

Dorset Seasearch Annual summary report- 2010

prepared by K Dawson, Dorset Wildlife Trust



Introduction

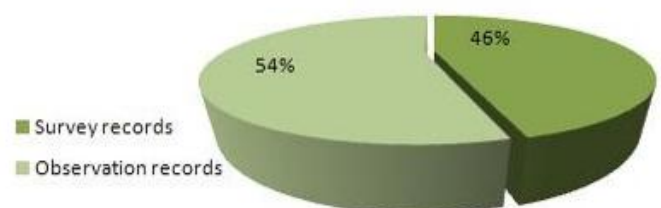
2010 saw a great effort in Dorset from Seasearch divers from all over the county. The year started off for us with an Observer course and a seaweed identification course in April but that didn't stop others getting going much earlier. Our first records for the year came from some qualifying divers, off Lulworth Banks in January. The season continued well, with several charters organised from Weymouth and Poole, another Observer course and two days on the Surf reef study with Bournemouth University. Records also came in from across the county from other recreational dives. Swanage Pier, Chesil Cove and Swanage Bay all remain popular dive sites with lots of records also coming in from the various larger wrecks in Weymouth Bay and the Purbecks.

Photographs from survey continue to be an important part of marine recording in Dorset and this year we had another fantastic and very useful selection sent in. To highlight their use and diversity, we have run our photography competition again, this year kindly judged by marine biologist and underwater photographer, Paul Naylor. The winner, shown on the front page, was Richard Yorke with his photograph of the hermit crab *Diogenes pugilator* in seagrass, taken at Worbarrow Bay last May. Paul stated that it was an amazing photo that made me gasp when I saw it, so many of the crabs, all showing their large left claws. Richard also came first runner up with his photo of a little cuttle, taken on the same dive in Worbarrow. Second runner up was Gordon Bird with an image of a pair of necklace shells, also at Worbarrow, which Paul said was an unusual take on a reasonably familiar subject. Third runner up was Peter Szekely with his macro shot of a *Polycera* nudibranch on bryozoan turf which had a lovely angle, giving an attractive composition and showing all the animal's features.

Recording

2010 was another great year for records, with 160 forms coming in all together. From these forms, 40% were Survey forms which great for added information and many of these came the organised DWT charters. Of the Observation forms, many were valuable qualifying forms that were combined for data entry as buddies had submitted separate forms. After these combinations had been taken into account, there were 58 Survey records in the database and 68 Observation records. a total of 126 records, which is a fantastic results for the year and up again from the previous year.

Dorset Seasearch records, 2010



Training

The first Observer course was held in April at the Urban Wildlife Centre in Poole. 12 people attended the course which was taught by Kathryn and Peter. Of these, 8 braved the chilly Poole Bay waters the next day to start their qualifying forms, assisted by three Surveyors and one diver wanting to finish his qualifiers from the previous year. The cold water was the least of the concerns though as divers were confronted with visibility of less than a metre. Most battled on to get their forms done and one of the Surveyors even managed to find an unusual green form of the nudibranch *Coryphella gracilis*. Thanks to Mike for skippering and for Matt and Polly for assisting.

Late April saw the Seaweed identification course at Swanage with Lin Baldock and Jenny Mallinson. This was the second year for this course and once again it was very well received. The lovely, weedy dive on Peveril Ledge was enough to impress on our East Anglian visitors that algae can be interesting. Between the 10 participants, Lin and Jenny 29 different seaweeds were identified.



July saw the second Observer course for the year, taught by Kathryn, Josie Pegg and assisted by James Lucey (who is now a qualified tutor). With a strong contingent from Bournemouth University, 6 attended the course, several of whom have now finished their qualifying forms. We also had a writer from Dive magazine attend with a subsequent article highlighting the importance of Seasearch and what the course covers.

2010 Summary

From the 126 surveys that were entered onto the database this year there were 450 species in total recorded. Divers described 44 different habitats and biotopes, of these 43% were recorded using the MNCR biotope key to level 3, by a post surveyor data assessor. Over the year, DWT organised 7 charters from Poole and Weymouth, with one cancellation due to very poor weather in August. There was also one day lost in October, again due to weather. This produced records for 22 sites in total. As with most years, there are areas with more records than others due to ease of access, general popularity and shelter. DWT have though continued to try and get to areas that may not offer the best reefs but will help fill in the gaps in our knowledge. Abbotsbury in Lyme Bay was one such area and is described on page 4. Another was a particularly tidal site off the Purbecks which is described in the Durlston area summary. For a full list of rarities and priority species recorded, see the table for the group summaries on page 7.



