## Species Records

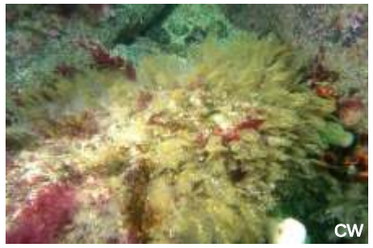
The table to the right shows how many species were recorded in each group and some of the most widely distributed species.

| Phylum | Common Name | Number of species | Common Species | |
|---|---|---|---|---|
| Porifera | Sponges | 16 | Boring sponge | *Cliona celata* |
| Cnidaria | Anemones, corals, hydroids, jellyfish | 22 | Sea beard | *Nemertesia antennina* |
| | | | Dead men's fingers | *Alcyonium digitatum* |
| | | | Red fingers | *Alcyonium glomeratum* |
| | | | Pink sea fan | *Eunicella verrucosa* |
| | | | Jewel anemone | *Corynactis viridis* |
| | | | Devonshire cup coral | *Caryophyllia smithii* |
| Platyhelminthes | Flatworms | 1 | | |
| Annelida | Segmented worms | 9 | | |
| Crustacea | Crabs, lobsters, barnacles | 5 | | |
| Mollusca | Shells, sea slugs, cuttlefish | 9 | | |
| Bryozoa | Sea mats | 8 | Potato crisp bryozoan | *Pentapora foliacea* |
| Echinodermata | Starfish, sea urchins, sea cucumbers | 11 | Seven armed starfish | *Luidia ciliaris* |
| | | | Spiny starfish | *Marthasterias glacialis* |
| | | | Common starfish | *Asterias rubens* |
| | | | Common urchin | *Echinus esculentus* |
| | | | Cottonspinner | *Holothuria forskali* |
| Tunicata | Sea squirts | 8 | | |
| Pisces | Fishes | 22 | Rock cook | *Centrolabrus exoletus* |
| | | | Goldsinny | *Ctenolabrus rupestris* |
| | | | Ballan wrasse | *Labrus bergylta* |
| | | | Cuckoo wrasse | *Labrus mixtus* |
| Algae | Seaweeds | 10 | Cuvie | *Laminaria hyperborea* |
| Angiospermae | Flowering Plants | 1 | | |
| | **Total Species** | **122** | | |

## Sponges

A wide diversity of sponges was recorded. The boring sponge, *Cliona celata* was recorded from most sites and a umber of other typically clear water species such as the hedgehog sponge, *Polymastia boletiformis* and the yellow branching *Axinella dissimilis* were also present.

The cup sponge, *Axinella infundibuliformis,* which is not often seen in the south was recorded from one site, Carn Du.




## Anemones, Corals, Hydroids & Jellyfish

This is the most prominent of the animal groups with large numbers of hydroids, anemones and soft corals on many of the sites. Hydroids dominated many of the horizontal and gently sloping surfaces. The two sea beards, Nemertiesia antennina and N. Ramosa were the most commonly recorded but there were many other s including *Halecium, Hydrallmania* and *Aglaophenia* (above). At Pen Win there was one area where a mass of Tubularia indivisa was being predated by nudibranchs (cover top left).


Amongst the anemones the most surprising find was the white cluster anemone, *Parazoanthus anguicomus* (above) which generally has a northerly distribution in shallow water. The Manacles is one of very few places where both *Parazoanthus* species and *Epizoanthus couchi* occur.

## Crabs and Lobsters

Crabs and lobsters were not common anywhere in the survey area. However it was good to see one spiny lobster, *Palinurus elephas*, as these have become increasingly rare. However this was at one of the 'new' sites and it would probably not survive very long at a site which was regularly dived.

## Molluscs

The May weekend was notable for the number of nudibranchs, as is typically the case in the spring. Two examples of common species are shown on the cover and the nationally scarce sponge nudibranch, Doris sticta, was recorded from the wreck of the Volnay.

