



## Beachy Head East recommended Marine Conservation Zone: Seasearch dives (August 2017)

Beachy Head East is a recommended Marine Conservation Zone (rMCZ) which was initially put forward for designation by the Balanced Seas regional stakeholder group in 2011. This site has been recommended to be a candidate Marine Conservation Zone (MCZ) for the UK Government's consultation of the third tranche of designations. With this in mind, Beachy Head East rMCZ was targeted by Sussex Seasearch in order to provide up-to-date habitat and species information.

On 16<sup>th</sup> August 2017, Sussex Wildlife Trust organised and ran Seasearch surveys within this rMCZ, focussing on collecting data on the habitats and species as well as providing evidence of the recommended features. This report details the results of surveys undertaken at two sites within the rMCZ.

### Beachy Head East rMCZ

The rMCZ is a large, inshore area which hugs the coast up to the mean high water line from Beachy Head to St. Leonards, stretching out to just beyond six nautical miles from the coast at its furthest point, covering an area of 193 Km<sup>2</sup>. The area is characterised by the Royal Sovereign Shoals, an area of sandstone reef with chalk outcrops; there are also areas of mixed sediments, sandy sediments, subtidal chalk, and biogenic reef structures.

The Zone also incorporates two protected wrecks, Norman's Bay and The Amsterdam, as well as three Marine Sites of Nature Conservation Importance (SNICs): Beachy Head, the Horse of Willingdon Reef, and the Royal Sovereign Shoals. Marine SNICs were identified by Seasearch divers in two tranches (1996 and 2001).

Only one Seasearch dive had been undertaken with Beachy Head East within the last five years, on the Royal Sovereign Shoals reef. Two alternative sites were therefore selected, one on a separate area of rocky reef ground, the Horse of Willingdon Reef, and another site in an area known to be more mixed sediments, which was named by the volunteers as the Bexhill Mussel Garden; see Figure 1 for general location of dive sites.

### Habitats and their conservation objectives listed in the Beachy Head East MCZ recommendation

#### Broad-scale habitats

|  |          |
|--|----------|
| High Energy Intertidal Rock                | Maintain |
| Infralittoral rock and thin mixed sediment | Maintain |
| Infralittoral rock and thin sandy sediment | Maintain |
| Circalittoral rock and thin mixed sediment | Maintain |
| Intertidal coarse sediment                 | Maintain |
| Intertidal mixed sediments                 | Maintain |

#### Habitat FOCI

|  |          |
|--|----------|
| Blue mussel beds                               | Recover  |
| Littoral chalk communities                     | Maintain |
| Peat and clay exposures                        | Maintain |
| Ross worm ( <i>Sabellaria spinulosa</i> ) reef | Recover  |
| Subtidal chalk                                 | Maintain |

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## Species and their conservation objectives listed in the Beachy Head East MCZ recommendation

|   |          |
|---|----------|
| Short-snouted seahorse ( <i>Hippocampus hippocampus</i> ) | Maintain |
| Native oyster ( <i>Ostrea edulis</i> )                    | Recover  |
| European eel ( <i>Anguilla anguilla</i> )                 | Maintain |

