

Acknowledgements

This book builds upon work undertaken by us, separately and together, over the past two decades. In addition to this we have incorporated ideas and materials from as wide a range of sources as possible with the intent of acknowledging and recognizing the many diverse influences on 'green criminology' as an emerging field. Chapter 5 on Researching environmental harm draws heavily from a chapter in the *Routledge International Handbook of Green Criminology*, edited by Nigel South and Avi Brisman. The Glossary is taken from *Environmental Crime: A Reader*, edited by Rob White. We are grateful to our many colleagues worldwide who, in many different ways, have supported and contributed to this textbook. It is to them that we dedicate the present work.

Introduction

For many thousands of years humans have done things to the environment that have fundamentally transformed local landscapes and regional biodiversities. From bringing plants and animals from one region to new parts of the world, to polluting rivers and seas with industrial outfall and filling land and soils with human refuse, to fire burning in particular local biospheres, ecological change has been part and parcel of how humans have worked with each other, and nature, for millennia. Not all such activities have been viewed as harmful, nor has the transformation of local environments always been seen as a negative.

In ecological terms, however, today there are several areas of acknowledged harm that are garnering ever greater attention and concern from the scientific community and from the population at large. Global warming, threats to biodiversity, and new and ever more toxic forms of pollution and waste are combining to destroy ecological balance and in the process put the well-being and health of humans, eco-systems, non-human animals and plants at risk. We are killing the world as we know it.

In response to growing discontent about the state of the environment a distinctive, critical 'green criminology' has emerged in recent years that takes its focus from issues relating to the environment (in the widest sense possible) and social harm (as defined in ecological as well as strictly legal terms). Much of this work has been directed at exposing different instances of substantive environmental injustice and ecological injustice. It has also involved critique of the actions of nation-states and transnational capitalism for fostering particular types of harm, and for failing to adequately address or regulate harmful activity. Given the pressing nature of many environmental issues, it is not surprising that criminologists around the world are now seeing environmental crime and environmental victimization as areas for concerted analytical and practical attention.

This book

The purpose of this book is to introduce readers to the landscape of green criminology, a field characterized by convention and complexity, conversation and confrontation. The text is divided into three main sections:

Part I: Conceptual and methodological foundations provides an account of the theoretical and research foundations of green criminology. It outlines different perspectives and approaches to the study of environmental harm, including definitions of and challenges to legal notions of harms against the environment. This section identifies the different types of environmental crime, the varied ways in which researchers and scholars define such crimes, and how such analysis links to considerations of environmental, ecological and species justice.

Part II: Transgression and victimization involves a closer look at particular areas of environmental crime and harm. Here the concern is to provide detailed examination of specific topics such as climate change, abuse and harm to animals, threats to biodiversity, the problem of pollution and waste, and the plight of environmental victims. This section explores the effects of environmental harm through the lens of specific processes and activities that are diminishing ecological and species well-being.

Part III: Intervention and prevention takes up the question of what is to be done about environmental crime. Knowing about the damage and about criminality is one thing. But in the end it is how groups, organizations, institutions and societies respond to environmental harm that ultimately counts. This section discusses the nature of environmental regulation, the dynamics of environmental law enforcement and crime prevention, the limits and possibilities of environmental forensics and the role of environmental courts in stemming the tide of environmentally destructive practices and conduct.

A key question is how to conceptualize the nature and causes of environmental harm arising from human actions. In responding to this, green criminology traverses a very broad intellectual territory and canvasses many different concrete issues. Each chapter of this book features a series of topics for discussion, designed to take up some of the key issues and viewpoints on particular topics.

The chapters in the book are designed to stimulate student curiosity, to encourage thinking about the wide-ranging nature of environmental harms and crimes that have been (past), that are (present) and that are likely to be (future) perpetrated. Some of the discussions will resonate as shared concerns (e.g. many people can relate to issues of pollution and waste; less so perhaps to food riots). Regardless of where these events occur and whether they are currently prohibited (by law) or condoned (by the global marketplace) they represent issues for study. We hope you will use the ideas and information in this book as a springboard for identifying and researching environmental crimes and harms that arouse your interest, with a view to building upon the existing knowledge repository in the growing research frontier of green criminology.

Looking to the future

From the point of view of international affairs we appear to be looking at a future of fortresses and scarcities, of social conflicts over resources that are increasingly culminating in expressions of public anger. These types of issues are cutting

much closer to the bone than perhaps they used to – they are affecting real people in our time, and real people are making their voices heard (through street level protest and social media). This is all due to the pressures that we are collectively putting on the environment. As we modify, degrade and destroy the lifeblood of this planet, the tendency is to retreat into a fortress mentality that is protective of immediate perceived personal and community interests. Climate change will only exacerbate these tendencies as food, energy (i.e., oil) and water come into short supply, and climate-induced migration increases due to these and other pressures.

The scramble for what is left in terms of both renewable and non-renewable resources (i.e., minerals, fish, water, trees), in the context of climate-related scarcity and the accelerating limits to ecology, heighten the sense of foreboding and insecurity felt around the world. It also means that unscrupulous methods may be used in order to satisfy immediate (rather than long-term) self-interests – as in the case of illegal fishing and the substitution of horsemeat for beef. Environmental crimes such as these are, in effect, generated by global systemic pressures on the world's ecology.

The contribution of green criminology is to frame these kinds of general issues in terms of transgressions against humans, eco-systems and animals, and more broadly in the context of global economic and political pursuits. The concept of eco-justice embodies this, as it refers to the interrelated fields of environmental justice (humans and equity), ecological justice (intrinsic value of eco-systems) and species justice (rights and needs of animals). The tendency toward the 'fortress' society (again, at all levels) undermines the possibility and practice of eco-justice in its various manifestations.

