

Marine turtles: Whose property? Whose rights?

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Abstract

Marine turtles migrate and disperse over vast distances, so an individual may be exposed to numerous human activities in diverse environments, living within the jurisdictions of several sovereign states, as well as on the high seas. These reptiles are charismatic ‘flagship species’ so they attract a large, supportive clientele. Additionally, humans have been interacting with these animals – particularly through direct exploitation – for millennia; and there are a wide diversity of customs and traditions for exploitation and use of turtles. Many populations of marine turtles have declined so these animals are categorized as ‘endangered’, and both national legislation and international instruments afford them protection from exploitation, incidental capture, and other human activities. These are shared resources, and are routinely treated as common property, particularly because marine turtles live in the ‘global commons’, the high seas. This results in divergent claims for rights to interact – or to limit the interactions of other stakeholders – with turtles, especially when consumptive exploitation is involved. Discourses to limit impacts and develop conservation programmes for these reptiles include arguments about protecting ecological roles and ecosystem services, concepts that are often juxtaposed to concerns for supporting marginalized communities, recuperating traditional practices, and asserting cultural/religious rights. The resulting conflicts and debates raise basic questions not only about who has rights to shared resources and what social process should be involved in addressing the debate (e.g., representation and democracy), but in fact what constitutes property. In other words, does the ‘property’ that is being divvied up by various players have ‘rights’ that transcend the individual and summed rights of the players, perhaps even having rights of its own?

Why bother about lowly reptiles?

Apart from arguments of deep ecology and intrinsic rights of non-human species, marine turtles have distinct value to diverse peoples, their societies, and the environments on which humans depend, physically, socially, and spiritually. For at least 7 thousand years, these lowly reptiles have been a source of meat, eggs, and oil for human nutrition; likewise, they have provided bones, shells, scales, and skins for human industry in bewildering diversity (Frazier, 2003; 2004; in press [a]). Not only have marine turtles supported the material culture of civilizations around

the world, these animals have enriched and inspired the human spirit from time immemorial. In recent times this is seen in their role as flagship species; they are of major importance to ‘post-modern’ societies for educational, scientific, and tourism activities, not to mention their conservation and emotional/spiritual values (Campbell, 2003). In monetary terms, the amount generated by commerce in marine turtle products, as well as non-consumptive activities focused on them, has been remarkable. Estimates of gross annual revenues from nine case studies of consumptive use ranged from US\$158 to US\$1,701,328 per case, averaging US\$581,815, while estimates of gross annual revenues from nine other case studies of non-consumptive use ranged from US\$41,147 to US\$6,714,483 per site, averaging US\$1,659,250. Considering that scores of examples are known where activities focused on marine turtles form an important part of the economy (Troëng and Drews, 2004), the total gross annual revenue based on commerce in turtles, their products, or their presence, is many millions of dollars. For some communities, these lowly reptiles are critical to the economy and livelihood.

Ecologically these animals have impacts on a variety of ecosystems, terrestrial and marine. Initial studies suggest that, at least in some cases, marine turtles may play critical ecological roles that shape the structure and function of vast marine pastures or coral reefs. Removing marine turtles from these systems may have dramatic effects, disastrous to human wellbeing (Bjorndal and Jackson, 2003). Hence, without invoking charges of people and their societies needing to be humane, civilised, moral, or noble, there are multiple reasons why responsible societies should bother about marine turtles.

About the terms

Several terms are central to this thesis, and although in everyday use, they are complex and not easy to define precisely. Critical terms are ‘property’, ‘rights’ or ‘property rights’, from these flow ‘commons’, ‘common property’, and ‘open-access property’; ‘globalisation’ is another critical, and commonly used term.

Property: The term is in customary use, and easily understood definitions can be found in usual sourcebooks.¹ Not surprisingly, in a society that is overtly – and proudly – materialistic, the

¹ *Webster’s Encyclopedic Unabridged Dictionary* (1989; New York) indicates: ‘1) that which a person owns; 2)

primary sense of the word is about material goods and ownership. In short, the term ‘property’ most usually is applied to something that is owned by someone, or a group of people. In the last case it is property shared by a group, or ‘common property’. Nonetheless, there are equally valid arguments to conceive of marine turtles as a property of various marine environments and ecosystems, in the sense of being characteristic, or typical, of these environments.

Rights and property rights: Anthropologists and economists, among others, have long debated questions not only about ‘property’, but what constitutes ‘rights’ (or privileges) to that property (i.e., property rights), and how systems for establishing and enforcing those rights are developed and maintained. In his essay ‘Toward a Theory of Property Rights’, Demsetz (1967: 354) stated that ‘property rights arise when it becomes economic for those affected by externalities to internalize benefits and costs.’ Three broad types of property rights were defined: private, communal, and state ownership; and each was defined as much on the basis of what is excluded as what is included:

- 1) In private ownership the community recognizes the right of the owner to exclude others from exercising the owner’s private rights.
- 2) In communal ownership the community denies to the state or to individual citizens the right to interfere with any person’s exercise of community-owned rights.
- 3) In state ownership the state may exclude anyone from the use of a right as long as the state follows accepted political procedures for determining who may not use state-owned property (Demsetz, 1967).

Commons and common property: Property, or rights to property, that are shared by numerous people are held in common. Contemporary economists argue about the monetary value of the

goods, land, etc.; 3) land or real estate; 4) ownership, right of possession, enjoyment, or disposal of anything, especially tangible; 5) something at the disposal of a person, a group of persons or the community of public; 6) an essential or distinctive attribute or quality of a thing; 7) *logic*. . .’ *Roget’s Thesaurus* (1961; New York) groups synonyms of ‘property’ into three categories: ownership (capital, estate, substance); land (real estate, real property, realty); and character (attribute, characteristic, quality, trait). *Chamber’s Twentieth Century Dictionary* (1959; London) provides: ‘that which is proper to any person or thing: a quality that is always present: a characteristic: any quality: that which is one’s own: a piece of land owned by somebody: right of possessing, employing, &c.: ownership: an article required on the stage: . . .’

commodities involved, and how access and rights to the property is to be controlled, with a view to increasing the efficiency of negotiations by reducing the number of people involved (Demestz, 1967). On the other hand, anthropologists focus not so much on the actual commodities being disputed but on the social institutions involved (e.g., McCay and Acheson, 1987; Dyer and McGoodwin, 1994; Pinkerton, 1994). These authors argue that common property and commons are not simply chaotic, promiscuous, unregulated systems for acquiring resources. Instead, they explain that commons are conceived and regulated by complex, dynamic social interactions, involving principally the members of the commons, the commoners (McCay and Acheson, 1987). The systems by which the commoners organise and administer their shared resources are often referred to as ‘folk management’ (McCay 1981; Dyer and McGoodwin, 1994; Pinkerton, 1994).