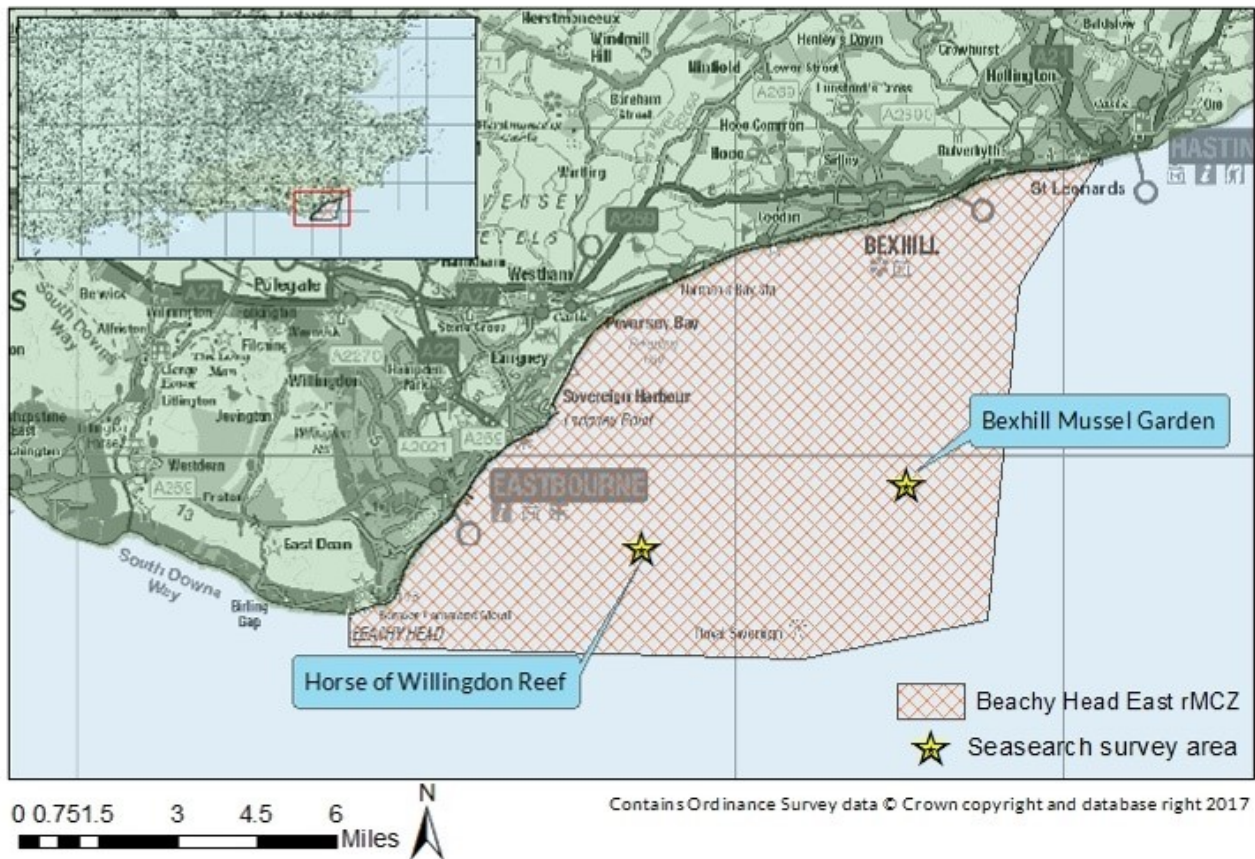


Figure 1: Map of general Seasearch survey locations within Beachy Head East rMCZ

### Bexhill Mussel Garden

At approximately 15 metres depth (below sea level), this site mostly comprised of gently undulating fine sand, with many patches of blue mussels, *Mytilus edulis*. The dive was undertaken as a drift; it was noted that as divers drifted south-westerly, a second habitat comprising of more mixed ground with scattered cobbles and small boulders, became apparent. Additionally, dead men's fingers, *Alcyonium digitatum*, and keel worms, *Spirobranchus* sp., were frequently observed across this site. A range of bryozoans, hydroids and anemones also characterised the area as did an ascidian (*Molgula*) turf.

Other species of interest observed at this site included the ross worm, *Sabellaria spinulosa* (rare to frequent), plaice, *Pleuronectes platessa* (rare to occasional), hermit crabs, *Pagurus* sp. (rare to common), and various spider crabs, including the common spider crab, *Maja brachydactyla* (rare to occasional).

NB. Abundances are recorded against the semi-quantitative [SACFOR scale](#).



Dead men's fingers, *Alcyonium digitatum*, and blue mussels, *Mytilus edulis*. Photo: Francis Jeffcock.



Plaice, *Pleuronectes platessa*, and blue mussels, *Mytilus edulis*. Photo: Bryony Chapman.



Patch of blue mussels, *Mytilus edulis*. Photo: Bryony Chapman.



Ross worm, *Sabellaria spinulosa*. Photo: Charlotte Bolton.