## Starfish, Sea urchins and Sea cucumbers

There were a number of starfish present with, common, spiny and seven armed species (below) all recorded from most sites. Grazing sea urchins and cotton spinner sea cucumbers were also present at most sites. Less common were crevice-dwelling sea cucumbers.


## Fishes

The most common fishes in the study area were wrasses with four species found at most sites. Unusual fish sightings included ling, *Molva molva* (cover mid right) and angler fish, *Lophius piscatorius,* both at Pencra Reef and a sunfish, *Mola mola* , at Carn Du.


The table below shows the four species recorded which appear on the JNCC nationally scarce and rare marine species lists. The pink sea fan is especially common at The Manacles and there is one of the densest populations anywhere in the UK at Pencra Reef (Cover bottom right).

Nationally Rare and Scarce species

| Species | Designation | Where found |
|---|---|---|
| **Pink sea fan** | | |
| *Eunicella verrucosa* | scarce/BAP | Most sites. Common. |
| **White cluster anemone** | | |
| *Parazoanthus anguicomus* | scarce | Pen Win. Rare |
| **Sea fan anemone** | | |
| *Amphianthus dohrnii* | rare/BAP | Pen Win & Pinnacle west of Carn Du. Rare |
| **Sponge nudibranch** | | |
| *Doris sticta* | scarce | Wreck of Volnay. Rare |

Nationally rare and scare as defined by JNCC.

This Seasearch survey was organised by Brod Mason as a part of the Marine Conservation Society's Member's Dives Programme.

Surveyors taking part were: Graham Bates, Vicki Billings, Sam Cook, Joana Doyle, Bill & Peter Hewitt, Susan Howson, Steve Hunt, Brod Mason, Darren Murray, Mary & Roy Restell, Chris Stevens, Chris Webb, Karen Williams & Chris Wood.
Boats were provided by Dive Action at St Keverne.
This report has been prepared by Chris Wood and Jean-Luc Solandt. Photographs by Peter Hewitt (PH), Brod Mason (BM) and Chris Wood (CW).

Seasearch is a volunteer underwater survey project for recreational divers to contribute to the conservation of the marine environment. Financial support for the project during 2005/6 and for the production of this summary report has been given by:

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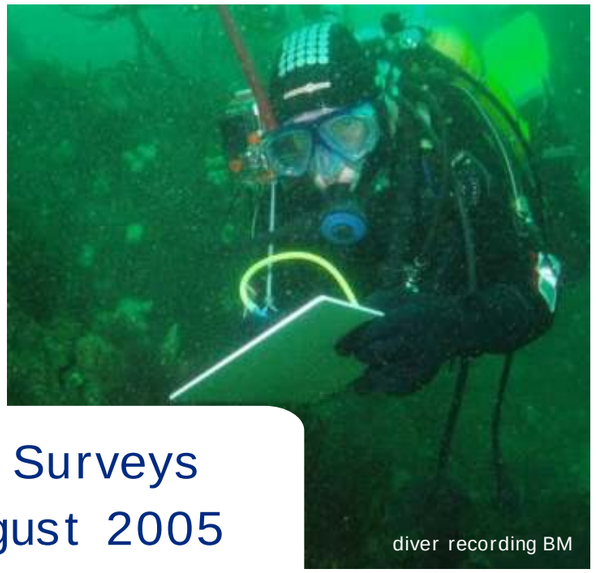



# Manacles Surveys May & August 2005 Summary Report




## Pink sea fan recording


pink sea fan *Eunicella verrucosa* CW

Detailed records were made of 122 pink sea fan colonies at five different sites. Recorders measured the size, condition, colour and the presence of sea fan nudibranchs and anemones. Sea fans formed a dense forest at Pencra Reef and were common on The Volnay, Mohegan, Woodfords Wall and Mason's Mount.