Going against this fortress mentality requires a global vision, one that views universal human interests as achievable through a global ecological citizenship. If self-interest is only defined in terms of corporate profit and the 'national interest', then basically we are doomed to a life that is short, nasty and brutal. Sectional interests of this sort can only serve to divide the world into 'winners' and 'losers', an arrangement that has marked the advance of human history to date – but which cannot be sustained in the light of the catastrophic circumstances posed by climate change.

Our hope is that this book will inspire this and future generations of students to take up the issues, to research and critique environmental crimes (the unlawful) and environmental harms (the lawful but awful), and to demand a different future, one that embraces the study of environmental crimes and harms but also seeks out innovative approaches to negotiating this landscape in ways that lead to solutions. It is easy to raise and critique the issues, but it is much more difficult to be part of solutions that promote alternative ways of thinking about and solving the problems. The potential for change or action is all the more reason to get involved. If we remain silent about the destruction of the planet, the planet itself will go silent – because it no longer *is*. Green criminology as a field of study has great potential to make a contribution to altering the planet for the better, for all. This is its promise and its greatest challenge.

Conceptual and methodological foundations

Green criminology and environmental crime

Introduction

This chapter will discuss the following topics:

- what green criminology is;
- studying environmental harm;
- environmental crime and environmental harm;
- perspectives within green criminology;
- the systemic causes of environmental harm.

The term 'green criminology' first emerged in the early 1990s to describe a critical and sustained approach to the study of environmental crime (Lynch, 1990; South, 1998a and b). This chapter introduces the reader to green criminology and the different ways in which researchers and scholars examine issues pertaining to environmental crimes and harms. It outlines the distinctive features of green criminology, the main concepts and foci of analysis and the ongoing debates that mark its further and continuing development as a *bona fide* perspective within criminology.

A series of intriguing questions arise about precisely what it is that we are talking about when we invoke the name 'green criminology'. The term can refer to a specific focus on environmental crimes or harms: that is, a particular topic for sustained criminological analysis (such as poaching of parrots). Alternatively, it may refer to a conceptual approach premised upon certain notions of justice and particular moral frameworks, such as environmental justice or species justice. It may involve 'old' (that is, conventional) theories and perspectives (general strain theory, for example) applied to new areas (such as climate change), as well as 'new' methods and approaches (such as horizon-scanning) applied to old areas (e.g. illegal waste disposal). For some, green criminology is defined by networks and collaborations between scholars and researchers; for others, it is the objective content of the research that defines this field of enquiry.

Our view is that the field of green criminology ought to be defined as widely as possible, thereby allowing for diverse conceptual and empirical insights into

the nature and dynamics of environmental wrongdoing. For the purposes of this textbook, therefore, a wide spectrum of approaches, methods and perspectives are canvassed, accommodated and utilized under the broad canopy of green criminology.

What is green criminology?

Green criminology refers to the study by criminologists of environmental harms (that may incorporate wider definitions of crime than are provided by strictly legal definitions); environmental laws (including enforcement, prosecution and sentencing practices); and environmental regulation (systems of criminal, civil and administrative law designed to manage, protect and preserve specified environments and species, and to manage the negative consequences of particular industrial processes) (White 2008a, 2011a).

In general, green criminology takes as its focus issues relating to the environment (in the widest possible sense) and harm (as defined in ecological as well as strictly legal terms). Much of this work has been directed at exposing different instances of substantive social and ecological injustice. It has also involved critique of the actions of nation-states and transnational companies for fostering particular types of harm, and for failing to adequately address or regulate harmful activity.

The key focus of green criminology is environmental crime but green criminologists also study environmentally harmful activities not currently defined as crimes. Environmental crime is conceptualized in several different ways within the broad framework of green criminology. For some scholars, environmental crime is defined narrowly within strict legal definitions – it is what the law says it is. For others, environmental harm is itself deemed to be a social and ecological crime, regardless of legal status – if harm is done to environments or animals, then from the point of view of the critical green criminologist, it is argued that such harms ought to be considered a ‘crime’.

The interface of criminology with environmental issues, as a discrete field of study, and in a manner that involves increased and concerted professional attention and hands-on intervention has been forcefully advocated by Lynch and Stretesky (2003: 231):

In general, criminologists have often left the study of environmental harm, environmental laws and environmental regulations to researchers in other disciplines. This has allowed little room for critical examination of individuals or entities who/which kill, injure and assault other life forms (human, animal or plant) by poisoning the earth. In this light, a green criminology is needed to awaken criminologists to the types of major environmental harm and damage that can result from environmental harms; the conflicts that

arise from attempts at defining environmental crime and deviance; and the controversies still raging over possible solutions, given extensive environmental regulations already in place.

From a criminological perspective, taking up the challenge offered here will require rigorous and sophisticated analysis of the social dynamics that shape and allow certain types of activities harmful to the environment (including to human and non-human species) to take place over time. This approach demands that environmental issues be framed within the context of a sociological and socio-criminological imagination (see Wright Mills 1959, White 2003, Young 2011). That is, study must appreciate the importance of situating environmental harm within its social and historical context. It is context (the economic, social and political conditions in which environmental transgressions occur) that gives a study specificity. Interpretation and analysis need to take into account how current trends reflect the make-up of global and local societies, the overall direction in which those societies are heading, and the ways in which diverse groups of people are being affected by particular social, economic and political processes.

