

PREFACE

This report is based on an intensive ten-week survey and analysis by the scientific staff of the Plymouth Laboratory of some biological consequences resulting from the release of 117000 tons of crude oil from the tanker 'Torrey Canyon' which, on 18 March 1967, was wrecked on the Seven Stones reef 15 miles from the Land's End of Cornwall.

The measures adopted by British authorities in dispersing oil at sea, and in the cleansing of the rocks and beaches along the 140 miles or so of the Cornish coastline invaded by oil during the week-end of 26-28 March, relied almost entirely on the liberal application of oil solvent/oil emulsifier mixtures (detergents). Detergents are toxic to marine organisms, and some 2½ million gallons (more than 10000 tons) of detergents were used during the 'Torrey Canyon' operations. The greater part of this report is therefore concerned with the effect of detergents on marine plants and animals as revealed by field observations and laboratory experiments.

It was not the intention initially to include non-biological aspects of the 'Torrey Canyon' spillage within the Plymouth programmes. But the need to know the day-to-day distribution of the masses of oil released from the tanker, and the speed and direction of their movements, led to the development of methods of plotting and predicting oil movements which were encouragingly accurate and which have a clear relevance in the report to pollution of the Brittany beaches.

A brief comment may be offered in explanation of the way in which the report is presented. It was rarely possible during the period of the 'Torrey Canyon' investigations to make an observation or do an experiment under the terms that the investigator would have chosen, and in many instances observations had to be made well knowing that the means of fully understanding them were not available, either for lack of some necessary information or the absence at that time of suitable techniques of analysis and measurement.

In writing the report it was therefore thought best to describe the investigations as nearly as possible in the order in which they were done. This may help to explain some of the more obvious imperfections in the work reported, and will enable the step-by-step development of the programme to be the more clearly recognized.

The production of this report has been a truly corporate effort, not only in the field and laboratory work, but also in the preparation of the manuscript and in the editing.

STAFF PARTICIPATION

Almost all the members of the Plymouth Laboratory staff, and some of the long-term visiting scientists, participated in one way or another in the 'Torrey Canyon' investigations. The work was organized under the following headings:

Scientific Programmes

- (a) Sea surveys and plankton investigations
- (b) Shore and near-shore (sublittoral) surveys
- (c) Detergent toxicity testing
- (d) Oil movements at sea
- (e) Brittany surveys

*Survey Samples and Records**External Liaison**General Organization**Report Preparation*

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