The average condition of the colonies recorded was 3.8 out of 5, a little lower than on surveys in 2001 & 2002 when it was 4.1. We will continue to record conditon in future years to see if there is any trend. 21% of the colonies had nudibranchs, *Tritonia nilsodneri*, present either as adults or egg masses, but sea fan anemones were only seen at Pencra Reef and Pen Win.


CW

## Sea fan anemone *Amphianthus dohrnii*

This anemone is found only on sea fans, both the pink sea fan and northern sea fan, and is nationally rare and a Biodiveristy Action Plan species. Previous studies have shown that the Manacles have the largest number of the anemones and they have been consistently recorded in small numbers at Pencra Reef and Pen Win.

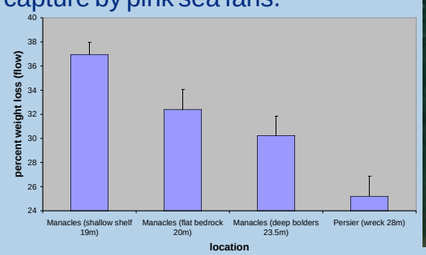
Four sea fans with anemones attached have been marked at pen Win, 3 in 2004 and 1 in 2005 (photo left). We intend to monitor these an other fans with anemones at the site to record any population changes.

## Current flow experiment

A survey was carried out to record relative flow rates between different locations with dense pink sea fan populations to see if there were any significant differences between and within sites. Relative flow was measured by measuring the dissolution rate of plaster of paris blocks over 24 hours (2 complete tidal cycles). Three different places were surveyed at Pencra Reef and one exposed location at 30m on the Persier wreck in Devon.

The results showed significant differences in flow between Manacles depths and habitats (as seen in the chart below). The deeper site showed the lowest weight loss and thus the lowest current flow. The average colony height and width for the shallower population is smaller than for the deeper one and the deeper colonies were in better condition than the shallower ones.

By developing this methodology it may be possible to obtain information on the optimal flow rates for particle capture by pink sea fans.