The first habitat, which was very distinctly dominated by *M. edulis*, was assigned the biotope SS.SBR.SMus.MytSS, *Mytilus edulis* beds on sublittoral sediment: this biotope relates to the habitat FOCI 'blue mussel beds'. For the second habitat, the biotope SS.SMu.CSaMu, Circalittoral sandy mud, was assigned, however there was insufficient data to be more specific. Additionally, it is possible that SS.SCS.CCS.PomB, *Spirobranchus triqueter* with barnacles and bryozoan crusts on unstable circalittoral cobbles and pebbles, could also be considered; this biotope would be associated with the broad-scale habitat 'circalittoral rock and thin mixed sediment'. This habitat featured a veneer of mobile sand, meaning that many of the species recorded, including dahlia anemones, *Urticina felina*, and hornwrack, *Flustra foliacea*, were typical of a tide-scoured habitat. A variety of fishes were also present at this site, including red gurnard, *Aspitrigla cuculus*, a ray, *Raja* sp., small spotted catshark, *Scyliorhinus canicula*, and a number of gobies.

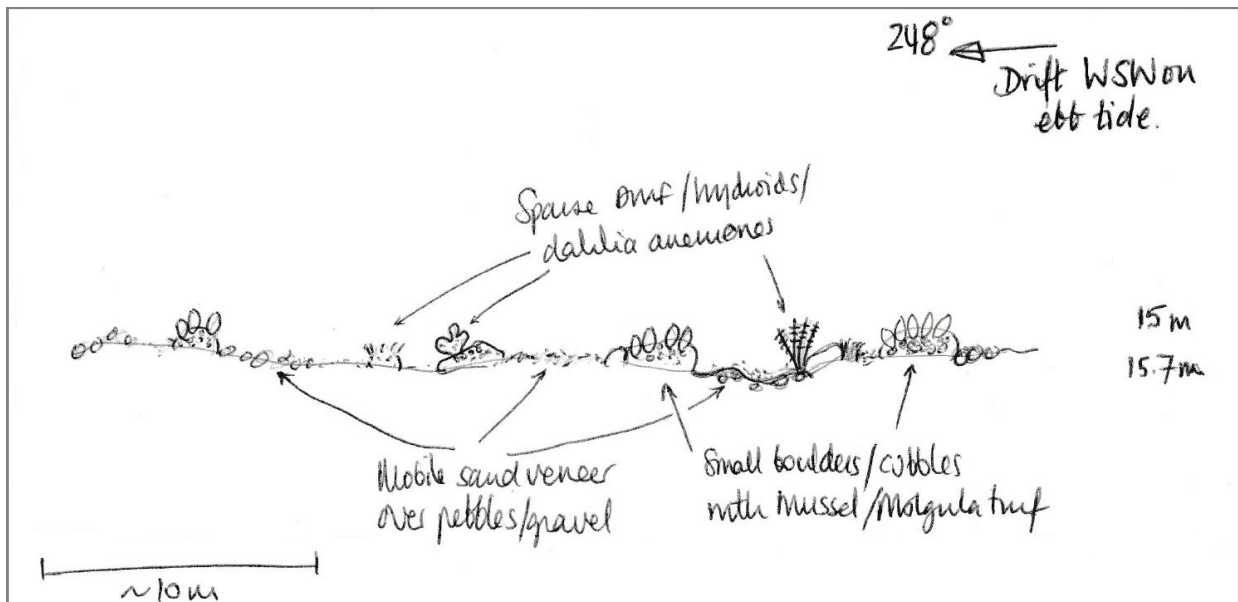


Figure 2: Sketch of Bexhill Mussel Garden survey site by Charlotte Bolton

## Horse of Willingdon Reef

This site is a more well-known area of rocky reef located between approximately 7 and 12 metres depth (below sea level). The rocky reef consists of flattened outcrops with gullies and overhangs with vertical faces up to approximately 0.5 metres in height. Three distinct habitats were established: top surfaces of the reef; reef walls, deeper surfaces and overhangs; and flatter areas with scattered cobbles and pebbles.

