

# Wildlife Crime



# **Wildlife Crime**

An Environmental Criminology and  
Crime Science Perspective

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**Stephen F. Pires**



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# Introduction

This book examines wildlife crime from an environmental criminology and crime science perspective. While other scholars have argued that these approaches fall within other sub-disciplines, namely conservation and green criminology, we argue in this book that the crime science perspective should be acknowledged and recognized as an independent and viable approach to the study of wildlife crime. In other words, environmental criminology and crime science are suitable on their own merit. This explicit distinction is not meant to discredit or diminish the utility of other approaches or disregard any form of integration. Rather our objective here is to highlight the unique features that environmental criminology and crime science have to offer in understanding and preventing wildlife crime.

As will be discussed later, environmental criminology and crime science have a history of operating on the fringe of mainstream criminology for decades and only recently has been acknowledged as becoming mainstream (Clarke, 2010; Cullen, 2011). This applied and crime-specific approach, grounded in understanding the spatiotemporal and situational characteristics of crime events with the ultimate goal to increase crime detection and develop measures for prevention and reduction, differed considerably from the traditional, people-centered focus of traditional criminology. We believe that environmental criminology and crime science are well-equipped for wildlife crime for the following reasons: they focus on the crime and not the offender, they view crime opportunity as a causal mechanism, they are multi-disciplinary, and they shift attention to the proximal correlates of crime in order to maximize prevention efforts. Moreover, they are empirically supported (see e.g., Guerette & Bowers, 2009) and have proven to be useful in a variety of criminal justice settings, including policing (Braga, 2008) and corrections (Wortley, 2002). Additionally, and as we will discuss later, we believe that

wildlife crime (and other environment-related criminal activity) should be viewed as a crime category, similar to organized crime, property crime, and violent crime, prompting the possibility to operate from a crime-specific perspective.

As such, we will be spending a considerable amount of time covering the situational and spatiotemporal characteristics of wildlife crime in this book. We also bring attention to analytical frameworks (e.g., CRAVED and CAPTURED) that are particularly well-suited for the study of wildlife crimes, as well as potentially useful prevention strategies (e.g., situational crime prevention). Furthermore, we discuss the relevance of policing innovations which closely align with crime science principles. Given our objectives, we will not spend much time discussing the underlying or overarching historical or current socio-political, economic, or cultural context that influence why wildlife crimes occur. This was deliberately done, and we wish to make sure that the reader is aware of this at the onset. We have had several conversations, and at times misunderstandings, with colleagues and fellow researchers who share an interest in wildlife crime as a result of our background in environmental criminology and crime science. Not surprisingly, other environmental criminologists and crime scientists have historically had similar debates with traditional criminologists in the past (see Clarke, 2010) as a result of operating from an orientation that was focused on crime rather than people.

This does not mean that we do not consider these factors important, as they absolutely are. Indeed, we both believe that other approaches that are used to study wildlife crime play an integral role in understanding other facets of the phenomenon. Furthermore, we believe there is space for integration—or at the very least—collaboration. However, our interests lie in understanding the spatiotemporal and situational factors that foster an environment for wildlife crimes to occur with the intention of developing prevention strategies.

Admittedly, we consider other approaches to be more appropriate for studying specific aspects of wildlife crime. For instance, green criminology is superior in understanding the cultural, economic, political, and social factors that influence and impact wildlife crimes (see the excellent collections by Beirne & South, 2007; Brisman, South, & White, 2016; and Lynch & Stretesky, 2014; for example). Additionally, conservation criminology may be better at incorporating risk indices and recognizing the impact of prevention measures on ecological matters. This does not mean that environmental criminology and crime science cannot be used in tandem with these approaches. For example, conservation criminology and crime science are complementary in many ways, including the emphasis on applied science. In fact, more recently, crime sci-

ence has been considered an integral component of conservation criminology (see the fantastic collection by Gore [2017] that partly promotes this merger).