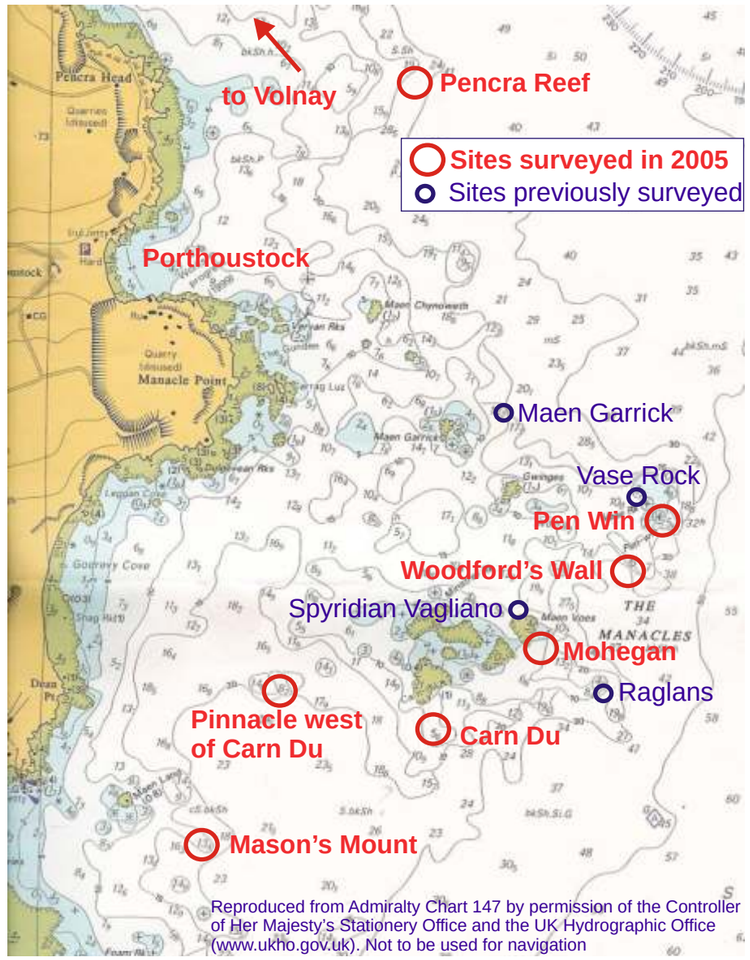




flow monitoring CW

## Surveys undertaken in 2005

This report is of surveys carried out over two long weekends in May and August 2005 by volunteer divers from the Marine Conservation Society. In May the focus was on pink sea fans and the results are summarised to the left. In August two previously un-dived sites are surveyed and these are described to the right. Seasearch Observation and Survey records were made at all of the sites shown on the chart below and the results in terms of species recorded are summarised overleaf.




Reproduced from Admiralty Chart 147 by permission of the Controller of Her Majesty's Stationery Office and the UK Hydrographic Office (www.ukho.gov.uk). Not to be used for navigation

## Spring fever

May is a good month for recording nudibranchs, many of which have a population bloom and are feeding and egg-laying at this time. In addition to the cover image two other species are shown below.


*Flabellina pedata* CW


*Acanthodoris pilosa* laying eggs CW

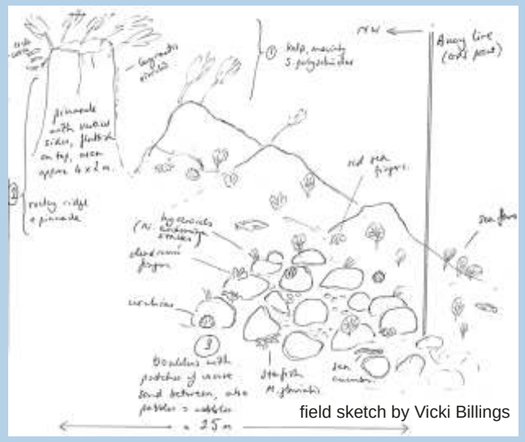
## Pinnacle West of Carn Du


CW

This small pinnacle forms part of the southern edge of the Manacles Rocks and, whilst it is shown on the chart, is not regularly dived.

The pinnacle rises to 7m below chart datum and is about 9m tall with a top of about 8 sq.m. There is kelp forest on the top, mainly *Saccorhiza polyschides*, (furbelows) and jewel anemones dominate the sides. Around the base of the pinnacle were areas of bedrock, boulders and coarse sand.

Pink sea fans were common, together with soft corals and hydroids. Fish, especially wrasse were very common.


field sketch by Vicki Billings

## Mason's Mount

This new site is close to the shore and Dean Quarry and there is a loading jetty for stone close by. It is not surprising that there should be more evidence of human activities here with recreational fishing taking place and a cable drum, tyre and anchors all recorded on the seabed.

The topography includes a bedrock mound rising some 4m from a seabed at 18m below chart datum with boulders at the base. Extending away from the mound was a seabed of clean coarse sand with shell fragments and some whole shells.

The species composition was similar to the pinnacle above but two interesting sightings here were a Yarrell's blenny, *Chirolophis ascanii*, more commonly found in the north and a single crawfish, *Palinurus elephas*.

## Other sites surveyed

In addition to the new sites described to the right, Seasearch records were also made on the wreck of the Volnay which lies in a more sheltered location in Porthallow Bay to the north, around the sea fan survey site at Pencra Reef, on two of the Manacles pinnacles, Pen Win and Woodford's Wall, around the wreck of the Mohegan next to Maen Voes (The Voices) and on the outside of Carn Du, the most prominent of the Manacles rocks. These records have been added to sites previously surveyed in 2003 and 2004 including on two other pinnacles, Vase Rock and Raglans, on flatter reefs near Maen Garrick and the wreck of the Spyridian Vagliano, to the north of Maen Voes.