LISTENING TO THE KAITIAKI

Consequences of the loss of abundance and biodiversity of coastal ecosystems in Aotearoa New Zealand

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Abstract

Interviews with 22 kaitiaki (environmental guardians) from 14 tribes spread throughout the North Island of New Zealand revealed a common concern that the abundance and diversity of sea foods have declined along much of the coastline over the past 30–50 years. While Western conservationists have tended to emphasise ecological impacts, kaitiaki are concerned at both ecological and cultural consequences of the losses. Cultural consequences include severance of links between people and the food species, reduced connections between people in the community, erosion of ways that kinship is maintained, severed transmission of cultural knowledge, and impaired health and tribal development. More fundamentally, the cultural-ecological degradation transgresses fundamental concepts of Māori worldview in ways that undermine cultural and individual identity. Such cultural consequences should not be overlooked in assessments of the impacts of loss of biodiversity and species abundance. Kaitiaki are now seeking to restore the health and abundance of mahinga kai (food gathering sites) to simultaneously accelerate restoration of nature and culture. Recognising these wider implications of loss, and supporting

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the diversity of approaches to environmental management might lessen cross-cultural conflict, helping to build a broader front of sustained collective action for restoration.

Keywords

mahinga kai, coastal fisheries, manaakitanga, rangatiratanga, kaitiakitanga, mātauranga

Introduction

Tuatahi, e mihi ana ki to tātou matua-nui-i-te-rangi, nāna nei ngā mea kātoa.
Tuarua, e tangi ana ki te hunga wairua, kua whetūrangitia.
Tuatoru, ka hoki mai ki te hunga ora e kaha nei te tiaki i o tātou taonga tuku iho.
Tēnā tātou kātoa.

First, let me acknowledge our creator, from whom all things emanate.
Second, I remember longingly those who have departed this mortal coil.
Third, I come back to the present generation, those who labour to ensure the treasures we have been bequeathed live on.
Greetings to us all.

Māori communities have long been concerned about the decreasing abundance of many traditional food species in inshore fisheries along New Zealand's extensive coastline. The causes of this decline include the impact of commercial fisheries, land uses in upstream catchments, and the harvest pressures of steadily increasing human populations. Māori at the iwi (tribe) and hapū (sub-tribe) levels are working to halt, if not reverse this trend and to restore the health and abundance of their mahinga kai (traditional food-gathering areas). Our research sought to document their experiences and perspectives.

Much has been written on the ecological and economic consequences of biodiversity declines in coastal fisheries (Food and Agriculture Organization Fisheries and Aquaculture Department, 2009; Roberts, 2007), but relatively little on the cultural consequences for indigenous communities, particularly in Aotearoa New Zealand. This paper seeks to fill this gap, drawing from the testimonies of kaitiaki (Māori environmental guardians). We define "culture" here as including shared attitudes, values, goals, and practices, in this instance in relation to Māori communities who manage and use mahinga kai. "Culture" is also extended to include the "culture-nature" relationship, as Māori see themselves as genealogically linked to nature. Social-ecological resilience theory recognises the strength and importance of such linkages, and suggests that ecological restoration is as much about restoring links between local communities and natural resources as it is about restoring the plants and animals themselves (Pretty et al., 2009; Pretty, 2011). In this article, kaitiaki voice some of the impacts of biodiversity depletion on their culture, and the potential benefits of self-determined restoration actions that they are undertaking.

As a team of both Māori and non-Māori researchers who work with Māori communities, we are conscious of how indigenous testimony is generally interpreted through the lenses of Western-originated theories. This is reinforced in the typical structure of academic articles which discuss research findings in relation to theoretical positions which are stated first. In this article, we look to reverse this pattern giving first voice to the kaitiaki, and also to discussing their testimonies in terms of Māori worldview rather than Western-originated theory. This is why we began this paper with a mihi (ritual greeting) that expresses, in a traditional Māori way, our overarching ethic. We next

briefly outline our research method. We then discuss common themes that emerged from the interviews, using selected quotes from the kaitiaki to illustrate these themes. Following this, we discuss some core concepts of Te Ao Māori (Māori worldview) and link these to the themes, highlighting the consequences of loss from a Māori perspective.

