

Environmental harm and crime prevention

Rob White

Worldwide concern about the impact of climate change, population growth and resource depletion will continue to drive a focus on environmental harms. Tackling and reducing these harms will inevitably lead to greater regulation and further criminalisation of both intentional and negligent acts by individuals, business and government. This paper discusses what can be learned from traditional crime prevention to reduce and prevent environmental harm. It underlines how a problem-solving approach involves tailoring interventions and strategies based on the source and type of harm, and according to place, scale and the perceived threat. Subsistence and traditional fishing is used as an example to highlight the potential for unintended consequences on the vulnerable and less powerful of greater controls, and to illustrate the range of situational and social measures that could be applied to minimise harmful or illegal behaviour. By setting out a framework on which to base policy and practice-oriented research, this thoughtful analysis can only assist future efforts to study and improve environmental crime prevention.

Judy Putt
General Manager, Research

In recent years, there has been growing state and popular concern at local, regional, national and international levels about environmental issues, and the impacts of specific types of environmental harm such as pollution, toxic waste and illegal logging. However, for criminologists, environmental considerations have generally attracted much less attention than traditional forms of crime and violence. This is now starting to change, as evidenced in a range of new research and scholarly discussions dealing specifically with different aspects of an emergent 'green criminology' (Beirne & South 2007). Within the Australian context, crime in the fishing and timber industries has recently attracted sustained investigation, again illustrating the growing importance attached to these issues (Putt & Anderson 2007; Schloenhardt 2008).

Drawing upon White (2008), this paper aims to examine the relationship between environmental harm and crime prevention. The nature and dynamics of environmental crime will impinge upon law enforcement and prevention strategies in new ways. This is partly a matter of technique; for example, how do we deal with harms that we cannot see or smell, as with some forms of toxic pollution. It is also a matter of conceptualisation and value judgement; where does the precautionary principle fit within criminological analysis? Who or what is the victim? It also relates to scope, given the globalised nature of certain types of environmental harm; how should we deal with transnational environmental harms, such as those associated with fishing and the logging of forests?

This paper discusses what we might learn from conventional crime prevention about how to prevent environmental harm. What ideas might we glean from the literature on situational prevention (e.g.

ISSN 0817-8542

ISBN 978 1 921185 85 4

GPO Box 2944
Canberra ACT 2601
Australia
Tel: 02 6260 9200
Fax: 02 6260 9299

For a complete list and the full text of the papers in the *Trends & issues in crime and criminal justice* series, visit the AIC website at: <http://www.aic.gov.au>

Disclaimer:
This research paper does not necessarily reflect the policy position of the Australian Government.

satellite technology), community crime prevention (e.g. coastal watch groups) and crime prevention through environmental design (e.g. channelling people via predetermined routes through wilderness)? What skills, capacities and organisational relationships are needed if we are to prevent environmental harm adequately and successfully? The paper concludes with a review of key tensions likely to arise in criminological encounters with environmental issues.

Environmental crime prevention

Environmental crime prevention encompasses a range of substantive considerations. It must deal with acts and omissions that are already criminalised and prohibited, such as illegal fishing or illegal dumping of toxic waste. It must also come to grips with events that have yet to be designated officially as 'harmful' but which show evidence of exhibiting potentially negative consequences. Environmental crime prevention likewise has to negotiate different types of harms, as these affect humans, local and global environments, and non-human animals.

The aims and objectives of environmental crime prevention are inseparable from eco-philosophy. That is, what it is we are trying to prevent is linked to how we view human interests, the needs and requirements of specific biospheres, and the rights of non-human animals (White 2007a; White 2008). Environmental crime prevention also therefore encapsulates particular visions of 'the good society'. Crime prevention of any type always has ramifications for the kind of world within which we live, and the balance we make between liberty and social control (Sutton, Cherney & White 2008). For example, a strong ecological stance could well justify the prohibition of people from going into any wilderness area whatsoever, on the basis of preventing human interference in such areas. Whether alternatives are possible or should be made available is exactly what

the political deliberations over crime prevention would have to address. The answer depends upon the specific vision – the perceived relationship between 'nature', society and animals – which is seen as ideal at any particular point in time.

