

The Fal recommended reference area, Cornwall

Seasearch Site Surveys 2012

This report summarises the results of surveys carried out in the recommended reference by Seasearch divers during 2012. The aim of the surveys was to add detail of the habitats and species found within the area to support the designation process. Particular attention was paid to the maerl and seagrass beds identified as the primary reason for the proposed designation.



Physical features of the Reference Area

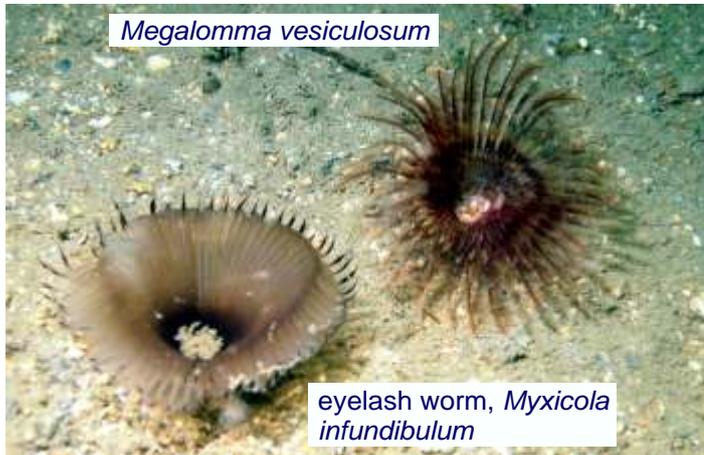
The reference area lies mostly to the east of the Carrick Roads which forms the main deep water channel in the Fal estuary. Most of the area consists of shallow, very gently sloping sediment seabed and this is where the two main features of the reference area, the maerl and seagrass beds are found.

The northwestern part of the reference area (area A above) is within the deep water channel and does not contain important features. However there are likely to be maerl and seagrass both to the west of the proposed area as far as the boundary of the deep water channel (Area B) and to the south of the area again as far as the deepwater channel (Area C). The boundaries appear to have been drawn without adequate reference to the features involved.

Features of the marine life

1. sandy mud slopes

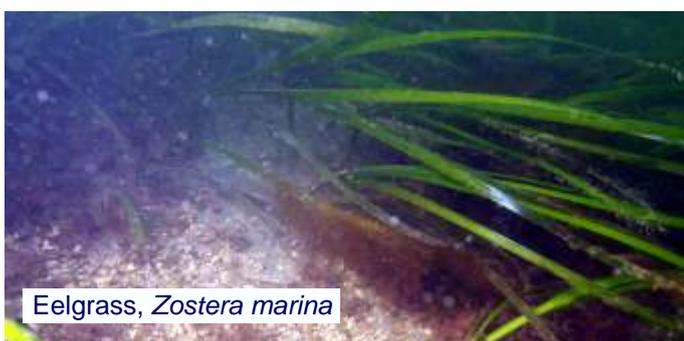
The northwestern part of the RA, adjacent to the deep water channel contains sandy mud with burrowing anemones and tube worms, some of which are shown in the photographs. The area also supports a variety of swimming, spider and hermit crabs as well as small fishes and occasional thornback rays.



Features of the marine life

2. Eelgrass bed

Close to the shoreline there is a band of Eelgrass, *Zostera marina*, a priority habitat. Cuttlefish eggs (right) and adults (lower right) were both present at the time of the survey and eelgrass helps to stabilise the sediment and provide a habitat for a range of marine life which includes anemones, worms, crabs and fishes.



Features of the marine life

3. Maerl bed

The maerl in the Fal contains two species of this very slow growing coralline red algae, *Phymatolithon calcareum* and *Lithothamnion coralloides*. The maerl forms a mat of interlocking loose nodules, the structure of which allows a range of marine animals and other plants to attach to them or live amongst them. It is particularly important in providing an safe habitats for juveniles fish, shellfish and other species. Maerl has been increasingly recognised as a habitat of conservation importance at the UK and international level, both because of the biodiversity it supports and also because it is slow to recover from human impacts such as dredging to use a fertiliser, or dredging for scallops, one of the species that may live amongst them. The photographs show an expanse of maerl in the reference area (top right). The pink colouration shows that the maerl is alive as it bleaches to a dull white if it dies as a result of sedimentation or physical disturbance.

The second image is a close up of a nodule of *Phymatolithon calcareum* showing the three-dimensional structure of stable maerl and the habitat it provides for small creatures.

Both images were taken in the southern part of the reference area (dive 2) where the maerl is abundant and in good condition.

Crabs are frequent inhabitants of the maerl bed. The shore crab, *Carcinus maenas*, burrows into the maerl (below top left), whilst tiny scorpions spider crabs, *Macropodia spp.* are found amongst the filamentous red algae that grows on the maerl itself. Spider crabs are frequent, some using discarded topshells (below bottom left) whilst larger ones can be found in whelk shells, and may accompanied by one or more parasitic anemones, *Calliactis parasitica*. These anemones are not really parasitic as they do not harm the hermit crab, and may provide some additional defence from predators.





Anemones are frequently found in the maerl bed. This is the snakelocks anemone, *Anemonia viridis*



Sponges may encrust around maerl nodules, or form massive growths over the surface like this sulphur sponge, *Suberites ficus*.



The presence of commercial species, such as this queen scallop, *Aequipecten opercularis*, is one of the reasons that maerl is a threatened habitat. This one has clearly been there for some time as it has both an anemone and seaweeds growing on it.



Rays are BAP/FOCI species because of threats to the populations. We observed thornback rays within the reference area (image on page 2) and this spent ray eggcase shows that it is also a breeding ground for them.

Benefits of Protection:

The Fal estuary contains some of the best maerl beds in England and the part proposed to be included in this reference area is stable and in good condition. Complete protection from damaging activities would ensure that this vulnerable habitat remains such a good example of its type. There are already limitations on some of the damaging activities within the area but a higher level of protection would prevent gradual erosion of the habitat and also identify its importance and need to be also protected against damage from activities elsewhere, including pollution and siltation.

The Fal is a busy waterway and supports a wide variety of different commercial and recreational activities. It would be sensible to ensure that a part of this busy area is fully protected from damaging activities for the benefit of the unique habitat it contains.

Whilst wholly supporting the reference area proposal, we would suggest that further thought be given to the boundaries to exclude areas which do not contain priority habitats (Area A) and replace them with areas that do. This would not reduce the size of the reference area. We had hoped to undertake further dives in the areas shown as B and C on the map on the first page of this report. Unfortunately that was not possible due to poor weather conditions on the days selected for the survey. Based on the information we have we would suggest that the eastern side of the deep water channel would provide a better western boundary to the reference area than the straight lines proposed which do not follow physical features. As the majority of potentially damaging activities are boat based a depth contour boundary would be wholly feasible.