

Chesil Beach and Stennis Ledges MCZ

Seasearch Site Surveys 2014

This report summarises the results of surveys carried out during 2014 by Seasearch divers in the Chesil Beach and Stennis Ledges MCZ (designated in November 2013). Particular attention was paid to surveying undived sites within the area to augment the existing records of the Habitat and Species FOCI identified in the Ecological Guidance for this MCZ.

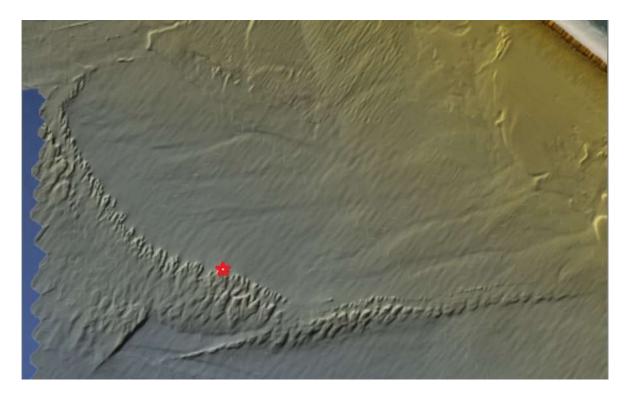
Physical Features of the Area

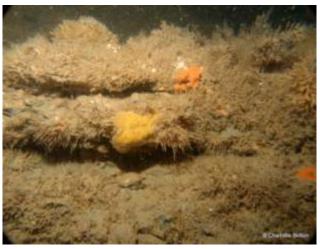
The Chesil Beach and Stennis Ledges MCZ is an inshore site of *ca.* 38km² running along Chesil Beach from Abbotsbury in the north to Weston on the Isle of Portland in the south, extending seawards in a south-westerly direction to encompass the rocky reefs of Stennis Ledges (image below taken from jncc.defra.gov.uk/mczmap):



The site consists of both rocky ledges and massive boulders, supporting fragile reef species of pink sea fans, sponges and bryozoans, and subtidal mixed sediments which support a wide variety of marine life.

An previously-undived site in the north-west corner of the MCZ, as chosen from the DORIS bathymetric map (see below, with survey site indicated), was revealed to be a very rugged 3m-high exposure of Oxford clay with embedded oyster shells (geological identification courtesy of Richard Edmonds, Jurassic Coast Earth Science Manager at Dorset County Council). The priority habitat of 'peat and clay exposures' (HOCI_15) is not currently included on the feature list for this MCZ.







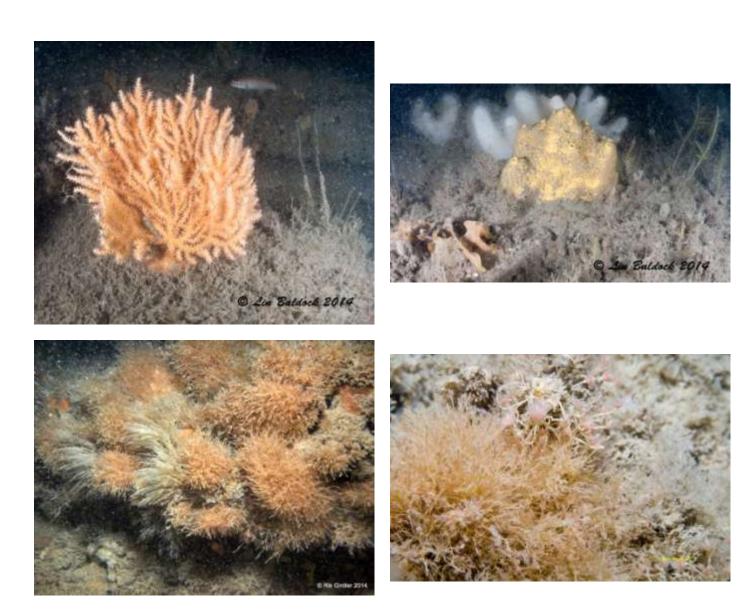




Habitat shots of the clay exposure, showing the eroding oyster shells (bottom right) and the rugged nature of the 3m-high cliff, providing ledges and overhangs to shelter crustaceans such as edible (*Cancer pagurus*) and velvet swimming crabs (*Necora puber*).

