"Who should own the sea and why it matters"
Notes for a talk by Brian Lee Crowley, President, AIMS
To 23rd Annual International Submerged Lands Management Conference
September 23rd, 2004
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Thank you for the kind invitation to be here.

My friend Michael de Alessi recently published an essay about how technology is transforming our assumptions about the sea, and in that essay, he juxtaposed two texts that I'd like to read to you:

> *The engineers who maintained the invisible fences of sound and electricity which now divided the mighty Pacific into manageable portions…[held] at bay the spectre of famine which had confronted all earlier ages, but which would never threaten the world again while the great plankton farms harvested their millions of tons of protein, and the whale herds obeyed their new masters. Man had come back to the sea, his ancient home, after aeons of exile; until the oceans froze, he would never be hungry again.*
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> —Arthur C. Clarke, *The Deep Range*, 1958

> *Sound will pen fish inside a sea ranch*
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> — headline in *Fish Farming International,* 1996

Let me begin by talking a little bit about the past as prologue to our current difficulties in thinking about the sea, in all its manifestations – seabed, water column, foreshore, animal populations, vegetation. Let there be no doubt that we are, as a result of a combination of rising wealth, rising population and rising technological sophistication, arriving at a point where the very relationship that mankind enjoys with the seas is about to be fundamentally altered. And like every development involving human beings, there is nothing inevitable about the way this relationship between us and the seas will evolve. On the other hand, there are certain things that we can say with confidence about the costs and benefits of the various choices that are before us; for while the change that is afoot is a relatively new one, the process that it represents is an old one, and we have much experience with the different responses that we might choose.

We are on the gathering edge of a mighty change, but one that is not without historical precedent. We are going through a new enclosure of the commons — not the commons of the English countryside, nor of the American West. We are now enclosing the oceanic commons, one of the last great pieces of the planet not to have benefited from the tremendous advantages that the extension of private property confers, advantages that flow not merely to the immediate owners of the resource, but to human society, as we end the tragedy of the commons, reduce conflicts between users of the ocean, and increase the

extent to which human beings benefit from the virtually limitless productive capacity of the sea.

But to achieve these advances, we will have to battle with deeply-felt emotions, traditions, practices and organised political opposition. Again, there is nothing new here. The Enclosure Movement in England caused huge social and economic dislocation, and major peasant uprisings, with names that sound romantic to us today, such as Kett's Rebellion of 1549 — but there was nothing romantic about the pain and disruption caused by these changes. The Kevin Costner film, *Open Range*, gives a powerful account of the end of an era in the American West, when the enclosure of the prairie by ranchers put an end to the open range practices that had dominated for many decades. In more recent memory, we have moved away from a philosophy that dominated our thinking about fish since time immemorial (and legally since Magna Carta): that fish in the sea belonged to no one, and that everyone had a right to catch them.

In every case momentous economic changes were at work – England's future industrial might was contained in the seeds of the enclosures, which permitted that country to build up large agricultural surpluses centuries before their European counterparts, and to use that capital to finance its move into modernity first. But to get to the new possibilities required a battle with established ways of thinking, ages-old traditions, and vital interests of individuals and communities.

We don't need to go back so far as the Magna Carta or even the American West. Exactly the same phenomena can be observed in the shift in the last two decades to a property-rights based system of management for wild fish stocks, such as ITQs, a system that Canadian thinkers, such as Peter Pearse, helped to pioneer.

Note that the extension of private property rights into previously common property areas historically has been driven by

1) scarcity,
2) efficiency and
3) the need to deal with competing claims to and uses of the resource.

There are now powerful competing claims on an increasingly scarce seabed and foreshore driven by the new value that technology and human ingenuity allows us to wring from the sea and seabed. That means growing relative scarcity of these desirable resources, huge new wealth that can be created from their intelligent development, and growing pressures from competing users of these resources. These are precisely the conditions in which property rights have had to be created in resources that were previously thought of as commons to be managed by public authorities for the public good.

The old dispensation, in which people believed that ownership and control of these matters were well-organised and equitably handled, will now come under rapid and increasing attack as competing uses and claims emerge – aboriginal, recreational,

commercial, aquacultural, conservationist and submarine non-renewable resources such as oil and gas.