Research methods

This article draws mainly from interviews with 22 kaitiaki from throughout the North Island of New Zealand, undertaken for the *Tirohia he Huarahi* research project. The project as a whole examines the experiences and aspirations of Māori communities as they seek greater participation in the planning and management of mahinga kai. Future papers will cover other aspects including the actions being undertaken by kaitiaki and their communities to restore both ecological and cultural health, and how various planning and management tools can be improved to achieve these goals. This first paper focuses on the impacts of losses of abundance and biodiversity on the culture of the people.

The 22 kaitiaki interviewed were from 14 iwi and hapū in the North Island of New Zealand (see Figure 1). In selecting kaitiaki to interview, we sought those with key roles in managing mahinga kai, most of whom were involved in using local fisheries management tools provided for in fisheries regulations such as taiāpure, temporary fishing closures and mātaitai fishing reserves. We have also drawn from 86 interviews undertaken with Ngāi Tahu (South Island) Tangata Kaitiaki as part of a parallel Otago University research project *Te Tiaki Mahinga Kai*, to gain a wider spread of views. The interviews consisted of a series of open-ended questions around the past and present state of mahinga kai, management and governance issues, and the long-term goals of the community. Interviews typically lasted between 30 and 120 minutes. They were recorded and transcribed, and the transcriptions returned to the interviewees for checking. While there were no direct questions about the effects of resource depletion, the kaitiaki so frequently raised this as a fundamental concern that it was clearly an issue that needed to be covered in the first paper from the *Tirohia he Huarahi* research project. The themes below emerged from a detailed analysis of the interviews, aided by the use of NVivo™ version 9 (2010) software. Subsequently, a 2-day workshop was held with a number of the kaitiaki, to reflect

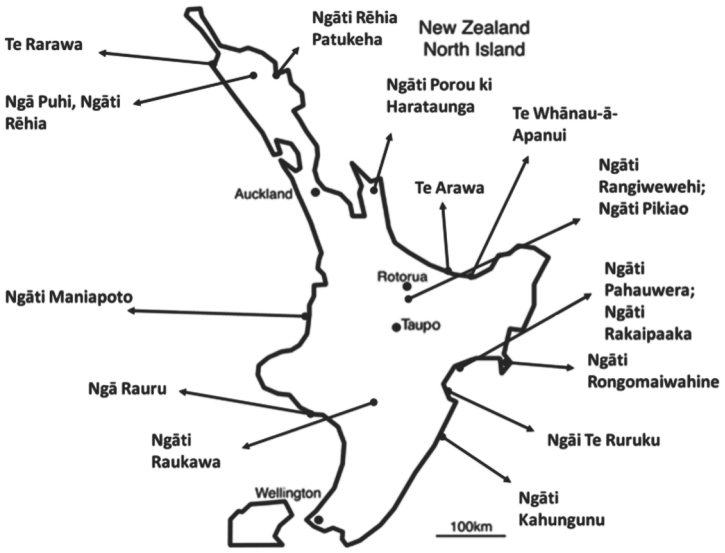

FIGURE 1 Location of the North Island iwi (tribes) of the kaitiaki who are quoted in this article.

on and discuss the interim research findings. Transcriptions of these discussions have also been drawn from in developing this paper.

Mahinga kai

Māori historically relied heavily on sea foods for their diet, and coastal and estuarine mahinga kai remain very important sources of traditional foods. Food species within these areas vary with location and coastal geomorphology, but species frequently mentioned by interviewees include black foot pāua/abalone (*Haliotis iris*), kōura/crayfish (*Jasus* sp.), tuna/eel (*Anguilla* sp.), pātiki/flounder (*Rhombosolea plebeia*), pipi (*Paphies australis*), kina (*Evechinus chloroticus*), and kahawai (*Arripis trutta*).

Whilst for the most part Māori did not traditionally exercise food husbandry practices as we might know them today, they were nevertheless excellent stewards of the resources they had at their disposal (Kawharu, 2002; Roberts, Norman, Minhinnick, Wihongi, & Kirkwood, 1995). Mahinga kai had to be carefully managed and conserved. Māori were skilled at ensuring the continued plentiful supply of kaimoana (sea food) for the table. They employed a range of conservation practices to guard against overexploitation of food resources (Bird, Moller, Scott, & Pirker, 2009; Kitson & Moller, 2008; Moller & Lyver 2010). These included rāhui (temporary fishing, access or area restrictions); monitoring of stock abundance; rotational use of mahinga kai to spread harvest pressure; active translocation and reseeding to replenish resources; protection of kōhanga (nursery areas); harvesting immature stages to protect breeding stocks; and small scale (reef-by-reef) management to match harvest with local stock abundance.

