BOOK REVIEW: Turtle Conservation

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This book attempts to give a unified synopsis of the current state of turtle conservation. This is an ambitious objective, given the taxonomic variety (almost 300 different species) and ecological range (terrestrial, freshwater, and marine systems) of turtles in general. Furthermore, different turtles are found the world over, making turtle conservation a diverse and international field, and a major difficulty in writing such a broadly scoped book is finding a way to satisfy everyone. Conservation is a myriad of different disciplines, including (but not restricted to): biology, economics, sociology, geography, education, and politics. Any attempt to cover all of the topics of "conservation" will either be several volumes long or will make sacrifices to keep the book compact and accessible to a general readership. Turtle Conservation has taken a generalist approach, giving broad overviews to several subjects related to the conservation of chelonian species. The book is targeted to an audience with biological background, and would be useful as an undergraduate level teaching/research resource.

The book is divided into nine chapters that cover specific subjects, with a tenth chapter of conclusions and outlooks. Four of the chapters are biological overviews of four groups of turtles, based on their ecological habitats: sea (marine) turtles, freshwater river (lenthic) turtles, freshwater pond and marsh (lotic) turtles, and land (terrestrial) turtles. The other five chapters cover subjects concerning conservation problems, such as habitat alteration, disease, introduction activities, genetic studies, and extractive use. Visually, the chapters are sparsely illustrated, with only a few photos or line figures given occasionally. The references are provided at the end of the book, rather than at the end of each chapter, an approach that is good for the sake of simplicity, but is difficult for those wishing to photocopy selected chapters. Our review is divided into two parts. First, we look at the book as a whole, and discuss its strengths and weaknesses. Second, we look at three chapters most relevant to sea turtles: Chapter 2 (Human use of turtles: a worldwide perspective, by Thorbjarnarson et al.), Chapter 4 (Conservation of marine turtles, by Meylan and Ehrenfeld), and Chapter 10 (From information to action: developing more effective strategies to conserve turtles, by Klemens).

The book presents several basic turtle conservation messages that may or may not have been clear before. The first message is that habitat alteration is the major threat to the persistence of chelonian species. In line with Frazer's (1992) famous "halfway technology" analogy, the chapters provide examples of the necessary habitat requirements without which many turtle populations are likely to be reduced or extirpated, regardless of other conservation actions undertaken.

The second important message is that disease, especially disease transmitted by released or reintroduced individuals, can wreak havoc on wild populations. Readers of the MTN are already familiar with the problems posed by fibropapillomatosis in several sea turtle species, and this is but one of many documented maladies that have affected different chelonian species.

A third broad message, and a particularly good motto for all conservation researchers, is provided on page 87: "It is important to report findings accurately without drawing conclusions based on limited data." This means we must be careful not to extrapolate results from one area or project to all others, which is prudent advice, but often forgotten. Even Turtle Conservation is guilty of this: it remains largely focused on conservation issues in the USA, although in parts of the book (e.g. Chapter 10), the limited applicability of USA conservation programs to other parts of the world is recognized. The USA focus is not surprising as all 19 contributors are based in the USA, but given the 'global' focus of the book, the inclusion of chapters by turtle conservationists from other countries would have been appropriate and would have widened the breadth and scope of this volume.

Four basic shortcomings of Turtle Conservation are reviewed here. First, there is a lack of general information on turtles. For example, only one chapter (Chapter 5, River turtles) discusses the ecological role of turtles. If raising awareness of turtles is an important part of conservation, more effort could have been given to explaining what turtles do, and why they might be important. Second, this book catalogues many negative and few positive examples of turtle conservation, and lacks suggestions for how to go about designing conservation programs. This is clearly seen in Chapter 9 by Seigel and Dodd: after 15 pages detailing negative impacts on turtle populations from direct manipulations (such as reintroduction efforts), the authors state that manipulative approaches can be used as a

last resort, but only when they "have been tested and have been shown to be effective" (page 235). The logical impossibility of meeting both these criteria is self-evident. Third, the use of the published literature is somewhat selective, with some references being over-interpreted and others being ignored. For instance, in the Chapter 4 (Sea Turtles), on page 101, the reader is told that the age to maturity for wild sea turtles is from 20 up to 50 years. Although some populations or individuals take this long to mature, there also have been studies suggesting more rapid growth rates and times to maturity (<15 years) in Kemp's ridleys (Chaloupka & Zug 1997) and leatherbacks (Rhodin et al. 1996; Zug & Parnham 1996). Fourth, a simple list of all species with common and Latin names would have gone far for those readers unfamiliar with the different chelonians.

Chapter 2, the longest in the book (51 pages), deals with human use of turtles and is based on the premise that "Understanding patterns in the human use of turtles is vital for developing rational conservation and management plans for chelonians." The discussion addresses tortoises and fresh water turtles separately from sea turtles, and considers use in geographic regions (Europe and Northern Asia, North America, South and Central America and the Caribbean, Africa, Indian Subcontinent, Southern Asia, and Australia and Oceania for tortoises and freshwater turtles, and the Atlantic, Indian, and Pacific Oceans for sea turtles). With the exception of four case studies, the chapter provides basic details on use with limited discussion of the reasons for or value of use. The information is at times difficult to absorb due to the vast coverage and list-like presentation. Nevertheless, considerable information is provided, much of it available previously only in unpublished reports (although this will make it difficult for readers to track down original documents if interested in further pursuing examples).