Features of the Marine Life

The rocks are densely covered with short animal turf (dominated by encrusting and cushion sponges, bryozoans and hydroids), while the large boulders at the southern end of Chesil Beach and the north-western coast of the Isle of Portland are densely covered in kelp. Crustaceans and molluscs are associated with the subtidal sediments and may occur in very dense aggregations at certain times of the year. Protected species such as the pink sea fans (*Eunicella verrucosa*) and native oyster (*Ostrea edulis*) have been reported within this MCZ, as well as uncommon species such as Baillon's wrasse (*Sympodus bailloni*; more southerly Lusitanian distribution), the Weymouth carpet coral (*Hoplangia durotrix*; nationally rare) and the branching sponge *Adreus fascicularis* (nationally scarce). Seasonal visitors such as grey triggerfish (*Balistes capriscus*) are regularly reported at sites along Chesil Beach.

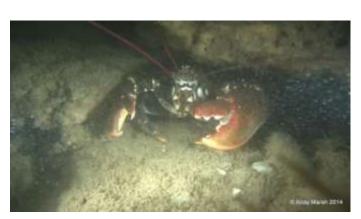


The flat reef top (at **Slim's Ledge, off Abbotsbury**) with large *Eunicella verrucosa*, cushion and branching sponges, *Pentapora foliacea* and frequent *Alcyonium digitatum* was covered with an incredibly dense turf of hydroids (*Coryne eximia*, *Tubularia* sp.) and associated feeding nudibranchs on the plateau edge.





The near-vertical wall of pitted and undercut rock was populated with short animal turf of bryozoans/hydroids, cup corals, sponges and anemones, including large patches of jewel anemones (*Corynactis viridis*). (Site: Slim's Ledge, off Abbotsbury)





At the base of the wall, crevices provided hiding places for large crustaceans but also collected dead and damaged sea fans amongst the boulders and slabs. (Site: Slim's Ledge, off Abbotsbury)



The low rocky reefs of the **Outer Stennis Ledges** sites were covered in a very dense hydroid/bryozoans turf of *Cellaria* spp. and *Sertularella* spp., providing cover for *Necora puber* crabs and tompots (*Parablennius gattorugine*).



Many of the slow-growing ross corals (*Pentapora foliacea*) were very pale in colour – a sign of less than optimal health after the stormy winter weather? Although no *Eunicella verrucosa* were recorded on these particular survey dives on **Outer Stennis Ledges**, *Pentapora foliacea* are equally fragile and susceptible to damage by mobile bottom gear such as trawls and dredges.



Other colourful life in the sediment-filled gullies between the rocky ledges (Site: Outer Stennis Ledges): Aequipecten opercularis and Suberites (top left), Ciocalypta penicillus (top right), Callionymus reticulatus (centre left), Aplidium elegans (centre right), Calliostoma zizyphinum with hydroid/bryozoan turf (above left), Stolonica socialis (above right).

Human Uses

Use of mobile bottom gear (trawls and dredges) in search of scallops has the potential to decimate reef habitats and the associated ecosystem, which are slow to recover. Further inshore, small-scale potting and recreational angling activities are attracted by the fish and crustacean populations; impacts in the form of lost fishing equipment (line, hooks, rope, pots) and other litter are often seen at sites along Chesil Beach. This litter, if stable and inert, can provide a useful substrate for marine life but has a more detrimental impact in terms of ghost fishing.

Benefits of Protection

The rocky reef habitat is characterised by high species diversity and the surrounding sediments provide an important nursery ground. Local potting and angling activities would both indirectly benefit from an increased population in this area.

Acknowledgements

This report has been compiled by Charlotte Bolton of the Dorset Wildlife Trust based on Seasearch survey records made by Lin Baldock, Charlotte Bolton, Ross Bullimore, Matt Doggett, Rik Girdler, James Lucey, Mike Markey, Andy Marsh, Nick Owen, Fiona Ravenscroft, Mary Restell, Roy Restell, Rob Spray, Nigel Topham, Polly Whyte, Chris Wood and Richard Yorke, and observation records made by Keith Darvelle, Brian Davis, Matthew Ferguson, Colin Garratt, Jackie Howe, Christine Lissoni, Ben Robinson, Abbi Scott and Claire Shotton. Photos as credited; copyright is retained by the photographers. Seasearch would like to thank the volunteer divers for their records and also Scimitar Diving and West Bay Dive Charters ("Ruby J") for taking us to the sites. Thanks also to Richard Edmonds (Jurassic Coast Earth Science Manager at Dorset County Council) for identifying geological samples.

