Environmental Crime in Global Context: Exploring the Theoretical and Empirical Complexities

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Introduction

Environmental issues have generated considerable public interest in recent years, and not surprisingly criminologists and other social scientists are now likewise turning their attention to how best to define and respond to environmental harm (Lynch & Stretsky 2003; White 2003). Insofar as major environmental changes are occurring on the global scale, with significant impacts at the local level, so too greater urgency and critical analysis about environmental matters has grown. Simultaneously, similar kinds of local issues are being repeated across the globe, making us realise that the global and the local are frequently intertwined and in many ways inseparable. This is often encapsulated in the term 'glocalisation' (see Crowley 1998).

The task of trying to understand, interpret and act upon matters that are often systemic, complicated and intrinsically inter-connected poses certain dilemmas for the criminologist. For instance, our interest and knowledge in this area may well be growing (albeit from a rudimentary base), but the more we know, the less secure we seem to be in the knowledge that we have. The very complexities of the issues can make it daunting to tackle them. It certainly makes things analytically challenging.

Consider, for example, the following observations. The development of a green or environmental criminology as a field of sustained research and scholarship will by its very nature incorporate many different perspectives and strategic emphases. Environmental criminology:

> deals with concerns across a wide range of environments (e.g., land, air, water) and issues (e.g., fishing, pollution, toxic waste). It involves conceptual analysis as well as practical intervention on many fronts, and includes multi-disciplinary strategic assessment (e.g., economic, legal, social and ecological evaluations). It involves the undertaking of organisational analysis, as well as investigation of 'best practice' methods of monitoring, assessment, enforcement and education regarding environmental protection and regulation. Analysis needs to be conscious of local, regional, national and global domains and how activities in each of these overlap. It likewise requires cognisance of the direct and indirect, and immediate and long-term, impacts and consequences of environmentally sensitive social practices (White 2003:484).

One challenge for environmental criminology is to separate out different levels and kinds of analysis, and to 'make sense' of what is a very complicated whole. This is the intent of the present paper. That is, I wish to explore the conceptual and research challenges of

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studying environmental harm as a criminological phenomenon. In order to do so, I wish to utilise an analytical mapping exercise that covers key areas of potential interest to criminologists. This is followed by an appraisal of how environmental crime itself is socially constructed. To illustrate this we will consider issues pertaining to fishing and social regulation.

Analytical Mapping of Environmental Harm

To understand complexity, we need to simplify. My objective in this section is to identify some important areas for analytical consideration and to discuss these in abstract conceptual terms. Specifically, I wish to discuss environmental issues in regards to four types of perspective: focal considerations; geographical considerations; locational considerations; and temporal considerations (see Chart 1).

Chart 1
Mapping of Environmental Harm

Focal Considerations:
[Identify issues pertaining to victims of harm]

Environmental Justice	Ecological Justice
[human beings]	[bio-sphere, including plants and animals]

Geographical Considerations:
[Identify issues pertaining to each geographical level]

International	National	Regional/State	Local

Locational Considerations:
[Identify issues pertaining to specific kinds of sites]

'Built' Environments	'Natural' Environments
[e.g., urban, rural, suburban]	[e.g., ocean, wilderness, desert]

Temporal Considerations:
[Identify issues pertaining to changes over time]

Environmental Effects	Environmental Impact	Social Impact
[short-term/long-term]	[manifest/latent]	[immediate/lasting]

Exploration of themes and issues within each of these areas exposes the diversity of perspectives, approaches and concepts that are utilised in the field of environmental criminology.

Focal Considerations

By 'focal' considerations I refer to concerns that centre on the key actors or players who are at the centre of investigation into environmental harm. In other words, the emphasis is on identifying issues pertaining to the victims of harm, including how to define whom or what is indeed an environmental 'victim'.

How we understand the relationship between human beings and the environment is crucial to defining and responding to environmental issues (see Chart 2). Different perspectives or eco-philosophies include: anthropocentric (or human-centred); biocentric (or species-centred); and ecocentric (socio-ecological centred). These perspectives can be assessed on the basis of how they conceive environmental problems, how they depict the role of humans in the production of such problems and how they approach the issue of environmental regulation (see Halsey & White 1998).