If humans are allowed into wilderness areas, then the next question is under what conditions. To prevent possible environmental harm perpetrated by humans in these areas, rules and regulations are needed (e.g. on burying human waste, on taking litter out of the areas with you as you go). Creative architecture and strategic planning can also ameliorate the impact of humans. For example, boardwalks and well-marked pathways can channel human traffic in certain directions and through certain areas. Providing toilets and lookouts might draw tourists and bushwalkers into particular settings and thus away from more pristine wilderness locations. Once general decisions are made about the nature–human interface, provisions can be introduced to prevent or minimise damage.

Theoretically, good environmental crime prevention should be as inclusive of human, environmental and animal interests as much as possible. To achieve this, we need to be clear as to what 'crime prevention' is actually intended to do. Balancing diverse human and non-human interests still means assigning some type of 'value' to the potential harm. Consider oil for example: is environmental crime prevention best served by ensuring that oil tankers are shipshape and tightly regulated in transporting oil? This would ensure a moderate quantity of harm minimisation. Or, should we eliminate the threat of oil spill by banning oil tankers outright? This would entail harm eradication. Clearly the type and extent of environmental crime prevention will be dictated by notions of human self-interest, as well as potential threats to environments, animals and livelihoods.

One mandate of green criminology is to foster greater attention, analysis and action regarding environmental harm. From the perspective of environmental crime prevention, the tasks are both instrumental and symbolic. We want to implement strategies to protect certain peoples, places and wildlife. At the same time, we want to signal to the community as a whole that this particular issue is significant and that it expresses collective values about 'what counts'. For example, the establishment of 'green zones' in the Great Barrier Reef Marine Park is important, not only because it excludes certain areas from human interaction, but also because it sends a strong message that ecological wellbeing does count in human calculations of marine interests. The choice of words is important, as is publicity surrounding these protected areas. To label certain areas 'green' implies natural and unspoiled; the word 'zone' connotes an area with clearly defined boundaries and purpose.

One of the key lessons from conventional crime prevention is that it should be based largely on a problem-solving, rather than policy-prescribed, model of intervention. Different types of places lend themselves to different types of environmental harm. Some issues are of a planetary scale (e.g. global warming) and 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). Perceptions and consciousness of harm are linked in part to the proximity of human habitation to the sources of harm. A toxic spill in the middle of a major city, or contamination of a major waterway, is more likely to capture public attention and government action than something that happens in a remote wilderness area or offshore.

Different types of harm likewise tend to call for different types of responses. For example, generally speaking, environmental issues can be categorised according to three different types of harm

(White 2005). 'Brown' issues tend to be defined in terms of urban life and pollution (e.g. air quality), 'green' issues relate mainly to wilderness areas and conservation matters (e.g. logging practices), and 'white' issues refer to science laboratories and the impact of new technologies (e.g. genetically modified organisms). Conceptualising environmental issues in this way helps demonstrate the link between environmental action (usually involving distinct community and environmental groups) and particular sites (e.g. urban centres, wilderness areas, coastal regions). Some issues resonate more than others with the public; other issues generally only emerge if an accident or disaster brings it to the fore. This also affects the flow of resources to specific types of crime prevention endeavour.

A problem-solving approach to crime prevention demands a certain level of specificity. General pronouncements about the nature of harm need to be accompanied by particular site or harm analysis. To illustrate how this might occur, we can consider the issue of illegal fishing. Before doing so, it is important to note that fishing – both legal and illegal – is associated with a wide range of potentially harmful activity (White 2007b). Legal fishing, such as aquaculture and the 'scientific' harvesting of whales, can engender great harm. The distinction between legal and illegal may not be the best way to conceptualise harm or responses to harm.

Illegal fishing

For the sake of simplicity, this paper will only consider instances of illegal fishing. Even so, there are major variations in the specific nature of that illegality. Consider, for example, the following types of illegal fishing (White 2007b):

- commercial fishing, which involves catches in excess of quota, false declarations and destruction of bycatch linked to marine pollution
- recreational fishing, which involves unlicensed fishing and fishing in excess of quota
- Indigenous fishing, which may involve fishing in traditional but foreign waters and fishing without a permit
- large-scale illegal fishing, which also involves overexploitation of particular species such as sharks
- specialist illegal fishing, which is designed to exploit endangered species for private fish collections or medicinal purposes.