Report published by Dorset Wildlife Trust (www.dorsetwildlifetrust.org.uk) for Seasearch (www.seasearch.org.uk).

Technical Appendix

This Appendix contains more detailed information about the surveys undertaken and records made. It includes:

- dive details
- habitat sketches
- biotope list
- species list

The data has been entered into the Marine Recorder database and is available in Snapshot format on request.

MR Survey Name:

"2014 Seasearch Survey of Chesil Beach & Stennis Ledges MCZ"

MR Survey Reference:

MRLRC01500000007

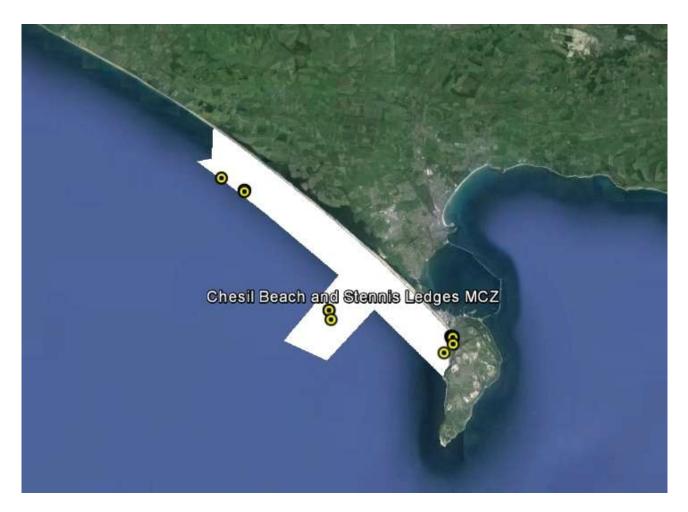
Dive details

Designated features and	management approach:
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Broad Scale Habitats: Subtidal mixed sediments (maintain in favourable condition); moderate energy circalittoral rock (maintain)

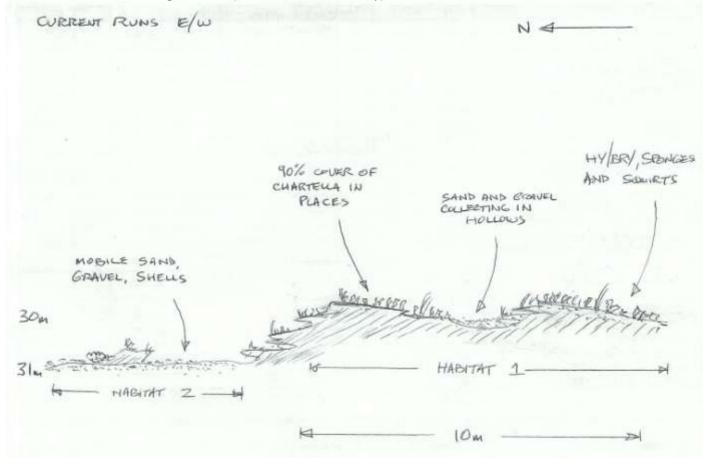
Species FOCI: Pink sea fan, *Eunicella verrucosa* (recover to favourable condition); native oyster, *Ostrea edulis* (recover)