For many of those working on environmental issues, the question of broad philosophy translates into specific concerns with the idea of eco-human rights or ecological citizenship (see for example, Halsey 1997; Smith 1998). What does this mean in practice? It means that present generations ought to act in ways that do not jeopardise the existence and quality of life of future generations. It also means that we ought to extend the moral community to include non-human nature. By doing so, we enter a new politics of obligation:

> In ecological thought, human beings have obligations to animals, trees, mountains, oceans, and other members of the biotic community. This means that human beings have to exercise extreme caution before embarking upon any project which is likely to have the possibility of adverse effects upon the ecosystems concerned (Smith 1998:99).

This particular notion of ecological citizenship thus centres on human obligations to all living things, and to carefully assess the impacts of human activity across the human and non-human domains.

However, such considerations are not without their problems. Thus, the conceptualisation of 'rights' is itself contentious when extended to the non-human (see Christoff 2000). For example, should environmental rights be seen as an extension of human or social rights (e.g., related to the quality of human life, such as provision of clean water), or should human rights be seen as merely one component of complex eco-systems that should be preserved for their own sake (i.e., as in the notion of the rights of the environment)? While increasingly acknowledged in international law, the environment connection with human rights continues to be somewhat ambiguous and subject to diverse practical interpretations (Thornton & Tromans 1999). Nevertheless, such ambiguities and tensions over 'rights' are essential parts of the criminological debates characteristic of the shift from eco-philosophy to conceptions of environmental crime.

Within criminology there are significant issues surrounding scale, activities and legalities as these pertain to environmental harm. A strict legalist approach tends to focus on the central place of criminal law in the definition of criminality. Thus, as Situ and Emmons (2000:3) see it: 'An environmental crime is an unauthorised act or omission that violates the law and is therefore subject to criminal prosecution and criminal sanctions'. However, other writers argue that, as with criminology in general, the concept of 'harm' ought to encapsulate those activities that may be legal and 'legitimate' but which nevertheless negatively impact on people and environments (Lynch & Stretsky 2003).

Chart 2
Eco-Philosophies

Anthropocentrism
- superiority of humans over all other living and non-living entities
- non-human nature viewed instrumentally
- humans are separate from world's ecosystem
- ideological basis for human activity is self-interest
- highly centralised organs of power: nation-states and corporations
- concern with economic interests and profits
- strategy of 'sustainable development'
- emphasis on 'management' of resources
- domination of humans by humans, and domination of non-human nature by humans

Biocentrism
- biocentric equality
- human beings have same moral worth as other 'species' on planet
- non-human species have intrinsic value
- ideological basis for activity is preservation and realisation of all species
- reduces the social to the biological: 'survival of the fittest'
- 'natural selection' of human beings (via war, disease, famine) is not a problem
- human pursuits should ideally be directed by an understanding of 'Gaian Truth'
- decisions concerning the environment should be made according to which outcomes are most likely to foster the widest possible diversity of life, both non-human and human
- emphasis on 'righteous management' involving mass preservation of wilderness etc.
- issue of interplay between human rights and 'biotic' rights

Ecocentrism
- humans and their activities are inextricably integrated with the rest of the natural world
- human have the capacity to deploy methods of production which have global consequences; therefore, they have a responsibility to ensure that such production methods do not exceed the ecospheric limits of the planet
- live simply so that others [human and non-human] may simply live
- balance between instrumental and intrinsic conceptions of non-human nature
- dialectical nature of the relationship between human action and non-human processes, interconnectedness of life
- social justice is equally important and inextricably bound to issues of ecology
- work with non-human nature, and a commitment to collective needs
- principles of participatory democracy, via bioregionalism, and constant movement between local initiative and global solidarity

Source: adapted from Halsey & White, 1998.

The responses of the state to environmental harm (however defined) are guided by a concern with environmental protection. This is generally framed in terms of ensuring future resource exploitation, and dealing with specific instances of victimisation that have been socially defined as a problem. Risk management in this case is directed at preventing or minimising certain destructive or injurious practices into the future, based upon analysis and responses to harms identified in the present.

