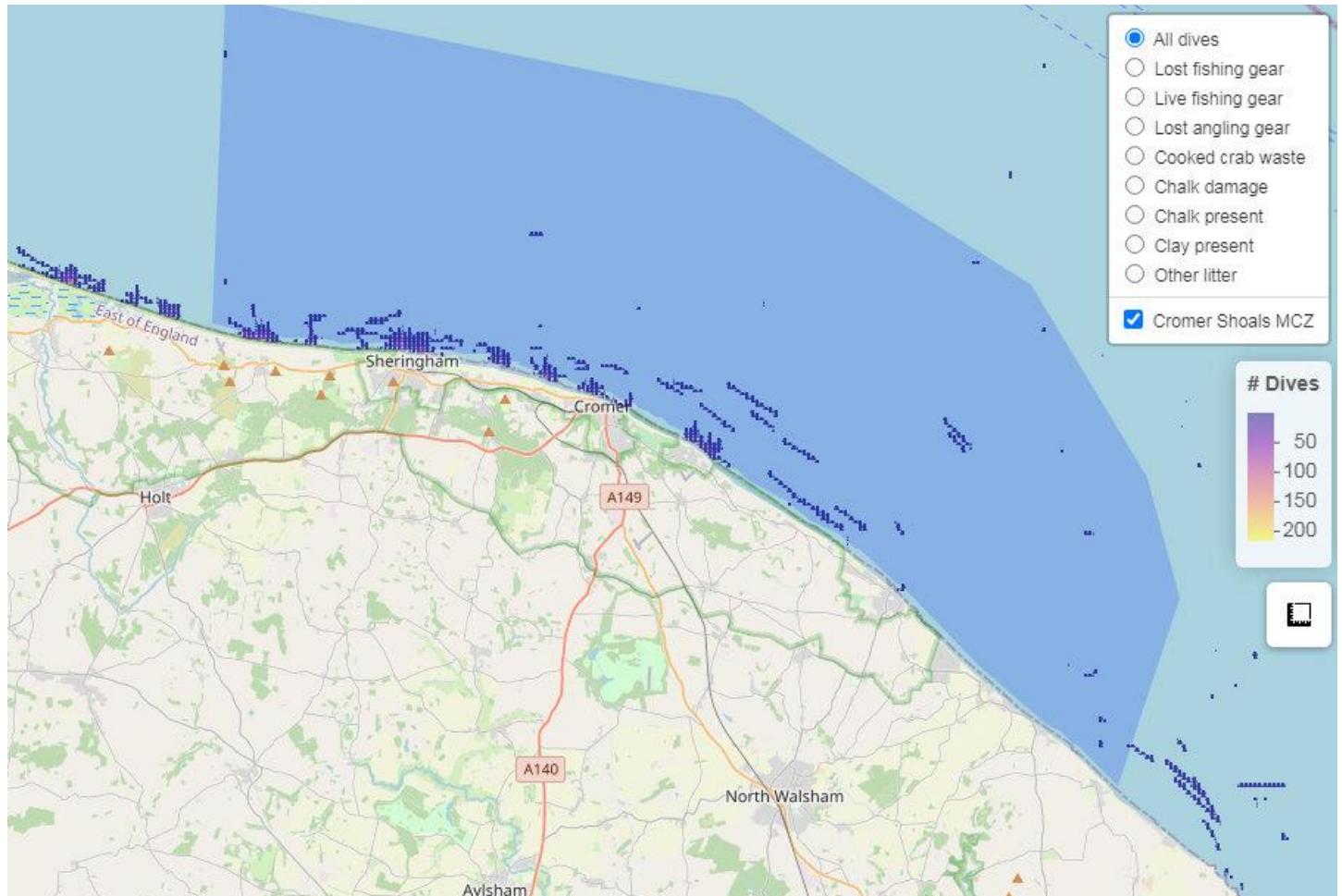


Seasearch East Report 2020

This report summarises the activities of Seasearch in East Anglia during 2020



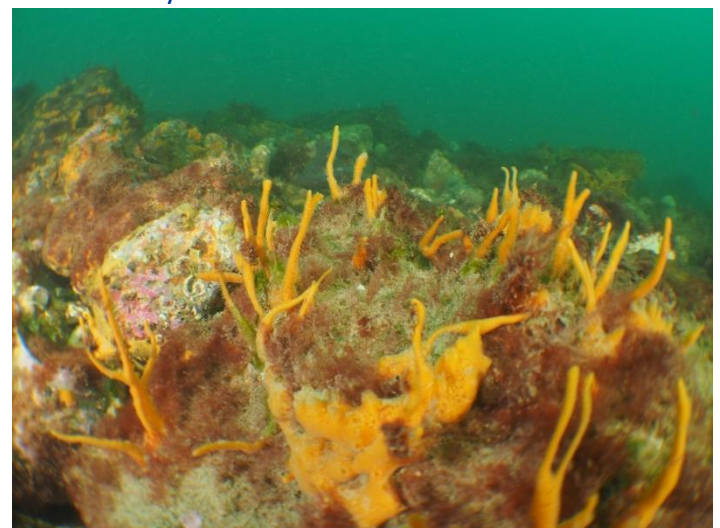
Seasearch records from in and around the Cromer Shoals MCZ (darker polygon) between 2006 and 2020

Due to a 'perfect storm' of factors (visibility improving early, main dive season falling neatly between

lock downs, a bumper pair of online Observer courses and a captive set of volunteers eager to dive), 2020 proved to be Seasearch East's best year ever for forms received, with a grand total of 254, a 41% increase over 2019! This was made up of 132 (52%) Observation forms and 122 (48%) survey forms, both figures obviously much higher than previous years.

Our first record of the year was from a beach walk at Sea Palling on the 12th of January and first dive record from the Rosalie at Weybourne on the 20th of June. Records then came in steadily throughout the year, despite some very serious storms which knocked back the visibility and carried a few unusual visitors around the coast. The final dive of the year was on the 17th of

November at Overstand, with a last record from a shore survey at West Runton on December 30th!



Shredded carrot sponge – *Amphilectus fucorum* on chalk



8pm rockpooling after two solid days of theory work – it's a man's life in Seasearch East!

We ran two Observer courses online via Zoom this year; the first on the 2nd of May aimed primarily at divers living around the Isle of Arran in Scotland (though it was also attended by East Anglian volunteers refreshing their knowledge) and the second on July the 11th for students who would normally have come along in person to Sheringham. The second course proved extremely popular, with 30 attendees for two days of online theory and 15 who managed to come along to a socially distanced shore event at West Runton on the second evening. Most were also able to dive or snorkel with us over the summer months to complete their qualification.

Five brave trainees then went on to attend a weekend of marine ID which was hastily rearranged to have all the online theory on one day and socially distanced practical exercises the next.

Several exciting new initiatives started this year, including; an interactive map of all dives from 2006 onward in and around the Cromer Shoal MCZ, 3D photogrammetry of the chalk reef and wrecks, trials of biodiversity measurement on experimental oyster spat beds in Essex and development of a protocol to map potting related chalk damage in Norfolk; all are expanded on later in this report.

Species highlights included two live Sunfish- *Mola mola*, storm victims including dead whales and many live green urchins – *Psammechinus miliaris*, the invasive alien algae *Grateloupia subpectinata* and *G turuturu* becoming frequently recorded, a single blue rayed limpet -*Patella pellucida*, stalked jellies (mainly *Calvadosia campanulata*) becoming common, the nudibranch *Capellina fustifera*, egg laying sea hares – *Aplysia punctata*, two *Micrenophrys lilljeborgii* Norway bullhead, Pinhead sea squirts – *Pycnoclavella stolonialis* at several sites, an *Iphimedia obesa*

amphipod and the return of shoals of large pollack – *Pollachius pollachius* and red mullet – *Mullus surmuletus* at Weybourne until they were fished out.

The following pages explore each of the sites dived in more detail, working clockwise around the coast.



Tompot blennies were seen often in 2020

NW Norfolk and the Wash

9 Observation forms were received from this area in 2020, all intertidal and covering Hunstanton, Heacham, Holme dunes, Snettisham and Holkham. The most exciting records received were of two separate sunfish (*Mola mola*) found cold-stunned in the breakers during November and December. Sadly, nothing could be done for such large animals which had been too cold for too long.



