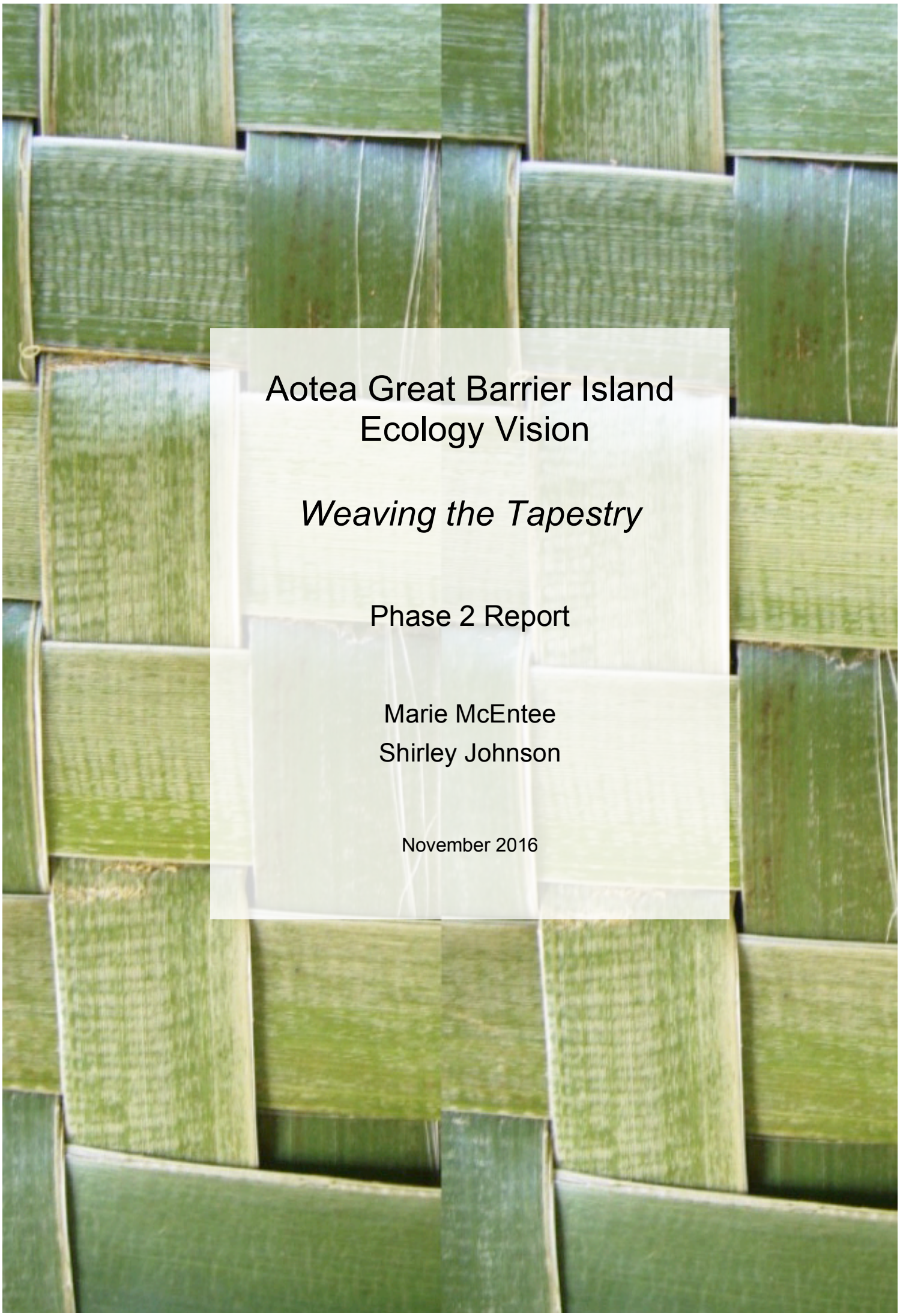


Aotea Great Barrier Island Ecology Vision

Weaving the Tapestry

Phase 2 Report

Marie McEntee
Shirley Johnson

November 2016

AUTHOR'S STATEMENT

This document is the final version of our report summarising Phase Two of the Aotea Great Barrier Island Ecology Vision project. It follows the release of a draft version of this report, which was prepared for, circulated to, and consulted with both the Environment Committee of the Great Barrier Local Board and the wider resident community of Great Barrier at four meetings held both on-island and off-island. In addition, the draft report was made available on the project website to enable people who could not attend the meetings to have the opportunity to provide feedback. This consultation resulted in changes to the report as outlined in Appendix I. This Phase Two report extends the project beyond the findings of the project's community collaboration reported in our Phase One report titled "Enabling an Ecological Vision for Aotea Great Barrier Island: Understanding community perspectives and aspirations". This can also be downloaded from the project website at http://www.gbiecologyvision.nz. For a full appreciation of the project, these two reports should be read together.

