



Devon Summary Report 2019



By Chris Webb

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Introduction

We are very fortunate to have a dedicated, talented and keen team of Seasearchers who love exploring our varied Devon habitats and continue to support our surveys and courses - it's great to have such support. Eagle-eyed divers spotted many rare species, some of which are highlighted in the area descriptions.

Twelve Seasearch-organised survey days were achieved from eighteen planned ones, with days lost due to bad weather, including dives in the Wembury Bioblitz. All the organised survey effort was targeted in Marine Protected Areas (MPAs) and 98% of Seasearch forms submitted came from them. We continued to target the lesser recorded areas of Lyme Bay and the South Hams this year and many interesting and fabulous new sites were discovered around Devon's coast. Enthusiastic independent divers continue to record sites in Plymouth Sound, Torbay and Lundy.

Seasearch data has played an important role in the designation of MPAs and now moves into the area of further exploration and monitoring. The Devon ones that we typically dive are shown below. New survey sites in Lyme Bay were targeted to ground-truth drop-down video surveys carried out by the Devon & Severn Inshore Fisheries and Conservation Authority.

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	

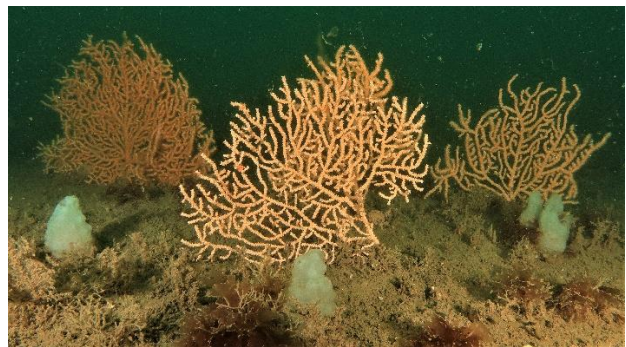
With its two coastlines, Devon has a great variety of habitats and the priority species and habitats recorded in 2019 are listed below. Crawfish data gathering was targeted on surveys and supported by the Prince of Wales Charitable Fund.

PRIORITY SPECIES		AREAS WHERE RECORDED
<i>Amphianthus dohrnii</i>	sea fan anemone	Eddystone
<i>Eunicella verrucosa</i>	pink sea fan	Most areas
<i>Hippocampus hippocampus</i>	short snouted seahorse	Torbay
<i>Palinurus elephas</i>	crawfish	Most areas
<i>Lophius piscatorius</i>	anglerfish	Eddystone, Bigbury Bay, Lyme Bay
<i>Pleuronectes platessa</i>	plaice	Bigbury Bay
<i>Molva molva</i>	ling	Eddystone
PRIORITY HABITATS		AREAS WHERE RECORDED
Seagrass Beds		Torbay
Fragile Sponge & Anthozoan Communities on Subtidal Rock		Plymouth Sound to Stoke Point, Bolt, Lyme Bay

Areas Surveyed

Lyme Bay

We continued our exploration of the lesser-known Devon part of Lyme Bay, particularly south/southeast of Beer, and were richly rewarded at six new sites, as suggested by the DORIS multibeam sonar maps (courtesy of Dorset Wildlife Trust). Typically, the reefs of Beer Fans 6 and 7 and Beer Ridge 2 are flat, almost-level, veneered bedrock with ~30 cm high scarps resulting from the erosion of strata edges. They support a diverse sponge, hydroid and bryozoan fauna with significant pink sea fan *Eunicella verrucosa* numbers, including good recruitment over the last few years (photo below left). The ever-present Lyme Bay resident, the sea squirt *Phallusia mammillata*, is seen here on the similar inshore ledges of Pinhay Settle.



The West Tennants 7 site has unusually taller, vertical scarps that bear encrusting sponges and bryozoans along with a myriad of small animals employing the nooks and crannies of this rock. The underhangs home cup corals, such as the southern cup coral *Caryophyllia inornata* and Weymouth carpet coral *Hoplangia durotrix*, spotted by Lin Baldock. The ledge top has a stunning pink sea fan forest with remaining space mainly hosting erect sponges, including *Raspailia* spp. - the fans were very large, in excellent condition and in high density.



Beer Plains 2 is a pebble and cobble bed covered with dead men's fingers *Alcyonium digitatum* and various anemones including dahlia *Urticina felina*, *Sagartia troglodytes*, imperial *Capnea sanguinea* and policeman *Mesacmaea mitchellii*. The diverse mobile fauna included nine crab species and sand brittlestars *Ophiura* spp., while common whelks *Buccinum undatum* glide through the delightful, dancing queen scallops *Aequipecten opercularis* (photo above right).

