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Placing a Price on a Platypus

Environmental protection has become a major concern in today's society. Many newspapers, politicians, and environmental groups bemoan increasingly high carbon dioxide emissions, the destruction of natural habitats, and the decline of endangered species. Many of these groups hold large businesses accountable for environmental problems. Others believe that a market structure with an incentive system towards profit that is to blame. However, it is becoming increasingly apparent that the market system, with a concentration on property rights, is capable of improving environmental quality and preserving wildlife. Subsequently a greater number of economists, ecologists, and businessmen are beginning to realize that market forces are the best solution to promoting environmental protection.

The Chesapeake Bay has undergone tremendous environmental changes in recent decades. This tidal basin is surrounded by Maryland, Virginia, Pennsylvania and New York on the Atlantic coast and once supported a vibrant fishing community. In recent years, pollution and over fishing have left dwindling numbers of crab and oysters available to harvest. In 1948, Maryland fishermen caught several million bushels of crab per year. As of 2004, only 26, 500 bushels of crab could be harvested.¹ Advocates of the bay believe that high levels of agricultural pollution from fertilizers are responsible for damaging the ecosystem. An estimated 300 million pounds of nitrogen enter the Chesapeake Bay each year, which severely lowers the oxygen levels necessary to sustain

¹ Horton

fish and shellfish.² To aid recovery, Maryland and Virginia have restricted the number of fishermen and crabbers allowed to harvest, limited the hours they may work, and have increased the area unavailable to harvesting. To remedy these difficulties Chesapeake Bay authorities hope to revitalize the area by reducing nitrogen pollutants by 150 million pounds each year through 2010 through the federally funded “Chesapeake 2000” program.³

This situation is a clear example of the problems associated with communal property. As Garret Hardin illustrates in *The Tragedy of the Commons*, “Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons.”⁴ Since the Chesapeake Bay is communal property there is no cost to its use, or, the costs are not very high. Fishermen and crabbers have the incentive to harvest as many fish, crab, or oysters as possible to maximize profits, which leaves a smaller population of bay life to reproduce. Such a situation was observed by John Alford in 1975 when he wrote, “The oysterman knows that any oyster left on the bottom for future growth or reproduction will probably be taken by someone else. As a result, oystering on public grounds is a scramble...”⁵ Also, the costs of pollution imposed on the Bay are not realized by an individual or fishing association with the incentive to protect its property. Instead, the costs are borne by the wider community, which is slower to seek retribution. Therefore, the establishment of property rights would be helpful in discouraging pollution and maintaining a sustainable bay life population.

² Chesapeake Bay Foundation

³ Chesapeake Bay Foundation; Goldstein

⁴ Hardin

⁵ Alford

There are several examples where such an approach has helped sustain a fishing industry. Private owners of rivers in New Brunswick, Canada have proven themselves to be better managers of salmon populations according to a former president of the Atlantic Salmon Federation.⁶ Forty-five percent of all rivers in this area are privately owned by individuals or, more commonly, by associations of fishermen. These groups are capable of making a profit by maintaining strong populations of salmon since anglers are willing to pay up to \$900 a day for accommodations and the right to fish.⁷ There are also strong salmon populations in Iceland where one hundred percent of inland rivers are privately owned by those who border them, and visitors may spend between \$100 and \$3,000 per day to fish.

These measures are not only effective in maintaining salmon populations, but in rebuilding those that have been nearly destroyed, as well as in reducing pollution. A volcanic eruption along Iceland's Ranga River in 1941 destroyed its salmon population to such a degree that only ten fish were caught more than forty years later in 1984. However, a private lease taken out on the river in the late 1980s led to population growth. In 1995, the same river produced 1,500 fish. Additionally, in New Brunswick, the Tobique Salmon Club successfully sued the New Brunswick Power Commission in 1963 for pollution damages after hydroelectric dams damaged salmon systems.⁸ Such examples demonstrate that private property rights help sustain and develop wildlife populations while reducing pollution – a principle that applies to greater ecosystems as well.

⁶ Brubaker

⁷ Brubaker

⁸ Brubaker

Australian ecologists and conservationists are gravely concerned with the condition of indigenous wildlife and plant life. With the introduction of agriculture and non-native animals, such as foxes, cats, and rabbits, Eastern Australia has lost ninety percent of indigenous vegetation and one-third of the continent's forests have been destroyed. Australia ranks sixth in the most animals that are extinct, endangered, or threatened according to data compiled by the International Union for Conservation of Nature and Natural Resources. Furthermore, in the past 200 years Australia has lost 23 mammalian species, which is more than any other continent. Some extinctions have occurred very rapidly. The Mainland Mala, for example, was a common animal in 1900, but became extinct by the 1990s.⁹ Unfortunately, Australia's public conservation efforts have not been very successful. Public parks have been established but they do not adequately keep out wild, non-native animals that cause the most damage to endangered species.

