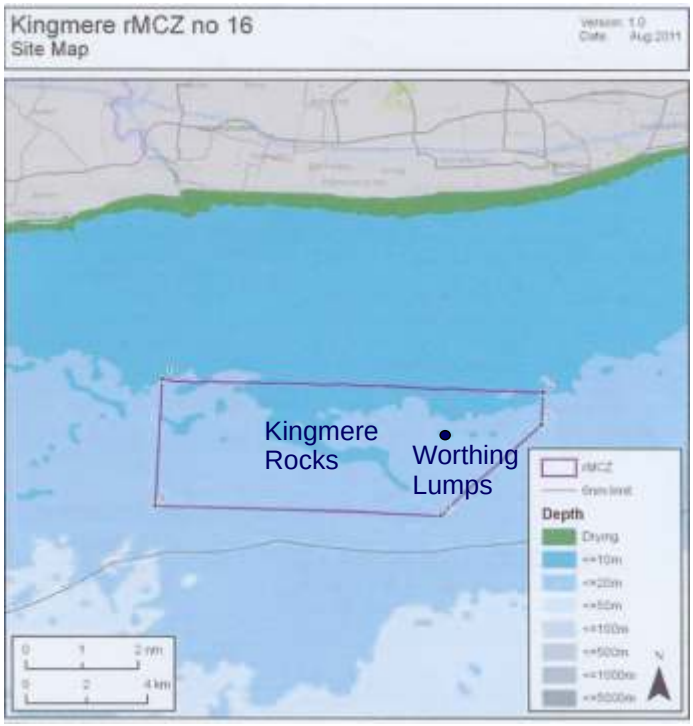
Kingmere draftMCZ, Sussex

Seasearch Site Surveys 2012

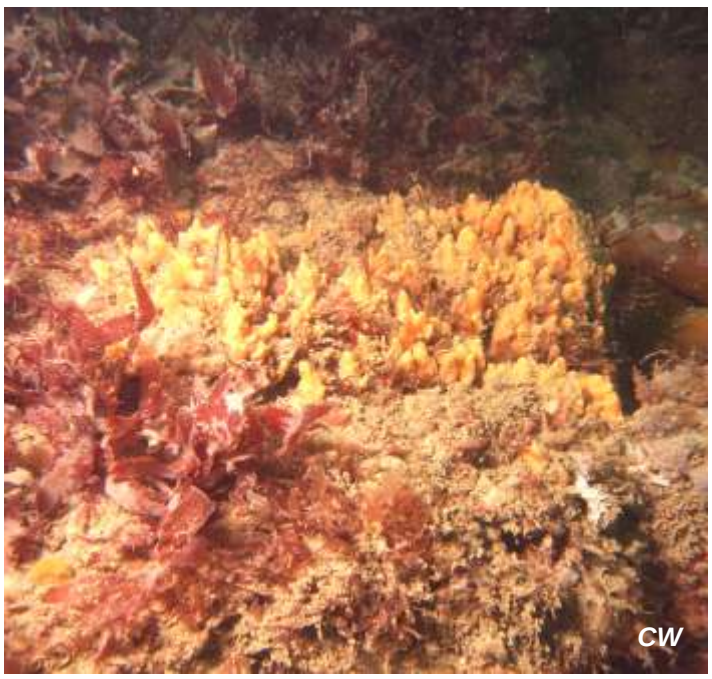
This report summarises the results of a single survey carried out in the proposed MCZ by the Seasearch National Coordinator and members of Worthing Branch of the British Sub Aqua Club in July 2012. The aim of the survey was to add detail of the habitats and species found within the area to support the designation process. Particular attention was paid to the Habitat and Species FOCI identified in the Ecological Guidance on the designation of MCZs. The survey covered one of the two main features of the area, the Worthing Lumps, but unfortunately poor weather conditions prevented surveys of other features within the area.



