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2009

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Sharon Beder

University of Wollongong, sharonb@uow.edu.au

Publication Details

Beder, S, The corporate agenda for environmental property rights, Property rights and sustainability: the evolution of property rights to meet ecological challenges, New Zealand Centre for Environmental Law Conference, Auckland, New Zealand, 16-18 April 2009. Original conference information available [here](#)

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The corporate agenda for environmental property rights

Sharon Beder

Visiting Professorial Fellow, University of Wollongong
<http://homepage.mac.com/herinst/sbeder/home.html>

Public concern about the environment increased in the late 1980s, reinforced by scientific discoveries regarding phenomena such as ozone depletion and weather patterns that seemed to indicate that global warming had already begun. The obvious solution was to tighten environmental regulations and it was in this political context of demands for a new environmental ethic, political change and tighter environmental regulations that business groups and economists looked for market solutions to environmental problems that would accommodate economic growth, harness and exonerate the profit motive, and avoid further legislation and regulation.

Business-funded conservative think tanks in English-speaking nations, which were pro-market and anti-regulation, disparaged environmental legislation – labelling it ‘command and control’ – and recommended using the market to allocate scarce environmental resources such as wilderness and clean air. They argued that legislation should be replaced with voluntary industry agreements, reinforced or newly created property rights, and economic incentives.

The Washington-based Cato Institute, for example, stated that one of its main focuses in the area of natural resources was ‘dismantling the morass of centralized command-and-control environmental regulation and substituting in its place market-oriented regulatory structures...’ⁱ According to Heritage Foundation’s policy analyst, John Shanahan, the free market is a conservation mechanism. He urged the use of markets and property rights ‘where possible to distribute environmental ‘goods’ efficiently and equitably’ rather than legislation.ⁱⁱ

Think tank economists emphasised the importance of market processes in determining optimal resource use. Anderson and Leal argued that the political process is inefficient, that is it doesn’t reach the optimal level of pollution where costs are minimised: ‘If markets produce “too little” clean water because dischargers do not have to pay for its use, then political solutions are equally likely to produce “too much” clean water because those who enjoy the benefits do not pay the cost.’ⁱⁱⁱ

Under pressure from business groups and influenced by think tanks, various governments began to consider the use of market instruments. They were concerned that tighter pollution control measures might inhibit economic growth. They believed that market and property rights-based approaches to environmental protection could achieve environmental goals at less cost, providing new sources of finance and allowing industry to find its own cost-effective ways of reducing pollution.^{iv} The changing consensus wrought by conservatives meant that property rights-based instruments, once solely associated with market economists and conservative bureaucrats, became widely accepted by government policymakers throughout the world.

Property rights-based measures ‘create rights to use environmental resources, or to pollute the environment, up to a pre-determined limit’, and allow these rights to be traded.^v The idea of these measures is that if people have a right to the use of particular natural resources, they will consider the longer term and manage those

resources sustainably. Also, the more scarce these rights and the more demand there is for them, the more they will cost and this will ensure that the rights are used in the most efficient way and will not be squandered. Additionally, it is assumed that those who can earn the most money from using such rights will be willing to pay the most for them and so the resource will end up being put to the highest value use.

Property-rights measures include emissions trading where the right to discharge a certain amount of pollution is allocated to individual firms, sometimes for a price, and markets are set up to allow those rights to be bought and sold. They also include tradeable fishing rights which limit who can fish and how much they can catch by allocating individual quotas and encouraging the trading of these quotas.

Trading of water property rights is used in some countries to control and allocate water use. It requires the separation of water rights from land title so that water rights can be separately traded. Mitigation banking and conservation banking are used to create property rights out of conservation work so that credits for conservation of private land can be bought and traded for the right to degrade the environment somewhere else. Examples include wetland mitigation banking in the US and biobanking in NSW, Australia.

Effectiveness

Property-based environmental instruments may be effective at limiting economic costs but they have proven to have limited effectiveness when it comes to protecting the environment. This is not a result of poor implementation but an inevitable consequence of using property rights-based measures to protect the environment.

