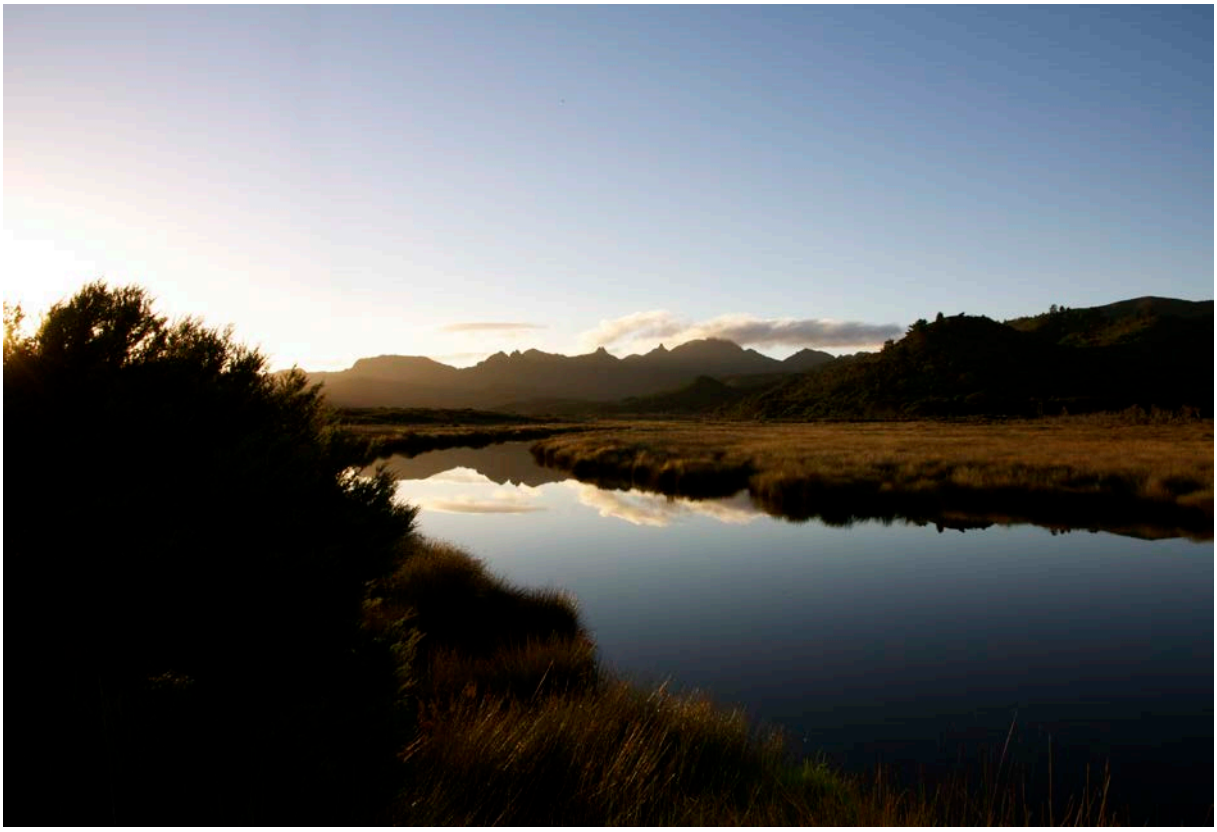


ENABLING AN ECOLOGICAL VISION FOR AOTEA GREAT BARRIER ISLAND: UNDERSTANDING COMMUNITY PERSPECTIVES AND ASPIRATIONS

PREPARED FOR

Great Barrier Local Board
Auckland Council

PREPARED BY

Marie McEntee
Shirley Johnson
(Independent Researcher)

DATE

August 2015

Aranovus Limited

Freephone 0508 973 573

PO Box 24522 Royal Oak Auckland 1345 NZ
111 Oakdale Rd Hillsborough Auckland 1041 NZ

T 64 9 625 9002 | E office@aranovus.co.nz
F 64 9 625 7002 | W www.aranovus.co.nz

ACKNOWLEDGEMENTS

As co-authors of this Phase One report of the Great Barrier Island Ecology Vision project, we seek to recognise, respect and acknowledge the different contributions to this report, so that all contributors may enjoy a sense of tribute and ownership of this community research. We express our thanks to the people of Great Barrier Island, and in particular all who took time to join the conversation. We were delighted with the numbers of people wanting their voice to be included. We appreciated people's willingness to share their knowledge, personal insights and passions. No one knows a place quite like a person who has lived there. Without your openness we would not have been able to begin to understand the multiple shadings of perceptions and level of complexities that exist on the island.

We acknowledge the support of the Great Barrier Local Board, Chair Izzy Fordham board members Sue Daly, Judy Gilbert, Christina Spence and Jeff Cleave. We also thank John Nash and his team of Council officers, including Jacqueline Fyers and Emma Joyce.

We acknowledge Ngati Rehua Ngatiwai ki Aotea, and Jeff Cleave for advocating and supporting iwi engagement in the project. We thank John Ogden for the background material he provided and Judy Gilbert for the photographs that we used to illustrate the project website and engagement publications. We also thank Kit Cunningham at Claris for agreeing to assist with digitizing participants' photos, Kevin Burke at the "Barrier Bulletin" for providing space for our project updates and Christina Spence for arranging the mailing to all island postal addresses. Your combined assistance is appreciated.

We conclude our acknowledgements by recalling the wisdom of the following whakatauki,

Nāu te rourou, Nāku te rourou, ka ora ai te iwi.
With your food basket and my food basket, the people will be fed

TABLE OF CONTENTS

Cover Photo: Kaitoke River at sunset looking westward. *Courtesy of Auckland Council*

LIST OF TABLES & FIGURES

1.0 FRAMING THE PROJECT

Recently the Great Barrier Local Board published its Local Board Plan for the three-year period 2014 - 17 after consulting with their community on an earlier draft plan. This plan has a vision for Aotea Great Barrier Island of *"Creating the world's most liveable island"*. As background to this document, the salient parts of this plan are discussed below with quotes taken directly from the published plan.

The plan recognises the island *"is unique within Auckland, a remote and beautiful island with a diverse, resilient and independent community"* living *"an alternative lifestyle"*. Among other aspirations it sees Aotea Great Barrier as a place where *"our environment is clean, wildlife is abundant and we throw little away"* and where *"we live in a way which has a low impact on our environment"*. To deliver on this the plan will focus on three things including *"we will protect and enhance our island's ecology in ways we can all agree on"*.

The Local Board Plan must support and take into account the 30-year Auckland Plan and seeks three outcomes, the first of which is ***"The environment is at its best here"***. This outcome foresees:

> *"Our native wildlife and forests flourish, our streams run clean, and our coastal waters are full of life. We waste very little and our homes, businesses and cars run on renewable energy."*

The plan discusses this outcome at length, with particular emphasis on:

- Pest impacts on native fauna and flora
- Freshwater stream water quality
- Human impacts on coastal environments, particularly fishing
- Resource recycling
- Alternative renewable energy as a climate change mitigation

Over recent years there has been significant community discussion on the island around the issue of rodent control or eradication as a means to protect and enhance terrestrial ecological values and while current technology may be upscaled to attempt this these tools are not widely supported amongst residents due to the perceived risk profile for collateral damage and unintended consequences. As a result, the plan:

> *"seeks to begin discussions with our community, both full and part-time residents, to see if we can establish wide agreement on what kind of ecological future everyone wants for our island and how we might get there. These discussions must start without any predetermined outcomes, be held openly and honestly and be independently led."*

The Great Barrier Local Board has an aim:

> *"that these discussions would lead to an agreed action plan for our natural environment for the next 10 years".*

Water quality, both freshwater and coastal, is a further area of concern as some monitoring sites on the island have fallen below threshold levels. To set and maintain high environmental standards safeguarding and improving water quality is also part of the Local Board's overall approach. During the period of the plan, the issue of managing fishing in coastal waters will be embodied in the broader region wide Auckland Marine Spatial Plan project known as Sea Change - Tai Timu Tai Pari. The Local Board will advance these matters in partnership with Ngati Rehua Ngatiwai ki Aotea. Waste management and its impacts on the environment is an additional concern of the Local Board.

Overall, the Local Board believe that:

> *"Aotea Great Barrier could tick all of the Auckland Plan's 'environmental action and green growth' boxes. The environment is our point of difference and with a concerted effort and community support this can be THE place in the Auckland region where the care of the environment is world leading".*

2.0 INTRODUCTION

This document is the project report for Phase One of an Aotea Great Barrier Island community conversation seeking to establish a vision for the enhancement and management of the island's natural environment. The project has been established and developed to date using the title "Great Barrier Island Ecology Vision" and comes out of the 2014 Great Barrier Local Board Plan where a key outcome is "The environment is at its best here".

The Local Board is seeking to agree a plan with the island's community for the island's ecological future and the first Key Initiative is to fund independently led community consultation. Apart from the Local Board other key agencies include the Department of Conservation, Ngati Rehua Ngatiwai ki Aotea and island based environmental groups. The complete project has an indicative timeline of three years to extend across the life of the current Local Board plan with a view towards achieving community agreement for a Vision and an Action Plan for the ecological future for the island for the 10 years to 2025.

The project commenced in March 2015 with Phase One scheduled to run until the end of the 2014/15 Auckland Council financial year on June 30. Phase One has been a preliminary scoping project to engage with and listen to the island's resident community, to establish relationships and understand key themes that will inform and guide the substantive part of the project. The key objective of Phase One is to develop a pathway to advance the necessary community engagement and consultation to agree a consensus for the island's ecological future.

3.0 AOTEA GREAT BARRIER ISLAND

Great Barrier Island is the fourth largest island in the main New Zealand archipelago. It forms the eastern side of Auckland's Hauraki Gulf and is separated from the northern tip of the Coromandel Peninsula by the 16 km wide Colville Channel. It is approximately 45 km offshore from the mainland at Leigh, a distance that is approximately bisected by Little Barrier Island that lies 18 km to the west of Great Barrier. The island is approximately 85 km NE of downtown Auckland.

Great Barrier Island has an area of 285 sq.km and is approximately 35 km long along its main NNW - SSW axis from its northern cape at Aiguilles Island to Cape Barrier in the south. At its widest it is almost 18km from Whakatautuna Point near Harataonga in the east to near Akatarere Point in the west, south of Man of War Passage which forms the southern entrance to Port Fitzroy. It is a rugged island with a mountainous central spine rising to 627m above sea level at Mount Hobson (Hirakimata) approximately in the centre of the island. Geographically it is an extension of Coromandel Peninsula cut off when the Hauraki Gulf was flooded by rising sea levels following the last ice age glacial maximum approximately 20,000 years ago. It is a tectonic landform characterised by steep bluffs and dramatic rock outcrops but with a volcanic influence as seen at the natural hot springs in the Kaitoke Valley. Nearby Little Barrier Island is an extinct andesitic volcano.

Most of the centre of the island and all of its northern and southern parts is forested, although these forests were extensively logged for timber in the last decades of the 1800's and the first decades of the 1900's. Extensive areas of the island were also historically cleared for farming but much of this is now reverting to native forest so today farming is largely confined to the floors of the eastern valleys and adjacent slopes.

The island's east coast faces the Pacific Ocean and has a number of long curving sandy surf beaches separated by dramatic rocky headlands and coastal cliffs. These beaches reflect the main broad open valleys that face east including Oruawharo Bay (Medlands) in

the south, Kaitoke immediately to the north, Awana and Harataonga in the central section of the coast and Okiwi in the north. Okiwi is the largest of these and is dominated by the expansive Whangapoua Harbour, a large shallow estuarine tidal inlet whereas the Kaitoke Valley contains the very large freshwater Kaitoke Swamp wetland.

The west coast faces the sheltered Hauraki Gulf and is predominantly rocky. It is punctuated by a number of deep bays and long harbours formed when river valleys were also flooded by rising sea levels since the end of the last ice age. The largest is Port Fitzroy in the north, which is formed of a cluster of inlets guarded by Kaikoura Island and a long northern headland peninsula, and Tryphena in the south which is more open with small sandy beaches at the head of its bays. Blind Bay also has sandy beaches whereas Whangaparapara Harbour is long and narrow. In the north, Katherine Bay is more exposed to the north and west.

As Great Barrier Island was historically connected to the mainland it has supported native fauna not usually found on islands including native frogs and kokako and because it has been an island since humans settled New Zealand, it is also lacking some introduced species, most noticeably mustelids and Australian brush-tailed possums. The reduced suite of introduced mammalian predators has likely helped a number of rare and threatened species to persist in higher numbers than elsewhere, particularly brown teal and kaka but also nesting seabirds such as black petrel and lizards such as chevron skink. Today the island is the only place in the Auckland region with a permanent human population that does not have possums, goats and mustelids.

The island's forests are diverse and historically supported dense kauri forest on the drier ridges. Lush broadleaf forests filled the sheltered valleys with canopies of puriri, kohekohe, karaka and other northern forest species. Dense understory vegetation includes nikau palms that exhibit a trend towards island gigantism with their large trunks. Regenerating forests are today dominated by extensive stands of kanuka with pioneer shrub species gradually increasing the diversity of the vegetation. Fully 88% of the island is now vegetated with bush or regenerating forest.

The island has a vibrant history of human settlement. Maori are understood to have arrived some 700 years ago and pa sites and records of continuous Maori settlement prior to European arrival in the early 1800s are evident across the whole island. Human enterprise on the island has been described as 'boom-bust' (Sewell, 2001:25) and historically included activities such as whaling, timber-milling, gum digging and copper, silver and gold mining. Many of these endeavours have left significant and long-term ecological impacts.

