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.

Brisman, A., Beirne, P. and South, N. (2013). 'A guide to a green criminology', in N. South and A. Brisman (eds), *The Routledge International Handbook of Green Criminology*. London: Routledge.

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

in the pressing together of the local-global at a practical level. International systems of production, distribution and consumption generate, reinforce and reward diverse environmental harms and those who perpetrate them (White 2002, 2008a, 2013a). These range from unsafe products to reliance upon genetically modified grains, the destruction of out-of-date ships and planes through to the transportation and dumping of hazardous wastes. Engaging with green criminology requires a sense of scale, and of the essential interconnectedness of issues, events, people and places.

Eco-global criminology

Eco-global criminology refers to a framework of analysis where the emphasis is on the ecological, the transnational and questions of justice. The substantive focus of eco-global criminology is transgressions against ecosystems, humans and animals. It draws upon three intertwined conceptual categories: the ecological, the global and transnational, and the harmful (White 2011a). It is not a 'theory' as such, since it does not purport to offer overarching causal explanations for transnational environmental crime (for example, to blame it on 'capitalism' or 'overpopulation' or 'specieism'). Instead the focus is on how things are as they are, and how they can be different in the future. Answers to the 'why' question are devolved to lower levels of abstraction (e.g. concrete cases relating to prosecution of offenders) and are specific to the topic at hand (e.g. explanations for the low penalties assigned to environmental offenders). The objective is to get to the bottom of what happened, how it happened, why it happened, and who knew about it and when – as these pertain to specific cases and events.

As a perspective, eco-global criminology is about seeing and analysing the world around us in certain ways. What marks it out from other green criminological perspectives is the attention given to specifically ecological considerations of harm (the lawful but awful) rather than criminal definitions (the unlawful) as such, as well as a global perspective on issues and events. The major threats to planetary well-being posed by climate change, diminished biodiversity, and pollution, for example, are considered core issues. Global environmental issues like climate change are altering the way we see the world, so that activities once considered lawful may become unlawful in the future, because of their consequences for people in other parts of the world as well as for future generations of all species and their habitats. Climate change has also heightened awareness of the mobility of certain environmental harms (e.g. toxic substances released from melting glaciers or leaching from clusters of industrial businesses during weather-related storms and floods).

To fully appreciate the nature of global environmental crime and injustice it is important to consider the physical location and scale of harm within particular geographical contexts. For eco-global criminology this means plotting out myriad different types of harm, recognizing that some are common across the world whilst others are specific to particular locales, regions and countries. The links between geographical scale and environmental harm can be spelled out through a simple mapping of environmental harms in different places around the world. In this way, layer after layer of harm, present and potential, can be determined by on the one hand investigating harmful ecological trends that involve degradation and destruction of environments (such as clear felling of forests), and on the other hand considering existing documentation of specific types of environmental crime (such as illegal international trade in plants and animals). These crimes are interconnected and intertwined in various ways. What happens at the local level has consequences for those on the other side of the planet. What happens in any one place is thus intrinsically important to what happens worldwide.

The production of global environmental harm is partly determined through complex processes of transference (Heckenberg 2010) that frequently relocate certain types of harm and harmful activities, to regions of least resistance. Harm can also be externalized from producers and consumers in ways that make it disappear (out of sight and outside the reach of adequate oversight). Producers may be unaware of or indifferent to the harms they cause to workers and consumers by what they produce. Consumers may be unaware of or indifferent to how what they consume creates harm elsewhere for humans and environments far removed from their everyday experience. The global trade in toxic waste (often under the cover of recycling), the illegal dumping of radioactive waste, carbon emission trading and the shifting of dirty industries to developing countries constitute some of the worst aspects of the 'not in my backyard' syndrome. The end result is a massive movement of environmentally harmful products, activities, processes and wastes to the most vulnerable places and most exploited peoples around the world

For eco-global criminology, the greatest threat to environmental rights, ecological justice and non-human animal well-being are system-level structures and pressures. Those who determine and shape the law are very often those whose activities need to be scrutinized and sometimes criminalized for the sake of planetary well-being. Environmental harm is thus highly contestable both at the level of definition, and in terms of visions of what remedies are required for desired social and ecological change.

Analysis of broad trends indicates that it is systemic imperatives and historical transformations associated with global capitalism that, in today's world, ultimately shape what it is that individuals do in and with their lives and their environments. Eco-global criminology thus is informed by ecological considerations and by a critical analysis that is worldwide in its scale and perspective. It is based upon eco-justice conceptions of harm that include consideration of transgressions against environments, non-human species and humans (see Chapter 3). For this kind of criminology the first question to ask is 'what harm is there in a particular activity?', rather than whether the activity is legal or not. Eco-global criminology

incorporates substantive concerns based upon considerations of ecology, geography and justice.