Sunfish – *Mola mola* found by Tom Hilder at Heacham beach in mid-December

N and NE Norfolk

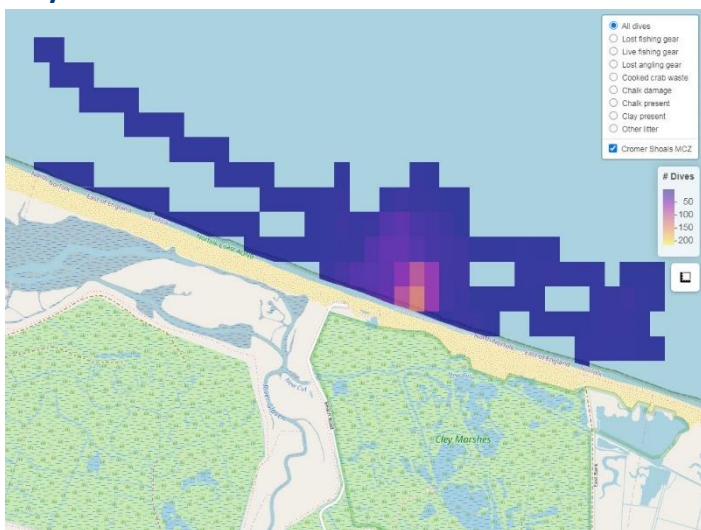


Diver returning to Sheringham through clear water

This section covers all Seasearch records between Cley and Overstrand in North Norfolk, and several wreck and seabed sites accessed from Sea Palling in East Norfolk. Records from Weybourne onwards were within or adjacent to the Cromer Shoals MCZ.

The maps at the start of each section show the cumulative seabed coverage at each location from Seasearch surveys between 2006 and 2020.

Cley



Seasearch records for Cley – spot the Vera wreck!

25 forms were received for Cley this year, a reasonable increase on 2019, with volunteers exploring the wider seabed and not just the easy wreckage.

Unfortunately, the wreck had been targeted by pot fishers over the winter, who had then tried to remove their tangled pots by force – the wreck was deformed where attempts had been made to pull the gear free and many areas had been scraped clean of life. Divers removed as much rope as possible and disposed of it on land.



Penny and Kat with some of the recovered rope

A storm at the end of September caused a great deal of disturbance, but also brought a lot of *Psammechinus miliaris* urchins round from further up the coast, possibly the Wash. The ones which were seen at Cley were relatively unharmed by the trip and were soon hoovering up debris from the storm, others further to the south east were much more damaged and many arrived dead. There were also large influxes of Common starfish – *Asteris rubens* and Common Whelks – *Buccinum undatum* drawn by rotting organic remains.



Psammechinus miliaris urchin at Cley

The Iron Road

5 forms were received for The Iron Road (also confusingly known as East West Bank), a site first dived in 2019, along with West Bank, both between Salthouse and Cley. The Iron Road site has features in common with both Salthouse and Cley, with reefs of clay and wood with small amounts of chalk. It will be explored further in 2021. Although the 650m walk from the parking to the sea is a little off-putting, it's not nearly as off-putting as the 900m walk at West Bank, which didn't get a single survey in 2020!

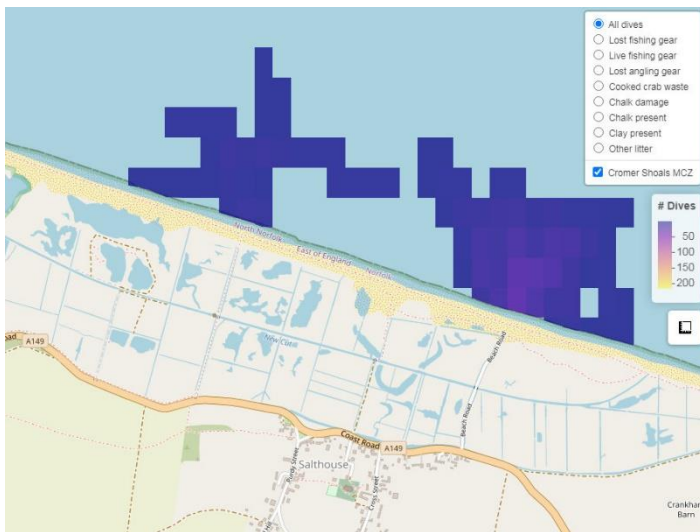


Heavily undercut wood reef at the Iron Road site

11 forms were received for this site, a slight increase on previous years.

The most popular feature is the carrstone reef on a flat chalk plain 300m NE of shore, which rises up to 1.4m above the seabed and is rarely inundated by sand. This area contains species such as *Flustra foliacea* and *Nemertesia ramosa* which are normally only seen much further out elsewhere.

Salthouse



Seasearch surveys at The Iron Road and Salthouse

Salthouse offers something for everyone, though finding it needs some determination! The site includes reefs of clay, chalk, wood, carrstone and compressed peat, as well as scattered wreckage and huge amounts of fine mobile sand which constantly covers and reveals the other features.



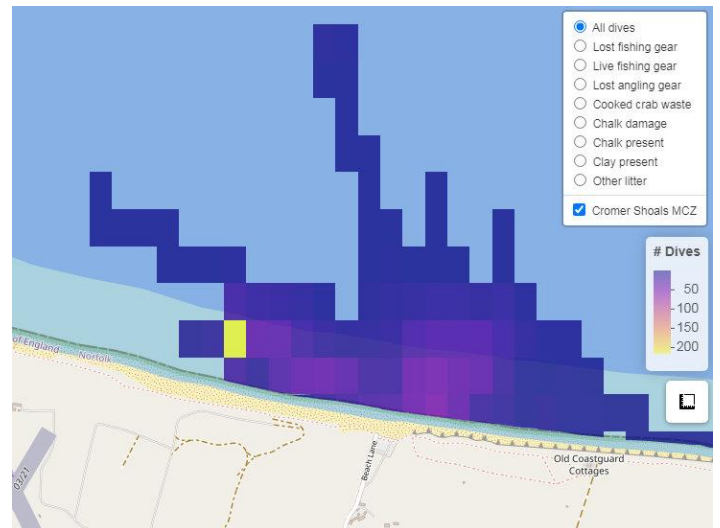
A prettily spotted Seasnail – *Liparis sp* attempts to blend in at Salthouse on the carrstone reef



Part of the carrstone reef

A new find for 2020 was a wood reef starting approximately 600m north of the shore and continuing out over quite a large area – this needs to be dived from a kayak or small boat in 2021 to conserve enough air to explore it fully.

Weybourne



Seasearch surveys of Weybourne – the bright square over the Rosalie wreck indicates over 200 surveys, so far!

Weybourne was our 2nd most popular dive site once again this year, with 51 forms received, a significant increase on previous numbers. The wreck of the Rosalie continued to be popular with trainees and visiting divers, while more experienced surveyors preferred to explore the reef directly under the cliffs and the disused telegraph cable which attracts many hydroids and bryozoans.



One of the small shoal of adult Pollack – *Pollachius pollachius* that appeared around the stern of the Rosalie in summer

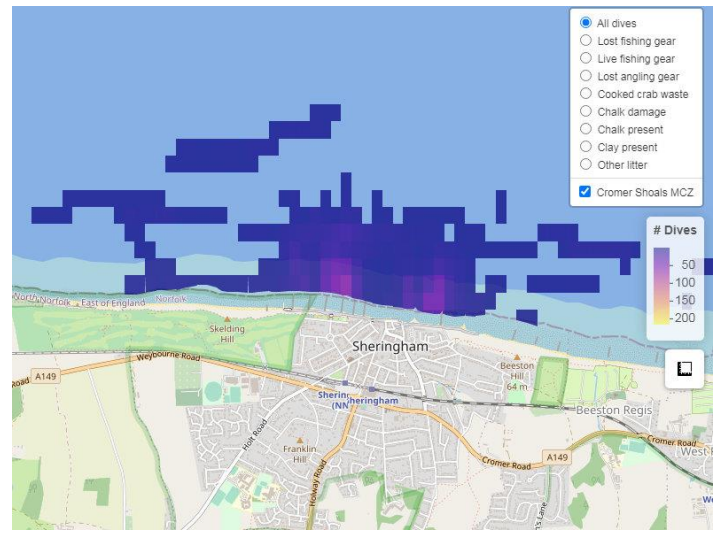
The chalk reef took a severe beating in storms towards the end of the season, with most life stripped away and a selection of scaffolding poles dumped close inshore. Many *Psammechinus miliaris* also appeared, mostly were dead or dying. Taller parts of the reef more than 1.3m high were often untouched and crustaceans such as *Galathea intermedia* and *Pisidia longicornis* usually found on the seabed under boulders gathered there.



Galathea intermedia, a squat lobster

Sheringham

74 forms were received for Sheringham, a 64% increase on the previous year! This is mainly due to the rise in popularity of the Sheringham snorkel trail amongst our non-diving volunteers, as well as expanding the sites dived off Sheringham between Robin Friend in the NW and beyond the end of the Promenade in the SE. The owners of The Offshore cafe have taken a keen interest in the snorkel trail and will be sponsoring seasonal markers in the summer of 2021; they already host two comprehensive information boards.



Searsearch survey coverage off Sheringham

A radial aircraft engine, thought to be from a German plane ditched during WWII, was discovered between tall chalk gullies at the west end of town. Interesting species seen included Sea Hares – *Aplysia punctata*, a tiny Norway Bullhead – *Micrenophrys lilljeborgii*, a few Lesser Spotted Catsharks – *Scyliorhinus canicula* and a few Tompot blennies – *Parablennius gattorugine*.