Today the island is home to approximately 900 permanent residents but this population swells markedly during holiday periods when part time residents use the many holiday homes that are predominantly in the southern half of the island. Local government is administered by Auckland Council, however, approximately two thirds of the island is crown land managed by the Department of Conservation, which significantly reduces the potential rating base of the Council. Great Barrier has regular daily scheduled air services from the mainland to Claris Airport in the centre of the island with flights also landing at Okiwi Airport in the north. A seaborne ferry service connects the island to Auckland from Tryphena in the south and also Port Fitzroy in the north with sailings more frequent during summer.

Despite Great Barrier's apparent proximity to New Zealand's largest metropolitan city, in reality it is and always has been a remote location that is both physically and metaphorically 'just over the horizon' when seen from the mainland. Much of the island, except the large northern block, and many of the smaller bays, is accessible by road and the most important of these have recently been upgraded from being gravel to being sealed. An island-wide telephone system has been in place for many decades but the island does not have an electricity distribution system and none of the settlements have reticulated water or sewerage systems. This reduced infrastructure leads to visitors forming the impression that the island is a "step back in time" whereas permanent residents have to be independent, enterprising and resilient with a degree of pioneering spirit to make up for the lack of services taken for granted on the mainland.

There are limited health services on the island and products such as fuel, fresh food and maintenance items are made more expensive by the cost of transport to the island. Accordingly, islanders produce some of their own food from domestic gardens and repair what they cannot replace. Modern infrastructure, such as Internet services are available on the island but as with other services are often more expensive and less reliable than on the mainland. The island has schooling for children at primary level but students generally leave the island for secondary schooling. As a result, the local population has an average age higher than many other communities as families move away for schooling and better work opportunities. Despite this, the island has many very long-term residents both from Maori and settler families and from people who have actively chosen the island for the lifestyle that it offers. The resident community know and understand the island and the challenges of living there and are resolved to protect both their way of life and their island home as expressed in the Great Barrier Local Board Plan.

4.0 PROJECT RESEARCHERS

The researchers in this project, Marie McEntee and Shirley Johnston, are independent researchers. Through relationship building, they have worked to build trust with the community with open and transparent communication. Both researchers have come to this project with no pre-determined views of project outcomes and while they are answerable to the Local Board on performance matters, they are independent in terms of research design and implementation, and have utilised their recognised expertise in these areas.

Shirley is originally from Canterbury and was educated in Christchurch. She has worked extensively in the social services sector in a variety of roles with particular interests in the issues of justice and human rights. After 20 years in leadership roles she moved into local government with an interest in local economic development especially how local communities can take a greater lead in creating their own social and economic well-beings. Shirley currently works at COMET Auckland as the Skills Manager. Her work is closely allied to the delivery of the strategic objectives identified in the Auckland Plan and Economic Development Strategy. Through multi-sector partnerships she contributes to the development of skill initiatives that contribute to the growth of Auckland's economy. Shirley is an experienced facilitator, presenter and trainer and recently completed feasibility studies on Great Barrier Island relating to the micro-abattoir, the affordable housing initiative and the proposed development of a social enterprise company on the island. Shirley is also a part-time resident of Great Barrier Island and intends to move permanently to the island.

Marie is a social researcher with Aranovus Research in Auckland and lectures part time at the University of Auckland where she has been an academic staff member for 22 years. She coordinates two large undergraduate courses in science communication and science innovation. As a researcher, Marie specialises in participatory community engagement particularly relating to ecological issues. She has recently investigated stakeholder engagement in six community / science partnerships in the rural sector to provide some guiding principles for more effective communication and engagement between scientists and farmers. Marie has worked in many different communities throughout New Zealand, and has previously enjoyed visiting Great Barrier Island during the 1980s.

5.0 A PARTICIPATORY METHODOLOGY

5.1 A participatory approach

The project methodology adhered to a participatory approach, which ideally seeks to understand and respect communities and to embody local knowledge into decision-making so communities can meaningfully contribute to analysis and solutions. A participatory approach fosters community driven, bottom-up collaborative processes to enable the creation of collective knowledge (Cornwall & Jewkes, 1995).

Participatory approaches emerged in the late 1960s and 1970s as a challenge to top-down approaches to research where outsiders sought to determine priorities, develop knowledge and then transfer that knowledge to communities. Participatory approaches to community-based research instead sought for communities to set research agendas and benefit directly from research programmes (Arnstein, 1969; Freire, 1970, 1975) and participation was viewed as the democratic right of all citizens. This approach was also closely aligned with action-based research, which aimed to bring about positive change in local communities (Freire, 1970; Wadsworth, 2010; Whyte, 1991).

5.2 Risks when undertaking participatory research

Integrating local and specialist knowledge into projects is not easy. To be effective, the community must not be viewed as passive participants. Instead a participatory approach provides communities with a process that enables their aspirations, knowledge and experiences to be integrated into projects. In essence a participatory approach seeks to empower communities (Freire, 1970; Kindon, Pain and Kesby, 2007) and in community-based projects this means the researchers and the community work as partners.

However participants bring to projects their underlying perspectives that have shaped their existing views and knowledge (Raymond et al., 2010). Participatory approaches recognise that some voices in a project may inadvertently or advertently dominate, which can lead to

competing agendas, exclusion of stakeholders or marginalisation of participants by their community (Cornwall & Jewkes, 1995). The fundamental principles of a participatory approach are therefore equity, empowerment and trust.

To overcome any risks and ensure a range of knowledge and perspectives are integrated into projects, Raymond et al. (2010) advocate that participatory approaches should promote discussion and negotiation to provide a platform to enable the beliefs that underpin both expert and community perspectives and knowledge to be expressed. The success of this process is dependent as much on the willingness of the community to engage in a project as it is on the personal characteristics of the researchers and their willingness to build trust with the community. Skilled facilitation is an essential part of effective participatory engagement. Conflicts that may occur during the negotiation process need to be carefully and skilfully managed.

Prior to the Local Board's consultation with the community over the Plan, there were several discussions and surveys specifically relating to the ecology of Great Barrier Island. These included a survey on pet management in 2000; a telephone survey of islanders' responses to rat and cat eradication in 2003 and an ecology visioning exercise in 2004. The pest focus of previous conversations has created a somewhat turbulent history for this research and necessitated the need for its participatory methodology and a focus beyond simply pests. These past efforts have informed the Local Board and others, that an ecological vision for Great Barrier Island requires significant community engagement and involvement to enable a deep understanding of the community's values and aspirations.

5.3 Challenges of a participatory approach

Participatory approaches often experience initial community enthusiasm, but over time may lead to community fatigue. It is important that the process recognises that people's interest will fluctuate and that people may come and go from a project as their time permits.

The community may also develop an unrealistic expectation of intended outcomes or develop disillusionment and resentment if their pre-existing perspectives are not met. Participatory engagement must be built on a foundation of trust which can take time to establish and projects must strive for a shared vision that contains the multiple perspectives of all participants.

It is absolutely critical that participatory processes are not driven by quantitative measures, such as the number of people who attend workshops but rather by the quality of the

engagement. Effective participation should never be measured quantitatively. While statistical information provides evidence of the representativeness of community participation, qualitative evidence is typically preferred for the richness it provides in capturing the multiple and often divergent community perspectives.

5.4 What makes a participatory process good?

There is no specific 'blueprint' on how a participatory process should occur (Allen et al, 2013), so what makes it 'good' remains debateable. Reed's (2008) comprehensive review of the participatory environmental management literature showed that while there is no 'best practice' for stakeholder participation, there are key characteristics of a participatory approach that should be evident in a 'participatory' project, including:

- the process must be underpinned by empowerment, equity, trust and learning;
- it should be considered as early as possible in a project's lifespan;
- participants should be representative of the community;
- objectives must be widely agreed at the outset;
- the approach must be tailored to the context and have skilled facilitation;
- local community knowledge and specialist knowledge should be integrated into decision-making;
- participation should be institutionalised to ensure its long-term success.

Increasingly, evidence shows that the community must be engaged in the project's design (McEntee, 2013). Furthermore, participatory approaches must not only accommodate divergence among participants over both the issue being addressed and appropriate solutions, it must also accommodate divergence around people's perceptions of what makes the process 'good' (Webler, Tuler and Kruger 2001).

Conflicts that develop do not necessarily occur from the process itself, but often from people's different expectations of the process (Webler, Tuler and Kruger 2001). Such divergence may have to be reconciled and managed through skilled facilitation. Relationship and trust building are essential requirements and are highly valued in community based participatory projects (Allan et al, 2013; Reed, 2008). Neef and Neubert (2011) provide a detailed framework to assist researchers undertaking participatory approaches. While the framework is widely regarded, the authors caution against it being used as a formula or blueprint to follow.

Both Reed (2008) and Neef and Neubert's (2011) work have guided the design of the methodology for the Great Barrier Island Ecology Vision project. Reed's paper provided an excellent set of guiding principles, while Neef and Neubert's comprehensive framework assisted with planning and reflecting on the project.

5.5 Why use a participatory approach?

- The project is community based. To gain the maximum traction it is essential that the research is a community-driven, bottom-up process, and that the process is open and transparent. While the researchers are accountable to the Local Board and Auckland Council, this does not diminish or compromise the participatory methodology and the researcher's professional independence.

- Developing a vision for Great Barrier Island's ecology requires inclusion of the multiple perspectives that exist within the island's community made up of both full time and part-time residents. At the core of a participatory approach is the need to understand and integrate into decision-making the multiple knowledges of all stakeholders. Participatory approaches acknowledge and aim to capture the diversity and breadth of perspectives in a community.

- Developing a vision for Great Barrier Island's ecology is a complex issue. 'Complex' issues are characterised by the large number of stakeholders involved, the likelihood of disagreement among them and the level of uncertainty of solutions. Participatory approaches are widely regarded as an appropriate methodology for addressing or 'taming' complex issues.

- Participatory approaches are well utilised by researchers for 'environmental' issues.

5.6 Project scope

The project has considered all of Great Barrier Island extending down to the line of low tide. Low tide has been chosen as the limit so that intertidal areas such as estuaries are included within the project. As the statutory planning framework for the management of the island also changes in the coastal marine area, marine ecological issues below low tide are beyond the scope of the current project.

The project has considered all ecological issues relating to wild living plants and animals and their environment on Great Barrier Island. It has not considered domesticated plants

and animals, except where these impact wild living plants and animals, nor has it considered the built environment such as roads or buildings.

Phase 1 is a scoping phase for the overall project. Its purpose is to:

- build awareness of the project's rationale, approach and independence
- begin to build trust between the researchers and the community
- identify the perspectives in the community
- identify the key themes for investigation in future phases
- enable the community to participate in co-designing the project
- provide direction for later phases of the project

5.7 Participants

Anyone who is either a full time or part time resident of Great Barrier Island, regardless of age has been able to participate in the project. The project design was based on a variety of communication channels being employed to make people aware of the project and multiple engagement channels being available for interested people to be able to participate in the project. Participants self-selected how they wished to engage with the project and how they could join in the conversation so their responses to a standard set of questions could be collected for evaluation. The researchers made no a-priori participant selections, although some demographics were identified as needing to be included.

While on-island mana whenua have participated in this conversation, to date efforts to engage with off-island mana whenua have been unsuccessful. Participatory approaches recognise that individuals and communities will engage in conversations at different times. While off-island Maori perspectives have been unable to be included in this report, it is hoped that engagement with this community will occur as the project moves forward.

5.8 Data collection

Participant engagement has been focused around a questionnaire (Appendix I). The Aotea Great Barrier Island Plan was used as a starting point for the design of this questionnaire, as it seeks to agree with the community a plan for the island's ecological future.

This questionnaire was divided into three sections:

Section A: This consisted of four open ended questions specifically designed to enable participants to identify and discuss key themes of importance to them and not to be directed

by the researchers to think about specific issues. The open questions enabled some structure to the flow and scope of the information being sought, but also allowed respondents flexibility to explore and discuss issues of personal importance.

Section B: This provided participant-driven photo-elicitation. Participants were asked to provide photographs of Great Barrier Island's natural environment to illustrate what they valued about the island, what could be improved and what was important to their way of life. Copyright of any images remains with the owners of the photos but permission may be sought to reproduce some photos in the project report.

Participant-driven photo-elicitation has been used for data gathering in interviews since the 1950s to develop deeper participant engagement (Collier, 1957). It allows participants to have more control over the research process and to engage more meaningfully in data generation. Auken, Friscoll and Stewart (2010) used photo-elicitation and in depth interviews in their community-based research studying people's perceptions of landscape and community change in Wisconsin and Norway. They argued the method has four advantages:

- images can tap into people's 'lived' experience;
- it produces different and richer information compared to other techniques;
- it reduces researcher/participant barriers allowing them to engage in conversation;
- it empowers participants.

They also argued the technique is particularly useful for sustainable community development and natural resource management.

Section C: This section was designed to build a picture of the demographics of participants to monitor community participation and representation and to identify the perspectives on the island.

All personal information is held confidentially by the project researchers and will not be disclosed in a way that can identify the person who provided the information. Only summary and aggregate information has been included in this project report.

5.9 Data analysis

All data collected from sections A and B of the questionnaire have been qualitatively analysed to assess areas of commonality and areas of difference and to identify key

themes for deeper investigation in future phases. Written questionnaire responses received were entered directly into a participant database as verbatim responses. This database treated each participant as a separate record and each of the question responses and demographic variables as separate fields. This allowed the full engagement with each resident who joined the project to be seen in one column and the range of responses to any particular field across all residents could be seen along one row.

For responses that were provided through any of the face-to-face engagements, the researchers adopted a conversational approach to enquire about the views of the respondents in relation to the questions. Particular care was taken to avoid steering the respondent to a particular response, although direct questions were used to ensure all the survey questions were discussed. With the agreement of the respondent, interview notes were compiled during the engagement and later typewritten as key points as responses to each survey question. These were then entered into the participant database. It was not practicable to compile transcripts for each participant interview.