In terms of numbers, this year showed a slight increase in the number of seaweed species recorded (88 from 84 in 2009) and many records were identified to species level. Many of these species came from the algae course that was held in April but there was also good detail at other subsequent sites. The most frequently recorded of the alga was still generic red algae (63 records), then encrusting pink algae (56 records), and at the species level- the distinctive red fringe weed (*Calliblepharis ciliata*) with 30 records. Other frequently recorded seaweeds included *Delessaria sanguinea*, *Plocamium cartilaginum*, *Schottera nicaeensis*, *Halidrys siliquosa* and *Dictyota dichotoma*.



Other groups with high numbers of species were molluscs and cnidaria. The most commonly encountered species of the cnidaria, was the antenna hydroid (*Nemertesia antennina*) with 60 records in total, followed by general, unidentified hydrozoa (58 records). Also frequently observed were dead men's fingers (*Alcyonium digitatum*), snakelocks anemones (*Anemonia viridis*), Devonshire cup coral (*Caryophyllia smithii*) and pink sea fans (*Eunicella verrucosa*) with 26 records. Whilst there were records of very large, multi-branched sea fans in Lyme Bay, there were also photos taken of very young recruits with one branch and no side

branching, from the same area.

The slipper limpet *Crepidula fornicata* were still observed a lot comparative to other molluscs. Although divers may have been recording empty shells so counts could be a little distorted. The patch reefs in Poole Bay in particular seemed to have large patches of empty shells. Most frequently recorded seaslugs were *Aplysia punctata* (sea hare) with 15 sightings and the sea lemon (*Archidoris pseudoargus*), with many of the sightings in April and May. Egg masses were also seen a lot at that time of year and a few divers commented on the large size of the sea lemons they were seeing.

With some outside help from experts, we were able to ground truth some local sponges this year from places such as Swanage and Lulworth Banks. With further help, a rare species, *Adreus fascicularis*, (below, right) was also confirmed from the reef at Peveril Ledges by photograph. Although yellow branching sponges are often hard to distinguish between, certain features