Radial aircraft engine with diver

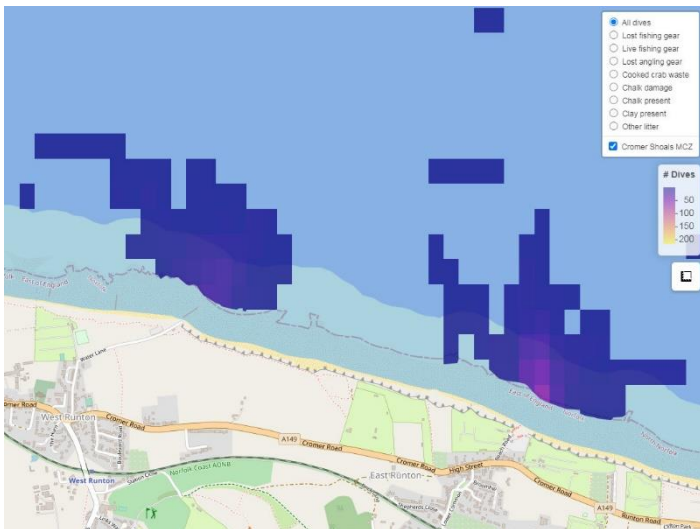


Norway Bullhead – *Micrenophrys lilljeborgii* – only 3-4cm long!



Common Sea Hare - *Aplysia punctata* with friend

West Runton



Seasearch survey coverage at East and West Runton

18 forms were generated for West Runton, mostly intertidal records from a socially distanced evening survey after the Observer course. This turned up a few interesting species, including the hooded shrimp – *Athanas nitescens*, 5 bearded Rockling – *Mustela ciliata* and the brittlestar *Amphipholis squamata*.



A Five bearded rockling, *Mustela ciliata* at West Runton

Lack of attention from school parties had allowed the inhabitants of the rock pools time to recover and

recolonise.

Parking difficulties caused by the pandemic meant that it was easier to dive at nearby East Runton, so only one diving record was made at this site this year.

East Runton

20 forms were received for East Runton, with at least half once again coming from night dives. This site has much weaker tides than any of the others on the reef and slopes very gently, making for a relaxed night dive with plenty of unusual species to observe; the freshwater springs bubbling through the chalk create a range of salinities and temperatures not seen elsewhere. Because of this, East Runton remains the site with the highest number of algae species recorded, which increases every year.

The two invasive alien species *Grateloupia subpectinata* and *G. turuturu* were both frequent in abundance by the end of the season and seemed much more resistant to storm damage than native species.



Grateloupia turuturu, an invasive alien algae species which has become frequent at many Norfolk sites.

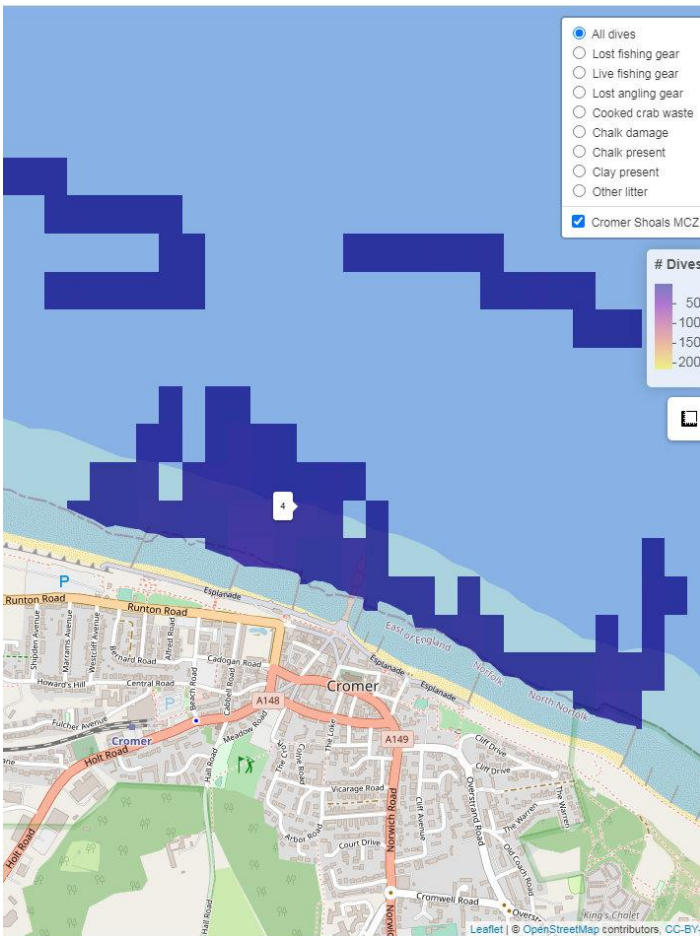
The invasive worm *Pileolaria berkeleyana* has now become abundant here and nearby West Runton, beginning to out-compete other species on chalk and flint vertical surfaces.

Frequent Corkwing wrasse nests were a more welcome sight, due to the early start to the season. They seemed common here due to the large number of big hollow flints for the fish to pack with snipped off algae. The lush algae at East Runton also provided a home to many hundreds of *Calvadosia campanulata* stalked jellyfish, a species which has been increasing in frequency for the last few years.



Symphodus melops, Corkwing wrasse nest tucked into a hollow flint boulder, known as Paramoudra, at East Runton

Cromer



Searsearch surveys off Cromer, each box can be queried by hovering to find how many dives have passed through it.

12 forms were received for Cromer, mostly from Happy Valley at the east end of Town and the White Steps to the west, both requiring maximum fitness with at least 110 steps down the cliffs to navigate. There is another site to the east which requires a 500m walk and 140 steps; no takers so far!

Happy Valley remains the site with the most damaged chalk seen so far. In some places the undulating bedrock had over 70% of the surface damaged by pot strikes at depth and almost no growth of algae or

animal turf seen on the horizontal surfaces.

It was noted that the alien invasive spirorbid worm *Pileolaria berkeleyana* had become superabundant on vertical chalk faces off Cromer, it had only been seen at East and West Runton in previous years.



Pileolaria berkeleyana, an invasive spirorbid worm was seen on every surface, including this Dog whelk, *Nucella lapillus*

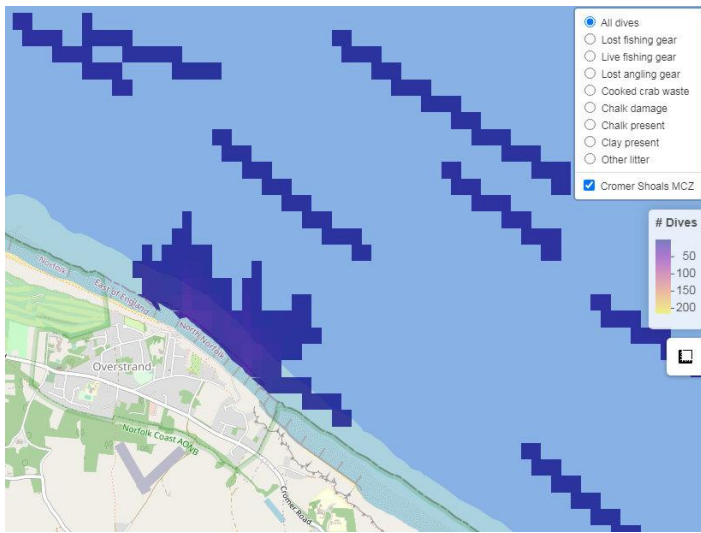
Interesting species seen included the rarely recorded algae *Naccaria wiggii*, a very large and attentive European Eel – *Anguilla anguilla* and a large amount of *Sabellaria spinulosa* gravel (smashed up Ross worm tubes) at the Happy Valley site, indicating large scale seabed disturbance. Despite the massive amount of chalk damage Happy Valley hosted a large number of rarely seen, interesting sponges including Chocolate finger – *Raspailia ramosa*, *Suberites massa* and a highly branched form of *Haliclona cinerea* which seems to be on the increase.



Anguilla anguilla, a very large European eel at Cromer

Overstrand

9 forms were received for Overstrand, mainly from the isolated very tall chalk bedrock reefs inshore and the clay bedrock plain beyond 9m deep some distance out.



Seasearch surveys off Overstrand.

Overstrand continues to be one of the most diverse and unusual sites off Norfolk, mainly due to the strangely shaped seabed, which forms a basin to 17m deep inshore within an offshore chalk reef which rises to only 7.5m deep. This encourages larger tidal streams than for any other local diving site, with a much wider range of squirts, crustaceans and sponges. The offshore reef also has several algae species not usually encountered off Norfolk, presumably because it is well beyond the churning sediments.



Pycnoclavella stolonialis – the Pinhead squirt - at Overstrand

The two inshore chalk reefs vary in height with sand movement, but can be over 4m above the surrounding seabed and between 30 and 40m long, parallel to the coast. This year, they were mostly covered in dense *Molgula sp* squirts with red algae on the upper surfaces. The chalk has some severe rope cuts across the top.