Marie and Shirley
November 2016

The way forward will demand people of stature who are ready to compromise for the greater good of all, not those who remain intransigent by demanding all or nothing. The way forward will require persons of integrity who know that negotiation is the art of how to give and take…"

Archbishop Desmond Tutu speaking about Aung San Suu Kyi

Tutu, D. (1995). Foreword. In Aung San Suu Kyi,
Freedom from Fear. Penguin Books, London.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

We would like to thank the community of residents of Great Barrier Island for continuing to engage with and contribute to this project by sharing their thoughts, dreams and ideas about the ecological future of their island. We have been inspired by your plethora of ideas.

We would like to especially thank the members of the Visioning Group who have worked closely with us over many months. They have acted as a reference group for concepts and ideas and assisted us with the construction of key outcomes.

We also thank the Great Barrier Local Board for their forethought and inspiration in according this work a priority. We acknowledge the Chair, Izzy Fordham, for her calm and considered leadership throughout this journey and her commitment to ensuring the integrity of this community led process.

We acknowledge Ngati Rehua Ngati Wai ki Aotea as mana whenua of Aotea, who share the collective vision of ecological restoration and protection.

1.0 RATIONALE FOR THE PROJECT

The Great Barrier Local Board believe the environment is the island's point of difference and that:

> *"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".*

Over recent years there has been concern about the loss of biodiversity on the island. Discussions around the issue of rodent control, or eradication, as a means to protect and enhance terrestrial ecological values have reached no consensus due, in part, to wide variations in community perceptions over the scale of any operation, the target species and the method of control. As a result, the Great Barrier Local Board Plan sought to begin discussions with the community to see if:

> "wide agreement *[could be reached] on what kind of ecological future everyone wants for our island and how we might get there."*

The Local Board agreed these discussions:

> *"must start without any predetermined outcomes, be held openly and honestly and be independently led."*

The Great Barrier Local Board also has an aim:

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

2.0 PROJECT APPROACH & PROCESS

The 'Great Barrier Island Ecology Vision' project was developed to establish wide agreement on the ecological future of Great Barrier Island. 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. To date two phases have been initiated.

Phase 1: 1 March 2015 – 31 August 2016
Phase 2: 1 November 2015 – due for completion by 31 October 2016

This latter phase, which is the subject of this report, was originally planned to be completed by the end of June 2016, but, at the request of the Board, was delayed both to ensure sufficient time for consultation with iwi and to avoid clashing with the Local Board elections held in early October 2016.

2.1 Project Approach

The project has been underpinned by a participatory approach that has sought to respect, understand, listen to, gather and collate the community's diverse perspectives and to incorporate these into a vision and plan that can meaningfully contribute to shaping the future ecological direction of Great Barrier Island. A participatory approach has been used because this is widely recognised to foster community driven, bottom-up collaborative processes to enable the creation of collective knowledge and decision-making. Chapter 5 of the Phase 1 report provides an overview of the literature on participatory approaches including the rationale for its use in this project and the risks and challenges of using such an approach in community-based work.

2.2 Project Process

Phase 1 of the project focused on listening to and understanding the community's perspectives both on what was good about Great Barrier Island's natural environment as well as what could be improved. It sought to build trust with the community so they could see that their views and values would be incorporated into the vision and plan and to enable the community to also have direct involvement in shaping the project's design. In doing so, the project was collaborative both in its design and its outcome. The emphasis of Phase 1 was on individual and small group interviews, although the researchers did attend community events including a children's planting day, a Destination Great Barrier meeting and two focus groups in Okiwi, one for the local school children and another for the local community.

Phase 2 has utilised the information gathered during Phase 1 to focus community discussions in three workshops concerning:

- ~~A~~ significant ecological project;
- Pest management;
- Matauranga Maori.

Significant institutional stakeholders, both on and off the island, were also approached for their input.

The project has utilised the information, knowledge and perspectives gathered from these two phases to weave a tapestry that embodies the varied perspectives of Great Barrier Island's residents. The analysis of all the conversations and discussions has led to the creation of two significant outcomes that are presented in this report:

- A strategic Ecological Vision that acts as the architecture and structure for the future direction of the island's ecology;

- A Keystone Initiative (strategic plan) that weaves the varied and diverse perspectives into one significant initiative that will guide the implementation of subsequent projects that contribute to realising the overall ecological vision.

Together, these provide an integrated and cohesive framework for the future ecological direction of Great Barrier Island (see Figure 1).