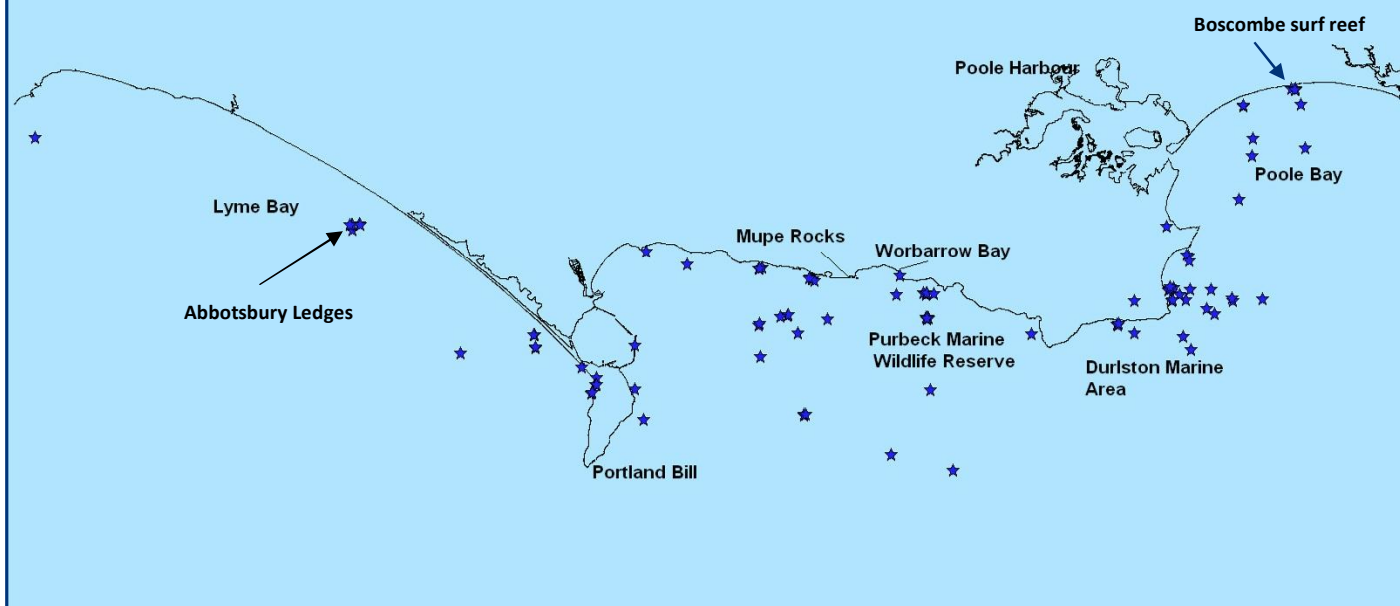


make this one of the easier ones to identify post-survey. The assistance from experts such as Claire Goodwin and Bernard Picton has given some local divers good foundation knowledge in sponge ID from which to start to build a sponge catalogue for Dorset.



Another sponge that was identified from photographs and samples, was *Oscarella lobularis* (left), seen in abundance around the ledges of Kimmeridge and Chapman's Pool.

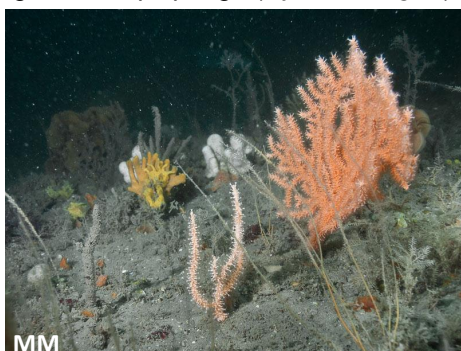
Dorset Seasearch records 2010



Dorset Seasearch area	Number of records	Number of habitats/biotopes recorded	Number of species/groups recorded
Lyme Bay	20	13	164
Portland to Mupe Rocks	29	19	220
Purbeck Marine Wildlife Reserve	19	20	211
Durlston Marine Area	34	22	272
Poole Bay	24	16	230

Diving– Area summaries

Lyme Bay There were areas in the east of Lyme Bay that were particularly targeted by DWT charters in 2010 for the purpose of looking for seafans, sponges and evidence of human impacts. Abbotsbury and Stennis Ledges were both visited twice over the course of the year and at both sites, there was evidence of healthy populations of pink sea fans, branching sponges (including Axinellid species) and ross coral (*Pentapora foliacea*). Other frequently recorded species in Lyme Bay were boring sponge (*Cliona celata*), tompot blennies (*Parablennius gattorugine*), goosebump sponge (*Dysidea fragilis*) and antenna hydroids (*Nemertesia antennina*).



The ledges at Abbotsbury and Stennis were predominantly formed of low, soft and hard rock with occasional vertical edges, overhangs and bores. Some areas were more silted than others but all had a moderate to thick mixed faunal turf. One or two area encountered by the divers had pink sea fans recorded as common in abundance, with up to 12 per square metre. Using photographs from the site, a sea fan sea slug was recorded at Stennis Ledges in September. Other frequent species were deadmans fingers (*Alcyonium digitatum*), chocolate finger sponge (*Raspailia ramosa*) and sandy creeplet (*Epizoanthus couchii*). Some evidence of human impacts were noted. fishing nets, pot lines and possible damage to the reef but only slight and unconfirmed from an area of Abbotsbury.

Due to the high number of pink sea fans and other tall fauna, notable biotopes from the area are 'Mixed faunal turf with *Eunicella verrucosa* and *Pentapora foliacea*' and 'Mixed faunal turf with erect sponges and bryozoans' both BAP biotopes and habitats of conservation interest.

Diving– Site summaries

Portland to Mupe Rocks The most popular site in this area was the rocky reefs of Lulworth Banks (9 survey records). Some events came from qualifier dives in January. In addition several surveyor forms from a DWT weekend were combined to produce detailed descriptions from a slow drift over the cobble and boulder northern section of the reef. Mixed faunal turf was recorded along with sediment with scallops and gobies. Some of the habitats from the Banks fell easily into the mixed faunal turf category but some others presented difficulties, mainly the low lying sponge and tunicates biotopes on full salinity rocky reef with gravel. As no other biotope fitted the descriptions, they were classed again as mixed faunal turf on circalittoral rock. One other interesting biotope in the area came from St Oswald's Bay where an abundance of anemones, including the trumpet anemone (*Aiptasia mutabilis*) defined the biotope of sponges and anemones on vertical rock.