The clay bedrock seabed from approximately 300m out is studded with *Barnea candida* boring piddocks. It has a range of mostly flint boulders and cobbles stuck into it. These are home to many squirts and sponges. After approximately 100m, the clay itself is covered in beds of *Ampelisca sp* amphipods and *Sabellaria*

spinulosa worms, which seem to increase in numbers every year and are now almost at the point of becoming a biogenic reef.



Ampelisca sp beds – each flat tube houses a single amphipod

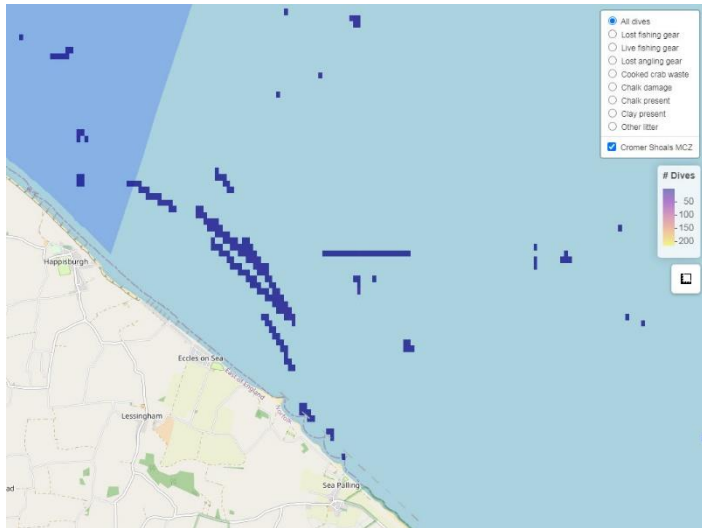


Barnea candida siphons in flat clay bedrock



Common Hermit crab – *Pagurus bernhardus* in a Wentletrap shell. Not found locally, maybe the crab went shopping!

Further Southeast – Sea Palling area



Seasearch survey coverage around Sea Palling, mostly drifts and wreck dives

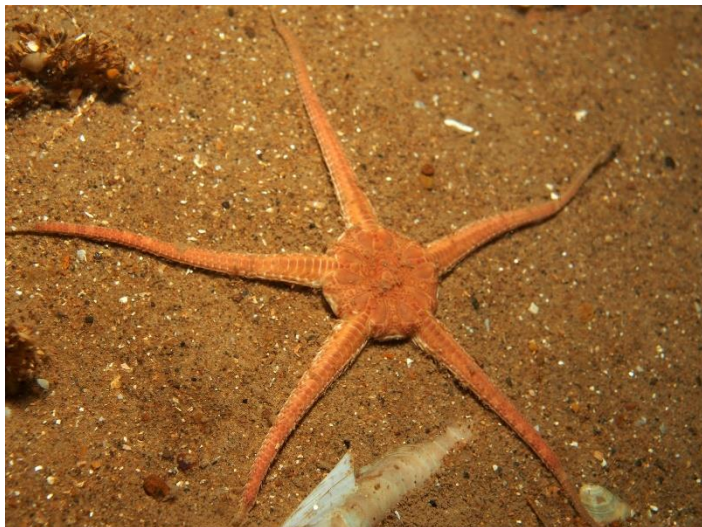
9 forms were received for dives and shore surveys around Sea Palling. Club boat diving was badly affected by Covid precautions and there was none of the cooperation between groups that would go on normally, so keeping the number of returns up was quite an achievement!

Suffolk

After our hopes were raised a few years ago, with a brief period of good visibility, the sea has returned to its regular 'drinking chocolate' appearance ever since... shore records only.

Lowestoft

Two intertidal Observation forms were received from Lowestoft, One for a beached Sowerby's beaked whale – *Mesoplodon bidens*, and one for live stranded victims of storm activity late in the year



Ophiura ophiura – Sand brittlestar washed up at Lowestoft

Shingle Street

A single intertidal form was received for Shingle Street for a very low spring tide. It included expected species,

such as Common hermit crabs and *Porphyra sp* algae, but was a valuable new site on the map.



Pagurus bernhardus – the Common hermit crab

Nacton shore

A single species intertidal record was received from this site of the invasive alien crab *Hemigrapsus takanoi* – the Brush-clawed shore crab.



Hemigrapsus takanoi at Nacton Shore photo and record by Simon Parker, confirmed by Jack Sewell

Levington Marina



A selection of squirts, including the invasive alien *Botrylloides diegensis* (orange) at Levington marina

Three forms were received for Levington, two for the marina and one for the intertidal foreshore. As expected, the marina contained several alien invasive species, including *Undaria pinnatifida* (Wakame), *Sargassum muticum* (Wireweed) and *Botrylloides diegensis* colonial squirts.

Essex

Harwich

A single Survey form was received for an intertidal site at Harwich; a beach of London clay with boulders and rockpools.

West Mersea

Three forms were received from a day out to help with a native oyster regeneration project off West Mersea in the Blackwater estuary, in cooperation with ZSL, University of Essex and Essex Wildlife Trust.

An array of 12 artificial coarse sediment beds had been put down and required samples of subsurface mud to be collected for chemical analysis. Separate surveys were intended to be made for each of the 12 sites, but the visibility on the day was less than 10cm, so only what could be identified by touch or collection was recorded.



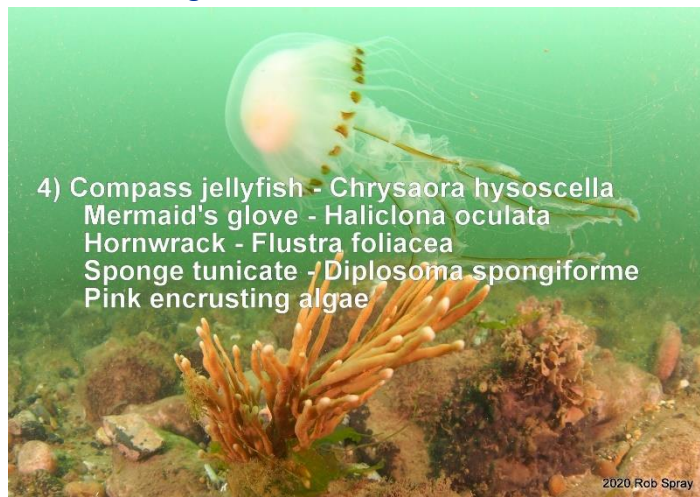
Examining wildlife grabbed in the dark at West Mersea, all animals were returned to the water.

Other activities

Arran Observer Course

Our first Observer course online via Zoom on the 2nd of May was aimed primarily at divers living around the Isle of Arran in Scotland (though it was also attended by East Anglian volunteers refreshing their knowledge), as the covid situation meant we weren't able to travel to Scotland in person. 13 students took part; including 6 from a local Clyde club, others from Scotland generally, and from as far afield as Devon!

Everything went surprisingly smoothly, although we were glad of the 'practice' session on the evening before the course to get all the students familiar with online working.



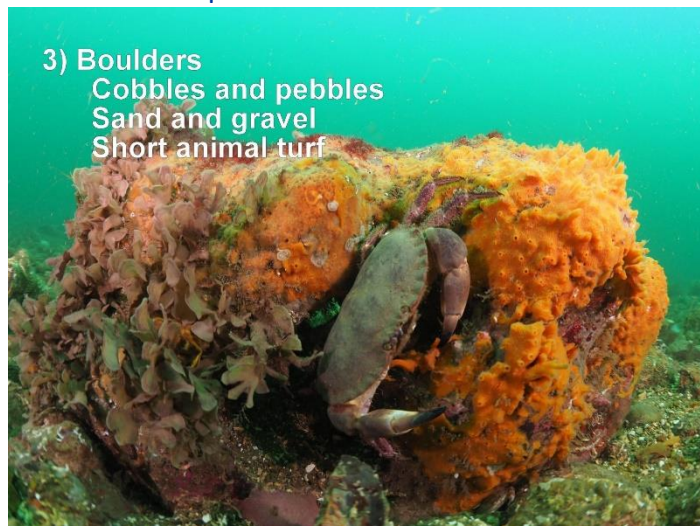
4) Compass jellyfish - *Chrysaora hysoscella*
Mermaid's glove - *Haliclona oculata*
Hornwrack - *Flustra foliacea*
Sponge tunicate - *Diplosoma spongiforme*
Pink encrusting algae

Example of online course 'homework'; students were given a selection of scenes overnight and encouraged to name the species in each. (This is the answer page!)

East Anglian Observer Course

The second online Observer course, on July the 11th, was for students who would normally have come along in person to Sheringham. This second course proved extremely popular, with 30 attendees for two days of online theory and 15 who managed to come along to a socially distanced shore event at West Runton on the second evening. Most were also able to dive or snorkel with us over the summer months to complete their qualification.

