC
Skerries Bank & Surrounds MCZ	Start Point to Plymouth Sound & Eddystone SAC
Torbay MCZ	

The recording effort by our super volunteers was magnificent for 2021 with a grand total of 168 forms for Devon sites and represents well over 125 hours underwater surveying by the buddy pairs. It consisted of 64 Survey forms, 69 Observation forms and 35 Crawfish forms. The Observation and Survey forms have been entered into the Marine Recorder database by Chris Wood, whilst the Crawfish forms go into a separate database thanks to Angus Jackson, Seasearch Data Officer, and Charlotte Bolton: all data sets are on the National Biodiversity Network website <https://nbnatlas.org/>. The Survey form contains much more data and so it gives a more comprehensive view of the site, its habitats and allows a biotope code to be assigned to each habitat. In Devon, Survey forms represent 48 % of the forms which is excellent as these require a greater effort by the Surveyor and generally more extensive species identification skills. Eighteen Surveyors and twenty Observers contributed.

Seasearch data has played an important role in the designation, monitoring and management of MPAs and now, analysis of trends. A current example is the crawfish recovery, analysed by Angus Jackson showing it as a significant trend in Devon and that Seasearch data has the necessary quality for such analyses. This excellent work has just been published - [Bayesian occupancy modelling of benthic Crustacea and the recovery of the European spiny lobster, \*Palinurus elephas\* | Journal of the Marine Biological Association of the United Kingdom | Cambridge Core](#)

Continuing the theme of projects, after last year's delay, we were able to start LIFE Recreation ReMEDIES Project surveying, with subsidised diving on seagrass beds within the Plymouth Sound & Estuaries SAC, recording their species, habitat, condition and any human impact.

Seasearch divers collaborated with John Bishop, of the Marine Biological Association in Plymouth, as part of the Darwin Tree of Life Project, using their knowledge and expertise to obtain live specimens

of target species and refine the collection protocol. This is an ambitious initiative, led by the Wellcome Sanger Institute, to obtain whole-genome DNA sequences of every UK species.