Analysis of environmental issues proceeds on the basis that someone or something is indeed being harmed. *Environmental justice* refers to the distribution of environments among peoples in terms of access to and use of specific natural resources in defined geographical areas, and the impacts of particular social practices and environmental hazards on specific populations (e.g., as defined on the basis of class, occupation, gender, age, ethnicity). In other words, the concern is with human beings as the centre of analysis. The focus of analysis therefore is on human health and wellbeing and how these are affected by particular types of production and consumption.

Here we can distinguish between environmental issues that affect everyone, and those that disproportionately affect specific individuals and groups (see Williams 1996; Low & Gleeson 1998). In some instances, there may be a basic 'equality of victims', in that some environmental problems threaten everyone in the same way, as in the case for example of ozone depletion, global warming, air pollution and acid rain (Beck 1996). As extensive work on specific incidents and patterns of victimisation demonstrate, however, it is also the case that some people are more likely to be disadvantaged by environmental problems than others. For instance, American studies have identified disparities involving many different types of environmental hazards that adversely affect people of colour throughout the United States (Bullard 1994). There are thus patterns of 'differential victimisation' that are evident with respect to the siting of toxic waste dumps, extreme air pollution, access to safe clean drinking water and so on (see Chunn et al. 2002; Williams 1996). Another dimension of differential victimisation relates to the subjective disposition and consciousness of the people involved. The specific groups who experience environmental problems may not always describe or see the issues in strictly environmental terms. This may be related to knowledge of the environmental harm, explanations for calamity and socio-economic pressures to 'accept' environmental risk (see Julian 2004). The environmental justice discourse challenges the dominant discourses by placing *inequalities* in the distribution of environmental quality at the top of the environmental agenda (see Julian 2004; Harvey 1996).

By way of contrast, *ecological justice* refers to the relationship of human beings generally to the rest of the natural world, and includes concerns relating to the health of the bio-sphere, and more specifically plants and creatures that also inhabit the biosphere (see Benton 1998; Franklin 1999). The main concern is with the quality of the planetary environment (that is frequently seen to possess its own intrinsic value) and the rights of other species (particularly animals) to life free from torture, abuse and destruction of habitat. Specific practices, and choices, in how humans interact with particular environments present immediate and potential risks to everything within them.

In specific areas, concepts such as speciesism may be invoked. This refers to the practice of discriminating against nonhuman animals because they are perceived as inferior to the human species in much the same way that sexism and racism involve prejudice and discrimination against women and people of different colour (Munro 2004). However, it is important to recognise that the environmental justice discourse is critical of many mainstream environmental groups precisely because of their 'focus on the fate of "nature" rather than humans' (Harvey 1996:386). To put it differently, taking action on environmental issues involves choices and priorities. Many communities who suffer from the 'hard end' of environmental harm feel that their wellbeing ought to take priority over 'natural environments' or specific plants and animals as such.

Geographical Considerations

Students of environmental harm have to be cognisant of the varying issues that pertain to different geographical levels. As alluded to above, some issues are of a planetary scale (e.g., global warming), others regional (e.g., oceans and fisheries), some are national in geographical location (e.g., droughts in Australia), while others are local (e.g., specific oil spills). Similarly, laws tend to be formulated in particular geographically defined jurisdictions. With regard to nation-states such as Australia, relevant laws include international law, federal laws, state laws and local government by-laws.

Intervention on environmental issues requires not only new concepts of justice and rights, they also require acknowledgement of transnational processes and responsibilities. It has been pointed out that:

> ... transnational economic processes, transcontinental cultural links and transboundary environmental impacts have generated a new democratic deficit — the remedy of which requires new forms and institutions for democratic participation which extend beyond the borders of the nation-state (Christoff 2000:200).

The telecommunications revolution has brought the world into the lounge rooms of the advanced industrialised countries and extended the scope of our knowledge of the fate of previously unheard of places and species. It has also expanded public or commonsense knowledge of the inter-connected nature of environmental processes (and harms), which finds expression in the catchphrase 'Think globally, act locally'. Institutionally, the concern with environmental wellbeing is manifest explicitly in the priority areas of international policing.

From the point of view of international law enforcement agencies, the major issues relating to environmental crime are:

- the trans-border movement and dumping of *waste products*;
- the illegal traffic in real or purported *radioactive or nuclear substances*; and
- the illegal traffic in species of *wild flora and fauna*.