This situation prompted a private entrepreneur, John Wamsley, to attempt to conserve Australian wildlife himself. While working as a mathematics professor in 1969 he acquired farming property that he developed into the Warrawong wildlife sanctuary near Adelaide in South Australia. He reestablished the natural ecosystem destroyed by the farm and established a fence to keep out predators in order to create a "feral-free" location to protect and rebuild populations of native species like the platypus. The sanctuary opened in 1985 and upon its success Wamsley incorporated a firm, Earth Sanctuaries, Ltd. (ESL), in 1988 because he had been disgruntled by government efforts to conserve species. He writes in an annual report from 1998, "Earth Sanctuaries, Ltd. is committed to saving Australia's vanishing wildlife. It does not wish to do this as part of

⁹ De Alessi

some overall political plan devised by a central government. It does not wish to be part of the present ‘recovery group process’ which have clearly been demonstrated to fail...The Company wished to do it itself...The Company wished to do this within the framework of the free enterprise system.”¹⁰ Such a statement reflects Wamsley’s belief that the market can provide environmental goods.

To this end, the operation met with considerable success. An early success came in developing a platypus population. After acquiring five platypi from Kangaroo Island in 1989, two baby platypi, called puggles, were born. This event marked the first platypus bred successfully in captivity since 1943. The Bridled Nail-Tailed Wallaby population at Warrawong has also seen improvement. In 1999 ESL acquired eight members from the Queensland government for 48,000 Australian dollars and within two breeding seasons the population had nearly doubled – an achievement considering that the wallaby had been classified as extinct in 1937 before rediscovery in 1973.¹¹ Many other examples abound. Due to reintroduction efforts by ESL, the Numbat population in the wild has reached more than 2,000 members compared to 100 members in 1970. Similarly, Woylie Kangaroos were considered critically endangered in 1990 but there are now approximately 20,000 Woylies living in managed areas in part due to ESL efforts.

Such success was possible because the market was able to place a value on conservation. Warrawong and ESL’s nine other animal sanctuaries became tourist destinations. In 1997 Warrawong placed as runner-up in the Conde Nast Traveler’s Award. Its popularity was reflected in attendance numbers. In 2001, 50,000 visitors entered Warrawong and some were willing to pay A\$ 110 per night to sleep in a tent

¹⁰ De Alessi

¹¹ De Alessi

surrounded by wildlife.¹² When ESL became the first publicly traded company specializing in conservation the firm almost had 7,000 investors and A\$ 21,800,000 in net assets.¹³ Today, Warrawong is still open to visitors although financial restructuring and eventual bankruptcy dismantled ESL as a corporation. Yet this company provided evidence that markets work best to preserve wildlife habitat and that business men and consumers can be able stewards of the environment.

These examples demonstrate that wildlife can be successfully conserved and developed through private means. To do this, however, it becomes necessary to put a price on nature. While this may challenge some of our current notions of the environment as a priceless commodity, the evidence is clear that a price system helps to reflect the relative scarcity of a good and its value to society. Wildlife in Australia and Chesapeake Bay oysters are undervalued in our current society because there are no means by which consumers can understand their scarcity. Placing a species on an endangered species list may send a message to scientists about the relative scarcity of the animal, but it does not send a clear message to consumers. The entrepreneurs in these examples succeeded in their goals because they were able to market environmental goods to consumers. Wamsley was able to sell conservation to tourists and Icelandic fishermen are able to sell fish. Both instances require placing a price on a nature to reflect value. Therefore, fishing associations sell temporary leases to fishermen and Warrawong charges entry fees.

An entrepreneur's ability to do this, however, is linked to property rights. Without clearly defined and enforced property rights an individual has no incentive to

¹² Daily p. 144, 146

¹³ De Alessi

protect or conserve resources because they do not incur the costs of others' actions or the benefits of their conservation as demonstrated by pollution in the Chesapeake Bay and species extinction in Australia. Similarly, government regulation and public conservation efforts often do not provide an incentive to conserve either, which renders them useless or even harmful. Only property rights are capable of producing true incentives. To promote conservation, property rights ought to be increased over the environment to provide the incentive necessary to protect it.

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