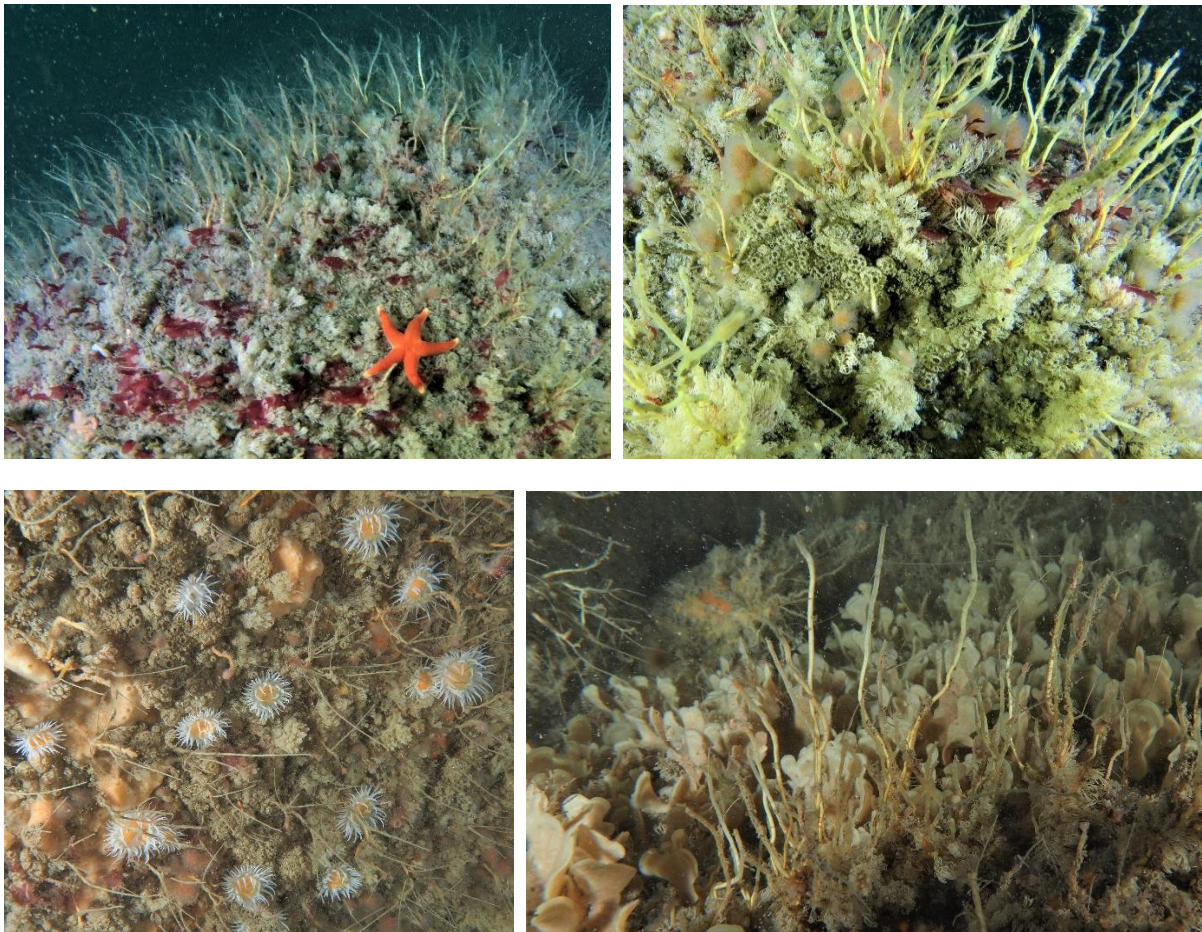


## Areas Surveyed

### North Devon

Thanks to the organisational efforts of Maggs Ashton, and the generosity of Ilfracombe & North Devon Sub Aqua Club, two amazing new sites were surveyed in this less visited and challenging area to dive, owing to its strong tides, swell and turbidity. As a transition between the Bristol Channel and the Southwest open coast, it's a biodiverse area as many species are at the limits of their distribution, westward and eastward respectively (Black, 2003<sup>1</sup>).

The pinnacle Copperas Rocks had vertical bedrock levelling out to low undulating reef. The north and south sides were dominated by oaten pipe hydroids *Tubularia indivisa*, white clawed sea mosses *Crisia* spp. and Molgulid sea squirts with frequent *Aplidium punctum*, white striped anemones *Actinothoe sphyrodeta*, sponges and spiral bryozoans. A curious feature was the masts of the amphipod *Dyopedos porrectus*, seen here amongst the anemones in the photo below. They are not unusual along this coast but quite striking as long, thin feeding structures extending high into the current. Areas of the south side also homed a hornwrack *Flustra foliacea* community (photos below lower row by Maggs Ashton).

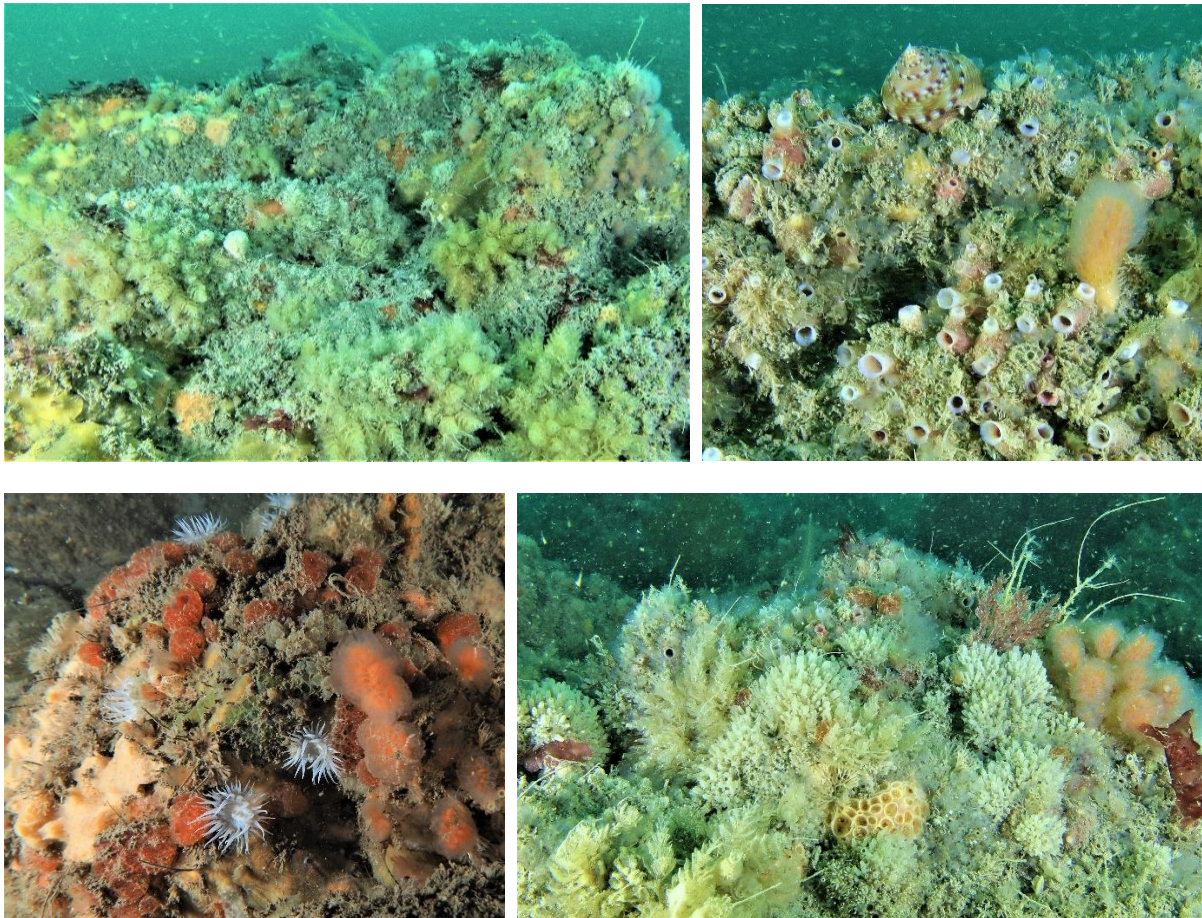


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<sup>1</sup> Black, G (2003) Marine Wildlife of North Devon. Devon Biodiversity Records Centre