Once all responses had been entered into the participant database, each question and demographic variable was considered separately. For each question, all the responses were read and key points and subjects were extracted and compiled into a list. Similar key points and subjects were grouped together to identify threads that were found across the combined responses and at a higher level these have been clustered into categories to identify broader concepts and themes that were present within the dataset. The demographic information has been quantitatively analysed and summarised.

6.0 COMMUNITY ENGAGEMENT & PARTICIPATION

6.1 Introduction

Community participation in the project proceeded as overlapping phases. These were:

- Awareness - communication was undertaken to make the community aware of the project
- Engagement - people interested in participating identified themselves to the researchers
- Responses - participant responses were collected using a range of sampling techniques
- Analysis - individual participant responses have been aggregated into a project dataset

6.2 Project awareness

Project outreach to the island's resident community began in mid March and included:

- two published Great Barrier Local Board e-newsletter articles
- two published "Barrier Bulletin" articles
- establishment of a project website
- a 500 piece direct mailing to all on-island mailing addresses
- placement of 12 A3 colour posters of 3 versions across the island
- distribution of 120 DL colour flyers of 3 versions
- a local radio station interview

Within all these outreach channels, community members were invited to engage with the project, they were provided with information about the project, invited to view the project website for further information or to directly contact the researchers via email or phone. All outreach channels included a call to action to "Join the Conversation" so community members understood their participation was sought. To avoid an implicit assumption that

the project had a narrow focus, photographs used in these awareness channels included images of a bird (fauna), forest (flora) and a stream (water) to help reduce sampling bias.

On-island project awareness was maximised by using a physical mailing to all island postal addresses and this included a Freepost engagement form. Colour posters were also displayed at community locations across the island. These were supported with interest articles published in the "Barrier Bulletin" and an interview about the project on the local radio station. Two articles published in the Great Barrier Local Board e-newsletter also reached on-island residents and was the main outreach channel to raise awareness of the project amongst part-time island residents. As the initial outreach period spanned the long Easter weekend and the autumn school holidays, on-island project awareness activities likely also exposed many part-time residents to the project if they visited the island during these times.

6.3 Participant engagement

All residents were able to engage with the project electronically, by phone, or by direct contact. They could visit the project website for further information and engage online using an engagement form on the website, or by email. Additionally the researchers' phone numbers were available for voice or text contact. Part time island residents were able to engage with the project by attending one of two small-group meetings that were held off the island and two residents' meetings were undertaken on the island. Smaller group meetings occurred at participants' request in a variety of locations on the island. On-island residents also had available the Freepost mailing channel to ensure those without direct access to Internet services could easily engage with the project.

When participants did engage with the project they had the choice to enrol either as individuals or as part of a small group. They were asked to supply their name and contact details and to choose how they wished to provide their input through one of seven response channels including:

- an individual interview with one of the researchers
- small on-island group interviews with the researchers
- a phone interviews with one of the researchers
- a physical paper based questionnaire survey form that was mailed to them
- an on-line electronic questionnaire survey form that was emailed to them
- attendance at a part-time residents meeting on the North Shore in Auckland
- attendance at a part time residents meeting in Three Kings in Auckland

Informal responses were also received and included into the sampling. These were a short email sent directly to Auckland Council that was passed on to the researchers and an anonymous letter that was returned by Freepost without specific participant details.

A total of 202 individual participants (Table 1) engaged with the project. Of these, 147 (73%) were full time on-island residents and 55 (28%) were part time residents.

Residence Status		
	Total	**Percent**
On GBI	147	73%
Off GBI	55	27%
Total	**202**	**100%**

Table 1: Residence status of people who engaged with the Great Barrier Island Ecology Vision project

The total of 202 participant engagements included 97 (48%) females and 105 (52%) males (Table 2). Amongst the 147 full time on-island residents who engaged with the project, 73 (50%) were females and 74 (50%) were males. The 55 part-time residents who engaged with the project included 24 (44%) females and 31 (56%) males.

Gender			
	On GBI	**Off GBI**	**Total**
Female	73	24	97
Male	74	31	105
Total	**147**	**55**	**202**

Table 2: Gender breakdown of residents who engaged with the project

As listed above, there were seven engagement channels (Table 3) through which people could indicate their interest in participating in the project. By far the most common was direct contact with one of the researchers (36%) and this engagement channel was used principally by on-island residents (95%) compared with part-time residents (5%). The number of males and females that engaged through this channel was evenly divided 50:50.

The second most common engagement channel was the physical mailing undertaken to all Great Barrier Island postal addresses. Approximately 500 letters were distributed and resulted in 45 (23%) engagements indicating a response rate of approximately 9%. This is considered very high for this traditional type of communication. Not surprisingly, all 45 engagements were from on-island residents and there was a reasonably even division between females (55%) and males (45%).

The third most common engagement channel was through the use of the on-line engagement form as part of the project website. This channel resulted in 31 (16%) engagements and was dominated 2:1 by part-time off-island residents. Overall approximately 60% of these engagements were from males.

Participant engagements that resulted from the second Local Board e-newsletter article were able to be separately identified as this article advised residents they could engage with the project by emailing the project to enrol to attend one of two discussion meetings in Auckland. A total of 22 (11%) people preferred this type of engagement and all were part-time residents.

A further 16 (8%) engagements occurred through general email contact with the researchers using the email address that was established specifically for this purpose and 14 (7%) engagements occurred by people attending one of the small group interview meetings that were held both on and off the island. A solitary engagement occurred by way of a request given to the researchers that they phone the person concerned.

Engagement Channels								
Channel	**Total**	**Percent**		**On GBI**	**Off GBI**		**Female**	**Male**
Researcher	73	36%		69	4		37	36
Mailing	45	23%		45	0		25	20
Website	31	16%		11	20		12	19
E-news	22	11%		0	22		8	14
Email	16	8%		8	8		6	10
Meeting	14	7%		13	1		8	6
Phone	1	1%		1	0		1	0
Total	**202**			**147**	**55**		**97**	**105**

Table 3: Engagement channels used by residents who engaged with the project with breakdowns by resident status and gender

The period in which people could engage with the project ran for 14 weeks from the week beginning Monday 16 March and ending on Sunday 21 June. Approximately three quarters (74%) of engagements occurred within the first five weeks of this period (Table 4) and engagements peaked in week five when 81 (40%) were received. This coincided with the researchers' visiting the island and followed initial project publicity from articles published in the "Barrier Bulletin" and the Local Board e-newsletter, as well as distribution of the mailing to all on-island residents.

Week	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Date	16-3-15	23-3-15	30-3-15	6-4-15	13-4-15	20-4-15	27-4-15	4-5-15	11-5-15	18-5-15	25-5-15	1-6-15	8-6-15	15-6-15
Engagements	15	1	20	33	81	11	2	0	1	4	0	4	14	16
Percentage	8%	1%	10%	17%	41%	6%	1%	0%	1%	2%	0%	2%	7%	8%

Table 4: Weekly distribution of project engagements

It was notable how quickly the rate of engagements fell after this peak, even though there had been a steady increase in engagements in previous weeks. Weekly engagements then remained low until an increase was recorded at the end of the period that was again closely associated with the researchers visiting the island to complete the on-island data collection.

People who chose to engage with the project could choose from a range of response channels and they were free to choose any number of channels as alternatives. Approximately 90% of people chose just one response channel (Table 5) and approximately 10% of people indicated they would respond in either of two response channels. Two people chose more than two channels.

Response Channels				
Number	**1**	**2**	**3**	**4**
Engagements	181	19	1	1
Percentage	89.6%	9.4%	0.5%	0.5%

Table 5: Number of response channels chosen by residents who engaged with the project

Of the total of 226 preferred responses (Table 6), 102 (45%) were for interviews. These were dominated by on-island residents and were evenly divided 50:50 between males and

females. The second most popular response (39 responses, 17%) was by way of an e-form that people could complete on-line. This was approximately evenly favoured by both on-island and part-time off-island residents. Participation in an on-island small group interview was selected by 37 (17%) people and unsurprisingly this was almost exclusively preferred by on-island residents.

A further 22 (10%) part-time residents selected the option of attending an Auckland based discussion meeting. Responding by way of a paper based questionnaire form was selected by 20 people (9%) and was also almost exclusively preferred by on-island residents.

Response Channels Selected							
	Total	**Percent**		**On GBI**	**Off GBI**	**Female**	**Male**
Interview	102	45%		90	12	50	52
e-Form	39	17%		18	21	16	23
Groups	37	17%		36	1	22	15
Auck Meet	22	10%		0	22	10	12
Questionnaire	20	9%		18	2	10	10
Phone I'view	4	2%		4	0	2	2
Other	2	1%		2	0	0	2
Total	**226**	**100%**		**168**	**58**	**110**	**116**

Table 6: Response channels selected by residents who engaged with the project with breakdowns by resident status and gender

None of the preferred responses indicated a strong bias towards males or females. However, there was a predominance of males who selected the on-line e-form response channel and a predominance of females who selected the on-island small group interview response channel.

By combining these response selections into groups, there were a total of 165 (73%) preferred responses that selected a face-to-face engagement with the researchers and 61 (27%) preferred responses that selected a remote engagement using either the on-line or physical questionnaire survey form.

6.4 Respondent demographics

From the 202 people who engaged with the project, responses were received from a total of 135 (67%) individuals (Table 7). These responses were in two parts, their responses to a

standard set of questions about their views on the environment of Great Barrier Island and responses they provided to a set of demographic questions to allow the overall data collection programme to be put into context. This section summarises the demographics of the respondents. Participant responses to the standard questions are discussed below.

Respondents were asked to indicate their age in a range of age bands and their gender (Table 8). The age band with the highest frequency of respondents was 60-69 (42 respondents, 31%) although the median was in the 50-59 age band. This corresponds well with the average age of residents, which is understood to be 57 years.

Respondents		
	Total	**Percent**
Respondents	135	67%
Engagements	202	100%

Table 7: Engagement responses received

Of all respondents 61 (45%) were female and 74 (55%) were male. Therefore the response rate for females who engaged with the project was 63% and for males it was 70%, both of which were very close to the overall response rate of 67%.

Respondent's Age and Gender					
	Total	**Percent**		**Female**	**Male**
10-19	1	1%		1	0
20-29	6	4%		2	4
30-39	13	10%		7	6
40-49	16	12%		10	6
50-59	37	27%		16	21
60-69	42	31%		18	24
70+	16	12%		6	10
No Data	4	3%		1	3
Total	**135**	**100%**		**61**	**74**

Table 8: Age bands of residents who engaged with the project with breakdowns by gender

Respondents were also asked to describe their ethnicity (Table 9). Responses to this question were highly variable so have been grouped into three major classes. A total of 118 (87%) responses were received from respondents who listed themselves as New Zealanders. Of these, 101 (75%) respondents described themselves as European and 17 (12%) as Maori. This includes respondents who recorded themselves as Great Barrier Island tangata whenua and those who recorded themselves as Maori from other rohe, however, specific information was not collected. Additionally, six (5%) respondents recorded themselves as non-New Zealanders including Australian, Canadian, English, Irish, Scottish and Spanish. Eleven (8%) respondents provided no data.

Respondent's Ethnicity		
	Total	**Percent**
European	*101*	*75%*
Maori	*17*	*12%*
New Zealander	118	87%
International	6	5%
No Data	11	8%
Total	**135**	**100%**

Table 9: Ethnicity of project respondents

Respondents were also asked to indicate if they:

- usually live on Great Barrier Island
- usually live elsewhere in New Zealand
- usually live outside New Zealand

A total of 107 (79%) responses were received from full time island residents and 24 (18%) responses were received from part time island residents (Table 10). Only four (3%) respondents did not provide residency data. These data indicate the response rate from full time residents was 73% but only 44% from part time residents. As the average response rate was 67% this indicates that full time residents embraced their engagement with the project more deeply than part time island residents, whose response rate was less than two thirds that of full time residents.

Respondent's Resident Status		
	Total	**Percent**
Full time GBI	107	79%
Part time GBI	24	18%
No Data	4	3%
Total	**135**	**100%**

Table 10: Residence status of project respondents

Among the part time island residents most (83%) were primarily resident in Auckland (Table 11), although responses were received from part time residents who primarily lived in Hawkes Bay, on Waiheke Island and even as far afield as Canada. While the predominance of Auckland part time residents is expected, these other resident locations indicate that sampling saturation was sufficient to collect responses from a comprehensive sample of Great Barrier Island residents.

Off Island Residence	
Location	**Total**
Auckland	20
Hawkes Bay	1
Waiheke Island	1
Canada	1
No Data	1
Total	**24**

Table 11: Breakdown of residence locations for part time resident respondents

Respondents were also asked to indicate where on the island they resided (Table 12). A total of 26 locations were named in responses and these have been grouped into 13 separate areas corresponding to the island's major valleys and bays.

The most frequent residence area was the bays in the Tryphena catchment from where 46 (34%) responses were received. Responses were received from a further 12 areas of the island including Rosalie Bay, Medlands, Claris / Kaitoke, Awana, Harataonga and Okiwi on the east coast and Motairehe / Kawa, Port Fitzroy / Abercrombie, Whangaparapara, Okupu / Blind Bay, Smiths Bay and Schooner Bay on the island's west coast. While no specific

analysis has been undertaken, a ranking of these areas by frequency of responses suggests that, in general, responses have been received in similar proportions to the relative size of the community in each of these areas.

The final piece of demographic data that was collected was the time that respondents had been a resident on the island (Table 13), either as a full time resident, or as a part-time off-island resident. Overall the most frequent residence time was in excess of 30 years and 40% of respondents were in this class.