Date	Site Name/Position	Surveyor(s)	Form(s)
13/3/2014	Chesil Cove 50.556 -2.448	Charlotte Bolton, Rik Girdler	DT14/008
4/5/2014	Slim's Ledge 50.6240 -2.5905	Lin Baldock, Charlotte Bolton, Matt Doggett, Rik Girdler, Andy Marsh, Nick Owen, Nigel	DT14/014 DT14/016 DT14/019
	20002.0	Topham, Polly Whyte, Chris Wood	DT14/033 DT14/072
4/5/2014	Chesil Cove 50.556 -2.448	James Lucey, Ben Robinson	DT14/011 DT14/012 DT14/102
18/5/2014	Chesil Cove 50.556 -2.448	Keith Darvelle, Brian Davis, Colin Garratt, Jackie Howe, James Lucey, Abbi Scott, Claire Shotton	DT14/020-029 incl. D14/031 DT14/032 DT14/103 DT14/104
20/6/2014	Chesil Cove 50.556 -2.448	Charlotte Bolton, Rik Girdler, Rob Spray	DT14/077
24/6/2014	Chesil Cove 50.556 -2.448	Charlotte Bolton, Rik Girdler, Mike Markey	DT14/180
7/9/2014	Chesil Cove 50.556 -2.448	Christine Lissoni	DT14/138
21/9/2014	Outer Stennis Ledges (site 1) 50.5665 -2.5308	Andy Marsh, Nick Owen, Mary Restell, Roy Restell, Nigel Topham, Richard Yorke	DT14/159
21/9/2014	Outer Stennis Ledges (site 2) 50.5705 -2.532	Lin Baldock, Charlotte Bolton, Rik Girdler, James Lucey, Fiona Ravenscroft, Harvey Wilson	DT14/160 DT14/161
21/9/2014	Hallelujah Boulders 50.552 -2.4545	Andy Marsh, Nick Owen, Mary Restell, Roy Restell, Nigel Topham, Richard Yorke	DT14/162
28/9/2014	Charlotte's Clay 50.6296 -2.6067	Lin Baldock, Charlotte Bolton, Ross Bullimore, Rik Girdler, Nigel Topham, Chris Wood	DT14/141 DT14/143
28/9/2014	Portland Boulder Field 50.5548 -2.4545	Nick Owen	DT14/142
5/10/2014	Chesil Cove 50.556 -2.448	Matthew Ferguson	DT14/155

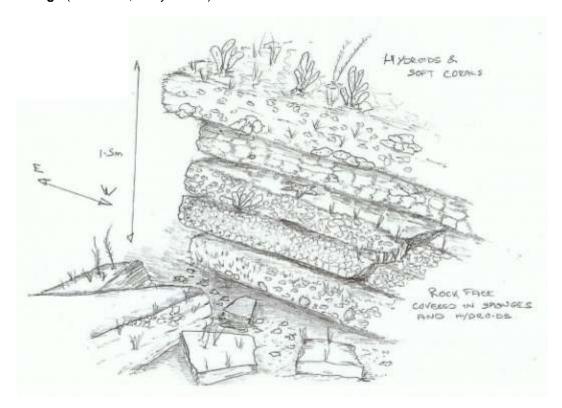


Habitat sketches

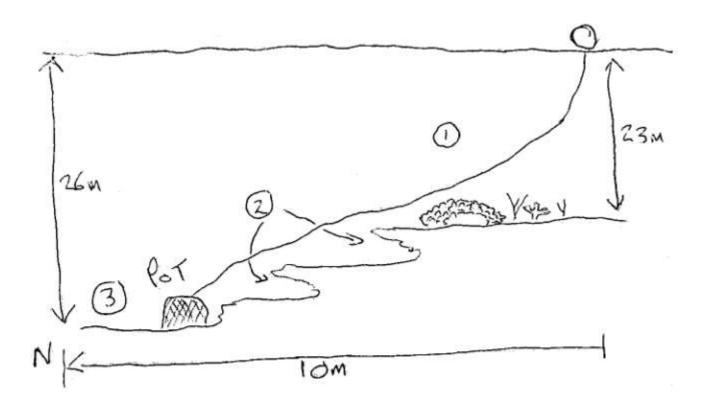
1. Outer Stennis Ledges Site 2 (DT14/161; James Lucey)



2. Slim's Ledge (DT14/019; Andy Marsh)



3. Charlotte's Clay (DT14/141; Rik Girdler)



Sublittoral Habitats/Biotopes recorded

Description	MNCR 04.05 Biotope Code†	Location*
Sparse fauna on highly mobile sublittoral	SS.SCS.ICS.SSh	1
shingle (cobbles and pebbles)	33.3C3.1C3.3311	1
Dense Lanice conchilega and other polychaetes		
in tide-swept infralittoral sand and mixed	SS.SCS.ICS.SLan	1
gravelly sand		
Circalittoral mixed sediment	SS.SMx.CMx	2,4,6
Sponges, cup corals and anthozoans on shaded or overhanging circalittoral rock	CR.FCR.Cv.SpCup	2
Mixed faunal turf communities	CR.HCR.XFa	2,3
Bryozoan turf and erect sponges on tide-swept	CD LICD VE a Divers	2.4
circalittoral rock	CR.HCR.XFa.ByErSp	2,4
Sponges and anemones on vertical circalittoral	CD LICD VEG Co.A.v.VA	2
bedrock	CR.HCR.XFa.SpAnVt	2
Soft rock communities	CR.MCR.SfR	6
Piddocks with a sparse associated fauna in		_
sublittoral very soft chalk or clay	CR.MCR.SfR.Pid	6
Foliose red seaweeds on exposed lower	IR.HIR.KFaR.FoR	E 7
infralittoral rock	IN.MIN.KFdK.FOK	5,7
Halidrys siliquosa and mixed kelps on tide-	IR.HIR.KSed.XKHal	1
swept infralittoral rock with coarse sediment	III.I IIII. NOEG. AKHAI	1