These areas have been identified by agencies such as Interpol as key subjects in relation to environmental crime. It is worth exploring the first of these in greater depth, given that much of the transfer of waste has been from advanced industrialised countries to 'third world' countries.

The biggest exporter of toxic waste is the United States. Hazardous residues and contaminated sludge are most likely to find a foreign home in a Third World country. The pressures for this are twofold. On the one hand, the US has seen the closing of many domestic landfills due to public health problems, and increasing public consciousness of the dangers posed by toxic waste. On the other hand, poor countries (and corrupt state officials) may find it financially attractive to offer their land as sites for US waste (see Rosoff, Pontell & Tillman 1998).

The problem is not only the transfer of toxic waste; it is the generation of toxic waste in other countries by companies based in advanced industrialised nations. The classic case of this are the *maquiladoras,* American-owned factories set up across the border in Mexico. Here, environmental regulation is lax, with resulting high levels of chemical pollution, contamination and exposure to toxic materials. Closer to home for Australians, is the huge environmental damage caused to the *Ok Tedi* river in Papua New Guinea by the activities of the Australian mining corporation BHP (see Low & Gleeson 1998). Because the PNG government was dependent on the earnings from the Ok Tedi copper mine it actively cooperated with BHP in the destruction of local rain forest and much of the river system.

Many villagers have lost the entire environment that supported their way of life (Low & Gleeson 1998:8).

These examples highlight the fact that to understand the overall direction of environmental issues demands analysis of the strategic location and activities of transnational capital, as supported by hegemonic nation-states on a world scale. Capitalist globalisation, bolstered via neo-liberal state policy, means that there is great scope to increase environmentally destructive activity. This is demonstrated in how the traffic in risk occurs at the global level where developing countries play the same role as the poorer communities within the developed nations (e.g., 'business-friendly' countries that accept hazardous industries and toxic wastes). The issue here is how best to respond to NIMBY [Not In My Backyard] opposition within developed countries in ways that do not simply shift the problem elsewhere.

> The structural difference of economic needs and government regulation between the developed and developing worlds, and the absence of any supra-national body to ensure consistency in environmental standards, has encouraged western industrial capital to shift unpopular and increasingly illegal hazard-producing activities and wastes across national boundaries to states which often define, and welcome, these transfers as 'investment' (Low & Gleeson 1998:121).

For criminologists, the challenge is to incorporate notions of environmental justice into their overall analytical framework by maintaining a sense of global scale. It also requires understanding of the political economy of environmental harm (White 2002).

Locational Considerations

We can make a distinction between geographical area and 'place'. The latter refers to specific kinds of sites as described in the language of 'natural' and 'built' environment. There is considerable overlap, interconnection and interplay between these types of environments. Nevertheless, the distinction is useful, particularly when assessing which environmental issues appeal to which sections of the population and for what reasons (Franter 2004).

In simple terms, we can describe the 'Built' environment as basically referring to significant sites of human habitation and residency. It includes urban and rural areas, and areas of cross-over between the two consisting of major regional concentrations of people, commuter suburbs and zones, and so on. The 'Natural' environment consists of wilderness, oceans, rivers and deserts. These are sites in which human beings may be present, or through which they may traverse, but which are often seen as distinctive and 'separate' from human settlement per se (however, this needs to be qualified by acknowledging different ways in which humans interact with their environments, reflecting different cultural and material relationships to the land — see Langton 1998).

What constitutes an environmental harm or environmental crime is partly a matter of visibility of the issues, partly a matter of public policy. What can be identified via personal experiences, expert representation or sectional interest group as being worthy of attention, is that which is most likely to gain recognition as a public issue (see Hannigan 1995). Meanwhile, governments have laws across a wide range of issues, relating to air, water, toxic waste, use of public lands, endangered species and the list goes on. The relationship between public policy and government strategic action is also shaped by contingency — specific events, situations and disasters tend to shake things up rapidly and with immediate effect.

The precise nature of an environmental issue is in itself linked to specific group interests and consciousness of harm. For example, environmental issues have been categorised according to three different types of harm (Crook & Pakulski 1995; Tranter 2004; see also Curson & Clark 2004). These are set out in Chart 3.