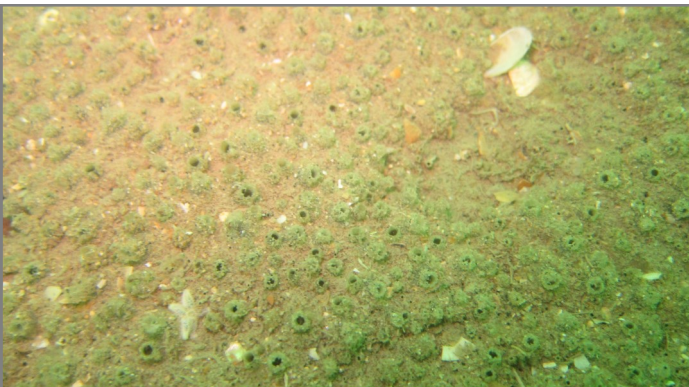
Other species of interest encountered across this site included goldsinny wrasse, *Ctenolabrus rupestris* (rare to occasional), tompot blenny, *Parablennius gattorugine* (rare to occasional), bib, *Trisopterus luscus* (occasional to common), velvet swimming crab, *Necora puber* (rare to occasional), ross worm, *Sabellaria spinulosa* (occasional to frequent), candy striped flatworm, *Prostheceraeus vittatus* (rare), and common starfish, *Asterias rubens* (common to frequent).



Velvet swimming crab, *Necora puber*.  
Photo: Jess Mead.



Red algae, *Rhodymenia holmesii*.  
Photo: Bryony Chapman



Turf of *Molgula* sea squirts.  
Photo: Jess Mead.



Candy striped flat worm, *Prostheceraeus vittatus*.  
Photo: Francis Jeffcock.

The top surfaces of the reef had a covering of silt and fine sand. The dominant communities were the red algae, *Rhodymenia holmesii* (pictured above), and mixed animal turf of various sponges, hydroids and sea squirts. This habitat was assigned the biotope IR.HIR.KFaR.FoR, Foliose red seaweeds on exposed lower infralittoral rock.

The reef walls, deeper surfaces and overhangs were dominated by dense animal turf, including sponges, hydroids, sea squirts and bryozoans. The bryozoans *Chartella papyracea* and *Scrupocellaria* sp. were frequent. This habitat was assigned the biotopes: CR.MCR.EcCr.FaAlCr.Adig, *Alcyonium digitatum*, *Spirobranchus triqueter*, algal and bryozoan crusts on wave-exposed circalittoral rock; CR.MCR.EcCr.FaAlCr.Pom, Faunal and algal crusts with *Spirobranchus triqueter* and sparse *Alcyonium digitatum* on exposed to moderately wave-exposed circalittoral rock; and CR.MCR.EcCr.AdigVt, *Alcyonium digitatum* and faunal crust communities on vertical circalittoral bedrock. These biotopes can be associated with the broad-scale habitat 'circalittoral rock and thin mixed sediment'.

Some of the flat areas of reef were completely dominated by a turf of *Molgula* ascidians, although some areas had scoured rocks and cobbles, where keel worms, *Spirobranchus* sp., were present. The habitat was assigned the biotope CR.HCR.XFa.Mol, *Molgula manhattensis* with a hydroid and bryozoan turf on tide-swept moderately wave-exposed circalittoral rock; the biotope CR.MCR.EcCr.FaAlCr.Pom, Faunal and algal crusts with *Spirobranchus triqueter* and sparse *Alcyonium digitatum* on exposed to moderately wave-exposed circalittoral rock could also be considered.