Great Barrier Island Residence				
Area	**On GBI**	**Off GBI**	**Total**	**Percent**
Awana	3	1	4	3%
Claris/Kaitoke	14	3	17	13%
Harataonga	2	0	2	1%
Medlands	5	6	11	8%
Motairehe	11	0	11	8%
Okiwi	4	3	7	5%
Okupu	4	1	5	4%
Port Fitzroy	11	0	11	8%
Rosalie Bay	5	4	9	7%
Schooner Bay	2	0	2	1%
Smiths Bay	1	0	1	1%
Tryphena	41	5	46	34%
Whangaparapara	4	1	5	4%
No Data	4	0	4	3%
Total	**111**	**24**	**135**	**100%**

Table 12: Breakdown of on-island residence locations for all respondents

Great Barrier Island Residence Time					
	Total	**Percent**		**On GBI**	**Off GBI**
Less than 1 year	3	2%		2	1
1-5 years	8	6%		7	1
6-10 years	18	14%		15	3
11-15 years	12	8%		4	8
16-20 years	7	5%		7	0
21-25 years	14	11%		12	2
26-30 years	10	8%		9	1
30+ years	53	40%		47	6
No Data	10	6%		6	4
Total	**135**	**100%**		**109**	**26**

Table 13: Residence time of residents who engaged with the project with breakdowns by resident status

For full-time residents the frequency distribution appears to be multi-modal with minor peaks in the 6-10 years class and the 21-25 years class in addition to the major peak in the 30+ years class. For part time residents the 22 responses for which data was provided were spread across all classes.

6.5 Engagement and participation summary

This analysis of project participant engagement and response illustrates a number of points about both the engagement phase of the sampling and the response phase of the data collection. With respect to the engagement phase of the sampling:

- a large number of the Great Barrier Island resident community engaged with the project
- this included both full time on-island residents and part-time off-island residents
- full time residents engaged in numbers three times higher than off-island residents
- there was no apparent gender bias in the engagement of either resident group
- residents used all engagement channels that were made available to them
- part-time residents preferred to use on-line engagement channels
- full time residents preferred to use face to face engagement channels

- the mailing to island postal addresses generated significant engagement from residents
- rates of engagement were closely related to project activity on the island, including news articles
- people very clearly indicated how they wished to engage and this made the response phase easier
- face to face responses were overwhelmingly favoured including interviews and group discussions
- a quarter of engagements preferred to complete written responses either on-line or by mail

With respect to the response phase of the sampling:

- a very high percentage of residents who engaged with the project followed through and responded
- only one third of those who engaged with the project did not provide a response
- response rates for males and females were similar and do not suggest any gender sampling bias
- the age distribution of respondents reflects the underlying age distribution of residents
- responses were received from a broad spectrum of resident ethnicities
- responses were received from Maori as both tangata whenua and from other rohe
- sampling included international residents in small numbers indicating good saturation
- full time residents responded at a much higher rate than part time residents
- part time resident respondents were principally from Auckland but also from further afield
- responses were received from right across the island both for full time and part time residents
- responses were approximately relative to the size of the various island communities
- no island community appears to have been unrepresented in the responses
- responses were received from a broad range of residents with variable resident times
- a very large number of responses were received from very long term residents

As a general conclusion, it is clear that resident engagement with and response to the project has been very strong both for full time residents and part time off-island residents.

The project sampling has drawn information from all parts of the island, from all types of residents with respect to age, gender, ethnicity, residence status and residence time. There is no obvious evidence of sampling bias in any of these variables and no obvious evidence of under-representation. Accordingly, the empirical evidence collected about residents views of the environment of Great Barrier Island and their vision for its future can reasonably be assumed to be representative of the island's resident population.

The Great Barrier Island community has strongly embraced this project and residents have enthusiastically responded to its first phase, especially long standing residents that have had a large part to play in the island's history and seek a stake in the island's future. A substantial dataset has been assembled that will be valuable as a baseline for later phases of the project. Further analysis will likely reveal additional insights to inform the shape of those phases. These data confirm that those analyses can proceed and conclusions drawn from them can be made with confidence that the data corpus is both comprehensive and robust.

7.0 COMMUNITY PERSPECTIVES

7.1 Introduction

Each respondent was asked for their views on the environment of Great Barrier Island using a set of standard questions. These questions were in two subsets. The first subset of four open-ended questions were:

- In your view what is "best" about the natural environment of Great Barrier Island?
- In your view how could the natural environment of Great Barrier Island be improved to make it the "best"?
- If you wish, please record any further general comments you would like to make about the natural environment of Great Barrier Island
- What further information would you like to have that would help you to be more informed to contribute to shaping a shared vision for the ecological future of Great Barrier Island?

These questions were specifically designed to be open-ended and focussed on the key outcome of the Great Barrier Local Board plan discussed above to elicit undirected responses about residents' current views of the island's environment. In this, the researchers adopted a "listening" stance to gather the breadth and depth of the community's views of the island's natural environment.

The first two questions sought responses to identify the "good" and the "bad" of the current situation, while the last two questions sought to identify potential gaps, both in relation to the environment, but also in residents' knowledge that would allow them to make informed judgements as part of the conversation as it continues into later phases of the project.

The second subset of three questions related to photographs that respondents chose to share with the researchers. Respondents were free to share a photograph for each

question and the questions were designed to explore a more intimate personal connection between the respondent and the environment as portrayed in the photograph. The three questions were:

- Would you like to share a photograph of places or objects in the natural environment that you value?
- Would you like to share a photograph of places or objects in the natural environment that you believe need to be improved?
- Would you like to share a photograph of places or objects in the natural environment that are important to you and your way of life?

The perspectives of respondents are discussed in sections 7.2 and 7.3 below. In this discussion, no quantitative measures of respondents' perspectives are given, but rather the sections have been prepared to reveal the breadth and diversity of the perspectives. This qualitative analysis provides a richness of understanding of people's interpretation of the island's ecology. A numerical representation does not capture this. In this phase of the project, perspectives given by one respondent are as valid as perspectives given by many, as the research sought to identify and to present this diversity in this report. Some effort however has been given to indicate the weighting of perspectives among the responses, before section 7.4 seeks to make sense of the diversity.

7.2 What is "best" about the natural environment of Great Barrier Island?

A total of 98 responses were received to the first question:

- *In your view what is "best" about the natural environment of Great Barrier Island?*

Community perspectives

As "best" is a subjective judgement, the first thing that became clear when the responses to this question were evaluated was the sheer scale of the points that respondents raised and the staggering diversity of the subjects within those points. However, despite the subjective nature of this question all responses are equally valid and none have been excluded from this discussion.

Across the list of points and subjects extracted from the responses it became obvious that many were closely related and could be grouped together. For example, responses that included reference to birds produced the following grouping:

- Birdlife / kingfisher / kaka / kereru / shining cuckoo / banded rails / pateke / tui / fantails / dotterel / bittern / black petrel / spotless crake / morepork / love the birds / birdsong

Responses that included reference to places included the following:

- Awana stream / Harataonga / Hobson / Kaitoke / Okiwi Basin / Whangapoua Estuary

Responses that referenced people's connection with the environment included:

- Access to local environment / being involved / tracks / bush walks / boardwalks / tracks not overly developed / mountain-biking

An example of a raw list of points extracted from some of the responses is included in Appendix II. A further challenge for this analysis was that many points were not mutually exclusive. For example "hot springs" could be seen as a place and therefore grouped with other locations, or it could be seen as people connecting with their environment and grouped with other activities in the environment such as bush walks and tracks.

When complete, the raw list of groupings was sorted to bring related threads together into the following list of higher-level categories:

Fauna – birds, reptiles, amphibians, cetaceans, freshwater fish, no mustelids & possums
Flora – podocarps, broadleaf species, palms
Places – mountains, bays, beaches, valleys
Ecosystems – biodiversity, forests, beaches, coastal marine, wetlands
Natural Processes – forest regeneration, rare & endangered species
Physical Resources – clean water, fresh air

Landscapes – geography, coastlines, seascapes, ridgelines, skylines, forestscapes
Kaitiakitanga – guardianship, conservation & environmental ethic, collective responsibility to protect
Land Stewardship – farming, "land is life", love the land, soil care, erosion, planting, animal health, pasture management, responsible as owners
Community – supportive, environmentally focused, resilient, resourceful, friends & family, whanaungatanga
Spiritual Connection – spirit, soulful, wairua, healing, mindfulness, tapu
Self Sufficiency – hunting, fishing, shellfish gathering, gardening, alternative energy

Conservation – pest control, planting, reserves, marine protection, DoC estate
Waste Management – waste reduction, recycling
Human Impacts – no traffic, no noise, no high-rise, opposite of city
Emotional Connection – peaceful, remote, solitude, history, nature
Lived Experience – views, climate, wilderness, outdoor activities, lifestyle, raising children, swimming, diving, walking, fishing, hunting
Home – my/our place of standing, turangawaewae, belonging.

The grouping of participants' responses illustrated two fundamental clusters of thread categories that are critical to understanding the community's perceptions of what is "best" about the natural environment of Great Barrier Island. It is clear that all participants have engaged with the project because the ecology and environment of the island as either their home, or a cherished family holiday location is very valuable to them and is part of how they define themselves as people and as members of society. All participants held the perspective that Great Barrier Island was a special place, and many described its natural landscape as "unique".

However, participants' perspectives were typically expressed in two critically different ways that were not mutually exclusive, in that participant's could and generally did hold both perspectives. The first of these was a perspective of the environment for the environment's sake. The second was a perspective of the environment for the richness and pleasure it brought to participants' lives. Most participants who gave a response to this question included a range of points from both perspectives and in doing so described a complex interwoven fabric of understanding that had been created from a mix of personal observation, community discourse and their own lived experience.

These contrasting but complementary perspectives can be characterised as environmental understanding as an end in itself and environmental understanding as a means to an end. Generally most participants held both perspectives but participants could be divided into two fundamental groups based on which of these perspectives they saw as having primacy.

Across all respondents in this phase of the project the numerically larger group were those who gave primacy to the environment as a means to an end, valuing it for the benefits it offered to their personal and family's lives. The environment of Great Barrier Island was a place people valued for the lifestyle and the community it provided and they often described it as a special and unique place to live and particularly to bring up children. In describing the environment of Great Barrier Island as being a means to an end, respondents extended

the notion of ecology beyond a focus purely on the biophysical 'natural' aspects of the landscape, to include and indeed focus on people in that landscape. However, this phase of the project did not seek to understand the drivers of respondents' environmental understanding and having a participant characterised as one who gave primacy to either of these perspectives does not imply that their position is fixed.

7.3 How could the natural environment of Great Barrier Island be improved?

A total of 101 responses were received to the second question:

- *In your view how could the natural environment of Great Barrier Island be improved to make it the "best"?*

As with the first question, the number of responses participants provided to this question and the diversity of points that were made were surprisingly large and most were detailed and carefully considered indicating how enthusiastically the Great Barrier Island community has embraced this project, as noted at the close of Section 6.0 above. Again, all responses were consolidated into the participant database, were read and précised for their key points then grouped into categories. The main categories are discussed below under separate headings in order to record the breadth of community perspectives.

Pest Management

This issue was so commonly raised by participants as to be almost ubiquitous across all participants. The points that participants raised reflected a number of different perspectives of the issue including:

- personal experience of the impact of pests
- community discourse around this issue
- a long history of community debate about this issue.

While a few respondents did not feel pests were a major problem, indeed one felt the situation had markedly improved, many who discussed pest management did so from the perspective that the island's population of mammalian predators needed to be actively managed downward to lower densities. The differences between these responses reflected differing views of the target species, the methodologies that respondents felt were acceptable to achieve this outcome, the spatial scale of the management action and the desirable pest population level that could be achieved.

With respect to target species, respondents overwhelmingly focused their comments on rodent populations, especially rats, however feral cats and rabbits were also commonly mentioned. Pest control methodologies that were discussed principally focussed on the use of trapping and/or vertebrate toxins. Many respondents reported controlling rodents locally around their private residences, some using traps with food bait and others using toxins. Perceptions of desirable levels of predator populations ranged from zero to sufficiently low to allow the natural recovery of native fauna populations and higher rates of seedling establishment, or to a specific target level to allow the reintroduction of species such as kokako.

Discussion of toxins was prevalent in most conversations, with respondents holding significantly polarised positions on this issue. Aerial broadcasting and ground based baiting using bait stations as control techniques were frequently raised in conversations by people who were both opposed and in favour of the use of toxins. Without doubt this issue is a vexed question for the community.

Respondents who considered toxins a viable control technique however held variable views over the spatial scale of predator control. Some focussed on an island-wide approach, while others focused more locally, either on a target area as has been done in defended areas such as the Glenfern Sanctuary, or in intensively managed areas such as at Windy Hill, or even more specifically in relation to their own residence. While not a widely held view, some respondents sought the eradication of rodents using an island-wide aerial distribution of toxic baits seeing this as a “no-brainer”. These respondents often reported a view that :

- fears about the environmental side effects of this type of operation were more imagined than real
- that the benefits of using this technique would outweigh any negative environmental impacts, including non-target species impacts to endangered species such as brown teal and banded rail
- that the use of toxins had scientific backing and there was evidence throughout New Zealand of its effectiveness
- the geography of Great Barrier Island made it difficult to consider ground base trapping

The predominant group of respondents however held serious reservations about the use of toxins and particularly their aerial distribution based on their personal evaluation of the associated risks. These included:

- The risk that the operation was unsuccessful and was a huge waste of valuable and scarce environmental resources
- The risk that even if successful, reinvasion as a result of the number of people and the volume of goods coming to island and the number of routes of access to the island would mean that ultimately it would fail
- The risk that other pests species may move to higher population levels and cause further damage, particularly rabbits
- The difficulty and costs of removing risks to domesticated animals, particularly livestock would make the total cost of an operation prohibitive
- The risk of potential non-target species impacts to vulnerable fauna that would be susceptible to the toxin, particularly brown teal, banded rail and others would be unacceptably high
- The reputational risk to the island would negatively impact its tourism sector as visitors may not want to come to an island they had heard was “covered in poison”
- The risk of contamination to water, particularly drinking water but also recreational water such as streams and beaches, to soils, particularly in gardens and stock grazing areas and to food supplies (gardens, fruit trees, bird and animal meat).
- The risk to human health from any poisons being inhaled, ingested or direct contact with them.

