

*Coastal Ecology and Land Use at Aramoana.* By G. E. Hamel & G. A. M. Barr. Published by Ecology Action (Otago). Pp. x + 1-46, 26 figs, 13 tables. 1974. Copies available from Mrs G. E. Hamel, Dept of Anthropology, University of Otago, P.O. Box 56, Dunedin, or from Mr G. A. M. Barr, Biology Dept, Bayfield High School, Shore St, Dunedin.

Ecological literature is now so replete with reports of one kind and another that, to adapt a delightful phrase taught me by Mr R. B. Sibson, it is becoming increasingly difficult to tell the red meat from the skilly. Appearance can be deceptive. Dingy, mimeographed sheets stapled together and produced without regard for anything but the present, can be found to tell of work more soundly based, less presumptuous and far more enlightening than that in many of the glossy-covered, elaborately-bound and immaculately-typed consultants' reports often costing thousands of dollars which seem designed to satisfy the ad hoc requirements of local authorities and ministerial inquiry. Some of these are profoundly shallow (a not improbable description) and one wonders who is doing the wool-pulling over whose eyes. It is a pleasure, therefore, to stumble over a not-too-conspicuously produced report compiled, in part, by one of our well-known Otago members of the OSNZ. I say "stumbled" because this is what I did. An introductory note on the second page states: "This report is intended for a general audience. Most of the information is directed towards a concerned public but we hope sufficient detail has been included to satisfy other ecologists." How does one come to know of such reports? Dissemination of knowledge is a primary concern of all science. This report is worth a dozen of the superficial consultants' efforts which I have seen, but will it be read by the "other ecologists" and that "general audience" who will profit from its conclusions and the lessons of wide application which it demonstrates? A copy sent for review to a journal read by a goodly number of the "concerned public" would have helped but my stumble makes up for it.

The authors tell us that this "survey was initiated by a concern for the possible loss of a rare and valuable resource, the intertidal flats at Aramoana, Otago Harbour, if a proposed aluminium smelter and deep water wharf were constructed on the adjacent dunes." They continue — "It was not possible to carry out the complete ecological survey which such a situation requires and a full Environmental Impact Report for any industrial development in the area will be needed. This pilot study should indicate the high biological productivity and diversity of the area and provide a baseline for future comparative studies." The authors will be found to be quite modest in rating their own achievements.

The present report describes in detail the physical environment, the invertebrate fauna, the plant species with special attention to zonation and species diversity and associations between species. Bird-life is well dealt with by Mrs Hamel outlining the daily routine of the major species, feeding habits and seasonal cycles. Gill Hamel and Gordon Barr have made a more thorough evaluation of the tidal flats at the entrance to Otago Harbour during one year, 1973, than one might believe possible in so short a time. True, 15 years of bird observations by Otago members of the OSNZ have been incorporated

but this is how it should be. Published work and bottom drawers should be searched and used.

In particular, these intertidal flats are discussed in relation to other habitats. The discussion and summary are well worth reading and pondering upon. The recommendations for further study could well be taken as guide lines for the investigation of any threatened or vulnerable area along the New Zealand coastline. The section of the "abstract" dealing with the ecology of the 31 species of birds is worth repeating here:

"The high tide bird roosts on the sand bars and salt-marsh of the eastern area are the major safe roosts for all the wader species in the harbour, particularly during spring high tides. Though the Aramoana flats constitute only about 10% of the intertidal flats between Waitati Bay and Hoopers Inlet, they carry 1-30% of the Pied stilt flocks, 25% of the Pied oystercatcher flocks, about 40-50% of the Godwit flocks and 60-70% of the Banded dotterel flocks for these areas. Most of the rare Northern Hemisphere waders recorded in East Otago have been found at Aramoana, and it is the only area where one or more of the rarer species can be seen regularly. Along the east coast of the South Island, Aramoana and the neighbouring inlets provide the only large areas of wader habitat between Invercargill and Christchurch. There are no breeding colonies of sea birds on the flats, but small numbers of Pied stilts, Spur-winged plovers, ducks and pukekos breed in the flax and shrubland above high tide. The Aramoana flats provide food and safe roosting areas for large flocks of Pied oystercatchers and safe roosting for Black-backed gulls, both of which are predators of insect populations in inland areas during summer."

As Professor Alan Mark concludes in his Preface, "The authors use the information available to put the ecological features of Aramoana into a New Zealand perspective. They also discuss the much more difficult aspect of assessing possible losses in relation to likely profits from industrial development. Undoubtedly such a value judgement must be made at some stage with Aramoana. Hopefully no person will attempt such a judgement without understanding and appreciating the valuable information contained in this report."

I echo his sentiments and whole-heartedly commend this report to everyone concerned with the conflict of needs and multiple usage of our valuable coastline. Show it to your local body councillors, regional authority members or place it in the hands of whoever must make the ultimate decisions on our behalf. It is a fine example for all.

E. W. D.



*The World of an Estuary.* By Heather Angel. Faber & Faber, London. U.K. £1.95.

Bird-watchers have been on the prowl in estuaries ever since ornithology proper began; a fact which is acknowledged by the authoress when she asserts that these "coastal habitats have been ignored by most naturalists — with the exception of bird-watchers." Now under heavy pressure from pollution, industrialisation and the claims of human recreation, estuaries are very much in the news. It was fitting that the value of estuaries as habitats for birds, both resident