Tradeable pollution rights, or emissions trading, 'encourage change by those who can achieve the change most cheaply',^{vi} which is fine, if only limited pollution reductions are required – that is if reductions can be limited to what can be done cheaply. However they tend not to work if substantial reductions are required.

The US EPA notes that water pollution trading works best when 'the necessary levels of pollutant reduction are not so large that all sources in the watershed must reduce as much as possible to achieve the total reduction needed – in this case there may not be enough surplus reductions to sell or purchase'.^{vii}

If substantial pollution reductions are necessary then more expensive reductions also have to be made and there is little point in setting up markets that enable some firms to avoid making those expensive reductions so as to minimise overall costs. This became evident in Germany when it considered implementing an acid rain emissions programme. The aim of the German programme was a 90 percent reduction in SO₂ between 1983 and 1998. In comparison, the aim of the US emissions trading program which was set up in 1990 was only a 50 percent reduction by 2010. This meant that in the US there was much more scope for power stations to find cheaper ways to reduce their emissions, whereas in Germany, every power station had little choice but to retrofit their plants with flue gas desulphurisation and selective catalytic reduction for nitrogen oxides. This meant that there was no scope for trading.^{viii}

In other words, the more rigorous the emission reduction required the less scope there is to find cheap solutions and sell excess allowances or reduction credits.

The US Acid Rain Cap and Trade scheme is consistently cited as a success because it has achieved some reductions at minimal cost but how do those reductions compare with what can be achieved with traditional regulation? 'US sulphur emissions now exceed those from the EU Member States by 150%'.^{ix} Even according to its champion, the US EPA:

The Acid Rain Program has enjoyed an unusually high level of emission reductions and near-perfect compliance. However, it is becoming increasingly clear that the program's emission targets may not be sufficient to achieve its environmental goal of ecosystem recovery.^x

Similarly transferable fishing quotas have seldom prevented the decline of commercial fishing species. According to the Australian Department of Agriculture, Fisheries and Forestry (DAFF) the M, spawning stock are severely depleted, and 'current catches severely limit probability of rebuilding'.^{xi}

Although the orange roughy fishery in NZ was often cited as a case study of the success of tradeable fishing quotas, it has now actually turned out to be a failure. By 2000 '[t]wo roughy fisheries have collapsed, and most are now at 10% of their original populations'.^{xii}

Despite having a cap and trade system for water allocation since 1997 the Murray River in Australia is dying. More than 75 percent of the river system water is still diverted before it reaches the sea which has caused serious environmental problems, especially at the mouth of the river, where there has seldom been any river flow since 2001.^{xiii}

In 2001 a National Research Council study found that mitigation banking in the US was not preventing loss of wetlands.^{xiv} Although the ratio of destroyed wetlands to compensatory wetlands is around 100 to 178, 'only about 19 ha' of those 178 were 'judged functionally equivalent to appropriate reference sites.' So wetland mitigation banking results in significant net loss of wetland function.^{xv} Another study by the Washington State Department of Ecology found that only three compensatory wetland-mitigation projects out of 24 (at 31 sites) were fully successful.^{xvi} In the case of conservation banks, no study has been done into their effectiveness.^{xvii}

Efficiency vs Environment

Despite the win-win rhetoric, property rights measures tend to favour economic efficiency over environmental effectiveness. That is, they aim to achieve a given level of environmental protection at less cost to industry and developers, and to enable continued economic growth despite restrictions.

Even proponents of emission trading admit that there will inevitably be a conflict and an implicit trade-off between the goals of reducing costs and improving environmental quality.^{xviii} This conflict can be seen in the setting of baseline standards or caps for tradeable emissions programmes. What is good for the environment is not necessarily good for encouraging trade in a market. If the cap is too low and too few allowances are issued, or the baseline standard is too low, there will be few allowances or reduction credits for sale—because few firms will be able to reduce their pollution levels below the allowances they are allocated or the emissions standards set. Yet a such a low cap may be necessary to protect the environment.

Political factors are also influential, as they are with legislation. Nutrient trading hasn't really taken off in the US partly because caps on nutrient levels are not strict enough to force point sources to buy allowances from farmers. However stricter caps are not imposed because they would be politically unpopular with the industrial polluters that would be the buyers.