Further west, the Off Shag Point site was a low-lying, jagged bedrock reef with steeply inclined strata, well creviced and fissured. A fascinating site with a very diverse sea squirt, sponge and bryozoan turf with some hydroids and anemones. Amongst the sea squirts, *Aplidium punctum* and Molgulids were frequent, dense patches of *Polycarpa scuba* (photo upper right) and *Aplidium* 'strawberry' (photo lower left by Maggs Ashton, left of centre) occurred, and seven other species were found. Sixteen sponge species were recorded including spiky lace sponge *Leucosolenia* sp. (photo lower right) quite frequently and in large patches. Spiral bryozoans, often in large tufts and mainly *Crisularia plumosa*, were notable by their abundance amongst the nine bryozoan species seen. The Seasearch specialist ID guides got a good workout here on the thick convoluted turf adorning the rock. This homed little mobile animals, such as arctic cowries *Trivia arctica* (cover photo by Maggs Ashton), nudibranchs and juvenile brittlestars.



## Lundy

As usual, keen independent Observers visited the popular reef and wreck sites on the sheltered east side of the island, such as the Knoll Pins and Brazen Ward, upholding the 'any dive can be a Seasearch dive' mantra.

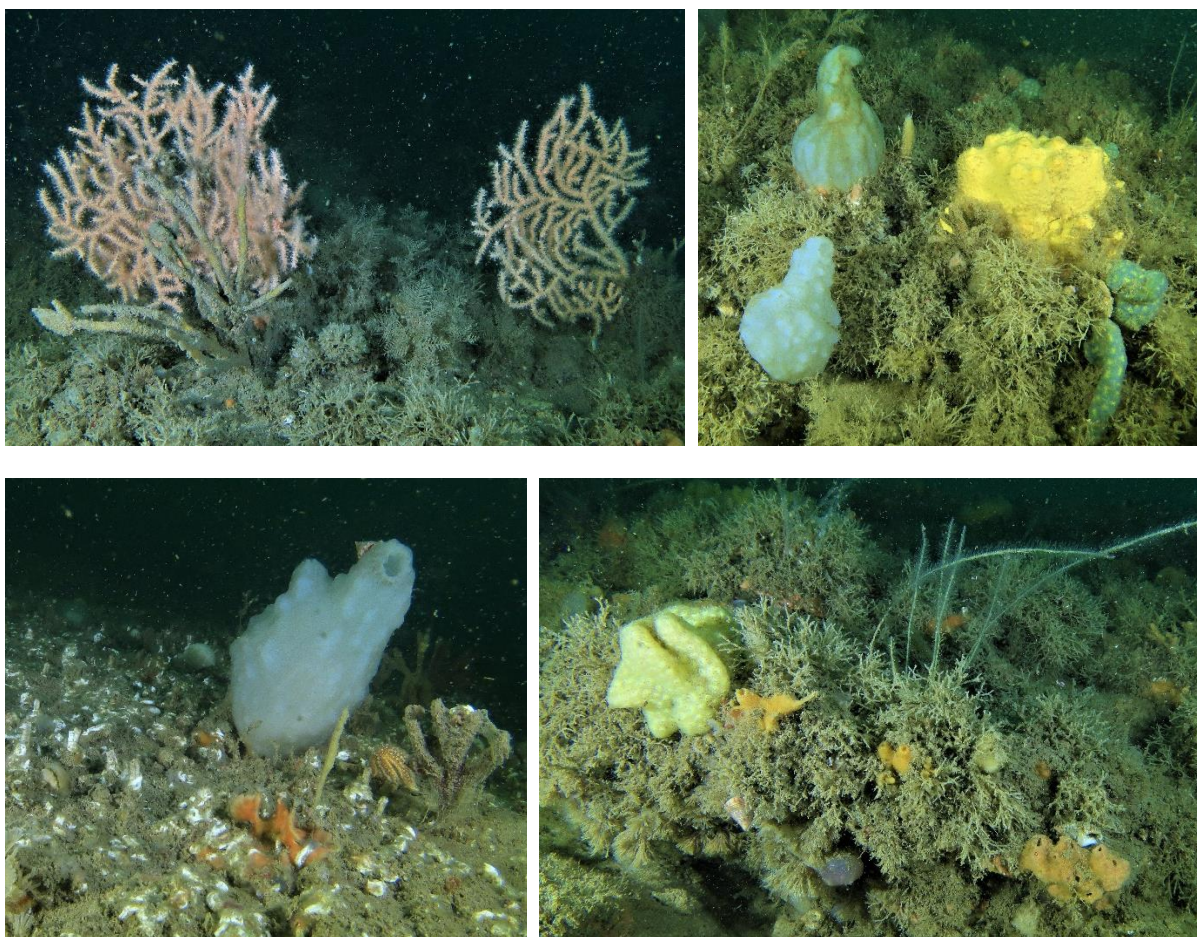


## Lyme Bay

Guided by the DORIS<sup>1</sup> multibeam side scan maps, known reefs were further explored in terms of their spatial extent. The red and brown seaweeds of the shallow Tescos 3 Reef were well surveyed by Lin Baldock. The boulders of Outer Charton 2 revealed a diverse but sparse turf of predominantly sponges and bryozoans, with worms and varied molluscs, while adjacent mud had a notable presence of angular crab *Goneplax rhomboides* amongst other burrowing and mobile fauna.

