SUMMARY REPORT OF THE MARINE CONSERVATION SOCIETY'S DIVING WORKING PARTY TO LUNDY MNR, 28 JUNE -3 JULY 1998

By

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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 conservation-orientated tasks from 28 June-3 July 1998. This was the fourth year that such a group has dived at Lundy. The group stayed on the liveaboard hardboat *Pride of Bristol*, which acted as the main diving vessel. The diving party also had use of the Warden's RIB which allowed the group to split in two, diving at more than one site at the same time. Staying on a liveaboard allowed more time to be dedicated to diving and writing up of projects on board than would have been the case if the group had stayed on the island.

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 and Irving & Northen in prep.). This paper is a summary of the main expedition report (Irving & Northen in prep.), 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 (which determined slack water periods), the individual expertise of the personnel, and time.

PROJECTS

The ten projects undertaken by the group are summarised below.

1. DEPLOYMENT OF DATA LOGGERS ON THE WRECK OF THE MV *ROBERT* AND IN THE LANDING BAY

In 1997, two temperature/depth data loggers (of different manufacture) were positioned on the wreck of the Mv *Robert*, and two were set on a mooring chain in the Landing Bay. These gathered data every 4-6 hours, one model for a maximum recording period of 10 months and the other for 5 years! Unfortunately, in May 1998, the two units attached to the mooring chain in the Landing Bay were found to be missing. However, the two on the Mv *Robert* were still present. These were lifted in May, downloaded, temporarily 'parked' on the seabed in the Landing Bay for a few weeks, and then re-positioned on the Mv *Robert* at the beginning of

July 1998. Over the period of study (13th August 1997 - 5th May 1998), the maximum recorded temperature was 17.3°C, the minimum 8.3°C and the average 12.3°C.

2. CHECKING THE CONDITION OF SEA FANS *EUNICELLA VERRUCOSA* OFF THE EAST (& WEST) COASTS AND COUNTS OF THE NUDIBRANCH *TRITONIA NILSODHNERI* ON SEA FANS

The size and condition of individual fans was noted when they were encountered on dives off both the east and west coasts. The nudibranch *Tritonia nilsodhneri* (and/or their egg masses), which feeds on the polyps of the sea fan, were searched for, but none were found.

3. ASSESSING THE DENSITY OF 'DELICATE' SPECIES IN NEAR-SHORE AREAS OFF THE EAST COAST

An assessment was made of the numbers of branching sponges, sea fans and Ross 'coral' within a given area, on the near-shore boulder slope off the east coast between the northern end of the Quarries and the south of Gull Rock. Counts were undertaken within 10 m x 10 m quadrats at four sites. The greatest density of the 'target' species occurred at the site closest to Gull Rock. The density of erect sponges at 13.4 - 15.2 m depth BCD, was found to be particularly high (at 21.1 individuals per 10 m²). This area also had the highest concentration of Ross 'coral' *Pentapora foliacea* (at 6.6 individuals per 10 m²).

4. DESCRIBING THE SEA BED TOPOGRAPHY AND BENTHIC COMMUNITIES TO THE NORTH OF GANNET'S ROCK

Using *Seasearch* recording methodology, a steeply sloping bedrock area close inshore (known locally as 'Pete's Pinnacle') was mapped between Gannets' Rock and the NE point of the island. This involved describing the main seabed features and the communities present on various habitats within this area.

5. CHECKING FOR THE PRESENCE OF PHORONID WORMS AROUND THE BASES OF CUP CORALS AT THE KNOLL PINS AND GANNET'S ROCK

Individual yellow cup corals *Leptopsammia pruvoti* and Devonshire cup corals *Caryophyllia smithii* were inspected at these sites, noting the presence/absence of boring phoronid worms (*Phoronis* sp.) and the presence/absence of the epizooitic barnacle *Boscia anglica*. It is suggested that the presence of these species in intimate association with *Leptopsammia* may adversely affect the corals, causing some individuals to die prematurely. Infestation by both the phoronids and the barnacles appeared to be localised, being widespread in some isolated clusters of cup corals but absent from others. The results of inspection of *Leptopsammia* individuals from three sites are given in the table below:

Site	% bored by <i>Phoronis</i>	% with Boscia	% with one Boscia	Maximum no. of Boscia on one coral
Knoll Pins	7% Leptopsammia	16%	12%	5
Gannet's Rock Pinnacle	9%	59%	18%	6
Pinnacle NE of Gannet's Rock	0%	6%	0%	8

Table 1: Occurrence of Boscia anglica on Leptopsammia.

1. CHECKING THE DENSITY OF SCALLOPS ON MUDDY GRAVEL OFF THE EAST COAST

The number of scallops *Pecten maximus* within a given area was assessed in order to provide some baseline information for these shellfish, which may still be taken by divers but whose capture by bottom dredging gear has been banned since 1972. Very few scallops were encountered during the drift dives, but this probably is an indication of unsuitable substratum rather than low numbers.

2. RE-LOCATION OF A 'NEW' LEPTOPSAMMIA SITE ON THE WEST COAST

Sadly this task was unsuccessful. The discovery of a number of yellow cup corals *Leptopsammia pruvoti* off the west coast in 1996 was of great interest, as it had been thought that this rare coral preferred the shelter of east coast sites. However, the exact marks of the 'new' population were not taken at the time of its discovery, and several dives in both 1997 and 1998 have failed to re-discover the site.

3. CHECKING THE MAXIMUM DEPTH OF KELP AT VARIOUS SITES

The maximum depth limit of the kelp *Laminaria hyperborea* was checked at sites dived for other reasons, as a continuation of previous studies linked with turbidity measurements.

4. SEASEARCH RECORDING OF SEA BED HABITATS FROM VARIOUS SITES A number of dives were undertaken to record sea bed habitats and communities using SEASEARCH methodology from several sites centred on Jenny's Cove on the west coast.

5. SEARCHING FOR VARIOUS 'RARE' WARM-WATER SPECIES AND SEA HORSES

On all dives, members of the group were asked to look out for migrant species brought in on warm water currents from the continent, as sea temperatures around the whole south-west peninsula were slightly higher at the time than the norm. Unfortunately, none of these 'exotics', including sea horses, were found.

ACKNOWLEDGEMENTS

We should like to thank our fellow divers who joined the trip as part-working party and partholiday:

Bryony Chapman, John Heath, Robert Irving, Jack Laws, Jane Lilley, Brod Mason, Chris McTernan, Kate Northen, Sally Rogers, Val Shepherd, Ed Smith and Roy Waller. Thanks also to Dr Paul Gilliland (English Nature's HQ Maritime Team) and Roger Covey (EN's Marine Officer in the southwest) for assistance in planning the work programme; Rob Walton and Jo Crix (EN Devon Team), for financial assistance; and Liza Cole, Lundy Warden, for all her advice and helpfulness.

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