

## FERRYBRIDGE RECONSTRUCTION IN RELATION TO MARINE FAUNA

D.R. Seaward, 3 Summerlands, Yeovil

The replacement of the Ferrybridge over Smallmouth, the inlet to the Fleet, by a new bridge some 200 m to the south, and the creation of a new channel and closure of the old, has been described elsewhere (Hayward, 1983 and Hunt, 1984). My concern was the effect which the project might have upon the marine invertebrates in the adjoining parts of Portland Harbour and the Fleet, during the construction phase with its associated disturbance.

Destruction would obviously be complete within the area of excavation for the new channel, and of deposition of spoil. Since this included a significant part of the population of the rare and local sea slug, Aeolidiella alderi, which is known within the British Isles from only a few sites in the Channel and the west coast of Ireland and Scotland (Seaward, 1982), some of these and other animals were moved short distances to safer areas nearby in November 1983, before excavation started, and an account is given in Hawthorne (1983). By January 1985, when the bridge work below sea level was virtually complete except for completion of channel excavation in deeper water, the low shore population of A. alderi was still present in about the same density as before work started, apparently unaffected by the proceedings. However, a month later in late February, numbers had dropped very considerably, coincident with the large mortality of bivalves from the sandflats adjoining in Portland Harbour. These events do not seem to be connected with the bridge works as there was no sign of pollution or deposition or other change, and a similar mollusc mortality occurred at Weymouth beach at the same time; the likely cause would appear to be the very severe winter weather of January 1985.

Filling of the channel under the old bridge destroyed a small area sheltering an interesting and unusual fauna described by Dyrinda (1984), including another sea slug Doto millbayana not previously recorded from Dorset. It will be interesting to see whether a similar association develops on the new bridge supports and channel.

The sandflats in Portland Harbour and the Fleet adjoining the bridge, in which live an unusual assemblage of molluscs, worms and anemones (Holme & Bishop, 1980), will take some time to readjust to the new channel. Some redistribution of sediment is already (April, 1985) taking place, and there are some small patches of gravel in the sand in shallow water to the south of the channel, which previously were not apparent and were probably covered by sand. These are rapidly colonised by seaweeds, particularly the recent-alien Sargassum muticum (Jap-weed), which has also become abundant in several areas close by (e.g. the Narrows and the old bridge channel), here it can obtain anchorage.

During the bridge work and up to March 1985, I have visited shores from Sandsfoot Castle to the Narrows, and adjoining the bridge works in Portland Harbour. In spite of some wash-out of fines during excavation and filling, and apart from the comments above, I have not so far been able to find any significant changes outside the sort of seasonal variation I have known over the past few years. Redistribution of the sandbanks to adjust to the new position of the channel may yet create some changes.

An unexpected consequence of the new bridge works is the increased public awareness of, access to, and use of, the sandflats in Portland Harbour south of the new channel, resulting in increased windsurfing, bait-digging, shellfishing, stone turning and associated trampling.