Eastern Heads 2 is a low-lying reef sporting a very diverse fauna of sponges, hydroids, bryozoans and sea squirts, with pink sea fans *Eunicella verrucosa* frequent - quite typical of this part of the bay and the Survey form species page was almost full. Almost as diverse, the top of Beer Ridge 3 (photos) was patchy with some areas of sea fans, here with thickets of helter skelter hydroid *Hydrallmania falcata*, other areas where *Cellaria* spp. and the white sea squirt *Phallusia mammillata* were more abundant and one patch where the sediment veneer had been removed revealing a bare surface, with the tubes of the boring bivalve *Rocellaria dubia* standing proud, amongst the remaining fauna.

Further west, the inshore reef off Budleigh Salterton proved to be a good place to spot nudibranchs.



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<sup>1</sup> DORIS (DORset Integrated Seabed survey), a collaborative project involving Dorset Wildlife Trust, The Maritime and Coastguard Agency, Channel Coastal Observatory and the Royal Navy, with major funding from Viridor Credits Environmental Company. Other partners include Natural England, Dorset Strategic Partnership, the National Oceanography Centre and University of Southampton.

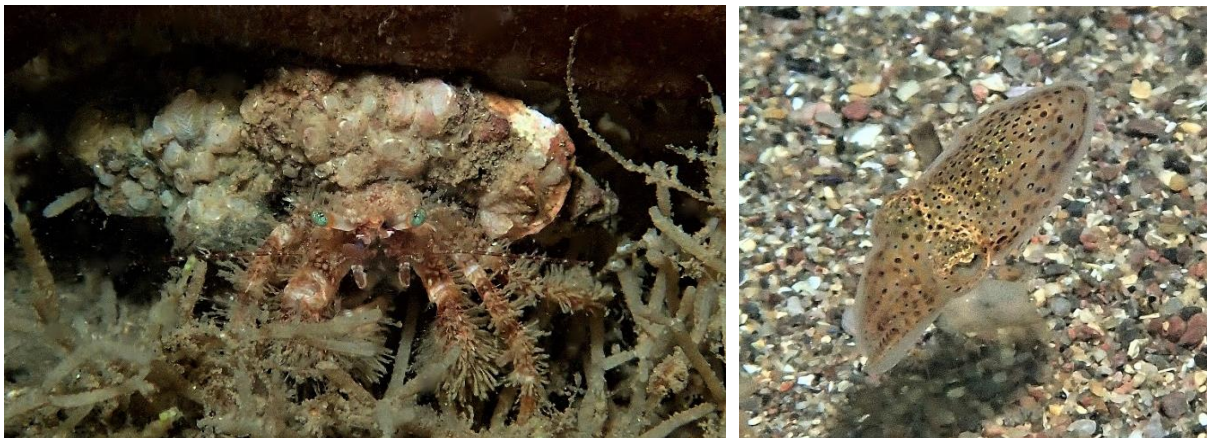


## Torbay MCZ

The numerous reefs from the Morris Rogue out to the Ore Stone, and beyond to Tucker Rock, provided a great display of abundance and scenic-ness. Chock-a-block daisy anemones *Cereus pedunculatus* were abundant on the reef of Queen Rock, along with other anemones, while black brittlestars *Ophiocomina nigra* dominated the sand at the base of the reef, seen here underneath the omnipresent featherstars *Antedon bifida* in the photo below upper right. Tucker Rock is the most tidally affected and supports the expected abundance of filter feeders along with a variety of crustaceans on the sloping reef. Observation records of these and many other sites within the MCZ were largely thanks to the enthusiastic efforts of Tamsyn Mann, her photos shown below.



The area from Beacon Cove along to Peak Tor Cove, with its rocky reef, sand and seagrass meadows, homes a variety of interesting life for the eagle eyed spotter. From the hairy hermit crab *Pagurus cuaensis*, newly recorded within Torbay, through 13 nudibranch species, to the downright cute little cuttle *Sepiolo atlantica*. Other popular shore sites were visited by independent recorders including Shoalstone, Brixham Breakwater Beach, Oddicombe and Babbacombe.



The tide-swept Cod Rock Ledge, just south of Berry Head, continues to reward the Seasearcher with a diverse fauna to record and a fabulous scene to enjoy - the sea squirt community (14 species at least) especially challenges ID skills and *Polycarpa violacea* (photo below upper left by Mike Markey, right of centre) was a new Devon record. The gently undulating top (photo lower left) was dominated by anemones (plumose *Metridium dianthus*, dahlia *Urticina felina*, elegant *Cylista*



*elegans*), dead men's fingers *Alcyonium digitatum*, *Cellaria* spp. with *Polycarpa scuba* and antenna hydroids *Nemertesia antennina*. This limestone ledge fell away dramatically in a 6 m wall thickly covered by sponges, hydroids, anemones, bryozoans and sea squirts.