Physical features of the Area

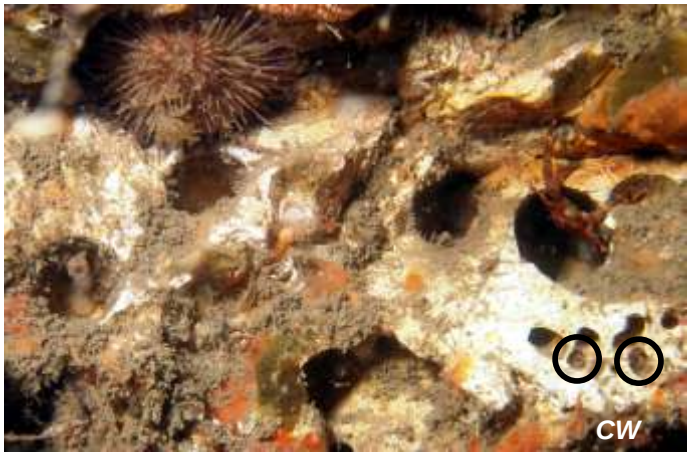
The two main features of the rMCZ are Kingmere Rocks, primarily of interest as a black bream nesting area (surveyed by Seasearch in 2011) and the Worthing Lumps, of importance because of the subtidal chalk habitat and communities.

This survey looked at the Worthing Lumps which had not been re-surveyed in recent years by divers. The feature consists of a low, northward facing chalk cliff, 2m high at the point surveyed but reputedly up to 6m. The vertical cliff face is riddled with piddock burrows (photo above right). At the top of the cliff there is exposed undulating chalk bedrock (right), which gradually becomes covered by mobile sediments as you move away to the south. At the base of the cliff shell debris, mostly slipper limpet shells, collects; whilst away from the cliff there is a seabed of flat rippled sand, giving way to shell, pebbles and flints further to the north.



Features of the marine life

The pitted face of the chalk cliff is caused by the boring action of piddocks, a group of bivalve shells which are typical inhabitants of soft rocks. The shells themselves are fragile and rarely seen but the empty burrows can provide a habitat for a variety of other small animals such as squat lobsters and small purple urchins (right). The siphons of living piddocks, in this case probably the red nose, *Hiatella arctica*, can just me made out bottom right (circled).



The surface of the cliff is reasonably stable and this allows a variety of sessile animals to grow on it. These include colonies of the tiny coral/vermicelli worms, *Filograna implexa* and *Salmacina dysteri* the white masses seen in the photo (right), encrusting sponges and a variety of small hydroids and bryozoans. There are also some larger bryozoans including the potato crisp bryozoan, *Pentapora foliacea*, and pumice bryozoan *Cellepora pumicosa*.

The cliff also provides a habitat for larger animals including lobster (above), edible, spiny spider and velvet swimming crabs. Fish include bib, tompot blennies and topknot.
The photo below shows a Baillon's wrasse, *Symphodus bailloni* in the process of creating a nest out of pieces of bryozoan and red seaweed. This is a rare fish in UK waters as it is a southerly species seen most commonly in Dorset. This is believed to be the first record from Sussex. It can be distinguished from the more common corkwing wrasse by its pink fins and body colouration.

At the top of the cliff, on the undulating exposed chalk rock, there is a low turf of seaweeds and sponges. The dominant seaweed species is fringe weed, *Calliblepharis ciliata*. The non-native leathery sea squirt, *Styela clava* was also present here.

Benefits of Protection:

The Worthing Lumps is the most extensive of the series of chalk cliffs/ledges which run from Brighton to this site. Chalk is a relatively soft rock. It is already prone to natural erosion due to the presence of piddocks and could be easily damaged by trawling or repeated potting or anchoring. The coastal chalk cliffs are justly famous and protected by a number of designations. It is important that some of the underwater chalk cliffs are equally protected. This is the only one of this line of cliffs that has been included in the recommended MCZs. Others, such as South-West Rocks off Shoreham, Looe Gate off Hove and Ship Rock off Brighton, are not recommended for any protection. It is thus particularly important that this site is adequately protected.
The other main feature of the rMCZ, the black bream nests, are a seasonal feature and would not have been there at the time of our survey. However we did observe another rare nesting fish and this heightens the need to protect this site.

