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# HUMAN-WILDLIFE CONFLICT

Complexity in the  
Marine Environment



# Human-Wildlife Conflict

## *Complexity in the Marine Environment*

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## Human-Wildlife Conflict



# Preface

Conflict, or the potential for conflict, is inherent in human communities. The impacts of social conflict on conservation efforts are pervasive. Yet, conservation study and practice is still at a relatively early stage of understanding and addressing these impacts. Despite conservation's several-hundred-year-long history, it is only fairly recently that the field has broadened its disciplinary reach to include elements of psychology, anthropology, neurology, sociology, behavioral economics, systems thinking, and other human-oriented sciences into conservation research and practice. And in many ways we are still early in our journey to fully integrate the wisdom from these fields into what it means to do conservation.

Today many, perhaps even most, conservation researchers and practitioners intuitively understand the importance of conflict to their work, but typical educational and training paths do not develop the suite of skills and capacities needed to constructively transform conflict. In response, my organization—the Human-Wildlife Conflict Collaboration (HWCC)—adapted principles and approaches of conflict transformation developed over decades in the peace-building field, and introduced them to our field in 2008 as conservation conflict transformation. We continue to adapt, evolve, and improve our practice.

Recognition of the need to deepen our field's understanding of conflict was the inspiration and starting point for this book. This recognition is the first step toward transforming conflict so that it can support, rather than hinder, conservation. It is to the credit of this book's editors and authors that they took this goal to heart. Their willingness to learn this new approach and integrate conservation conflict transformation with their existing work and expertise demonstrates humility, courage, creativity, and adventurousness.

Our journey began in 2008, after Megan Draheim participated in a capacity-building workshop led by HWCC. A couple of years later, I was delighted when she invited me to co-edit a book that would interweave the conservation conflict transformation approach into a set of cases of marine-based human-wildlife conflict. We were subsequently enriched as an editorial team when Julie-Beth McCarthy and Chris Parsons joined us, bringing both marine conservation expertise and an open-minded willingness to learn about conservation conflict transformation. We sought, and found, chapter authors in both the research and practitioner communities who shared our sense of adventure and willingness to take on a new challenge.

For most of the contributors, this was their first encounter with conservation conflict transformation. A few had worked with me in one of HWCC's conservation conflict transformation capacity-building workshops in recent years. In every case, the editors and authors were enthusiastic to engage in short, intensive orientation or refresher seminars to build proficiency in one of the key analytical components of conservation conflict transformation—levels of conflict—as well as some of the principles of process design. They were then asked to apply that learning as part of the analysis in their case and chapter.

This was not an insignificant undertaking. Typically, an author in an edited volume is expected to write on a topic over which they have mastery. Rarely are authors (or editors) asked to go a step further, to learn and apply a new and very different approach and discuss their existing work or expertise in that new context. This required courage, patience, flexibility, and intellectual curiosity. It was an adventure in what futurist Alvin Toffler has said is the very definition of literacy in the twenty-first century: the capacity to learn, unlearn, and relearn. In this book, contributors are articulating not only what they know well but also new concepts they have begun to learn and apply within their areas of mastery.

In traveling this path, our team modeled the challenging stance that will be needed for conservation success: being willing to let go of what is known and comfortable and to remain open to and engaged with the paradoxical realities of a changing world. In doing so, our field will more readily embrace and more successfully engage with its increasing complexity to improve conservation outcomes.

Our goal in this book is to instill a sense of intellectual curiosity in you, the reader—the same curiosity that motivated us to embark on this expedition. As an exploration, this book does not offer solutions but rather insights and perspectives. This book is not prescriptive, nor should it be. Conflict and the specific processes needed to transform it are highly context specific. Having said that, we believe that the analysis of conservation conflict transformation across the wide range of marine settings discussed here argues persuasively for the broad applicability of conservation conflict transformation across a variety of cultures, contexts, species, and regions.

I should note that this book is intended to provide a small window into what it means to understand conflict through a conservation conflict transformation lens. By design, this book hones in on a single, important analytical tool—levels of conflict analysis—and demonstrates its replicability across many cases. That said, levels of conflict analysis is just one of several analytical tools in the conservation conflict transformation practitioner's toolbox. This toolbox also contains a suite of theories, principles, processes, strategies, and skills that are essential for transforming conflict but are largely beyond the scope of this book. While an understanding of levels of conflict analysis may give the reader (and the authors) deeper insights into cases, such insights do not necessarily translate into an immediate capacity to then transform the conflict they present. That capacity requires broader, deeper, and more holistic understanding of, personal engagement with, and years of practice in conservation conflict transformation. It is important to note that a complete engagement with conservation conflict transformation is outside the scope of this, or any, publication.