Technology is making it ever more possible to wring value from the sea (aquaculture and seabed natural resources are increasingly possible and potentially profitable, for example, thanks to technology) and growth in population and wealth means that we are able to pursue those alternative uses ever more powerfully. There is now going to be a fight for control and, things being the way they are, those who can create the most value for society are going to win the battle for control of those resources (in the form of property) because that is the best system humanity has devised for ensuring that we get the best value possible out of our scarce resources. ***The reality is that the sea and the seabed are becoming more valuable – there are more of us who want to use it for competing purposes, and those purposes are assuming higher and higher values as we become richer and technology allows us to make the ocean more productive, whether through fish farming or seabed mining or deep sea oil and gas exploration and development or any one of a number of other uses.***

To return to some of my remarks at the outset, this suggests to me that we are embarking on exactly the kind of momentous change in our relationship with the ocean that we undertook with agricultural land in past centuries and with fish in the last 20 years.

Remember that a sound scheme of property rights usually develops in response to growing scarcity. Any failure of property rights to evolve in this way will result in economically irrational behavior that – and this point is crucial – will undermine efforts to manage resources in an ecologically sound or sustainable way. That is what I was referring to when I said there is nothing inevitable about the development of property rights — they took centuries longer to enclose the commons on the continent than in Britain, and Canada lags significantly behind New Zealand, Iceland, Australia and others in its extension of property rights to the fishery — but we have a great deal of knowledge and experience about the costs of *not* taking this route. And the benefits are such that they usually overwhelm, given enough time, the opposition that entrenched common property regimes usually give rise to. The surplus that efficient property rights can generate is usually enough to compensate those who lose out in the shift from one regime to the other.

Let me make this discussion more concrete now by turning to the economic and technological changes which have now made aquaculture an industry which has risen from a negligible presence on the world economic scene to a business worth over $30-billion US. The technology behind it was recently referred to by The Economist newspaper in a cover story as a Blue Revolution, intentionally suggesting a parallel with the Green Revolution which transformed world agriculture and has significantly increased the carrying capacity of this planet in terms of our ability to produce more food per unit of resources consumed.

Why are individual property rights so important in aquaculture? For the same reasons that they are important in all the other settings I've mentioned, where we have had to

invent new property rights instruments to extend the logic of property rights to new circumstances.

In Canada, for example, the fish farmer faces a situation in which there is no legal restraint on government and administrative discretion, no right to sue government in the courts, and no rights that government itself is duty bound to protect. Canadian aquaculturists have been arrested by government officials for "illegal fishing" when they were harvesting animals that existed chiefly because of the culturing efforts of their owners. The police refuse to lay theft charges against people who rustle aquaculturists' fish stocks, because their property rights are so muddy it is not at all clear that they own what has been stolen, even though, again, the animals exist chiefly because of the labour and financial investment of the fish farmer. Given the precariousness of their ownership of animals and farm, aquaculturists face huge problems in getting adequate financing and insurance, and this means that substantial productive capacity in the oceans is being squandered. Canadian aquaculture is, in effect controlled by a sluggish and inept bureaucracy that is blinkered by a concern for short-term economic development and endowed with discretionary power biased by the political strength of established interests, chiefly in the wild fishery.[1] (For more information, go to: www.aims.ca/fisheries.asp?typeID=1&id=156&fd=0&p=1)

The Mystery of Capital

Now I've spent some time developing for you the traditional case for property rights in the seabed, the water column and the foreshore, a case that relies chiefly on the efficiency argument and the conservation argument in the context of increasing pressures on increasingly scarce resources. But the case needs much fuller development, both in terms of the economic impacts of property rights, and in terms of the inadequacies of the main alternative, namely the common property or public domain approach under the administrative control of the state.

Let me start this section of my talk by saying that I want to argue that the common property approach to coastal resources, in addition to defeating efficiency and conservation objectives, in fact deprives rural and coastal communities of an important lever of economic growth and social development.

I have been quite deeply influenced in my thinking on this point by a recent book, entitled *The Mystery of Capital* (available at www.ild.org.pe/tmoc/cp1-en.htm), by a very important thinker on third world development issues, the Peruvian Hernando de Soto. De Soto, whom The Economist newspaper says heads the second most important think tank in the world, wants to understand why capitalism has worked in the West to produce huge wealth and growth and employment, while in the developing world and the countries making the transition from Communism, the benefits of capitalism have proven so elusive. Listen to what he has to say:

"Walk down most roads in the Middle East, the former Soviet Union, or Latin America, and you will see many **things**: houses used for shelter, parcels of land being tilled, sowed and harvested, merchandise being bought and sold. Assets in developing and transition countries primarily serve these immediate physical purposes.