This report has been written by Chris Wood based on Seasearch survey records made by Chris Wood and observation records made by Andrew Duff, Phil Lavery and Russell Turner . Photos by Chris Wood . Seasearch would like to thank the volunteer divers for their records and also Worthing BSAC for taking us to the site. Report published by Marine Conservation Society 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 sketch
- biotope list
- species list
- Seasearch recommendations

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

Current proposal

The proposed MCZ contains the Kingmere Rocks in its western part and the Worthing Lumps in the eastern part.

The features proposed for designation are:

Broad Scale Habitats: infralittoral rock and thin mixed sediments

Habitat FOCI: Subtidal chalk

Species FOCI (low mobility): Native Oyster

Non-ENG features: Black Bream

Features within the area but NOT proposed for designation are:

Broad Scale Habitats: subtidal mixed sediments

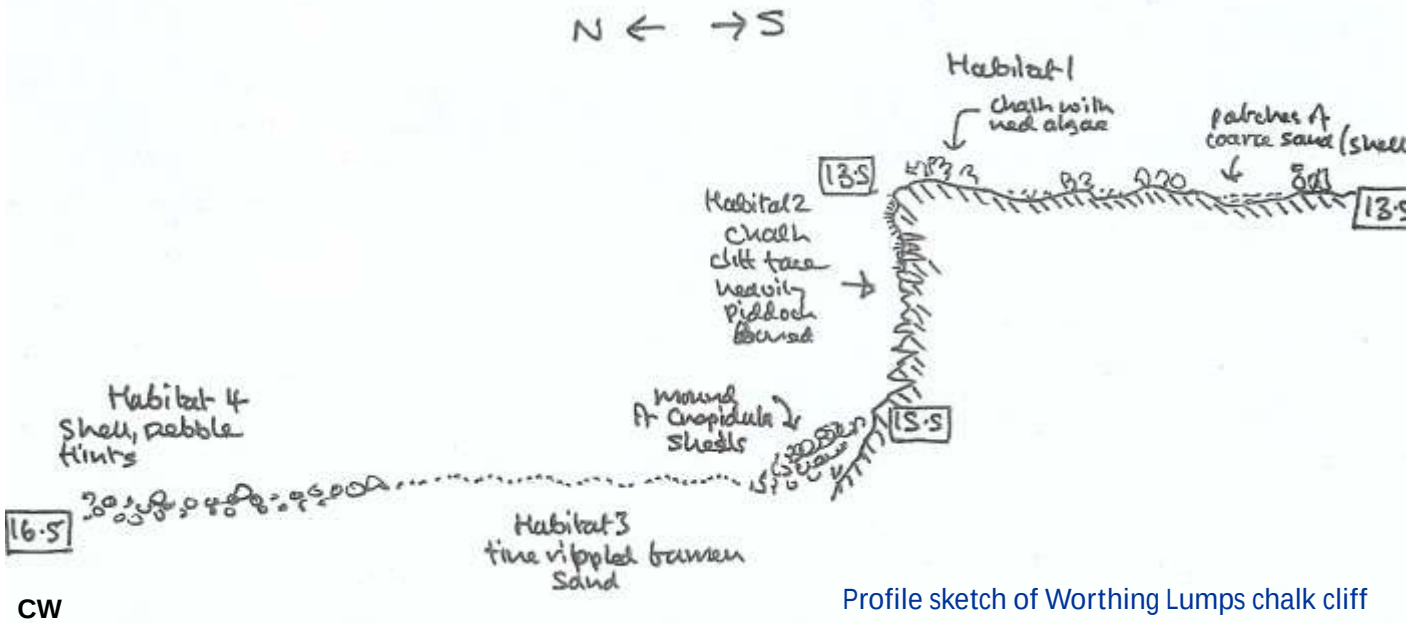
Habitat FOCI: Blue mussel beds, Rossworm, Subtidal sands and gravels

Species FOCI (high mobility): Undulate Ray

Dive Details

8th July 2012. Worthing Lumps. Slack water dive at eastern end of the reef. Habitat, species and photographic records made. Surveyors Chris Wood, Andrew Duff, Phil Lavery and Russell Turner. Position 50° 43.983'N 00°24.789'W, Survey Form NT12/091, Observation Forms NT12/092, NT12/093 & NT12/095

Habitat sketches



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Profile sketch of Worthing Lumps chalk cliff

