SUMMARY REPORT OF THE MARINE CONSERVATION SOCIETY'S DIV-ING WORKING PARTY TO LUNDY MNR, 18-23 JULY 1999

By

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ABSTRACT

Various conservation SCUBA diving projects are described which were undertaken within the Marine Nature Reserve by volunteers from the Marine Conservation Society during their visits to the island between 19-23 July 1999. Keywords: *Marine Nature Reserve, Diving, Conservation.*

INTRODUCTION

A group of 12 volunteer divers (all members of the Marine Conservation Society) visited the Lundy Marine Nature Reserve to undertake a number of sublittoral conservationorientated tasks from 18-23 July 1999. Unforeseen circumstances led to the late cancellation of the liveaboard vessel we were due to stay on, so we made a daily crossing to the island from Clovelly aboard the charter boat *Sally Port*. The crossing between Clovelly and the island took between 1-2 hours each way (depending on sea conditions). Sadly this meant we lost up to 4 hours each day travelling back and forth. The weather was so bad on the 21st that we decided to stay on dry land and head for the National Aquarium at Plymouth instead! Consequently, only 4 days were available for diving.

The tasks undertaken during the week were decided upon in consultation with English Nature HQ (Peterborough), the country agency responsible for the management of the Marine Nature Reserve (MNR), and the MNR Warden, Liza Cole. Many of the projects were a continuation of work undertaken in previous years (see Irving *et al.*, 1995, Irving, 1996, & Irving & Northen, in prep.).

This paper is a summary of the main expedition report, a copy of which will reside with the Lundy Field Society upon completion. The proportion of available time spent on any one project and the degree of that project's completion was determined by a number of constraints such as the weather, the state of the tide (determining currents), the expertise of personnel and the time available.

PROJECTS

The main projects undertaken by the group are summarised below:

a RETRIEVAL OF DATA LOGGERS ON THE WRECK OF THE MV ROBERT The two temperature/depth data loggers (of different manufacture) were originally positioned in August 1997 on the wreck of the MV *Robert* at 17.5m depth below chart datum off the east coast by the MCS diving group. These have gathered data every 4-6 hours ever since, one model for a maximum recording period of 10 months and the other for 5 years. During this visit, they were retrieved on 19th July, downloaded onto Liza Cole's computer and repositioned three days later. When lifted, the outer casings of both were heavily encrusted with keelworms, saddle oysters and encrusting bryozoans. Sea water temperatures had been recorded from 17 August 1998 (when they were last downloaded) until 18 July 1999. During this period the maximum temperature recorded was 16.9°C on 31/8/98 (with readings of 16.7°C occurring regularly between 17/8 to 12/9), and the minimum temperature was 8.4°C (from 6-14/2/99).

b CHECKING THE CONDITION OF SEA FANS AT SITES OFF THE EAST COAST AND COUNTS OF THE NUDIBRANCH *TRITONIA NILSODHNERI* ON SEA FANS The size and condition of individual *Eunicella verrucosa* sea fans was noted at three main sites off the east coast: north of Quarry Beach, Gull Rock and Brazen Ward. In addition, the numbers of the small, cryptic nudibranch *Tritonia nilsodhneri* (and its egg strings) on the sea fans were also noted. The results are set out in Table 1.

No *Amphianthus dohrnii* anemones (a particularly rare species associated with *Eunicella verrucosa* sea fans) were found on any of the sea fans inspected. (One specimen had been found on a fan near Gannets' Rock in 1995, but this area was not re-surveyed this year).

c SEARCHING FOR VARIOUS 'RARE' WARM-WATER SPECIES

During our dives we were asked to look out for a number of 'warm water' species which may only get to the island if conditions are favourable - typically after a period of higher than average water temperatures. However, no indication of the presence of any of the following was found:

Greilada elegans nudibranch, *Zanardinia prototypus* brown alga, *Amphianthus dohrnii* anemone, *Palinurus elephas* crawfish (probably present but only in small numbers in deep water), *Hippocampus* spp. seahorses, *Zeus faber* John Dory, *Asparagopsis armata* red alga, *Cepola rubescens* red band fish (known to be present).

d ASSESSING THE TOTAL NUMBERS OF YELLOW CUP CORALS AND THEIR 'CONDITION' AT THE KNOLL PINS & GANNETS' ROCK PINNACLE

A count of yellow cup corals *Leptopsammia pruvoti* was made at the Knoll Pins and also at Gannets' Rock Pinnacle, though the coverage of the latter site was incomplete. *L. pruvoti* is a particularly rare cup coral which is only found at a handful of sites in south-west Britain. The results of these counts are set out in Table 2.

This is the first time such a count of individual cup corals has been attempted at Lundy. These two sites are the main areas where yellow cup corals are known to be present around the island, though clusters have also been reported from elsewhere (including a site off the west coast, K. Hiscock, pers. comm.). Several small individuals were found at both sites measuring between 3-5mm in diameter. Presumably, these are relatively new

recruits, which is encouraging to note. It is proposed that this task be continued next year, eventually providing a total for the whole island.

In addition to counting the total number of individuals, the 'colonisation' of each by both the horseshoe worm *Phoronis* and the epizooitic barnacle *Boscia* was also noted. Whilst the number of barnacle-infected individuals remained about the same as in 1998, there was no sign at all of *Phoronis* at either site.

e SCALLOP COUNTS

During June 1999, a group of divers had reported finding scour marks on the muddy gravel sea bed off the Landing Bay. It was suggested at the time that these may have been caused by a bottom trawl or a scallop dredge - the use of which are prohibited within this area of the Marine Nature Reserve. Two dives were undertaken in the approximate locality to look specifically for scallops *Pecten maximus*, but none were found. However, this result may not indicate that the area had been 'fished out'. It is more likely that the dives were not on the exact site. Also, it is recognised that the density of scallops varies considerably within the large area in which they are found.

A further search for scallops was undertaken a little offshore from the Knoll Pins, an area recommended as being a good scallop ground. Here a total of 8 scallops were found within an area of 380m². This figure is still very low.

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	N. QUARRIES	GULL ROCK	BRAZEN WARD
Total no. of sea fans inspected	77	55	7
Depths (BCD)	9.9 - 13.0 m	12.4 - 14.7 m	11.6 - 12.5 m
Mean condition score* (& range)	3.7 (1-5)	3.6 (2-5)	3.2 (2-5)
Presence of T. nilsodhneri	29%	38%	43%
Presence of <i>Tritonia</i> egg strings	13%	25%	29%
* Condition score: $1 = >80$ 4 = <20	% cover of weeds % cover	2 = 80-50% cover 5 = <5% cover / prist	3 = 50-20% cover

Table 1: The numbers of sea fans inspected and their overall condition from three east coast sites.

<u>KNOLL PINS</u> N. side of canyon (between Outer and Submerged Pin)	No. of cup corals 127
S. side of canyon	220
E. & S. side of Outer Pin (above 20m)	193
E. & S. side of Outer Pin (below 20m)	0
E. & N. side of Submerged Pin	_16
Total	556 (+/- 20)
GANNETS' ROCK PINNACLE SE. & E. side of Pinnacle (to & including cave @ 24- 28m BCD), above 30m BCD	4 (all within cave)
From base of cliff on NE side, south & eastwards	187
From base of cliff on NE side, north & westwards	<u>?68</u>
Total	259 (+/- 20)

Table 2: Numbers of *Leptopsammia pruvoti* cup corals counted from two locations off the east coast.