

BOOK REVIEW

APPLIED WATER RESOURCE SYSTEM PLANNING, by David C. Major and Roberto L. Lenton (1979). Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 248 pp. (US\$19.95).

With the sagas of Manapouri and the Clutha, with potential hydro-electric and irrigation developments using several other rivers, and with an increased awareness of environmental issues, good planning for the sensible use of water resources in New Zealand has become an important issue. Methods for systematically planning water resources development have become available in recent decades and this book presents a readable up-to-date summary. In presenting recent material it is in some areas a successor to the well known "blue-book", "Design of Water Resource Systems" by A. Maas and others (1962).

The book is based on a study undertaken by members of the Water Resources Division of the Department of Civil Engineering of the Massachusetts Institute of Technology for the State Secretariat for Water Resources for Argentina. This study had the dual aims of illustrating by an application the use of modern river basin planning methods, and of acquainting decision makers with the physical, economic, and social trade-offs involved in the choice of a development scheme for a river.

The book comprises three sections; Part One: background, description methodology and overview; Part Two: description of the principal mathematical models; Part Three: parameter inputs, model results and interpretation. Separate chapters have been written by different authors, but skilled editing has ensured a good degree of continuity and consistency in style.

The procedures are applied to the Rio Colorado, an Argentinian river basin. Because this is a southern hemisphere river rising in the Andes and flowing south-east to the Atlantic Ocean, the hydrology has some similarities to the larger rivers of the East Coast of the South Island of New Zealand. The proposed uses of the river, irrigation and hydro-electric power generation, are two main uses of New Zealand rivers, and these similarities are sufficient for the book to be particularly appealing to New Zealand readers.

Subjects not covered which the local reader will miss include fishing and other recreational activities, sediment transport and control, and flood control. Some cautions about institutional arrangements for this type of study that prospective modelling teams should ponder are given in the final chapter. In a clear and attractive format, the book is to be commended to postgraduate students, and water resource planners and engineers.

A. I. McKerchar