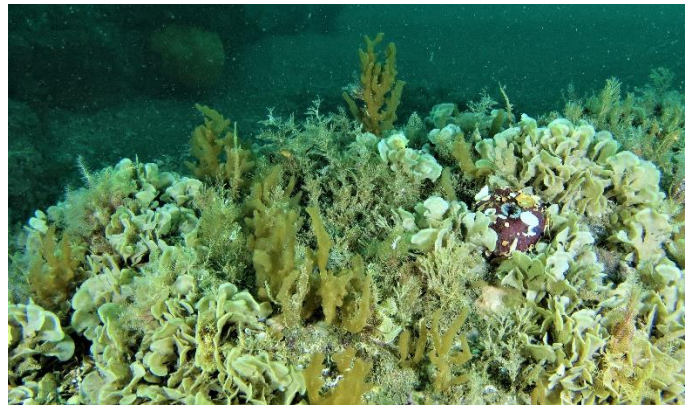
### Start Point to Prawle Point Reefs in the Skerries Bank & Surrounds MCZ

On Start Point Reef, a section named as Twinkle, due to the abundance of white striped anemones, was revisited (6 years later). It was strikingly different following a very extensive settlement of edible mussels *Mytilus edulis* which covered the reef with only dead men's fingers remaining in their earlier abundance. Some un-musseled patches retained the elements of the earlier fauna.



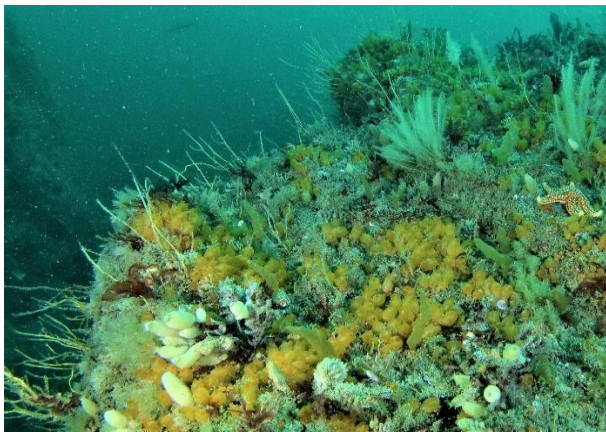


Prawle Gardens lived up to its name with the abundance and large size of the dahlia anemones that carpeted the ridged lower reef in places (photo upper left by Mike Markey). Elsewhere patches of hornwrack and finger bryozoans were found amongst the other bryozoans, hydroids, dead men's fingers and scour-tolerant sponges. The shallower reef was deeply incised by narrow tall gullies dominated by jewel anemones and oaten pipe hydroids. Feather stars occurred throughout while one variable blenny *Parablennius pilicornis* was spotted (photo lower left by Peter Hewitt).



## The Bolt

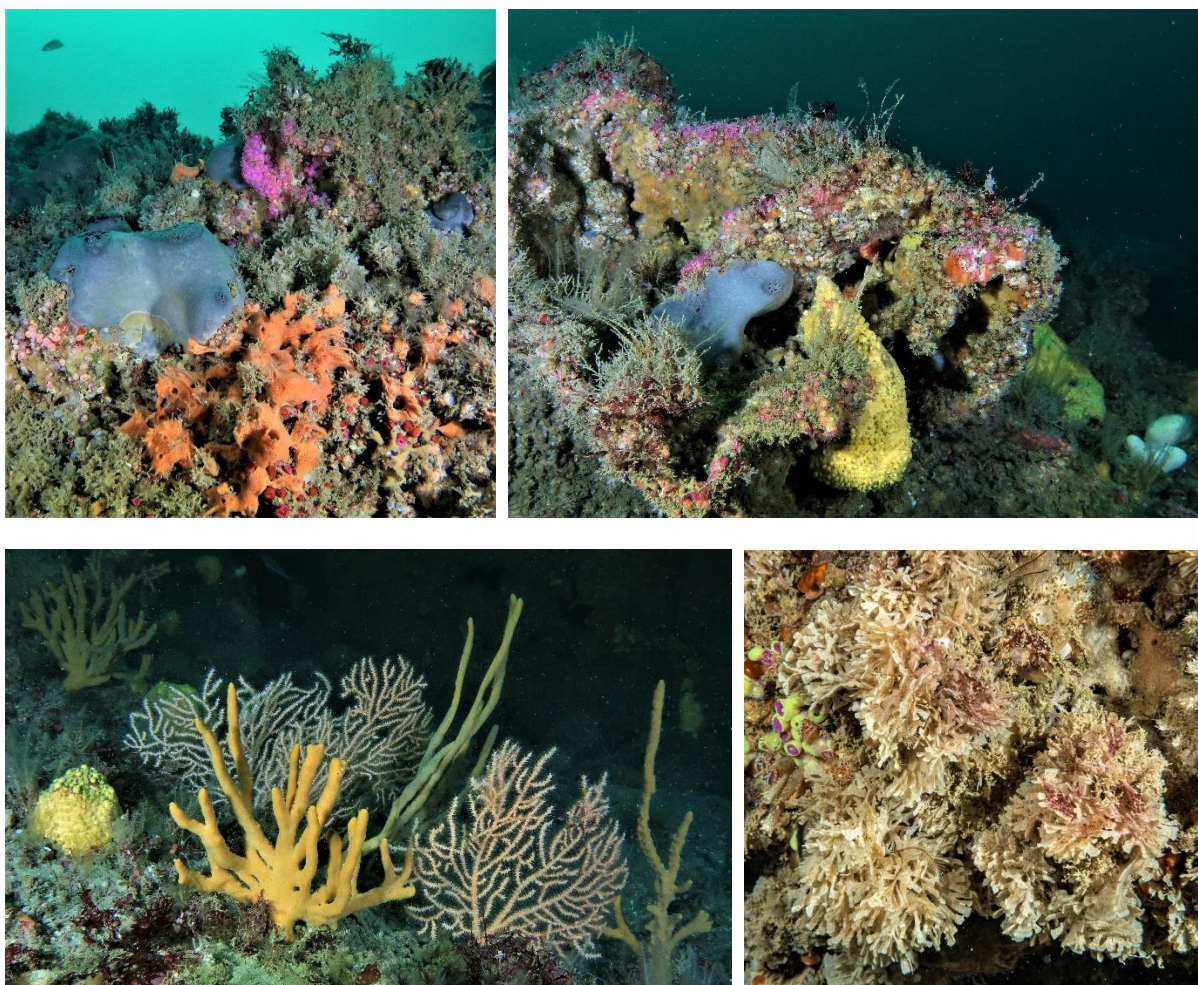
Exploring the extensive tide-swept reefs off Bolt Head revealed convoluted sloping bedrock with gullies winding through and creating steep scarps. Diverse sponges, hydroids and bryozoans were recorded throughout with frequent orange sea squirt *Stolonica socialis* on the slopes.