When the EU greenhouse gas emissions trading system was introduced in 2005 many governments were too generous in allocating allowances to local firms because they feared their local industries would be at a competitive disadvantage if they had to buy extra allowances. A study by Ilex Energy Consulting for WWF examining six EU

countries found that none of them had set caps that went beyond business as usual.^{xix} Because allowances were not in great demand, the market opened at 8 euros per tonne and settled around 23 euros a few months later, far less than would be necessary to provide an incentive to reduce emissions.^{xx}

Tradeable fishing quota systems also focus on efficiency, their aim being to make the fleet more economically efficient. The idea that a smaller, more efficient fleet will reduce overfishing is faulted however. What happens in practice is that the smaller 'inefficient' boats are priced out of the market but those that remain more than make up for this reduction in fishing fleet size with their extra boat size, power and technology. The technologies they use can be far more damaging to the environment.

The larger boats favoured by tradeable fishing quota systems 'fish more intensively' and therefore impact more on the marine environment, particularly 'on sensitive areas such as coral reefs'.^{xxi} Fishers who use line and hook have been progressively eliminated while there are more and more large vessels which tend to drag heavy fishing gear across the ocean floor killing crustaceans, uprooting aquatic plants, 'eroding plants and benthic life, levelling the ground and destroying shelter for the young – in short, transforming the bottom of the sea into a lifeless desert'.^{xxii}

Tradeable fishing quotas can also cause a displacement effect: when fishers are forced out of one fishery they often move into another. In the case of the southern bluefin tuna fishery in Australia, when the tradeable quota system was introduced the number of boats seeking bluefin tuna was reduced by 70 percent in two years but many of the boats that once sought bluefin tuna now fished in other fisheries, some of which were already being overfished.^{xxiii}

When tradeable quota systems are being proposed there is an incentive for existing fishers to catch as much as possible and report they are catching more than they actually are, so that when quotas are allocated, based on their past catches, they will get a larger quota. This is referred to as 'speculative fishing-for-history'. This not only impacts directly on the sustainability of the fisheries but distorts the figures used by fisheries managers to estimate what catches are sustainable. Also, vessels that might have been retired are kept on in the hope of getting saleable quotas.^{xxiv} In NZ, fishers put greater effort into catching species of fish not in the Quota Management System (QMS) in anticipation of their inclusion.^{xxv}

The economic goals of a functioning water market also conflict with the goals of a healthy ecosystem. An over-allocated river system threatens the environment, but if there are not enough spare water entitlements, there will be no trade.^{xxvi}

In any water trading system there is an ongoing conflict between the needs of irrigators and the needs of the environment. Irrigators demand certainty about how much water they will have so that they can plan ahead and safely invest in irrigation infrastructure. However rainfall varies and any certainty provided to irrigators, creates problems for ecosystems, particularly in times of drought when the surplus water is not available.

Water allowances are sometimes based on a proportional share of available water so that they decrease in times of low water flow and regulators can take account of environmental needs when deciding the total amount that can be withdrawn. However farmers generally oppose such systems because they cannot know how much water will be available in future. Even where entitlements are proportional, governments are wary of reducing the total water allocation too much because of irrigator opposition.^{xxvii}

In the case of the Murray River, for example, the logical thing to do is to reduce entitlements to a level that is compatible with a healthy river ecosystem. However,

governments go out of their way to please irrigators in Australia. In 2003 the Federal government moved, as part of its National Water Initiative, to increase the security of irrigators water entitlements.^{xxviii} In 2005 the NSW government was accused of 'plundering water set aside to preserve one of the Murray River's most important wetland forests to top up irrigator's allowances'.^{xxix}

Economists argue that any reduction of entitlements 'undermines the market process and prevents permanent water entitlements moving to their highest-value use'.^{xxx} Compensation to rights holders, or buy back of water rights, can make water markets the most expensive way of meeting environmental objectives, particularly to the tax payer, rather than the most cost effective. Yet once water rights are allocated, only the direct purchase of water provides any certainty that the required amount of water will be left in the rivers and the cost of this can severely test government resolve to protect the environment.