The kinds of harm and crime studied within green criminology include illegal trade in endangered species, such as the trade in exotic birds or the killing of elephants for their ivory tusks; illegal harvesting of ‘natural resources’, such as illegal fishing and logging; and illegal disposal of toxic substances and the resultant pollution of air, land and water. Wider definitions of environmental crime extend the scope of analysis to consider harms associated with legal activities (such as the clear felling of old-growth forests) and the negative ecological consequences of new technologies – such as use of genetically modified organisms in agriculture (e.g. reduction of biodiversity through extensive planting of GMO corn). More recent considerations include the criminological aspects of climate change, from the point of view of human contributions to global warming (e.g. carbon emissions from coal-fired power plants) and the criminality associated with the aftermath of natural disasters (e.g. incidents of theft and rape in the wake of Hurricane Katrina in New Orleans).

Environmental crime and environmental harm

The study of environmental crime is not new, although green criminology as a distinctive perspective within criminology is. Environmental crime frequently embodies a certain ambiguity. This is because it is not only located in models of risk (e.g. the precautionary principle) or evaluated in terms of actual harms (e.g. polluter pays), but is also judged in the context of cost-benefit analysis (e.g. license to trade or to pollute or to kill or capture). This goes to the heart of why environmental crime itself is consistently undervalued in law. The label of environmental crime tends to be applied to specific activities that are otherwise lawful or licensed (e.g. cutting down trees, pulling fish from the ocean), since these are viewed as not being intrinsically criminal or ‘bad’. It is the context that makes

something allowable or problematic. To take another example, harm to the environment is, in many situations, considered to be acceptable (for instance in certain circumstances we are prepared to allow pollution under licence or authorization) because it is an inherent consequence of many industrial activities which are seen to provide significant benefits.

The 'wrongdoing' studied within green criminology is initially informed by legal conceptions and constructions of harm. The nature and seriousness of harm – what makes something 'criminal' or not – is captured in the distinction between illegality (*malum prohibitum*) and serious harm (*malum in se*).

Illegality – malum prohibitum

This area of law refers to conduct that is prohibited by law but generally considered less serious than other types of social harms (homicide for example). In many situations harm to the environment is considered to be acceptable because it is an inherent consequence of industrial activities linked to significant economic benefits. Cutting down trees and pulling species out of the ocean are thus NOT intrinsically criminal or 'bad' activities from the point of view of the law. So the main issue here is 'managing the problem' (usually framed in terms of catch limits and allowable levels of pollution or toxicity); this is essentially a matter of regulation. Examples include the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal – the first, designed to regulate the international movement of species, and the second, to control the transfer of hazardous substances between countries. Within this framework, it is the illegal aspects of ordinary legitimate practices that are problematic. A key practical focus is developing the best tools and strategies possible to ensure compliance with licensing provisions and specific environmental regulations.

Serious harm – malum in se

This area of law refers to conduct inherently wrong by nature, and which is considered serious. The main issue here is 'eradicating the problem' (usually framed in terms of banning of specific substances and/or activities). The intent of the law is to prevent and abolish harmful practices, as seen for example in the application of public interest law in India to stop polluting industries from destroying sites of national significance (Mehta 2009). Another example of this approach is the Montreal Protocol, which effectively bans the use of ozone-depleting substances. An emergent demand, aligned to some extent with calls for recognition of Earth Rights (already manifest in some country's constitutions) is for a new international law on 'ecocide' (Higgins 2010). This would make extensive damage to, destruction of or loss of ecosystem(s) of a given territory an international crime (the fifth crime against peace).

Environmental crime is typically defined on a continuum ranging from strict legal definitions through to broader harm perspectives (see also Bricknell 2010). For example: 'an unauthorized act or omission that violates the law and is therefore subject to criminal prosecution and criminal sanction' (Situ and Emmons 2000: 3); 'an act committed with the intent to harm or with a potential to cause harm to ecological and/or biological systems and for the purpose of securing business or personal advantage' (Clifford and Edwards 1998: 26); 'criminal conduct that may have negative consequences for the environment' (UNODC 2011: 95); 'environmental harm is a crime' (White 2011a: 1).

The matter of legality does not prevent criminologists from critiquing certain types of ecologically harmful activities that happen to be legal, such as the clear felling of forests. From a criminal justice perspective, however, the issue of legality goes much deeper, to the heart of why *environmental crime itself is consistently under-valued in law*:

Of note is the consistent use of the preface 'illegal' in the listed activities constituting environmental crime, a preface not regularly employed when describing other categories of crime. This reflects the fact that some component or level of these activities is still condoned and that it only becomes illegal once a set boundary has been passed. The tipping point of illegality contrasts environmental crimes with other established criminal offences (Bricknell 2010: 4)

Specific types of environmental harm as described in law include things such as illegal transport and dumping of toxic waste, the illegal transfer of hazardous materials (e.g. ozone-depleting substances), the illegal traffic in radioactive or nuclear substances, the illegal trade in flora and fauna, and illegal fishing and logging. However, within green criminology there is a more expansive definition of environmental crime or harm that includes (White 2011a):

- transgressions that are harmful to humans, environments and non-human animals, regardless of legality per se; and
- environmental-related harms facilitated by the state, as well as corporations and other powerful actors, insofar as these institutions have the capacity to shape official definitions of environmental crime in ways that allow or condone environmentally harmful practices.

Issues pertaining to state crime (the state as perpetrator of environmental harm) and transnational corporate crime (including the legitimacy granted to ecologically destructive acts and omissions on the part of large firms) demand attention in their own right.