"In the West, however, the same assets also lead a parallel life as capital assets outside the physical world. They can be used to put in motion more production by securing the interests of other parties as collateral for a mortgage, for example, or by assuring the supply of other forms of credit, etc.

"Why can't buildings and land elsewhere in the world also lead this parallel life? Why can't these enormous resources – de Soto estimates that the poor in the 3rd world own real estate with a value of $9.3 trillion US, but it's "dead capital" capital that has no existence in the legal world of deeds and property rights, the abstract representation of assets that makes them "real" agents of economic activity and not mere physical objects – why can't these assets produce value beyond their natural state?" De Soto's reply is that dead capital exists because we have forgotten that for a physical asset to generate capital – using your house to borrow money, for example – requires a very complex process.

That process is not available to people in coastal communities with respect to their chief assets: the productive capacity of the sea, because, on the whole, they do not own it. They may only use it on the sufferance of the government, who distributes it capriciously and largely on the basis of political power. That doesn't mean that people haven't evolved property-like claims to the resource – anybody who has tried to suggest any change to the existing forms of access to the resource knows just how proprietary the existing users of the resource are. But the point is that they do not own the asset in the formal sense, and therefore cannot make use of the complex web of property rights relations which allow other property owners to leverage their assets into surplus value and extra productive capacity. Coastal communities sit on huge amounts of dead capital.

Problems of common or public ownership vs. private ownership

Let me move immediately to head off one of the most common objections to the arguments I am making, namely that it is precisely the growing pressure on the resources of the sea, the increasingly strident assertion of rights and competing uses over ocean resources that make the administrative state's ownership and control, in the name of protecting the public good, absolutely essential.

I will tell you quite simply that I believe this to be the exact opposite of the truth.

Rather than get into a formal exposition of the arguments, let me proceed by way of a striking example, in a recent book by prominent environmental economist Richard Stroup of the Political Economy Research Centre in Bozeman, Montana.

In his book, *Eco-nomics: What everyone should know about economics and the environment* (for more information: www.perc.org/publications/books/eco_nomics.php), Stroup notes that conflicts over environmental resources when they drag on are almost always political conflicts. Government decisions favour the side with the most political power (that is, the greatest ability to influence elected officials and regulators). Unsurprisingly, politicians acted just like the rest of us – they maximise not some obscure and vague public interest, but their own political interest. The hard reality is that fish don't vote, and neither does the future. The incentives governing politics and long term rational economic management are not aligned.

Political decision making tends to be zero-sum – in other words what one group or person wins, another loses. Stroup points out, however, that in economic exchanges, or trade, the outcome is quite different. Both sides must make themselves better off or the exchange does not occur. That is why free trade throughout the world has been such a powerful generator of growth and prosperity.

Now here's the great story that Stroup tells about the National Audubon Society in the United States. Audubon owns the Rainey Preserve in Louisiana, a wildlife refuge that provides nesting grounds for snowy egrets and other rare birds. Audubon allowed drilling for oil and gas on this reserve for over 50 years.

The Society decided to allow drilling because it was in their interests to do so. They worked out a strict exploration and development regime, and they gave up significant income from their gas deposits to finance those expensive methods, but it also realised significant revenue — $25-million US — that they used to pay for activities they thought were important. As a result they were able to protect more bird habitat than they might have been able to do otherwise. Producers were able to sell the natural gas that otherwise would not have been available to them. Everybody came out ahead, including the birds.

The situation was quite different for government-owned land in Alaska. The Society has adamantly opposed drilling in the Arctic National Wildlife Refuge. As one of their pamphlets proclaims, "A wildlife refuge is no place for an oil rig". Really?

In fact, because the government and not Audubon controls the land, Audubon cannot be assured that rules will be followed that it can feel confident are safe. The Society can influence, but not control the process. Just as importantly, the Society receives no direct benefit from a carefully designed regime to balance the interests of wildlife and humans. They thus have little incentive to search for a solution that balances those competing interests, as they did have an incentive to do at the Rainey Preserve. The same process in reverse is also observable – there are now forestry companies supplementing their forest harvesting income with tourist dollars – people will pay good money to visit a well-managed forest and it is quite possible to organise the two activities to be quite compatible. And doing so adds value to the forest company's assets.

So this is another benefit of property rights – ownership fosters co-operation. And this is a principle of wide applicability. There are many potential conflicts over the use of most

resources, and few are as visible or as deeply felt and emotionally charged as those involving resources where people have a long-standing collective sense of ownership, as is the case in waters, oceans and seabed.