Torbay MCZ

'Seasearch East on Tour' did a fine job surveying Babbacombe's varied habitats. On the muddy sand, several anemone species occurred, including *Sagartiogeton undatus*, and the necklace shell *Euspira catena* seen gliding across it (upper photos below by Dawn Watson). The snakelocks shrimp *Periclimenes sagittifer* maintains its presence in the cove although still not recorded having made its way into Torbay itself. Enthusiastic individuals continue to spot curious critters, such as the nudibranch *Aeolidiella glauca*, on the muddy sand of Anstey's Cove (lower photos by Tamsyn Mann).



Cod Rock Ledge 4 catches the tide racing past Berry Head which promotes a fabulous display of plumose anemones *Metridium dianthus* on the walls and elegant anemones *Sagartia elegans* on the flattish top. Amongst the colour of these and varied sponges is a very diverse (thirteen species) ascidian fauna. Unitary species and colonial types were both in considerable abundance including locally abundant *Sidnyum elegans* (cover photo upper left by Mark Harrison).



Dartmouth Area

Just east of Dartmouth, numerous ridges and pinnacles form a complex system of walls and deep gulleys. Plumose anemones, jewel anemones *Corynactis viridis*, other anemones and encrusting yellow sponges, mainly *Pseudosuberites sulphureus*, colour the walls dramatically. Interspersing this are varied erect sponges, hydroids and bryozoans plus Devonshire cup corals *Caryophyllia smithii* in large numbers. Finger bryozoans *Alcyonidium diaphanum* feed numerous Thorny Doris *Acanthodoris pilosa*, whose spawn in turn feeds the nudibranch *Favorinus brianus* (photo lower left by Rob Adams). In this area, pink sea fans typically provide many anchorages for shark egg cases and at The Verticals site, near the Mewstone, the success of this was evident in the large numbers of juvenile smallspotted catsharks *Scyliorhinus canicula* seen. Nearby, black sea bream *Spondyliosoma cantharus* were spotted by Mark Harrison.



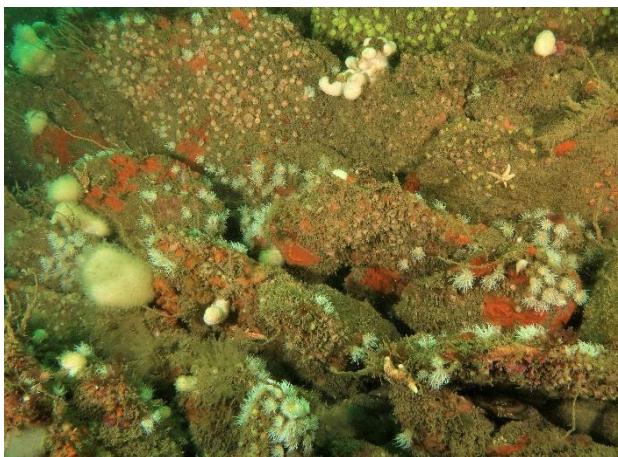
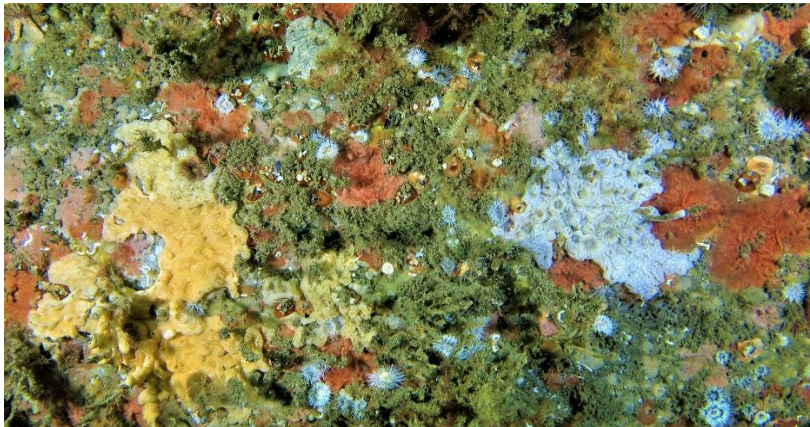
Lundy

Enthusiastic individuals observed several popular wrecks and reefs all around the island, including Seal Rock, Knoll Pins and, on the exposed west side, Pretty Cove.

Start Point to Prawle Point Reefs

The variety of flow regimes in this area where Start Point juts into the main tidal stream creates notably different habitats. The rugged topography at the Start Point Race site further accentuates this with heavily gravel-scoured platforms indented by deep winding gulleys. The bare-looking former, dominated by dead men's fingers and dahlia anemones, contrasts the gully walls (photo below upper left) covered in didemnid ascidians, encrusting bryozoans, anemones and patchy common featherstars *Antedon bifida* and topped with oaten pipe hydroid *Tubularia indivisa*. The similarly scoured Prawle Point SE2 was visited revealing considerable gravel piled up against bedrock with patchy finger bryozoans and orange sea squirts *Stolonica socialis* amongst mixed turf and red weeds.