Figure 1: The Great Barrier Island Ecology Vision project process to date

In keeping with the participatory nature of the project, to truly ensure it is a community driven process, a draft version of this Phase 2 report was presented to the community at four meetings in October 2016 for their consideration and feedback. These meetings were held on the island at Tryphena, Claris and Port Fitzroy and off the island in central Auckland. These community meetings sought community approval and feedback on:

- The 'draft' Ecological Vision Document
- The 'draft' Keystone Initiative
- The 'Draft Phase 2 Report'
- Advice for the "Next Steps"

Residents were also able to provide feedback via email as the draft report was made available to the community on the project website. The feedback from the meetings and email correspondence led to minor amendments to the report and a summary of these is contained in Appendix I.

2.3 Phase 1 Participant Representativeness

During Phase 1 a total of 202 individual participants engaged with the project through seven different online and offline engagement channels. Within this, a total of 102 on-island and off-island residents were interviewed as project participants.

Chapter 6 of the Phase 1 report provides an in-depth analysis of the demographic information gathered from participants. As the report revealed, the Great Barrier Island community strongly embraced and enthusiastically responded to the first phase of the project. A demographic analysis showed that information was drawn from all parts of the island, from all types of residents with respect to age, gender, ethnicity, residence status and residence time and there was no obvious evidence of either sampling bias in any of these variables or under-representation. Accordingly, the Phase 1 report stated that the,

> *"empirical evidence collected about residents' views of the environment of Great Barrier Island and their vision for its future could reasonably be assumed to be representative of the island's resident population".*

2.4 Phase 2 Project Reach

Phase 2 has sought to focus residents' discussions on the three specific issues that were raised in the Phase 1 conversations as listed in section 2.2 above. Seven community workshops were held on the island in the north, central and southern regions, along with one combined workshop in central Auckland. In addition, meetings were held with significant island community groups and institutional stakeholders, including the Ngati Rehua Ngati Wai ki Aotea Trust, the Department of Conservation, Great Barrier Island Environmental Trust (captured in Phase 1), Destination Great Barrier and the Great Barrier Local Board.

Additionally, members from key interest groups including the island's artists and business and farming communities also contributed. Four further community meetings were then held to discuss the draft version of this report as discussed above. This community engagement is summarised in Table 1 below.

Table 1: Phase 2 Key Engagements

Phase 2 Key Contacts		
MONTH	**ACTVITY**	**LOCATION**
Dec 2015	Workshop With Aotea Great Barrier Local Board	
Feb 2016	Newsletter 1	
	Community Workshop 1	Tryphena
		Claris
		Okiwi
March 2016	Local Board Environment Committee Meeting	
	Community Workshop 2	Tryphena
	(See Appendix II for Resources from this workshop)	Claris
		Okiwi
	Vision Group Meeting	
	Community Workshop 1 & 2	Auckland
April 2016	Newsletter 2	
	Vision Group Meeting	
May 2016	Community Workshop 3	Kawa
	Vision Group Meeting	
June 2016	Newsletter 3	
July 2016	Meeting with Destination Great Barrier	Claris
	Meeting with Ngati Rehua Ngatiwai ki Aotea	
	Meeting with DOC	
	Art meets Ecology Workshop	
August 2016	Vision Group Meeting	
	Local Board Environment Committee Workshop	
September 2016	Vision Group Meeting	
	Meeting with Farming Group	
	Meeting with Local Board Environment Committee	
	RELEASE DRAFT PHASE 2 REPORT	
October 2016	Community Meetings	Tryphena
		Claris
		Port Fitzroy
		Auckland
November 2016	**FINAL REPORT PRESENTED TO LOCAL BOARD**	

To assist with the construction of an ecological vision and a strategic plan, community members also volunteered to form a visioning group. Six residents from diverse perspectives participated on this group and met with the project's researchers several times during Phase 2.

Throughout Phase 2 as many opportunities as possible have been provided for residents to either engage with or be informed about the project. To keep all of the community informed, a GBI Ecology Vision newsletter was produced and circulated to the wider community three times during Phase 2. These were emailed using Auckland Council's e-newsletter database to ensure on-island and off-island residents were kept informed, and delivered in hard copy via the island's postal network to reach those residents who were not internet connected. These newsletters (see Appendix III) were also emailed to the project's database of 'subscribed' residents.

No specific demographic information of Phase 2 project participants was gathered, however it is estimated that 50 'new residents' engaged with the project at the workshops, and a further 50, who had engaged during Phase 1, reconnected with the project at one or more of the Phase 2 workshops. In addition, approximately 50 people attended the community meetings for the release of the draft Phase 2 report. Furthermore website analytics show a rise in the number of unique visitors who viewed the website to download the report when they were notified of its release. Figure 2 shows the numbers of unique visitors to the project website when the community was notified of the draft report's release. The first in mid October saw approximately 110 unique visitors (accumulated total) and a further 45 visited in later October when another email notified the community of the Auckland meeting.