Open-access property and rights: Nonetheless, there are systems where resources shared by many people are essentially there for the taking, with no apparent social restrictions, legal or cultural. It was these open-access systems to which Hardin (1968) referred to in his seminal paper ‘The Tragedy of the Commons’, and the notion that all commons or common property systems are open-access has given rise to considerable polemic and debate. For example, apparent enigmas involving common property being maintained despite obvious ecological or social problems can be explained if these systems serve the best interests of powerful elites, who benefit from open-access (McCay and Acheson, 1987). Some authors have differentiated between common property and open-access property, arguing that “common property is not ‘everybody’s property’” (McCay and Acheson, 1987: 8). However, there are no fixed, constant perimeters describing the various terms; instead the conditions for characterising systems of resources and rights to their access seem to grade into one and other.

Globalisation: This term is generally used to refer to the expansion and linking of commercial activities so that a global network is actively involved in the extraction, production, transport, sale, and/or use of diverse products, commodities, and services. Although debates on the pros and cons of globalisation have become highly fashionable during the past decade, neither the concept nor the phenomenon is new, although the term itself may not have been employed in the past. Archaeologists, historians, and political scientists (among others) have deliberated the effects of expanded commoditisation and trade, not just in relation sixteenth century societies

Panel – Marine Turtles: A case study of ‘Common Property’ from the ‘Global Commons’ and the intensification of European trade and hegemony during the so-called ‘colonial period’, but from much earlier times. There is ample evidence of a ‘world economy’ by the 3rd millennium BC involving Middle Eastern and Indus Valley societies (Kohl, 1982); that is, there is convincing evidence for ‘globalisation’ some 5 thousand years ago.

Marine turtles as common property

Because of its biological properties (Frazier, 2001), a marine turtle lives in a variety of very different environments, from terrestrial to the high seas. As it completes its life cycle, an individual turtle will live within the sovereign territories of several states, as well as on the high seas – the paradigm of the global commons. It takes decades for many marine turtles to reach maturity, and successful reproduction requires that they continue to live for decades more; hence, an individual turtle is subject to countless threats over vast expanses of time and space. During this odyssey a turtle will be exposed to diverse anthropogenic activities, from people digging up eggs on beaches; to development of coastal areas with concomitant environmental perturbations; to modern fishing nets and lines that can be kilometres in length, spread in some of the most productive areas of the sea just where turtles feed and migrate; to myriad forms of coastal and marine pollution. Indeed, even within the area of one coastal community, not to mention the much larger jurisdiction of a sovereign state, a marine turtle is subject to a diversity of stakeholders with different agendas and types of impacts. On just a single nesting beach or marine feeding area, many different people may contest for rights to a single turtle or to activities that have direct consequences on the fate of the turtle. When these conflicting claims are confounded with not only multiple sectors in one community or country, but also including multiple sovereign states, the questions of rights, property, ownership, and responsibilities clearly become multifaceted and convoluted in the extreme.

Potential conflicts about ‘common property’ can arise not only from divergent positions on how the marine turtles themselves should – or should not – be used, but also on how the environments critical to the survival of these animals should – or should not – be used (or impacted). For their successful reproduction, marine turtles must have access to beaches having a number of characteristics, with appropriate slope, sand grain size, temperature, humidity, ambient light, offshore currents, vegetation, predator densities, etc. Perturbing any one of these factors – even if the turtles themselves are totally protected – can have drastic effects on their reproductive

Panel – Marine Turtles: A case study of ‘Common Property’ from the ‘Global Commons’

success. Nesting beaches provide concentrated resources; hundreds of thousands of eggs can be laid on a beach during a nesting season of a few months; hence, in many places there is intense interest to exploit turtle eggs on nesting beaches. Yet, even without direct exploitation of eggs, beaches are often places where human activities, such as fishing, sand mining, sunbathing, beach-driving, construction, and other forms of coastal tourism, are concentrated – activities that can have direct and catastrophic effects on nesting turtles, their nests, and their eggs and hatchlings. In many countries the beach, as well as certain a zone above the high water mark, is designated as public, community, or state, property; since private ownership is not legally possible, this land functions as a commons, and attracts divergent forms of use. Hence, for decades there have been debates around the world about what human activities should be allowed on nesting beaches, who should make those decisions, and who should implement them.

There are numerous examples where turtle nesting beaches have become areas of intense conflict, virtually battle grounds, because of the opposing views from different sectors of a society on how human access and use of the beach should, or should not, be regulated in relation to the nesting turtles and their eggs. One of the most dramatic examples comes from Vassilikos Village, Zakynthos Island, Greece, where what came to be recognized as the some of most important nesting beaches in the Mediterranean were discovered in the early 1980s. Until then local people had paid little attention to the turtles, but as turtle conservation interests developed, burgeoned, and took on national and then international aura, the attitudes of local people polarized. Local small-scale landowners whose land was adjacent to nesting beaches were subjected to restrictions, both on the land that they owned and on the public beach. In the end the conflict between local villagers and turtle conservationists escalated to the point of severe threats and destruction of personal property (Theodossopoulos, 1997). Although the turtles themselves are not directly predated or harmed, the nesting beaches that they depend on are severely perturbed, which has consequences for the future of the turtles.

Systems for dealing with marine turtles and their habitats as common property

Since marine turtles have value to society, for diverse reasons, even differing reasons for different societies and stakeholders, and by their nature these reptiles are common property, the question arises: how to promote the most appropriate relationship between humans and turtles – in contemporary jargon, how to develop and implement effective conservation and management

programs. An obvious topic that needs consideration is that of property rights: considering the pros and cons of privatisation, commons, and state regulation in relation to marine turtles.

