- FEATURE REVIEW -

SEA OTTERS, AQUAPELAGOS & ECOSYSTEM SERVICES

N.A Sloan and Lyle Dick (2012) *Sea Otters of Haida Gwaii: Icons in Human-Ocean Relations* (Haida Gwaii: Haida Gwaii Archipelago Management Board and Haida Gwaii Museum)

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Abstract

N.A Sloan and Lyle Dick's *Sea Otters of Haida Gwaii: Icons in Human-Ocean Relations* (2012) provides an historical overview of sea otter populations in Haida Gwaii, their environmental context, the crucial role that human intervention has played in their decline and a discussion of the impacts of their possible reintroduction to the region. This review essay considers conceptual aspects of the volume with regard to the reviewer's previous discussion of Haida Gwaii as a paradigmatic aquapelago (Hayward, 2012b) and outlines how an awareness of the sea otters' role in particular historical 'acts' in the aquapelagic space can inform understandings of the constitution of such spaces.

Key words

Haida Gwaii, sea otter, aquapelago, aquapelagic assemblages, ecosystem services

The sea otter (*Enhydra lutris*) is an aquatic rodent that inhabits inshore coastal waters and primarily eats marine invertebrates. Prior to its extensive exploitation as a source of pelts from the late 1700s to early 1900s, the species had a widespread distribution around the shores of the northern Pacific, from California round to northern Japan. Estimates of the sea otter's peak population prior to extensive exploitation vary between 150,000 and 300,000. Following a sustained harvest that showed minimal address to the sustainability of the species, the population crashed to between 1,000-2,000 in the early 20th Century, with the animal disappearing entirely from areas such as the Haiada Gwaii (Queen Charlotte) archipelago and with the main remnant populations surviving in Alaska and areas of Russia (see Nickerson, 1989).

In the concluding essay to his influential collection *Routes: Travel and Translation in the late 20th Century* (1997: 299-344), James Clifford provided a highly ambitious and imaginative attempt to construct a meditation on the historical significance of the Fort Ross site in northern California. Fort Ross was the location of a settlement, established by the Rossiysko-amerikanskaya Kompaniya in 1812, that marked the most southern

outpost of a Russian trading enterprise that curled around the Aleutian islands in the northern Pacific and down the Pacific Northwest coast. While the Russian company had several aspects to its portfolio, one of its main aims was to collect sea otter pelts for the East Asian markets (where it was traded for other commodities). The Fort Ross settlement operated until 1841, by which time over-hunting of regional sea otter populations had severely undermined the base's viability. Clifford's essay used the fort site and its historical significance as the starting point for a quest for a deep historical understanding of the interaction of indigenous and settler populations with the natural environment and those elements within it that could be commodified. In the course of his meditations on the area, its history and resources, he raised the question of the extent that whales and sea otters could be understood as 'historical "actors" in the events that Russian and European traders initiated (1997: 325). With specific regard to the manner in which sea otters are now a protected species whose welfare is considered in the designation of marine zones, he explored the issue of whether the otters possessed "agency" in a complex multi-species environment; considering how their interactions created particular types of places at particular historical moments, implicating the marine space in changing livelihood patterns and related ideological, spiritual and behavioural places and parameters (ibid).

The specific type of environments and patterned experiences that Clifford addressed in his essay has been conceptualised by a number of contributors to *Shima* in terms of an aquapelago constituted by human interventions in and interactions with marine environments for livelihood purposes (Hayward, 2012a; 2012b; Suwa, 2012; Maxwell, 2012 and Fleury, 2013). The aquapelago can be understood as an assemblage of elements and processes that occurs in particular marine spaces. Humans are key to the initiation of such assemblages but are not necessarily (or, even, usually) in control of these systems, in which other species and elements exert (various kinds of) agency. With particular regard to the latter point, Bennett's notion of the manner in which non-human actants can constitute a "vibrant matter" that requires consideration in political analyses (understood in the broadest sense of that term) (2010) is apposite here. Bennett identifies vibrant matter's capacity "not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own" (ibid: iii). Bennett's focus on the agency of non-human entities is particularly pertinent for the analysis of Anthropocene impacts in that the latter raise fundamental moral-political questions concerning how humans inhabit and impact the world's landmass, oceans, climate and biomass. Changes in sea level, temperatures, salinity and marine species profiles are of particular relevance to aquapelagic communities and to the broader global ones they interact with. The concept of the aquapelago is one lens through which to focus on the broad process and on particular assemblages of marine and terrestrial spaces and the eco-systems constituted within them.