Figure 2: Unique visitors to the GBI Ecology Vision website October-November 2016

Analytics of 'Page Views' (see Figure 3) show a similar trend, as people downloaded the report to read. Numbers are higher in this graph as visitors may enter the site and visit several pages and then may return again a number of times.

Figure 3: Page views from the GBI Ecology Vision website October-November 2016

A few people chose to only engage via email. However, the attendance at meetings and all engagements indicate the community of Great Barrier Island continues to remain both interested in and engaged with this project.

Every effort has been made to provide both full and part time residents of Aotea Great Barrier Island the opportunity to provide input to the development of both the Ecological Vision and the Keystone Initiative.

3 .0 KEY COMMUNITY REQUIREMENTS

The objective of Phase 2 was to provide the community with a framework for a community-driven ecological vision, key priorities (strategic objectives and goals) and the outline for a signature project (termed the Keystone Initiative in this report). The resident conversations and community meetings during both Phase 1 and 2 revealed a number of key community requirements for both the vision and a signature project.

Of critical importance was that the ecological vision, strategic plan and keystone initiative must:

- weave together ecologic, economic and social dimensions
- avoid a 'one size fits all' approach
- be aspirational and inspirational BUT still be realistic
- be community owned and driven
- be consistent with the "Barrier's" values and way of life.

Additional requirements, listed in no order of priority, were:

- drive technological innovations particularly around pest management
- the community want to hear more birdsong and see more birds
- to work from a 'known' baseline - 'know what is there' - to be able to assess improvement.
- enhance specific habitats with plantings – particularly those that act as a food source for wildlife
- recognise the different levels at which the community may want to participate e.g at the local level
- not rely on community volunteers
- build community capabilities

- build greater connection between the island's diverse communities and between full & part time residents
- recognise, value, utilise and compensate on–island expertise and skills
- seek connection with relevant off-island 'expertise' e.g education institutes
- be creative
- facilitate access / viewing of selected habitats and assist with interpretation
- avoid visual interpretation pollution
- link to existing projects and groups on the island
- involve all ages on the island, but with a particular focus on engaging the young
- respect private property rights
- not "lock" the community out of areas
- connect visitors to the island's services
- focus on eco-friendly tourism – the primary aim should be to enhance the visitor experience not just get more visitors
- seek to enhance the island's entry points
- attract outside sponsorship and partnerships
- provide local jobs
- enhance economic growth in a sustainable way

The need to meet the above requirements led to the development of key outcomes. These are presented below in Figure 4 and provide a picture of what success will look like across the three ecological, social and economic dimensions. In essence it is recognised that the vision and keystone initiative must tick all the outcomes listed.

Figure 4: Key project outcomes

The term ‘pest suppression’ has been intentionally used in Figure 4, as this terminology is more reflective of the range of views of the wider community than the terminology pest management. It is a term that indicates pest densities will be reduced through careful and acceptable management so that other populations can be allowed to recover as a result of lower predation pressure. This term is increasingly being used in contentious environments, where communities are divided over how best to manage mammalian pests. The Phase 1 conversations and the Phase 2 pest management workshop showed that the community of Great Barrier Island remains divided over pest management and pest control. As the Phase 1 report stated:

> *“…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.*

As such the word ‘suppression’ captures the full range of perspectives on the island. It is consistent with those who seek zero pests and those who do not. It is also consistent with efforts to reintroduce species that do not necessarily require zero predators but rather predators at low densities, and where sometimes this level of pest density is only required in specific areas.

4.0 THE STRATEGIC VISION

The first step in realising the key outcomes listed in Figure 4 was the creation of a strategic document that sets out a vision for Great Barrier Island's ecological future that captures and reflects the views, hopes and aspirations of the island's community. Visions seek to articulate a point in the future to aim for so initiatives are guided by a clear and agreed direction. They are inspirational, aspirational and powerful.

The Great Barrier Island Ecological Vision, which is presented in this section, provides focus to, and a frame for, the keystone initiative. It will also be a pivotal document in attracting sponsorship and funding to help adequately resource the keystone initiative. The visioning group, who helped to refine the vision, recommended the document should be succinct, so it is only one page in length. It contains the following sections:

- An opening statement to position the document as belonging to the community
- A values statement to capture the community's history and current position
- A vision statement to articulate the future the community is seeking
- Three strategic objectives each with an accompanying explanation

The document acknowledges the past, the present and the future. The opening statement acknowledges the contributions made by both Maori and European settlers to Great Barrier Island. The values statement reflects the current values of the Great Barrier Island community that residents said was important to them and which they wanted to be reflected in future initiatives on the island. The vision statement draws from a statement the community has used in the past, and weaves into it their aspirations for what they want the future to look like.