From our perspective, the highlight of this chapter arises from including use of terrestrial and sea turtles in the same chapter. Contemporarily, consumptive use of sea turtles takes place primarily in Southern, or developing countries, outside of the USA and Europe. However, much use of terrestrial turtles is in the form of importing wild-caught specimens for the pet trade in the USA and Europe. With use of terrestrial turtles in the same chapter, US and European critics of sea turtle use by other peoples and cultures will have to acknowledge the impacts of their own countries on the depletion of terrestrial turtles.

Chapter 2 ends with a summary of biological and societal factors in turtle exploitation, and options for management of turtles. While raising the scepter of Hardin's (1968) 'Tragedy of the Commons', the authors are to be congratulated for also recognizing the limitations on this theory, and the role that cultural and social values can play in regulating access to common property resources. Nevertheless, in the discussion of options for conservation via utilization, the authors retreat to western economic theory related to common property and discount rates (pg. 81). There are also some contradictions in the chapter. For example, in the discussion of the egg collection project at Ostional, one of the four case studies considered, the authors suggest the Ostional example has very limited applicability elsewhere (pp. 72-73). However, in the concluding section, they point to lessons that might be learned from this same example (pg. 81). Recognizing that turtles will be used, and the limits on prohibitive conservation practices, the authors appear at a loss regarding what to suggest vis à vis use. In their conclusions on use, the authors go beyond the expected call for more information on the biology of species being exploited, to include recommendations for increased study of the economics of sustained yield harvesting systems, and for case studies that evaluate trial sustained-yield harvest programs. The latter seems particularly crucial if we are to move beyond debating use to evaluating it.

Chapter 4 covers the conservation of sea turtles and is the second longest in the book. This is not surprising, since conservation of marine species far outpaces conservation of non-marine species, if not in terms of long-term projects at least in number of participants. The negative tone identified as a general criticism of the book is evident in this chapter. For example, the authors Meylan and Ehrenfeld spend more than 50% of their chapter explaining why strategies based on captive rearing (headstarting, ranching and farming) are not beneficial to conservation. This is somewhat redundant, since many of the same arguments appear in Donnelly (1994) and very few post-1994 references are provided. The one major update to this debate is the recent information on the appearance of nests made by head-started Kemp's ridley turtles in Texas (page 116). For the rest of Chapter 4, the authors give a broad overview of the natural history of sea turtles and various examples of threats, including harvest, incidental capture, and habitat loss/degradation. One section that merits comment concerns the status of marine turtle populations. Here, the authors provide lists of populations that are increasing (apparently very few) or decreasing (apparently almost everywhere), and finish with the IUCN and CITES listings for each species. Recent publications detailing population increases across the globe are not cited (see Mrosovsky 2002 for details of such updates), and the CITES listings are already out of date, as the book was published before the IUCN recently changed the listing of *Natator depressus* from Vulnerable to Data Deficient. While the 'datedness' of this information is a result of publishing schedules, it nevertheless limits the contribution of the chapter.

Chapter 10 (From information to action, Klemens) outlines six strategies of conservation: consider ecological and population issues across a broad range of geographic scales, integrate new information and techniques into conservation programs, apply rigorous cost-benefit analysis to conservation programs, control exploitation (with six sub-actions listed), redefine the role of captive breeding in turtle conservation, and develop integrated landscape conservation programs. For each strategy, examples are provided to support the author's position, and with the exception of that provided for the last strategy, examples are usually negative ones, i.e. details of what happens when we fail to adopt the strategy. A strength of this chapter is, once again, the critique of policies in both developed and developing countries, and the specific questioning of the value of transferring methods developed in the USA to other parts of the world. Here the book does reflect a global perspective. The weakness, from our view, is the stance taken under the heading 'control exploitation', which might have been named 'eliminate exploitation.' While many of the sub-actions under this heading involve evaluating the impacts of use and trade, the general premise is that 'despite promotion by many leading conservation groups that sustainable-use programs are the key to maintaining wildlife resources, turtles are not biologically appropriate candidates for most wild-harvest programs as currently practiced…' (248). This statement confuses use in general with managed use programs designed to support biological and socio-economic sustainability. In the case of sea turtles, there are so few attempts at the latter, it is currently difficult to evaluate any notion of success.

Bottom line: this could have been a manual on the “Dos and Don’ts” of turtle conservation, but it ends up being largely a book of “Don’ts.” Nevertheless, there are bits of useful information that will benefit managers and students alike, although they will have to supplement their reading with other sources.

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Visit Turtle Conservation Bali on Serangan Island and join the turtle donation program! Release baby turtles back into the ocean in Bali.Â Turtle Conservation Bali â€“ Adopt turtle! 2019-07-072019-07-07 Anett Szaszi 0 Comments. Adopting baby sea turtles and releasing back them to the ocean is definitely a heart-warming moment for all ocean-lovers.