On reflection, teaching 30 students in a weekend was quite ambitious and was only possible because we were able to split the teaching on the Sunday between two tutors. One went through homework assignments in small groups online, while the other travelled to Norfolk for the practical event.



3) Boulders
Cobbles and pebbles
Sand and gravel
Short animal turf

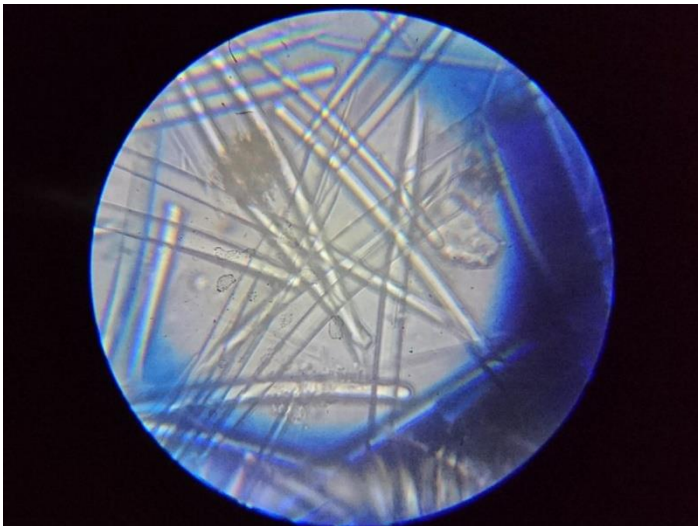
Another online homework example. Students were encouraged to think about which seabed and seabed cover types were present in each scene. Splitting them into small groups for this exercise helped everyone actively take part.

Marine ID course



Photograph from sponge spicule preparation presentation

Five brave students from the East Anglian Observer course then went on to attend a weekend of marine ID which was hastily rearranged to have all the online theory on one day and socially distanced practical exercises the next, so that there was no need for a classroom.



Sponge spicules under the microscope



Very socially distanced sample collection!

Microscope work was done on the folded passenger seat of a van with the door open with each student

taking turns, with the equipment wiped down in between. Samples were collected and examined from an intertidal walk, then students were split into snorkellers and divers in what proved to be very challenging conditions!

Courselets and evening talks

A series of evening talks on various subjects, including looking more closely at particular phyla, site guides, seabed mapping techniques and Seasearch ID photography took place via Zoom between March and June to help everyone prepare for the season ahead, each talk was free to attend and lasted between one and two hours.

Members of the Seasearch East group were encouraged to use the talk slots for subjects they had interest or expertise in and useful looking talks given by others were shared via Facebook.

Dive weeks

We managed 4 official dive weeks, fitting in between lock downs and remaining within our own buddy pair bubbles – all of our official dives were shore based, as it was not considered sensible to be close together on boats.



Better safe than sorry!

Interactive dive map

The North Sea Wildlife Trusts provided support for us to produce an interactive map of all the Seasearch surveys ever done in and around the Cromer Shoal MCZ, including all the categories of chalk damage and other man-made problems we had recorded.

Firstly as much data as possible was retrieved from original paper forms and records dating back to 2006. Some older material is still archived and this is still ongoing. The result was a set of amazing spreadsheets containing all the useful information and newly calculated positional data which was handed over to the WT's in-house mapping expert.

Unfortunately, this coincided with everyone getting furloughed and moved into different roles. Luckily one of our volunteers (Rob Claxton - who produced marvellous inshore maps from DEFRA data last year) was able to step in. He has produced interactive mapping which will be shared with volunteers and government bodies to support the understanding of the MCZ.

The resulting map shows the extent of all the surveys ever undertaken over 15 years. As well as showing if chalk or clay was present additional layers show when specific problems were recorded; live or lost fishing gear, lost angling tackle, processed fishing waste, physical damage to the chalk and other general litter.

Since the dives overlap a lot in popular sites, they are arranged as a 'heat map' with the use of a colour scale to indicate higher survey coverage, with the facility to hover over a specific square to find the total number of dives crossing it.



Example of 'heat map' of survey effort at Weybourne – the yellow square represents the centre of the Rosalie wreck, which has been surveyed 215 times!

Potting-related damage mapping



Typical chalk damage caused by a dropped lobster pot

We have been working with Jon Chamberlain of University of Essex to define a new classification for mapping the extent and degree of substrate damage encountered on the reef. Ongoing work involves developing a simple recording protocol for divers to use when observing chalk damage and reviewing a decade of archive videos to assess historical damage from industrial potting.

3D photogrammetry

Along with the University of Essex we have also been comparing 3D photogrammetry methods that recreational divers could use to map parts of the chalk reef. By using their usual photography or video equipment deeper assessments can be made without taking up too much dive time. This will be put into practice by our volunteers over the summer of 2021.

The models produced by this method can be used to 'fly through' chalk landscapes, giving a much better impression of scale than a simple photo or video. There is also scope to analyse them mathematically to assess rugosity as a measure of potential biodiversity and the volume of erosion year on year.



Stalked jellyfish – *Calvadosia campanulata*

Species recorded

Below is the table of species recorded during 2020. The grand total for the whole of East Anglia was 394 species found, an increase on the 356 found in 2019. This increase is partly due to the larger number of snorkel and intertidal records received, but also to the wider range of sites visited and a large increase in the numbers of volunteers out doing the surveys – well done everyone!

Species lists

Scientific name	Common name/description	NW Norfolk and Wash	N and NE Norfolk	Suffolk	Essex	East Anglia
Porifera Sponges						
<i>Halichondria bowerbankii</i>	a sponge		R-F	C-A	R	R-A
<i>Halichondria panicea</i>	Breadcrumb sponge		R-C	O		R-C
<i>Oscarella sp</i>	a sponge		R-F			R-F
<i>Sycon ciliatum</i>	Vase sponge		R-F	O		R-F
<i>Grantia compressa</i>	Purse sponge		R-F			R-F
<i>Haliclona oculata</i>	Mermaid's glove		R-O		O	R-O
<i>Haliclona viscosa</i>	a sponge		R			R
<i>Haliclona cinerea</i>	a sponge		R-O			R-O
<i>Halisarca dujardini</i>	a sponge		R-F			R-F
<i>Raspalia ramosa</i>	Chocolate fingers sponge		R-O			R-O
<i>Cliona sp</i>	Boring sponge		R-F			R-F
<i>Amphilectus fucorum</i>	Shredded carrot sponge		R-C	O		R-C
<i>Porifera sp</i>	blue shredded carrot		R			R
<i>Porifera sp</i>	yellow shredded carrot		R-F			R-F
<i>Porifera sp</i>	Beige massive sponge		O			O
<i>Porifera sp</i>	Peach massive sponge		O			O
<i>Leucosolenia sp</i>	Spiky lace sponge		O-F			O-F
<i>Porifera ind</i>	crust sponge sp		O		R	R-O
<i>Myxilla incrustans</i>	yellow sponge crust		R-O			R-O
<i>Dysidea fragilis</i>	Goosebump sponge		R-F			R-F
<i>Dysidia pallescens</i>	Pink goosebump		R-O			R-O
<i>Aplysilla sulfurea</i>	a sponge		R			R
<i>Aplysilla rosea</i>	a sponge		R			R
<i>Clathrina coriacea</i>	Lace sponge		R			R
<i>Hymedesmia sp</i>	Norfolk purple sponge		R-C			R-C
<i>Polymastia penicillus</i>	Chimney sponge		R-O			R-O
<i>Suberites massa</i>	a sponge		R-O			R-O
<i>Suberites ficus</i>	Sea orange		R			R
<i>Suberites sp</i>	a sponge		C			C
Cnidaria Hydroids and anemones						
<i>Alcyonium digitatum</i>	Dead mens fingers		R-C			R-C
<i>Actinia equina</i>	Beadlet anemone		R-F		R	R-F
<i>Metridium dianthus</i>	Plumose anemone	R	R-A			R-A
<i>Cylista elegans</i>	Elegant anemone		R-C			R-C
<i>Cylista troglodytes</i>	an anemone	R-O	R-C	R-O		R-C
<i>Urticina felina</i>	Dahlia anemone	R	R-C		O	R-C
<i>Urticina eques</i>	Horseman anemone		R-O			R-O
<i>Diadumene cincta</i>	Orange anemone		O	R-O		R-O
<i>Tubularia indivisa</i>	Oaten pipes		R-C	O		R-C
<i>Ectopleura larynx</i>	Oaten pipes		O			O
<i>Hydractinia echinata</i>	Hermit fur		R-F			R-F
<i>Sertularia cupressina</i>	White weed		O-F		O-F	O-F
<i>Hartlaubella gelatinosa</i>	a hydroid	O				O

