

Human Dimensions of Wildlife Management

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'Human Dimensions of Wildlife Management' is an ambitious work which provides active and becoming wildlife managers with a holistic view of their field. The authors' perspective is practice-oriented and aimed at a (mostly North American) target audience with a background in natural sciences and biology. In its sequence of chapters, the book establishes the complexity of wildlife management situations and drives home three main strategies to improve the current management: 1) an interdisciplinary social sciences-based human dimension perspective needs to complement natural sciences-based knowledge, 2) stakeholders must be included from the very beginning to improve policies and increase legitimacy, and 3) management must be seen as a long-term cyclical and adaptive process of learning, requiring a lifelong development of managers' skills and knowledge.

'Human Dimensions of Wildlife Management' includes six parts. Part I provides an overview of fundamental concepts. The first chapter describes the triangle of wildlife management: humans, wildlife and habitats, with humans encompassing individuals, groups, social structures, cultural systems and institutions. In chapter 2, concepts related to management in a modern national state and an international context are introduced, such as governance, co-management, collaboration and adaptive management. Chapter 3 focuses on the development of stakeholder participation over time, how the increasing diversity of stakeholders can affect management and on how to identify and consult potential stakeholders in wildlife management.

Part II supplies a general theoretical introduction. Chapter 4 on social-psychological theory focuses on the individual, establishing fundamental concepts including people's values, attitudes, norms and emotions. Moreover, motivation and satisfaction are proposed as useful grounds to understand individual responses. Chapter 5 uses sociological theory to describe people as members of groups and society, interwoven in various social contexts and structures. The overview includes the functionalist and the conflict perspectives and symbolic interactionism. The chapter highlights analyses of e.g. social roles and identities, social group influences, culture and socialisation as crucial to understand how people respond differently as individuals and as parts of a group or a culture. Chapter 6 describes the use of economic theory for wildlife management. This includes approaches of non-market evaluation, economic impact, modelling and simulation of alternative strategies, a definition of the value concept and common general methodologies such as revealed preference and stated preference.

Part III supplies conceptual frameworks and tools to understand and structure wildlife management as a process. It emphasises the iterative, cyclical and adaptive character of management, and that actual interventions are only the end of a long chain of actions, interactions and decisions. It is emphasised that a manager should not pursue the process alone. Chapter 7 introduces an 11-step 'Comprehensive Model of Wildlife Management' tool for situational analysis and a relatively complex 'Manager's Model'. Chapter 8 focuses on decision making, emphasising the need for structured thinking all the way from defining problems, developing objectives and criteria for measuring performance to monitoring and evaluation in the service of learning and adaptive management.

Part IV introduces methods and skills relevant for understanding human dimensions. Chapter 9, on planning a human dimensions inquiry, and Chapter 10, on methods, are structured to provide managers with hands-on advice for collaborating with social scientists. The reader should not expect to be ready to carry out a social science study on his/her own, and is advised not to do so. Chapter 11 takes up stakeholder engagement by describing possible roles of stakeholders and how participation can affect management, giving a typology of approaches to engagement, providing a few concrete methods, and by pointing out important challenges. Chapter 12 emphasises the importance of communication, its challenges and the need for systematic planning of communication. Important basics for managers are described, including a general linear communication model, typologies of communication and of publics and how to assess effectiveness of communication.

Part V describes how human dimensions research can be used to promote effectiveness in managing abundant or scarce wildlife. The authors also discuss how such knowledge can enhance a managers' understanding of wildlife uses, users, and management of related impact. They give a comprehensive definition of the concept of overabundant wildlife populations, and the concerns caused by human interaction with abundant species. Chapter 13 continues to discuss the challenges of establishing a middle range of wildlife presence and density. Chapter 14 analyses the management of scarce populations

and stresses the importance to address stakeholders' beliefs, attitudes and capacities for action. Chapter 15 examines the history, evolution and application of human dimensions insights in the management of wildlife uses and users, and discusses how knowledge on human dimensions of management can be applied to identify and understand wildlife-related activities such as tourism and recreation.