So, too, do definitions of crime – such as *ecocide* – that embody challenges to the powerful. *Ecocide* has been defined as 'the extensive damage, destruction to or loss of ecosystems of a given territory, whether by human agency or by other causes,

to such an extent that peaceful enjoyment by the inhabitants of that territory has been severely diminished' (Higgins 2012: 3). Where this occurs as a result of human agency, then it can be argued that such harm can be defined as a crime. The targets for action around ecocide include both nation-states and transnational corporations.

The label of environmental crime tends to be applied to specific activities that are otherwise lawful or licensed (e.g. illegal cutting down of trees) but rarely if ever to environmental harms involving wide-scale regional environmental destruction, such as war-related degradation (deforestation due to use of Agent Orange, for example) (see Al-Damkhi *et al.* 2009), or to harms generated at a systems level (e.g. ever-expanding production and consumption of commodities) (White 2013a).

Harm has been described as a 'normative concept that reflects underlying social judgements about the good and the bad', and environmental harm specifically has been defined as 'a setback to human interests that community norms have deemed to be significant' (Lin 2006: 901). The varied dimensions of harm are demonstrated in the contemporary proliferation of information about chains of causation that generate direct, indirect, immediate and cumulative harms (Lin 2006; Heckenberg 2010). Harm in this context is complex and transferable.

Harm can also be defined, negatively, in terms of loss or diminishment. A key concept here is that of sustainability, where this refers to notions of ongoing ecological and environmental balance over time (Merchant 2005; Al-Damkhi *et al.* 2009). A loss of environmental resources or biological diversity can thus be construed as harmful if 'sustainability' is the yardstick by which harm is measured. The deliberate destruction or depletion of resources that significantly impact a region's economic or ecological stability would therefore be considered an environmental crime (Al-Damkhi *et al.* 2009: 121), as would those harms associated with the concept of ecocide (Higgins 2012).

Green criminology's broader conceptualizations of environmentally adverse activities are essential in evaluating systemic, as well as particularistic, environmental harms (Beirne and South 2007). For example, the current environmental regulatory apparatus, informed by the ideology of 'sustainable development', is directed at bringing ecological sustainability to the present mode of producing and consuming – one based upon the logic of growth, expanded consumption of resources and the commodification of more and more aspects of nature. Harm, in this case, is built into the system (see Boyd 2003; White 2013a).

It is important therefore to distinguish (and make the connection between) specific instances of harm arising from imperfect operational practices (such as pollution spills), and systemic harm created by normatively sanctioned forms of activity (such as clear felling of Australian, Brazilian and Indonesian forests). The first is deemed to be 'criminal' or 'harmful' and thus subject to coercive social control. The second is not considered a criminal matter, although subject to regulation. The overall consequence is for global environmental problems to get worse, even in the midst of the proliferation of a greater range of regulatory mechanisms, agencies and laws.

Green criminology is premised upon the idea that we need to take environmental harm seriously. For some exponents this also means that we need conceptualizations of harm that go beyond conventional understandings of crime (Beirne and South 2007). Every green criminologist agrees that destructive and damaging human activities that harm environments warrant greater attention than has hitherto been the case within criminology. Yet, if ecological (and social and economic) welfare is to be maximized, then there is also a need to expand notions of what actually constitutes environmental crime. Harm, as conceived by critical green criminologists, for example, demands more encompassing definitions than that offered by mainstream law and criminology. This is because some of the most ecologically destructive activities, such as clear felling of old growth forests, is quite legal; while more benign practices, such as growing hemp for productive purposes, is criminalized.

Green criminology therefore provides an umbrella under which to theorize and critique both *illegal* environmental harms (that is, environmental harms currently defined as unlawful and therefore punishable) and *legal* environmental harms (that is, environmental harms currently condoned as lawful but which are, nevertheless, socially and ecologically harmful). How harm is conceptualized is thus partly shaped by how the legal-illegal divide is construed within specific research and analysis.

Studying environmental harm

There are a number of intersecting dimensions that need to be considered in any analysis of environmental harm (White 2008a). These include consideration of who the victim is (human or non-human); where the harm is manifest (global through to local levels); the main site in which the harm is apparent (built or natural environment); the scale of the harm (contained, dispersed, cumulative) and the time frame within which harm can be analysed (immediate and delayed consequences). Many of the main features pertaining to environmental harm are inherently international in scope and substance, although they can be acutely local in terms of their impact.

Indeed, the categorization of environmental harm is varied, in that there are different ways in which environmental crimes have been conceptualized and classified. From the point of view of environmental law, for example, environmental harm encapsulates a wide range of concerns, some of which are subject to criminal sanctions but many of which are not (Boyd 2003). The kinds of issues canvassed under environmental law relate to laws and policies intended to protect water (e.g. pollution), air (e.g. ozone depletion), land (e.g. pesticide regulation) and biodiversity (e.g. endangered species). From the point of view of harm, writers have also incorporated under the environmental harm umbrella concerns relating to employee health (e.g. exposure to radioactivity) and pathological indoor environments (e.g. the home, hospitals, workplaces) (Rosoff, Pontell and Tillman 1998; Curson and Clark 2004). Criminologists and others thus categorize environmental crimes in varying ways, and how they do so has implications for their study.

For instance, Carrabine *et al.* (2004) discuss environmental crimes in terms of primary and secondary crimes. Green crimes are broadly defined simply as crimes against the environment. *Primary crimes* are those crimes that result directly from the destruction and degradation of the earth's resources, through human actions. *Secondary or symbiotic green crime* is that crime arising out of the flouting of rules that seek to regulate environmental disasters. The first set of crimes relates to the harm as being bad in itself; the second relate to breaches of law or regulation associated with environmental management and protection.