Privatising marine turtles and their habitats: Sections of some nesting beaches have effectively been privatised by hotels or powerful landowners controlling access. However, most beaches are not privatised; and, moreover, most of the diverse marine and coastal areas in which these animals live are nowhere near being privatised – not to mention the high seas. Even if one wanted to follow the wisdom of conventional economists and privatise marine turtles and the commons in which they live, so that there would be ‘more efficient use’ of the resources, by reducing negotiations to the lowest cost (through the reduction of the number of people with rights to the resource), it is difficult to imagine how the vast geographic areas over which these reptiles range – for decades – could be effectively privatised. For example, perhaps the beaches of Zakynthos could be privatised, but what of the offshore waters where the turtles may spend months during the nesting season? What of the rest of the Mediterranean Sea, waters under the jurisdiction of Croatia, Cyprus, Italy, Spain, Tunisia, Turkey, etc. (e.g., Lazar et al., 2004) where these ‘Greek’ turtles live outside the breeding season – for most of the time? This is not to mention other populations of marine turtles elsewhere in the world where the animals crisscross either the Atlantic, Indian, or Pacific oceans, covering thousands of kilometres in a few months (Plotkin, 2003 and references therein).

Unquestionably, there are those people and institutions whose goals are to increase economic efficiency and monetary returns at the levels of managing entire ocean basins, and current events clearly show how successful individuals of this persuasion have been at keeping negotiating costs to a bare minimum (Korten, 1995; Ivins and Dubose, 2003). Even so, it is unlikely that more than a small part of the geographic range of a single population of marine turtles could be privatised and effectively managed, for longer than just a portion of the period required for one life cycle (*viz.* for half a century or more). Even if such ambitious initiatives could be achieved, they would be ephemeral solutions at best; history shows that there is a limit to how many resources a small number of elite (‘kleptocrats’) can hoard before social and/or environmental pressures result in a breakdown in the socio-political system and redistribution of resources (Diamond, 1997: 276 ff.), or in extinction of the society (McGovern, 1994). It therefore does not seem that privatisation is a realistic option for marine turtles, except for some unusual cases and

in a very incomplete way: a condition that could easily create the illusion that adequate management activities were in place when in fact only piecemeal efforts existed.

Even so, simply privatising a resource or property rights is no guarantee that management will be adequate; examples of private resources, land or sea, that are/were badly managed are not unusual (McCay and Acheson, 1987). Moreover, privatising tenure of a land or sea area, or a portion of a resource, does nothing to assure that the adjoining areas or other portions of the resource will be adequately managed – quite the contrary, by contemporary economic theory one would expect that the privatisation would create and maintain as many externalities as possible.

Marine turtles in the commons and folk management: As shared resources, marine turtles form components of commons all round the globe, from First to Fourth World. There are numerous anthropological, ethnological, and historical studies of various peoples, societies and cultures who have hunted these reptiles, including the Comcáac (Seri) of north western Mexico (McGee, 1898; De Grazia and Smith 1970; Smith, 1974; Felger and Moser, 1991; Nabhan, 2003), Carancahua of Texas (Hammond, 1891), mestizos from Pacific Nicaragua (Hope, 2002); Miskito of Caribbean Nicaragua (Nietschmann, 1973; 1979), Caribbean islanders (Shaw, 1933; García Valdes, 1948; Rouse, 1948; Price, 1966), Bajun of southern Somalia and northern Kenya (Gudger, 1919a; 1919b; Grottanelli, 1955), Vezo of southwest Madagascar (Astuti, 1995), Balinese (Covarrubias, 1947), Papuans (Smith, 1981), aboriginal Australians (ODea, 1991; Bliege Bird and Bird; 1997; Bliege Bird et al., 2001), Micronesias (McCoy, 1974; Johannes, 1978; 1981; Zann, 1985), and numerous Polynesian populations (e.g., Hedley, 1899; Stokes, 1906; Elkington, 1907; Hiroa, 1930; 1932; 1938; 1950; Burrows, 1936; 1937; Macgregor; 1937; Beaglehole and Beaglehole, 1938; Thompson, 1940; Firth, 1967; Métraux, 1971; Emory, 1975; Rolett, 1986; Conte, 1988; Summers, 1999), not to mention the 18th and 19th century turtle fisheries in Florida, West Indies and the Gulf of Mexico (Rebel, 1974). These studies provide interesting observations on general customs, material culture, and economy of different peoples who interact(ed) with marine turtles. For example, the Vezo had a series of taboos regarding butchering, cooking, and eating these animals, but most importantly they believe that the turtles, unlike fish, should not be killed frequently (daily) but perhaps once a month or once a year, although at the same time they have a rather ‘easy’ attitude about observing all the taboos all the

Panel – Marine Turtles: A case study of ‘Common Property’ from the ‘Global Commons’ time (Astuti, 1995: 49, 64). Among Pacific islanders there were often taboos for certain clans, women, or other sectors of society to eat turtle; and it was usual for turtles to be reserved for chiefs or priests, who then could distribute the meat after ritual and slaughter (e.g., Johannes, 1978; Rolett, 1986). These societies also commonly had other measures, such as bans on taking eggs, turtles on the beach (viz. nesting females), turtles from certain islands or areas, self-restraint in not taking all the turtles that were encountered, and so on. Systems of lagoon, reef, and ocean tenure were used widely in Oceania, and these would have provided effective means to control exploitation rates in these reserved areas; punishment for poaching could be severe, including execution. Remarkably, although this limited entry system was centuries old, it disintegrated after contact with westerners, at a time when western fisheries managers had discovered the need to restrict entry. Yet, not all Pacific islanders had practices to control over-exploitation or even a ‘conservation ethic’ (Johannes, 1978). The detailed anthropological studies of Torres Strait Islanders (Bliege Bird and Bird, 1997; Bliege Bird et al., 2001) provide unique information on human foraging strategies and social behaviour, of theoretical importance.

Nonetheless, despite the many studies, very little detailed or systematic information has been presented on how access to the turtle resource was managed, much less on how effective these measures were in promoting the long-term availability of the resource. It is very appealing to find customs in exotic societies that reflect one’s view of the higher nature of humanity, but no matter how consistent these traditions may seem to be with contemporary conservation policy, this does not guarantee that they were in fact effective (Hames, 1987). There is often a tendency to romanticise folk management systems, to assume that they are inevitable and automatic, and/or to attribute altruistic, or carefully calculated, conservation motives when the reality is quite different (McCay and Acheson, 1987; and Pinkerton, 1994).