Ecology

Eco-global criminology is distinctive in its attention to specifically ecological considerations of harm, and a global perspective on issues and events. A major concern, therefore, is to highlight the importance of research into and action around threats to planetary well-being posed by climate change, diminished biodiversity and pollution. For example, in large measure the problem of climate change is directly related to how humans across the globe produce and consume, distribute and exchange the fruits of their labour. While, to date, the impact of climate change on humans has been felt disproportionately in the developing countries, recent estimates indicate that more affluent countries in the West are now beginning to experience climate-related disasters (see UNEP 2007a). Plants and animals are affected not only by global warming (e.g. through threats to habitat and weather changes), but also by human efforts to mitigate and adapt to climate change (e.g. deforestation linked to planting of GMO crops). Threats to biodiversity (see Chapter 8) and the problem of waste (see Chapter 9) likewise contribute to unhealthy and insecure environments and futures.

Geography

To fully appreciate the nature of global environmental crimes it is essential to consider the physical location of harms within particular geographical contexts. There are myriad different types of harm, some common across the globe, others, however, specific to particular locales, regions and countries. This is illustrated in Table 2.1.

Table 2.1 Geographical scale and environmental harm

Scale	*Example*
The Local	Lobster poaching in Nova Scotia, Canada
	Abalone theft in Tasmania, Australia
The National	Pollution related to pastoral industry in New Zealand
	Issues of drinking water in Palestine, Israel and Jordan
The Regional	Logging in the forests of the Amazon
	Killing of elephants for their tusks in Africa
The Global	Global warming and natural disasters
	Formation of huge plastic dumps in oceans
The Transnational	Global trade in toxic waste
	Shifting of dirty industries to developing countries

Source: White 2011a

The harms so described are interconnected and intertwined in various ways: what happens at the local level has consequences for those on the other side of the planet. What happens in any one place is intrinsically important to what happens worldwide.

Crime and justice

From the point of view of eco-global criminology, analysis of transnational environmental crime needs to incorporate different, albeit inter-related, notions of harm (White 2011a). These include:

1. *Legal conceptions* of harm informed by laws, rules and international conventions, pertaining to unlawful practices such as illegal fishing or the transportation and transference of banned substances (major concerns of conventional criminology).
2. *Ecological conceptions* of harm, informed by holistic understandings of the interrelationship between species and environments, situate the key issue of ecological sustainability in the context of global warming and species extinction (major concerns of ecology and environmental studies).
3. *Justice conceptions* of harm, informed by notions of human, ecological and animal rights, and egalitarian concerns such as preserving complex ecosystems for their own value and preventing animal abuse (major concerns of green criminology).

These three approaches (see Box 2.1) incorporate competing yet overlapping notions of harm (both within and between each approach) that one way or another have to be acknowledged in eco-global criminological research.

The argument underpinning Box 2.1 is that if ecological (and social and economic, and human and non-human) welfare is to be maximized, then there is a need to expand existing notions of what actually constitutes an environmental crime (see Chapter 1). When criminalization does occur, it often reflects very limited anthropocentric (human-centred) notions of what is best (e.g. protection of legal fisheries and legal timber coups) that values 'nature' and 'wildlife' simply and mainly in terms of their worth as resources for human exploitation. It is about private property and business interests and monopolies and sustainable development. The intrinsic value of specific ecological areas and non-human species tends to be downplayed or ignored. Furthermore, exploitation of environments, plants and animals is treated as if they are equivalent – based upon their use-value to humans – rather than in the light of individual suffering and the lived experience of harm.

Rather than being restricted by the limitations of the legal/illegal divide, eco-global criminology asserts the prior importance of and urgency associated with *ecological sustainability*. This approach assesses 'harm' in many different

Box 2.1 Three approaches to conceptualizing environmental harm

Legal conceptions of harm (conventional criminology)

- Illegal taking of flora and fauna: includes activities such as illegal, unregulated and unreported fishing, illegal logging and trade in timber, and illegal trade in wild plants and animals.
- Pollution offences: relates to issues such as fly tipping (illegal dumping) through to air, water and land pollution associated with industry.
- Transportation of banned substances: refers to the illegal transport of radioactive materials and the illegal transfer of hazardous waste.

Ecological conceptions of harm (ecology and environmental studies)

- Problem of climate change: the concern is with those activities that contribute to global warming, such as the replacement of forests with cropland.
- Problem of waste and pollution: the concern is with those activities that defile the environment, leading to things such as the diminishment of clean water.
- Problem of biodiversity: the concern is to stem the tide of species extinction and the overall reduction in species resulting from certain forms of human production, including use of genetically modified organisms.