The vision's wording is intentionally placed over an iconic landscape of Great Barrier Island – Medlands Beach, with a family (in the centre) dwarfed in a dramatic 'Barrier' landscape. This image reflects the important connection both the Great Barrier community and visitors have with the island's natural landscape.

AOTEA GREAT BARRIER ISLAND'S ECOLOGICAL VISION

THIS ECOLOGICAL VISION REFLECTS THE ASPIRATIONS OF GREAT BARRIER ISLAND'S COMMUNITY. IT RECOGNISES THE SPECIAL PLACE OF MANA WHENUA AS THE ISLAND'S FIRST INHABITANTS AND ACKNOWLEDGES THE HISTORY OF THOSE WHO HAVE FOLLOWED.

VALUES STATEMENT

We live in a beautiful and remote island environment that unifies our resilient and diverse community. We value our natural heritage, acknowledge our history and wish to preserve our way of life, looking forward to a sustainable future so our environment, community and economy prosper.

VISION STATEMENT

Aotea Great Barrier Island: A World of its Own, Where People and Place are Woven in a Tapestry of Ecological Richness.

STRATEGIC OBJECTIVES

Ecological Objective

To enhance our ecological diversity and abundance by enriching our island's ecosystems.

Ecosystems are complex mosaics of habitat that provide critical natural resources used by wildlife and humans. We will focus on restoring the ecological health, functioning and linkages of ecosystems by reducing adverse impacts and enhancing and enriching wildlife resources.

Social Objective

To support creativity, innovation and partnerships by sharing knowledge and developing projects that enhance our island's ecological significance.

We have always been innovative to support our resilient way of life. By using and developing new technologies and by creatively sharing our accumulated knowledge we can demonstrate how to prosper and live sustainably in partnership with a thriving environment.

Economic Objective

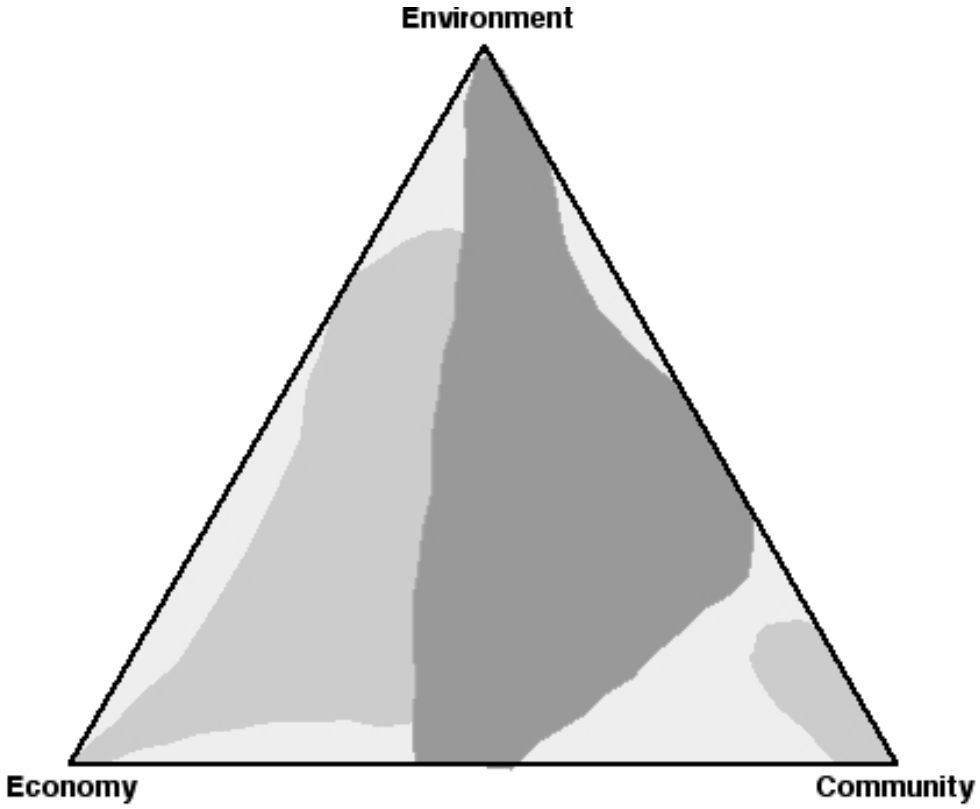
To enhance our island's economy by fostering connections and leveraging local and off-island expertise and resources to support sustainable enterprise and create extraordinary experiences for visitors to our remote island home.

Our economy has always relied on our environment and will do so into the future. We will support products and services that tell the story of our ecological vision and we will enhance our tourism opportunities by ensuring a coherent visitor experience so our guests enjoy the breadth of their journey, stay longer and return again.

