

Book Review

Conservation Biology: Foundations, Concepts, Applications. F. Van Dyke. McGraw Hill Companies Inc., 2003, xvii + 413 pp. ISBN 0-07-239775-0. 0.07-119906-3 (ISE), paperback £38.99.

A Workbook in Conservation Biology: Solving Practical Problems in Conservation. F. Van Dyke and Contributors. McGraw Hill Companies Inc., 2003, x + 170 pp. ISBN 0-07-243868-1, paperback, \$31.50

These two books are a welcome addition to teaching material on conservation biology and they demonstrate how far conservation biology has developed as a recognised discipline. The textbook and the workbook are designed to be used together. The organizational framework of the book is based around three fundamental questions. How did conservation biology become a distinct discipline and what keeps it from being absorbed into related disciplines? What are the fundamental intellectual, conceptual and practical problems that conservation biologists must address and solve? What is the role of conservation biology in achieving success in conservation in ways that affect all dimensions of the human experience? The book is divided into three parts. First the foundations of conservation biology with chapters on its history, values and ethics, defining and measuring biodiversity and the paradigms of conservation. The section on ethics is particularly strong and wide ranging and the section on biodiversity includes such topics as species concepts and details of the various statistical methods of defining alpha diversity. Contemporary issues of the species concept including the cladistic approach are covered well, but briefly.

The second part on concepts deals with the different levels of conservation, genetic diversity, populations, habitat and landscapes and ecosystem management. There is wisely also a separate chapter on aquatic ecosystems because they are so different from terrestrial ecosystems. The third part on applications includes chapters on restoration ecology, conservation vs. economics and sustainable development and professional effectiveness and future directions.

Each chapter ends with a synthesis and a directed discussion based on a major paper on the topic of the chapter. In addition a list of topics to search for online is given. The directed discussion suggestions are generally well chosen and give a format that can be used for many of the other papers cited in the bibliographies which are usefully given at the end of each chapter, rather than at the end of the book.

Although there are examples given from many parts of the world such as Lord Howe Island, Bonaire Marine Park and the rainforests of Brazil, the book has a strong North American bias especially in reference to legislation and legal aspects. Nevertheless most topics covered by courses anywhere in the world are well covered and the book will be invaluable anywhere in the world. There are numerous photographs, many of which are in colour and a large number of useful maps, figures and graphs as well as a glossary.

The workbook is a most useful supplement to the textbook. It consists of 18 exercises written by the author of the textbook and 5 other contributors who are all teachers of conservation biology. The purpose of these is to provide training in practical skills used to solve particular problems in conservation biology. It begins with such basic skills as writing, reading, economic and quantitative measurement of biodiversity. It continues with sections on techniques for genetic conservation and management, studies of communities and habitats, experiences in population modelling and population viability analysis and finally exercises in habitat classification and species conservation. The exercises are very broad ranging but relate well to the topics covered in the book. Each exercise has a number of assignments and questions as well as relevant literature citations. The last 25 pages is an appendix of guidelines for instructors.

These books contain most useful material for the teaching of both conservation biology and ecology.

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