Chart 3
Colouring Environmental Issues

'Brown' issues
- air pollution
- pollution of urban stormwater
- pollution of beaches
- pesticides
- oil spills
- pollution of water catchments
- disposal of toxic/hazardous waste

'Green' Issues
- acid rain
- habitat destruction
- loss of wildlife
- logging of forests
- depletion of ozone layer
- toxic algae
- invasive species via human transport
- water pollution

'White' Issues
- genetically modified organisms
- food irradiation
- in vitro processes
- cloning of human tissue
- genetic discrimination
- environmentally-related communicable diseases
- pathological indoor environments

The significance of conceptualising environmental issues in this way is that it demonstrates the link between environmental action (usually involving distinct types of community and environmental groups), and particular sites (such as urban centres, wilderness areas or seacoast regions). Some issues tend to resonate more with members of the public than others; other issues generally only emerge if an accident or disaster brings it to the fore.

The mobilisation of opinion is crucial to determination of what is or is not considered a 'crime' (or 'harm'), and how the state will in the end respond to the phenomenon in question. The complex relationship between human and non-human 'rights' is thus played out in practice through the importance of 'place' in the lives of diverse communities. This inevitably leads to conflicts over purposes, as each place or site is subject to competing

demands — jobs (via logging), recreation (via tourism), sustenance (via settlement), aesthetics (via photography) and so on. Disputes over value and use are settled using the full range of political, ideological, legal, coercive and persuasive means available to stakeholder parties.

Temporal Considerations

Another key issue for consideration relates to issues pertaining to changes over time. To some extent, such considerations are ingrained in contemporary environmental impact assessment in the guise of the 'precautionary principle' (Harvey 1998; Deville & Harding 1997). That is, what we do with and in the environment has consequences, some of which we cannot foresee.

Temporal considerations can be distinguished in terms of environmental effects, environmental impacts and social impacts. The short-term effects of environmental degradation include such things as the release of chlorofluorocarbons into the atmosphere, the long-term effect being the accumulation of greenhouse gases and ultimately climate warming. Environmental impacts begin with global warming as a manifest consequence of planetary change, and results in the latent consequences of changes in sea levels and changes in regional temperatures and precipitation (among other things). The social impacts of environmental change are both immediate, as in the case of respiratory problems or increased probability of disease outbreak, and long-term (e.g., lower quality of life, alteration of physiological functioning).

From the point of view of eco-philosophy, the tendency has been for anthropocentric perspectives to dominate when it comes to answering the questions, *what to do, over what period of time?* And yet, protection of the environment very often requires criteria that go beyond a human-centred approach. To put it differently, the appropriate time scale for understanding resource and population stability is generally much longer than we are used to:

> Different systems move along different time scales. Geology works in the millions of years; economics in the tens of years; biology from a few minutes to a few centuries; evolutionary biology from a few years to millions of years. Appropriate time scales depend on how long it takes for things to happen in the subject area (Page 1991:64).

The importance of temporal concerns is reflected in cultures that view the relationship between people and the environment in holistic, reciprocal terms. The concept of 'balance' in some indigenous communities, for example, remains of vital significance: 'This precarious balance still exists, and the relationship between plants, animals, the elements, the air, water, wind and earth are all equally and evenly placed within the whole' (Robyn 2002:202). Here we see a value system and code of ethics that embodies living within one's means and living within and as part of nature (see also Langton 1998). It is an ecocentric approach to life.

The philosophy of living in and with nature is empirically reflected in two phenomena: one relating to 'place', the other to 'time'.

> The diversity of Native cultures and kinds of social organizations which developed through time represent a high degree of social/political complexity and are varied according to the demands and necessities of the environment. For example, American Indian nations organized at the band level of social/political development have used effective strategies to take advantage of marginal habitats such as the Arctic and deserts of the Americas where resources are limited (Robyn 2002:198–199).

Importantly, such systems are usually decentralised, communal and self-reliant: 'These societies live closely with and depend on the life contained in that particular ecosystem. This way of living enabled Indigenous communities to live for thousands of years in continuous sustainability' (Robyn 2002:1999).

The point of this discussion is that evaluation of environmental issues needs to consider the element of time: negatively, from the perspective of short- and long-term consequences of environmental harm; positively, from the perspective of 'what works' in protecting and preserving environments.