The conflict between economic and environmental goals are also inherent in mitigation and conservation banks. Problems associated with creating, enhancing and restoring wetlands, habitats or streams are exacerbated by the fact that mitigation banks are usually driven by profit, rather than scientific curiosity or environmental goals, and the owners are seldom willing to spend the time and money trying to get it right.^{xxxi} 'Studies that have evaluated mitigation projects have shown that the type of habitat to be created or restored is often determined not on the basis of the ecological need or the habitat lost, but on the basis of cost, ease of construction, aesthetics, and provision of non-habitat functions.'^{xxxii}

An early study found that the only wetland type that was increasing in the US was 'open water pond with a fringe of wetland vegetation' because that is the type that is easiest and cheapest to create. This type of wetland mitigation is allowed even in places where it does not naturally occur.^{xxxiii}

Because rural land is cheaper than urban or suburban land, mitigation and conservation banks tend to result in conservation efforts being concentrated in rural areas whilst urban areas become more developed. This means that urban areas progressively lose every pocket of nature.^{xxxiv} Stream mitigation banks, for example, favour the restoration of rural streams whilst developers tend to destroy urban streams. Urban streams are more expensive to restore and are subject to urban runoff so are more difficult to maintain. Also, larger rivers cost more to restore because they are wider and cover a greater area, have a larger floodplain, and are in areas of higher population density.^{xxxv}

If trades are confined to areas that are of similar ecosystem types to avoid the problems resulting from working out equivalencies, then trades are too restricted and the market will not work.^{xxxvi} This is a clear example of how the compromises necessary to ensure a viable market are often made at the expense of the environment.

Monitoring Difficulties

Emissions trading increases the incentive to cheat because claimed reductions are worth money.^{xxxvii} Environmental groups sued a number of companies in the LA emissions trading program, including United Airlines and the Southern California Gas Company, for failing to purchase sufficient credits to cover their pollution. The problem was that the regulator simply verified transactions after they had been made, often doing little more than checking the paper work because of a lack of personnel and resources to check each claimed reduction.^{xxxviii}

Often, in emissions trading schemes, companies do not report actual measured emissions but estimated emissions based on models that are far from accurate. Such

models under-estimated oil company emissions by factors of between 10 and 1000 but such estimates were accepted by the regulatory authorities.^{xxxix}

The difficulties of monitoring and enforcing emissions trading programmes is multiplied many times when it comes to monitoring emissions and claimed reductions worldwide as well as ‘countless transactions around the globe that are brokered by far removed “middle men”.’^{xl} This is particularly the case in developing countries where the regulatory infrastructure and skilled personnel to measure and monitor emissions reductions may not be well developed.^{xli}

It is also a problem in affluent countries because monitoring is often neglected: ‘As brokers, consultants, accountants, speculators, energy corporations and politicians all scramble for a piece of the emissions trading pie, no equivalent level of activity is seen from credible verifiers or monitors.’^{xlii} Where emissions reductions are verified, it is often done by transnational corporations such as PricewaterhouseCoopers that are also consultants and accountants to the companies whose emissions they are auditing.^{xliii}

A major problem with assigning credits for emissions reductions is not knowing whether they would have occurred without any credits being awarded. Companies were given millions of dollars in incentives to take part in the UK’s voluntary emission trading scheme. An independent non-government group, Environmental Data Services (ENDS), found that three of the chemical companies including DuPont claimed credit for reductions that they had been required to make previously under EU laws. In addition to the millions they got in tax payer incentives, they made millions from selling the credits they did not deserve. It has also been alleged that other companies have claimed phoney reductions that have resulted from plant closures and ‘securing a baseline against a “false” projection of economic activity which exaggerates output and hence emissions’.^{xliv}

In NSW the Greenhouse Abatement Scheme issues certificates to those who reduce greenhouse gas emissions that can then be sold to electricity retailers who have to meet mandatory emissions reductions. However a study by researchers at the University of NSW has found that 95 percent of the certificates issued in the 18 months leading up to June 2004 were for projects established before the introduction of the scheme and more than 70% were awarded for emissions reductions that would have occurred anyway.^{xlv}