In recent years researchers have studied a wide range of environmental harms associated with both 'green' and 'brown' issues.

'Green' types of environmental crime

Studying these types of crimes has been motivated by either a concern with species justice or an interest in conventional environmental crimes, such as illegal fishing. For instance, work over the past decade has been carried out in respect to:

- deforestation and the devastation to plant, animal and human welfare and rights that has accompanied this process (Boekhout van Solinge 2008a and b, 2010a and b; Halsey 2005; Green, Ward and McConnachie 2007; Bisschop 2012a);
- the illegal theft and trade in reptiles in South Africa (Herbig 2010);
- fishing-related crimes, including the poaching of abalone and of lobster (Tailby and Gant 2002; McMullan and Perrier 2002; Petrossian 2012);
- animal abuse that involves both systemic uses of animals, such as factory farming, and one-on-one abuse of animals (Beirne 2009; Sollund 2008);
- crime prevention and the illicit trade in endangered species involving many different kinds of animals (Wells 2010; Schneider 2008);
- the illegal wildlife market in Africa, in particular the trade in elephant ivory (Lemieux and Clarke 2009) and the illegal wildlife trade in Russia (South and Wyatt 2011).

'Brown' types of environmental crime

In regard to 'brown' issues, the production and disposal of waste is a matter of significant concern to academic researchers interested in questions of environmental harm. Relevant examples of such research include:

- the role of organized criminal syndicates in the dumping of waste, including toxic waste (Block 2002; Ruggiero 1996);
- inequalities associated with the location of disadvantaged and minority communities near toxic waste sites (Saha and Mohai 2005; Pellow 2007; Pindertughes 1996);

- the use of medical and epidemiological evidence in demonstrating the nature and dynamics of toxic crimes (Lynch and Stretesky 2001);
- the global trade in electronic waste as a form of environmental crime, which is of particular concern at the present time (Gibbs, McGarrell and Axelrod 2010b; Interpol 2009; Bisschop 2012b; Bisschop and Vande Walle 2013);
- the social and cultural context within which local residents come to perceive what it is that pollutes their neighbourhoods and local rivers (Natali 2010);
- environmental racism linked to the social status of being poor, part of a minority group or indigenous community (Bullard 1994; Bullard 2005a and Brook 1998);
- specific incidents where toxic materials have been dumped into developing countries by unscrupulous companies (White 2009d).

The range of substantive topic areas presently being investigated by green criminologists is growing. For example, there are also a variety of 'white' types of environmental crime (that is, those based upon laboratory procedures) that are likewise garnering attention. This is particularly true of the analysis and critique of genetically modified organisms (GMOs). The abrogation of human rights and United Nations agreements in attempts to impose GMO crops on reluctant nations (Walters, R. 2004, 2005, 2011) has been studied, as have the implications of GMO technology for third-world food producers (Mgbeoji 2006).

Perspectives within green criminology

Scholars and researchers have been working on issues pertaining to environmental crime for many years, although without necessarily using the label 'green criminology' to describe their work. For instance, environmental harm and crime has been linked to the activities of corporations and also to organized criminal syndicates in regard to the control and manipulation of waste disposal processes and the production and distribution of toxic chemicals (Pearce and Tombs 1998; Ruggiero 1996; Massari and Monzini 2004).

Case vignette 1.1 Green criminology in Slovenia, 1981

Opinions about the origins of environmental or green criminology differ but for criminologists in the European country of Slovenia, environmental crime and its consequences were on the horizon as early as 1981, when Pečar warned about new forms of criminality relating to green and environmental issues. Pečar was far-sighted and anticipated a need to define and forewarn about the advent of environmental crimes – he even spoke about the crime of ecocide. In 1981 environmental crime according to Pečar (1981: 40) was defined as:

every permanent or temporary act or process which has a negative influence on the environment, people's health or natural resources, including, building, changing, abandonment and destruction of buildings; waste processing and elimination of waste; emissions into water, air or soil; transport and handling of dangerous substances; damaging or destruction of natural resources; reduction of biological diversity or reduction of natural genetic resources; and other activities or interventions, which put the environment at risk.

(Cited in Eman *et al.* 2009: 578)

He characterized the pollution of nature and the environment as a devaluation of the environment, something he also called 'ecocide' – intentional destruction of the living environment. Under this term he classified examples of waste dumping and negative environmental interventions (Pečar 1981). Later, he identified the motivations for much environmental crime when he said: 'environmental crime results from selfishness, which is determined by the need for profit associated with the control of nature' (Pečar 1988: 116 (cited in Eman *et al.* 2009: 578)).

Others have looked specifically at environmental crime, but generally within conventional frameworks. Here the focus has been on traditional illegal activities associated with the environment (such as illegal fishing), analysed within traditional criminological theoretical approaches. The key concepts and concerns of this kind of conventional work have been based upon legal concepts of environmental crime, existing legislative and regulatory measures around environmental crime, and the nature of official environmental law enforcement (Situ and Emmons 2000; Fyfe and Reeves 2009; Shelley and Crow 2009). Related to this, a conventional legal approach to the study of environmental crime sees it as a violation of criminal law and civil statutes; essentially legal studies with environmental crime as the object of analysis (Brickey 2008; Bell and McGillivray 2008; Mehta 2009).

