

## SUMMARY REPORT OF THE MARINE CONSERVATION SOCIETY'S DIVING WORKING PARTY TO LUNDY, 22-29 JUNE 1996.

By

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### INTRODUCTION

During a week long visit to Lundy from 22-29 June 1996, a party of eight volunteer divers, all members of the Marine Conservation Society (MCS), undertook a number of sublittoral nature conservation projects within the Marine Nature Reserve (MNR). The projects were decided upon in consultation with English Nature (Peterborough), the country agency responsible for the management of the MNR, and the MNR Warden, Emma Parkes. This continued the work started in 1995 by another MCS group of divers (see Irving *et al.* 1995). The divers were of mixed diving experience (though all were of sports diver grade or above), and of mixed marine biological expertise. The trip was organised as part-working party and part-holiday. Volunteers were given the opportunity to learn certain underwater survey techniques whilst making a positive contribution towards the effective management of the MNR.

Sites visited were mostly off the island's east coast, though visits were made to the west coast on two days when the sea was calm enough. Diving operations were carried out from one large (5.0 m) and one smaller (3.5 m) inflatable boat. Unfortunately, our visit coincided with a phytoplankton bloom (dominated by *Phaeocystis* spp.) which severely reduced the underwater visibility to around a maximum of 3 m, hampering some of the observational tasks. This paper is a summary of the main expedition report (Irving 1996), a copy of which resides with the Lundy Field Society.

### PROJECTS

The six projects undertaken by the group are summarised below.

#### 1. CONTINUATION OF MAPPING THE DISTRIBUTION OF SEA FANS *EUNICELLA VERRUCOSA* OFF THE EAST COAST AND COUNTS OF THE NUDI-BRANCH *TRITONIA NILSODHNERI* ON SEA FANS

This project, started in 1995, aimed to assess the extent and density of sea fans off the island's east coast. In addition, the condition of each sea fan encountered was noted, together with the presence/absence of the small cryptic nudibranch *Tritonia nilsodhneri*. The main survey areas were on the south side of Gannets' Bay, off the Mousehole and Trap, and on the south side of Quarry Beach. The highest proportion of 'clean' fans (i.e. free of loose weed and/or mermaid's purses) was found along the Brazen Ward to S. Gannets' Bay section of coast. A total of twenty-eight individual *T. nilsodhneri* were found on an average of 19% of the sea fans inspected. Though no *T. nilsodhneri* were found in 1995, nudibranch populations are known to vary considerably from year to year, and this figure is comparable with densities noted in previous years. One individual of the rare sea anemone *Amphianthus dohrnii*, typically found on *Eunicella*, was found in S. Gannets' Bay, as had been recorded in 1995.

#### 2. ASSESSING THE IMPACT OF LOBSTER/CRAB POTS ON THE WEST COAST BENTHOS

Unfortunately, time limits restricted the extent of this project, so it remained incomplete and few conclusions can be drawn from it. A total of four dives were made on pots set off Battery Point, near Pilots' Quay and on the south side of Shutter Point. Observations were made of the seabed type, the attached marine life in the vicinity thought to be vulnerable, and whether or not there were signs of this being damaged by the deployment of the pots. Of a total of eleven pots inspected, the only damage noted was to three erect bryozoan colonies of *Pentapora foliacea* and to one erect sponge *Axinella* sp. This was considered to be relatively little considering the number of potentially vulnerable species in the

vicinity (such as *Eunicella verrucosa*, *P. foliacea* and other erect sponge species). It was concluded that further studies would allow for a better assessment of the situation.

### 3. RECOVERY OF DATA LOGGER FROM THE WRECK OF THE MV ROBERT

On 9th June 1995, a 'Tinytalk' automatic data logger (measuring variations in sea water temperature) was tied in place at 23 m depth on the wreck of the MV *Robert*, which lies approximately 1 km off Tibbetts Point. Another logger was attached to a mooring chain in the Landing Bay. Both of these units were recovered after twelve months in order to download their data, but to our great disappointment, we were later informed that both units had flooded and that the data was unrecoverable. English Nature intend to repeat the exercise next year using more robust units.

### 4. BENTHIC LITTER SURVEY OF THE LANDING BAY

This survey was requested by English Nature to see if there was any evidence of items being thrown overboard from boats moored in the Landing Bay. Three dives were undertaken, each following set compass courses and using a swimline search technique. However, no litter items of any significance were found. This is not particularly surprising: small, lightweight items are likely to be swept around the bay during the tidal cycle (especially on spring tides when currents are stronger), and even out into deeper water. Heavier objects can quickly become buried by sand.

### 5. RE-PHOTOGRAPHING CIRCALITTORAL CUP CORAL COMMUNITIES AT THE KNOLL PINS

The Knoll Pins, located just north-east of Tibbetts Point on the east side of the island, is the richest site on Lundy for Mediterranean-Atlantic species of high nature conservation interest. In particular, there are large numbers of the rare yellow cup coral *Leptopsammia pruvoti* and also of the Devonshire cup coral *Caryophyllia smithii* at one location in a canyon between two of the Pins. This site was first photographed for monitoring purposes in 1983 and has been re-photographed on a number of occasions since. A further set of close-up photographs was taken of the site on 26 June 1996, though no attempt was made to analyse the numbers or size of the cup corals present.

### 6. CHECKING ALGAL DEPTH LIMITS AT THE KNOLL PINS

In recent years there has been a growing interest in the varying levels of turbidity within coastal waters. However, little baseline data is available, particularly from biological indicators (such as algae) rather than physical ones (such as suspended sediment loads). The maximum depth at which certain algal species can grow to is thought to provide a reasonable indication of water clarity over a period of time. Measurements of algal depth limits have been taken from the Knoll Pins in the past, so this exercise was a continuation of previous work. The maximum depth limit of kelp was found to be 9.2 m (bcd) and that of foliose red algae to be 21.9 m (bcd). These measurements compare well with those taken in previous years, though it is not yet possible to conclude that this indicates turbidity levels are stable.

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### REFERENCES

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