Justice conceptions of harm (green criminology)

- Environment rights and environmental justice: in which environmental rights are seen as an extension of human or social rights so as to enhance the quality of human life, now and into the future.
- Ecological citizenship and ecological justice: in which ecological citizenship acknowledges that human beings are merely one component of complex ecosystems that should be preserved for their own sake, via the notion of the rights of the environment.
- Animal rights and species justice: in which environmental harm is conceptualized in terms of the place of non-human animals within environments and their intrinsic right to not suffer abuse, whether this be one-on-one harm, institutionalized harm or harm arising from human actions that affect climates and environments on a global scale.

contexts and guises, regardless of legal status and existing institutional rationalizations as to why harmful activities should be allowed to occur.

The close relationship between the legal and the illegal, especially when it comes to environmental harm (White 2008a), also means that eco-global criminology frequently has to confront issues of power and powerful social interests. This has several implications in regard to gaining access to data and information, and for carrying out research in various parts of the world. The link between vested private interests, state interests and environmental harm is also of concern.

The contours of global capitalism

There is a close link between capitalism as a system and environmental degradation and transformation (see Stretsky, Long and Lynch 2013). The sphere of production is dominated by the production of commodities, the advance of technology and bio-technologies, and the exploitation of labour (in both developed and developing countries) in the service of mass production of goods and services that, in turn, demand a high turn-over rate. Extensive and intensive forms of consumption are essential to the realization of surplus value – that is, profit depends upon a critical mass of buyers purchasing mass-produced commodities. The link between production and consumption is found in the form of specific kinds of distribution processes (e.g. transportation of goods and services, retail outlets, storage, roads, railways, bridges, and ships) and exchange mechanisms (e.g. finance capital, credit availability) that sustain and contribute to extensive use of natural and human resources. Economic efficiency is measured in how quickly and cheaply commodities can be produced, channelled to markets, and consumed, a process inherently exploitive of both humans and nature.

In essence, the competition and waste associated with the capitalist mode of production have a huge impact on the wider environment, on humans and on non-human animals (for example, in the form of pollution and toxicity levels in air, water and land). These same processes pose major threats to biodiversity and the shrinking of the number of plant and animal species generally. This is related to both the legal and illegal trade in species, as well as to mass industrial production and extensive use of genetically modified organism (GMO) technologies.

At the heart of these processes is a political culture which takes for granted, but rarely sees as problematic, the proposition that continued expansion of material consumption is not only possible but will not harm the biosphere in any fundamental way. Built into the logic and dynamics of capitalism is the imperative to expand (Foster 2002), a tendency that is reinforced and facilitated by neo-liberal ideologies and policies. Arising from this growth imperative, there are several intertwined elements that have contributed to the dominance and entrenchment of the capitalist mode of production on a world scale. These include (White 2010b):

- *Privatization* – transition from common property to private property, accompanied by a shift toward concentrated private ownership and management, and greater reliance on market mechanisms rather than government controls to distribute goods and services, and protect environments.
- *Commodification* – transformation of use-value into exchange-value, as more and more aspects of social life and environment are commercialized, and 'worth' is gauged by how much something (including basic necessities, such as water) sells for on the commodity markets.
- *Massification* – mass production of goods and services, including for niche markets, facilitated by technologies such as the internet, but nonetheless accompanied by the simplification of consumables including foods (e.g. fewer varieties of tomato or corn) and other goods and services, which are reduced to a narrow range of choices (e.g. difference between specific products is superficial rather than substantive).
- *Globalization* – monopolization of control over production by corporate conglomerates via takeovers and mergers worldwide, and the penetration of the transnational corporation into local markets and practices, thus transforming the nature of production and consumption in these sites.

Capitalism in essence means expansion, and these social processes are intended precisely to bolster growth and further extend capital accumulation.

Systemic imperatives to expand imply that 'natural resources' are themselves subject to varying processes of commodification: that is, the transformation of existing or potential use-values into exchange-values (for example, clean drinking water becomes something to be bought and sold among consumers, rather than being a right for citizens). One consequence of commodification is that the distribution of goods and services using market mechanisms is privileged, rather than, for instance, being based upon communal and ecological assessments of need. In this context – and somewhat perversely – scarcity of, for example, clean drinking water, makes the natural commodity even more valuable to the owner. Scarcity thus equates to high profit levels (White 2003; South 2012).

The four elements – water, air, earth (land), sun (energy) – are ever more subject to conversion into something that produces value for private interests. Capitalism is always searching for things that can be transformed from simple use-values (i.e., objects of need) into exchange-values (i.e., commodities produced for exchange). This extends to 'nature' as it does to other kinds of objects. For example, what may have been formerly 'free' (e.g. drinking water), is now sold back to the consumer for a price (e.g. bottled water or metered water). Effectively consumption has been put at the service of production in the sense that consumer decisions and practices are embedded in what is actually produced and how it is produced. Yet it is via consumption practices, and the cultural contexts for constantly growing and changing forms of consumption, that production realizes its value.