Questions pertaining specifically to environmental justice have also been of long-standing interest. The main thrust of this work has been to explore the empirical links between toxic environments and certain categories of people (inevitably the poor, the dispossessed and people of colour), and to actively struggle against the discrimination and racism which underpins such injustice. However, the key concepts and concerns of this work have emphasized issues relating to the distribution of environmental advantage and disadvantage, rather than crime *per se* (Bullard 2005a and b; Pellow 2007).

The early pioneers of a distinctive 'green criminology' sought to provide a particular and self-conscious branding of the kind of work they engaged in. This occurred in the 1990s and was characterized by writing about the need for criminology to take

environmental crimes seriously, and to do so in ways that would force criminology to rethink how it does what it does, and how to conceptualize the issues. Key concepts and concerns included the notion of green criminology itself as a concept, the idea that green criminology is a perspective not a theory, and the social and ecological importance of studying environmental crime and harm (Lynch 1990; South 1998a and b; Clifford 1998).

Green criminology has emerged in the last 20 years as a distinctive area of research, scholarship and intervention. It is distinctive in the sense that it has directed much greater attention to environmental crime and harm than mainstream criminology, and has heightened awareness of emergent issues, such as the problems arising from disposal of electronic waste (e-waste) and the social and ecological injustices linked to the corporate colonization of nature (including bio-piracy and imposition of GMO crops in developing countries).

While the unifying link between and among green criminologists is the focus on environmental issues, important theoretical and political differences are nonetheless becoming more apparent over time. For example, some scholars argue that green criminology must necessarily be anti-capitalist and exhibit a broad radical orientation (Lynch and Stretesky 2003). Others construe the task as one of conservation and natural resource management within the definitional limits of existing laws (Herbig and Joubert 2006; Gibbs *et al.* 2010a). Still others promote the idea that the direction of research should be global and ecological, and that new concepts need to be developed that will better capture the nature and dynamics of environmental harms in the twenty-first century (White 2011a).

As green criminology has grown as a specific area of concentrated scholarship and research, so, too, it has developed distinct sub-areas or perspectives that express quite different conceptualizations of the problem and how best to respond to it. Some of these are briefly summarized in Box 1.1. Importantly, any one writer may be aligned with more than one of the perspectives listed here – the categorizations are not mutually exclusive.

The hallmark of green criminology, regardless of diversity of opinion and the plurality of views, is that proponents argue for more attention to be given to environmental and ecological issues. It is interesting in this respect that a number of prominent criminologists are now utilizing their expertise from mainstream areas of criminology (e.g. situational crime prevention, general strain theory) to study specifically environmental issues such as illegal trade in elephant tusks, industrial pollution and social problems arising from climate change (Agnew 2012; Meško, Dimitrijevic and Fields 2010; Lemieux and Clarke 2009). Green criminology is not only expanding in its own right, but simultaneously there is a greening of criminology more generally.

Systemic causes of environmental harm

For many green criminologists the biggest threat to environmental rights, ecological justice and non-human animal well-being are system-level structures and pressures

Box 1.1 Perspectives within green criminology

Radical green criminology

A generic term to describe a *broad radical orientation* towards issues pertaining to *environmental harm* and crimes against nature.

Key concepts and concerns:

- ecological, environmental and species justice;
- anti-capitalist, anti-anthropocentric (or human-centred);
- environmentalist, animal rights.

Exemplar: Lynch and Stretesky (2003), who provide a trenchant critique of corporations and argue that green criminology ought to be defined precisely by its radical critique of the status quo.

Eco-global criminology

Designates a specific concern with the *transnational nature of environmental harm* and the ways in which transgressions against humans, ecosystems and animals manifest at a global level.

Key concepts and concerns:

- climate change;
- transnational environmental crime;
- ecological justice.

Exemplar: White (2011a), who argues that ecological criteria should underpin analysis, and that such analysis should be highly cognizant of the importance of scale, that incorporates the intersections of the local, national, regional and international.

Conservation criminology

Designates a specific concern with *natural resource conservation* and management that draws upon criminological concerns, and with environmental law enforcement and *environmental crime as legally defined*.

Key concepts and concerns:

- conservation;
- natural resource management;
- risk assessment and analysis.

Exemplar: Gibbs *et al.* (2010a), who argue for an integration of criminology with natural resource disciplines and the risk and decision sciences, so that the study of environmental crimes and risks better incorporates interdisciplinary scholarship.

Environmental criminology

Designates a conventional criminological approach to dealing with environmental crime as legally defined, drawing mainly upon place-based criminology (also known as 'environmental criminology') that concentrates on *situational crime prevention*.

Key concepts and concerns:

- situational crime prevention;
- market reduction approach;
- illegal wildlife trade.

Exemplar: Wellsmith (2010), who argues that place-based criminology and situational crime prevention have much to offer in reducing environmental harm, especially in areas such as 'wildlife crime' and endangered species conservation.

Constructivist green criminology

Designates an approach to the study of environmental harm and crime from the point of view of constitutive or constructivist criminology that emphasizes how categories and labels are socially and politically constructed.

Key concepts and concerns:

- language of criminological analysis;
- subjective elements of crime constitution;
- media studies.

Exemplar: Brisman (2012a), who argues for the need to deconstruct categories such as 'crime', 'criminal' and 'victim' in analyses of environmental harm, so that underlying relations of power and the labelling processes can be exposed, as in the case of contrarianism and climate change (see also Brisman and South 2012).

Specieist criminology

Designates a focus on *specieism* as the main target for criminological research and *critique of anthropocentrism* in the construction of environmental issues,

insofar as species and individual members of species are seen to have intrinsic value and rights.