Furthermore, in the main ‘traditional’, pre-industrial communities now exist as historical records, or as romantic ideas mainly of western urbanites in search of the ‘lost’ village; today’s communities have had to adapt to higher levels of governance, market pressures, and many other external forces (McCay and Acheson, 1987; Pinkerton, 1994). While all these societies are not ‘overdetermined’ communities (Hackenbert and Benequista, 2001), the ethnographies of yore are not likely to depict the complexity of the contemporary situation in communities that are faced with managing commons today.

Because marine turtles are resources that are accessible – or of value – to different sectors of the same society, there can be enormous tension between various claims of ownership and property rights, divergent opinions about individual and group rights and responsibilities. In many cases turtles serve as symbols, or icons, which motivate people to organise and act in certain ways; yet although the symbol itself may be identical, the motivations and expectations are sometimes in distinct contradiction. Within one community, some people may view turtles as a source of food or a commodity that can be exploited and traded; others may see the same turtles as critical attractions for supporting their livelihoods, such as through conservation, education, and tourism; and yet others may have a firm conviction that the same turtles need to survive, and exist in peace, without necessarily having any material value. In fact, these divergent positions in regard to human rights and responsibilities can occur with any species, but when marine turtles are involved the members of each of the groups are frequently numerous and quite vociferous.

The tensions, however, are much more complex. Coastal peoples routinely have customs, or traditions, of exploiting marine resources, but the issue goes beyond that. In many cases marine turtles are not just sources of nutrition and commodities for trade, but the interactions between people and turtles are part of their cultural fabric; this is clearly seen in Amerindian groups such as the ‘Seri’ (Comcáac) of Sonora, Mexico (McGee, 1898; Smith, 1974; Felger & Moser, 1991; Nabhan, 2003) and the Miskito of Caribbean Nicaragua (Nietschmann, 1973; 1979), as well as the Vezo of Madagascar (Astuti, 1995) and Polynesian peoples (Rolett, 1986), among other ‘traditional’ societies, and not excluding communities of post-industrial societies, such as the fishers of the Caribbean and southern states of the USA (Parsons, 1962; Rebel, 1974; Campbell, 2003). Prehistoric societies around the world also had remarkable interactions with these lowly reptiles (Frazier, 2003; 2004; in press [a]). In many cases, peoples with these traditions consider it to be their heritage and their right to interact with turtles – which routinely means hunting.

At the same time, urban people from the same society often view the same turtles differently; they rely on technologies of modernisation, have no direct dependence on exploiting wildlife, and are informed and motivated by globalised education and conservation values which conclude that marine turtles are endangered species and therefore require full protection. A third sector affects the interests of both the ‘rural/traditional’ and ‘urban/modernised’ sectors, not because of

any specific desire either to exploit or to protect marine turtles, but as a consequence of their actions. For example, the activities of developers of beach hotels, marinas, tourist resorts, and other real estate in the coastal zone regularly produce degradation of nesting beaches, and sometimes also turtle feeding areas. Fisheries with gill nets, trawls, and longlines catch marine turtles incidental to target species, oft times killing relatively large numbers of them (e.g., Lewison et al., 2004). Even upland activities, such as agriculture and forestry can produce runoff, sedimentation, and land-based pollution that can destroy marine pastures, coral reefs, and other benthic areas critical to marine turtles. The list of incidental impacts goes on and on (Lutcavage et al., 1997), but in many cases there are no definitive studies that quantify the effects of human actions on the habitats critical to the survival of marine turtles. In all of the above examples human actions regularly result in marked decreases in turtle abundance and availability, which has negative impacts on both the sector that wants turtles for direct consumption, the sector that concerns itself with these animals for non-consumptive uses or conservation goals, as well as those who maintain that the animals have a right to exist and survive. These negative effects can occur independently of whether or not the developer, fisher, agriculturalist, or industrialist assigns any value to the survival or availability of marine turtles.

State regulation: Clearly, no community, no folk management system, can take on the full range and complexity of issues that confront the citizens and government of a nation state, no matter how well consolidated the community, or how effective the management of its commons. Because a single marine turtle depends on a variety of environments, migrates and disperses over large distances, and lives for decades, much of its life will be spent outside, even distant from, an interested community’s commons. Hence, management – if it is to be appropriate – must coordinate and integrate numerous communities within the larger socio-political entity, the state.

Nearly all, if not all, coastal states have legislation that regulates the exploitation of marine turtles, in one way or another, whether providing full protection for certain species, closed seasons, quotas, legal sizes, or permit systems for legal exploitation. Other relevant measures include officially designated protected areas, regulations for construction and development in coastal areas, antipollution laws, regulations for reducing impacts from fishing activities (for example, the mandatory use of turtle excluder devices in trawl nets), rules for controlling negative impacts of tourists, and more. Regulations for marine turtles vary from one state to

another, and it is not uncommon to find contrasting regimes, even in neighbouring states. In the Caribbean, for example, some countries have full protection, while others have legal exploitation and promotion of commerce (Frazier, in press [b]; in prep.). Moreover, it is no secret that in many countries the breach of state rules and regulations is more common than compliance, which immediately raises questions about how useful state regulation really is.

The literature on commons and folk management provides a long litany of failures of the state to adequately manage resources (e.g., McCay and Acheson, 1987; Pinkerton, 1994). Problems arise from a diversity of reasons, including lack of knowledge and integration with local systems that are appropriate to the communities involved. Fundamental issues routinely involve developing and maintaining effective processes for which there are no simple recipes: real communication between communities and state authorities, mutual respect for the expectations and rights of the different parties, and accountability of the various players. Criticisms of state management are frequently justified; too often rules, regulations, and/or actions of state authorities debilitate, destroy, or contradict the established management systems and advances of local communities. Indeed, in a growing number of cases around the world, citizens are desperately fighting to protect the resources of the state from the government of the state. Accounts of discounted sales of public goods to political allies, kith, and kin are no longer news, and certainly not restricted to ‘underdeveloped Third World nations’: the present government of the USA is a case in point (e.g., Ivins and Dubose, 2003; Lipsher, 2004).

Oft times, by virtue of the fact that the state authorities have far more political and fiscal power than communities, there are higher expectations for them to perform appropriately, hence greater disappointments when they fail. Yet, these institutions are peopled by the same species of mortal, subject to the same moral and ethical flaws of corruption, manipulation, nepotism, favouritism, ignorance, and arrogance found in private citizens and commoners. Nevertheless, given the life history characteristics of marine turtles, as well as the present system with the world composed of sovereign states (Diamond, 1997), there is no realistic way to manage this resource without involving these socio-political entities.

