

the various species, each with somewhat different requirements, explore the total potential.

In view of all the different nuances in behaviour and physiology, why, one wonders, would not a single variable species have sufficed equally well to do the same job? However, the job of biologists is not to redesign nature, rather it is to try and understand her as we find her. In a world context one is reminded of the "species swarms" of Cichlid fishes in the African Great Lakes, which feed mainly on very similar diets for most of the year, although displaying great differences in morphology. The question is, how are resources apportioned between species and are there critical resources which have determined speciation? Strict interpretation of the concept of "one species-one niche" begins to look a little tattered around the edges, for there appears to be a degree of mutual tolerance between the species that allows the genus to function as an effective whole, rather than as a group of competing species.

The other great enigmas of the genus are the great fluctuations in abundance, as for example, between odd and even years in pinks, or the four-year cycle of the sockeye, and secondly the death of all species following a fixed life span. We can only stand in awe of the sheer profligacy of a nature which destroys her handiwork at the peak of its abundance. Only the may-flies and cicadas work on a similar fixed schedule of increasing biomass, mass reproduction and then death. Why? Is such a fluctuating and determinant life history geared to maximizing production in an open system? Such life history may be contrasted with the trend toward equilibrium shown by fish in more confined waters with their long indeterminate life-span and high, relatively constant biomass? Could it be that lessons for our growth-oriented industrial society nestle within the basic biology of ecological systems?

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*Water in Sustainable Development: Exploring Our Common Future in the Fraser River Basin* (Vol. 2), edited by Anthony H. J. Dorsey and Julian R. Griggs. Vancouver: Westwater Research Centre, Research Program on Water in Sustainable Development, University of British Columbia, 1992. xvii, 288 pp. \$25.00 paper.

Many people look forward to the publication of another monograph by the Westwater Research Centre of the University of British Columbia. The monographs always combine the theoretical with the practical, make

generalizations that remain loyal to the available data, and nudge both scholar and informed layperson into reassessing their understanding of the problems and solutions of water and the environment. Many people had a special reason to look forward to this particular monograph. It is the second volume in a two-volume series dedicated to understanding sustainable development in water management in the Fraser River Basin. Volume 1 was published in early 1991 and previously reviewed in *BC Studies* by this author. Volume 2 was published at the end of 1991. The editor of both volumes is Anthony H. J. Dorsey, who also has the responsibility of writing the introductory overview and concluding summary chapters. One detects also his influence in the format, issues, and conclusions of the individual chapters. This is apparent in the ten chapters of Volume 2, written by Westwater staff and associates. It was also evident in the 22 chapters of Volume 1, most of which were written by UBC academics who have less direct links with the Centre.

*Water in Sustainable Development* is organized into four parts. Part I is an introductory chapter by Dorsey. He reviews the general principles of sustainable development and indicates how subsequent chapters will address these principles for water management in the Fraser Basin. This chapter and the conclusion are at pains to point out the dominance of the Fraser system, and the human and nonhuman activities in the system, in British Columbia's development.

Part II deals with "Natural Systems and Interactions with Human Systems" and consists of four chapters. Daniel Moore writes on hydrology and water supply, and provides some novel conclusions about water management on the basis of evidence about climate and hydrology in various sub-basins of the Fraser. Indeed, many of the chapters in the book offer different information and conclusions by examining regional and sub-basin variations in the Fraser. Kenneth Hall, Hans Schreier, and Sandra Brown co-author the next two chapters on "Water Quality . . ." and "The Land-Water Interface . . .," a division of chapters that seems motivated by number of pages as much as intellectual considerations. These are superb chapters in reviewing and commenting upon the relationships between, on the one hand, climatic conditions, geological conditions, and human uses of the Basin and, on the other hand, water quality conditions. The human uses include agriculture, forestry, mining, urban sewage and storm water disposal, and pulp mill effluents. Again there is an emphasis on sub-basin evidence as well as evidence for the entire system. Thomas Northcote and Michael D. Burwash conclude this Part with a chapter on "Fish and Fish Habitats . . ." This chapter reviews evidence on fish popula-

tions and on fisheries — commercial, sports, and Native. To this author, its value lies in synthesizing (the limited) material on non-salmonid fishes in the various rivers and lakes that comprise the Fraser Basin. The chapter ends with some very odd comments about immigration, population growth, and their likely effects on fish habitat.