Key concepts and concerns:

- speciesism as a form of discrimination;
- abuse of animals, including factory farms;
- illegal wildlife trade.

Exemplar: Beirne (2009), who argues that abuse and degradation of animals has to be analysed in its historical and social contexts, and that major questions need to be answered regarding how, why, where and when animal abuse occurs.

Source: White 2013b

that commodify all aspects of social existence, that are based upon the exploitation of humans, non-human animals and natural resources, and that privilege the powerful over the interests of the vast majority. It is for this reason that assessment of environmental wrongdoing also requires critical scrutiny of how nation-states themselves intervene with regard to specific environmental harm issues.

Consideration of who is responsible for environmental harm can be approached by acknowledging that, in part, the answer depends upon the level of abstraction one applies. Even though they are intrinsically linked, there are major differences between explanations that focus on systemic answers and those that examine immediate situational causes of harm or risk. Here students might consider several of the more general explanations for ecological calamity that point to particular sorts of 'perpetrator' as the source of the problem (see White 2011a for more detailed exposition).

Humans are responsible

The argument here is that humans are responsible for much of the destruction of ecological systems and, as such, are the key agents of environmental harm/crime in the contemporary time period. The argument is that the problem lies in how humans as a whole transform their immediate environments for their own purposes. The net result is to the detriment of both human and non-human, but the causal force of environmental degradation is ultimately human. The idea of blaming the human species, however, can be subjected to counter-factual analysis. That is, if all humans are implicated in the harm, then all humans must by their own 'human' nature be destructive. Yet we know from accounts of indigenous relationships with nature, to take one example, that some humans have lived countless years in harmonious relationship with their local ecosystems

(see Robyn 2002). We also know that some contemporary communities in places such as India are actively reconfiguring their relationship with nature in ways that are ecologically sustainable and that promote biodiversity (see Shiva 2008). It is only at a very high level of abstraction, then, that we can place blame on humans. The more grounded the analysis becomes – the more reflective of specific groups and communities – the more tenuous the sweep of the generalization.

Technology is responsible

Another perspective places the emphasis on technology as a perpetrator or facilitator of environmental harm. In this scenario, technology is seen as that which creates the risks and harms. It is the motor car, the factory, the tractor, the coal-fired power station, the dam, the fertilizer, that is the problem. In response, proposals to downshift to a low-tech future might be interpreted as a 'blame the technology' kind of argument. Against this is the acknowledgment that the technology question is inherently about the social character of collective practice. Davison (2004: 144) points out that 'Technologies of genetics, biology, energy, matter and information cannot be neatly sorted into good and bad, or sustainable and unsustainable, piles'. What counts is the specific social and ecological conditions under which technologies are utilized and applied. The social context of technological use and development is therefore crucial.

Population is responsible

Overpopulation is frequently touted as the most important factor or variable in ecological destruction. Put simply, there are too many people on the planet for the planet to be able to sustain them. In ecological terms, this is often expressed in the language of ecological footprint. The solution is to reduce the number of people if we are to survive. Again, while it is true that the many billions of humans on the planet are contributing to global warming, loss of biodiversity and increased waste and pollution, to blame population *per se* risks pitching the problem at too abstract a level of explanation. For instance, the bulk of consumption is generated by consumers in advanced industrialized nations – the metropolises rather than the periphery. Moreover, it is the displacement of the poor and the profound social inequalities between North and South (and within these) that make for desperate people doing what they can to survive. Population growth is substantively linked to economic, social and political circumstance insofar as the more affluent one is, the less the proclivity to reproduce to the same extent as those who have little. Again, the question of power (and inequality) is a factor here, since it is those who 'have' who are most likely to favour controlling population policies in regard to those who do not.

Capitalism is responsible

Even a cursory examination of dominant world political economic trends reveals the close link between capitalism as a system and environmental degradation and transformation generally (see Chapter 2). The key aspects of contemporary political economy include accumulation as the economic engine: one that is based upon the exploitation of natural resources, non-human animals and people. While a system can be seen to be to blame (in the sense of being instrumental) for environmental degradation, it is nevertheless perplexing when it comes to assigning specific responsibility. Systems are deemed to be blameworthy, but they are not *responsible*, insofar as there is no single 'controlling mind'. Systems may be subjected to social and moral condemnation, and they may invoke substantive movements towards reform and revolutionary change. But there is no perpetrator as such. A simplistic blaming of capitalism therefore, provides little more than rhetorical shorthand for 'something is wrong', rather than providing a guide to who, precisely, is doing what within the overarching parameters of global capitalism.

Corporations are responsible

As with blaming capitalism for everything, there is a temptation to likewise blame transnational corporations (TNCs) for everything. A sizeable literature exists that spells out the many ways in which TNCs escape or minimize negative media coverage for acts or omissions that cause harm (Lynch, Stretesky and Hammond 2000), proactively use green-washing techniques to make them seem environmentally responsible or good corporate citizens (Beder 2002), threaten critics and environmental activists with lawsuits (Beder 2002; White 2005b) and generally make life difficult for those trying to expose their wrongdoing (White 2008a). The powerful have many ways in which to protect their interests. However, there is great variability between and within TNCs in terms of core activities, nature of executive decisions, and relationship to workers, consumers and environments. Again, more precision is needed in analysing the actual role and behaviour of specific companies, rather than relying upon stereotype and over-generalization (contrast, for example, Braithwaite and Drahos 2000 and Bakan 2004).