Included in this area is a dive from Portland Harbour in September. The Weymouth carpet coral (*Hoplangia duotrix*) was recorded along with tunnels in the sediment, probably from the red band fish (*Cepola rubescens*).

Other sites in the area from Weymouth to Mupe Rocks of particular interest were the low lying chalk ledges off Ringstead and White Nothe. Both sites were in the lower infralittoral zones and had an abundance of red algae. Also recorded at both sites was the anemone shrimp *Periclimenes sagittifer* which was first recorded two years under Swanage Pier. These records, along with one anecdotal one for Worbarrow Bay are the first records for Dorset, west of the pier at Swanage. The White Nothe survey was hindered by poor visibility but as chalk reefs in general are listed as of conservation interest and there was evidence of a very interesting algal habitat, it warrants another visit in 2011.

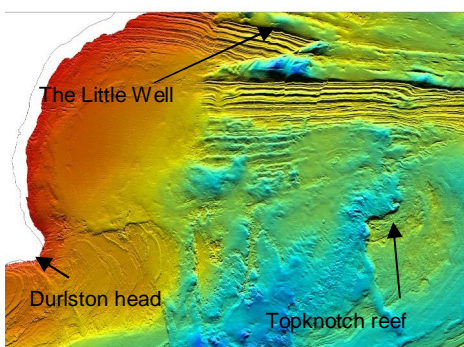
Purbeck Marine Wildlife Reserve The area from Worbarrow to St Aldhelm's is a popular site and there were lots of records in 2010. A DWT charter in May focused on the rocky ledges around Kimmeridge in order to have a closer look at the rock structure there due to interesting textures noted on the DORIS seabed map. Amongst other features, bream nests were noted off the Ledges with one or two adult bream but with no reports of live eggs. The ledges themselves that were the focus of the dives were of the smooth, soft rock typical to the area with abundant old bores, live piddock holes and large depressions and pockmarks. The rounded gullies and dips in the surface provided a rugged foothold for very diverse life including red algae, anemones, scallops, hydroids, sponges and wrasse.



The afternoon dive targeted an area of seagrass and a chalk reef in Worbarrow Bay, also located using the DORIS data. Although the seagrass was not dense, there was interesting marine life including juvenile cuttlefish (*Sepia officinalis*), small cuttles (*Sepioloa atalantica*), hermit crabs (*Diogenes pugilator*), pipefish (*Syngathus acus*) and Icelandic cyprine (*Artica islandica*). A rather tidal part of the area, off Chapman's Pool was also rich with piddock holes occupied by live piddocks (*Pholadidae*) or daisy anemones (*Cereus pedunculatus*).

Durlston Marine Research Area

This large area extends from the Purbecks to Swanage and covers a range of popular dives sites including Peveril Ledges, the Kyarra, Swanage Pier and Dancing Ledge. In addition to these popular sites a few others were targeted using the seabed map. One site was off the West Mile Markers and looked to be an old cliff line. Divers recorded sloping and steep sections of vertical bedrock with gravel, dominated by hornwrack (*Flustra foliacea*) sponges and hydroids. The biotope keyed out relatively easily to *Flustra* and colonial ascidians on tide swept rock. The feature will hopefully be explored further in 2011 to gather more detail on unusual topography and the geology.



Another site to note was off the Whitehouse Grounds just outside the revised SAC area. On a previous dive some steep ledges had been noted so they were revisited. Divers recorded large, dense patches of *Ampelisca* mats in and around the rocky reef at approximately 30 metres. The site was very diverse.

Diving– Site summaries

and all the more intriguing for the profusion of the *Ampelisca* as the conditions that the amphipod prefers and the longevity of the colonies are not well known. The seabed map was also used to pinpoint complex looking reefs off Swanage and a deep well off Peveril Ledges, which the divers named 'The Little Well'

Swanage Pier is an area well dived and reported on but a couple of surveys this year from the seagrass adjacent to the pier recorded juvenile undulate rays (*Raja undulata*). Studland also had a records of juvenile undulates and egg cases on the beach. This suggests that the areas may be nursery areas for the rays in addition to other species such as black bream, seahorses and other fish. These suggestions have been put to Finding Sanctuary, the organisation in charge of planning the MCZ network in the south west.