Commodity production and consumption, then, takes place within the context of a global political system that is hierarchical and uneven. That is, sovereignty is historically and socially constructed through the prism of colonialism and imperialism, with certain nation-states holding greater power and resources (including military might) than others. The relationship between local, national, regional and global interests is construed within diverse social and political formations (e.g. United States, European Union, Association of South-East Asian Nations, African Union), but these, in turn, reflect the continuing legacy of a world divided into the 'haves' and 'have-nots'. The contours of this division are dictated by the strength of ownership and control over the means of production exerted regionally and globally by particular nation-states in conjunction with and in the interests of particular corporations. At the top of the hierarchy of nation-states is the United States.

The consolidation of a global capitalist system is at one and the same time reflective of gross inequalities within and between nation-states. There are winners and losers on the world stage, and this, too, is part of a broader historical and material process involving unequal trading relations between countries.

The appropriation of nature does not merely involve the turning of natural resources into commodities, and entrenching inequality via the global market but also frequently involves capital actually remaking nature and its products biologically and physically. It has been observed, for instance, that 'A precapitalist nature is transformed into a specifically capitalist nature' (O'Connor 1994: 158) in the form of genetic changes in food crops, the destroying of biological diversity through extensive use of plantation forestry, and so on. Indeed, the industrialization of agriculture (incorporating the use of seed and other patents) is one of the greatest threats to biodiversity, since this is one of the leading causes of erosion of plant genetic and species diversity. The basic means of life of humans is being reconstituted and reorganized through global systems of production (Croall 2007), and in many cases we still do not know the longer-term effects of new developments in the food area.

One impact of unsustainable environmental practices is the pressure exerted on companies to seek out new resources (natural and human) to exploit, as existing reserves dwindle due to over-exploitation and contamination from already produced wastes. Nature itself becomes a dumping ground, particularly in the invisible spaces of the open seas, in underground spaces and in less-developed countries. Waste is both an outcome and a driver of the production process (see Chapter 9).

Simultaneously, the social consequence of no work, no income, and no subsistence livelihood for significant numbers of people worldwide means that waste-producing and toxic forms of production (including recycling) are more likely to be accepted by the vulnerable. The imposition of such injustice is embedded in the wider systemic pressures associated with global capitalism. Profitability very often means adopting the most unsustainable practices for short-term gain. Transforming nature is part and parcel of what capitalism as a system does. How it does so, is what is of ecological significance as well as crucial to the well-being

Box 2.2 Capitalism and the transformation of nature

- *Resource depletion* -- extraction of non-renewable minerals and energy without development of proper alternatives, over-harvesting of renewable resources such as fish and forest timbers.
- *Disposal problems* – waste generated in production, distribution and consumption processes, pollution associated with transformations of nature, burning of fossil fuels and using up of consumables.
- *Corporate colonization of nature* – genetic changes in food crops, use of plantation forestry that diminishes biodiversity, preference for large-scale, technology-dependent and high-yield agricultural and aquaculture methods that degrade land and oceans and affect species' development and well-being.
- *Species decline* – destruction of habitats, privileging of certain species of grains and vegetables over others for market purposes, super-exploitation of specific plants and animals, due to presumed consumer taste and mass markets.

of the majority of humans on the planet (see Box 2.2). These transformations not only capitalistically change nature, but they simultaneously transform human relationships and the habitats of human and non-human alike.

The contours of global capitalism are crucial to any discussion of environmental harm, in that how, or whether, certain human activity is regulated and facilitated is still primarily a matter of state intervention. The strategies that nation-states use to deal with environmental concerns are contingent upon the class interests associated with political power. In most cases today the power of transnational corporations (TNCs) find purchase in the interface between the interests and preferred activities of the corporation and the specific protections and supports proffered by the nation-state. The latter can be reliant upon or intimidated by particular industries and companies. Tax revenue and job creation, as well as media support and political donations, may hinge upon particular state-corporate synergies. This of course can undermine the basic tenets of democracy and collective deliberation over how best to interpret the public or national interest

The structure and allocation of societal resources via the nation-state also has an impact upon how environmental issues are socially constructed. Spending on welfare, health, transportation, education and other forms of social infrastructure makes a big difference in people's lives. Recent fiscal crises (especially noticeable in European countries such as Greece, Ireland and Spain) and the effects of the global economic crisis have had the global impact of making ordinary workers extremely vulnerable economically. Under such conditions, there is even greater scope to either reduce environmental protection, or to increase environmentally destructive activity for short-term economic gain. In such circumstances, state legislation and company practices that are seen to put fetters on the profit-making enterprise will be withdrawn or markedly reduced. This is so whether the activity is in the metropole countries or in the periphery.