[†] The Marine Habitat Classification for Britain & Ireland (v04.05): <u>incc.defra.gov.uk/marinehabitatclassification</u>

Species List

Number of unique species records (not all to species level) = 235.

1. Porifera (sponges)

Scientific name	Common name	Notes
Adreus fascicularis		Nationally scarce species
Amphilectus fucorum	Shredded carrot sponge	
Ciocalypta penicillus	Tapered chimney sponge	
Cliona celata	Boring sponge	
Dysidea fragilis	Goosebump sponge	
Halichondria panicea	Breadcrumb sponge	
Haliclona oculata	Mermaid's glove	
Hemimycale columella	Crater sponge	
Hymedesmia paupertas		
Hymeniacidon perlevis		
Iophon sp.		
Leucosolenia sp.	Spiky lace sponge	
Pachymatisma johnstonia	Elephant hide sponge	
Polymastia sp.		
Polymastia boletiformis	Yellow hedgehog sponge	
Polymastia penicillus	Chimney sponge	
Porifera indet. crusts	Encrusting sponges	
Pseudosuberites sulphureus		
Raspailia hispida		
Raspailia ramosa	Chocolate finger sponge	
Stelligera rigida		

^{*} Sites are labelled as follows; 1 = Chesil Cove; 2 = Slim's Ledge; 3 = Outer Stennis Ledges Site 1; 4 = Outer Stennis Ledges Site 2; 5 = Hallelujah Boulders; 6 = Charlotte's Clay; 7 = Portland Boulder Field

Scientific name	Common name	Notes
Stelligera stuposa		
Suberites		
Suberites ficus	Sea orange	
Sycon ciliatum	Purse sponge	
Tethya citrina	Golf ball sponge	

2. Cnidaria (anemones, hydroids, corals)

Scientific name	Common name	Notes
Abietinaria abietina		
Actinia fragacea	Strawberry anemone	
Actinothoe sphyrodeta	Fried egg, sandaled anemone	
Aglaophenia sp.		
Aglaophenia parvula		
Aglaophenia pluma		
Alcyonium digitatum	Dead men's fingers	
Anemonia viridis	Snakelocks anemone	
Antenella secundaria		
Caryophyllia inornata	Southern cup coral	Nationally rare species
Caryophyllia smithii	Devonshire cup coral	
Cereus pedunculatus	Daisy anemone	
Cerianthidae		
Corymorpha nutas	Solitary stalked hydroid	
Corynactis viridis	Jewel anemone	
Coryne sp.		
Coryne eximia		
Diphasia rosacea		
Ectopleura larynx	Oaten pipes hydroid	
Epizoanthus couchii	Sandy creeplet	
Eunicella verrucosa	Pink sea fan	FOCI species , WACA, BAP/NERC species, nationally scarce.
Gymnangium montagui	Indian feathers hydroid	,
Halecium sp.		
Halecium halecinum	Herringbone hydroid	
Halopteris catharina		
Hydractinia sp.		
Hydrallmania falcata	Helter-skelter hydroid	
Hydrozoa (turf)	Hydroid turf	
Kirchenpaueria sp.		
Laomedea sp.		
Nemertesia antennina	Antenna hydroid	
Nemertesia ramosa	Branched antenna hydroid	
Obelia geniculata	Kelp fir	
Plumularia setacea		
Sagartia elegans	Elegant anemone	
Sertularella		
Sertularella gayi		
Sertularella polyzonias		
Sertularella rugosa		
Sertularia argentea	Squirrels tail	
Tubularia sp.	Oaten pipes hydroid	
Urticina sp.		
Urticina felina	Dahlia anemone	