## Bigbury Bay

The Alternative Rutts is a large limestone ridge much like its well-dived East Rutts associate. Rich in species, with some in considerable abundance, these isolated reefs in the bay are oases of life. The very-creviced upper walls are covered in jewel anemones and sponges, such as shredded carrot sponge *Amphilectus fucorum* and elephant hide sponge *Pachymatisma johnstonia*, all jostling for space. Clumps of square-end hornwrack *Chartella papyracea* are also frequent (photo lower right and cover lower right by Mike Markey). Deeper, the reef sloped more gently, was convoluted into thin ridges (photo upper right) and, with narrow gullies twisting through, many microhabitats are formed contributing to the site's high diversity of sponges, hydroids and bryozoans. These gullies often homed patches of pink sea fans and yellow staghorn sponges *Axinella dissimilis* in their shelter.



The large, long reef feature known as the Old Erme River Bed Wall was further explored. One site was the typical 5 m wall, with its large patches of yellow cluster anemones *Parazoanthus axinellae*, and the other seemed to be the deeper southern end of the feature. Here the shorter wall was dominated by dead men's fingers amongst a colourful mosaic of encrusting species (pink algae, sponges and bryozoans) peppered with 'snowflake' sea squirts *Didemnum maculosum* var. *dentata*.

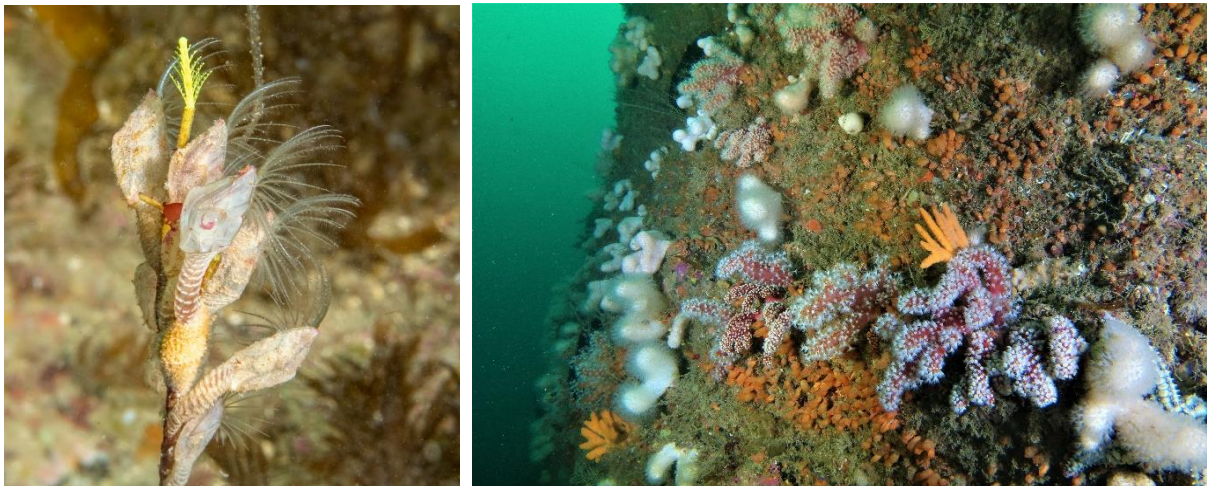
Outer Hope Cove received several visits by keen Observers, with stalked jellyfish *Stauromedusae*, little cuttles and common cuttlefish *Sepia officinalis* rewarding their efforts. The seaweeds of Thurlestone were thoroughly surveyed by Lin Baldock and Francis Bunker, recording 53 species.