Part III is called “Human Systems and Interactions with Natural Systems” and is a much more disappointing set of chapters. Some important human uses of the Basin, such as commercial shipping and log-transportation, are ignored. Other relationships are crudely drawn and simply assumed to be self-evident. This is the case in the massive review of the institutional arrangements for the governance of aquatic resources in Chapter 8, in which it is assumed that formal arrangements have a one-to-one operational effect on water uses and their development. It is also the case in Chapter 9 in which environmental non-government organizations, and their roles and strategies, are discussed solely on the basis of (albeit new) interview data. The chapters on “Human Settlement and Development . . .” and “Water Use . . .,” both by Ian Boeckh, Victoria Christie, Anthony Dorcey, and Harriet Rueggeberg, are useful descriptive overviews of these topics.

The final Part, “Challenges and Innovations,” consists of a concluding chapter by Anthony Dorcey called “Sustaining the Greater Fraser River Basin.” This chapter reviews the conclusions of previous chapters and arrays the resource use conflicts that are evident in the Basin through the interdependence of human uses and the environment. It then takes eight questions or criteria about sustainable development that are discussed in Chapter 1 and reviews the weaknesses in the Fraser system against these criteria. It finally goes into great detail about how to develop a viable “Greater Fraser River Basin Management Program” out of the lessons learned from the Fraser River Estuary Management Plan. This should, one infers, be the basis of the “Action Plan” for the Fraser that is a possible part of the Federal Green Plan. The variety of prescriptions made in this chapter stray a long way from the evidence provided in the study of the book. This is particularly the case with the responses to the eight questions raised by the sustainable development concept.

In sum, the book varies in the quality and value of its chapters. It does not push our understanding of sustainable development very far. This being said, it remains a major and valuable overview of the Fraser, its resources, economy, and development. It will be an important reference tool for elected and appointed officials, academics and the informed lay-

person. It could provide an extremely useful text in undergraduate courses in resources management or B.C. studies. It is a pity we do not have comparable texts for other parts of Canada.

As a final comment, it must be emphasized that this is, quite literally, a beautiful book to read. It is the product of desk-top publishing and small printing company, and it contains superb colour graphics, tables, summary boxes, and clear text. It puts university and commercial presses to shame. It is also only \$25.00.

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*A Time of Gathering: Native Heritage in Washington State*, ed. Robin K. Wright. Seattle: University of Washington Press, 1992. 248 pp. Illus. \$55.00 U.S. cloth; \$29.95 U.S. paper.

In 1989 Washington celebrated 100 years of statehood by sponsoring projects which brought local history and cultures into focus. Perhaps the most significant of these was an exhibit at the Burke Museum in Seattle which recognized the First Nations in the state. Several years of consultation between the museum staff and the Native community went into creating this exhibit. *A Time of Gathering: Native Heritage in Washington State* was prepared in part as a catalogue of the exhibit of the same name, but is much more. The volume contains valuable material about the history of collections of artefacts from the state, including the often overlooked early period. Other chapters detail continuing practices of Native people, including story-telling, canoe racing, craft production, and oration. Somehow all of this hangs together to form a most interesting volume.

In fact, the volume succeeds admirably in a number of important ways and is inexpensive as well. First, the book is organized in an unusual manner. Discussions of the Coast Salish people of western Washington and the Interior Salish of the high Plateau of the eastern portion of the state are included together, and one is able to gain a sense of the great importance of these peoples to one another. The usual method of placing the Coast Salish within the anthropological tradition of the Northwest Coast culture area has had the effect of slighting Coast Salish achievements and obscuring their connections with those east of the mountains.

Second, by including the commentary of both Native authorities and