In a previous essay I identified the Haida Gwaii archipelago and its surrounding waters, off the northwest coast of the Canadian province of British Columbia as a paradigmatic aquapelago (Hayward, 2012b). In this context I discussed the Gwaii Haanas Park crest, designed by Haida artist Giitsxaa, as particularly significant. Representing a floating sea otter with a sea urchin above its midriff, the image both commemorates an earlier moment of the region's aquapelagic history and offers a lesson for the present. As the Park's website states

> *With the extirpation of the sea otters during the fur trade, the natural balance between species in the community has been disturbed, and the*

> *health of the kelp forest is threatened. The loss of the sea otter is a powerful reminder of the vulnerability of individual species and entire ecosystems.* (online)

Figure 1 – Gwaii Haanas Archipelago Management Board Crest
(designed by Giitsxaa)

The crest serves to invoke a deep history and to inspire commitment to the protection and sustainable management of the Park through its visual symbolism. Clifford's earlier essay drew on his understanding of the sea otter population's decline to ask some broad, provocative questions that intersect with the Park's address to environmental history:

> *What does the history of changing environments, including the own near extinction, commodification and consumption since 1700, look like to sea otters? How might this history appear to them? The arrival of a new predator? Holocaust? The predator's removal? Survival?* (ibid)

Following on from this, Clifford speculates as to what "temporalities define the consciousness of sea otters" (ibid) with particular regard to whether they have some degree of historical awareness:

> *Could otters have a feeling that the environment in which they now live is not the one for which they evolved? The changes have been abrupt, the destruction near total. And two hundred years is very short in evolutionary time. Could the discrepancy between evolutionary and historical temporalities register somewhere in the otter's experience? A feeling of being in a world that doesn't quite work?* (ibid)

In one sense, such speculations are somewhat tangential reference to the Haida Gwaii region, where the otter population was rendered extinct by over-hunting the early 20th Century. But, in other regards, the focus on there being ecological pasts, presents and futures in which species' interactions develop and re-articulate converge with the aims of Sloan and Dick's study, whose project is summarised in their Introduction:

> *Our purpose is to tell the sea otter's story in context with Haida Gwaii, by which we interweave archaeology, history, ecology, conservation and marine management to provide insights on human-ocean relations.* (2012: 3)

While Sloan's and Dick's discussions were formulated independently of those debates in Island Studies that engendered the concept of the aquapelago, their study has many points that are both germane to and congruent with discussions advanced in prior issues of *Shima* and, indeed, suggest further refinements and elaborations of the concept.

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Sloan's and Dick's volume is divided in to three main chapters: an introduction addressing the social and natural history of sea otters (7-40), a study of the 'interface of cultures' created by the maritime fur trade (41-79) and a final chapter entitled 'Coexistence and Reconciliation: Future Human-Ocean-Otter Relations' (81-103). Copiously illustrated with photographs, maps, diagrams and informative short inserts contributed by a range of experts, the volume offers a impressive overview of the sea otter's history, its relationship with the human community and with the aquapelagic space around the Haida Gwaii archipelago. These aspects are useful and laudable but it is the third chapter that provides the most stimulating contribution to both ecological and Island Studies debates by considering the implications of the return of sea otters to Haida Gwaii's aquapelagic space as a result of Canadian policy of facilitating the animal's return along the country's western seaboard. As an apex predator of inshore ecosystems, the sea otter's return to environments that have developed since their removal a century ago will have consequences for both other marine species and for the humans who use the same inshore aquatic environment and, more significantly, have established livelihood practices in the absence of the marine predators in question. As Sloan and Dick express it:

> *Sea otters, besides being agents of ecological change, are also agents of social change. Restoring sea otter populations compels our understanding. Positive and negative consequences come into sharp focus as sea otter's presence will require us to share significant resources with wildlife.* (2012: 81)

The sharing the authors refer to, in the specific case of Haida Gwaii, concern the area's First Nations communities, who rely on fishing as a subsistence activity, and commercial fishers. Both groups compete with otters for shellfish (such as red sea urchins, which are now commercially harvested). Issues also arise with regard to those who wish to conserve and restore *existing* aquatic environments (ie ones that have established since the otters declined) and/or other species that are subject to separate restoration projects (such as abalone, also a key otter food). Noting that productive conversations are emerging between various interest groups, the authors suggest that:

> *Accommodating sea otters can help citizens conceive of a new ocean ethic underpinned by notions of ecosystem-based management, sustainability and justice (social and ecosystem).* (ibid: 82)

One important aspect of this move to accommodate sea otters (despite their likely impact on human livelihood activities pursued in the inshore region) is the prior recognition of such issues by the Nuu-chah-nulth community of western Vancouver Island. As a panelled insert (B14) details, the community's fisheries and aquatic management association has acknowledged the likely impact of the mammal's return but has ruled that traditional values are of greater significance than livelihood impacts – allowing them to "maintain ecosystem balance through *Hishukish tsa'walk* (everything is one) and *lisaak* (respect and caring)" (ibid: 86). Similarly, as the authors note, traditional Haida values such as respect (*yahguudang*) and responsibility (*laa guu ga kanhlins*) have marked the development of Haida marine use plans (ibid: 103).