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<i>Eudendrium sp</i>	a hydroid		R-C			R-C
<i>Abietinaria abietina</i>	a hydroid		R			R
<i>Halecium halecinum</i>	a hydroid		R-F			R-F
<i>Halecium beanii</i>	a hydroid		R-O			R-O
<i>Hydrallmania falcata</i>	Helter skelter hydroid		R-O		O-F	R-F
<i>Clytia hemisphaerica</i>	a hydroid		R-F			R-F
<i>Halopteris catharina</i>	a hydroid		O-C			O-C
<i>Plumularia setacea</i>	a feathery hydroid		R-F			R-F
<i>Obelia dichotoma</i>	a hydroid	R	O-F	O		R-F
<i>Laomedea flexuosa</i>	a hydroid			F		F
<i>Amphisbetia operculata</i>	a hydroid		R			R
<i>Hydrozoa sp</i>	a herringbone hydroid	O			R	R-O
<i>Hydrozoa sp</i>	a feathery hydroid		R-O		R	R-O
<i>Kirchenpaueria pinnata</i>	a feathery hydroid		R-O			R-O
<i>Coryne eximia</i>	a hydroid		R-F			R-F
<i>Dynamena pumila</i>	a hydroid		R	O		R-O
<i>Hydrozoa sp</i>	tiny individual hydroid			O		O
<i>Nemertesia antennina</i>	Antenna hydroid		R-F			R-F
<i>Nemertesia ramosa</i>	Branched antenna hydroid		R-O			R-O
<i>Sertularella rugosa</i>	a hydroid		R-F			R-F
<i>Aequorea sp</i>	a hydroid medusa		R			R
<i>Aurelia aurita</i>	Moon jelly		R			R
<i>Chrysaora hysoscella</i>	Compass jelly		R-F			R-F
<i>Cyanea capnea</i>	Lion's mane jelly		R			R
<i>Cyanea lamarckii</i>	Blue jelly		R			R
<i>Craterolophus convolvulus</i>	a stalked jelly		R			R
<i>Calvadosia campanulata</i>	a stalked jelly		R-F			R-F
<i>Stauromedusae spp</i>	a stalked jelly		R-O			R-O

Annelida		Segmented worms				
<i>Arenicola marina</i>	Lugworm	O-C	O-F	F		O-C
<i>Arenicola defodiens</i>	Black lugworm	R	R-O			R-O
<i>Sabella pavonina</i>	Peacock fanworm		R-A	F-A		R-A
<i>Polychaeta sp</i>	Unknown polychaete				R	R
<i>Phyllodoce sp</i>	Paddleworm		R			R
<i>Pectinaria belgiga</i>	a tubeworm		O			O
<i>Lanice conchilega</i>	Sandmason worm	O-C	O-A	O	O	O-A
<i>Eupolymnia nebulosa</i>	Strawberry worm			O		O
<i>Cirratulus cirratus</i>	a worm			F		F
<i>Harmothoe sp</i>	a scaleworm		R		R	R
<i>Lepidonotus squamatus</i>	a scaleworm		R			R
<i>Hediste diversicolour</i>	a polychaete		R			R
<i>Scalibregma celticum</i>	a polychaete		R			R
<i>Polydora ciliata</i>	a tubeworm		O-S			O-S
<i>Pseudopolydora pulchra</i>	a tubeworm		R			R
<i>Salmacina dysteri</i>	Coral worm		R-O			R-O
<i>Spirobranchus</i>	Keel worms	O	R-C	O		R-C
<i>Sabellaria spinulosa</i>	Ross worm		R-S			R-S

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<i>Pileolaria berkleyana</i>	a spiral worm		O-S			O-S
<i>Terebellid sp</i>	a tubeworm		R-O			R-O
<i>Tubulanus annulatus</i>	Football jersey worm		R			R
Crustacea	Barnacles, crabs, shrimp and lobsters					
<i>Cirripedia</i>	a barnacle	R-A	R-C	C-A	S	R-S
<i>Semibalanus balanoides</i>	Acorn barnacle	C	R-C			R-C
<i>Eliminius modesta</i>	a barnacle	C	F-C	F-C		F-C
<i>Verruca stroemia</i>	a barnacle		O			O
<i>Cancer pagurus</i>	Edible crab		R-C			R-C
<i>Carcinus maenas</i>	Shore crab	R-O	R-F	R-C	O-F	R-C
<i>Necora puber</i>	Velvet swimming crab		R-F			R-F
<i>Pilumnus hirtellus</i>	Hairy crab		R			R
<i>Portumnus latipes</i>	Pennant's swimming crab		R-O			R-O
<i>Liocarcinus depurator</i>	Harbour crab		R-O			R-O
<i>Liocarcinus holsatus</i>	Flying crab		R-O			R-O
<i>Hemigrapsus takanoi</i>	Brush clawed crab			R		R
<i>Corystes cassivelaunus</i>	Masked crab	R	R			R
<i>Maja brachydactyla</i>	Spiny spider crab		R			R
<i>Hyas araneus</i>	Sea toad		R-O			R-O
<i>Pisa armata</i>	A spider crab		R-O			R-O
<i>Inachus sp</i>	Sponge spider crab		R-C			R-C
<i>Macropodia sp</i>	Long legged spider crab		R-C	R-O	F	R-C
<i>Pisidia longicornis</i>	Long clawed porcelain crab		O-F	O		O-F
<i>Ebalia tumefacta</i>	Nut crab		R-O			R-O
<i>Ebalia cranchii</i>	a nut crab		R			R
<i>Pagurus bernhardus</i>	Common hermit crab		R-C		R-F	R-C
<i>Pagurus cuanensis</i>	Hairy hermit crab		R-O			R-O
<i>Paguridae</i>	a hermit crab	R	R-O	R		R-O
<i>Anapagurus sp</i>	a hermit crab		R			R
<i>Galathea intermedia</i>	a squat lobster		R-F			R-F
<i>Galathea squamifera</i>	Brown squat lobster		O-C			O-C
<i>Homarus gammarus</i>	Common lobster		R-F			R-F
<i>Processa caniculata</i>	a prawn		R			R
<i>Processa sp</i>	a prawn		R			R
<i>Palaemon serratus</i>	Common prawn	R	R-F			R-F
<i>Palaemon elegans</i>	Rockpool prawn		R-O		F	R-F
<i>Palaemon varians</i>	Ditch prawn			O-F		O-F
<i>Crangon crangon</i>	Brown shrimp	O	R-F	R		R-F
<i>Pandalus montagui</i>	Northern prawn		O-F			O-F
<i>Eualus sp</i>	a prawn		R-F			R-F
<i>Hippolytes varians</i>	Chameleon prawn		R-F			R-F
<i>Athanas nitescens</i>	Hooded shrimp		R			R
<i>Caprella sp</i>	a skeleton shrimp		O-C			O-C
<i>Mysida sp</i>	a mysid shrimp		R-F			R-F
<i>Gammarid</i>	a shrimp	O	R	O		R-O
<i>Talitridae sp</i>	a sandhopper		R	F		R-F
<i>Amphipoda sp</i>	An amphipod		R-C			R-C

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<i>Amphipoda sp</i>	Tube amphipod				R	R
<i>Dyopedos sp</i>	Fishing rod amphipod		O-F			O-F
<i>Doridicola agilis</i>	parasite on nudibranch		R-O			R-O
<i>Iphimedia obesa</i>	an amphipod		R			R
<i>Jassa sp</i>	an amphipod		O-S			O-S
<i>Ampelisca sp</i>	Tube amphipod		F-A			F-A
<i>Isopoda sp</i>	an isopod		R			R
<i>Idotea sp</i>	an isopod		R			R
<i>Idotea linearis</i>	an isopod	R-O	R-O	R		R-O
<i>Idotea neglecta</i>	an isopod		R			R
<i>Idotea granulosa</i>	an isopod		R			R
<i>Lekanesphaera rugicauda</i>	an isopod		R			R
<i>Cirolanidae</i>	a parasitic isopod		O			O
Mollusca	Molluscs					
<i>Polyplacophora</i>	a chiton	R	R-O			R-O
<i>Leptochitona cinerea</i>	a chiton		O			O
<i>Aplysia punctata</i>	Common sea hare		R-O			R-O
<i>Elysia viridis</i>	Solar powered slug		R			R
<i>Nudibranchia sp</i>	nudibranch eggs		O			O
<i>Doto sp</i>	a nudibranch		R-A			R-A
<i>Tergipes tergipes</i>	a nudibranch		R			R
<i>Fjordia lineata</i>	a nudibranch		R-O			R-O
<i>Edmundsella pedata</i>	Violet sea slug		R-O			R-O
<i>Amphorina pallida</i>	a nudibranch		R			R
<i>Eubranchus tricolor</i>	a nudibranch		R			R
<i>Eubranchus farrani</i>	a nudibranch		R			R
<i>Capellinia fustifera</i>	a nudibranch		R			R
<i>Polycera quadrilineata</i>	Four lined polycera		O			O
<i>Ancula gibbosa</i>	a nudibranch		R			R
<i>Antiopella cristata</i>	Crystal slug		R-O			R-O
<i>Dendrodoa frondosus</i>	Christmas tree nudibranch		R-F			R-F
<i>Facelina bostoniensis</i>	a nudibranch		R-F			R-F
<i>Palio nothus</i>	a nudibranch		R-F			R-F
<i>Catriona aurantia</i>	a nudibranch		R			R
<i>Aeolidia sp</i>	a nudibranch		R-O			R-O
<i>Aeolidia filomenae</i>	a nudibranch		R-O			R-O
<i>Acanthodoris pilosa</i>	a nudibranch	R-C	R-O			R-C
<i>Onchidoris bilamellata</i>	a nudibranch		R-C			R-C
<i>Goniodoris nodosa</i>	a nudibranch		R-O			R-O
<i>Doris pseudoargus</i>	Sea lemon		R			R
<i>Crepidula fornicata</i>	Slipper limpet	R	R-O		O-C	R-C
<i>Steromphala cineraria</i>	Grey topshell		R-F			R-F
<i>Calliostoma zizyphinum</i>	Painted topshell		R-O			R-O
<i>Buccinum undatum</i>	Common whelk		R-A		F	R-A
<i>Tritia sp</i>	Small whelk		F			F
<i>Littorina saxatilis</i>	Rough periwinkle	C	O-F	F		O-C
<i>Littoria littorina</i>	Common periwinkle	C			C	C