Yet the period since World War Two has seen major growth in the internationalization of treaties, agreements, protocols and conventions in relation to environmental protection and with respect to the securing of environmental resources. Nation-states have in recent years been more interested in taking governmental action on environmental matters, since much of this pertains to national economic interests. Moreover, the transboundary nature of environmental harm is evident in a variety of international protocols and conventions that deal with such matters as the illegal trade in ozone-depleting substances, the dumping and illegal transport of hazardous waste, illegal trade in chemicals such as persistent organic pollutants, and illegal dumping of oil and other wastes in oceans (Hayman and Brack 2002). A major concern today is the proliferation of 'e'-waste generated by the disposal of tens of thousands of computers, mobile phones and other equipment. Transnational environmental crime is still on the international agenda, albeit subject to the systemic constraints noted above.

Transnational environmental crime

Transnational environmental crime, as defined in conventional legal terms, refers to:

- unauthorized acts or omissions that are *against the law* and therefore subject to criminal prosecution and criminal sanctions;
- crimes that involve some kind of *cross-border transference* and an international or *global dimension*; and
- crimes related to *pollution* (of air, water and land), *crimes against wildlife* (including illegal trade in ivory as well as live animals) and *illegal fishing* (abalone, whales, dolphins and lobster, as well as fish).

These are the key focus of national and international laws relating to environmental matters, and are the main task areas for agencies such as Interpol. Some of the major international initiatives that formally specify certain activities as offences include (Forni 2010):

- Convention for Prevention of Maritime Pollution by Dumping Wastes and Other Matters;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);

- International Tropical Timber Agreement;
- Vienna Convention for the Protection of the Ozone Layer;
- Montreal Protocol on Substances that Deplete the Ozone Layer;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- United Nations Framework Convention on Climate Change;
- Kyoto Protocol.

In technical legal terms, transnational environmental crime has been defined as follows:

> … transnational environmental crime involves the trading and smuggling of plants, animals, resources and pollutants in violation of prohibition or regulation regimes established by multilateral environmental agreements and/or in contravention of domestic law.
>
> (Forni 2010: 34)

This definition embodies huge complexities of scale, scope and content. For example, the legal framework governing environmental matters in international law is defined by over 270 Multilateral Environmental Agreements and related instruments (Forni 2010: 34). The laws and rules guiding action on environmental crime vary greatly at the local, regional and national levels, and there are overarching conventions and laws that likewise have different legal purchase depending upon how they are translated into action in each specific local jurisdiction. In part, differences in law-in-practice and conceptions of what is an environmental crime stem from the shifting nature of what is deemed harmful or not.

The notion of 'transnational' is, like crime generally, contentious from the point of view of definition and analytical focus. Mainstream concerns of criminal justice, as reflected in police agencies such as Interpol and the new international academic criminology, tend to view transnational crime in fairly conventional legal definitional terms (Madsen 2009; Van Dijk 2008). Specifically, the concern is with those activities that have been officially criminalized and thus are against the law. Those writing within a critical criminology tradition tend to raise issues that challenge both the conventional notion of crime (preferring often to use terms such as 'harm' or 'human rights' or 'ecological citizenship' as the appropriate yardstick) and the scope of analysis (which tends to go beyond conventional criminal categories or the standard criminological literature as such) (see Aas 2007).

Horizon-scanning

Looking over the horizon has two meanings that we explore in this section. The first relates to geographical scope – as in looking beyond our own borders. The second refers to temporal considerations – as in looking to the future and beyond. We begin with geographical notions of going beyond our own borders.

Locality is important when it comes to studying transnational environmental crimes and harms. Around the world different countries tend to have different types of environmental problems and issues. In New Zealand, for example, big questions have arisen over the use of pesticides and over-use of land for agriculture and pastoral purposes. Land and water is being contaminated through existing systems of production. By contrast, pressing issues of concern in Canada relate to the ecological impact of the huge oil tar sands projects in Alberta, and to the impact of insect blights on the pine trees of British Columbia. National context is important both in the objective nature of the problems at hand (e.g. pollution, deforestation, lack of adequate water) and in regard to subjective processes relating to the politicization of issues (e.g. the role of social movements in shaping public consciousness and state action on specific issues).

Most countries of the world have borders with another country. Rivers flow, mountains soar, air currents weave their way through the atmosphere, and plants and animals cross artificial boundaries that, for them, do not exist. There are issues that are specific to particular regions of the world. Huge tropical forests are found in the Amazon, an area that encompasses several different countries such as Brazil and Columbia. Such forests also cover parts of South-East Asia, spanning Indonesia, Malaysia, Thailand and Burma, among other countries. Africa is home to elephants, reptiles, giraffes and other creatures unique to particular parts of that continent, and not the preserve of any one country. Desertification and drought are phenomena associated with the dry lands of northern Africa and the island continent of Australia. Meanwhile, cross-border pollution in Europe, and between China and Russia, are matters that demand a regional rather than simply national response. Acid rain traverses provincial and state demarcations and can affect environments, animals and humans many kilometres away. A nuclear accident in Ukraine makes its presence felt in Britain, as well as the immediate vicinity of Chernobyl. Radioactivity stemming from the nuclear meltdown in Japan moves around the globe via ocean and air currents.