Poole Bay

Due to the accessibility of a lot of the sites in Poole Bay for evening dives or if the weather is adverse, records for this area are consistently good. The patch reefs in particular are popular sites and were used for training dives and evening trips again in 2010. Records were also boosted by Dorset Seasearch's participation in Bournemouth University's Boscombe Surf reef study (see below for a report on the reef).

Durley rocks were surveyed as part of the reef study as a control site. On the June survey, divers saw an abundance of red algae, lots of empty slipper limpet shells, black bream nests with eggs and a pair of fighting male black gobies (*Gobius niger*).

There were some difference between the site and the surf reef, mainly the fewer invasive seasquirts and algae on the natural reef, and more frequent gobies, wrasse and bib.

There were no Seasearch records for Studland in 2010 but with the site under scrutiny as part of Marine Conservation Zone process, the bay and its surrounds may well be a target for next year's diving. Similarly for the other patch reefs in Poole Bay. Some of these reefs are also under consideration as an MCZ.



Black beam eggs

MD

Boscombe Surf reef surveys- Josie Pegg

Boscombe surf reef, Europe's first artificial surf reef, is the subject of an extensive monitoring project, studying its colonisation and ecological impacts on the surrounding area. A component of the research programme is biannual Seasearch surveys over a three year period on the reef and two comparison sites of Boscombe pier and Durley rocks. In 2010 dives took place in June and September.

The artificial surf reef, located just 260 m off shore, to the east of Boscombe Pier and sitting in a maximum depth of around 6m, is constructed from sand filled geotextile bags and covers an area the size of a football pitch. The surf reef was not expected to be an easy dive, yet on both days we were fortunate to be greeted with calm seas and blue sky as we headed out of Poole harbour on Peverill Myth.

On decent through the turbid waters the mass of the reef appeared and was, to some surprise, covered in life. The top surface of the artificial reef sported a luxuriant covering of mixed algae, which grew considerably over the summer months. The vertical walls were encrusted in short animal turf, primarily sea-squirts. In the sheltered crevices towards the base of the reef, larger mobile animals including greater pipefish and spiny spider crabs found shelter.

Artificial reefs have been shown to benefit native marine communities by acting as refuges and feeding and nursery grounds, and there was some evidence of this on Boscombe surf reef in the form of eggs and young of a variety of animals from paddleworms to pollack. However, amongst the many species recorded were a number of non-natives namely the sea squirts *Corella eumyota* and *Styela clava*, and the algae *Grateloupia*, which raises the question of whether the reef could provide a foothold for alien species.

The reef is still biologically very young and its inhabitant fauna and flora is likely to change considerably in the coming years. Already between the two dives of 2010 seasearchers recorded differences in the biota on the reef. Over time, we will build a more complete picture of life on the reef, compare it to existing structures in the locality and assess its impact on the ecology of Poole Bay.



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Summary of the groups, species and records of conservation interest recorded in Dorset during 2010