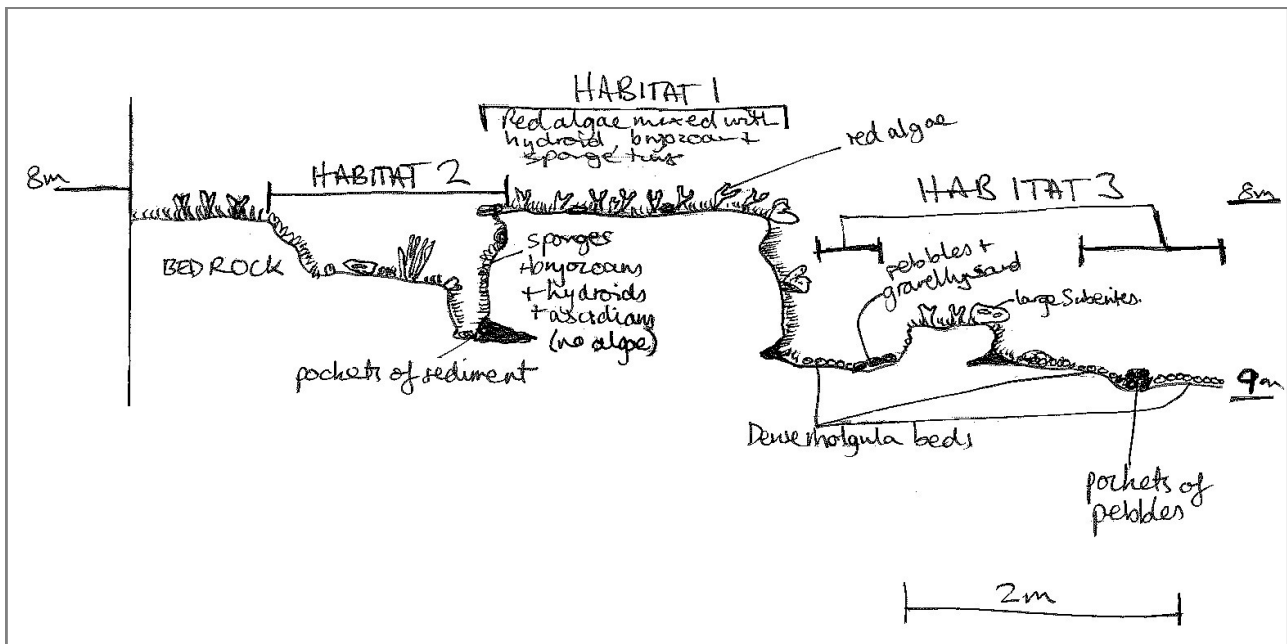


Figure 3: Sketch of Horse of Willingdon Reef survey site by Bryony Chapman

## Summary

The survey at Bexhill Mussel Garden provided evidence of blue mussel, *M. edulis*, beds; it is hoped that the data from this survey and the photographic evidence will illustrate the importance of this area for this significant biogenic habitat - and therefore the importance of its protection.

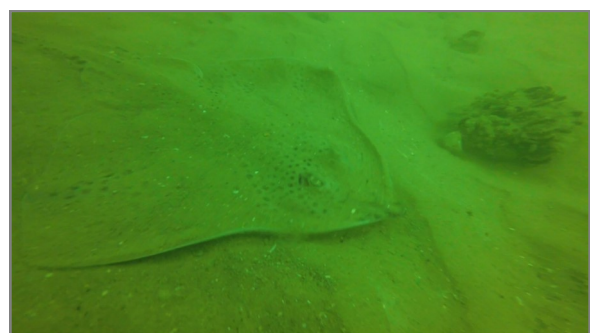
Divers encountered the ross worm, *S. spinulosa*, at both sites, however it was noted that these were generally encrusted on rock, rather than forming three-dimensional reef structures on sediments. *S. spinulosa* reefs are vulnerable and sensitive to physical impacts (such as mobile fishing gear or storms), however given the correct conditions - including a supply of material and no disturbance - they can rebuild and regenerate relatively quickly<sup>1</sup>.

The sites visited were not intertidal, therefore none of the intertidal broad-scale habitats listed in the recommendation for the MCZ were observed. The sites were also not suitable habitat for the short-snouted seahorse, *Hippocampus hippocampus*. Additionally, the European eel, *Anguilla anguilla*, was not encountered; this is a nocturnal species which is unlikely to be active during daylight hours, meaning it may be more difficult to observe on Seasearch dives.

Beachy Head East rMCZ is a relatively large site which encompasses a range of depths and habitats; the rMCZ will continue to be a focus of Seasearch survey efforts in Sussex.



Small spotted catshark, *Scyliorhinus canicula*.  
Photo: Chris Williams



Ray, *Raja* sp.  
Photo: Chris Williams



**Sussex**  
Wildlife Trust

This report has been compiled by Sarah Ward, Living Seas Officer at Sussex Wildlife Trust using data collected by volunteer Seasearch divers on dives organised and run by Sussex Wildlife Trust.

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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 Sussex by Sussex Wildlife Trust.



#### References:

1. Gibb, N., Tillin, H.M., Pearce, B. & Tyler-Walters H. 2014. Assessing the sensitivity of *Sabellaria spinulosa* to pressures associated with marine activities. JNCC report No. 504