The opportunities for certain types of crime are influenced by very specific local and regional factors. For example, the penetration and dominance of the Mafia in the waste-disposal industry in Italy provides a unique but devastating illustration of national difference (compared to countries where organized crime is not involved in this industry) that has an international impact (through dumping of toxic waste in international waters). In central and western Africa, the global bush meat trade is driven by several different factors, with dire consequences for apes, chimpanzees, gorillas and other primates especially, which are threatened with extinction. Local habitats for these animals are also being lost through logging and commercial developments. Not only are adult primates being killed for food and body parts, but orphaned primates are being sold on the exotic pet market, further contributing to the degradation of these species.

Specific places demand specific analysis, yet these are intrinsically linked into considerations that are universal in their relevance and application. For instance, transnational environmental harm is always located somewhere. That is, while risk and harm can be analysed in terms of movements and transference from one place to another, it is nonetheless imperative that threats to the environment be situated in specific regional and national contexts. This is important for several reasons. First, environmental threats originate in particular factories, farms, firms, industries and localities. Second, the political and policy context within which threats to the environment emerge is shaped by the nature of and interplay between local, national, regional and international laws and conventions. What happens at the local and regional level counts – whether we are referring to the Nordic countries, those of south-eastern Europe, Australasia or Latin America.

What happens at the local level is likewise implicated in decisions and processes that transcend the local, given the complex international ties and connections between businesses, governments, workers and activists. For example, Australian conservationists have linked up with their activist counterparts in Japan to influence the relationship between Japanese paper companies and a Tasmanian forestry company engaged in the clear felling of old-growth forest. Protests have effectively been internationalized, although the destruction occurs in a specific place (White 2005b). Business associations and cross-national environmental campaigns are illustrative of how closely connected we all are in an increasingly globalized world.

The notion of transnational crime evokes at least two different conceptual concerns (see Madsen 2009). First, the crime must involve the movement of people, objects or decisions *across borders*. Secondly, the harm must be *recognized internationally* as a crime. There are limitations with each of these considerations. For example, genocide is universally acknowledged as an evil (even if there are disputes in practice as to whether or not genocide is in fact occurring – witness the debates over Sudan and how to interpret the tremendous loss of life in its southern regions due to systematic military interventions by various parties), but it may occur within a particular country's borders. Secondly, transnational harms may happen (such as the disposal and congregation of plastic waste in the ocean, or the migration of toxic substances from producer countries to formerly pristine wilderness areas, thereby affecting humans and animals in the latter even though they have no connection whatsoever with the former), but these may not be considered 'crimes' in international law. In other words, the study of transnational harm or crime always involves contested definitions (restrictive or expansive, depending upon the place of formal legality in the definition) and complexities related to scale (since it may manifest in specific local or regional contexts, as well as across regions).

The study of transnational crime involves different approaches that have various names. These include:

- *comparative* criminology (the nature of the crime problem in countries around the world);
- *transnational* criminology (cross-border forms of crime such as drug trafficking, arms trafficking, human trafficking and money laundering);
- *international* criminology (crime that is specifically recognized widely across nations as crimes against humanity, such as genocide);
- *global* criminology (how globalization and its consequences cause harm, such as structural adjustment policies of the World Bank); and
- *supranational* criminology (an encompassing study of international crimes, which includes terrorism, war crimes, state crime, and violations of human rights) (see Friedrichs 2007).

What recent global study has demonstrated is that methodologically it is essential to have both a sense of history and a sense of place in the study of the phenomenon at hand. It is through global, comparative and historical analyses that not only the differences (and similarities and paradoxes) in environmental crimes, but also differences in state and civil society responses to environmental harm, are best understood.

Consideration of scale and focus are implicit in the framing of research into transnational environmental crime. There are at least three different ways in which transnational research can be approached (White 2009a):

- *Global* – refers to transnational crimes, processes and agencies (universal effects, processes, agencies across the globe).
- *Comparative* – refers to differences between nation-states, including 'failed states' (particular differences between nation-states and regions).
- *Historical* – refers to epochal differences in modes of production and global trends (systemic differences over time, within and between different types of social formation).

The first approach focuses on globalization as a far-reaching process in which crime can be traced in its movements across the world and its presence documented in many different locales (Smandych and Larsen 2008). For example, the idea of globalization incorporates consideration of transnational harms, processes and agencies that span the globe. It implies that there are universal effects (such as climate change) that require united responses worldwide.