After a discussion of current marine management places in the Pacific Northwest, Sloan and Dick provide a salient reminder of the extent to human abilities to influence complex ecosystems and the "vibrant materiality" that is manifest within them:

> *The notion that humans can manage marine ecosystem is hubris… What is emerging is the idea of an ecosystem approach to management – an approach of valuing ecosystems when managing human-environment relations. Put another way: managing human effects on the ocean from the perspective of ecosystem well being*. (ibid: 92)

In a manner that is fundamentally congruent with the concept of aquapelagic assemblages being constituted through livelihood activities enacted in particular aquatic locations; the authors explicate the concept of "ecosystem services" in the following terms:

> *Humans exist within, and rely utterly upon, functioning ecosystems. Part of the ecosystem-based management approach is valuing "ecosystem services" whose contribution people have tended, until recently, not to acknowledge in our maritime culture. Ecosystem services are the resources and processes that nature provides for humanity… Emphasizing ecosystem services is a way of underscoring human dependence on nature and fostering society's will for improved environmental stewardship.* (ibid)

As will be apparent, the notion of "ecosystem services" is clearly tailored to modern, western, capitalist sensibilities that view the world within economic frameworks. In this sense the approach is strategic, attempting to close the gap between Green 'altruistic' approaches to the environment and hard-nosed anthropocentric capitalist ones. By acknowledging natural ecosystems as 'service providers' and by attempting to understand their complexity in a long- (rather than short-) term context, the approach attempts to incorporate environmental management and protection within the horizon of human self-interest. As the authors identify:

> *Sustainability demands explicitly incorporating humans into ecosystems, recognizing the services ecosystems provide and introducing moral clarity into our obligations to nature.* (ibid: 105)

In this context, the authors conclude their volume with the observation that:

> *Anticipating coexistence with sea otters could be a proxy for long-term human well-being founded on our enlightened relations with the sea and may help set the stage for living respectfully with our marine legacy.* (bid: 105)

The authors' confident address to the implications of species' return and eco-system realignment sits oddly with the (well-justified) global concern about species' extinction elsewhere but is one that has a number of significant precedents, most notably, in the case of North America's Pacific coast, in the Monterey region of northern California which has seen an ecosystem renewal since the height of the fishing and canning industries in the 1940s. Just as Ricketts argued at that time (1947, 1948), in a manner that successfully influenced the subsequent management of local marine spaces (see Palumbi and Sotka, 2011); sustainable and rationally managed "ecosystem services" require a holistic approach to the marine environment and its dynamics. In the case of Monterey Bay, it was not just fish stocks that returned when restrictions were placed on use of marine species in the area, but also an animal that has become an iconic attraction for the tourists who now provide the major livelihood base for the region, the sea otter (expanding from a single residual population that had survived off the Big Sur coast during the creature's erosion from the remainder of the northern Californian coastline).

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Discussions of the concept of the aquapelago advanced to date have been premised on a recognition of the nature and extent of particular communities' deep relationships with and implication within complex marine (and intertidal) spaces in which a variety of species cohabit. These discussions have had three main threads to date: a) the generation of the aquapelago through livelihood activities; b) the role that other species and/or inanimate materials play in the nature and development of the aquapelagic assemblage; and c) the need for humans to more deeply comprehend the complexity and holistic nature of the aquapelago (and of marine spaces in general). The latter aspect is both an end-in-itself and a necessary step in order for humans to be more fully aware of the ramifications of Anthropocene impacts on marine environments and their own well-being in regard to that. Sloan and Dick's volume complements these threads through a detailed scientific analysis of its subject and also adds in another significant element to the anticipation of future developments. Address to these, in the manner the authors document and advocate in the case of Haida Gwaii, could lead us to exert a stewardship of our use of marine environments that may allow restorative processes to take place and, thereby, give us, and local ecosystems a chance for a more fruitful development and interaction. The aquapelagic space that the authors explore and discuss is one that shows a marked variation within a particular time span that emphasises the manner in which aquapelagic spaces are dynamic ones in which human agency has a complex relation to other species and to the vibrant materiality of the locale.

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