This underscores the fundamental need for co-management, in which state and communities collaborate effectively. Pinkerton (1994) listed 20 points essential for effective folk management

and co-management, and 10 other points that summarise challenges to integrating systems and knowledge from the community with those of the state and its agents. No less important is the way that power and knowledge are distributed within a state. Without having to invoke phenomena such as manipulation, empire-building, or other types of malfeasance, sovereign states are composed of heterogeneous populations, with modernised urbanites and traditional rural people at different ends of a socio-cultural continuum, yet juxtaposed within the same society. Values, needs, expectations, knowledge base, and culture can be vastly different between citizens of the same nation in regard to how they think humans and marine turtles should interact, with ‘rural/traditional’ peoples often holding opinions very different from those of ‘urban/modernised’ people, as if they were in fact two separate nations. Hence, co-management between community and state implies far more than just the interaction between rural people and bureaucrats: goals and expectations will be influenced by diverse sectors of society (Campbell, 2003), not unusually with considerable amounts of tension.

In the main, studies and evaluations of various state management, with a few co-management, schemes have focused on biological questions of the turtles or legal aspects of the regulatory system; there has been relatively little work on the social and economic aspects of resource use and management. This has resulted in appeals to actively involve disciplines outside of biology in marine turtle research and conservation (Frazier, in press [b]). This, however, does not mean that the basic biological information for informed management is sufficient, for it is not.

Some form of co-management of marine turtles exists in several countries, particularly where there is of legal exploitation of eggs, such as in Cost Rica and Nicaragua (Campbell, 1998; Hope, 2002) and Philippines (Cola, 1998). Studies of these egg exploitation schemes have focused on social relations and micro-economics, and concluded that there are a number of basic aspects that could be improved, including resolving conflicts in land tenure and access to the resource base (turtle eggs), resolving confusion and contradiction in official regulations, integration between state authorities and communities, and development of organisational capacity and infrastructure support. The schemes were described as ‘hybrid regimes’ because neither the state nor the community was in full control (Hope, 2002). Clearly, there is a fundamental need for more studies of marine turtle co-management, particularly involving more in depth evaluation of the effectiveness of social institutions, through the use of interdisciplinary teams.

Inter-governmental regulation: Absent from most discourses on the challenges of co-management, folk management, and the commons, is the area of inter-governmental relations. If a resource exists within the confines of a commons, then the commoners must be empowered to manage it; when the resource also exists outside the commons, and in the larger territory of the state, then by definition a higher level of socio-political organisation is involved. When a resource exists within the confines of a state, then the state should be empowered to manage it; when the resource also exists outside the jurisdiction of the state, in a much larger territory, then an even higher level of socio-political organisation is involved.

By virtue of its biological properties, a marine turtle does not just live within the enclave of a private land or sea tenure, nor with the commons of a community, nor even within the jurisdiction of a state (including the land territory, territorial sea, and Exclusive Economic Zone): the animal depends on extraordinarily large and diverse territories, living at different points of its life cycle within the jurisdictions of many states as well as outside the jurisdictions of all states – on the high seas. Moreover, the time spent within the territory of a single state, or on the high seas, can be substantial: years or even decades. Hence, various states may at various points in time and space, claim rights to the same turtle during the course of its long and complicated life history. However, under international law these same states also have responsibilities for appropriate management of the resource; various international treaties, agreements, and other instruments specify these international responsibilities specifically as they apply to the conservation of marine turtles and their habitats (see analyses in Frazier, 2002).

Thus, beyond the national, inter-sectoral tensions are international tensions, which reflect socio-economic polarities comparable to those within a state. As a generality, the majority of the populace of industrialised nations fit the ‘urban/modernised’ stereotype, with the majority from Third World countries fitting the ‘rural/traditional’ stereotype, and the sorts of tensions between these two stereotypes that occur with a nation are not unlike those that occur between nations. Just as distrust and hatred for previous systems of subjugation and colonial rule can undermine national systems of co-management (Pinkerton, 1994), similar sorts of sentiments between countries can nullify initiatives for international cooperation.

At the same time international law can be variously interpreted, depending on the convenience of the interested party; it may be seen to provide either rights or obligations, when in fact it does both. On the one hand there are internationally agreed upon sovereign rights of each nation state to self determination, but these must be balanced by responsibilities (freedom without responsibility is anarchy, the breeding grounds for despots, tyrants, and other social pariahs). A clear example of conflicting interpretations of international accords, specifically involving marine turtle conservation, is the ‘shrimp-turtle’ dispute that was deliberated at the World Trade Organisation (WTO). Four nations (India, Malaysia, Pakistan, and Thailand) argued that it was their right to catch and market shrimp from their waters, while a major importing nation (the USA) argued that it was their right (some even said duty) to restrict imports if the product was caught in a way that threatens endangered marine turtles. Although conservation policy was only a part of the debate (Frazier and Bache, 2002), in the end, the WTO decided in favour of the US argument (Bache and Frazier, in press). The fact that these lowly reptiles made it into the inner sanctum of as powerful an organisation as the WTO clearly shows the basic need for inter-governmental accords and regulations in the management of this shared resource.

Challenges for conservation and management of marine turtles and their habitats

These different systems of defining rights to marine turtles could be envisaged as sitting on a continuum that ranges from the smallest number of participating actors – one person with private rights, to the largest number of participating actors – an international body. Independent of what system is used to establish property rights, there are certain conditions that must be met if management is to be effective. In essence these boil down to the having enough information to know how best to manage human interactions with the resource, having the ability to regulate access to the resource, and having adequate (cultural) incentives to promote appropriate management actions. The means for attending to these broad goals include various more specific elements relevant to the socio-political context of the particular case, such as effective communication and collaboration between different actors representing different socio-political entities, effective cultural foundations and knowledge to support the overall goal, access to non-traditional sources of information, for example through scientific study and monitoring, and institutionalisation of appropriate processes so that they endure the test of time.