5.0 THE STRATEGIC GOALS

The three strategic objectives that sit with the Values and Vision statements reflect the three key themes that emerged from the community's ecological vision conversation. The conversations in Phase 1 of the project showed that all respondents' perspectives could be placed within a sustainability continuum represented as an equilateral triangle with the three main dimensions of sustainability located at the vertices – environment, community, economy (see figure 5 below – from the Phase 1 report p.49). Darker areas represent a higher density of respondents, light areas represent gaps in the distribution and mid-tone shading represents a low density of respondents.

Figure 5: The Phase 1 sustainability pyramid capturing community perspectives



As the Phase 1 conversations revealed that an ecological vision of Great Barrier Island must acknowledge the three dimensions of sustainability these dimensions were included in the Vision document as succinct but specific objectives that provide high-level guidance to "how" the Vision can be achieved while preserving the Values of the community. In this they are marker posts for three separate but intertwined journeys that together lead towards the Ecological Vision. Although they are articulated as separate objectives, this chapter shows there are significant inter-connections between these ecological, social and economic dimensions.

Specific goals to support each of the strategic objectives in the Ecological Vision have been drawn out of the plethora of community inputs during Phase 2. These will provide direction to the implementation plan that will be needed for the proposed Keystone Initiative that follows, and for any activities that may stem from this initiative.

Each goal has a number of examples for actions listed with it. These are not location specific, they are illustrative of the types of actions that will be needed to give effect to each goal and while they reflect the collective ideas of the community they are not exhaustive. They should not be seen as rigid requirements but rather as opportunities for progress and it is acknowledged that new opportunities will appear and become available in the future, particularly as knowledge and technology further develop.

Together these components form a cascading series of mutually supporting steps that span the distance between the strategic and operational levels of any project that may flow from this visioning project. These steps can be summarised as:

- Strategic Objectives – high-level objectives of how the vision will be achieved
- Strategic Goals – the first level of actions towards achieving the objectives
- Actions – specific works to achieve the stated goals

5.1 Ecological Objective

To enhance our ecological diversity and abundance by enriching the island's ecosystems.

Ecosystems are complex mosaics of habitat that provide critical natural resources used by wildlife and humans. We will focus on restoring the ecological health, functioning and linkages of selected ecosystems by reducing adverse impacts and enhancing and enriching wildlife resources.

Goal: Select ecological oases

- Identify existing projects that "new" oases could 'link' to.
- Community to identify and prioritise habitats (ecological oases) for restoration
- Emphasis on lowland areas to reinforce community connection, however the Black Petrel colony could be promoted as an oasis of importance in partnership with DOC, Auckland Council and manu whenua.
- The Okiwi Reserve is a current example of an oasis that has been developed as a partnership between the Council, DOC and the children and staff of Okiwi School and which provides a haven for many species on the island.

Possible Examples – these could be all shapes and sizes

- *Kaitoke Stream and Pateke (brown teal) habitat*
- *Penguin habitat and rock pools*
- *Taiko colony*
- *Dune replanting and New Zealand dotterel*
- *The island's entrance points*
- *Rakitu Island*

Goal: Suppress predators

- Use of trap lines in identified oases
- Use of innovative trap technology in "sensitive" areas
- Drive technological innovations in trap technology and explore funding opportunities that may arise from Pest Free NZ 2050 in this technology space.
- Telemetry system for cat traps
- Use of live cat traps near any residential areas
- Use of cameras to show activity (for monitoring purposes)

Tools for assessment

- Bird abundance indices particularly use of encounter rates / 5-min bird counts where appropriate.
- Birds – rare and uncommon – note encounter rate using transects.
- Trapping rates per 100 trap nights
- Cameras

Goal: Enrich selected habitats

- Propagate and plant species that act as a rich food source in oases.
- Identify and remove significant weeds eg wilding pines, pampas grass
- Provide information and seedlings to assist residents to plant their gardens with native plants (e.g. coastal, wet areas etc)
- Establish a community native plant nursery
- Enrich oases with nesting boxes and cover
- Participate in monitoring water quality of fresh water streams as appropriate

Tools for assessment

- Forest phenology to assess how much food is present in the forests.
- Vegetation plots to monitor seedling growth and regeneration rates.

Possible Examples:

- *Penguin sanctuary with penguin boxes*
- *Planting of roost sites for Brown Teal*
- *Wetland planting and fencing*
- *Puriri – along potential bike trails – eg Highway of significance.*

Goal: Reintroduce species

- Reattempt robin reintroductions
- Connect with “Bring back kokako” project and Rakitu restoration work
- Within island transfers eg chevron skinks

5.2 Social Objective

To support creativity, innovation and partnerships by sharing knowledge and develop projects that enhance our island's ecological significance.