Some of these respondents reported a fundamental personal conviction that the use of toxins in general was unacceptable but the aerial distribution of them was completely unacceptable. They saw the dispersal of toxic bait as irresponsible on an inhabited island because of the risks that once introduced into the environment in this way the toxin may enter waterways and also widely impact non-target species. Some respondents indicated that their conviction was so strong they would be prepared to take direct protest action to prevent an operation of this nature.

While a small number of respondents felt existing traps technologies, even without toxic bait, if implemented correctly could be employed to manage rat populations, a large number of respondents felt that Great Barrier Island held an advantage to develop and advance existing pest control technologies and to become a leader in this area. This could include new and improved trapping technologies without toxins and specific ground-based toxin

delivery systems, such as is being currently developed by research institutes. There was acknowledgment developing these technologies would require money for investment and need to be 'science' led. In this, some respondents who were risk averse to the use of toxins did accept that some carefully targeted use could deliver significant benefits for pest control.

If total eradication of pests, particularly rats proved not to be technically feasible then many respondents accepted that long-term control over expanded areas would be needed until technology developments improved the chances of eradication being achieved, although again there was no consensus on how this should happen. Some respondents were content with management of pests only at a local scale and preferred focussing on managing their own pest control around their properties and so did not see a need for the island to seek control at a wider scale. One respondent who focussed on the local scale saw pest management as being a means to inspire and encourage the local community to work together. In general, most respondents believed that existing pest control initiatives were not working, or were unlikely to be sustainable over the long term. Those who focussed on local management sought more information being made available so they could improve the efficiency and effectiveness of the pest control they were personally undertaking.

Interestingly, only two respondents mentioned an invertebrate pest with the impacts of invasive wasps and argentine ants. Wasps particularly are a huge problem in other parts of the country and can have effects on native fauna that are difficult to detect and quantify without significant research.

A few respondents were concerned about feral pigs, however in general many respondents did not consider feral pig populations to be a significant pest on the island, with some expressing scepticism over their contribution as a potential vector of kauri dieback disease. Many who discussed pigs viewed them as a valuable food source and believed with continued management by responsible pig hunters their population could be adequately managed.

Building an Eco-economy

Many respondents linked environmental management initiatives to the state of the island's economy. Some linked the environment to issues of poverty in the community. As with the pest management issue, the issue of building an eco-economy was also commonly mentioned, and the range of responses was highly diverse.

In general, respondents saw the island's environment as advantageous for its economy, particularly for the generation of income from providing services to visitors. Respondents however overwhelmingly articulated that Great Barrier Island does not wish to become "another Waiheke". At the other extreme a very small minority of respondents saw the environment as a hindrance to economic development, preferring to clear large areas of regenerating forest to reinvigorate farming, or to begin large scale mining to exploit the island's minerals.

However, the lack of a cohesive economic development strategy that was integrated with environmental initiatives was seen as a disadvantage. Accordingly, promotional activities were often described as being fragmented and accommodation occupancy rates were low, making it difficult for operators to be sufficiently profitable to be able to invest in their businesses. Specific events were seen as an opportunity to capitalise on the environment of the island to draw visitors to the island and to support the local economy. These were identified as being point to point adventure activities, or more passive group activities such as garden tours.

Respondents were very clear that a more vibrant island economy would lead to a more vibrant and possibly larger island community and greater capacity for economic support for environmental initiatives. Some responses foresaw pest trapping as a significant employment opportunity particularly for young people on the island, although no clarity was offered around who would pay for this. One response pointed out that the island community had very little volunteering capacity for community projects as people necessarily had to prioritise earning an income ahead of environmental expenditure.

While the inclusion of a consideration of respondents' comments relating to the economy of Great Barrier Island may seem out of place in a project seeking to build a consensus for a vision for the ecological future of the island, it is important to record that it was the respondents themselves that have made this linkage. It is not a matter that the researchers specifically sought to investigate, however, the strength of the comments that were received and the tight integration that many residents saw between the island's economic future and its ecological and environmental future was such that the argument to include this discussion in the project report was compelling. To omit it would have been to deny those respondents the voice they have looked to the project to express and would have significantly slanted this report to selected responses.

Council Regulation

Allied to responses regarding economic development were a number of comments made regarding Council rules and regulations. Respondents felt that Great Barrier Island needed its own set of planning rules, including environmental management rules to better accommodate the character and realities of living on the island, especially the high cost of bringing materials to the island. Respondents felt that Council planning rules were an imposition on the community by outsiders who did not understand the island's way of life, that planners were not part of the solution and that regulation:

- failed to respect and use local knowledge and local experts
- seldom reflected the cultural nuances of the island, such as signage, which some referred to as Auckland Council tagging
- lacked commonsense
- was overly restrictive
- placed an unacceptable economic burden on an already struggling island economy

Later phases of this project may need to consider how options for specific activity controls for Great Barrier Island may be able to be addressed within the context of the Auckland Unitary Plan.

Ecological Restoration

The full set of responses to the open-ended question about how could the natural environment of Great Barrier Island be improved was dominated by discussion about many aspects of pest management, and although this can be viewed as a subdivision of ecological restoration the weight of comments meant it was appropriately addressed under its own heading. Similarly, many respondents also provided comments about economic matters in relation to the island's environment so was discussed ahead of this section.

A number of respondents however felt that the island's ecological conversations, which had historically been dominated by a focus on pests and pest control, overshadowed much needed discussions about ecological restoration. In this section is included a wide range of comments that were part of a large number of responses, indicating that the community seeks to actively manage, restore and enhance the ecology of the island's habitats and ecosystems. For brevity the responses included under this subheading are discussed as a number of annotated bullet points:

- Forest Regeneration – respondents seek to improve local habitat diversity by supplementary planting to improve the food supply for wildlife, particularly birds. They saw an opportunity for a community nursery to support this activity and the possibility this could provide work for locals while also making plants available to the community at a reduced price. Without using the term specifically, respondents saw this as a social enterprise.
- Wetlands – respondents recognised the need to give greater protection to wetlands to stop them being drained either by accident or by design. Some of the islands signature species rely on wetland habitat including brown teal.
- Ecological Weeds – some respondents saw these as an insidious threat that were largely flying under the radar given the dominant position held by animal pests in community conversations. A few respondents specifically discussed wilding pines but pampas grass and gorse were also identified. Shade tolerant weeds in regenerating forest can be a particular concern because of their persistence.
- Biodiversity – Respondents usually referred to birds but a raft of other species were also identified, including a small number of references to freshwater aquatic species such as koura and eels. Protection, restoration and enhancement of habitats will benefit all species that use those habitats.
- Kokako – Closely allied to comments relating to biodiversity are comments seeking the return of kokako to the island. This species is seen as a potential flagship species whose return to the island would signal significant gains being made in the restoration of forest habitat, particularly pest management and the recovery of a diversity of forest wildlife resources. One respondent also suggested that forested parts of the south of the island could be considered for reintroduction of kokako in addition to their historic range in the northern block.
- Supplementary Planting – While native plants can provide all the resources necessary for native wildlife some respondents saw advantages to including exotic plants in planting programmes as these can sometimes produce food for birds more quickly than native species, or can produce food at a time of the year when natural food is restricted. Winter nectar is one such example. Sacrificial food resources were also identified for helping deter kaka damage to production crops.
- Firebreaks – with the large areas of recovering kanuka forest now present on the island, the length of time this will be present and the threat of advancing climate change, a number of respondents voiced concerns about increasing fire risks and the potential devastation a large wild fire could cause. Great Barrier Island has historically suffered some very large fires so older residents have a memory of these

events. An advocated response to this was to form and maintain firebreaks to help contain any fires and reduce the resultant environmental damage.

- Beach Protection – in addition to the impact of uncontrolled dogs on beaches (discussed under 'domestic animals', below), respondents also recorded their concerns about vehicles driven on beaches, particularly on fragile and vulnerable dunes and they felt this should be banned to help protect these areas and areas inland of dunes.

Water Quality

The issue of water quality was a common theme particularly from residents in the Tryphena area. This related to quality of water in streams and in foreshore areas and to concerns about access to quality drinking water.

A number of residents asserted that many streams on the island were infected by giardia and several claimed to have been affected by bouts of giardiasis. One of the growing concerns articulated was that old and often poorly installed septic systems were beginning to fail across the island. The issue was perceived to be compounded by small beach sections such as seen in Gooseberry Flat, solid clay soils causing clogged drainage fields, overuse of small septic systems during peak holiday periods and insufficient pumping out of the systems due to the cost and/or environmental concerns of having to use diesel burning generators to complete this process.

Numerous residents believed the outcome of inadequately treated effluent being released into the ground risked contaminating nearby ponds, streams, and the foreshore. One resident stated: "My biggest concern is the quality of our drinking water and the quality of the water in our streams and in our beaches". Another commented: "all through summer there is a green algae that takes over the beach - our oceans are getting sick from overflows from septic systems and the dumping of rubbish. There needs to be water testing to see who is polluting the water and steps taken to stop it".

Waste Management

Waste management was a prevalent issue across the island and particularly in Tryphena. Issues included:

- there was a diversity of opinion from respondents who felt the current waste collection methods were 'stupid' and 'ineffective', and they expressed anger about changes to processes that to them made no economic sense and were unlikely to achieve the goal of waste reduction. Some, while not agreeing with the changes,

stated that they were taking a "benefit of the doubt approach", while others were delighted with the change and were 100% on board with the weekly collection and recycling locations.

- a growing unhappiness with the level of waste, such as packaging, unnecessarily brought to the island by residents, part-time islanders and visitors, without considering the cost of subsequently disposing of non-organic waste. Concern was expressed about visiting boat owners dropping off rubbish and visitors littering the beaches by discarding of rubbish for local residents to deal with.
- concern about the management of waste and a significant lack of confidence that recyclable waste that had been carefully separated was in fact being recycled. People were concerned at how recyclables were being managed and individuals also raised concerns about possible leaching from the tip into the environment.
- residents felt organic waste could be more effectively managed, including support for a composting facility that could sell compost back to residents.

Department of Conservation

As the Department of Conservation (DoC) is responsible for the management of approximately two thirds of the island many respondents saw DoC as a strategic partner in the improvement of the island's environment. The Local Board have identified the Department as a key agency and their engagement in this project will be sought in the next phase as the primary goal of Phase One was to understand the perspectives of the resident community with respect to developing an overall vision for the ecology and environment of Great Barrier Island.

Many respondents felt DoC could be more proactive with a greater ecological focus, rather than a perceived emphasis on improving facilities for visitors. Issues raised included tracks losing their natural character, which people saw as a drawcard for visitors. Some felt the Department should be asked to pay some rates on their land to improve the financial base of the island. Other respondents felt that DoC staff numbers being reduced was a retrograde step. In addition there was a perception that the Department had become "arrogant" and did not value local knowledge, experience and input.

Some respondents questioned DoC's genuineness in consultation and that it needed to communicate more, and more effectively with the community. Some respondents particularly in the southern parts of the island felt DoC had too great a focus on northern areas of the island. Many of these respondents' concerns may relate to the visibility of the Department's work and seeking greater communication and genuine consultation may help to remove differences between the perception and reality of DoC's actions.

Domestic Animals

Environmental problems caused by domestic animals were common issues raised by respondents. Dominant issues included the impacts of uncontrolled dogs on beaches, particularly the destruction of New Zealand dotterel nests, and the hunting behaviour of pet cats. Other respondents reported concerns about damage caused by wandering livestock. Respondents advocated a range of responses including:

- making it mandatory for dogs on beaches to be on a lead
- all pet cats to be desexed
- visitors being prevented from bringing pets to the island
- farmers to be fined for stock that wander onto public land
- provision of subsidies for farmers to improve boundary fences to stop stock wandering into forest areas adjacent to grazing areas.
- bird aversion training for all dogs

Summary

Several responses to this question stood apart from the rest as they were not about a specific issue or concern but rather were a call to action. One respondent, who supported the project, said it "was time to act" as there had been 20 years of discussion and inaction. Another said they were seeking "community focused protection of flora and fauna". Other comments were searching for a way to overcome conflicts around issues and there were calls for people to "talk and to work together". These responses accurately reflect the "can do" attitude of the community and the communal approach to living together and supporting one other, values of which the island's resident community are justifiably proud.

7.4 Gaps in the fabric

Tangata whenua perspectives

Meeting with the Ahi Kaa of Ngati Rehua Ngatiwai ki Aotea, the people of mana whenua who remain on the island to "keep the fires of occupation burning", revealed important cultural concepts that require inclusion.

The first is the concept of Te Ao Maori, the Maori world-view. Based on the understanding that every culture has a set of fundamental beliefs that form the framework of that culture, it was explained there are a number of central components of the Maori world-view that affect the way the natural environment is both perceived and managed. These include *Tikanga Maori* (customs and customary practices), *Kaitiakitanga* (stewardship or guardianship of the environment), *Whānautanga* (kinship bonds), *Mātauranga* (traditional and contemporary

knowledge), *Wairua* (the spiritual platform), *Tapu* (sacred knowledge, practices and places), *Kotahitanga* (a state of 'oneness'), *Manaakitanga* (hospitality, and in relation to this specific kaupapa (agenda) the explicit expectation of welcoming and hosting visitors), and *Mana* (status, authority and legitimacy).

The second concept, which has key relevance to this ecology conversation, is *Tūrangawaewae*, one of the most powerful Māori concepts, which literally means *tūranga* (standing place), *waewae* (feet), which is often translated as 'a place to stand'. Ngati Rehua Ngatiwai ki Aotea describe Aotea Great Barrier as their turangawaewae, their foundation and home, and the place where they feel connected and empowered. In the concept of tūrangawaewae, the external world is a reflection of an inner sense of security and foundation. The mountains, rivers and waterways to which Ngati Rehua Ngatiwai ki Aotea can claim a relationship also express this internal sense of foundation.