Different scales, motivations and techniques underpin these types of illegal fishing. Environmental crime prevention has to address the specific nature of the phenomenon in question if it is to be appropriate to the circumstances. Different types of illegality require different types of responses, as they have quite different origins.

Conventional crime prevention emphasises the importance of undertaking scoping analysis before developing an intervention plan (Sutton, Cherney & White 2008). For example, it is useful to assess the key relationships and agencies involved in shaping targets, places and offending as they occur in a marine environment (e.g. fisheries management, marine park authorities, customs, navy, consumers). While general patterns of illegal fishing can be determined in this way, the structural or underpinning reasons for different types of illegal fishing still require close analysis. Indigenous or traditional fishing provides some indication of the complexities of the issues.

The first question to ask in considering traditional fishing – legal or illegal – is what is actually meant by the word 'traditional'. This can refer to different aspects of traditional fishing, such as:

- who specifically (Indigenous Australian, Indigenous Indonesian, Papua New Guinean, Torres Strait Islander)

- how specifically (methods, techniques and technologies)
- where specifically (traditional fisheries for particular coastal groups).

Conflicts can arise when modern technologies are used for what used to be simply subsistence fishing. The use of motorboats, nets and fishing rods, and sonar equipment allows for overexploitation to occur. Overexploitation of resources may be due to employment of new technologies, perceptions of resources being boundless and where management is believed to be beyond human control (Caughley, Bomford & McNee 1996). Moreover, overexploitation may be generated in the new methods of production themselves. For example, the mobility, range and efficiency of traditional fishing are all enhanced through modern methods and technologies. Conversely, these technologies generate the need for cash to supplement subsistence, e.g. buying the boat and petrol for the boat. The net effect is pressure to fish beyond immediate consumption needs.

Conflicts can also occur with different notions of 'sustainability' and encroachment by other people into traditional fishing areas (Caughley, Bomford & McNee 1996). Different perceptions of sustainability translate into different purposes and scales of operation. For example, in an international context, traditional fishers are usually associated with small-scale fisheries that are labour-intensive and economically fragile (Hauck 2007). Large-scale commercial fisheries and large-scale illegal fishing operations put these traditional fishers in a perilous position. Not only are these large-scale operations export-oriented, but also the scale of fishing itself tends to put pressure on fishing stocks.

Overfishing in some waters has immediate and dire consequences for local traditional fishers, as fish is part of their staple diet. Moreover, overfishing in one place causes movement of large-

scale fisheries and traditional fishers to other locations, thus impinging upon traditional rights and traditional owners in these areas. Conflict may occur not only between trawler operators and traditional fishers, but also among traditional fishers as they are forced further from their own traditional fishing waters to sustain a liveable catch. Thus, the problem is not simply one of noncompliance on the part of small-scale fishers (e.g. Indonesian fishers in Australian defined waters), but of food security and the reliance on increasingly declining fish stocks for survival. Hence, from a crime prevention perspective, a compliance approach will not work, as it does not address the diversity of issues that may be influencing non-compliant behaviour (Hauck 2007).

The complexities of traditional fishing are also manifest in the fact that a continuum exists between commercial and traditional fishing. Traditional fishing today often has an interface with the cash economy: fish to eat, and fish to sell to subsist (Altman, Bek & Roach 1996; Caughley, Bomford & McNee 1996).

One issue, mentioned above, is whether the activities of commercial (and indeed recreational) fishers adversely affect subsistence resources of traditional communities. Another issue is to what extent these communities must themselves rely upon commercialised fishing to gain sufficient subsistence resources. The former requires 'external' controls of some kind to dissuade overfishing and illegal fishing. These might include monitoring and surveillance, as well as moral persuasion, to desist from harmful behaviour. The latter might be responded to by employing incentive measures. An example of what this might look like is provided in a Canadian initiative:

In Canada, the Income Security Program (ISP) established for Cree hunters in north Quebec provides guaranteed income to allow the Cree to hunt. With the ISP, production is linked to people's

need and there is no incentive to overexploit wildlife resources. Indeed there is a voluntary decrease in hunting in overused areas, and other wildlife conservation practices such as monitoring the numbers of certain game are recognised as hunting-related work under the ISP (Altman, Bek & Roach 1996).