3. Annelida (segmented worms)

Scientific name	Common name	Notes
Annelida	Segmented worms	
Arenicola sp. (casts)	Lugworms	
Bispira volutacornis	Double spiral worm	
Chaetopterus sp.	Parchment worm	
Eulalia viridis (eggs)	Green leaf worm (eggs)	
Lanice conchilega	Sand mason worm	
Myxicola infundibulum	Eyelash worm	
Protula	Bristleworms	
Protula tubularia		
Sabella sp.	Peacock worm	
Serpula vermicularis		
Serpulidae	Bristleworms	
Spionidae (tubes)		
Spirobranchus sp.	Keel worms (used to be <i>Pomatoceros</i>)	
Terebellidae		

4. Crustacea (crabs, lobsters, barnacles)

Scientific name	Common name	Notes
Amphipoda		
Balanus sp.	Acorn barnacles	
Cancer pagurus	Edible, brown crab	
Cirripedia	Barnacles	
Galathea sp.	Squat lobsters	
Hippolyta varians		
Homarus gammarus	European lobster	
Inachus sp.	Sponge spider crabs	
Inachus phalangium	Leach's sponge spider crab	
Maja squinado	Spiny spider crab	
Mysidae		
Necora puber	Velvet swimming crab	
Paguridae	Hermit crabs	
Pagurus bernhardus	Common hermit crab	
Palaemon serratus	Common prawn	
Scalpellum scalpellum	Stalked barnacle	

5. Mollusca (snails, bivalves, nudibranchs)

Scientific name	Common name	Notes
Aequipecten opercularis	Queen scallop	
Buccinum undatum	Common whelk, buckie	
Calliostoma zizyphinum	Painted topshell	
Chlamys sp.		
Crimora papillata		
Doris pseudoargus (eggs)	Sea lemon	
Eubranchus farrani		
Facelina auriculata		
Flabellina sp.		
Flabellina lineata (used to be		
Coryphella lineata)		
Flabellina pedata	Violet nudibranch	
Gibbula cineraria	Flat topshell	
Janolus cristatus	Crystal nudibranch	

Scientific name	Common name	Notes
Mimachlamys varia	Variegated scallop	
Mytilus edulis	Edible mussel	
Nassarius sp.	Dog whelk	
Nassarius reticulatus	Netted dog whelk	
Ocenebra erinaceus	Oyster drill, sting winkle, tingle	
Pecten maximus	King scallop	
Pholadidae	Piddocks	
Pholas dactylus	Common piddock	
Polycera faeroensis	Yellow-edged polycera	
Polycera quadrilineata	Lined polycera	
Rissoa parva		
Rocellaria dubia (used to be Gastrochaena dubia)	Shotgun piddock	
Sepia sp.	Cuttlefish	
Sepia officinalis	Cuttlefish	
Trivia	Cowries	
Trivia arctica	Northern cowrie	
Trivia monacha	European cowrie	

6. Bryozoa (sea mats/mosses)

Scientific name	Common name	Notes
Alcyonidium diaphanum	Finger bryozoans	
Bicellariella ciliata		
Bryozoa indet. crusts	Encrusting bryozoans	
Bugula sp.	Spiral bryozoans	
Bugula flabellata		
Bugula plumosa		
Cellaria sp.	Twiggy bryozoans	
Cellaria fistulosa		
Cellaria sinuosa		
Cellepora pumicosa	Orange pumice bryozoan	
Chartella papyracea		
Crisiidae	White claw sea moss	
Ctenostomatida		
Electra pilosa	Frosty sea mat	
Flustra foliacea	Hornwrack	Indicator species
Menbranipora membranacea	Sea mat	
Pentapora foliacea	Ross coral, potato crisp bryozoan	
Scrupocellaria sp.		
Scrupocellaria scrupea		

7. Phoronida (horseshoe worms)

Scientific name	Common name	Notes
Phoronida	Horseshoe worms	
Phoronis hippocrepia		

8. Echinodermata (starfish, sea cucumbers)

Scientific name	Common name	Notes
Aslia lefevrii	Brown crevice/gherkin sea cucumber	
Asteria rubens	Common starfish	
Ophiothrix fragilis	Common brittlestar	
Ophiura albida	White-flecked sand brittlestar	
Psammechinus miliaris	Green sea urchin	

Scientific name	Common name	Notes
Thyone sp.		