Today, fisheries are an important commercial and recreational resource that is central to the way of life of many Māori communities. Observational evidence from customary and recreational fishers is that many species in many locations are either less abundant, less healthy or have ceased to be present. Causes are claimed to include commercial fishers, poachers, declining water quality, impact of land uses, changes to river flows, population pressure, new fishing technologies, and loss of key elements of inshore ecosystems (Dick, Turner, Stephenson, Kirikiri, & Moller, 2012). On the other hand, fisheries managers and politicians frequently assert that New Zealand's Quota Management System (QMS) is the best in the world and adequately safeguards the sustainability and availability of commercial, recreational and customary fishing in Aotearoa (Ministry of Fisheries, 2011; Worm et al., 2009). However, a recent report argues that the QMS is deeply flawed because its focus is purely on stocks and not ecosystems, and because of serious information deficits in the state of the fish stocks:

> The best that can be said with any degree of certainty for New Zealand's QMS fisheries is that around 13 per cent of the stocks are known to be fished within limits that the New Zealand Government sets as acceptable, 6 per cent are known to be in trouble, and for the other 81 per cent the status is unknown. (World Wildlife Fund, 2012, p. 29)

The fish stocks for which data is collected are of course those that are commercially important. Because of the lack of empirical data, the best evidence of the state of local fisheries is the observations of those whose relationships with these fisheries go back for generations—the kaitiaki.

Consequences of the loss of abundance and biodiversity

The QMS and other government environmental management mechanisms are clearly not meeting the expectations of customary fishers. Kaitiaki tell of rapid and widespread depletion of inshore fishing stocks. They commonly refer

to having grown up alongside a healthy and generous coastline, with kaimoana as a fundamental food source for families and for tribal gatherings. (See Figure 1 for tribal locations of interviewees.)

> I can remember fishing with my uncles and aunties as a young fellow on the Ngaruroro River and we used to have nets pulling in whitebait … and the kids were helping the older people to pull the nets in and they were full and we'd only do that once and we'd have food for the whole pā. You know, I'm talking about in the 1950s. (Interviewee, Ngāti Kahungunu)

> My mother's family they lived on … kaimoana and vegetables that they grew themselves and I was brought up, started off my life like that too. In fact, I can remember the days when we used to say to Mum, my brothers and sisters, "What are we having for tea tonight?" And Mum would say, "Crayfish," and we'd say, "Not again!" (Interviewee, Te Arawa)

According to the testimonies, considerable change has occurred in the lifetimes of the kaitiaki over the past 30–50 years or so. Some foods are no longer readily available, and some species have disappeared altogether:

> The abundance of fish isn't as it used to be. In fact, I can remember our kaumātua getting up and saying, "We used to catch fish there, tarakihi … but they are no more." Maunganui Bay used to be full of fish, they're there no more. (Interviewee, Ngāti Kuta/Patukeha)

> I cannot get my daughter, who's 14, a fish off our traditional reef. It's as simple as that. (Interviewee, Ngāti Kahungunu)

Many kaitiaki have clear memories of when the changes occurred:

> If we're talking about mahinga kai then I would be going back 50 years where fish was plentiful, eels were plentiful, kahawai were plentiful. (Interviewee, Ngāti Pāhauwera)

> In 1958 … the Kaituna River was diverted before it got to the estuary and so as a consequence … we've only got pipi left in our estuary, flounder, a bit of pātiki, but that's it. (Interviewee, Te Arawa ki Maketu)

> Our tūpuna used to collect the tītī … 1959 was the last time they harvested their last tītī bird. (Interviewee, Te Rarawa)

Kaitiaki observed that these changes were caused by many different and often interrelated factors, most of which were outside of their control.

> Te Awanga reef is so badly impacted by land-use practices that we haven't been able to harvest on there since I was 14 [approx 45 years ago] … being able to feed ourselves and our whānau and to pass that down to respective generations, it's just not possible on that reef, because it's so close to an urbanised area as well as five river systems emptying in that confined space of the coast … it's the silt load. (Interviewee, Ngāti Kahungunu)

> Our people … are seeing those [commercial] boats just outside the waves taking their kai (food). It takes between 2 to 4 weeks, maybe a month, before they are able to start catching fish again because those trawlers just seem to wipe the whole inshore fishery out. (Interviewee, Te Rarawa)

Impacts such as these mean that sea foods are much harder to obtain, taking longer to access, and often requiring expensive gear.