Another type of incentive is to involve Indigenous people directly in co-management of the resource. In this approach, Indigenous fishing rights consist not only of a claim to a share of the harvest, but also a stake in the conservation and management of the resources. So, the right to fish can be regulated, but Indigenous people should be part of that regulation.

What this discussion of traditional fishing illustrates is the complexities of the issues and the need for thorough analysis before developing crime prevention options. Different types of fishing activities require different responses. While incentives might be crucial to forestalling illegal fishing by Indonesian traditional fishers in Australian waters, trade-related regulation would be more appropriate as a means to deal with large-scale illegal fishing (Lack 2007). In other instances, a variety of situational measures can be applied that have a distinct marine application (Smith & Anderson 2004).

We can envisage a wide range of techniques, approaches and strategies to environmental crime prevention regarding illegal fishing. While suggestive of possible interventions, drawing from such a list only makes sense and 'works' when put into specific fishing contexts. Studies of particular types of illegal fishing – such as abalone, lobster and toothfish – show great variation in motives, techniques, local cultures and scale of operation (Anderson & McCusker 2005; Lugten 2005; McMullan & Perrier 2002; Tailby & Gant 2002). As argued throughout this paper, the specificity of the harm should drive the type of

intervention. In turn, this requires close analysis of the multiple facets of each type of harmful activity.

Conclusion

This paper concludes by briefly highlighting a few issues that confront criminologists in trying to understand environmental issues. In considering these, it is pertinent to consider the types of skills, capacities and organisational relationships needed if we are to prevent environmental harm.

Defining the problem

The question of how to define the problem is an intractable and necessary part of the development of environmental crime prevention. Many areas of harm to humans, the environment and non-human animals are presently not criminalised. This includes such destructive, degrading and dehumanising practices as clear-felling of old-growth forests, reliance upon battery hen egg and poultry production, and use of depleted uranium in weapons. From an analytical perspective, conceptualisation of harm should not rely upon the distinction between legal and illegal per se, especially as some of the world's most environmentally disastrous practices are still legal. Environmental crime prevention may entail the exposure of negative, degrading and hazardous practices as a prelude to the banning or close control of such practices. New concepts of harm, as informed by ecological sciences and environmental values, will inevitably be developed as part of this process. For example, an ecological perspective on planetary wellbeing looks at the world in terms of climate change, biodiversity and waste/pollution (UNEP 2007). Human activities covering these domains contribute to environmental deterioration, and are detrimental to specific humans, non-human animals and ecological systems. Criminalisation and regulation of such behaviour is crucial if ecological values are to prevail.

Prevention and precaution

Uncertainties surrounding future impacts and consequences mean that debate will occur over when preventative measures need to be introduced as a precautionary measure. The politics of ecological sustainability will collide with the interests of economic growth, as greater adherence to the precautionary principle will almost always lead to curtailment of existing profit-making enterprises. Environmental crime prevention must be forward-looking if human, biosphere and non-human interests are to be protected in the future. This means implementing interventions now to guarantee environmental wellbeing later.

For example, a study of lobster poaching in Canada found a complex underground economy, with alliances between outlaw poachers, hotels, restaurants, community groups and private citizens. This was in a social environment in which the taking of lobster was seen as the natural right (and yearly ritual) of locals (McMullan & Perrier 2002). A futures orientation means grappling with such entrenched practices through innovative thinking at both a policy and grounded intervention level.

Different opinions over future consequences can also mean that those who take action now (such as protesting) for the sake of future generations may be criminalised in the present. But the history of law reform is built precisely upon such tensions.