In the end, we simply hope that the following book will prove to be useful; academically, pragmatically, or otherwise. Academically, we are hopeful that this book contributes to the larger body of literature on environmental criminology, crime science, and conservation science. We also hope that this book is found to be interesting by scholars who operate from other schools of thought. Pragmatically, we are optimistic that the information provided in this book will be useful in developing prevention strategies that can be employed to reduce wildlife crime. Additionally, as we aspire to contribute to the interdisciplinary discussion and investigation of wildlife crime, we sought to reduce jargon to ensure that the concepts and themes are readily accessible to scholars and practitioners from varying backgrounds and disciplines. We also felt this approach would be beneficial in demonstrating the role of environmental criminology and crime science perspectives in conducting applied and translational research, as well as fostering practitioner-academic partnerships. When appropriate, we also referred to our own research experiences to provide the pages with some context. Additionally, we have included pictures that we have taken from our fieldwork or photographs from our colleagues.

This book is divided into three main sections. The first section provides the reader with an overview of wildlife crime as well as current approaches to its monitoring, enforcement, and prevention. In the first chapter, we discuss the various factors that influence wildlife crime, including socio-political and economic influences, and supply and demand markets, amongst others. We also introduce crime opportunity as a casual mechanism for wildlife crime as well; a perspective that is the foundation of environmental criminology and crime science and one that has been largely neglected within the wildlife crime literature. We then outline the different actors that may be involved in wildlife crime. In Chapter 2, we discuss the potential intersection of wildlife crime with other phenomena, including transnational organized crime, terror groups, corruption, and other illicit markets. We draw from both anecdotal and empirical evidence that suggests the presence or absence of the aforementioned. In the third chapter, we outline current approaches in the regulation and prevention of wildlife crime, particularly the illegal wildlife trade. In particular, we discuss and critique the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). We also provide a summary of regional, national, and local responses to wildlife crime.

In the second section, we begin our discussion on the role that environmental criminology and crime science play in the study of wildlife crime. Chapter 4 provides an overview of the various criminological and criminal justice

research that has been conducted up to this point. We then distinguish between the three main frameworks that have been used to study wildlife crime: green, conservation, and environmental criminology. We also provide a discussion (see: plea) on the need for more social science research, particularly from a criminological, criminal justice, and crime science perspective, within the conservation sciences.

In Chapter 5 we introduce the reader to the main theories and approaches that form the foundation for an environmental criminology and crime science perspective. Namely, we discuss the routine activity approach, the geometric theory of crime, the rational choice perspective, crime pattern theory, and situational precipitators. We also distinguish between environmental criminology and crime science. Utilizing the principles of environmental criminology and crime science, we then shift our attention to the analysis of wildlife crime in Chapter 6. We describe the empirical literature that supports the assumption that like other crimes (e.g., residential burglary, motor vehicle theft, and shootings), wildlife crime will display unique spatial and temporal characteristics. We also discuss hot routes and risky facilities, crime scripts, DNA analysis, geographic profiling, simulation modeling, and CRAVED hot products. Finally, we describe the first crime science framework specifically developed for wildlife crime: the CAPTURED framework.

The third and final section focuses on discussing crime science techniques that can be used to prevent wildlife crime, as well as policing innovations that are either directly linked or can be used in conjunction with environmental criminology and crime science principles. In Chapter 7 we provide an overview of situational crime prevention, crime prevention through environmental design, designing against crime, and the market reduction approach. In response to the limitations that can be found with a traditional deterrence-based model of policing wildlife crimes, we discuss policing strategies that can be used to detect, prevent, and reduce wildlife crime in Chapter 8. In particular, we discuss problem-oriented policing, focused deterrence, hot spot policing, intelligence-led policing, and community-oriented policing. In the final chapter, we provide readers with case studies of six types of wildlife crime, which we examined from an environmental criminology and crime science perspective: the illegal market in elephant ivory, the illegal trade in rhino horn, the illegal trade in tiger products, pangolin trafficking, the illegal caviar trade, and the illegal trade in cacti. We end the book with our final thoughts on the future of the analysis and prevention of wildlife crime. Specifically, we discuss the role of crime scientists within conservation science and their potential contributions in developing theory-driven analytics and empirically supported pragmatic solutions to address wildlife crime.

Of final note, what follows is not meant to be the definitive book on the topic of wildlife crime as there are certainly other scholars who are equally—if not more—qualified than the authors here. However, we have done our best to provide an in-depth and balanced overview of the topic. Nor is this book the preeminent text on environmental criminology and crime science. We consider this title to be bestowed upon the work by Andresen (2014) and the collections by Andresen, Brantingham, and Kinney (2010), Wortley and Townsley (2017), and Smith and Tilley (2005). Our aspiration is that this book will be considered a modest addition to a burgeoning and important topic within criminology, criminal justice, and crime science. Above all, we hope the following proves useful in preventing or reducing crimes that contribute to the destruction of the world's fauna and flora.