The second approach has a comparative focus, with a concern to study particular countries and regions, including failed states, in relation to each other (Gros 2008). The nature of similarities and differences is fundamental to this kind of study. Thus, the differences between nation-states and regions must be acknowledged and explained in their own right. For example, some countries and regions are more liable to be polluted than others.

The third approach is based upon historical appreciation of social change and social differences (Wright Mills 1959; Cornforth 1976). It views trends and issues

in terms of major epochs, such as the transition from feudalism to capitalism, or the shift from competitive capitalism to global monopoly capitalism. There are differences in modes of production and global trends (e.g. peasant-based feudal agriculture versus capitalist agribusiness), and it is important to track systemic changes over time, within and between different types of social formation.

The use and need for horizon-scanning as an intellectual exercise and planning tool is related to the idea that many threats and opportunities are presently poorly recognized. Accordingly, a more systematic approach to identification and solution to issues is required rather than reliance upon ad hoc or reactive approaches. For example, Sutherland and Woodroof (2009: 1) point out that 'the need for horizon-scanning of environmental issues is illustrated by the recent failure to foresee both the widespread adoption of the range of biofuels currently in use, and the environmental consequences of biofuels production' (see also Chapter 8). Horizon-scanning can provide insight into risks (potential problems) and harms (actual problems). It provides a mechanism to discern where emerging threats (and positive opportunities) may arise and potential ways to mitigate or adapt to these.

In analysis of horizon issues a variety of concepts might be deployed. Certainly matters of time, space and scale are relevant. For example, risks and harms may be direct or indirect, and their consequences may be felt immediately or in the long-term. Harm may be specific to local areas (e.g. threats to certain species, like coral in the Great Barrier Reef) yet manifest as part of a general global pattern (such as being an effect of wide-scale temperature changes affecting coral everywhere). Harm is central, but this may be non-intentional (in the sense of being a by-product of some other agenda) or premeditated (insofar as the negative outcome, for some, is foreseen). The demise of the polar bear due to the impact of global warming in the Arctic is an example of the former. The displacement of local inhabitants from their land due to carbon sequestration schemes is an example of the latter.

Several other concepts are particularly relevant to horizon-scanning. Three of these look to the future: intergenerational equity, the precautionary principle and transference over time. Three of these address matters of justice, past, present and future: environmental justice, ecological justice and species justice. Collectively these concepts provide a values framework for assessing risks and harms as part of the exercise of looking over the horizon (see also Leiss and Hrudey 2005; White 2008a). Box 2.3 provides a summary of these key ideas.

The challenge for eco-global criminology is to marshal ideas and evidence from many different sources and disciplines in order to identify where harms and risks are emerging as matters of possible social and political importance, and to develop pre-emptive strategies to begin to address potential problems before they create further harms and risks pertaining to humans, specific eco-systems and animals.

In practice, horizon-scanning is premised upon three interrelated tasks. These include attempts to theorize causal forces in regard to any specific issue; to

Box 2.3 The conceptual basis of environmental horizon-scanning

Substantive orientation

- *Risk* – a prediction or expectation that includes the perspectives of those affected about what is important to them and concerns a hazard or danger in which there is uncertainty over occurrence but which may involve adverse consequences as the possible outcome within a certain time period.
- *Harm* – an actual danger or adverse effect, stemming from direct and indirect social processes, that negatively impinges upon the health and well-being and ecological integrity of humans, specific biospheres and non-human animals.
- *Cause* – analysis of causal chains that may involve many interrelated variables but which ultimately are linked to specific practices and human responsibility for environmental harm.

Justice orientation

- *Environmental justice* – in which environmental rights are seen as an extension of human or social rights so as to enhance the quality of human life, now and into the future.
- *Ecological justice* – in which it is acknowledged that human beings are merely one component of complex ecosystems that should be preserved for their own sake via the notion of the rights of the environment.
- *Species justice* – in which harm is constructed in relation to the place of non-human animals within environments and their intrinsic right to not suffer abuse, whether this be one-on-one harm, institutionalized harm or harm arising from human actions that affect climates and environments on a global scale.

Futures orientation

- *Intergenerational equity* – refers to the principle of ensuring that the generations to follow have at least the same or preferably better environments in which to live than those of the present generation.
- *Precautionary principle* – when an activity raises threats of harm to human health, non-human animals or the environment, precautionary

measures should be taken even if some cause and effect relationships are not fully established scientifically.
- *Transference over time* – in this context refers to the transfer of harm involving both cumulative impacts and compounding effects.