Tailoring the responses

While specificity of the harm demands specificity in response, some forms of environmental harm cannot be contained easily due to the enormous scope of the problem. For example, the transnational movement and illegal dumping of toxic waste requires international cooperation among nation-states and social movement activists. Coordination of environmental crime prevention requires free exchange of information and constant surveillance, as well as creative thinking about addressing issues such

as scarcity of water, diminished food sources and expanded need for adequate waste treatment facilities. Interagency cooperation requires legislative reform, formal and informal collaboration protocols, heightened consciousness of problems and their complexity, and a general tightening of environmental regulatory machinery. This will involve different government and non-government players and networks, and different ways of working with each other (White 2008). Climate change and how to deal with it will ultimately require global action. It will also involve the criminalisation of what is considered acceptable practice today. For example, the imposition of severe water restrictions and harsher penalties regarding wasteful water use are harbingers of things to come.

Problems of displacement

As with conventional crime prevention, displacement may occur where good environmental crime prevention measures are introduced. For example, a tightening of regulation with respect to the shipment of toxic waste in Europe or the United States may force companies to relocate their factories to places such as Mexico and Africa, where vulnerable governments have less rigid controls on production and waste treatment. The Not In My Back Yard (NIMBY) syndrome will produce unintended consequences that perpetuate environmental harm. Therefore, a global perspective is essential when it comes to environmental crime prevention. So too, when subsistence fishing, farming and hunting withers due to overexploitation and climate change, then shifts in human populations and in resource use are likely to take place.

The relationship between environmental change, climate-induced displacement and human migration poses a new set of questions for criminology. While the phrase 'environmental refugee' is highly contentious (Castles 2002), displacement of people due to environmental-related causes has major legal, human rights and national security concerns (McAdam

& Saul forthcoming; Singh 1996). A European Union report discusses the issues in terms of threats to European security posed by climate change (Solana & Ferrero-Waldner 2008). This tends to portray third-world ecological ruin as primarily a threat to first-world stability. It also reinforces the construction of the climate-induced migrant as someone who should be subjected to criminalisation and law enforcement rather than humanitarian issues (Pickering 2005). Crime prevention, in this context, must address fundamental issues of global power relations, geographically based environmental trends and differential victimisation (White 2008).

Questions of agency

What the issue of traditional fisheries highlights is that people in different circumstances have different types of choices. A small-scale subsistence fisher has much less power and exercise of agency than a large-scale trawler operator. Disparities in power and resources should not translate into seeing the more vulnerable and disadvantaged as easy targets for crime prevention (analogous to dealing with 'street crime'), while the criminal actions of corporate polluters and large-scale organisations receive less concerted attention. Moreover, the plight of the dispossessed and disadvantaged means that often any environmental destruction brought about by their actions (cutting down forests, overfishing) is best remedied by social justice initiatives rather than criminal justice interventions, whether these take the form of crime prevention or law enforcement.

Politics of knowing

Environmental crime prevention should be based on a problem-solving approach, but it is not always easy to discern what is accurate or true about specific environmental harms. There is a need for multidisciplinary approaches to the study of environmental harm, involving cooperation between different 'experts'

– including those with traditional and experiential knowledge associated with culture and livelihood (e.g. Indigenous peoples and farmers) – as well as sensitivity to ideas and research generated in intellectual domains such as law, zoology, biology, philosophy, sociology and chemistry. Conversely, we have to be aware that there are major industries of ‘denial’ of environmental harm – including both corporations and governments – which place even greater pressure on criminologists to provide affirmative data and interpretations that bolster specific environmental crime prevention initiatives.

Much criminal and environmentally destructive behaviour is highly contingent upon particular factors and specific social circumstances. For example, the problem of toxic waste disposal cannot be divorced from how and why toxic waste is produced in the first place, and the consequences of the commodification of waste that has occurred in the past 50 years. Accordingly, to deal with the harm associated with toxic waste disposal, a specific crime prevention plan is needed – one that fits the nature and dynamics of this specific type of environmental harm. The same goes for other forms of harm, whether this is regarding illegal fishing or the illegal traffic in flora and fauna (Halstead 1992; Smith & Anderson 2004).

One intention of this paper has been to foster greater dialogue within criminology and criminal justice circles about how crime prevention might be pursued in relation to environmental harm. Difficulties of definition, awkward processes of deliberation and the complexities of

addressing many different types of environmental harm should be seen as part of the challenge that comes with the territory, not as precluding action on these matters in the present. For criminology, this means learning much more about the ‘natural’ world around us, the interrelationships between biosphere and society, and further developing those concepts, principles and values that will best ensure planetary wellbeing.