Sublittoral Habitats/Biotopes recorded

Description	MNCR 04:05 Code	Location
Dense foliose red seaweeds on silty moderately exposed infralittoral rock	IR.MIR.KR.XFoR	Upward facing rock at top of cliff
Hiatella-bored vertical sublittoral chalk/ limestone rock	CR.MCR.SfR.Hia	Chalk cliff face
Infralittoral fine sand	SS.SSa.IFiSa	Base of cliff
Crepidula fornicata with ascidians and anemones on infralittoral coarse mixed sediment and *Crepidula* shells	SS.SMx.IMx.CreAsAn	Off base of cliff

Species List

Scientific Name	Common Name	Abundance	Notes
Porifera	Sponges		
Pachymatisma johnstonia	elephant hide sponge	R	
Tethya citrina	golf ball sponge	O-R	
Suberites ficus	sea orange	R-C	
Amphilectus fucorum	shredded carrot sponge	R-O	
Hymeniacidon perleve		O	
Haliclona simulans		R	
Dysidea fragilis	goosebump sponge	O-F	
Porifera indet.	various encrusting sponges	O-F	
Cnidaria	Hydroids & Anemones		
Tubularia indivisa	oaten pipe hydroid	A	mostly eaten
Alcyonium digitatum	dead men's finger	R-C	
Cereus pedunculatus	daisy anemone	O	
Actinothoe sphyrodeta	white striped anemone	O	
Anemonia viridis	snakelocks anemone	R	
Urticina felina	dahlia anemone	R	
Annelida	Segmented Worms		
Bispira volutacornis	double spiral worm	R-F	
Filograna implexa	vermicelli worm	O-F	
Salmacina dysteri		R	
Pomatoceros sp.	keel worm	O	
Crustacea	Barnacles, crabs and lobsters		
Homarus gammarus	European lobster	R	
Pagurus bernhardus	common hermit crab	R	
Galathea sp.	squat lobster	R	
Maja squinado	spiny spider crab	R	
Cancer pagurus	edible/brown crab	R-O	
Necora puber	velvet swimming crab	O	
Mollusca	Molluscs		
Calliostoma zizyphinum	painted topshell	R	
Crepidula fornicata	slipper limpet	P	also many empty shells
Hinia reticulata	netted dog whelk	O	
Pholas dactylus	common piddock	A	
Hiatella arctica	red-nose piddock	P	
Phoronida	horseshoe worms		
Phoronis hippocrepia		O	
Bryozoa	sea mats and sea mosses		
Electra pilosa	frosty sea mat	F	
Bugula plumosa	spiral bryozoan	O	
Bugula turbinata	spiral bryozoan	R	
Pentapora foliacea	potato crisp bryozoan	R- O	
Cellepora pumicosa	pumice bryozoan	O	
Echinodermata	starfish and sea urchins		
Asterias rubens	common starfish	O-F	
Psammechinus miliaris	purple sea urchin	R-O	

Scientific Name	Common Name	Abundance	Notes
Tunicata	Sea Squirts		
Clavelina lepadiformis	light bulb sea squirt	O	
Pycnoclavella stolonialis	pinhead squirt	R	newly described species
Morchellium argus	pink club sea squirt	R	
Styela clava	leathery sea squirt	O-F	non-native species
Pisces	Fishes		
Trisopterus luscus	bib/pouting	O	juveniles
Aspitrigla cuculus	red gurnard	R	
Labrus bergylta	ballan wrasse	O	
Ctenolabrus rupestris	goldsinny	R	
Crenilabrus/Symphodus bailloni	Baillon's wrasse	R	first Sussex record
Crenilabrus/Symphodus melops	corkwing wrasse	R-F	
Parablennius gattorugine	tompot blenny	R-O	
Thorogobius ephippiatus	*l*eopard-spotted goby	O	
Zeugopterus punctatus	topknot	R	
Algae	Seaweeds		
Corallinaceae	encrusting pink algae	F	
Calliblepharis ciliata	fringe weed	A	
Rhodphycota indet.	various red seaweeds	C	
Dictyota dichotoma	brown fan weed	F	
Saccarhina latissima	sugar kelp	R	
Saccorhiza polyschides	furbellows	R	