In summary, I have tried to demonstrate that there are a number of intersecting dimensions that need to be considered in any analysis of specific instances of environmental crime. 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); and the time frame within which harm can be analysed (immediate and delayed consequences). While this represents a form of analytical mapping of environmental harm, that illustrates the complexities of such analysis, it remains to be seen how such mapping might assist in explaining the 'real world' of environmental criminalisation.

Social Construction of Environmental Issues

To some extent an abstract model or mapping of environmental harm can be useful in exposing areas of further research and consideration, beyond that dealt with formally by law enforcement agencies and the criminal justice system at present. However, it can also be used to assist in explaining why it is that some types of human activity are more likely to be subject to criminalisation than others. The theme of this section is how environmental crime is socially constructed. Specifically, the concern is to identify those elements that together result in activity being deemed harmful, and thereby worthy of investigation and prosecution.

When considering these matters, it is useful to bear in mind the following questions (see White 2004):

What is the problem?

In order to do this we have to deal with issues of definition and evidence of harm. We have to analyse potentially competing claims as to whether or not the problem exists, and diverse lay and expert opinion on how the problem is interpreted. Does it pose a risk, and if so, to whom, and in what ways? Is the initial problem serious enough in the public's eye to warrant a social response in the form of community action or state intervention?

Why does the problem occur?

To answer this we need to examine the social context, and to investigate the actions of key actors involved with the phenomenon.

What are the social dynamics that allow the problem to persist or ensure that state action is taken to overcome it?

To answer this we need to tackle issues pertaining to the shaping of perceptions, interpretation of events, and intervention processes. Is the problem socially constructed as a *social problem* warranting social action? In what ways is the problem construed from the point of view of *social regulation* and what forms of state and private intervention are

mobilised to contain or manage the problem? Is the problem itself to be addressed, or is the focus on how best to avoid, cover-up or manage any *risk* associated with the problem?

A Case Study: Abalone Theft

In recent years the stealing of abalone has come to prominence and, indeed, is touted as one of the key areas in which environmental crime, as crime, is being addressed in a concerted way in Australia. We want to know why this is the case, especially given that environmental harm in many other cases draws much less state attention.

The abalone industry is highly regulated, with strict quotas enforced, limited numbers of licensed divers and extensive documentation of each catch required. Part of the reason for this high level of regulation is that the industry is a major export earner, bringing in over $100 million a year. Australia produces about one-third of the global wild abalone harvest, and it has been pointed out that 'Australia's stake in global supply has increased following the decline and/or disappearance of abalone populations in other parts of the world — including Japan, Mexico, South Africa and the United States (California) — due to negative environmental conditions, limited stocks, illegal fishing and poor fisheries management' (Taiby & Gant 2002:1). Global demand for abalone, and high profits from abalone sales, have contributed to the growth in illegal harvesting.

The illegal abalone market has been described in terms of five categories of offender (Tailby & Gant 2002). In summary, these include:

- Organised poachers who operate in crews and harvest large quantities.
- Licensed divers who engage in over-quota fishing and docket fraud.
- Shore-based divers who access certain poaching spots.
- Extended family groups who engage in double-bagging.
- Individuals who take over-bag limit.

Our main interest here is with the organised stealers of abalone (although there is some over-lap with licensed divers, who may use the same networks for processing and distributing the catch). There are several features of these groups that warranted particular attention (Tailby & Grant 2002; Leonard 2004; Little 2004). For example, organised poachers frequently have sophisticated infrastructure to facilitate the theft — boats, infra-red night vision equipment, scuba gear, hired transport vehicles, light aircraft and so on. Illegal processing of the abalone may also be quite sophisticated, and involve canning, drying or cryovac (vacuum) packaging.

Abalone thieves of this kind are willing to cross state borders to harvest abalone. Increasingly, it appears that organised criminal groups are moving into the industry, including outlaw motorcycle gangs and Asian crime figures. The illicit networks extend across state boundaries (from Tasmania to Queensland, or Victoria to New South Wales, for example). They also cross international boundaries, as one of the more lucrative markets for illegally harvested abalone is Asia. It has also been suggested that there are links between trade in illegal Australian abalone and the illicit drug markets. Again, these links transcend state and national boundaries.