But of course the concept of private property is a powerful mechanism for allowing the co-existence of many competing uses for the sea, just as it does on the land. A city block may contain a synagogue, a church and a mosque; a video store, a book shop and a crafts store; a diet centre, a dessert restaurant and a gymnasium. These people living cheek by jowl need agree on nothing, other than the need to let each other have the quiet enjoyment of their property. Co-existence here requires no administrative or coercive power, no political consensus, no extensive public consultations. People merely get on with things within the sphere of freedom that property creates for them.

Moreover, the introduction of private property in other resources does not exclude the co-existence of publicly owned resources. In our cities there are publicly owned streets that allow us to move between privately and publicly owned buildings and institutions. Governments at all levels own parks and wildlife preserves and scientific research stations and military bases and schools and hospitals and many other things.

Summing up

But the introduction of a property rights based system makes both public and private owners of property do a number of highly constructive things that are in the public interest.

They have to consider the consequences of their actions on others. If they harm others they have to compensate them. In a common property resource world, the commons often becomes a literal and figurative dumping ground, and the worst policeman of a common property resource is often the government that owns it.

Property owners have an incentive to realise the maximum value from their property and therefore to seek ways to align their interests with those of others who might benefit from complementary uses of the property, as the Audubon Society did with the Rainey Reserve.

Property ownership allows resources to be shifted from one set of uses to another with minimal political battles, meaning, for example, that if bird lovers want to band together and buy land for a bird sanctuary from a real estate developer, they are free to do so. If the value they attach to that use is higher than the value that society attaches to extra units of housing, as embodied in what people are willing to pay for those units, then they will succeed.

That is a very different state of affairs than when property is in public hands and through organising politically, pressure groups can cause government *to use other people's money to accomplish their objectives*. When people have to pay the full cost of their decisions, it

makes them more aware of what *their preferences* require *other people* to give up, and it makes much more sense for people to find ways to co-operate. Pushing these conflicts into the political arena is almost always a recipe for conflict, anger and frustration.

A regime that permits property to pass into private from public hands will have the tremendous benefit of making transparent to everyone the costs of one use of ocean resources versus another. Just as the Audubon Society, when confronted with the real costs and benefits of its decisions, chose to allow the co-existence of wildlife sanctuary ***and*** resource development, so too I believe people around the world will soon come to see that the old ways of managing the sea are costly, inefficient and ineffective, and cause massive social conflict. If the public were allowed to capture the benefit, through asset sales of some of these public resources in the sea, a wave of economic development, rural and coastal prosperity and consensus on how to allow the oceans to develop, would be the outcome.

It may be that this will be a slow process that may begin with lower quality property rights, as was the case with many fisheries. But the experience time and time again has been that when people get a taste of the benefits that property rights confer – sound, defendable, tradeable, valuable property rights — they always want to enlarge and develop those rights, because doing so creates value for the owners and society at large. And it is out of the extra value that property rights makes possible, that we can generate the new wealth to compensate those who see some reduction in their unfettered access, in this case to some aspects of the sea.

For these reasons, and many others, I will tell you candidly that our current approach in most industrialized countries of Crown or common access or public domain ownership and regulatory control will only be a brief stop on a road that we have successfully followed on so many previous occasions to the establishment of private ownership and stewardship of society's most valuable natural resources under a regime of common law and normal regulatory protections. The future is already visible on the horizon today, and I think in 20 years the logic of it will be irrefutable. The real question then becomes, "Why wait?"

Thank you.

Brian Lee Crowley, President, AIMS
www.aims.ca

[i] What international lessons are there to be learned about property rights in aquaculture? The author of our paper, Professor Robin Neill of the University of Prince Edward Island, finds the Chilean experience most appealing and instructive. Chile has engaged in several interesting legal experiments to kickstart its salmon-farming industry, which is now one of the largest in the world. Chile has created a legal foundation that grants licences and leases that bestow virtual private property rights in fish-farming sites. It has also developed a national aquaculture policy that encourages entrepreneurship, supports export efforts, and helps fish farmers navigate the bureaucracy. Despite its problems — controversy exists over environmental impacts on the country's southern fiords, for example — Chile's national policy is one that promotes aquaculture, not one that defends the wild fishery nor an outmoded common property approach to managing coastal resources. In that sense, it is a policy that Professor Neill is arguing that Canada should emulate.