Privatisation: A central challenge for contemporary economists is dealing with externalized costs and benefits, and indeed, determining just what the externalities are. An important consideration is keeping the costs of negotiations and transactions low, to promote ‘efficient’ use of property, and, thus, economic gain. These arguments are used to show that private ownership – where there is less cost of negotiation (because only a small number of people are involved) – is more efficient and cost effective than community or state ownership – where the cost of negotiation is much higher (because a large number of people are involved). Where there seems to be an exception – in the case of corporations – the *de facto* owners are the management group, *not* the stockholders; hence, a corporation, although it appears to be composed of a community, functions like a private owner (Demsetz, 1997). In essence, what drives these sorts of arguments is the ‘bottom line’ on the accounting sheet, *viz.* monetary gain. The global trend promoting neo-liberal policies, privatisation of as much as possible, with evermore powerful corporate structures (Korten, 1995), impacts the conditions and availability of nesting beaches around the world. Escalating construction of tourist resorts on tropical beaches is one of the most conspicuous manifestations of this global fad, which does not bode well for the future of marine turtles, among other things. Unless the proprietor can be convinced that it is in his best interest to control such impacts as light pollution and other forms of beach and coastal disturbance, formerly important nesting and feeding areas will be seriously degraded – even though the turtles themselves may not be directly harmed. Where turtles serve as a tourist attraction, land owners may be motivated to protect them to enhance their own economic gain (e.g., Wilson and Tisdell, 2001), but this is by no means the rule, as seen in the case of Zakynthos, Greece (Theodossopoulos, 1997). It is no small challenge to instil a meaningful sense of responsibility in land owners who have no knowledge of, nor any significant interest in, the future of marine turtles, but whose fundamental concern is rapid return on their investment; this is true whether they are large corporate enterprises or small scale operations. Indications are that significant support from many parts of the private sector will not be forthcoming.

Commons and common property: Contemporary economists state that systems of commons, or common property, are inefficient; and they predict that property, land, and rights to resources should be privatised to increase efficiency, and to protect the resources (e.g., Demsetz, 1997). Yet, there is no lack of examples of commons, or common property, systems for marine turtles that exist in various places and societies around the world. When ‘economics’ is viewed as

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including more than simply the ‘bottom line’, but rather social relations and institutions, qualities that are intangible and virtually un-measurable become obvious. Anthropological studies of property rights, particularly in the case of property shared by a group, or common property, show that the mechanistic explanations and predictions focused on tangible commodities and monetary calculations are inadequate for many situations. Indeed, in some cases, communal property, or commons, is maintained for social reasons, and despite other options that would be more efficient in fiscal and/or environmental terms (McCay and Acheson, 1987).

However, the general status of coastal and marine commons is not bright. Since folk management depends on a ‘bottom-up’ process, the majority of the actors must be convinced of the need for appropriate management policies and actions. Hence, cultural norms must be established, and there needs to be adequate time for these social institutions to be founded and effective. Moreover, these animals are slow to mature, and have singularly long generation times; hence, it routinely takes decades to be able to detect substantive changes in the status of a population. This means that, if it can occur, trial and error learning, which is what much folk management is based on, will take generations. Several factors antagonise the development and maintenance of effective folk management for marine turtles, particularly during recent times.

In some situations marine turtles occur in remarkably large numbers, and the density of eggs deposited on some nesting beaches during a season is extraordinary. This fact alone often dupes resource users into believing that turtles are unlimited, and exploitation need not be checked. What is more, when they consider that turtles are migratory, there is regularly a persuasive argument for taking all they can while turtles are at hand, rather than abstaining from exploiting the resource, or investing in conserving it; there is little motivation for altruism, so that others – not even members of the same community – can benefit from one’s investment or self-denial.

To these general concerns must be added the velocity and degree with which cultural, demographic, and economic changes are now occurring around the world, as well as the speed with which coastal environments are changing, frequently because of forces which are external to the commons and uncontrolled by (and often unknown to) the commoners: expansion of development programmes, markets, pollution, and wars provide vivid examples. These issues, together with social, political, and economic uncertainties, combine to create a situation that

undermines incentives for people to collaborate in the long-term management of common property. Unless conditions can be changed to nurture folk learning, to better inform and promote folk management at the level needed for late maturing, long-lived species such as marine turtles, the future of effective community management of these resources will be futile.

State management: Other types of challenges are met at the state level. While most countries have some form of protective legislation for marine turtles, there are few states that truly invest in adequate management programmes. Although many conservation NGOs pressure stridently for greater protective legislation, there is a certain dangerous deceit in producing a smokescreen of unimplemented laws. In some cases it is as if by passing laws the authorities (governmental and NGO) can absolve themselves of any further responsibilities. Moreover, as trans-national corporations expand to seize ever-greater fiscal – and political – power, surpassing that of most sovereign states (Korten, 1995), both the credibility and the authority of state institutions become moot. At least one UN agency (although small, relatively unknown, and powerless) has alerted that this produces a situation of States in Disarray (Utting, 1995). Hence, not only communal institutions, but also those of the state seem poorly poised to deal adequately with conservation and management of long-lived, complex animals like marine turtles. Out-sourcing the administration of state properties to the lowest bidder, or as political favours (Ivins and Dubose, 2003), may be very attractive for corporate managers, but with no true accountability to the citizenship it presents a bleak future for the resource base on which societies depend. Where states have clear responsibilities for managing institutions and resources for their citizens, the state organizations must be empowered to carry out their functions adequately.

Inter-governmental management: Although marine turtle conservationists have little knowledge, and little faith, in treaties and other types of international instruments (Tiwari, 2002), there seems to be no other means for managing resources and issues that are shared by the peoples of many countries. If communities and states have fundamental problems with accountability, credibility, efficiency, organization, structure, and a litany of other well-known defects, much larger, more complex inter-governmental institutions can be no less problematic. Nonetheless, marine turtles have enjoyed considerable attention in the international arena, for as popular flagship species they have been used as ambassadors of the oceans. Over the past decade international accords, of one form or another, have been developed in every ocean basin,

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specifically for marine turtle conservation (Frazier, 2002). While it is too early to know if these inter-governmental institutions are meeting their stated objectives – to enhance the conservation of marine turtles and their habitats – at least there are structures in place to promote the collaboration of numerous states. That there are hidden agendas, inefficiencies, and countless other failings is not in question, but these multilateral organs provide the only effective political vehicle for managing common resources such as marine turtles. One of the greatest challenges is developing mechanisms for integrating these all-powerful supra-statal structures with community-based institutions, at the other end of the political continuum (Campbell et al., 2002).