These cultural components shape and define how mana whenua understand the ecology around them and their place within it. They also shape their core assumptions and understanding about how others will behave as a manuheri (visitor) on their land. Respondents spoke of incidents where the Ahi Kaa felt their mana had been trampled upon by others who failed to respect the tikanga of their place. It is anticipated these incidents were the result of lack of understanding of the centrality of Ngati Rehua Ngatiwai ki Aotea Tikanga. The outcome has been a loss of trust and confidence with government authorities. From an Ahi Kaa perspective this needs to be restored and healed.

Ongoing discussions of the ecology of Aotea Great Barrier are challenged to find a way to navigate between Te Ao Maori and Te Ao Pakeha. By weaving together the values and beliefs of the cultures of all people on the island there is the opportunity to find a richness and complexity of design that is absent in a tapestry woven from one fibre of one colour.

Community perspectives

The final two open-ended questions that respondents were asked to consider were both designed to build an understanding of what residents perceived to be gaps in the discussion. Within this, individual responses were received from Ngati Rehua Ngatiwai ki Aotea members of the community, however, the above section is included as a result of the special place that Ngati Rehua Ngatiwai ki Aotea have as a voice within the community. The two questions were:

- *If you wish, please record any further general comments you would like to make about the natural environment of Great Barrier Island*

- *What further information would you like to have that would help you to be more informed to contribute to shaping a shared vision for the ecological future of Great Barrier Island?*

The first of these questions gave respondents an opportunity to discuss gaps in the environmental issues they felt needed to be included in the conversation and which had not surfaced in the previous parts of their overall response. The second gave them an opportunity to identify gaps in their own knowledge so these could possibly be addressed in later phases of the project.

As with the previous questions both these questions also generated a wide range of responses, however because individual responses were often not as succinctly separated into specific responses to each question, but rather were often merged together, the discussion of these responses here has also been merged.

Respondents recognised that Great Barrier Island was a very special place, and often described it as unique. They also saw the issues the island was facing were unusual and that in all likelihood any solutions would have to be crafted on the island using a fusion of local knowledge and experience and specialist knowledge from elsewhere.

Respondents recognised there was a pressing need to be able to reconcile potentially divisive issues, such as how best to develop a shared vision for pest management. They also recognised that given the characteristics of the island and its community that people and nature had to live in harmony and many wanted this approach to extend into inshore marine areas so the island could generate a truly holistic environmental approach.

Some respondents felt the challenge would likely get bigger before it got smaller, especially with the continuing gradual decline of traditional land uses for farming and forestry. However, by grasping the nettle and seeking a vision for their own ecological future some residents saw Great Barrier Island becoming a national and possibly international role model. This would likely necessitate a consideration of the bigger political picture and a number of respondents saw an explicit relationship with iwi as needing to be part of the mix. The whole underlying philosophy of this project and many of the responses provided by residents, both Maori and non-Maori, align well with Maori concepts of kaitiakitanga, of guardianship and of a deep spiritual connection between humans and the natural world.

More than one respondent encouraged the project to strive for a bold vision that would capture people's imagination and not to settle for something that could soon appear to be mundane. At the intersection of calls for both a bold and holistic vision lay responses that saw an integrated multidimensional concept of sustainability at the heart of the vision, however this was articulated as having to be a true integration of community, economy and environment and not a trite or shallow interpretation of the concept. If embraced, this concept has potential to provide a framework for the interlocking of mainstream ecological and environmental issues with closely related issues such as waste management, zero waste, alternative energy, sustainable housing and community enterprise.

While being supportive of the project, some respondents correctly identified that to translate a vision into actions will require significant funding, potentially over long time periods, with more funding being required for more ambitious visions. This practical implication will obviously need to be given significant consideration as the project moves forward. These respondents felt it would be wise to begin with some small achievable projects, to get "runs on the board", but here too lay calls for bold actions with suggestions that consideration should be given to mobilising sufficient resources to purchase and protect key areas to protect special values and to showcase the implementation of the vision.

A number of respondents raised more practical issues in their responses, some of which could be candidates for consideration as foundation projects for building the ecological future that is eventually agreed upon. This included improved interpretation of the island for visitors including its geography, history and environment, with the creation of a network of view shafts throughout the island that could be used to both promote the island and to give visitors a reason to visit different parts of the island.

Respondents who provided perspectives on what further information they would like to have to help them be more informed to contribute to shaping a shared vision for the ecological future of Great Barrier Island identified an interesting array of considerations. Some noted they felt the "State of the Environment" report prepared and produced by the Great Barrier Island Environmental Trust community group was particularly useful to focus ongoing discussions. Related to this were suggestions that more information about the island's flora and fauna would be helpful along with practical information on how individuals could undertake personal ecological enhancement activities. Others sought a channel to be able to become more involved and continuing the conversation begun with this project was seen as beneficial so that people could remain connected to the community dialogue.

As noted above, respondents acknowledged that off-island expertise would likely need to be part of the solution and suggestions for this included forging closer relationships with tertiary institutions to leverage student research and possibly offer internships so students could gain practical real world experience to supplement their academic studies. These types of inputs could significantly assist with ecological and environmental assessment and the ongoing monitoring of high value areas. Other respondents saw the benefits of a "brains trust" so specialist knowledge and experience could be quickly mobilised as and when it was required. Specific debates were recognised as benefiting from expert knowledge and in this respect the issue of alternatives to toxins for pest control was specifically identified. Prevalent amongst respondents was the linkage of knowledge gaps with the need for environmentally sympathetic economic development and they sought support for business on the island so this sector could do more to provide work and profitability to support families within the community.

7.5 Speaking with pictures

Eight respondents shared visual records of the island's environment. Four respondents provided digital photographs attached to their on-line questionnaire response and four shared photographs during interviews. A total of 15 visual records were provided to the researchers including 12 photographs and three video recordings.

The existence of video records had not been anticipated and they covered subjects as diverse as whales, predator control and community conservation programmes. Of particular interest was that two of these had been uploaded to the on-line You-Tube video sharing website in the hope that others could learn from the techniques illustrated in the recorded material. A further respondent shared a painting that was personally important but not directly related to the natural environment of the island.

The 12 photographs illustrated a diverse range of environmental subjects in relation to the three photo-elicitation questions including:

- Mt Hobson as an illustration of the island's bushclad rugged geography
- Medlands and Kaitoke beaches as illustrations of places of solitude and opportunities for personal reflection but also to discuss the impact of uncontrolled dogs on nesting shorebirds and the impact of vehicles driving on fragile dunes
- Port Fitzroy as an illustration of a wonderful harbour enjoyed by many summer visitors but also a place of connection with the sea through swimming and fishing and watching orca, dolphins and shark when the harbour was calm and quiet

- Banded rail as an illustration of close personal contact with rare and threatened wildlife and the thrill of watching them successfully breed and rear young, especially feeding them with appropriate food and the knowledge that this has helped in a small way to ensure this species survives on the island
- streams at Awana and Medlands to illustrate freshwater ecosystems impacted by both lowered water quality due to farming impacts and invasive weeds such as pampas but also as examples of forest regeneration and what individual landowners can achieve by taking action to control and monitor ecological weeds and the sense of personal satisfaction that results from making a difference
- a large wilding pine as an illustration of slow, gradual but inexorable environmental change that without active management will mean continual reduction of the natural character of the island's environment
- overflowing public rubbish bins to illustrate the challenges of providing adequate visitor services but also a perception of Council inaction when asked to respond to problems including weeds spreading along roadside verges
- an historic photograph to illustrate the reversion of areas previously cleared for farming that are now vegetated with regenerating kanuka forest.

Respondents who took the effort to share photographs clearly felt this was a useful response as half of them provided a photograph and response to all three of the photo-elicitation questions. Although small in number, the range of visual material responses shared with the researchers spanned the full variation of responses received across the whole project including:

- iconic landscape scenery
- personal environmental connections
- forest regeneration
- coasts
- harbours
- streams
- water quality
- human impacts
- visitor impacts
- mammalian predators
- invasive weeds
- rare wildlife
- individual environmental initiatives

- community environmental initiatives
- history

Responses also clearly demonstrated a deep, close and personally meaningful emotional connection with the environment as well as a sense of responsibility to care for it and to "put things right". Respondents used phrases such as:

- centres me in a small community
- a sense of belonging
- I love the beach
- it upsets me to find birds attacked by dogs
- proves what an individual landowner can achieve
- such a nice place it doesn't seem like work
- a special place that deserves protection
- individuals can and must make a difference

The smaller database of photo-elicitation responses has had a further advantage of adding validity to the larger database of responses as despite its reduced size, it has used an alternative line of enquiry to interrogate the same subject area and in general it has provided the same breadth and deep of response that has been found in the larger database. This suggests that the Great Barrier Island resident community's understanding and expectation of environmental issues is likely to be more complex than may have previously been realised. Detecting this complexity and making sense of it is important for the design of later phases of this project as the breadth of perspectives must be captured going forward as well as the depth of concern for any one particular perspective.

7.6 Discussion

The diversity of perspectives that have been recorded in this project cover a wide range of different subjects as noted several times above. Without any specific enquiries being made of the residents who engaged with the project, it is noteworthy that a number of the perspectives were explicitly presented in terms of a respondent's obvious personal values of sustainability. Other responses included perspectives from all the main dimensions of a sustainability framework without being labelled as "sustainability" whereas others were more narrowly focussed on individual components of sustainability.

Once this pattern of responses became clear, all respondents were placed within a sustainability continuum represented as an equilateral triangle with the three main

dimensions of sustainability located at the vertices (figure 1). The placement of respondents was based on the breadth and relative weightings of perspectives within their response and the expectation was that responses would be clustered into the "environmental" half of the triangle. Once all respondents had been placed, the distribution and density of placements within the triangle was represented with shaded areas. The lightest shading represented gaps within the distribution, the darkest shading represented the highest density of placements and the mid-tone shading represented areas where respondents were distributed at low density.

As expected, the only vertex to which the high-density groupings extended, was the "environmental" vertex, however, as the conversation was principally about the community's environmental views this is not surprising. Of note was the tendency of respondents to cluster into the middle regions, representing a significant bias towards respondents voicing their perspectives as a connected and integrated multidimensional view that linked environment with economy and community. This bias extended towards the environment to community axis of the triangle and reflects the importance of community and of "working together", that was present throughout the full range of responses.

The conclusion from this is that respondents' sense of place was tightly linked to their personal connection with their community and their environment. While economic considerations were present and voiced as important, these were not principal motivations for respondents' connection with the island but rather played a supporting role. Although economic considerations were important they were not an end in themselves but rather a means to an end, with the end being the ability to live on the island, either full time or part time, as part of the island's community and in the landscape and environment that is the island.

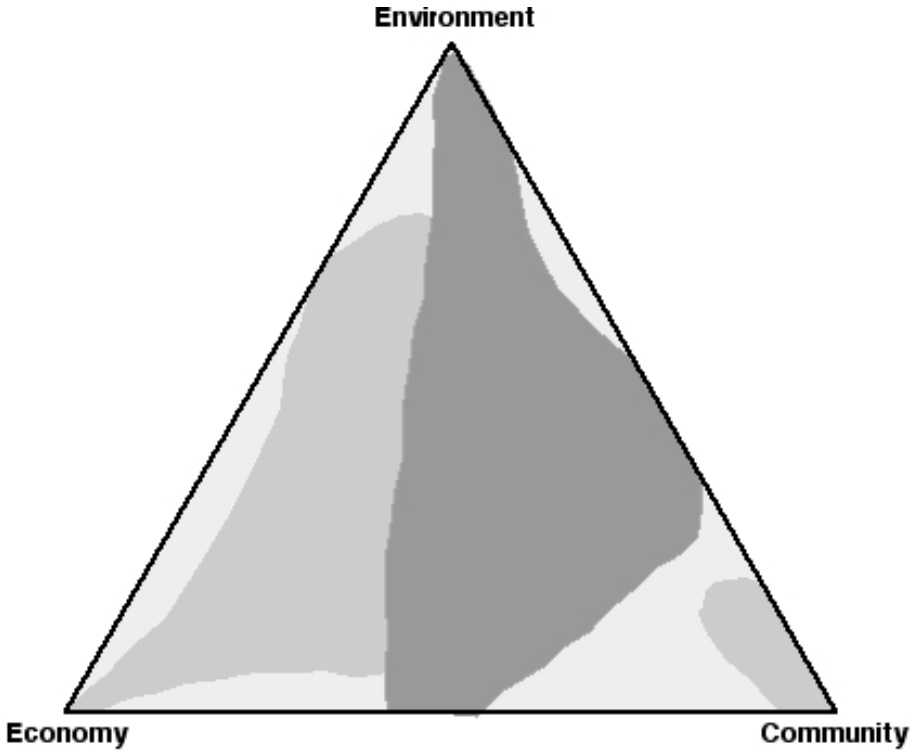


Figure 1: The distribution and density of respondents placed into an integrated multidimensional sustainability continuum. Darker areas represent higher density of respondents, light areas represent gaps in the distribution and mid-tone shading represents a low density of respondents.

A particularly important perspective discussed by many respondents that has not been discussed above, was the importance of the next generation. Respondents spoke of their support and admiration for the environmentally focussed activities that teachers undertook at the island's schools and how they were enlivened by the enthusiasm with which the children embraced these activities and the obvious enjoyment and learning they gained from them. Respondents saw this as laying the groundwork for the island's citizens of tomorrow to carry on with the values they personally held and cherished.

In a similar vein respondents were anxious that the island's economy could be sufficiently invigorated so that today's island children, when older, could see a viable future for themselves with access to stable employment opportunities to enable them to commit to a long-term future on the island. By being able to maintain a good age structure across the island's population, rather than one that was over-represented in the older age classes and under-represented in the younger and middle age classes, the island would be able to arrest the gradual reduction in the number of permanent residents, avoid further economic decline and maintain services.