Given the negative impact of illegal harvesting, use and sale of abalone on the legitimate industry, on royalty/tax revenue to the state and on abalone stocks generally, concerted efforts have been made to counter the illegal industry. Illegal accessing and processing of abalone is criminalised, both in terms of the law and in terms of resources put into the law enforcement process. Thus, 'Each abalone-producing state has legislation carrying high pecuniary penalties and custodial sentences for abalone offending, and has dedicated

abalone-crime investigators' (Tailby & Gant 2002:5). In Tasmania, for example, offenders may be prosecuted under the state's Criminal Code for offences such as lying to public officials and receiving or possessing stolen property, or they may be subject to two indictable offences under the *Living Marine Resources Management Act* 1995 that refer to illegally taken fish and falsifying documents (Leonard 2004; Little 2004). Each area of law imputes that the illegal action is treated as a serious matter. This is also apparent in the penalties assigned to offenders. For example, as a result of the joint efforts of the National Crime Authority and Tasmania Police in 'Operation Oakum', an investigation into abalone theft, several people have been sentenced to prison, including a two-year term of imprisonment in one particular case (Australian Crime Commission 2004; see also Tasmania Police 2004).

Investigation of abalone-related criminality features the use of a broad spectrum of police powers, including phone taps, dedicated surveillance, monitoring of documentation, and surprise inspections of processing facilities (Little 2004; Leonard 2004; Tailby & Gant 2002). The cross-border elements of the crime mean that it is of interest and concern to national law enforcement agencies such as the National Crime Authority (now the Australian Crime Commission), to state police services, to relevant fisheries bodies both at the national (National Fisheries Compliance Committee) and state levels (e.g., Fisheries Monitoring and Quota Audit Unit, Tasmania), to the Australian Customs Service, and the Australian Quarantine Inspection Service. In other words, dealing with the crime necessarily involves a wide range of agencies at the local, regional, national and international levels. Cooperation amongst enforcement and monitoring agencies is essential, and agencies such as the NCA have played an important role in providing cross-jurisdictional coordination, access to substantial investigatory powers and use of advanced surveillance technologies.

There are a number of interrelated reasons why abalone theft has been defined and successfully prosecuted as an environmental crime. The social construction of environmental harm, in this instance, is largely due to the complexities of the issues and, ultimately, the economic bottom line (see Chart 4).

Analysis of the different dimensions of an environmental issue can be used to both explain why some activities are subject to criminalisation, and why some are not. A case study approach can provide useful insights into how and why this is so. The framing of abalone poaching as a 'crime' by law enforcement officials is basically achieved precisely because of strong institutional (read economic) pressures to do so. By contrast, environmental harms that are ecologically problematic but economically lucrative, such as clearfelling of old growth forests, seldom attract official sanction. In such circumstances, it is left to green activists and environmental movements to contest the master definition of the situation and to thereby call into question the political processes by which the 'legal' and the 'illegal' are determined.

Chart 4
Mapping of Abalone Stealing as a Crime

Focal Considerations:
[Identify issues pertaining to victims of harm]

Criminalisation	link to breaches of criminal law; criminal breaches of maritime law
Anthropocentric	link to business interests, state income & exploitation of resource for human benefit

Geographical Considerations:
[Identify issues pertaining to each geographical level]

Cross-border	link to national/state mobilisation of resources, facilities & powers
International	link to operational matters, international trade

Locational Considerations:
[Identify issues pertaining to specific kinds of sites]

Ocean/Coastal	link to nature of detection/surveillance [crime initiated]
City/Factories	link to surveillance, use of telephones, communications, transportation [crime realised]

Temporal Considerations:
[Identify issues pertaining to changes over time]

Resource depletion	link to immediate & longer-term impacts, especially in the light of world share of market
Realisation of value in formal & informal markets	link to current global price for abalone

Conclusion

The intention of this paper has been to acknowledge the different ways in which environmental crime can be analysed, and to identify potential dimensions that might be considered in investigations of environmental issues. The paper has discussed issues relating to focal targets (e.g., human beings and non-human nature), scale (e.g., local, regional, global), consequences (e.g., immediate, long term), and time-scale in gauging events, activities and harms. A series of charts were introduced as a means to illustrate key points and to summarise potential areas of analytical concern. By charting out the issues in this way, we are better able to signpost future research projects and to gauge what further work needs to be done to advance environmental criminology as a field of inquiry.

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