Source: White 2011a

employ multidisciplinary methods; and to deliberate on potential policy responses. Theory, in this instance, is based upon the notion of anthropogenic causes – that is, the interest is in human responsibility for harm and thus issues pertaining to identification of specific perpetrators and degrees of culpability. Methodologically, the concern is to use a wide variety of methods and insights in an eclectic fashion in order to expose broad patterns of action (and omission) and causal chains of harm. Policy basically refers to matters relating to regulation and enforcement

Case vignette 2.1 Horizon-scanning the impacts of climate change

Horizon-scanning can be deployed to explore environmental issues that lie over the horizon. An example of this is Robert Agnew's work on the impact of climate change.

> My arguments are speculative; but these speculations are based on the extensive research on climate change, are guided by several well-established theories of crime, and draw on a small body of research examining the effect of environmental factors on crime. The central argument I make is that climate change may foster a range of crimes at individual, corporate and state levels. These crimes include individual acts of violence and theft of the type that are illegal in virtually all states; corporate crimes such as environmental pollution and bribery, which are illegal in many states; and acts of state aggression that violate international law (Maier-Katkin *et al.* 2009). I also briefly discuss the effect of climate change on a variety of harmful acts that are not presently defined as crimes
>
> (Agnew 2011: 26)

This description of criminology and climate change from a horizon-scanning perspective is intended to expose issues and to alert readers to impending issues, trends and challenges. By its nature, such work will always be contentious, provocative and tentative.

strategies, as well as issues of remediation and compensation. Any analysis based upon horizon-scanning will most likely involve creative lateral thinking and plans of intervention that may occasionally sit uncomfortably with the existing institutional status quo.

Conclusion

This chapter has provided an introduction to eco-global criminology by exploring its varied dimensions as an important perspective for the study of transnational environmental crimes and harms. As a perspective, it focuses on the ecological, the global and the application of three justice-related approaches to environmental crimes and harms. Of crucial importance is the bringing together of certain key concepts – the notion of movement or transference across borders, the idea that harm is related specifically to environmental concerns (including, for example, wildlife, as well as pollution) and the recognition that such crimes occur within specific geographical and social contexts. However, as indicated throughout this chapter, there are nevertheless ambiguities and controversies associated with defining transnational environmental crime. These primarily stem from diverse views of what criteria ought to be drawn upon in determining what is deemed to be a criminal or non-criminal activity.

Discussion topics

- What is the 'eco' in eco-global criminology?
- Provide examples of some of the ways in which 'nature' is being transformed as a result of applications of new technologies (such as genetics research) or new approaches to resource use (such as mass production techniques).
- What are the key dimensions that help to define transnational environmental crime?
- NIMBY refers to 'Not In My Back Yard'. Is it possible to isolate what happens in your back yard from what else is happening in the world today?
- Select an environmental harm (e.g. climate change, coal-seam fracking) and explore the use of horizon-scanning as a tool to analyse its possible consequences.

Further reading

Aas, K. (2007). *Globalization and Crime*. Los Angeles: Sage.

Agnew, R. (2011). 'Dire Forecast: A theoretical model of the impact of climate change on crime', *Theoretical Criminology*, 16(1): 21–42.

Boekhout van Solinge, T. (2010). 'Deforestation Crimes and Conflicts in the Amazon', *Critical Criminology*, 18: 263–77.

White, R. (2011). *Transnational Environmental Crime: Toward an eco-global criminology*. London: Routledge.
White, R., and Heckenberg, D. (2011). 'Environmental Horizon Scanning and Criminological Theory and Practice', *European Journal of Criminal Policy and Research*, 17(2): 87–100.

Eco-justice and ecocide

Introduction

This chapter will discuss the following topics:

- green criminology and eco-justice;
- environmental, ecological and species justice;
- applying notions of justice;
- ecocide.

An eco-justice perspective refers to the broad orientation of green criminology which is largely directed at exposing different instances of substantive social and environmental injustice. From an eco-justice perspective, environmental harm is best seen in terms of justice, which in turn is based upon notions of human, ecological and animal rights and of broad egalitarian principles. A key issue is the weighing up of different kinds of harm and violation of rights, that may involve stretching the boundaries of conventional criminology to include other kinds of harms than those already deemed to be illegal.

How we understand the relationships between humans, the environment and non-human species is crucial to defining and responding to environmental issues. Embedded within different interpretations of these (inter)relationships are particular notions of harm. These notions, in turn, are reflected in specific conceptions of victimization, including who or what is subjected to which kinds of harm.

This chapter elaborates on the three approaches that singly and collectively contribute to and underpin an eco-justice perspective: environmental justice, ecological justice and species justice. It provides a general introduction to concepts of eco-justice, their application within a criminal-justice context, and their extension into new notions of harm as encapsulated for instance in the concept of 'ecocide'. As will be seen, the idea of justice is intertwined with notions of crime, harm and victimization.