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<i>Littorina obtusata/fabalis</i>	Flat periwinkle		R-F			R-F
<i>Rissoa sp</i>	a gastropod		O-A			O-A
<i>Nucella lapillus</i>	Dog whelk	R	O-F			R-F
<i>Ocenebra erinacea</i>	Sting wrinkle		R			R
<i>Patella vulgata</i>	Common limpet		R-O	R	R	R-O
<i>Patella pellucida</i>	Blue rayed limpet		R			R
<i>Tectura virginea</i>	White tortoiseshell limpet		R-O			R-O
<i>Mytilus edulis</i>	Edible mussel	C	R-C	O-F		R-C
<i>Magallana gigas</i>	Pacific oyster			O-F	O	O-F
<i>Barnea candida</i>	White piddock		R-C			R-C
<i>Ensis magnus</i>	a razor shell		F-C			F-C
<i>Cerastoderma edule</i>	Common cockle	R				R
<i>Sepiola atlantica</i>	Little cuttlefish		R-O			R-O
<i>Alloteuthis subulata</i>	small squid eggs		R			R
<i>Loligo sp</i>	Common squid eggs		R			R

Bryozoa **Sea mats and sea mosses**

<i>Bryozoa</i>	encrusting bryozoan indet	R	R-F			R-F
<i>Conopeum reticulatum</i>	encrusting bryozoan	R-O	O-C	O		R-C
<i>Electra pilosa</i>	Frosty sea mat	R	R-C			R-C
<i>Schizomavella linearis</i>	encrusting bryozoan		R-F			R-F
<i>Escharoides coccinea</i>	encrusting bryozoan		O			O
<i>Bowerbankia citrina</i>	a bryozoan		R-F			R-F
<i>Bowerbankia imbricata</i>	a bryozoan		O-F			O-F
<i>Bicellariella ciliata</i>	a bryozoan		R-O			R-O
<i>Flustra foliacea</i>	Hornwrack		R-C		O	R-C
<i>Celleporella hyalina</i>	a bryozoan		R			R
<i>Alcyonidium diaphanum</i>	Finger bryozoan	C	R-O		F	R-C
<i>Alcyonidium hirsutum</i>	a bryozoan		R-O			R-O
<i>Alcyonidium gelatinosa</i>	a bryozoan		R			R
<i>Anguinella palmata</i>	a bryozoan				F	F
<i>Scrupocellaria sp</i>	a bryozoan		O-C		O	O-C
<i>Scrupocellaria reptans</i>	a bryozoan		R-F			R-F
<i>Vesicularis spinulosa</i>	a bryozoan	O	R-O			R-O
<i>Crisularia plumosa</i>	Spiral bryozoan		R-C			R-C
<i>Bugulina flabellata</i>	a spiral bryozoan		R-O			R-O
<i>Caberea sp</i>	a bryozoan		O-F			O-F
<i>Crisia sp</i>	a bryozoan		R-A	O-F		R-A
<i>Nolella stipata</i>	a bryozoan		O-F			O-F
<i>Disporella hispida</i>	a disc bryozoan		R-F			R-F
<i>Plagioecina patina</i>	a disc bryozoan		R-F			R-F

Echinodermata **Starfish, urchins and brittlestars**

<i>Ophiura albida</i>	Sand brittlestar		R-F			R-F
<i>Ophiura ophiura</i>	Sand brittlestar			O	F	O-F
<i>Amphipholis squamata</i>	a brittlestar		R			R
<i>Ophiopholis aculeata</i>	a brittlestar		R			R
<i>Amphiura sp</i>	a brittlestar		R			R
<i>Ophiothrix fragilis</i>	Common brittlestar		R-O			R-O

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<i>Asterias rubens</i>	Common starfish		R-A		F	R-A
<i>Henricia sp</i>	Bloody henry		R-O			R-O
<i>Crossaster papossus</i>	Common sunstar	R	R-C			R-C
<i>Echinus esculentus</i>	Edible urchin		R			R
<i>Psammechinus miliaris</i>	Green urchin		R-C			R-C

Tunicata	Sea squirts					
<i>Perophora listeri</i>	a tunicate		O-C			O-C
<i>Perophora japonica</i>	an invasive tunicate		R-O			R-O
<i>Asciidiella aspersa</i>	a tunicate		R	F-C		R-C
<i>Ascidia conchiglia</i>	a tunicate		O			O
<i>Asciidiella scabra</i>	a tunicate		R			R
<i>Molgula complanata</i>	a tunicate		O-F			O-F
<i>Molgula sp</i>	a tunicate		R-A		R-O	R-A
<i>Styela clava</i>	Leathery squirt			O	R	R-O
<i>Ciona intestinalis</i>	Yellow ringed squirt			F		F
<i>Polycarpa scuba</i>	a tunicate		R-O			R-O
<i>Dendrodoa grossularia</i>	Baked bean squirt		R-O	O	R	R-O
<i>Diplosoma spongiforme</i>	Sponge squirt		R-F			R-F
<i>Diplosoma listerianum</i>	a tunicate		R-O			R-O
<i>Botrylloides leachii</i>	a tunicate		O-F	R		R-F
<i>Botrylloides leachii var radiata</i>	a tunicate		R			R
<i>Botrylloides diegensis</i>	an invasive tunicate			O		O
<i>Botrylloides sp</i>	a tunicate		O-F			O-F
<i>Botryllus schlosseri</i>	Star squirt	O	R-O	O		R-O
<i>Didemnum maculosum</i>	Snowflake squirt		R-C			R-C
<i>Trididemnum cereum</i>	a tunicate		O-F			O-F
<i>Lissoclinum perforatum</i>	a tunicate		R			R
<i>Polyclinum aurantium</i>	a tunicate		R-O			R-O
<i>Clavelina lepadiformis</i>	Lightbulb sea squirt		R-C			R-C
<i>Pycnoclavella stolonialis</i>	Pinhead tunicate		R-F			R-F
<i>Corella eumyota</i>	an invasive tunicate		R-F			R-F
<i>Archidostoma aggregatum</i>	a tunicate		R-A			R-A
<i>Polysincraton bilobatum</i>	a tunicate		R-F			R-F
<i>Morchellium argus</i>	a club squirt		R-F			R-F
<i>Aplidium turbinatum</i>	a tunicate		R-C			R-C
<i>Aplidium glabrum</i>	a tunicate		R-F			R-F
<i>Distaplia rosea</i>	a tunicate		R-F			R-F
<i>Tunicata sp</i>	Beige colonial tunicate		O-F			O-F

Pisces	Fishes					
<i>Scyliorhinus canicula</i>	Lesser spotted catshark		R			R
<i>Anguilla anguilla</i>	European eel		R			R
<i>Syngnathus acus</i>	Greater pipefish		R-O			R-O
<i>Syngnathus rostellatus</i>	Lesser pipefish		R-F			R-F
<i>Entellurus aequoreus</i>	Snake pipefish		R			R
<i>Callionymus reticulatus</i>	Reticulated dragonet		R-O			R-O
<i>Callionymus lyra</i>	Common dragonet		R-F			R-F
<i>Pomatoschistus sp</i>	a sand goby		R-C		F	R-C