> You have to go out a distance around about 1½ km for kina … and about 2 km from shore for the pāua bed. (Interviewee, Ngāti Kahungunu)

> Now you've actually got to put scuba gear on and go quite deep to get amounts of kaimoana to feed people. (Interviewee, Ngāti Rongomaiwahine)

> … since the '90s … if you want pāua you have to have a wet suit. (Interviewee, Ngāi Tahu)

People who cannot afford boats or wetsuits, or who are too old or frail to use them, miss out.

> They used to be in their 80s still gathering from around the foreshore … It was just part of their relationship with the moana. (Interviewee, Te Arawa)

> At least 90% of the pāua on this coast are taken by people with wet suits and that is a young person's game, the old people just can't do it anymore. They go without. (Interviewee, Ngāi Tahu)

It also takes much longer to "get a feed", so that while feeding the family would once have involved just wading into the water for 10 minutes, it now could take several hours. Elders, many of whom have a real hunger for kaimoana, miss out in two ways. Firstly, while they were once able to gather kaimoana from the shoreline themselves, they are physically unable to get out deep enough to do so anymore, or do not have access to boats. Secondly, the once-common tradition of sharing food out around the family and community has become less common as the kaimoana stocks have declined.

> Each year during the rains in the autumn, the lake used to flood and several paddocks were flooded with the lake and we'd go eeling and all the eels would come out and we'd catch several bags full, but we'd take them back to our place, share them all out into little parcels and then deliver them to the pā and that was, there was over 100 families living in the pā. (Interviewee, Ngāti Kahungunu)

> We were taught … if there was anybody who couldn't access it you would take it to the oldies too, and you always made sure they were looked after as well. (Interviewee, Ngāi Tahu)

The loss of food species, or their reduced availability, undermines the ability of hapū to offer hospitality at marae (traditional community gathering place) as in former years. The marae, being the central hub of activity for an iwi and/or hapū—a place for meetings and ceremonies, and hence for offering hospitality—is defined by others as much by the food that is served up to manuhiri (visitors) as for its structural integrity. A memorable visit to a marae is often described by reference to the variety and quantity of food provided to manuhiri more than anything else.

> Kaimoana is an expression of the ability and knowledge to provide for the hapū and guests. (Interviewee, Ngāti Rēhia)

> You always feed your visitors your best food from your area. And you always take your best food as well [when you're visiting]. (Interviewee, Ngāi Tahu)

> … sharing of food and the eating of food together is another strong bond, because when you do that there is the kōrero that goes with it and you listen. Day to day stuff, [but] it all strengthens. (Interviewee, Ngāi Tahu)

A particular concern highlighted in the interviews is the threat that some marae face over the decline in the supply of particular locally available foods that have long been their traditional "signature foods". To place these on the table is to honour the guests by providing the distinctive foods that are part of the identity of the local people.

> The kahawai may not be important to other people, but to our ancestors they were the main source of protein. (Interviewee, Ngāti Pāhauwera)

> One of those maraes are known for their dried pātiki … The other marae, they were known for other kaimoana. (Interviewee, Ngāti Maniapoto)

> If you go up the coast you expect to see crayfish on the table … [if] you are at Ahuriri you expect to see flounder on the table. (Interviewee, Ngāti Kahungunu)

Species depletion and imposition of harvest bans have prevented harvesting practice and thereby caused loss of traditional knowledge, such as understanding life cycles, species management and food harvesting methods. Locally specific knowledge and skills are no longer used, and therefore are not able to be passed on to subsequent generations.

> Because we haven't been able to fish like we used to, and in quantities, we've lost a lot of knowledge. (Interviewee, Te Arawa)

> We don't practise it. We just talk about it, you know, and that's all the talk stuff … We've got all the knowledge but we're not walking it. (Interviewee, Ngāti Rangiwewehi)

> When they put rāhui on for a long time at Maketū, people started forgetting things. It doesn't take much to forget. (Interviewee, Te Arawa)

It is also impacting on the passing on of stories and knowledge that was part of the communal experience of collecting, preparing and eating local foods.

> … you could go down as a group and collect watercress, [and] kōrero, and the next minute the stories come out, "Oh, I remember when so-and-so, Uncle used to get in the …," you know, you're there so the kōrero comes, you know, so we're not getting out there so much so we're not talking and sharing the stories so much. (Interviewee, Ngāti Rangiwewehi)

> [Sharing food] sort of kept the family relationship alive … It was just a way of touching each other. (Interviewee, Ngāi Tahu)

Younger generations now have less familiarity with the foods that are part of tribal tradition, how to prepare them, and lack broader knowledge about their ecology.

> They don't take their kids fishing anymore. They don't go and gather eels for their whānau or for the marae because they're not there. (Interviewee, Ngāi Tahu)

> You know, our mokopuna, they have nothing to see. They only have stories that they hear from us about the certain types of food and the abundance of the food that was available to us. Without protecting some of these areas there's nowhere for our kids to go and learn about the moana and Tangaroa and the food basket of Ahuriri. (Interviewee, Ngāti Kahungunu)

> Well, how many kids go out with hīnaki now? You know, all the brothers and sisters go out at moonlight and put the hīnaki out, they would never know what to do, or there wouldn't be any eel in any streams for them to go and get any tuna there. (Interviewee, Ngāti Raukawa)

Ultimately, resource depletion affects iwi and hapū identity.

> We'll just become like anyone else. If we don't have that connection with our whenua or be able to go up our mountain, be cleansed by the winds of Tāwhirimātea. If we aren't able to go in and do the practices of what we used to do, that removes our uniqueness. (Interviewee, Ngāti Kahungunu)

The above impacts of loss of kaimoana are social and cultural in nature, whereas others are more direct and biophysical. In particular, loss of the traditional sea food diet affects people's health.

> In the case of rohe moana we can say that the hunger to eat fish—be it kōura, kina, or any of the many other species … we harvest is actually a healthier diet than a dairy products based diet. There is a lot of diabetes in our iwi which is directly attributable to our genetic disposition to sea food and our genetic inability to cope with dairy products, sugar and wheaten foods as well as Pākehā genetics. So our taste for kaimoana and our ability to put kaimoana on the table is very important. (Interviewee, Ngāti Rēhia)

Few societies subsist on diets identical to those of 500, or even 50 years ago; new foods are added and old foods may be replaced or diminish in importance (Turner & Turner, 2008). But when change in diet is profound, when it happens in the span of only a few decades and when coercive socio-political, environmental and economic pressures are at play during the period of transformation, there can be serious repercussions for people's health and wellbeing (Parrish, Turner, & Solberg, 2007).

According to the kaitiaki testimonies, the consequences of losses of abundance and biodiversity include decreased availability of local foods, increasing difficulty in accessing the food species that remain, reduction or loss of "signature" foods and the associated loss of mana (prestige), less access to healthy foods, loss of traditional knowledge relating to species and management practices, fewer opportunities to work communally and share stories, difficulties in sharing the remaining knowledge and skills with younger generations, and in some cases, the loss of tribal identity. Along with this loss of the foods themselves, there is a loss of cultural knowledge relating to the production, harvesting and use of sea food, a knowledge that has sustained coastal communities for centuries.

The kaitiaki we spoke with were understandably not happy with this state of affairs, and were working to restore mahinga kai to their former abundance. In doing this, they sought to simultaneously improve both ecological and cultural wellbeing. The experiences and aspirations of these communities in attempting to set up management tools for this purpose will be covered in a future paper.

Te Ao Māori view of loss of biodiversity and abundance

The significance of these issues cannot be well understood outside of the context of Te Ao Māori which underlies the concerns expressed by the kaitiaki. Some of the key concepts alluded to by kaitiaki are elaborated on here.

Mātauranga

Arguably the key to Te Ao Māori is mātauranga (knowledge). Mātauranga is holistic; that is, everything is seen to be interconnected (Phipps et al., 2011; Roberts et al., 1995). As one of our interviewees explained:

> Everything is interrelated and you can't do away with one thing without another part being affected. (Interviewee, Te Rarawa)

Mātauranga can be seen as one of the most fundamental features of Te Ao Māori because all other things stem from it. If one does not have a basic understanding of knowledge about oneself and one's place, then there is little basis on which to build and adapt to new challenges and opportunities, and little prospect for comprehensive and integrated strategies to restore and then sustain natural resources.

Mātauranga does not ordinarily divide the world into different components (for example, water from land, or people from the environment). If mātauranga is altered in any way then that has flow-on effects to other parts of the environment; for example, to management of a mahinga kai and to people's relationship with that place, all of which will change the nature and form of that particular piece of knowledge. Similarly, environmental changes triggered by

external influences will inevitably augment and/or alter mātauranga.

Mātauranga about the local inshore fisheries was a key issue for the kaitiaki we interviewed. Matters of real concern for them included: How much knowledge remains intact and useable? Who holds it? How might others get to know about it and use it themselves? What sanctions (if any) exist on such knowledge? How has this knowledge been affected by external factors like national and local legislation? How might we restore lost knowledge or grow new knowledge? How might this knowledge contribute to a more sustainable and productive management regime for mahinga kai?

A hugely important part of learning, testing and adapting knowledge relates to ongoing practice of harvesting and working with mahinga kai. If the resources are depleted, no sustainable practices can be exercised day by day and there is danger that the knowledge will not be transferred to future generations (Moller, Kitson, & Downs, 2009). Even if the food source comes back, the knowledge to sustain it in a characteristically Māori way may have been lost or at least altered.

> Oh it won't happen overnight, I mean, but the next generation might lose their identity. They might think, "Well I'm just the same as anyone else. Dad doesn't go fishing anymore because there's no fishing. Dad doesn't go diving. He doesn't tell me these karakia when we go out to see Tangaroa. He doesn't, you know, we don't share these practices that we share with him, whether it's making a hīnaki and getting his eels and stories that associated it." All that can disappear if our resources disappear as well. (Interviewee, Ngāti Kahungunu)

There is a spiritual and metaphysical dimension to mātauranga Māori that motivates care for mahinga kai and the way they are managed. Māori believe that all things have a spirit as well as a physical body. Even the earth has a spirit as do the animals, birds, fish and humans. Some Māori believe that before humankind was fashioned from the elements of the earth, they existed as a spirit and dwelt in the company of the Atua (gods) (Barlow, 1991). The physical and spiritual bodies were joined together as one by the mauri (life force), the manawa ora (life-giving essence which is imbued at birth). This gives warmth and energy to the body so that it is able to grow and develop to maturity.

Tikanga

Tikanga, the particular way in which Māori generally carry out their day-to-day existence (Mead, 2003), is informed by mātauranga and experience.

> I remember I went back and I was asking one of my uncles, I said, "Oh Uncle, look we've got this money for customary [scientific] research, should we do some customary research?" He said, "Boy, customary research has already been done." I said, "Oh how do you figure that?" He goes, "Well that's how we got our tikanga. All the customary research is already done. That's how you get your rules." (Workshop participant, Ngāti Porou ki Harataunga)

Tikanga defines how Māori put into practice the mātauranga they possess; in this instance around mahinga kai. Tikanga is both generic and specific. It can be localised (for example, local language dialects or word usages, or—for the purposes of this research—how and when a rāhui is laid down) or it may be more generic, as in the universal responsibility all Māori have to care for the environment for future generations. Tikanga is locally tuned and adaptable and links environment and people:

> Our tikanga evolves, that's how we evolve. (Workshop participant, Rākaipaaka, Ngāti Kahungunu)

> Tikanga shouldn't be written, because it is

> adaptable. It's flexible and to the situation. (Workshop participant, Te Arawa)

Some of the interviewees feared that tikanga was being eroded but was still very relevant:

> So a lot of the concepts of tapu [sacred] and noa [ordinary] are lost, the tikanga is not there now. (Workshop participant, Te Arawa)

> At Maketu it's really hard because when they diverted our river from the estuary the whole ecology changed so we lost a lot of the tikanga that revolved around it. So that's why we're so much into wanting restoration [ecological] research like the research that we've done on tikanga that we have got still. We are putting it into the schools and teaching another generation. (Workshop participant, Te Arawa)

Tikanga was seen by some interviewees to be in conflict with and eroded by legal requirements and legislated institutions:

> L-O-R-E must come before L-A-W you know, let's have a discussion about what our tikanga would require of us and then we fit the law around that. (Workshop participant, Te Whānau-ā-Apanui)

The importance of wairua (spiritual integrity) and the acknowledgement of the role wairua has in the interconnectedness of life was repeatedly mentioned by the kaitiaki we interviewed.

> Water is such a fundamental to Māori that wairua is a water-based perspective, the mingling of two sources of fluid, Ko wai koe says, fundamentally, "Whose water are you?" and so it shows that water is not just something that we take in and excrete. It's actually fundamental to us. (Interviewee, Ngāti Rēhia)

Rangatiratanga

The kaitiaki highlighted the importance of government agencies recognising their rangatiratanga (Māori sovereignty) over mahinga kai. Local and national authorities continue to struggle with the concept of rangatiratanga in the inshore fisheries context, whilst iwi and hapū often have to justify its significance. One workshop participant (from Te Arawa) emphasised the importance of "having control of it [mahinga kai] so that we can restore it". An important ingredient of rangatiratanga for some interviewees was its local application, for example:

> The long-term goals, environmentally for Te Rūnanga, is to ensure that our coastal environment is sustained in such a way that it allows our whānau and hapū to flourish and develop. That's the Rūnanga vision or strategy. Now at the hapū level it is more about the exercise of tino rangatiratanga and the kaitiakitanga and management of their coastal environment that they have tūpuna rights over. (Interviewee, Ngāti Maniapoto)

Manaakitanga

Manaakitanga (sharing, generosity, caring for others) extends to hosting people from all cultures:

> I like wholeness, completeness. I do believe that, as tangata whenua, that's still our position in Aotearoa New Zealand. It's our role and responsibility to manaaki everyone that has come since our initial arrival, all the newcomers. (Interviewee, Ngāti Kahungunu)

Lack of abundance of various food stocks has affected the iwi or hapū ability to care for its own people as well as others who might come as manuhiri. This threatens much more than nutritional and bio-economic sustenance—it

threatens a core Māori value of manaakitanga and is particularly poignant to the marae situation when called up to host manuhiri. Traditionally hapū and whānau would ideally want to be able to care for their own, insofar as kaimoana is concerned. Even this fundamental human condition has been, and continues to be, threatened by ever-lowering kaimoana stocks.

> We always come back to kai and that's the epitome of our manaakitanga, how well we can feed each other. (Interviewee, Ngāti Rangiwewehi)

It becomes more nationally significant with the inability to furnish the manuhiri table in a whare kai (dining hall) with local kaimoana. Losing face in this way can be quite demoralising, if not devastating.

> If all that gets eroded away, then we lose that unique identity and we want our next generation to be proud of who they are. (Interviewee, Ngāti Kahungunu)

Loss of kaimoana abundance, and particularly loss of a signature species, therefore impacts on the mana of any iwi or hapū:

> [it affects] your ability to maintain your hapū mana by being able to put kai on the table … We always come back to kai and that's the epitome of our manaakitanga, how well we can feed each other. (Interviewee, Ngāti Rangiwewehi)

> [it] can be a question of our mana if we can't provide what we're perhaps known for … there's nothing more embarrassing than not being able to provide. (Interviewee, Ngāti Kahungunu)

Kaitiakitanga

All the kaitiaki we spoke with reinforced that they have a stewardship responsibility with regard to their inshore fisheries.

> It's our ancestral obligation as kaitiaki to get up there and look after it. (Interviewee, Ngāti Rongomaiwahine)

> The long-term objective is about kaitiakitanga. It is about being able to demonstrate kaitiakitanga now and in the future. It's also about sustainability of resourcing and it's also going back to using some of the traditional methods for sustainability, including closed areas. But the long-term objective of such a plan was to make sure there was kai for our tamariki and their tamariki. (Interviewee, Ngā Rauru)

For the kaitiaki it is important to exercise their kaitiakitanga responsibilities in a distinctly Māori way and to revitalise Māori traditions to protect the mahinga kai. For example, a member of one community that had been frustrated in their attempts to gazette legal fisheries institutions to protect a depleted resource, recounted:

> So we thought, "Well, we'll just do our own rāhui." So we took our old people out there. They did a blessing. It was quite a moving thing to watch these old people, as if they just naturally came to them. They all did the same things. They just went down, picked the stones up and not saying anything to anyone, they just went down saying their prayers, throwing the stones in the water, [then] came back up and it was all done. I've never seen it happen before. Apparently that's the rāhui they put down. That's how they do it. (Interviewee, Ngāti Kuta/ Patukeha)

The recent report by the Waitangi Tribunal on the Wai 262 claim calls for positive action by the Crown to enable Māori to exercise

kaitiakitanga (Waitangi Tribunal, 2011). Some of the questions that must be confronted for future policy makers to empower kaitiakitanga include: How is this responsibility affected by local and national legislation? How well do iwi and hapū understand and how well are they prepared to meet such responsibility? What mechanisms are there, or need to be put in place, where local capacity is not sufficient? How do "external agencies" fare in enabling Māori to fulfil their kaitiakitanga obligations? We will examine potential answers to these questions in subsequent papers from the *Tirohia he Huarahi* research project.

Interlinked values and reciprocity

Our study underscores that kaitiaki hold a wealth of knowledge relevant to understanding of the degradation that has occurred in the inshore marine ecosystems of New Zealand. Their description of the many consequences that flow from that degradation reflect their relationship to mahinga kai and a whole interconnected package of Māori attitudes, values, goals and practices. Although we have separated out some of the key Māori concepts to begin with, it was quite clear from our interviews that the kaitiaki believe and act in ways that see these as inextricably linked.

Kaitiaki are also strongly aware of the interconnectedness of life and the importance of a long-term view of the future. Fundamentally, the kaitiaki link human health and wellbeing to the health of the environment as a whole. They also emphasise the reciprocal need for people to be healthy before they can maintain a healthy environment. This overarching reciprocity is summed up in the whakataukī (saying):

> Ka ora te tāngata, ka ora te moana/whenua
> (If the people are healthy, the land/sea is healthy)

In the opinion of our interviewees, all decision-making about coastal ecosystems needs to be infused with the appreciation and knowledge of these interconnections.

Conclusions

Western conservationists have tended to emphasise ecological goals as end points for effective environmental management. For them, successful conservation usually aims to restore former diversity and abundance of plants and animals, usually for achieving "ecological integrity" and in recognition of the "intrinsic value" of plants and non-human animals. Conversely, fisheries managers emphasise economic goals, aiming to maintain the abundance of individual commercially important species in order to maintain future commercial harvest opportunities. The kaitiaki who shared their testimonies for the *Tirohia he Huarahi* research project have more complex goals than either conservationists or commercial fishers. Their reverence for the plants and animal populations that are now depleted is clearly evident. However, their distress about ecological degradation of marine ecosystems extended to also include concern for the cultural consequences of this loss. Cultural consequences include severance of links between people and the food species, reduced connection between people in their community, erosion of ways that kinship is maintained, severed transmission of cultural knowledge, and impaired health and tribal development. More fundamentally, the cultural-ecological degradation transgresses fundamental concepts of Te Ao Māori in ways that undermine cultural and individual identity. For the kaitiaki, sound environmental management is inextricably linked to their ancestors and history, to traditional and evolving knowledge and practices, to their contemporary individual and collective identity, to spirituality, and to their culturally defined responsibility to each other and the unborn generations.

Rather than partitioning the goals and effects of failed ecological management of coastal

ecosystems into separate parts, the kaitiaki emphasise interconnectedness of physical and spiritual realms, of people and nature, and of bio-economic and cultural needs. Understanding these bigger interconnections, and the way they reflect a whole Te Ao Māori worldview is important for several reasons. Inclusivity of participation and decision-making by Māori, and other indigenous communities, is not simply a matter of justice and a promise of the Treaty of Waitangi. It also brings more recruits to environmental care and repair, with a strong obligation and ongoing commitment to particular places. It broadens the range of options for local stewardship and brings a much wider palette of knowledge and approaches into the struggle to restore abundance and biodiversity. Recognising these wider implications of loss might lessen cross-cultural conflict, helping to build a broader front of sustained collective action for restoration.

A diversity of views and values is also more likely to promote environmental restoration and then sustainable fisheries management, adaptation and learning to find new or alternative approaches to reverse widespread ecological degradation. For example, the kaitiaki's cultural associations and long-term ecological baselines provide an important counter-narrative to that predominating amongst fisheries managers, scientists and politicians who assert that current Western fisheries management is safeguarding the abundance and diversity of New Zealand's fish stocks. The kaitiaki warn that marine fish stocks are degraded throughout much of the North Island and are likely to be depleted further unless new management solutions are found. The kaitiaki we spoke with are leading the charge by spurring action to try to rebuild stocks using both traditional and modern management techniques, a topic to be explored in a future paper. Their leadership shows ways of incorporating Te Ao Māori and indigenous planning processes to accelerate simultaneous restoration of culture and nature by protection and enhancement of the mauri of mahinga kai.

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