This book represents a stage in an intellectual expedition, in which a committed group of editors and authors explored the potential for a new perspective and analysis—that of conservation conflict transformation. Adopting a conservation conflict transformation perspective has enabled our authors to gain new and deeper insights into the social conflict and systemic complexity in their case studies in marine conservation. Conservation conflict transformation serves to compliment and augment the author's existing topical, disciplinary, species, and regional expertise. I admire and wish to thank the contributors for their curiosity, open-mindedness, and willingness to take risks and put in extra effort. I particularly

appreciate authors such as Jill Lewandowski, Rachel Sprague, and Catherine Booker, who have been on a longer journey of understanding and integrating conservation conflict transformation within their work. Their efforts to provide leadership in their respective institutions, fields, and areas of expertise give me inspiration and great hope. I am proud of the work that our team has achieved in this book, and I hope that you find the reading of it to be as stimulating, informative, and thought-provoking as we found the writing.

Francine Madden  
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# Acknowledgments

Any book project is a large undertaking, especially one that was as much of a collaborative effort as this. As such, the editors, Megan M. Draheim, Francine Madden, Julie-Beth McCarthy, and E. C. M. (Chris) Parsons, have a lot of people to acknowledge. Most importantly, we'd like to send our sincere thanks to our authors for all of the time and effort they put into this project to make it a success. They brought their own extensive experience in a wide variety of fields to the table, were all willing to tackle what was in most cases a new paradigm, and shared their knowledge and expertise as a reviewer for their co-contributors as well. We cannot thank them enough for their energy, time, and patience throughout. We would also like to thank Lucy Nash and Ian Sherman at Oxford University Press for all of their help and support throughout this process. They were both a delight to work with.

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Julie-Beth McCarthy would first like to thank her co-editors for bringing her on board and engaging in such a unique and interdisciplinary project. Kendra Marks must be thanked profusely for bravely diving into the abyss, armed with her incredible research skills, and providing invaluable assistance early on. Julie-Beth would also like to thank her parents (Paul McCarthy and Maureen Duke-Renouf) who have long supported her various endeavors and who helped out in their own ways from both near and far. Finally, though most importantly, she would like to thank her husband, Ian Sturgess, for his patience, advice, and

## x Acknowledgments

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# List of Acronyms

**ATOC:** Acoustic Thermometry of Ocean Climate  
**BEST:** Bahamas Environment Science and Technology Commission  
**BNT:** Bahamas National Trust  
**CEBSE:** Conservación y Ecodesarrollo de la Bahía de Samaná y su Entorno  
**DMR:** Department of Marine Resources  
**EHMSC:** Elizabeth Harbour Management Steering Committee  
**FRIENDS:** Friends of the Environment  
**GEF:** Global Environment Facility  
**HWCC:** Human-Wildlife Conflict Collaboration  
**IWCAM:** Integrating Watershed and Coastal Area Management  
**IWC:** International Whaling Commission  
**LFA:** low-frequency active sonar systems  
**MFA:** mid-frequency active sonar systems  
**MPA:** marine protected area  
**NMFS:** National Marine Fisheries Service  
**NOAA:** National Oceanic and Atmospheric Administration  
**NSF:** National Science Foundation  
**PG&E:** Pacific Gas and Electric  
**REA:** Rapid Ecological Assessment  
**RMP:** Revised Management Procedure  
**SIDS:** Small Island Developing States  
**SNS:** sacred natural sites  
**SPZ:** seal protection zone  
**TEK:** traditional ecological knowledge  
**UNCLOS III:** Third United Nations Conference on the Law of the Sea  
**WNP:** West Side National Park



# Introduction

While human-wildlife conflict has long been recognized as a serious conservation threat within the wildlife conservation community, there have been too few opportunities for the sharing of lessons learned and communicating best practices in understanding and addressing the social complexity within the human-wildlife conflict context, perhaps especially in the marine realm. Human-wildlife conflict has classically been defined as a situation where wildlife impacts humans negatively (physically, economically, or psychologically), and where humans likewise negatively impact wildlife. However, there is growing consensus in the human-wildlife conflict community that the conflict between people about wildlife is as much a part of human-wildlife conflict as is the conflict between people and wildlife. Human-wildlife conflict not only affects the conservation of one species in a certain geographic area but also impacts an individual's, community's, and society's desire to support conservation programs in general.