## Stoke Point to Plymouth Mewstone

Stoke Reef East 7 (the reef feature has been well surveyed) was a site at the transition where low-ridged bedrock dipped under mobile coarse sediment. The turf was dominated by varied sponges (15 species) and pink sea fans, with hydroids and *Cellaria* spp. being more abundant on the shallower reef and scour-tolerant sponges on the deeper transition, where sediment encroached on the reef. These included cored chimney sponge *Ciocalypta penicillus* and antler sponge *Adreus fascicularis* (photo upper left by Mike Markey).

Along the coast westward, the southern edge of a rugged gullied reef, Stoke Point Reef, was surveyed. The mainly vertical bedrock of the gully sides was dominated by dead men's fingers, with red fingers *Alcyonium glomeratum*, jewel anemones *Corynactis viridis* and orange sea squirts amongst a varied sponge, hydroid and bryozoan turf. One unusual find was goose barnacles *Scalpellum scalpellum* growing on a hydroid stem (photo lower left by Mike Markey).



The rugged scenic reefs of the Hilsea area, past the Blackstone Pinnacle and along to the Mewstone Ledges, as always, were popular with independent individuals contributing forms as well as those on Seasearch-organised dives.



## Plymouth Sound

Sheltered behind the breakwater, the Breakwater Fort SW Reef is a low-lying remnant of the reef the breakwater was originally built on and rises no more than 1 m above the surrounding soft sediment. Heavily silted, it is a long narrow reef dominated by pink sea fans (photo upper left by Mike Markey). It is a shallow site for fans at 8.5 – 10 m bcd and on the nearby fort walls they are growing even shallower. Another feature of the reef fans is their often very-twisted nature giving them an untidy appearance although they still grow quite large. Amongst the fans was a varied sponge, hydroid, bryozoan and ascidian turf and mixed red seaweeds. Chocolate finger sponge *Raspailia ramosa* and *Ulosa stuposa* feature, here amongst a silty tangle of hydroids and finger bryozoans *Alcyonidium diaphanum* (photo lower right by Mike Markey). Burrowing brittlestars *Amphiura* sp. were occasional on the sediment (photo lower left) along with eyelash worms *Myxicola infundibulum*, burrowing bivalves and reticulated dragonets *Callionymus reticulatus*. It's an interesting site on the breakwater, well beyond its use as a Plan B when the southerlies blow.





## Plymouth Sound & Estuaries SAC Seagrass Beds

The LIFE Recreation ReMEDIES Project funded dives on two known seagrass beds with divers starting their surveying on the seaward edge of the bed, which seemed to match earlier maps of the bed's extent. The project also funded Matt Slater's dives in this SAC, and these are reported in the Cornwall Seasearch Annual Report.

Cawsand Bay (photo upper left by Keith Hiscock) boasts a luxuriant seagrass *Zostera marina* bed of large dense patches on fine/muddy sand and the associated red weeds were mainly the filamentous *Antithamnionella turnifolia*, a non-native species. The notable fauna were peacock worms *Sabella pavonina* (photo upper right), eyelash worms and snakelocks anemones *Anemonia viridis*, with fish including sand eels, dragonets and sand gobies.

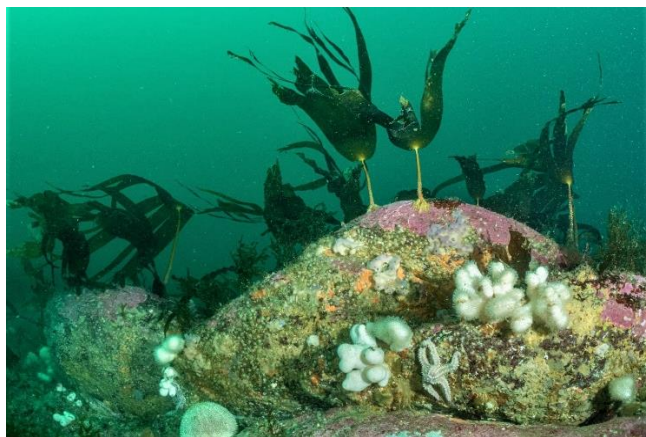
On the east side of the Sound, with more wave exposure and tidal flow, lies Leekbed Bay where a patchy sparse cover of seagrass was recorded with associated filamentous and foliose algae attached to the leaves and bases of the seagrass. Like Cawsand Bay, the filamentous algae were mainly *A. turnifolia* (photo lower left by Keith Hiscock). Heart urchin *Echinocardium cordatum* burrows were common, small numbers of hermit crabs and sand gobies skittered around and the eggs of squid *Alloteuthis* sp. and cuttlefish (photo below) spotted. At both sites, the seagrass was in good condition with leaf lengths of 50 cm, or longer, estimated for at least 50% of the plants.