Part VI sums up the main messages and highlights the need for ethical considerations and continuous education. Chapter 16 introduces theoretical approaches and discourses in environmental ethics, adapting them for daily use by practitioners. Chapter 17 provides guides into tracks of further education, underlining that learning should be part of both preparation for employment and continued practice in wildlife management. Chapter 18 concludes by resuming central issues and anticipating future challenges for the management of wildlife including organisational, participatory and economic issues.

'Human Dimensions of Wildlife Management' offers comprehensive reading on the challenges and opportunities of managing wildlife, advocating a mix of technical and value judgements, supported by social science and stakeholder engagement. We enjoyed the integration of diverse social and humanist sciences perspectives in the different chapters and the valuable insights into North American wildlife management through examples. We strongly support the book's main message that management is a cyclical and iterative process within a larger goal-seeking system including multiple levels, actors and interactions. Decisions require knowledge on the coupled sociocultural-ecological perspectives in which management occurs.

In general, we found the review of the theoretical prospects well-structured and easily accessible for novices. The reader gets a good taste of the diversity of relevant social and human sciences approaches; however, we noted a certain unbalance with regard to the disciplinary scope taken and the integration of results from empirical studies. The sociological and economic sections give broad theoretical overviews, but are limited in their empirical results. The psychological section covers social psychology only, but includes a substantial amount of research results. Another unbalance is related to the perspective on the larger system. The focus on the individual in the management process tends to emphasise single cases rather than the larger system. Even if the authors stress complexity and the need to include all relevant human dimensions, the perspective on management and decision-making lacks important structural aspects. For instance, future wildlife managers working with a human dimension approach should also reflect on their role as part of a larger system. Here, the governance perspective is not exhaustive. Instead, a broader political science view would give valuable insights on power-related aspects and inter-organisational dimensions. This also leads to a critical point with regard to conflict management. Authorities' listening and communication are indeed vital, but not the only determinant of successful problem and conflict resolution. Problems and conflicts, e.g. those based on non-negotiable needs or built into the political system, cannot always be solved or neutralised via communication or education. Wildlife management should, as stated in several places, be prepared to meet the so-called 'wicked' problems, i.e. those issues one may not be able to solve all the way. This is actually the core of the approach called human dimension of wildlife management.

'Human Dimensions of Wildlife Management' has the appearance of a traditional American hardcover textbook: double columns with a rather small font, good for classroom and desk, but less practical in the field. The text is complemented with boxes illustrating specific cases, tables, figures and black and white pictures. The chapters' summaries are useful and so are the suggestions for further reading. The quality and actuality of suggestions for further reading varies between chapters. We would have expected more up-to-date references to handbooks and websites, e.g. in the section on participation. All other references, predominantly North American, are found in the bibliography. The information on further education is useful, but may have more impact in a box at the end of a relevant chapter or, even better, as links to web-based supplements that can easily be updated and complemented from a global perspective. The book's appendices contain a list of scientific terms and a glossary. Social science terms are generally well defined; however, we did not find definitions of important basic concepts such as 'nature', 'wild'/'wilderness'/'wildlife' and 'human dimension' itself. This would be especially important for an international readership not 'acculturated' to the terms' meanings.

Overall, 'Human Dimensions of Wildlife Management' works well as a student textbook and a source of inspiration for practitioners. We recommend it especially for nature and wildlife management curricula where social and human sciences have, so far, been marginal. We suggest complementing with local examples and reflective seminar work on e.g. values, power, communication, participation and roles, the overall institutional framework and appropriate management models for specific contexts. The book may also be useful for senior researchers and practitioners wanting to develop a common base of understanding in the initial phase of transdisciplinary projects, with the aim to bridge social and natural sciences, and research and practice.

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