References

Altman J, Bek H & Roach L 1996. Use of wildlife by Indigenous Australians: economic and policy perspectives, in Bomford M & Caughley J (eds), *Sustainable use of wildlife by Aboriginal peoples and Torres Strait Islanders*. Canberra: Bureau of Resource Sciences

Anderson KM & McCusker R 2005. Crime in the Australian fishing industry: key issues. *Trends & issues in crime and criminal justice* no. 297. <http://www.aic.gov.au/publications/tandi2/tandi297.html>

Beirne P & South N (eds) 2007. *Issues in green criminology: confronting harms against environments, humanity and other animals*. Devon: Willan

Castles S 2002. *Environmental change and forced migration: making sense of the debate*. New issues in refugee research, Working paper no. 70. Geneva: Evaluation and Policy Analysis Unit, United Nations High Commissioner for Refugees

Caughley J, Bomford M & McNee A 1996. Use of wildlife by Indigenous Australians: issues and concepts, in Bomford M & Caughley J (eds), *Sustainable use of wildlife by Aboriginal peoples and Torres Strait Islanders*. Canberra: Bureau of Resource Sciences

Halstead B 1992. Traffic in flora and fauna. *Trends & issues in crime and criminal justice* no. 41. <http://www.aic.gov.au/publications/tandi/tandi41.html>

Hauck M 2007. Non-compliance in small-scale fisheries: a threat to security?, in Beirne P & South N (eds), *Issues in green criminology: confronting harms against environments, humanity and other animals*. Devon: Willan Publishing

Lack M 2007. *Catching on? Trade-related measures as a fisheries management tool*. Cambridge: TRAFFIC International

Lugten G 2005. Big fish to fry: international law and deterrence of the toothfish pirates. *Current issues in criminal justice* 16(3): 307–321

McAdam J & Saul B forthcoming. An insecure climate for human security? Climate-induced displacement and international law, in Edwards A & Ferstman C (eds), *Human security and non-citizens: law, policy and international affairs*. Cambridge: Cambridge University Press

McMullan J & Perrier D 2002. Lobster poaching and the ironies of law enforcement. *Law & society review* 36(4): 679–717

Pickering S 2005. *Refugees & state crime*. Sydney: Federation Press

Putt J & Anderson K 2007. *A national study of crime in the Australian fishing industry*. Research and public policy series no. 76. Canberra: Australian Institute of Criminology. <http://www.aic.gov.au/publications/rpp/76/index.html>

Schloenhardt A 2008. *The illegal trade in timber and timber products in the Asia-Pacific region*. Research and public policy series no. 89. Canberra: Australian Institute of Criminology. <http://www.aic.gov.au/publications/rpp/89/index.html>

Singh M 1996. Environmental security and displaced people in Southern Africa. *Social justice* 23(4): 125–133

Smith R & Anderson K 2004. Understanding non-compliance in the marine environment. *Trends & issues in crime and criminal justice* no. 275. <http://www.aic.gov.au/publications/tandi2/tandi275.html>

Solana J & Ferrero-Waldner B 2008. Climate change and international security, Paper from the High Representative and the European Commission to the European Council. Brussels: European Union

Sutton A, Cherney A & White R 2008. *Crime prevention: principles, perspectives and practices*. Melbourne: Cambridge University Press

Tailby R & Gant F 2002. The illegal market in Australian abalone. *Trends & issues in crime and criminal justice* no. 225. <http://www.aic.gov.au/publications/tandi/tandi225.html>

United Nations Environment Programme (UNEP) 2007. *Global environment outlook*. New York: UNEP

White R 2005. Environmental crime in global context: exploring the theoretical and empirical complexities. *Current issues in criminal justice* 16(3): 271–285

White R 2007a. Green criminology and the pursuit of social and ecological justice, in Beirne P & South N (eds), *Issues in green criminology: confronting harms against environments, humanity and other animals*. Devon: Willan Publishing

White R 2007b. Fishing for the future: exploring the ambiguities of environmental harm. The Criminology Public Lecture, James Cook University, Townsville, 22 May

White R 2008. *Crimes against nature: environmental criminology and ecological justice*. Devon: Willan Publishing