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# Authors' Biographies

**Dr. William D. Moreto** is an assistant professor in the Department of Criminal Justice at the University of Central Florida, where he is the coordinator for the graduate crime analysis program and is a graduate and doctoral faculty member. He received his Ph.D. from Rutgers School of Criminal Justice. He received his B.A. from the School of Criminology at Simon Fraser University. In 2015, Dr. Moreto was a visiting scholar at the Netherlands Institute for the Study of Crime and Law Enforcement. His research interests include environmental criminology and crime science, situational crime prevention, police culture, policing innovation, wildlife crime, wildlife law enforcement, and conservation social science. He has also conducted research on global maritime piracy and non-medicinal use of prescription medicine. His research can be found in leading criminology, criminal justice, and conservation science journals, including *Justice Quarterly*, *British Journal of Criminology*, and *Oryx: The International Journal of Conservation*. He is the editor of the forthcoming volume, *Wildlife Crime: From Theory to Practice* (Temple University Press). He is a member of the American Society of Criminology, Academy of Criminal Justice Sciences, Southern Criminal Justice Association, Society of Conservation Biology, International Association of Crime Analysts, and the Environmental Criminology and Crime Analysis Working Group. He is also an associate member of the Rutgers Center for Conservation Criminology and Ecology and the Ranger Federation of Asia.

**Dr. Stephen F. Pires** is an associate professor in the Department of Criminal Justice located in the Steven J. Green School of International and Public Affairs at Florida International University. He earned his M.A. and Ph.D. degrees from the School of Criminal Justice at Rutgers University. Dr. Pires is an expert on the illegal wildlife trade with a particular focus on commonly poached

species (also known as hot products), illicit markets, and the organization of the illegal trade. In addition to his work on wildlife crime, Dr. Pires has published several articles on how other deviant behavior, such as kidnappings for ransom and illicit smoking, is clustered in space and time, while illustrating the benefits of using GIS to inform prevention policy. Dr. Pires has presented his research at numerous conferences on a national and international scale and has published in a variety of scholarly journals, including the *Journal of Research in Crime and Delinquency*, *British Journal of Criminology*, *Bird Conservation International*, *Ocean and Coastal Management*, *Journal of American College Health*, *Homicide Studies*, *Deviant Behavior*, *Studies in Conflict & Terrorism*, *European Journal on Criminal Policy and Research*, *Global Crime*, *International Journal of Comparative & Applied Criminal Justice*, and *Crime Science*. Dr. Pires is a member of the American Society of Criminology, Environmental Criminology and Crime Analysis, Center for Conservation Criminology at Rutgers University, International Green Criminology Working Group, and the Working Group Psittaciformes of the International Ornithologists' Union.

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and joy every day, and I am blessed to be your father. I hope to never let you down. To Pillow Pants, don't ever change.

**Stephen Pires:**

This book would not have been possible without a number of people I worked with over the years, which influenced my views on the nature of wildlife crimes and motivated me to continue conducting research in this field. First and foremost, I would like to thank Dr. Ron Clarke for exposing me to the field of wildlife poaching and trafficking while in pursuit of my Ph.D. at Rutgers University. If it were not for him asking me to study parrot poaching in Mexico on one fateful day, I might have never developed an interest in studying wildlife crime and written this book as a result. Dr. Clarke's passion to broaden the scope of criminology by studying unusual and understudied crimes, such as parrot poaching in Latin America, motivated me to carve out a new area of inquiry within criminology. In addition, I would like to thank my colleagues, Dr. Gohar Petrossian, Dr. Justin Kurland, Dr. Jackie Schneider, Dr. Daan van Uhm, Dr. José Tella, Mauricio Herrera, Dr. Nerea Marteache, Dr. Andrew Lemieux, and, of course, Dr. William Moreto, who asked me to help co-write this book. They have inspired me in one way or another and have contributed to the field of wildlife crime in significant ways. Above all I want to thank my wife, Rachel. Her support and encouragement has never wavered, despite all of the challenges, sacrifices, and surprises that have landed in our lives. And, last but not least, a special thanks to my two children, Sofia and Noah. Thank you for teaching me patience, and for occasionally sleeping through the night.

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