Phylum/sub-phylum	Count of species recorded	Most frequently recorded species (count)	Rare, declining, Biodiversity Action Plan (BAP) or Wildlife and Countryside Act (WCA) species
Algae	88	<i>Calliblepharis cilliata</i> (30), <i>Delessaria sanguinea</i> (22), <i>Dictyota dichotoma</i> (20)	<i>Zanardinia prototypus</i> (8 records, nationally scarce)
Marine plants	1	<i>Zostera marina</i> or <i>Zostera sp.</i> (8)	<i>Zostera marina</i> (6) BAP habitat
Annelida (Worms)	24	<i>Bispira volutacornis</i> (80), <i>Lanice conchilega</i> (32), <i>Pomatoceros sp.</i> (25)	None
Bryozoa (seamats)	27	<i>Flustra foliacea</i> (63), <i>Pentapora foliacea</i> (50)	None
Pices (bony and cartilaginous fish)	46	<i>Ctenolabrus rupestris</i> (59), <i>Parablennius gattorugine</i> (56), <i>Scyliorhinus canicula</i>	<i>Molva molva</i> (1), <i>Pleuronectes platessa</i> (4)
Cnidaria (Corals, anemones, hydroids)	54	<i>Nemertesia antennina</i> , <i>Alcyonium digitatum</i>	<i>Eunicella verrucosa</i> (26) (BAP species, WCA species)
Crustacea (crabs, lobsters, barnacles)	35	<i>Necora puber</i> (65), <i>Cancer pagurus</i> (49)	None
Echinodermata (star fish, sea cucumbers)	17	<i>Henricia sp.</i> (19), <i>Asterias rubens</i> (12), <i>Pawsonia saxicola</i> (11)	None
Mollusca (snails, bivalves, cuttlefish)	66	<i>Calliostoma zizyphinum</i> (79), <i>Pecten maximus</i> (29), <i>Hinia reticulata</i> (21)	<i>Ostrea edulis</i> (10 records, BAP species); <i>Trapania maculata</i> (2), <i>Tritonia nilsodhneri</i> (1), <i>Trapania pallida</i> (1) (all nationally rare nudibranchs)
Nemertea (Ribbon worms)	1	<i>Lineus longissimus</i> (1)	None
Phoronida (horseshoe worms)	1	<i>Phoronis hippocrepi</i>	None
Platyhelminthes (Flatworms)	1	<i>Prostheceraeus vittatus</i> (13)	None
Porifera (Sponges)	48	<i>Dysidea fragilis</i> (82), <i>Hemimycale columella</i> (73), <i>Pachymatisma johnstonia</i> (47) <i>Amphilectus fucorum</i> (44)	<i>Adreus fascicularis</i> (2), <i>Suberites massa</i> (1) both nationally scarce species
Pycnogonida (Sea spiders)	2	<i>Achelia</i> (1), <i>Pycnogonidae</i> (3)	None
Tunicata (sea squirts)	38	<i>Botryllus schlosseri</i> (39), <i>Clavelina lepadiformis</i> (35)	<i>Phallusia mammillata</i> (4), <i>Pycnoclavella aurilucens</i> (15) both nationally scarce species

Photo credits: RY Richard Yorke; GB Gordon Bird; PS Peter Szekely; MD Matt Doggett; ST Steve Trehwella; MM Mike Markey; LB Lin Baldock; KD Kathryn Dawson; AM Andy Marsh; Seabed map courtesy of the DORIS project. Thank you to all who contributed to Dorset Seasearch in 2010. divers, skippers, tutors, colleagues, Swanage Pier Trust and designers. without whom the programme would not continue to add valuable information to the marine conservation process.

Other sightings

Yellow and white forms of *Pycnoclavella aurilucens* in Weymouth Bay and the Purbecks.

Multi branching sea fans at Stennis and Abbotsbury ledges. Pink sea fans typically grow in one plane but the large sea fans on these reefs had several layers of branching.

Juvenile undulate rays at Swanage and Studland. In 2011 we are asking divers in Dorset to look out for egg cases for rays and sharks, as well as juveniles of any ray species. If you would like a copy of the Shark Trust's egg case guide please get in touch or visit their website www.sharktrust.org

Little cuttles and juvenile cuttlefish in Worbarrow Bay. The CRESH project (Cephalopod Recruitment from English-Channel Spawning Habitats), are examining the spawning and nursery grounds of cuttlefish in order to assess the status of this important commercial species. Seagrass beds are a particularly important habitat for cuttlefish juveniles. CRESH and MarLIN are asking divers to send in records of cuttlefish, eggs and spawning or courting behaviour. If divers include any observations on cuttlefish on their Seasearch forms, it will be sent to CRESH as well.

A blue jellyfish (*Cyanea lamarckii*) was recorded off the outer Whitehouse Grounds in July.

The rare red algae *Pterothamnion ardreana* was recorded by two divers from the northern edge of Lulworth Banks in July (see below).

A Dorset Seasearch leaflet has been produced which gives details of DWT's programme, using Seasearch in Dorset and how to use the DORIS seabed map. If you would like some for your local dive shop, club or school, or even your local leisure centre, please get in touch and we will send you some.

Diver on Kimmeridge Ledges in May



MD

Pterothamnion ardreana

Three bearded rockling at Peveril Ledge. One of the commended photos from the 2010 Photo Competition



PS



AM

Blue jellyfish



LB

One of the multi-layered pink sea fans at Stennis Ledges in Lyme Bay.



MM

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Seasearch is a national project involving volunteer sports divers in marine biological surveys. The project is co-ordinated in Dorset by DWT and nationally by the Marine Conservation Society on behalf of the Seasearch Steering Group. For more information on Seasearch and to see all of the partners involved nationally, please visit www.seasearch.org.uk or email info@seasearch.org.uk DWT would like to acknowledge the support and funding received for Dorset Seasearch from Natural England, the Environment Agency and Viridor Credits.



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