8.0 MOVING FORWARD

8.1 Reflecting on Phase One

This first phase of the project to develop a collaborative vision for the ecological future of Aotea, Great Barrier Island has been undertaken using a participatory methodology. The key points that were identified that make this type of approach effective included:

1. *the process must be underpinned by empowerment, equity, trust and learning*

   This aspect has been achieved by way of all residents, both full-time and part-time residents being able to freely engage with the project across a number of different engagement and response channels, and equally to be able to choose not to engage at this time. All those who engaged with the project were given equal standing and while the researchers have learnt an enormous amount about the island and its community they hope this report repays the trust the community had in the project methodology when they gave so willingly of their time, knowledge and experience.

2. *it should be considered as early as possible in a project's lifespan*

   The use of a participatory approach for the methodology was proposed at the very beginning of discussions between the researchers and the Great Barrier Local Board about how to frame the project and has been faithfully carried through to date. It is hoped this approach will be continued into later phases of the project.

3. *participants should be representative of the community*

   The analysis and discussion of community engagement and participation confirmed that a broad cross section of the island community chose to participate in this phase of the project.

4. *objectives must be widely agreed at the outset*

   The extensive community consultation the Local Board undertook for the preparation and publication of the current Local Plan confirms the objectives that have been used to frame this first phase of the project were widely agreed. The strength of community engagement that has occurred with this project, confirms that the Board's objectives have been embraced by the community.

5. *the approach must be tailored to the context and have skilled facilitation*

   The overarching approach to this first phase of the project has been to listen and understand the community's perspectives on the current and future ecological state of the island so these can inform and guide later phases of the project. The researchers leave it to the judgement of others as to whether the facilitation of the project to date has been executed with skill.

6. *local community knowledge and specialist knowledge should be integrated into decision-making*

   This is necessarily a work in progress. Obviously there is a great deal of local and specialist knowledge on the island, however, it is envisaged that later phases of the project will need to draw on further specialist knowledge to unravel particular issues. Decision-making is a task that still lies ahead.

7. *participation should be institutionalised to ensure its long term success*

   This process has begun with the Local Board committing to using the eventual outcomes from this project to inform and guide environmental decision making into the future. As identified in the opening section, later phases of this project will also need to extend the institutional reach of the project to engage with other institutional stakeholders on the island.

8.2 Approaching the next step

It is clear from the turbulence of past community discussions that reducing the ecological debate to a series of single issues, breaks the connections that people see between the issues and leads to contestation. It was clearly articulated throughout this phase of the project that people feel fatigued with this approach and are seeking a new way to advance the conversation where issues are not considered singly, but rather in a more holistic way.

People saw an opportunity to work together on these issues just as they work together and support one another in many other aspects of their lives on the island.

The integration of issues was one of the most outstanding characteristics of all the responses received to all of the questions that were asked. By considering issues together allows them to be evaluated with relativity, rather than evaluating them in absolute terms when they are considered separately. In this, it is likely that compromise and collaboration will be found in the spaces that exist between issues rather than the contestation that emerges when there is a focus on single issues.

8.3 Characterising the journey ahead

A question that requires an evaluated solution to be implemented can be characterised as one of four "problem domains" as listed below, which recognise the entanglement of issues based on the level of agreement among stakeholders and the certainty of developing and implementing an effective solution.

Simple problems: These have a high degree of agreement among stakeholders and a recognisable solution all of which have little risk of failure associated with them. These problems are usually solved through purchasing readily available solutions.

Complicated problems: These have less certainty of agreement among stakeholders and solutions are often not obvious and when they are identified have some significant uncertainty about their success. These problems usually rely on specialist input, with problems solved by reducing them to their constituent pieces and designing a solution to tick all the boxes. These solutions are usually of a technical and scientific nature. Offshore island restoration on uninhabited islands in New Zealand is an example of this type of problem domain.

Complex problems: These are problems characterised by having a large number of stakeholders and so a wide diversity of views on what a solution might look like and because of this there is usually a high degree of disagreement amongst stakeholders, at least at the outset. Coupled with this, these problems also have very uncertain solutions that generate ongoing conundrums where each potential solution may actually raise more questions than they answer. The answers to these generally have to be specifically crafted to the problem and require much collaboration and compromise between the stakeholders for them to emerge from the milieu.

Chaotic problems: These contain so much uncertainty both in the characteristics of the problem but also amongst the solutions as to be virtually unsolvable.

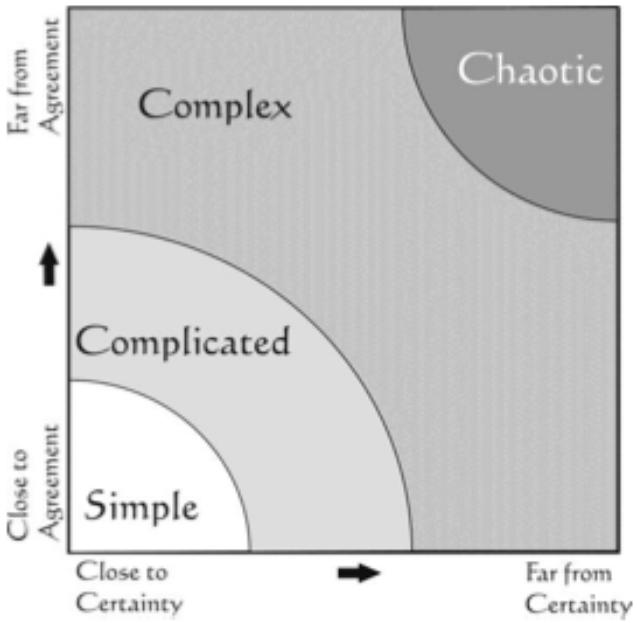


Figure 2: Problem Domains.

The task ahead for the development of an ecological vision for Aotea Great Barrier is a complex problem. The eventual shape of the answer to this task is not yet fully known. Discovering the final outcome will be an emergent process that will require stakeholder dialogue, understanding, collaboration and compromise to build a robust solution that will endure.

8.4 Emergent ideas

The full range of participants' responses has placed a plethora of ideas on the table for consideration by later phases of this project. These range across all the dimensions of a sustainability framework, they range across timeframes from "do it now" to decadal and they range from the high level strategic to practical tactical actions that can be "got on with". All are valid and all are useful and many will need further exploration. The challenge is to arrange them into the warps and wefts of a richly embodied tukutuku panel to portray and communicate the community's vision of the island's ecological future.

Ideas for advancing the development of an ecological vision for Aotea Great Barrier Island that emerged from phase one of the project are identified and discussed below. It is most important that the ordering of these ideas below is not seen as any suggestion of priority, as prioritisation is a task that must be reserved for further community discussion in later

phases of the project. It is also important to emphasise that while these ideas have emerged from the community in phase one of this project that it is likely that further ideas will emerge as engagement continues. This is a complex, adaptive and emergent process.

Pest management

This issue has loomed large over this first phase of the project and there is no consensus in the community as to how pests should be managed. Some accept the use of toxins as having a role to play through ground based delivery methods rather than aerial distribution, which is seen as indiscriminate, untargeted, fraught with risk and highly divisive within a small community. While some do support this latter approach, many are implacably opposed to it. Emergent from this discussion, is the opportunity to shift the technologies of pest management forward and to search for innovations and improvements, particularly in trapping technology to allow effective pest management to be implemented over wide areas with a significant reduction in the concomitant risk profile.

Scale

Whereas it would obviously be hugely beneficial if pests could be removed from the island, and this may one day become a potential reality, seeking this as an immediate goal is seen as unrealistic because of the enormity of the task, the high risk of failure, the ongoing maintenance costs, and the associated opportunity costs. While this objective is being pursued a great many other opportunities will not be able to be pursued because of the level of resources that will need to be committed to it, both in terms of undertaking the initiative but also to monitor and maintain any gains that are made.

Some respondents indicated a stepping stone to the island wide management of pests could be the establishment of a network of both defended areas, each with a target of being pest-free, combined with areas of reduced predator densities to provide havens for wildlife. Defended areas, such as the Glenfern Sanctuary, could include peninsulas that could be cost effectively protected with additional predator reduced areas focussed on high value habitats such as black petrel nesting colonies and fauna reintroduction sites.

A centre of excellence

While respondents recognised that the Great Barrier Island community has considerable local and expert knowledge, there was acknowledgement that off-island expertise and knowledge will likely need to be sought to advance the community's agreed ecological vision. A centre of excellence was proposed by a number of residents to allow the vision to be undertaken with direction and management so that all components of the vision can be advanced in a co-ordinated and cohesive manner. It would also allow the ownership of the

vision to remain with the community. Innovative pest management and co-ordination of a network of ecological oases (mentioned above) would both benefit from such a centre, which would allow new technology to be focussed on to both.

A centre of interpretation

Whereas a centre of excellence could exist virtually as a body of specialist knowledge, a centre of interpretation could have a physical presence as a focal location for education, information and interpretation much in the same vein as a pataka or storehouse. This centre could showcase the island to visitors, be a conduit for the distribution of knowledge across the island and the generations, be a repository for and gateway to the island's history, people, artwork, stories and be the beginning of an interpretive trail that extended across and carried visitors to all corners of the island. This trail could use traditional or quirky markers or leverage technology so it remained "signless" to reduce the visual footprint of interpretation, which was a concern for a number of respondents. Given the community's strong interest in community and economy, as presented in the sustainability visual above, the centre need not be restricted to the natural environment but could also encompass wider sustainability issues that have been identified such as alternative energy, waste management and reduction and resource recycling.

Environmental networks

Respondents exhibit their environmental care in different ways. Some sought to belong to more formally structured organisations, others preferred more informal and local groupings often based on personal friendships, whereas some sought to make a personal contribution on their own. All are useful and represent the capacity that individuals have to make a contribution either through direct action, or by co-ordinating group actions. Some make this a consistent part of their lives, some respond to issues as they present themselves, while others do so when there is space in their lives for this.

Allied to the ideas of a centre for excellence and a centre of interpretation is the idea of a co-ordinated environmental network that can connect people and groups, both existing and new, to support their capacity for action by matching what people want to do, or are able to do with what needs to be done. This framework may also stimulate an expansion of environmental activity to build on existing networks as people feel their individual actions can contribute to a larger community initiative, even if each contribution may only be modest. This idea must consider how best to connect with existing networks that engage in complementary social and economic endeavours.

Resourcing the vision

Any ecological vision for the island will likely require the careful allocation of available resources plus an expansion of resources needed to drive new and bold initiatives. Whereas the Great Barrier Local Board have a mandate to advance this project through the current Local Board Plan and to commit resources to it the vagaries of the political process mean there is risk associated with an assumption that local government or central government support will be consistent and long term. Economic conditions wax and wane and politicians come and go sometimes in relation to the issues of the day.

The Local Board have explicitly stated they see an ecological vision for the island's future on a decadal time scale, yet their political process is not aligned with this and is much shorter. An idea that emerged from some respondents was the creation of a resource vehicle that was held closely by the community, was independent of institutional politics, would be long-lived and could attract new resources for the vision that would be unlikely to step forward if the vision was controlled by political institutions. This could also take advantage of charitability so that private supporters can see benefits for providing support that would not be otherwise available through other vehicles. If furthered, such an idea would need careful and detailed consultation with, and consideration by, the community.

8.5 Taking the next step

Phase One of the project has purposefully focused on understanding the community's perspectives and aspirations for an ecological vision for the island. The outcomes of this phase of the project are reported in this document.

This section outlines the next step on the journey towards agreeing an ecological vision for Great Barrier Island. In general, the thrust is to retain a participatory methodology, to continue the conversation, to expand it to stakeholders that have not yet been included, to provide an opportunity for further ideas to emerge and to provide direction to the process that is adaptive and guided by what has been learnt in the first phase.

Institutional consultation

Reaching out to consult with stakeholder institutions is a necessary next step including the Department of Conservation, Ngati Rehua Ngatiwai ki Aotea, the wider Auckland Council organisation and possibly also the Hauraki Gulf Forum.

Workshop forums

Discussion of this report on the outcomes of phase one will help inform the choice of which emergent ideas are carried forward. For those that do form the basis of later phases of the project, it would be useful to develop different scenarios for each idea so these can be communicated and considered by the community and the benefits of each can be discussed in workshop forums. This approach will retain the participatory nature of the overall project methodology and bring focused direction to those that are carried forward.

Island scan

Other small island communities have likely grappled with similar mixes of issues as they seek to retain their social, economic and environmental identities. By searching for these examples, valuable lessons may be learnt about what others have found to be successful and what has been found to be unsuccessful and this could usefully inform this project. Islands that may have this experience include Scottish Hebridean islands, the Falkland Islands and possibly Lord Howe Island as a relatively close neighbour. Other collaborative visioning projects in New Zealand should also be explored to learn from their experiences.

Specialist Working Group

Specialist knowledge that is relevant to Aotea Great Barrier Island also resides in New Zealand's research and environmental institutions. The island could leverage this by making available research opportunities so that experts can see professional benefits of becoming aligned with the community's ecological vision and in return the community could benefit from having their expertise. This will also potentially inform the development of scenarios to be considered within the workshop forums for each of the emergent ideas. Engaging with off-island specialists however must be handled carefully as some respondents are wary of the potential for 'outsiders' to "tell us what to do". As the project moves forward, it is critical to continue its open and transparent approach to fostering a truly community-driven and collaborative process to create an ecological vision for Aotea Great Barrier Island.

9.0 REFERENCES

Allan, C. J., Nguyen, T., Seddaiu, G., Wilson, B., & Roggero, P. (2013). Integrating local knowledge with experimental research. *Italian Journal of Agronomy, 8*, 108-116.

Arnstein, S. R. (1969). A Ladder of Citizen Participation. *Journal of the American Institute of Planners, 35*, 216-224.