We have always been innovative to support our resilient way of life. By using and developing new technologies and by creatively sharing our accumulated knowledge we can demonstrate how to prosper and live sustainably in partnership with a thriving environment.

Goal: Train volunteers (citizen science initiative)

- Provide accreditation - health & safety, first aid, badges for children
- Fauna & flora identification training - birds, lizards, trees
- Habitat assessment training - transects, vegetation plots
- Trap monitoring - trap setting, data recording

Goal: Develop on-island and off-island partnerships and linkages

- Iwi / DOC / Council – Taiko colony
- Iwi - Bring back Kokako
- Council – biodiversity team
- Education sector
- Tertiary institutes eg sea science project (a proposed initiative between University of Auckland and the island's school children to utilise school's beach clean-up data to bring about environmental awareness and change)
- Island's community groups
- Environmental groups in Auckland especially on other Gulf Islands
- International islands eg Fogo Island

Goal: Establish an online presence

- Establish a website for the vision and initiative.
- Photograph and GPS planted Puriri and other significant plantings so they can be viewed on-line
- Monitor nesting burrows and penguin boxes eg a camera in a petrel burrow
- Establish social media presence – GBI Dawn Chorus Facebook page

Goal: Interpret creatively

- Establish a trail of interpreted view shafts throughout the oases
- Work with the island's artist community to provide creative ways of interpretation eg a modern and creative map of the oases / view shafts and key community facilities
- Align interpretation to 'off the grid' technologies (eg listening posts) to minimise visual pollution from signage

Goal: Share knowledge

- Create an online register of on-island 'environmental' expertise and skills
- Establish connections with off-island expertise and skills eg technical advisory group
- Seek educational, environmental and tourism funding opportunities to facilitate knowledge sharing eg provide opportunities for the school children to be ecological ambassadors
- Create an online information repository that the community can access
- Establish a social media platform for knowledge-sharing
- Establish an annual 'GBI' - Ecology conference
- Seek funding to set up a scholarship for international island to island exchanges
- Establish a Hauraki Gulf – Community Conservation Learning Hub
- Establish an ecology radio programme on the GBI radio – modelled on RNZ's "Our Changing World" – this could for example interview visiting researchers
- Set up GBI 'Science in Pubs' Events – to enable visiting researchers to engage with the community
- Advocate that tertiary institutes require that researchers to the island contribute in some way to the community eg to 'science in the pub', or to the website
- Engage in a co-ordinated artist exchange to enable writers and artists to work on the island
- Seek funding for an GBI artist / ecologist collaboration

5.3 Economic Objective

To enhance our island's economy by fostering connections and leveraging local and off-island expertise and resources to support sustainable enterprise and create extraordinary experiences for visitors to our remote island home.

Our economy has always relied on our environment and will do so into the future. We will support products and services that tell the story of our ecological vision and we will enhance our tourism opportunities by ensuring a coherent visitor experience so our guests enjoy the breadth of their journey, stay longer and return again.

Goal: Create linkages with other key island eco-tourism projects

- Aotea Conservation Park
- Dark Sky Sanctuary status
- Kotuku Peninsula Trust
- Track, trail and hut initiatives
- GBI Programme of Events
- Ngati Rehua o Ngati Wai ki Aotea Trust- Return of the Kokako project
- Off the Grid

Goal: Create partnerships with on-island and off-island groups

- Local community groups- eg Whangaparapara Residents Group
- Destination Great Barrier
- Aotea Conservation Park Advisory Group
- Ngati Rehua o Ngati Wai ki Aotea Trust
- Part-time resident action group
- GBIET
- Kotuku Peninsula and Windy Hill Trusts
- ATEED
- Travel partners- Sealink, Barrier Air and Fly My Sky
- Tourism NZ
- Commercial enterprise
- DOC for voluntourism

Goal: Build national and international profile of the vision projects

- Social media campaign
- You tube clip presentations
- TV, radio and newspaper stories
- Presentation at conferences and workshops
- Publications

Goal: Expand external funding

- Philanthropic bodies
- Commercial enterprise
- Tourism NZ
- Ministry for the Environment
- DOC
- Tertiary Institutions and training providers
- QEII National Trust
- International Development Agencies
- Lottery Environment and Heritage
- WWF NZ – Habitat Protection Fund
- WWF NZ – Environmental Education Action Fund
- National / International ecology celebrity

Goal: Create jobs for local people

- Create project management, administration and communication roles to drive and implement the ecological vision, strategic objectives and project(s)
- Promote a procurement policy that requires local people / business be first offered any publicly funded work
- Support capacity building initiatives to enable replacement of external capability
- Public / private partnerships can create local ventures and local jobs
- Multi partnership initiatives can provide opportunities for bidding on larger contracts and jointly funded jobs (eg social enterprise with commercial partner)