Effective management of marine turtles and their habitats, as with any other common property resource, will depend on the availability of information on the resource as well as the users, including biological, cultural, and economic data; monitoring is also fundamental to insure that the information is current and relevant. However, despite the contemporary fashion of gathering evermore information, of far greater consequence are the social and political institutions that act on the information. It is essential to develop adequate incentives for the different organisational levels – private, commons, state, and inter-governmental – to work toward common goals. This goes beyond cold facts, and involves issues of motivation and inspiration. Herein lies a basic challenge, obvious to even the greenest of politicians, but foreign to many academics and scholars. Promoting more effective management of common property like marine turtles requires providing ideas and incentives to support these trans-disciplinary, often non-academic, objectives: two tentative examples follow.

Marine turtles: Agents or victims of globalisation?

Globalisation has become a garden term, and contemporary wisdom routinely casts the process in one of two contrasting positions: the modern, highly developed, carefully thought out initiative to facilitate trade, exchange of goods and ideas, thereby energising economies and providing the fiscal resources and institutions to develop societies and alleviate poverty; or alternatively the modern, highly developed, carefully calculated initiative to facilitate corporate access to raw materials and cheap services, as well as entry into vast untapped markets of the Third World. As mentioned above, the process is not new, but has been ongoing from at least the times of the great civilizations of the Middle East. Another detail often lost in the debate is

that societies and resources involved in globalisation do not necessarily have only one, simple relationship to the process: either as agents supporting it, or else as victims terrorised by it.

In regard to marine turtles, it is important appreciate that at least by the time of Christ a well-organized trading network existed around the Indian Ocean, designed especially to provide raw materials and slaves to the urban centres of the Mediterranean. An unknown author, apparently an Egyptian Greek, wrote in the middle of the first century CE what is essentially a traders’ handbook for the Indian Ocean, particularly for luxury goods. Known today as the *Periplus Maris Erythraei*, this describes in considerable detail well-established, highly organized commercial enterprises, involving a great diversity of activities and commodities in trade (Mathew, 1975; Casson, 1989: 6, 7, 15). One of the most important items for shipping back to the Mediterranean, was tortoiseshell: it was traded in all the major ports that were described, including those in the Red Sea, the horn and east coast of Africa, southern coast of Arabia, as well as India, Sri Lanka, and Malaya or Sumatra (Casson, 1989: 17, 101). Indeed, ‘Tortoise shell² receives more mention in the *Periplus* than any other object of trade’; ‘the finest quality was brought to Muziris/Nelkynda all the way from Malay to be made available to Western merchants’ (Casson, 1989: 17, 101). Other interesting accounts further underline the importance of commerce in marine turtles, such as detailed explanations that at ‘Menuthias Island’, dugout canoes and sewn boats were used for catching turtles (Casson, 1989: 59). When the tortoiseshell trade began is not clear, but there had been wide-ranging commerce in the Indian Ocean for at least two millennia before the *Periplus* was written (Casson, 1989: 11). Accounts of Chinese trade as early as the T’ang Dynasty (AD 618-907), and into the Sung Dynasty (12th-13th centuries) also show the importance of tortoiseshell as a desired commodity, sought by Chinese traders from as far away as Africa (Duyvendak, 1949: 14, 17, 21; Wheatley, 1959: 39, 83).

An exhaustive review of diverse sources of historic information on trade in the Indonesian archipelago showed that tortoise-shell was one of the most valuable trade items, and this was evident over a period of many centuries (Meilink-Roelofs, 1962). Numerous historic accounts, from Arabic to Chinese, describe trade activities in Çrivijaya, the celebrated Buddhist kingdom

² The term used in the *Periplus* was “chelone” which commonly refers to the animal, but in the context it is interpreted as referring to the product of the turtle (Casson, pers. com.; Margaritoulis, *in litt.* 13 June 2002).

that arose around the beginning of the 11th century and could be regarded as the predecessor of Malacca or (Melaka), Malaysia. For example, a Chinese source from the beginning of the 13th century indicates that the ‘products brought by the Ta-che (the western Asians) or exported by Çrivijaya included not only turtles, camphor, valuable kinds of wood, spices such as cloves and cardamom, pearls, perfumes, ivory and coral, but also woollen and cotton cloth’ (Meilink-Roelofs, 1962: 14), clearly grouping turtles and their products together with the other prized items of trade and luxury products. The importance of tortoise-shell as a valued trade commodity in this region, with connections east to China and west to Europe, has been pointed out time and again. The fast-expanding Portuguese trading network established a base in Malacca in the early 16th century to have greater access to – and profits from – major trade items; by the second half of the 16th century regular trade between Malacca and Macassar (now Ujung Pandang, Sulawesi, formerly Celebes) had become well established. ‘Tortoise-shell, obtained from the turtles which occurred in great numbers off the coast of Celebes, was brought from Macassar to Malacca by the Javanese.’ (Meilink-Roelofs, 1962: 163). Other Europeans were also attracted to the tortoise-shell from the region: ‘Spaniards from the Philippines also traded on Borneo and obtained there in exchange for cloth many small but valuable goods such as diamonds, pearls, gold, bezoar stones, camphor, and tortoise-shell.’ (pg. 164). And, of course, Chinese traders remained very active in the region, despite which European nation was in power; for example, when the Dutch began to take control of trade in Indonesia at the beginning of the 17th century, there was regular and large scale trade at Bantam, West Java, with China: ‘[b]esides pepper, the Chinese also exported sandal wood, fine species such as nutmeg and cloves, tortoise-shell and elephant tusks from Bantam.’ (Meilink-Roelofs, 1962: 246).

One must be careful not to exaggerate the amount of commerce in ancient and colonial times (Meilink-Roelofs, 1962); admittedly, the volume of tortoise-shell traded in ancient times must have been moderate in comparison with the amounts recorded over the past few centuries. However, in considering the effects of world trade, it is important to understand that ‘scale should not be confused with significance or the possible effects of trade on the various participating societies’ (Kohl, 1979: 78). As a result of the interrelations, and interdependence, on societies that trade with each other, substantive changes can occur in their respective cultures (Kohl, 1979: 80), for ‘[l]ong-distance trade is not external to the societies participating in the exchange....’ (pg. 81). ‘States did not emerge solely as a result of developments within the area

they occupied, but as the complex product of forces that were simultaneously external and internal to their own social structure’ (Kohl, 1979: 82). Competition for access to, and maximized profits from, these luxury commodities from Asia – including tortoise-shell – resulted in alliances, wars, treaties, expansionist policies, the building of some institutions and the destruction of others (Meilink-Roelofs, 1962): processes which have shaped today’s world.