According to Williams (1996) it is important to phrase a definition of crime or harm as 'consequence of' rather than 'caused by'. This is because of the technical difficulties in proving causation in many instances of environmental harm. In the light of this it is not surprising that there are frequently deliberate denials of causal links, and hence the avoidance of liability and responsibility by perpetrators. Williams (1996: 26) argues that these are particularly important issues in relation to the environment insofar as 'the complexity of establishing causation creates an easy escape for perpetrators, and the scale of remediation is usually immense and so the incentive to avoid liability is great'. One task of green criminology is to expose the consequences of actions and omissions on the part of individuals, groups, organized gangs, corporations and nation-states.

Conclusion

The study of environmental crime is not new, although green criminology as a distinctive perspective within criminology is. The expansion of green criminology as a discrete body of work involving particular academics and practitioner networks is, ironically, based upon the notion of exclusivity – that is, that there is something unique and distinctive about this activity called 'green criminology' that sets it apart from other types of social scientific investigation. Conversely, the embrace of climate change and illegal wildlife trade within mainstream criminological circles represents a move toward inclusivity – that is, the field of criminology is sufficiently elastic to allow the incorporation of the study of environmental harm and crime more deeply into its conceptual and methodological universe.

The benefit of labelling this type of scholarly activity as 'green criminology' is that it has provided a focal point for people around the world who share a passionate interest in analysis of, and action around, environmental crimes and harms. This has been important in terms of building networks of scholars and researchers, and has led to an increasing number and variety of public forums where environmental crime is discussed and debated from diverse perspectives. While not precluding individuals from working on their own or in isolation from others, the sense of collective mission has been important in consolidating this area of work, in raising its status and profile within mainstream academic bodies and governmental organizations, and in engendering new conceptualizations and methodologies. The enhanced circulation and cross-fertilization of ideas and knowledge has been largely beneficial to all concerned. What unifies the diverse approaches under the green criminology umbrella is a concern with the environment informed by the pursuit of justice, whether this is legal, social or ecological.

The present and future directions for green criminology feature two key drivers that are propelling interest in this area. The first is the nature of contemporary environmental problems and the increasing realization of impending crisis related to these. The degradation and destruction of specific environments and the extinction of species is having manifestly negative impacts across the globe. This can no longer be ignored. Likewise, climate change is rapidly and radically altering the social and ecological landscape, in ways that warrant immediate and urgent attention from criminologists. The natural world, of which humans are a part, is demanding intervention which criminology can and must contribute to. The second is increasing awareness of interesting overlaps and synergies between green criminology and other areas of criminology. The latter include mainstream or conventional areas, for example, situational crime prevention and general strain theory. It also includes novel and more recent areas of concern, such as cultural criminology. Heightened interaction across conceptual domains is generating increasing interest in a green criminology that draws upon past knowledge, critiques the present and looks to the future.

Discussion topics

- Green criminology is a perspective not a theory. What does this mean, and how does it relate to the conceptual foundations and historical origins of green criminology?
- The state defines what is criminal or not. Why is this important to the development of extra-legal definitions of environmental harm?
- Why is it called 'green criminology'?
- What are some of the key differences between laws designed to regulate and manage an environmental problem (e.g. CITES and illegal trade in wildlife) and laws intended to eradicate a problem (e.g. Montreal Protocol and banning of ozone-depleting substances)?
- Different causes create different problems. Discuss this in reference to specific examples of environmental harm.

Further reading

- Beirne, P., and South, N. (eds) (2007). *Issues in Green Criminology: Confronting harms against environments, humanity and other animals*. Cullompton: Willan Publishing.
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- Ellefsen, R., Sollund, R., and Larsen, G. (eds) (2012). *Eco Global Crimes: Contemporary problems and future challenges*. Farnham: Ashgate.
- Nurse, A. (2013). *Animal Harm: Perspectives on why people harm and kill animals*. Farnham: Ashgate.
- Walters, R., Westerhuis, D., and Wyatt, T. (eds) (2013). *Emerging Issues in Green Criminology*. Basingstoke: Palgrave Macmillan.

Eco-global criminology and transnational environmental crime

Introduction

This chapter will discuss the following topics:

- eco-global criminology;
- the contours of global capitalism;
- transnational environmental crime; and
- horizon-scanning.

Eco-global criminology, as noted in Chapter 1, is one of several perspectives that fall under the broader rubric of green criminology. This chapter outlines the core concerns of eco-global criminology as these relate to concepts of harm, the globalization of harm, global political economy and the increasingly transnational nature of environmental crimes and harms. It closes with a discussion of eco-global criminology's adoption of horizon-scanning as a useful tool for examining over-the-horizon issues and trends that are likely to generate environmental crimes and harms now and into the future.

A concern with environmental crime inevitably leads the analytical gaze to acknowledge the fusion of the local and the global, and to ponder the ways in which many such transgressions transcend the normal boundaries of legality, jurisdiction, geography and social divide. This observation is important because so much environmental harm is intrinsically transnational in nature. Contemporary discussions of environmental crime, for example, deal with issues such as the illegal transport and dumping of toxic waste, the proliferation of electronic waste, transborder pollution that is either systematic (via location of factories) or related to accidents (e.g. chemical plant spills), the illegal trade in flora and fauna, and illegal fishing and logging. Whether conceptualized in conventional legal terms or based upon more encompassing ecologically-based conceptions, harm is by nature mobile and easily subject to transference.

Moreover, the systemic causal chains that underpin much environmental harm are located at the level of the global political economy – within which the transnational corporation stands as the central social force – and this, too, is reflected