Nearby the northern edge of Start Point Reef benefits from a tidal shadow to some extent. It has a diverse hydroid, anthozoan, bryozoan and ascidian fauna on parallel, linear ridges, which become lower as the reef deepens and runs out to sediment. The site 'twinkles' in some places with the white-striped anemones *Actinothoe sphyrodeta*. The molluscan wonders here include curled octopus *Eledone cirrhosa*, common cuttlefish *Sepia officinalis* and nudibranchs like *Eubranchus farrani* (photo upper right by Rob Adams).



The Bolt to Bigbury Bay Reefs

The poorly known Bolt Head reef system was further surveyed. At Bolt Head 3, the irregular topography, of sloping bedrock, incised by deep narrow gulleys meandering through, had a diverse community with a colourfully orange feel (photo below) – particularly shredded carrot sponge *Amphilectus fucorum*, finger bryozoan, potato crisp bryozoan *Pentapora foliacea*, vermilion encrusting bryozoan and orange sea squirt. The nationally scarce, yellow skirt sea slug *Okenia elegans* was photographed by Bill Hewitt amongst the latter.



In Bigbury Bay, at Thurlestone Reef 2, beautiful eyelash weeds *Calliblepharis ciliata*, amongst other red weeds, mingle with sponges and antenna hydroids *Nemertesia* spp. at the transition between the lower infralittoral and circalittoral. The latter were now well predated by *Doto* sp. nudibranchs (photo below right by Peter Hewitt). This small reef of several bedrock ridges is an oasis amongst the extensive sand of the bay, with a school of poor cod *Trisopterus minutus* patrolling above. Seasearchers did a fine reef clean on the considerable plastic sheeting collected in the gully bases. Inshore, tuna *Thunnus thynnus* were spotted (Mark Harrison), on the surface at the mouth of the River Erme, and Westcombe Beach to the west was snorkel-Seasearched (Chris Wood) revealing a mixed kelp forest.



Stoke Point to Plymouth Sound

Keen individuals contributed forms from popular dive sites along this stretch of coast. They tend to be from the scenic, rugged reefs, where the steeply inclined or vertical strata often form high ridge and gulley systems. In circalittoral depths, the ridge tops are dead men's finger dominated while deeper in the gulley's, yellow staghorn sponges *Axinella dissimilis* and yellow cluster anemones *Parazoanthus axinellae* can form large aggregations, often with football sea squirts *Diazona violacea*, such as at Hilsea (photo below upper left and cover). At the other end of the sea squirt size range are the white 'snowflakes', amongst the encrusting pink algae and sponges at the Inner Dropoff 4, which are the small colonies of *Didemnum maculosum* var. *dentata* (photo below upper right). Here, pink sea fan recruitment was extensive over recent years.

Within the Sound, the sediment north of the breakwater fort was well surveyed revealing the continued presence of slender sea pens *Virgularia mirabilis* (photo lower right by Charlotte Bolton). Observer course students thoroughly observed the West Hoe shallows. Fan mussels *Atrina fragilis* have been seen here in the past and, although looked out for, none were spotted. Duke Rock and Eastern Kings were surveyed also. On the Sea Squirts Course, a community of four native and four non-native sea squirts were observed on strings suspended (by the Marine Biological Association's Invasive Animals Group) from marina pontoons (cover photo lower right by Allen Murray).

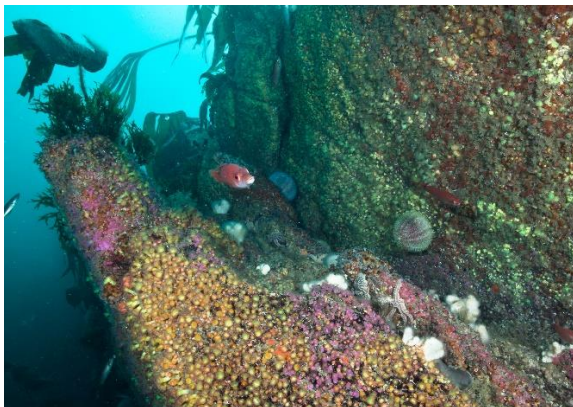


Eddystone Reef Area

Six pinnacles, in the main reef area and the Mammaries, were explored and enjoyed, especially in September's tropical visibility. Typically, the ledges at their bases (photos below) provide enough wave protection for pink sea fan thickets amongst the potato crisp bryozoans, sponges and dead men's fingers. Netted Wing Weed *Dictyopteris polypodioides* and other brown weeds grow well at these 25-30 m depths.