In this light, the importance of tortoiseshell for world trade, at least by the beginning of the Christian era, indicates that this product may have been of great importance in the establishment and maintenance of certain human institutions, particularly trade networks and commercial endeavours. The usual arguments focus on how resources, particularly endangered species, have been negatively impacted by globalisation. However, it could also be argued that access to marine turtle products has been instrumental in sustaining the process of globalisation from ancient times, making the turtles agents as well as victims of globalisation!

Marine turtles and humanity: Deep roots to the relationship

If marine turtles or their products supported world trade during ancient times, then clearly they have had an important relationship with mankind. Indeed, the importance of marine turtles to the development of humanity may date back even farther, and with more profound significance. For example, it has been suggested that ancient human settlements in Thailand may have occurred in coastal areas that were also inhabited by a diversity of marine animals – including turtles – ‘and their abundance favours human sedentism and population growth’ (Higham and Bannanurag, 1990: 10). Sedentism and population growth, in turn, favoured the process of domestication, such as rice, and from domestications, the classical expansion of civilization and hierarchal societies stemmed (Diamond, 1999). It would be hyperbole to claim that marine turtles are responsible for human civilisation, but they may well have played an important role. The number of cultures in which marine turtles, or at least turtles in general, play central roles in creation myths is remarkable; and an inter-relationship between these reptiles and people is part of the cultural fabric of many societies (e.g., Frazier, 2003; 2004; in press [a]).

Conclusions

The discourse on rights and common property can take a very different tack from that pronounced by contemporary economists when expounded by people who view not monetary

gain and wealth accumulation as the overriding priority, but rather the condition of the environment as a resource base for human society, present *and future*. In this light, rather than focusing on ownership and the lowest cost of negotiation, the emphasis is on a very different concept – accountability; primary issues are responsibility to other citizens as well as to other generations. In this light the appropriateness of such landmark documents as the Constitution of the United States of America, as well as contemporary legal and political systems, have fundamental flaws in terms of providing adequate norms for societies; and it is questionable if they are the best models for ‘exporting democracy’ (Orr, 2003) – whether at the barrel of a gun or through true leadership, setting standards, and inspiring emulation. In fact, a number of countries in Latin America, as well as a handful of states in the USA, have political constitutions that explicitly mandate such things as rights to a ‘healthy environment’, common property managed according to the precautionary principal, and responsibilities that the present generation has toward future generations. Hence, although the US Constitution once served as a model for defining the rights of citizens, it no longer has that role; for the concept of rights embodies other fundamental principles absent for the charter (Raffensperger, 2003). The ‘lost constitutional rights’ are those that deal with shared resources basic to society and culture: common property.

Yet, resolving conflicts between proponents of human rights and environmental rights is extraordinarily complex, with claims for cultural and religious rights often positioned as competing with environmental rights (e.g., Bauer and Osofsky, 2004), when the priority should be how to integrate them, not how to win the argument. A central issue that confronts all of us, as visitors on planet earth and members of numerous commons, is summed up in a simple question: is humanity sustainable? Various studies indicate that it is not (Fowler and Hobbs, 2003). As societies in ‘post-modern’ times struggle with the existential questions that have been before us since the dawn of humanity, it will be wise to make use of as much knowledge as possible. It may be fruitless to look for simple solutions to an issue as complex as the management of marine turtles as common property, but it would be well to reflect on the question of property rights of marine turtles; that is, the prerogative of marine and coastal environments to include marine turtles as a property of these vast and complex systems.

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Panel Abstract

Marine Turtles: A case study of ‘Common Property’ from the ‘Global Commons’

Key terms and concepts – ‘commons’, ‘common property’, and ‘globalisation’ – are complex and difficult to define, which produces misunderstandings and intense debate. To limit the issues under consideration this panel focuses on highly migratory, endangered, charismatic animals as a case study – marine turtles.

Of the seven living species of marine turtles, five are global in distribution. All five have extremely complex life cycles and highly migratory habits: they take decades to reach maturity, and can live for a century or more; they nest on land, require various ‘developmental habitats’ in diverse marine environments, and migrate across oceans. During its life, a turtle may live within the territorial jurisdictions of several countries, as well as on the high seas. Hence, these animals are shared resources: common property for people in diverse sectors of society and also for people of different nationalities.

Marine turtles are not only common property, but they have deeply rooted values for different societies. Human-turtle interactions are at least 7,000 years old; these animals may have been fundamental in the development of certain human institutions: particularly, global trade. This is evident even before the Christian Era, and is especially clear during the heyday of European colonization. Over the ages various marine turtle products have had celebrated value as commodities, often with remarkable monetary worth. This is not to mention their ecological (or ecosystem service) values, traditional, spiritual and emotional values, nor the more recent values accorded by post-modern societies, including education, research, and conservation.

Generations of intense, directed exploitation on turtles and their eggs are confounded with recent pressures from massive coastal development throughout the tropics, escalating pollution (both marine and upland), and intensified fisheries, which produce large-scale loss and degradation of nesting areas, contamination of critical environments and food chains, and heavy mortality on life stages previously free from these hazards. These threats are symptoms of demographic changes in coastal areas, global markets, and ‘globalisation’: the economic, political, and social forces that underlie – and drive – these phenomena further confound the situation. Issues

Panel – Marine Turtles: A case study of ‘Common Property’ from the ‘Global Commons’ involving fisheries and the high seas show the complexity of governance regarding common resources and the ‘global commons.’

This predicament has resulted in various responses. At the international level, instruments have been developed to promote multilateral cooperation in the conservation of marine turtles, either specifically or in concert with other priorities. A case before the World Trade Organization involving marine turtles resulted in findings with substantive procedural effects on this organisation: enhanced opportunity for third party participation; the possibility of exceptions to strict trade regulations allowing for unilateral measures to protect endangered species; and the distinction between product and process in the regulation of trade issues. Recent policy decisions to resolve concerns about marine turtles, at national and international levels, have had decisive impacts on legislation, development, and industrialised fishing activities, particularly bottom trawling and longlining. At the other extreme, private citizens and members of marginalized, coastal communities have employed marine turtles as flagships to promote far-reaching conservation measures as well as the recuperation of traditional life styles.