*Human-Wildlife Conflict: Complexity in the Marine Environment* explores the complexity inherent in situations where human-wildlife conflict plays a role in influencing human actions. The book covers the theory, principles, and practical applications of human-wildlife conflict work, making it accessible and usable for conservation practitioners, as well as of interest to researchers more concerned with a theoretical approach to the subject.

This book is the culmination of several years of work by our entire team. As Francine Madden mentioned in the preface to this book, this was an ambitious project—contributors were expected to not only write about their field of expertise, but they were also given the task of incorporating an innovative theoretical framework, conservation conflict transformation, and more specifically a conservation conflict transformation analysis tool, the levels of conflict model, which was in most cases a new mode of thinking about their case studies. This was challenging, and they deserve great credit for their efforts. From the beginning, we wanted to explore the connections between diverse marine conservation conflict cases. The levels of conflict model gave us a framework in which to do so. Our ultimate goal was to paint a rather broad canvas of case studies that demonstrates the complexity of human-wildlife conflict in the marine environment. As such, we were hesitant to break the chapters into what are ultimately rather arbitrary sections. However, providing some structure to the book was necessary, so three sections were created for the sake of clarity: “Introduction to the levels of conflict,” “Policy and human-wildlife conflict,” and “Narratives and human-wildlife conflict.” Each chapter includes both the thematic levels of conflict analysis and a discussion about the authors’ cases from a different disciplinary lens, ranging from the role that storytelling can play in conflict to the challenges of wicked problems and common pool resources, among others.



We wanted to ensure that the connections between all the chapters and sections were clear. While including a levels of conflict analysis in each chapter provided a strong connection across the entire book, we also drew links across the chapters and sections in order to underline this point. Our hope is that it will show the reader that similar elements are found in most case studies of human-wildlife conflict. To further make the book a cohesive whole, the editors also created a short “lessons learned” textbox at the end of each chapter. These are not the only lessons to be had from these rich chapters; rather, they are points that stood out to us as editors.

Although our case studies are marine oriented, our strong belief is that conservation researchers and practitioners who work in terrestrial systems could also benefit from the case studies in this book. At the outset of our project, one of our stated goals was to bring this work to the marine conservation community, but we believe that there are lessons to be learned from these case studies across the entire conservation community. Therefore, our hope is that the audience for this book will not be limited to marine conservationists but will include conservationists across all disciplines.

Our first section, “Introduction to the levels of conflict,” has a standalone chapter. Here, Francine Madden and Brian McQuinn provide an introduction to conservation conflict transformation and the levels of conflict model in “Understanding social conflict and complexity in marine conservation.” Madden and McQuinn provide an overview of conservation conflict transformation, an innovative framework for understanding and dealing with conservation-related conflict. The levels of conflict model is a conflict analysis tool in the conservation conflict transformation suite and is used throughout this book. Madden and McQuinn provide the introduction to this powerful instrument, as well as providing insight into how to tackle the complex conflict that conservation practitioners and researchers are often faced with.

Our second section, “Policy and human-wildlife conflict,” contains five chapters. Catherine Booker and d'Shan Maycock discuss two conservation interventions in the Bahamas in their chapter “Conservation on island time: stakeholder participation and conflict in marine resource management.” The first case involves a community-based harbor management initiative, and the second, a program to help make the country's spiny lobster fishery more sustainable. Booker and Maycock explore the different approaches that were brought to these projects, and why one was ultimately more successful than the other. They close with a discussion of best practices when it comes to participatory processes that must tackle conservation-related conflict.

Jill Lewandowski tackles wicked environmental problems in “Transforming wicked environmental problems in the government arena—a case study of the effects of marine sound on marine mammals.” Anthropogenic noise in the marine environment has been an ongoing controversy in the United States, involving everyone from environmental groups to the U.S. Navy, to energy and other business interests. It also meets all of the standards of a wicked environmental problem (it has scientific uncertainty, political and regulatory complexity, competing stakeholder interests, a background of conflict and distrust between parties, and decision-making processes that only lead to further conflict). Lewandowski explores anthropogenic