An oft-cited example of ‘hot air’ or ‘phantom’ emissions reductions has been the trading of emissions credits with Russia and other eastern European countries that are in economic decline. This has meant that some countries in Eastern Europe are already emitting 30%-45% less carbon dioxide than in 1990 because of lowered production yet they can sell their rights to emissions they were not going to make, to the US or Japan in return for hard currency, with no net benefit to the planet.^{xlvi} Now that many more nations are going into recession, it is a concern that the resulting reductions in emissions will be turned into undeserved credits that lower the price of polluting or are banked for the future.

Lack of monitoring is also a problem with water allowance markets.^{xlvii} One problem is water poaching, which has become more of a temptation as the price of water has increased. Given the choice between taking more water than they are allowed or risking the failure of a crop and the possibility of losing the farm, many are going to take more water.^{xlviii}

Fishing quota trading systems also provide an incentive to cheat. Underreporting an individual catch profits an individual fisher, as does poaching and exceeding quotas. Illegal ways of exceeding one’s quota include ‘fishing out of season and selling

fish on the black market, which are widespread in many, if not most, industrialized fisheries. The quantities involved can be quite considerable'.^{xlix} There are also cases of catch misreporting, for example where a valuable quota species such as cod is reported as another species such as saithe.^l

The idea that ownership of fishing rights would ensure that quota owners would police each other is negated by the shift of ownership from owner-operators to investors who pay others to fish for them. Contract fishers have much less incentive to report illegal fishing by others, particularly if they are doing it themselves.^{li} On top of this, poaching of fish has increased because those dispossessed by not having a quota and those feeling their allocated quota is unfair feel justified in taking what they believe they deserve.^{lii}

The increase of fishing vessels that process the fish at sea also 'provides an opportunity to bend the fisheries management rules'. Some commentators have pointed to the way such vessels manage to get a higher yield per catch than land-based factories as evidence that some cheating is occurring. Large trawlers have also been caught landing some of their catch in other countries. For example, Icelandic trawlers taking fish to Germany and Britain.^{liii}

Certification, verification and monitoring is a particular problem for conservation markets because of the difficulty of measuring biodiversity. In fact wetland offsets are often defined in terms of acreage rather than function and 'the area of *wetland type* is often used as a proxy for wetland functions'.^{liv} The use of a measure like acreage for wetlands or linear measures for streams 'have the major advantage of keeping trades simple, reducing transaction costs, and ensuring that all parties understand the transaction that is taking place'. They are necessary to ensure that markets work. Comprehensive measures that take account of various biological criteria such as 'habitat quality, species, conservation values and benefits' are expensive to work out and raise more questions than they answer in terms of equivalencies for trading purposes.^{lv}

Mitigation banks are seldom monitored for the full time it takes for restored or created wetlands to reach complete functional performance, which may be 20 years or more. 'Habitat for swamp dwelling animals that require a closed tree canopy could take decades to develop, unless mature trees are already present or are planted'.^{lvi}

Enforcement of compliance conditions is poor in the US where monitoring is often fairly superficial and does not include assessment of function.^{lvii} Fourteen percent of banks do not even have specified monitoring and maintenance provisions.^{lviii} Functional assessment is even rarer. Often all that is required is a specified level of plant cover, even though the existence and survival of the right vegetation is not sufficient to indicate whether the wetland is functioning as it should.^{lix}

Perpetuating Damaging Industries

Emissions trading tends to protect very polluting or dirty industries by allowing them to buy emission rights rather than meet higher environmental standards. In this way, trading can reduce the pressure on companies to change production processes and introduce other measures to reduce their emissions. It may be preferable in the long run for firms that cannot make the environmental grade to go out of business and make way for other firms that can produce substitute products in a cleaner way rather than allow them to pay to continue polluting.