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<i>Pomatoschistus minutus</i>	Sand goby		O-C			O-C
<i>Pomatoschistus pictus</i>	Painted goby		R-F		R	R-F
<i>Gobiusculus flavescens</i>	Two spot goby		R-F			R-F
<i>Gobius paganellus</i>	Rock goby		R			R
<i>Thorogobius ephippiatus</i>	Leopard spotted goby		R-O			R-O
<i>Lipophrys pholis</i>	Shanny		R-F		R	R-F
<i>Parablennius gattorugine</i>	Tompot blenny		R			R
<i>Liparis montagui</i>	Montagu's sea snail		R			R
<i>Liparis sp</i>	a sea snail		R			R
<i>Aphia minuta</i>	Transparent goby		R-C			R-C
<i>Engraulis encrasicolus</i>	Anchovy		R			R
<i>Clupea sp</i>	a Sprat		O			O
<i>Sprattus sprattus</i>	Sprat		F-C			F-C
<i>Ranina raniceps</i>	Tadpole fish		R			R
<i>Ciliata mustela</i>	5 bearded rockling		R			R
<i>Echiichthys vipera</i>	Lesser weever		R-O			R-O
<i>Taurulus bubalis</i>	Long spined sea scorpion		R-F			R-F
<i>Myoxocephalus scorpius</i>	Short spined sea scorpion		R			R
<i>Micrenophrys lilljeborgii</i>	Norway bullhead		R			R
<i>Atherina presbyter</i>	Sand smelt		O-C			O-C
<i>Pollachius pollachius</i>	Pollack		R-O			R-O
<i>Dicentrarchus labrax</i>	Sea bass		R-C			R-C
<i>Gadidae sp</i>	Unknown cod family		R			R
<i>Trisopterus luscus</i>	Bib		R-C			R-C
<i>Trisopterus minutus</i>	Poor cod		O			O
<i>Gadus morhua</i>	Cod		O			O
<i>Mola mola</i>	Sunfish	R				R
<i>Mullus surmuletus</i>	Striped red mullet		R-F			R-F
<i>Pholus gunnellus</i>	Butterfish		R			R
<i>Symphodus melops</i>	Corkwing wrasse		R-F			R-F
<i>Labrus bergylta</i>	Ballan wrasse		R-O			R-O
<i>Ctenolabrus rupestris</i>	Goldsinny		R			R
<i>Ammodytes tobianus</i>	a sand eel		R-C			R-C
<i>Hyperoplus lanceolatus</i>	Greater sand eel		R-O			R-O
<i>Eutriglia gurnardus</i>	Grey gurnard		R			R
<i>Platichthys flesus</i>	Flounder		R			R
<i>Pleuronectes platessa</i>	Plaice		R			R
<i>Limanda limanda</i>	Dab		R-O			R-O
<i>Solea solea</i>	Dover sole		R			R
<i>Buglossidium luteum</i>	Solonette		R			R

Algae	Seaweeds					
<i>Algae</i>	mixed algae	C	C			C
<i>Ulva sp</i>	a sea lettuce	O-C	R-O	O-C	O-C	R-C
<i>Ulva lactuca</i>	Sea lettuce			O		O
<i>Ulva intestinalis</i>	Gutweed		F			F
<i>Ulva linza</i>	Gutweed		O-F	F		O-F
<i>Ulva rigida</i>	a sea lettuce			O	R	R-O

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<i>Chaetomorpha linum</i>	Brick weed	O	O			O
<i>Chlorophyta</i>	'green fluff'			C		C
<i>Derbesia marina</i>	a green algae		O	F		F
<i>Rhizoclonium riparium</i>	A green algae		R		R	R
<i>Cladophora sp</i>	a green algae		R-O			R-O
<i>Cladophora rupestris</i>	Rope weed		R-F			R-F
<i>Bryopsis plumosa</i>	Mossy feather weed		R-F			R-F
<i>Bryopsis hypnoides</i>	Mossy feather weed		R-F	O		R-F
<i>Diatoms</i>	diatoms		F-A	C		F-A
<i>Phaeophyta</i>	brown algae		F			F
<i>Undaria pinnatifida</i>	Wakame			O-F		O-F
<i>Sargassum muticum</i>	Wireweed			R-O		R-O
<i>Spongonema tomentosum</i>	a brown algae			O		O
<i>Dictyota dichotoma</i>	Brown fanweed		R-F			R-F
<i>Taonia atomaria</i>	Dotted peacock weed		R-C		R	R-C
<i>Cutleria multifida</i>	Cutler's many cleft weed		O-F			O-F
<i>Petalonia fascia</i>	Broad leaf weed		R-O			R-O
<i>Cladostephus hirsutus</i>	Hairy sand weed		R-F			R-F
<i>Colpomenia peregrina</i>	Oyster thief		R			R
<i>Fucus vesiculosus</i>	Bladderwrack		O-C	C		O-C
<i>Fucus serratus</i>	Serrated wrack		R-C		A	R-A
<i>Fucus spiralis</i>	Spiral wrack	O	O-C			O-C
<i>Ascophyllum nodosum</i>	Egg wrack			C		C
<i>Halidrys siliquosa</i>	Podweed		R-O		R	R-O
<i>Desmarestia viridis</i>	Desmarest's green weed			O		O
<i>Desmarestia sp</i>	a brown algae		F			F
<i>Chorda filum</i>	Mermaid's tresses		R			R
<i>Elasticha sp</i>	a brown algae			R		R
<i>Rhodophyta</i>	red algae	O	O-F	C	R-O	R-C
<i>Rhodophyta ind crust</i>	red encrusting algae		O-F			O-F
<i>rhodophyta</i>	'red fluff'		F			F
<i>Corallinaceae crusts</i>	pink encrusting algae		O-C			O-C
<i>Corallina officianalis</i>	Common coral weed		O-C			O-C
<i>Gracilaria gracilis</i>	Slender wartweed		R-C			R-C
<i>Chondria dasyphylla</i>	Diamond cartilage weed		O-C			O-C
<i>Halurus flosculosus</i>	Mrs Griffith's little flower				R	R
<i>Halurus equisetifolius</i>	Sea Horsetail		R-F			R-F
<i>Naccaria wiggii</i>	a red algae		R-O			R-O
<i>Chondrus crispus</i>	Irish moss		O-C			O-C
<i>Ceramium echionitum</i>	a pincer weed		R-O			R-O
<i>Ceramium sp</i>	a pincer weed		R-O	F		R-F
<i>Polysiphonia fucoides</i>	Black siphon weed			F		F
<i>Vertebrata nigra</i>	Twisted siphon weed		F-C	F		F-C
<i>Polysiphonia stricta</i>	Pitcher siphon weed		R-C	O-F		R-C
<i>Polysiphonia elongata</i>	a Siphon weed		O			O
<i>Polysiphonia sp</i>	a Siphon weed	R	R-C		R	R-C
<i>Delessaria sanguinea</i>	Sea beech		R			R

Scientific name	Common name/description	NW Norfolk and Wash	N and NE Norfolk	Suffolk	Essex	East Anglia
<i>Cryptopleura ramosa</i>	Fine-veined crinkle weed		R-F			R-F
<i>Grateloupia subpectinata</i>	a red algae		R-F			R-F
<i>Grateloupia turuturu</i>	a red algae		R-F			R-F
<i>Lomentaria clavulosa</i>	a red algae		R			R
<i>Plocamium sp</i>	Comb weed		R-A			R-A
<i>Plumaria plumosa</i>	Soft feather weed		R-O			R-O
<i>Hypoglossum hypoglossoides</i>	Under tongue weed		R-O			R-O
<i>Scinaia furcellata</i>	Scina's weed		R-O			R-O
<i>Pterothamnion plumula</i>	Bushy feather weed			O		O
<i>Rhodomenia holmesii</i>	Holme's rose weed		O-F			O-F
<i>Rhodomenia ardissoni</i>	Spikey rose weed		O			O
<i>Heterosiphonia plumosa</i>	Siphoned feather weed		R-C	R		R-C
<i>Calliblepharis ciliata</i>	Eyelash weed		O-C			O-C
<i>Vertebrata byssoides</i>	Brongniart's thread weed		R-C			R-C
<i>Vertebrata sp</i>	A red algae		R			R
<i>Osmundea sp</i>	a fern weed		R-F			R-F
<i>Osmundea oederi</i>	a fern weed		O-F			O-F
<i>Gastroclonium reflexum</i>	Reflexed grape weed		O-C		R	R-C
<i>Porphyra sp</i>	Lava	R	F	O	R-C	R-C
<i>Halarachnion ligulatum</i>	Sea spider weed		R-F			R-F
<i>Polyides rotunda</i>	Discoïd fork weed		R-C			R-C
<i>Furcellaria lumbricalis</i>	Clawed forkweed		O			O
<i>Ahnfeltia plicata</i>	Black scour weed		O-F			O-F
<i>Drachiella heterocarpa</i>	Callused drachiella		R-O			R-O
Others	Other phyla					
<i>Pedicellina sp</i>	entoprocts		O			O
<i>Pycnogonidae</i>	a white sea spider			F	R	R-F
<i>Pycnogonidae</i>	a red sea spider		R			R
<i>Halyphysema tumanowiczii</i>	a foraminiferan		O-F			O-F
<i>Halichoerus grypus</i>	Grey seal		R			R
<i>Mesoplodon bidens</i>	Sowerby's beaked whale			R		R
Total		44	360	66	47	394

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