9. Tunicata (sea squirts)

Scientific name	Common name	Notes
Aplidium elegans		
Aplidium punctum	Club-head sea squirt	
Botryllus schlosseri	Star sea squirt	
Ciona intestinalis	Yellow-rimmed sea squirt	
Clavelina lepadiformis	Lightbulb sea squirt	
Dendrodoa sp.		
Dendrodoa grossularia	Gooseberry sea squirt	
Didemnidae		
Didemnum maculosum		
Diplosoma spongiforme	Sponge sea squirt	
Distomus variolosus	Baked-bean sea squirt	
Lissoclinum perforatum	White perforated sea squirt	
Molgulidae		
Morchellium argus	Four-spotted sea squirt	
Perophora listeri	Dwarf sea squirt	
Phallusia mammillata		
Polycarpa sp.		
Polycarpa scuba		
Polyclinum aurantium		
Stolonica socialis	Orange sea grapes	
Styela clava	Korean sea squirt	Non-native species
Trididemnum cereum		
Tunicata	Sea squirts	

10. Pisces (fish)

Scientific name	Common name	Notes
Ammotyidae	Sand eels	
Callionymus sp.	Dragonets	
Callionymus lyra	Common dragonet	
Callionymus reticulatus	Reticulated dragonet	
Centrolabrus exoletus	Rock cook	
Ctenolabrus rupestris	Goldsinny	
Gobiidae	Gobies	
Gobius niger	Black goby	
Gobiusculus flavescens	Two-spot goby	
Labridae	Wrasses	
Labrus bergylta	Ballan wrasse	
Labrus mixtus	Cuckoo wrasse	
Microstomus kitt	Lemon sole	
Parablennius gattorugine	Tompot blenny	
Pollachius pollachius	Pollack	
Pomatoschistus sp.	Sand gobies	
Pomatoschistus pictus	Painted goby	
Raja microocellata	Small-eyed ray	
Scyliorhinus canicula	Lesser-spotted cat shark	
Scyliorhinus stellaris (eggs)	Nursehound, bull huss	
Sympodus melops	Corkwing wrasse	
Syngnathus acus	Greater pipefish	
Thorogobius ephippiatus	Leopard spotted goby	

Scientific name	Common name	Notes
Trisopterus luscus	Bib, pout, pouting	
Trisopterus minutus	Poor cod	
Zeugopterus sp.	Topknots	

11. Algae (seaweeds)

Scientific name	Common name	Notes
Phaeophyceae	Brown seaweeds	
Desmarestia aculeata	Landladies' wig	
Dictyopteris polypodioides	Netted wing weed	
Dictyota dichotoma	Divided net weed, brown fan weed	
Halidrys siliquosa	Sea oak (brown), pod weed	
Laminariaceae	Kelps	
Laminaria digitata	Oar weed, tangle	
Laminaria hyperborea	Forest/northern kelp, cuvie	
Saccorhiza polyschides	Furbelows	
Chlorophyta	Green seaweeds	
Chaetomorpha linum	Flax brick weed	
Cladophora pellucida	Pellucid green branched weed	
Ulva	Sea lettuces and gut weeds	
Ulva lactuca	Sea lettuce	
Rhodophyta	Red seaweeds	
Calliblepharis ciliata	Beautiful eyelash, red fringed weed	
Chondrus crispus	Irish moss, carragheen	
Corallinaceae (crusts)	Coralline algae	
Cryptopleura ramosa	Fine-veined crinkle weed	
Dilsea carnosa	Red rags	
Halopithys incurvus	Red sea pine	
Haraldiophyllum bonnemaisonii	Polkadot weed	
Heterosiphonia plumosa	Siphoned feather weed	
Hypoglossum hypoglossoides	Under tongue weed	
Kallymenia reniformis	Beautiful kidney weed	
Meredithia microphylla	Mermaid's ear	
Phyllophora pseudoceranoides	Stalked leaf bearer	
Plocamium cartilagineum	Cock's comb, red comb weed	

Dorset Wildlife Trust (DWT), Brooklands Farm, Forston, Dorchester, Dorset, DT2 7AA; Tel: 01305 264620; Fax: 01305 251120. Registered Charity No. 200222. For more information about DWT, our work and the Seasearch project, please visit www.dorsetwildlifetrust.org.uk or email seasearch@dorsetwildlifetrust.org.uk

Seasearch is a partnership between the Marine Conservation Society (MCS), The Wildlife Trusts, statutory nature conservation bodies and others, co-ordinated nationally by MCS and co-ordinated and delivered locally in England by Wildlife Trust and MCS local co-ordinators. 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

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