Auken, P., Frisvoll, S., & Stewart, S. (2010). Visualising community: using participant-drive photo-elicitation for research and application. *Local Environment, 15*(4), 373-388.

Collier, J. J. (1957). Photography in Anthropology: a report on two experiments. *American Anthropologist, 59*(5), 843-859.

Cornwall, A., & Jewkes, R. (1995). What is Participatory Research? *Soc Sci Med, 41*(12), 1667-1676.

Freire, P. (1970). *Pedagogy of the Oppressed*. New York: Continuum.

Freire, P. (1975). *Conscientization*. Geneva: World Council of Churches.

Kindon, S., Pain, R., & Kesby, M. (Eds.). (1997). *Participatory Action Research: Connecting People, Participation and Place*. London, UK: Routledge.

McEntee, M. J. (2013). Beyond linear technology transfer: Examining learning environments in six sustainable agricultural participatory research projects. *Extension Farming Systems Journal, 9*(1), 114-123.

Neef, A., & Neubert, D. (2011). Stakeholder participation in agricultural research projects: A conceptual framework for reflection and decision-making. *Agriculture and Human Values, 28*(2), 179-194.

Raymond, C., Fazey, I., Reed, M. S., Stringer, L. C., Robinson, G., & Evely, A. C. (2010). Integrating local and scientific knowledge for environmental management. *Journal of Environmental Management, 91*, 1766-1777.

Reed, M. S. (2008). Stakeholder Participation for Environmental Management: A Literature Review. *Biological Conservation, 141*, 2417-2431.

Sewell, D. (2001). Human Settlement and sites. In D. Armitage (Eds.), *Great Barrier Island* (pp. 21-39). Christchurch, NZ: Canterbury University Press.

Vanclay, F. (2011). Social Principles for Agricultural Extension for the Promotion of Natural Resource Management. In J. Jennings, R. Packham & D. Woodside (Eds.), *Shaping Change: Natural Resource Management, Agriculture and the Role of Extension* (pp. 62-71). Australia: APEN.

Wadsworth, Y. (2010). *Building in Research and Evaluation: Human Inquiry for Living Systems*. Crows Nest, Australia: Allen & Unwin.

Webler, T., Tuler, S., & Krueger, R. (2001). What is a Good Public Participation Process? Five Perspectives from the Public. *Environmental Management, 27*(3), 435-450.

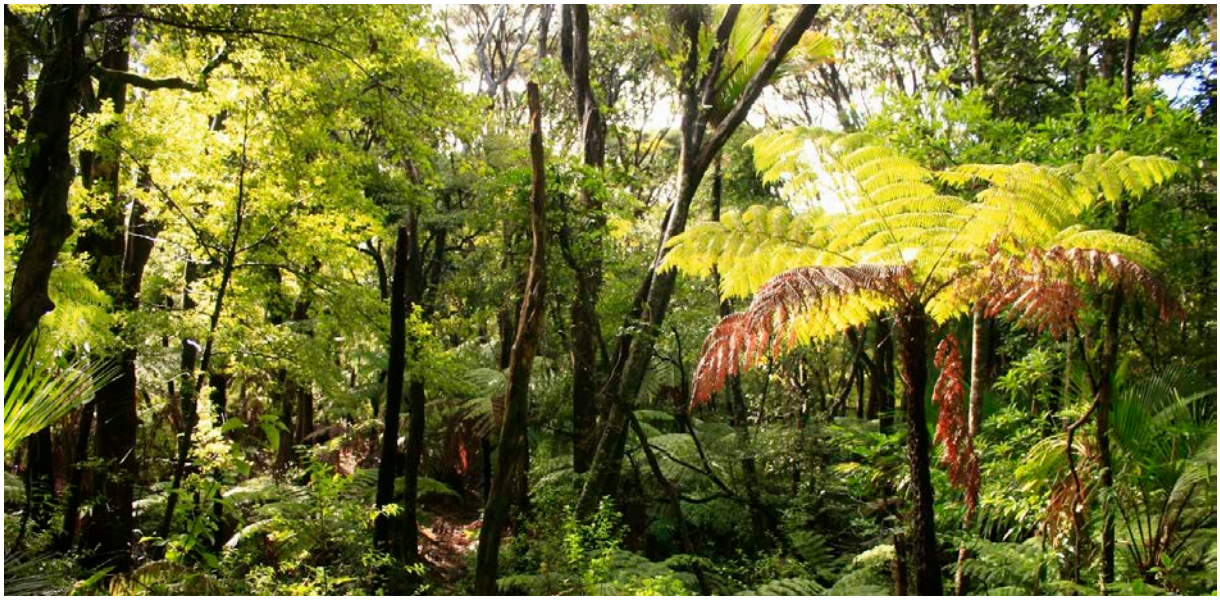
Whyte, W. (Ed.). (1991). *Participatory Action Research*. Newbury Park: Sage Publications.

10.0 LIMITATION

This report has been prepared solely for the benefit of the Great Barrier Island Local Board and no responsibility is taken in respect of any other organisation or person. It contains confidential and privileged information and Aranovus Limited reserves all its rights with respect to this information. Reliance by other parties on the information or opinions contained in this report shall be at such parties sole risk without our prior review and agreement in writing. No part of this report may be reproduced without the prior permission of Aranovus Limited. Aranovus Limited is not responsible for any changes made to this report after it has left our office.

APPENDIX I

Great Barrier Island Ecology Vision
Phase One Questionnaire



Introduction - Please read before continuing

Thank you for participating in the first phase of the Great Barrier Island Ecology Vision project. This has been launched to capture the breadth and diversity of people's perspectives of and vision for Great Barrier Island's ecological future. This first phase enables you to participate in actively shaping how the project will progress.

As ecology is about understanding the relationships of plants, animals and the environment, we want to canvas people's opinions about all aspects of the island's ecology. The project includes all the island and reaches down to low-tide to cover estuarine and intertidal areas, but won't extend into issues such as marine protection.

Completing this questionnaire may take as little as five minutes of your time. We welcome any information you have, no matter how small it is and the questionnaire provides opportunities for you to expand your responses. If you require more space to answer questions, please feel free to write on the reverse side of the pages.

The questionnaire has THREE sections. All information you provide will be collected and collated by Marie McEntee and Shirley Johnson, who have been asked by the Great Barrier Local Board to undertake this project.

To ensure the questionnaire information is representative of the island's population, we need to collect demographic information. However, the information you provide will only be known to Marie and Shirley. To ensure privacy, all feedback will be aggregated so NO information can be attributed to any individuals.

Please continue overleaf to Section A

Section A - "The Environment Is At Its Best Here"

The recently published Great Barrier Local Board Plan has as a key outcome, "The Environment Is At Its Best Here". We would like your opinion about this objective with respect to the natural environment of Great Barrier Island. Please continue your responses on the reverse of the page if you wish.

Question A.1 - In your view what is "best" about the natural environment of Great Barrier Island?

_____

_____

_____

_____

_____

_____

Question A.2 - In your view how could the natural environment of Great Barrier Island be improved to make it the "best"?

_____

_____

_____

_____

_____

_____

Question A.3 - If you wish, please record any further general comments you would like to make about the natural environment of Great Barrier Island

_____

_____

_____

_____

_____

_____

Section A continued overleaf

Question A.4 - What further information would you like to have that would help you to be more informed to contribute to shaping a shared vision for the ecological future of Great Barrier Island?

_____

_____

_____

_____

_____

_____

Section B - Your Photos

Photos are a powerful way to visually convey your opinion. We are interested in viewing current or historic photos of Great Barrier Island's natural environment in three categories:

Category 1: Places or objects in the natural environment that you value
Category 2: Places or objects in the natural environment that you believe need to be improved
Category 3: Places or objects in the natural environment that are important to you and your way of life.

You can share a photo in one or more of these categories but please provide only ONE photo per category.

Question B.1 - Would you like to share any photographs with us?

Yes _____ No _____

If you answered 'No' to B.1, please move to Section C on page 6 of this questionnaire.
If you answered 'Yes' to B.1, please continue with Section B below.

Sharing Your Photos

Pages 4-5 of the questionnaire provide the opportunity for you to tell us the story of your photo(s). You will need to send your photo(s) to us either by email or post.

BY EMAIL - if you have digital copies of your photo(s) you can email them to us at engage@gbiecologyvision.nz. Please name each file with your name AND the photo title.

BY POST - if you have physical copies of your photo(s) you can post them to us at Freepost 248680, PO Box 24522, Royal Oak, Auckland 1345. Please write your name AND the photo title on the back of each photo.

If you only have original copies of the photos you can take them to Kit at the Claris computer shop and he will either scan or copy the photos for you so you can send them to us.

You will retain the copyright of all photos you provide.

Section B continued overleaf

Question B.2 - Would you like to share a photograph of places or objects in the natural environment that you value?

Yes _____ No _____ (please move to Question B.3)

Photo Title

_____

Photo Location Approximate Date of Photo

_____

Tell us the story of your photo (Please continue your responses over the page if you wish)

_____

_____

_____

_____

_____

Question B.3 - Would you like to share a photograph of places or objects in the natural environment that you believe need to be improved?

Yes _____ No _____ (please move to Question B.4)

Photo Title

_____

Photo Location Approximate Date of Photo

_____

Tell us the story of your photo (Please continue your responses over the page if you wish)

_____

_____

_____

_____

_____

Section B continued overleaf

Question B.4 - Would you like to share a photograph of places or objects in the natural environment that are important to you and your way of life?

Yes _____ No _____ (please move to Section C on page 6)

Photo Title

_____

Photo Location Approximate Date of Photo

_____

Tell us the story of your photo (Please continue your responses over the page if you wish)

_____

_____

_____

_____

_____

Thank you for telling us the story of your photo(s). Don't forget to send your photo(s) to us either by email or post.

BY EMAIL - if you have digital copies of your photo(s) you can email them to us at engage@gbiecologyvision.nz. Please name each file with your name AND the photo title

BY POST - if you have physical copies of your photo(s) you can post them to us in the freepost envelope provided to: Freepost 248680, PO Box 24522, Royal Oak, Auckland 1345. Please write your name AND the photo title on the back of each photo.

Please continue overleaf to Section C

Section C - Demographic Information

Section C contains EIGHT questions. Your individual answers to these questions will remain strictly confidential to the project researchers and will not be disclosed to other parties. The information collected from these questions will be aggregated as summary statistics so individual responses are not identifiable.

About You

To help ensure that we receive feedback from a representative cross section of Great Barrier Island residents, please complete the demographic questions below.

Question C.1 - Your Name
Please write your name so we can link your responses to your participation contact details

_____

Question C.2 - Age
Please tick your age in one of the age bands below

Under 10	_____
10 - 19	_____
20 - 29	_____
30 - 39	_____
40 - 49	_____
50 - 59	_____
60 - 69	_____
70 or over	_____

Question C.3 - Gender

Female	_____
Male	_____
Other	_____

Question C.4 - Ethnicity
Please record your ethnicity in your own words

_____

Section C continued overleaf

Question C.5 - Resident Status
Please tick where you usually live

I usually live on Great Barrier Island _____
I usually live elsewhere in New Zealand _____
I usually live outside New Zealand _____

Question C.6 - Great Barrier Island Residence Location
Please record the area of Great Barrier Island where you live when on Great Barrier Island

_____

Question C.7 - Off Island Residence Location
If you do not usually live on Great Barrier Island please record where you usually live

_____

Question C.8 - On Island Residence Time
Please tick how long you have lived on Great Barrier Island, either full time or part time

Less than 1 year _____
1 - 5 years _____
6 - 10 years _____
11 - 15 years _____
16 - 20 years _____
21 - 25 years _____
26 - 30 years _____
Over 30 years _____

Thank you for completing the questionnaire, we appreciate your input.

Please place the questionnaire and any physical copies of photos in the freepost envelope provided and post to:

FREEPOST 248680
Great Barrier Island Ecology Vision
PO Box 24 522
Royal Oak
Auckland 1345

APPENDIX II

A.1 - In your view what is "best" about the natural environment of Great Barrier Island?
(98 responses)

- Clean & green / "This place has spirit" / soulful / peaceful / natural beauty / different world
- Seascapes / Spectacular Coastlines / beachscapes / surf & sand
- bushscapes / mountainscapes / forested ridges
- Biodiversity / nature / plants, animals & birds / rare & endangered species
- Wilderness / raw / untouched / isolated / remote
- Access to local environment / being involved / tracks / bush walks / boardwalks / tracks not overly developed
- Bush regeneration / seedlings coming thru on property / kauri seedlings
- Marine protection
- Pest eradication / rat control around house / rat problem work
- Use of alternative energy
- No mustelids / possums / feral goats gone
- Big kauri / big puriri / big pohutukawa / nikau stands / matai
- Awana stream / Harataonga / Hobson / Kaitoke
- Close knit community important / people work together / pioneering spirit / own food production / small population / locals care for ecology
- Native frogs / chevron skinks
- dolphins / orcas
- Northern bush / walks / lots of history
- Birdlife / kingfisher / kaka / kereru / shining cuckoo / banded rails / pateke / tui / fantails / love the birds / birdsong
- Wonderful place for children / lifestyle / walks with groups / quality of life / simplicity of life
- Landscape views / unspoilt landscape
- Clean water / streams / little pollution
- Swimming / surfing / diving
- Absence of people noise / quiet & stillness
- Clean fresh air
- Unspoiled places
- bush eerily silent except with pest control
- No traffic / traffic lights / high rises / opposite of city living
- Reserves
- Residents reducing waste / recycling
- daily nature interaction / enlivened by connection to wildlife
- multiple ecosystems
- DoC engaging more / need funding /
- fishing / gathering shellfish / growing vegetables / fruit trees
- cycles of life / an intrinsic part of place
- hot springs
- conservation part is excellent
- proximity to Auckland