

*Ocean waste disposal practices*, by Alexander W. Reed, Noyes Data Corporation, New Jersey, 1975, 336 pages, \$ 24.

In the Foreword to this book the contents are described as being "an evaluation of waste discharges and practices as they affect the littoral regions of the United States with many projections of the ultimate influence upon the world's oceans." This is a very fair summary of the book. Much of the subject matter is based on a series of reports sponsored by various Agencies of the U.S. Government, the reference number of each report being quoted. There is a very detailed examination of disposal practices in the New York and Mid Atlantic Bight and less detailed studies of disposals in such other coastal regions as the Charleston area, the Gulf Coast, Southern California and Pujet Sound. The types of waste dumped are categorised and the accumulative effects on the ecology discussed. This information is of direct interest to U.S. environmentalists and disposal contractors, but much of it is of only marginal relevance to other parts of the world. There are full details of the costs of various types of disposal operations, for example, the costs of using different kinds of barges and tugs, the relative costs of dumping baled or loose materials and the economics of using shipborne incinerators. It is difficult to relate the figures given, which refer specifically to U.S. operations in coastal waters and which are up to eight years old, directly to current European costs, but they give useful intercomparison data. For example, some typical figures for 1968 are 0.40/ton for dredging spoils, \$ 1.00/ton for sewage sludge and \$ 15.00/ton or more for 'miscellaneous' wastes such as explosives. These figures vary depending on the dumping area used. In 1968 about 62 million tons of waste were dumped, including 52 million tons of dredging spoils and 4 million tons each of industrial waste and sewage sludge.

The book is, however, more than just a catalogue of U.S. practices and experience. There is a useful summary of the relevant biological, chemical and physical properties of the marine environment, both as regards the shallow continental shelf and the deep ocean. The effect of various wastes, especially industrial wastes containing toxic materials, on the biota is discussed at length. The discussion takes place in the context of there being two extreme philosophies, either to accept the ecological destruction of a given, limited, area of the sea bed and to confirm effects to that area, or else to dump wastes only within the regenerative capacity of the sea.

The book also contains useful information on the mechanics of disposal, various types of disposal equipment, navigational aids and sampling techniques are described. Finally, there is reference to national, i.e. U.S. legislation and international conventions such as the now ratified London Convention of 1972.

The book is of interest to all those concerned with sea disposal, and it will prove to be a most valuable reference work, although unfortunately, no index is included.

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