

Pink sea fan surveys in Devon June/July 2005 Bigbury Bay and Lundy

Two surveys were undertaken with the specific aim of recording the numbers and condition of pink sea fans, *Eunicella verrucosa*, at sites where previous records had shown a declining population. The pink sea fan is a Biodiversity Action Plan species and is one of very few marine species which is protected under the Wildlife and Countryside Act 1981.

In both cases surveyors used the MCS/Seasearch recording methodology which was developed in 2001 and has been used to record pink sea fans at a number of sites throughout the UK.

This is a summary of the findings. A fuller report of all of the studies undertaken in 2003-2005 will be prepared early in 2006.

Pink sea fans in Bigbury Bay

There are a number of known pink sea fan sites in Bigbury Bay. In 1996 the Devon Wildlife Trust carried out a survey as a part of the Marine Nature Conservation Review and in respect of a site south of Wells Rock reported:

"A rich site, important for the exceptional abundance of Eunicella verrucosa."

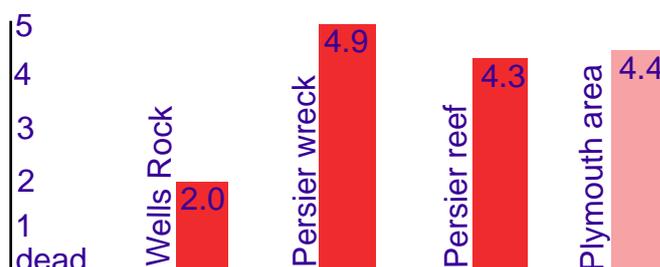
The same site was re-surveyed in 2003 by an MCS team. The report states:

"It is clear that there has been a substantial decline in the numbers and condition of sea fans at this site since 1996."

The report recommended a further survey to look specifically at the pink sea fans and this was the purpose of the survey reported here.

The Wells Rock site was re-surveyed and two record cards were completed providing measured records of 14 sea fan colonies. The number colonies recorded was limited by the small number that could be found and the surveys could have recorded many more had they been present.

To compare with the Wells Rock site, records were made at two other sites about 1km to the west. One was the wreck of the Persier which is well known for its pink sea fan 'forest'. The other was an adjacent reef. The depth and other parameters for these two sites are very similar to Wells Rock. However the status of the sea fan populations is quite different.



A total of 82 colonies were investigated at the three sites. The graph above shows the average condition of the colonies at each site compared with the average condition for sea fans in the Plymouth area (from Wood, 2003). The Wells Rock sea fans are clearly in much worse condition than those nearby and the Plymouth area as a whole.

The density of sea fans at the three sites also varied. On the Persier wreck there was a sea fan 'forest', on the Persier reef sea fans were 'common' but at Wells Rock they were recorded as 'occasional' or 'rare'.

The few remaining sea fans at the Wells Rock site had a spindly growth form and were extensively fouled by other organisms, as in the picture where the base has a hydroid/bryozoan 'turf', there is a large colonial sea squirt in the centre and the whole is bunched up by a dogfish eggcase and tendrils. The remaining branches are very thin.



References:

- 1995-97 DWT Yealm Head to Start Point sublittoral survey. JNCC Mermaid database. www.jncc.gov.uk/mermaid
- Wood, C. (2003) Pink sea fan survey 2001-2. Marine Conservation Society.
- Wood, C. (2003) South Devon Seasearch Survey, July 2003. Marine Conservation Society.
- Trving, R. & Northen, K. (2004) Report of the MCS Working Parties to Lundy 1997-2001

Pink sea fans at Lundy

Pink sea fan recording was one of a number of studies carried out by MCS divers on Lundy between 1997 and 2001. These studies showed a declining situation between 1999 and 2001 and comparison with sea fan populations elsewhere in 2001-2002 showed the Lundy population to be in the worst condition. The aim of the current studies was to repeat the 2001 records to see if populations had continued to decline.

On the west coast sites at Battery Point and Dead Cow Point were surveyed. On the east coast records were made at Gull Rock and Brazen Ward/Knoll Pins. A fifth site which had been surveyed in 2001 was not visited due to lack of time and tidal constraints and it is hoped to revisit this site later in the summer.



In some cases there was a dead area in the centre of the colony and healthy growth at the extremities (see left). It is possible that this represents new growth after a period of poor health some years ago. If so it is a healthy sign.

Very few sea fan nudibranchs, *Tritonia nilsodhneri*, were present with adults or eggs on 7.5% of colonies. This compares with 20% in 2001. A single egg cowrie, *Simnia patula*, was observed and it seems unlikely with such small numbers that this mollusc has a significant effect on sea fan health.

Sizes of colonies were very varied with new single stalks 5cm tall to colonies over 50cm wide. Generally colonies were wider than they were tall and there were a number with an unusually flat growth form.



The results show that there has been an improvement in the overall condition of the population since 2001. The improvement is greatest at the east coast sites. However an average condition score of 3.1 is still lower than any of the other area scores in the MCS 2001-2 survey.



The main fouling organism on the fans was a slity hydroid/bryozoan turf which can be seen covering most of the colony above. Other growth on fans included dead men's fingers, potato crisp bryozoan (see above), sponge and *Bugula sp.* bryozoans. Dogfish egg cases were found on a number of colonies and one had squid egg masses attached. On the west coast a number of fans had angling line wrapped around them. This attracts silty debris and can break off colonies or parts of them.

Preliminary conclusions

Both surveys were targeted at areas where pink sea fan populations were already known to be suffering significant problems. The condition tables presented here do not reflect the condition of sea fan populations as a whole.

In both cases sea fans have suffered high levels of mortality and fouling. The Wells Rock population appears to have been decimated and is currently in a very poor condition. It is unclear whether the huge reduction in numbers at this site since 1996 is due to human interference or natural causes. There are a good number of other mature species at the site,

such as potato crisp bryozoans and boring sponges, which suggests that physical damage may not be an issue.

On Lundy there are many standing dead colonies which also rules out physical damage as a major cause of deterioration, though angling is an issue on the west coast.

Some form of viral infection has been suggested as a possible culprit. Certainly the spindly and unhealthy growth form of some colonies at Wells Rock appears to suggest disease. If this is so it has not spread to the important nearby populations.

The sea fan surveys were organised as a part of the Marine Conservation Society's Member's Dives Programme.

Surveyors taking part in the sea fan surveys were: Chris Webb, Chris Wood, Ellie Hardman, Sally Sharrock and Susan Howson. We would like to thank Deep Blue Diving and Andrew Bengoy and crew of Obsession for putting us on the sites. Text and photographs by Chris Wood..



Seasearch is a volunteer underwater survey project for recreational divers to contribute to the conservation of the marine environment. Financial support for the pink sea fan project has been given by English Nature.