## Eddystone Reef Area

Many of the fabulous pinnacles that lie to the east and west of the reef are well surveyed now, as they can be dived in the tidal shelter of the Eddystone. The less dramatic but equally scenic ridges and low walls on the northern flank were further explored this year. The upward-facing circalittoral rock and boulders begin deeper here, owing to the often-spectacular visibility, and are well scoured, with gravel veneers and patches. The bedrock is dominated by dead men's fingers and encrusting pink algae with sponges, pink sea fans and hydroids (upper photos). Low walls, 1-4 m high, create colourful assemblages of encrusting and cushion sponges, anthozoans and hydroids amongst the expanse of kelp park (photo lower right by Mike Markey). The sites were never short of a cuckoo wrasse *Labrus mixtus* amongst the wrasse populations typically seen here.





## Priority Species and Habitats

Devon has a great variety of priority species and habitats and those recorded in 2021 are listed below:

PRIORITY SPECIES		AREAS WHERE RECORDED
<i>Amphianthus dohrnii</i>	sea fan anemone	Eddystone
<i>Eunicella verrucosa</i>	pink sea fan	Most areas
<i>Leptopsammia pruvoti</i>	sunset coral	Lundy
<i>Palinurus elephas</i>	crawfish	Most areas
<i>Lophius piscatorius</i>	anglerfish	Eddystone, Plymouth Mewstone - Bigbury Bay
<i>Pleuronectes platessa</i>	plaice	Prawle Point - Start Point, Torbay
PRIORITY HABITATS		AREAS WHERE RECORDED
Seagrass Beds		Plymouth Sound, Torbay
Fragile Sponge & Anthozoan Communities on Subtidal Rock		Plymouth Sound - Bigbury Bay, Bolt, Lyme Bay

### Crawfish

Seasearch records (Observation, Survey and Crawfish forms) indicate a widespread crawfish presence in South Devon areas (from Torbay around to Plymouth and offshore) and show similar geographical range to 2019 and 2020 (even with its reduced diving and recording). Thirty-five Crawfish forms were submitted, recording 164 individuals and a carapace length range of 2 – 20 cm, although all but one were 15 cm or less.

Twenty-three forms had crawfish with carapace lengths of 5 cm or less and they formed 38 % of all crawfish measured. Two hotspots, where total individual numbers exceed 10 and the percentage of these small ones exceeds 50 % on that form, were seen and when corrected for these, this proportion was 34 %. This suggests that these juveniles still seem to form a significant part of the 'recorded population' and represent continued recruitment.

Ten forms recorded individuals with carapace lengths of 10 cm or more and they were 12 % of all crawfish measured. These larger crawfish are present, but in smaller numbers than the juveniles (as would be expected) and represent individuals near or reaching a potentially reproductive size. No berried females were recorded. Curiously, only four forms had individuals in both these size categories but there was no obvious geographical difference where large and small ones were especially found.

From a simple comparison with 2019 (insufficient data from 2020), it appears that the two years are essentially similar, and the overall South Devon (recorded) population is stable in terms of size structure and abundance over these years. 2021 was the seventh year of the sustained recovery - this is excellent and let's hope fisheries management and diver attitude keep it so.



## Acknowledgements

As always, my huge thanks go to all our Seasearchers who returned forms, a great contribution of time, effort and, indeed, money. Their keen eyes underwater, photography, identification skills and dedication afterwards have made the survey activities a great success – Seasearch relies on the contributions of such volunteer divers, and I am most grateful to them all. They are Alison Wilson, Amanda Gartshore, Andy Rath, Andy Wilson, Becky Gill, Bill Hewitt, Charlotte Bolton, Chris Webb, Dave Walker, Eddie Rickard, Emma Eddy, Fiona Crouch, Fiona Ravenscroft, Francis Bunker, Fred Nunn, James Gregory, Jed Lewis, John Campbell, Keith Hiscock, Kerry Place, Lin Baldock, Lucy Martin, Maggs Ashton, Mark Card, Mark Harrison, Martin Glanvill, Mary Ledlie, Matt Slater, Mike Markey, Nick Owen, Paul Aldersley, Peter Hewitt, Sarah Dashfield, Scott Lewis, Sue Watson-Bate, Tamsyn Mann, Tom Shelley and Trudy Russell. I hope I haven't missed anyone out.



Our immensely helpful charter skippers also deserve many thanks: Danny Daniels (from Discovery Divers, Plymouth), Will Mason (from Falcon Diving Charters, Dartmouth) and Rob King (Blue Turtle Diving Charters, Lyme Regis). Their extensive site knowledge and good humour have taken us to some fabulous sites and returned us safely - this is greatly appreciated.

Special thanks go to Maggs and Steve Ashton, and the generosity of Ilfracombe & North Devon Sub Aqua Club, for the 'northern' dives. To Matt Slater for organising additional ReMEDIES dives.

Finally, big thanks to Chris Wood for the huge job of data entry and biotoping the habitats.

All photographs are by Chris Webb unless otherwise indicated and copyright remains with the original photographer. My thanks go to all these photographers for the generous use of their images. Photographs above by Keith Hiscock (left) and Kirsty Andrews (right).

Seasearch in Devon has been supported financially in 2021 by:



**LIFE Recreation ReMEDIES (LIFE18 NAT/UK/000039)**  
*Reducing and Mitigating Erosion and Disturbance  
Impacts affecting the Seabed*

**MARINE  
CONSERVATION  
SOCIETY**