The pinnacle walls greet the Seasearcher with a luxuriant display of jewel anemones, hydroids, sponges and varied wrasse (photo below upper left by Mike Markey and upper right by Simon Temple). Mixed kelp communities thrive on the tops, above the colourful, expansive encrusting sponges and anemones (photo lower left by Malcolm Nimmo). Other fish highlights included a marbled electric ray *Torpedo marmorata* (photo lower right) and anglerfish *Lophius piscatorius*.



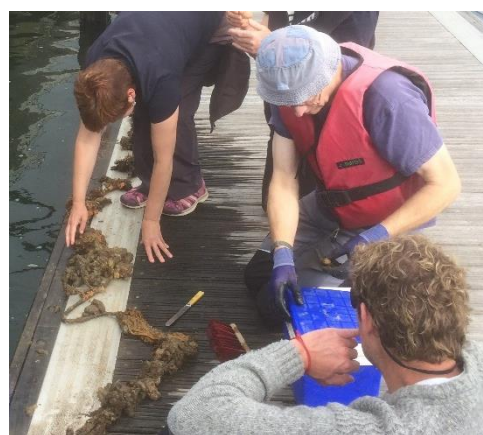
Crawfish



The collection of crawfish carapace length and individual abundance data was targeted again, this year supported by the Prince of Wales Charitable Fund. Seasearch is currently analysing all the data, including some robust modelling of trends. In the fifth year of the recovery, crawfish are getting to a size where they enter the fishery and females may become berried. We hope this recovery will be maintained into a sustainable population through appropriate management and this analysis will help that.

Courses

An Observer Course was run for Plymouth University Scuba Society's keen students. Another highlight was the Sea Squirts Speciality Course - it was a great privilege having David Kipling and Sarah Bowen deliver their brilliant course on this fascinating subject. We were also very fortunate to have John Bishop and Christine Wood, of the MBA Invasive Animals Group, sharing their expertise on non-native squirts. Especially pleasing were the enthusiastic Seasearchers working hard on their ID skills and so, buoyed along with the new Seasearch Sea Squirt and Sponge ID guide, the Seasearch data quality thrives (photo by Allen Murray).



Recording Forms

The recording effort by our volunteers in 2019 was again magnificent, with a grand total of 161 forms for Devon sites. This maintains a strong recording effort and represents well over 150 hours underwater surveying by the buddy pairs. It consisted of 67 Survey forms, 60 Observation forms, 32 Crawfish forms and 2 Pink Sea Fan forms. The Observation and Survey forms have been entered into the Marine Recorder database by Chris Wood, whilst the Crawfish and Pink Sea Fan forms go into separate databases thanks to Angus Jackson 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 and its habitats and allows a biotope code to be assigned to each habitat. In Devon, Survey forms represent 53 % of the forms which is pleasing as these require a greater effort by the Surveyor and generally more extensive species identification skills. Nineteen Surveyors and nineteen Observers contributed and the majority of these came from Seasearch-organised events although some came from several independent enthusiastic people.

Acknowledgements

Once again, my huge thanks go to all our Seasearchers who have supported the events and 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.

These recorders are Bruce Jones, Carlo Di Natale, Charles Sandercock, Chris Webb, Chris Wood, Christine Grosart, Daniel Evans, Dave Walker, David Dooley, Dawn Watson, Eddie Rickard, Fiona Hampton-Matthews, Fiona Ravenscroft, Fiona Tibbitt, Francis Jeffcock, Georgie Bull, Gina Wright, Greg Round, Hoi Leung, Holger Schuhmann, Ian Saunders, Jenny Murray, Joanna Beresford, Keith Hiscock, Lin Baldock, Lindsay Mahon, Lucy May, Mark Harrison, Martin Glanvill, Mason Boobyer, Mike Markey, Nick Owen, Peter Hewitt, Richard Yorke, Sarah Dashfield, Sarah Kunzig, Sophie Prendergast, Sophie Rennie, Sue Syson and Tamsyn Mann. I hope I haven't missed anyone out.

Our very helpful skippers also deserve much appreciation: Danny Daniels (from Discovery Divers, Plymouth), Anne-Marie and Will Mason (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, especially when echosounder hunting for new sites, which can take a bit of time!

Sarah Bowen and David Kipling are heartily thanked for tutoring their fascinating Sea Squirts Course and John Bishop and Christine Wood, of the MBA's Invasive Animals Group (Bishop Group), for their significant additional contributions. The course was staged at the MBA and facilities were partially subsidised by it. Thanks to Georgie Bull, of Plymouth University Scuba Society, for organising club members on their Observer Course.

Thanks to Natural England for surveys of Duke Rock and Eastern Kings.

Finally, my big thanks to Chris Wood for data entry and biotoping of our numerous complex habitats.

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Seasearch in Devon has been supported financially in 2019 by:

