

Kaitiakitanga and Integrated Management

1. INTRODUCTION

- 1.1 The primary purpose of the Hauraki Gulf Marine Park Act 2000 is to “integrate the management of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments” (s3); and the purposes of the Forum include “to integrate the management ... of the natural, historic, and physical resources of the Hauraki Gulf” and “to recognise the historic, traditional, cultural, and spiritual relationship of tangata whenua with the Hauraki Gulf” (s15).
- 1.2 Following a recommendation to an earlier report on Traditional Environmental Knowledge and Environmental Management the Forum adopted the following:
 - *That future projects are developed from both a western science and matauranga Maori perspective*¹
- 1.3 Current work on the Forum’s *Strategic Issues* document has brought into focus the intersection of these two issues: what is meant by “integrated management”, and how will the Forum’s responses to integrated management appropriately include matauranga Maori?
- 1.4 There are few practices and precedents, from either national or international sources, which can provide direct guidance for the Forum in achieving this synthesis. While within New Zealand the goal of integrated management is often expressed, few organisations are charged with its implementation. The Forum is different from most bodies in the country in having membership including tangata whenua representatives with resourced technical support.
- 1.5 This report therefore will:
 - Look in detail at the practice of integrated management
 - Determine the basis for including matauranga Maori into the methodologies for integrated management of the Gulf

2. INTEGRATED MANAGEMENT – THE HAURAKI GULF MARINE PARK ACT

- 2.1 The legislation establishing the Park and the Forum was developed over ten years and under different governments. While some details of the final Bill were debated, the purpose of integrated management had broad support. Hansard records the following:
 - There is a desperate need for better integration of the management of the islands, the waters and the coastal edge that surrounds the mainland side of the Hauraki Gulf. [*Sandra Lee, Minister of Conservation, introducing the Bill*]
 - The territorial authorities are all subject to the Resource Management Act 1991, but that Act is an enabling piece of legislation that delegates a lot of powers to local authorities. Local

¹ This was adopted at the meeting of December 2003

authorities interpret those powers in different ways. The reason we need this legislation is to bring together that disintegrated management. *[Jeanette Fitzsimons, Co-leader, Green Party]*

- This is not management itself; it is an integration of management. What is important is that we are bringing together a whole lot of issues to ensure that they are dealt with in an appropriate way. *[John Carter, National]*
- What was needed was a common set of principles that all those decision makers in the Gulf could sign up to. The provisions here provide that vehicle. *[Nick Smith, National, former Minister of Conservation]*

2.2 The record of the debates in the House can clarify the intent of Parliament when passing legislation. There is therefore no ambiguity about the intent that integrated management should be central to the Act.

3. INTEGRATED MANAGEMENT – INTERNATIONAL CONTEXT

3.1 Internationally integrated management is usually considered in terms of **scales** and **sectors**.

- a) **Scales:** Problems with integration across scales (ie local, regional, national, and international) include restrictions with agency jurisdictions and roles, institutional resistance to change, and resourcing complications. In the Forum context, iwi rohe are a further example of scales across which integration needs to be achieved.
- b) **Sectors:** Integration across sectors includes many of the difficulties experienced with scales, but is compounded by different objectives and interests of agencies and stakeholder groups. Commercial, community, and governance interests often only partially align. Tangata whenua aspirations tend to encompass all of these sector defined interests, but with different aspirations, and based on different cultural perspectives.

3.2 The Millennium Assessment

- a) The Millennium Assessment (MA) is an international work programme providing science information on ecosystem change. Its first series of reports, compiled from more than 1300 authors from 95 countries, were released in 2005. Their initial general statement² includes:
 - A key message that “better protection of natural assets will require coordinated efforts across all sectors of government, businesses and international institutions”.
 - A key step to reduce ecosystem degradation is to “integrate decision making between different departments and sectors ... [and to] use all forms of knowledge and information ... including knowledge of local and indigenous groups”.

² *Living Beyond Our Means* MA 2005

- b) The MA major synthesis report on biodiversity³:
 - In considering actions to be taken, it is noted first that “Many traditional cultural practices have served to protect components of biodiversity”.
 - A key factor of responses is to “Integrate traditional and scientific knowledge” and to “Identify opportunities for incorporating traditional and local knowledge in designing responses”.
- c) In their recent report on marine and coastal ecosystems⁴:
 - A key message is that an ecosystem based approach with integrated coastal management can balance environmental management with economic development and human well being.
 - As a specific response, integrated coastal management and planning is recognised as having the highest rating for effectiveness.
 - There are two management responses identified for improved marine ecosystems: clear targets with appropriate indicators and data; and integrated management.

3.3 The United Nations Environment Programme (UNEP) and Global Programme for Action (GPA)

- a) UNEP is the “voice for the environment within the United Nations system ... the GPA for the Protection of the Marine Environment from Land-Based Activities is the only intergovernmental programme that addresses the inter-linkages between freshwater and the coastal environment⁵.”
- b) In their 2006 report *The State of the Marine Environment*:
 - They identify two priorities for progress: developing indicators for assessing changes in the state of the environment; and the need for integrated management approaches.
 - In their implementation guidelines, the need for integrated management is frequently identified.⁶

3.4 The Ecological Society of America

- a) “The Ecological Society of America is the nation’s leading professional society of ecologists representing 7,500 ecological researchers in the United States, Canada, Mexico and 62 other nations ... ESA seeks to promote the responsible application of ecological principles to the solution of environmental problems”⁷
- b) “The sustainability of many ecosystems depends on connections to other systems that do not respect individual ownerships, management borders, or international boundaries ... the openness and interconnectness of ecosystems on scales that transcend management boundaries”⁸

³ *Ecosystems and Human Wellbeing* MA 2005

⁴ *Marine and Coastal Ecosystems and Human Wellbeing* MA 2006

⁵ From www.gpa.unep.org

⁶ For instance in *Implementation of the GPA at Regional Level* UNEP 2006

⁷ From www.esa.org

⁸ *The Scientific Basis for Ecological Management* ESA 1996

- 3.5 There is a consistency internationally in recognising the value of integrated management. There are also explicit recognitions of the need to fully engage with traditional knowledge systems, or implicit recognition through reference to the Convention on Biological Diversity, Agenda 21, or the Johannesburg Plan of Implementation (JPOI)⁹.
- 3.6 The Convention on Biological Diversity, Agenda 21 and the JPOI are all clear on the importance of indigenous knowledge, and the need to integrate it into environmental management. Most recently, the JPOI findings refer to the earlier documents. Specifically, the need for integrated management is recognised with reference to chapter 17 of Agenda 21¹⁰. This requires “due regard to traditional ecological knowledge and socio-cultural values” and has an objective that requires that “traditional knowledge is taken into account”. There are 15 references to indigenous people in the chapter.
- 3.7 However, there is little evidence of following through in the international context with work streams which aim to develop integration of traditional knowledge into the management of biodiversity, or within integrated coastal management. Other needs, such as the development of economic instruments, indicators for biodiversity, or changing from species to ecosystem focus, are not similarly sidelined.
- 3.8 So while the *principle* of inclusion of traditional knowledge in environmental management is recognised and accepted, references to actions are generally limited to case studies, and the *practice* of how it is to be integrated has seen little development by those international agencies.

4. THE NATURE OF TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK)

- 4.1 The paper earlier provided to the Forum considered matauranga Maori and kaitiakitanga in the international context of TEK, and established the rationale for the Forum to have an integrated methodological approach in its work. The nature of TEK generally, and kaitiakitanga locally, is considered below more fully, and it is related to its potential contribution to integrated marine management.
- 4.2 Fikret Berkes has defined TEK as: “a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about living beings (including humans) with one another and their environment”¹¹.

⁹ Integrated management, with often the inclusion of indigenous knowledge, is internationally supported in a far wider range of organizations and agreements than those quoted in this report. They include, for instance, the Jeju Ministerial Forum (2004); Conference of Parties (from Agenda 21); the United Nations Environmental Management Group.

¹⁰ In 30(b) of JPOI

¹¹ This originally appeared in a 1995 publication, and has evolved over time. See the various works by Berkes in the bibliography (Appendix One)

- 4.3 There are many references to the **worldview** of TEK in the international literature. Worldview is defined as “the conceptual order, or one’s general way of conceiving the universe, which supplies the concepts by which one’s observations of nature are invariably interpreted. In general world views limit and inspire human behaviour, shape observations, and perceptions”¹².
- 4.4 “The idea that our attitudes towards natural systems are a social construction is part of a wide-ranging inquiry in the social sciences”¹³. There are many examples of how the TEK worldview of nature needs to be fully considered in environmental management:
- a) “The elders insisted that knowledge of the land emerges not solely from knowledge of the biophysical landscapes, but out of experiences on the land ... These places become known as a person travels through the land. Or, as the Cree people of James Bay put it, as ‘the land gets to know the person’”.¹⁴
 - b) “There is no such thing as nature that exists independent of humans and their activities ... As a result these connections with the nonhuman world, native peoples do not think of nature as wilderness, but as home ... The significance of TEK is the application to understanding and maintaining the relationship between the full community of human and nonhuman entities found in nature.”¹⁵
 - c) “As every ethnographer eventually comes to appreciate, geographical landscapes are never culturally vacant ... Restoration can then be viewed as an attempt to force transitions towards a desired state ... while the tribal metaphor portrays nature as active in an organic process, with humans in a subsidiary role.”¹⁶
- 4.5 Numerous other examples can be quoted. The TEK worldview includes customary ownership of natural resources, with a consequent collective response to sustainability. Traditional dependence on natural resources, without any option for importing goods from distant countries, provided strong incentives to maintain sustainability¹⁷. Where these responses have been historically successful, we need to determine how they can inform current resource management.
- 4.6 The examples above have deliberately been drawn from overseas publications. However, they have substantive common ground with kaitiakitanga and matauranga Maori. Tangata are teina to the tuakana¹⁸ of the natural world. “Once we admit that environmental problems may reflect our own culture and

¹² In *Religious Traditions and Biodiversity* Berkes 2001, quoting AN Whitehead.

¹³ *Ecology, Conservation, and Public Policy* Ludwig, Mangel and Haddad 2001

¹⁴ *Learning as you Journey* Davidson-Hunt and Berkes 2003

¹⁵ *The Relationship between TEK, Evolving Cultures and Wilderness Protection in the Circumpolar North* Watson, Alessa and Glaspell 2003

¹⁶ *Cultural Foundations for Ecological Restoration on the White Mountain Apache Reservation* Long, Teckle and Burnette 2003

¹⁷ This has been expressed as the difference between “ecosystem” and “biosphere” people by Albright and others

¹⁸ Teina are junior in terms of whakapapa, tuakana are senior. The features of the natural world preceded people, and hence have the status of elders, and are due appropriate respect. See the description of kaitiakitanga in Appendix Two.

attitudes as much as a scientific or technical problem, we have greater scope for possible responses”¹⁹. The challenge is for the Forum to better understand both cultural perspectives, and to implement them both in practice.

5. ENVIRONMENTAL SCIENCE AND MANAGEMENT, AND TEK

- 5.1 There are many major challenges faced by environmental science. The serious global environmental crises need sound science for their resolution. The major environmental problems are “not merely ecological or scientific. They involve a host of traditional academic disciplines that cannot be separated from issues of values, equity and social justice ... environmental problems ... [are] defined as “**wicked problems**” ... with no definite formulation, no stopping rule, and no test for a solution²⁰. “Solutions are judged good or bad instead of true or false, and there will likely never be a final resolution of these problems. Each wicked problem is unique and defies classification”²¹.
- 5.2 Conventional disciplines in the sciences and social sciences are inadequate to deal with the problems involving the interaction of humans with their environment. These, coupled with social and ecological problems, need to be understood and approached as complex adaptive systems ... Environmental change does not lend itself to analysis by conventional approaches. It falls into the class of problems that has been referred to as ‘wicked problems’²². With regard to environmental change Berkes concludes:
- Local observations and placed-based research are crucially important within the larger area of environmental change research.
 - Dealing with indigenous knowledge requires a major shift in thinking about the meaning of knowledge and in developing new models of community based research for sharing knowledge.
 - The first challenge concerns the nature of knowledge and the relationship between Western science and indigenous knowledge. The second and very urgent challenge is the need to develop new models of community based research that do justice to local observation and facilitate sharing of knowledge²³.
- 5.3 But the meeting of Western science and TEK has problems. “The conflict between science and traditional knowledge is in part related to claims of authority over knowledge. In the Western positivist tradition there is only one kind of science – Western science. Knowledge and insights that originate outside Western scholarship are not easily accepted ... Thus the question of how to deal with indigenous knowledge is anything but settled ... there are two main positions ...

¹⁹ *Ecology, Conservation, and Public Policy* Ludwig, Mange and Haddad 2001

²⁰ Wicked problems were first defined by Rittel and Webber in 1984. Other characteristics are that wicked problems can always be considered as a symptom of another problem, discrepancies in them have numerable explanations, they require iteration with every trial having importance, and the planner or designer has no right to be wrong.

²¹ *Ecology, Conservation, and Public Policy* Ludwig, Mangel and Haddad 2001

²² Berkes and Folkes in the Epilogue to *Earth is Faster Now* 2002

²³ *ibid*

- The first position claims that the use of indigenous knowledge offers just another information set from which data can be extracted to plug into scientific frameworks of understanding;
- The second position ... is that Western science is but one knowledge system among many, even though it also happens to be the dominant system by far ... When information is extracted from traditional knowledge and is plugged into scientific frameworks, it is taken out of cultural context and its integrity is threatened.”²⁴

5.4 There are some specific contributions that TEK can make to environmental science, ecological science and environmental management. For example:

- “Scientific research is often sporadic and seasonally limited in remote regions, whereas TEK may be geographically and temporally more extensive.”²⁵
- “What Western science has to offer TEK is a broader appreciation of context beyond the local level ... What TEK has to offer that Western science lacks is a depth of experience in a local context and a window to cultural interpretations that may be unique and wonderful, yet reasonable”.²⁶
- Sustainability criteria which encompass environmental, economic, social and community health were developed for mountain land in India and Canada using cross cultural methodologies.²⁷
- Adaptive strategies to accommodate environmental changes, such as climate change, are critical to human wellbeing. “Understanding the dynamic interaction between nature and society requires case studies situated in particular places and cultures ... The peoples of the Arctic have always lived with a high degree of environmental variability ... There has been a growing body of participatory research in the Canadian Arctic since the 1980s, in areas ranging from wildlife co-management to the use of traditional knowledge in environmental assessment”.²⁸
- “Conventional resource management has come under criticism because it is equilibrium based or has an underlying assumption of ecological stability ... Such management appears to cause a gradual loss of resilience as well as a reduction of variability and opportunity thus moving the ecosystem towards thresholds and surprises ... TEK can be viewed as a ‘library of information’ on how to cope with dynamic change in complex systems.”²⁹

5.5 Again, these examples have been drawn from overseas sources. However, there have been a number of studies in New Zealand which are relevant.

²⁴ *ibid*

²⁵ *Integrating Traditional and Evolutionary Knowledge in Biodiversity Conservation* Fraser, Coon, Prince, Dion and Bernatchez 2006

²⁶ *Synergy between TEK and Conservation Science Supports Forest Preservation in Ecuador* Becker and Ghimire 2003

²⁷ *Comparative aspects of mountain land resource management and sustainability* Berkes, Gardiner and Sinclair 2000

²⁸ *Adapting to Climate Change* Berkes and Jolly 2001

²⁹ *Rediscovery of TEK as Adaptive Management* Berkes Colding and Folke 2000

Several of the studies quoted above involve Fikret Berkes, who has international standing in the field. He co-authored a report on TEK in Canada and New Zealand: *Combining Science and TEK: Monitoring Populations for Co-Management* (2004). Other New Zealand studies are in the bibliography (Appendix One).

- 5.6 While there is agreement that mātāwhiri Māori should be intrinsic to the work of the Forum, it will be clear from this report that how that should be achieved remains a challenge. The Forum needs to consider how projects can be developed to contribute to better understanding of the role of mātāwhiri Māori, and its implementation in environmental management.
- 5.7 Internationally, and in New Zealand, indigenous intellectual property rights have been given increasing attention. The Wai 262 Claim has been investigating those issues, and the hearing process is nearing its conclusion. It is unlikely that a report or recommendations will appear from the Tribunal, but the Forum will need to determine protocols for the access to and use of mātāwhiri Māori that protect intellectual property rights.

6. TEK – SOCIETY AND THE ENVIRONMENT

- 6.1 Internationally environmental management legislation and agreements, and their implementation, include social components. For instance, “Integrated coastal management requires balancing of ecological, social, cultural, governance and economic considerations”³⁰. Our own RMA defines the environment and sustainable management in terms of not only natural resources, but also people, communities, economics, and culture.
- 6.2 The isolation between and within disciplines as practised in Western society makes holistic and generic approaches difficult to achieve. TEK, as a holistic knowledge system and set of processes can provide the basis for an integrated approach:
- “Conventional disciplines in the sciences and social sciences are inadequate to deal with problems involving the interaction of humans with their environment. These, coupled with social and ecological systems, need to be understood and approached as complex adaptive systems.”³¹
 - “Where the objectives include long term sustainability, linked social-ecological systems behave as complex adaptive systems, with the managers as integral components of the system.”³²
 - “Humans who are part of the ecosystem will, of necessity, define the future of the ecosystem.”³³
 - “In past impact assessments, limitations such as the lack of ecological baseline data and the inability to link to the ecological and

³⁰ *Coastal Zone Management (Wider Caribbean Region)* UNEP at www.cep.unep.org

³¹ Berkes and Folkes in the Epilogue to *Earth is Faster Now* 2002

³² *Resilience Management in Social-ecological Systems* Walker et al 2002

³³ *Comparative aspects of mountain land resource management and sustainability* Berkes, Gardiner and Sinclair 2000

social effects of projects have rendered the assessment process ineffective, unfair, and in some cases, invalid ... Integrating TEK into the EIA process entails more than a transfer of knowledge from one culture to another: it will require a change in the mind set of policy makers".³⁴

- 6.3 The need to integrate data sources and to comprehensively manage information is recognised as essential to addressing complex environmental issues. "For maximum benefit the system must integrate data and knowledge about natural resources, and environmental and socio-economic components so that all these factors can be appropriately weighed and considered in the decision making process".³⁵ In the ordinary mainstream context there are many barriers to this. Professional specialisation, institutional barriers, intellectual property restrictions, and the lack of interdisciplinary entities all limit effective information flow. The holistic nature of TEK, and of matauranga Maori, can offer processes and perspectives which may aid in overcoming this situation.
- 6.4 The value of TEK and matauranga Maori in environmental management should not be limited to the data and content of the knowledge, but should extend to the social processes and institutions by which this knowledge is developed and transmitted. As the knowledge, its interpretation, and implementations that follow are culturally determined, participation in the institutions and processes that hold and develop that knowledge is necessary for its full understanding. It also provides a means of avoiding the limitations of dominant mind sets, and can lead to creative problem solving.
- 6.5 The Forum, in having tangata whenua members fully participating with the members from statutory agencies, can be considered as an example of co-management³⁶. One of the advantages of co-management is that it can "disrupt the settled routine of relations between different sets of actors"³⁷. The Forum has the opportunity to use this entropy to develop new and creative proposals for the Gulf which fully engage with matauranga Maori.

7. ACCESSING TRADITIONAL KNOWLEDGE

- 7.1 There are some challenges for many in accessing and using traditional knowledge, including kaitiakitanga and matauranga Maori. These include:
- Fluency in te Reo Maori, and competence in marae protocols and other cultural practices, may be essential.
 - For any issue, relevant traditional knowledge may be held by few people, who are often elderly and may not consider passing information to outsiders a priority, or appropriate.

³⁴ *Giving TEK Its Rightful Place in Environmental Impact Assessment* Sallenave 1994

³⁵ *Integrated Information Management* UN Commission on Sustainable Development 1998

³⁶ Considerable information and analysis of co-management arrangements exists. A full consideration of where the Forum sits in the range of institutional options is beyond the scale of this paper, but can be addressed at a later stage.

³⁷ *Cooperation or Capture? The Paradox of Co-management and Community Participation in Natural Resource Management and Environmental Policy Making* Singleton 2000

- Understanding the nature and import of the traditional knowledge, relating it to science, and formulating responses in policy and actions requires a range of skills rarely found in individuals, and seldom in groups of environmental managers.
- Issues of intellectual property must be sensitively and appropriately addressed.

- 7.2 The role of te reo Maori is pivotal in understanding kaitiakitanga:
- The essence of much of kaitiakitanga is contained in narratives, and is dependent on the nuances of language for understanding.
 - Transmission of knowledge of kaitiakitanga depends largely on understanding of te reo Maori. With the loss of te reo, there has been a corresponding loss of knowledge.
 - Translation is difficult when concepts specific to a culture are involved. There is a tendency to assign the nearest equivalent meaning in the mainstream culture, which may be largely or wholly inappropriate.
- 7.3 The urban migration of Maori since the sixties has meant that very few people actively practise and understand kaitiakitanga. As many of these are elderly, knowledge can easily be permanently lost.
- 7.4 Many regard maintaining cultural diversity as essential to maintaining biodiversity. “Biological diversity is a good thing. So is cultural diversity. They are, moreover, intimately linked. Cultural diversity is a reflection of biological diversity, a fact more clearly recognized by [indigenous people] than by contemporary social science ... the conservation of cultural diversity is instrumental in the conservation of biological diversity. Since [TEK is] so thoroughly integrated into [indigenous people’s] local biotic communities, culture conservation is tantamount to biological conservation”³⁸. That dual loss is significant in Aotearoa. It is appropriate for the Forum to consider actions and programmes that can support the maintenance and development of these cultural resources.

8. APPLYING TEK TO ENVIRONMENTAL MANAGEMENT – TE TAHA WAIRUA

- 8.1 One perceived barrier to fully taking TEK, or matauranga Maori, into account in science based decision making is its close relationship to spirituality. The rational requirement of Western science is seen by some to rule unacceptable any significant inclusion of any body of knowledge which has overt spiritual connection.
- 8.2 The spiritual component of TEK has important consequences for traditional environmental management and kaitiakitanga: “caring for their lands and resources relates directly to the wisdom of acknowledging the spirituality and influential powers in all things, including the earth”³⁹. Observance and enforce-

³⁸ *Earth’s Insights* J Baird Caldicott 1994

³⁹ *The Relationship between TEK, Evolving Cultures and Wilderness Protection in the Circumpolar North* Watson, Alessa and Glaspell 2003

ment of environmental rules is more assured with the need for respect of a higher power. A beach closure has the force of law. A rahui tapu has the force of nga atua.

- 8.3 Appropriate interpretation is essential. Berkes identifies three cautions:
- *Generalisations are always risky.* Just as a “Christian” or a “Moslem” view is a meaningless generalisation, so too are statements about a “Maori” view. “Every culture has within it a range of perceptions and values”.
 - *There is a gap between the ideal and the actual.* “Ethics do not describe how people behave, but how they **ought** to behave”.
 - *Orally transmitted traditions have an intangible nature.* Such traditions adapt and change with time. Their written versions are often suspect, and subject to the interpretation of translators.⁴⁰
- 8.4 While components of kaitiakitanga may have spiritual expression, the reason for their being may be highly rational. “About 30% of taboos identified worldwide prohibited the use of species that also happened to be listed as threatened by the IUCN *Red Data Book*”⁴¹. So before dismissing warnings about a taniwha as being just a story, finding out why there is a story is important.
- 8.5 Finally, it is assumed that religion has no influence on Western science. “Western scientists have trouble with the notion with belief and spirituality as part of a knowledge system. Beliefs are thought to have no role to play in scientific knowledge, although there are often implicit beliefs in the practice of Western science as well. For example, conventional Western science (but certainly not all science) believes that nature can, and should be, controlled.”⁴²

9. STATUS OF TEK IN ENVIRONMENTAL MANAGEMENT

- 9.1 In accepting TEK and matauranga Maori as having a legitimate presence in environmental management, it is important to be realistic about its potential value:
- TEK is largely qualitative, and science requires quantitative data.
 - TEK is localised, and may not have relevance at distances.
 - While traditionally TEK was highly adaptive to change, impacts such as rural depopulation and language loss have reduced its flexibility and ability to develop responses to change.
- 9.2 TEK is not being proposed for sentimental or Luddite reasons. “In celebrating the holistic analysis of linked eco-systems and institutions we are not turning our back to science ... rather we are acknowledging the existence of a ‘people’s science’ as an antidote to centralised and bureaucratic resource management science”⁴³. “Our work does not argue in favour of the return of traditional

⁴⁰ This is drawn from *Religious Traditions and Biodiversity* Berkes 2001

⁴¹ *ibid*

⁴² *The Nature of TEK and the Canada-wide Experience* Berkes 1998

⁴³ Berkes in *Panarchy* 2002

practices for their own sake. Rather we argue that any measure that improves sustainable livelihood security is likely to have positive value.⁴⁴

10. SUMMARY

- a) Integrated management is a primary purpose of the Forum.
- b) The Forum has agreed that projects must be developed from both a Western science and a matauranga Maori perspective.
- c) Internationally integrated management is recognised as a key process in environmental management.
- d) Internationally there is agreement that TEK must be integrated into environmental management.
- e) There are no available guidelines or models available to guide the Forum on integrating matauranga Maori into environmental management, but numerous case studies of TEK exist, including some New Zealand studies.
- f) Matauranga Maori can enhance scientific enquiry by providing alternative data (often over long time scales) and enabling different perspectives and mind sets to be applied. Matauranga Maori also has its own intrinsic value.
- g) Social and cultural factors are essential components of integrated environmental management. The processes and practices of kaitiakitanga can assist environmental managers to engage with those issues.
- h) Accessing matauranga Maori requires the development of new skills for most environmental managers.
- i) The spiritual component of kaitiakitanga need not impede environmental management, and can contribute positively.
- j) Matauranga Maori may not provide a solution to specific environmental management challenges, but can contribute significantly if appropriately applied.

11. IMPLICATIONS FOR THE FORUM

- a) Along with the need to integrate sectors and scales in the management of the Gulf, integration of the methodologies of Western science and matauranga Maori is also essential.

⁴⁴ *Transmission of Indigenous Knowledge and Bush Skills Among the Western James Bay Cree Women of Subartic Canada* Ohmagari and Berkes 1997

- b) While there is information on which to base this approach, there are not well developed models and guidelines. By working in this field the Forum will have a pioneering role.
- c) The Forum can consider projects which:
 - Develop models for environmental management which integrate matauranga Maori into their methodologies.
 - Determine the skills required for environmental managers working in the cross cultural context, and propose training opportunities.
 - Record traditional kaitiakitanga relevant to the Gulf.
 - Develop protocols for the protection of tangata whenua intellectual property rights

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APPENDIX ONE – KAITIAKITANGA

The following is from *He Maara Mataitai – Ngangaru Ana* of the Aquaculture Steering Group.

Kaitiakitanga is already acknowledged in legislation and is defined as follows:

“...the exercise of guardianship by the tangata whenua of an area in accordance with tikanga Maori in relation to natural and physical resources, and includes the ethic of stewardship” (section 2, Resource Management Act 1991); and

“...the exercise of guardianship; and, in relation to any fisheries resources, includes the ethic of stewardship based on the nature of the resources, as exercised by the appropriate tangata whenua in accordance with tikanga Maori” (section 2, Fisheries Act 1992)

Concern has often been expressed however that present legal definitions do not fully express what kaitiakitanga is about, and that any attempt to define it in anything other than te reo Maori will always be insufficient.

The Aquaculture Steering Group offers the following ideas in order to generate discussion on the concept of kaitiakitanga and what it means for the aquaculture reform.

Kaitiakitanga contains many elements that can be described as:

- mahi tapu – god given and handed down through our tipuna
- founded in whakapapa - the relationship between everything and everybody in the natural world – there is no distinction between people and their environment
- exercised on behalf of, and for the benefit of all who are related through whakapapa
- a set of inalienable responsibilities, duties and obligations that are not able to be delegated or abrogated
- a web of obligations: to the taonga, to the atua and to ourselves and our uri. Kaitiaki have a responsibility to provide for everyone and ensure everyone benefits
- independent of “ownership” in a European sense. As on land, kaitiaki responsibilities are independent of others who hold “ownership” or use rights under the law. For example, although as kaitiaki, Iwi/hapu may “own” only a percentage of the total marine farming space in a region under existing law, they still hold kaitiaki responsibilities over the whole area in accordance with tikanga

- seamless and all encompassing – making no distinction between moana and whenua
- given effect at whanau and hapu level
- expressed in ways that are appropriate to the place and to the circumstances, according to tikanga
- wider and more complex than existing legal definitions
- given practical effect by:
 - exercising control over access to resources,
 - sharing the benefits of the use of those resources
- enabled through rangatiratanga, which includes the authority that is needed to control access to and use of resources, and to determine how the benefits will be shared. This means that it can be expressed in part through the concepts of “ownership”, “property”, “title” or “stewardship” - however it is much wider than any of these.

Kaitiakitanga has been exercised since before the Treaty. Article II of the Treaty guaranteed that Iwi/hapu would retain the authority they needed – that is rangatiratanga - to continue to exercise kaitiakitanga.

While the Crown gained the right to govern and to make laws (including for the purpose of resource conservation) under Article I of the Treaty, the Crown must heed the guarantees it made under Article II when designing and implementing its policies and laws.