The oil and fossil fuel dependent companies who want to continue expanding their businesses are the very ones that are promoting emissions trading in the knowledge that it will enable them to continue to do this. As Joshua Karliner points

out, 'Market based solutions will not cause a fundamental shift away from fossil fuels and toward renewable energy'.^{lx}

Whilst water trading seeks to ensure the highest value crops are grown, there is no guarantee that those crops are the most environmentally beneficial. They may require more chemicals to grow and therefore be worse for the environment in the long run.^{lxi} Nor does water trading ensure that less water-dependent crops are grown. For example, in Australia rice growers are less vulnerable to the higher water prices than other farmers, even though rice is one of the most water intensive crops.^{lxii}

As water prices have increased, farmers have built dams on their property to capture and store the rain: 'In Victoria alone, there are said to be about 90,000 dams, and for every meg [ML] held in the dam, between one and three are lost to the system in evaporation.' This means that less water is available to rivers despite caps on total water diversions. In NSW the government attempted to deal with this problem by allowing farmers to keep only ten percent of the rain that fell on their land for free, leading to claims that the government was privatising the rain.^{lxiii}

The other problem is that when farmers have to pay more for their water they do not necessarily use less but rather they work out ways to get the water to cover greater areas of crops, that is expanding the area of irrigation for the same amount of water. What is more, efficient methods of utilising water, like drip irrigation, return much less water to the river. Therefore increased water efficiency does not necessarily benefit river flows.^{lxiv}

Mitigation banks facilitate poor development practices because they allow developers to destroy and degrade wetlands and endangered species habitats by simply paying for conservation elsewhere that may or may not be successful and does not add to the aggregate amount of species habitat.^{lxv} The concern is that with such an option increasingly available the pressure on developers to pick appropriate development sites and avoid or minimise the environmental damage they cause will be reduced.^{lxvi}

The Australian peak environmental groups argue that biobanking schemes 'use habitat destruction or pollution of the environment as a "driver" for environmental conservation and improvement'. The groups point out that landowners have a duty of care to manage vegetation on their land and the fact that they do this should not be traded off against 'further land degradation'. This may even provide an incentive for landowners to let the conservation value of their land be degraded – through lack of care and poor management – so as to be eligible for claiming payment for undertaking normal, accepted land management practices as offsets for damage elsewhere. Similarly, conservation actions that are supposed to be core business for local governments – such as catchment maintenance, improvement and rectification – may be used as offsets for environmental damage elsewhere.^{lxvii}

In Western Australia, where environmental offsets have been used as an environmental management tool since the 1980s, the Environmental Protection Authority (EPA) has critically observed that environmental offsets are perceived as 'being used to make otherwise "unacceptable" adverse environmental impacts "acceptable" within government'.^{lxviii}

Conclusion

Property rights-based measures have enabled the corporate neo-liberal agenda of deregulation, privatisation and an unconstrained market to be dressed up as an environmental virtue but they are a poor way of protecting the environment. Markets are unreliable and unpredictable and this is even more so when they are designed so

that environmental protection is supposed to be a by-product of profit-seeking activity. When economic growth is paramount and the seeking of private gain encouraged, the environment is easily compromised and property rights-based instruments do not change these priorities but are designed to accommodate them.

Property rights-based instruments require onerous regulation because of the powerful incentives to cheat, yet because they are so often promoted as an alternative to direct regulation, property rights-based schemes are poorly regulated. Moreover, such schemes are far more difficult to regulate than traditional legislation because they involve numerous transactions between private parties.

Worst of all, property rights-based approaches tend to shift much of the decision-making power with respect to environmental outcomes from the political – and therefore public sphere – to the private sphere. This means that individual businesses can decide to continue with their environmentally damaging practices so long as they pay for credits or offsets. Far from promoting innovation, property rights-based measures tend to enable companies to avoid substantial changes to their operations. This is because property rights-based approaches are introduced with the idea of limiting costs to industry and when costs are limited the incentive to innovate is small.

Property rights-based environmental instruments serve an ideological need to make a virtue of markets; a political need to reduce government intervention in the operations of private companies; and a business need to limit costs and risks whilst continuing business as usual. They do not serve the critical need for significant reductions in human impacts on the environment.

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