Goal: Build local eco-tourism brand and reputation

- Support Team Aotea to enable a high trust GBI “Qualmark”, which could include “environmental credentials”
- Build environmental and cultural awareness by informing and educating visitors

- Provide local guide services and training for local guides
- Improved access to communication
- Advocate for policies that protect areas of special interest (oases)
- Support of micro-enterprise developments that have an ecological conscience
- Offer site-sensitive accommodations
- Stable infrastructure - transport and telecommunication systems
- Good data management systems

6.0 PROPOSED KEYSTONE INITIATIVE

The community have made it clear they are seeking a significant project to jumpstart their journey towards their ecological vision for Great Barrier Island. While any initiative must be capable of making a significant difference to the island's ecology, the community have said it must also substantially support and enhance the island's community while contributing to its economic development.

Over the course of Phase 2, and in the community conversations during Phase 1, the community provided a plethora of ideas for a significant project. All ideas, no matter how small or how ambitious, were recorded and every effort has been made to weave them into a single initiative so they will be able to flow from partnerships that may be created from the initiative.

Developing an initiative that achieves all of the key outcomes sought by the community (as presented in Figure 4, page 16) is a significant challenge. The solution lies in being able to weave the plethora of community ideas into a 'Conservation and Community' initiative that can be developed and managed in a staged and cohesive way.

People's conversations revealed that they are concerned at the noticeable loss of biodiversity. Elderly residents in particular vividly recall Great Barrier's birdsong and they long for its return. Others talked about declining habitats. The Keystone Initiative being proposed gains its inspiration from these conversations and is built around the concept of a series of 'Oases' (see Figure 6 below). An Oasis is created where there is a "shared perception of ecological loss together with the motivation to act in a landscape that has meaning in that community" (Campbell-Hunt, quoted in Innes & Byrom, Landcare Research Website, 2016),

Figure 6: Community driven process illustrating the path to the Proposed Keystone Initiative

While the process to select the oases has not yet been determined, it is envisaged oases will be selected by communities so they cover a range of different habitats from across the island. Each will need to be supported by a strong community group who are both physically and emotionally connected to the oasis.

Each oasis will likely feature a unique aspect of the island's ecological beauty, diversity and richness. Together they will form the "Oases of Aotea" and may incorporate already existing oases, such as Windy Hill, Okiwi Reserve and Glenfern Sanctuary. An oasis may be relatively 'large' or 'small'. Possible examples that people suggested in their conversations include: Kaitoke Stream and wetland; the Black Petrel colony; penguin habitats and colonies, coastal dunes or other coastal habitats, a local road

where plantings can occur, or more significant plantings to form a 'highway of significance'.

On-island community groups with assistance from off-island volunteers can work in an oasis to restore the ecology, manage pests, provide food sources for birds through plantings and eventually seek to reintroduce species if possible. Communities can ensure the oases connect and reflect both their place on Aotea and the unique community within which they exist. For example, this may be through art and stories, or some other connection.

The oases will therefore emerge from the interaction between people and place to create special places for communities and valuable habitats for the island's flora and fauna. In this way they are entirely consistent with the ecological vision:

Aotea Great Barrier Island: A World of its Own Where People and Place are Woven in a Tapestry of Ecological Richness.

As oases are developed in accordance with the goals set out in chapter 5, the narrative of the oases can be told through online channels. Visitors may choose to visit a specific oasis or a series of oases as independent travellers or as organised visitors or educational groups. There may be a range of activities possible within each oasis to suit different interests and needs of groups including both recreational and educational activities. Combined with the Ecological Vision, the narrative of the oases on New Zealand's fourth largest island, becomes a powerful attractant for "sponsorship" and "funds" looking to invest in a significant conservation / community initiative.

Ecological oases may over time become key ecological features along eco-tourism 'trails'. They may also lead to eco-education initiatives. Visitors may wish to contribute to the oases by helping as voluntourists and island businesses have the opportunity to not only service the requirements of visitors for food, accommodation, travel and gifts but also to service the oases with maintenance and ongoing development work.

The concept of a community / conservation initiative is not new in New Zealand and the Kepler Track near Te Anau shows what is possible. This venture has attracted considerable corporate funding and has made significant ecological gains. It has focused particularly on partnering with local schools, which the Great Barrier Island Keystone Initiative could emulate.

This partnership may not be just with the schools on the island but also the schools of part time residents' children and others in Auckland who wish to have their pupils make a significant contribution to New Zealand conservation. In addition, this partnership approach could also extend to off-island businesses keen to find a project their staff can contribute to.

Importantly this initiative satisfies all the key outcomes listed in Figure 2 ??. It weaves together the three key strategic objectives of the vision and draws on the strategic goals presented in Chapter 5 to create a series of ecological oases that will develop over time into the "Oases of Aotea".

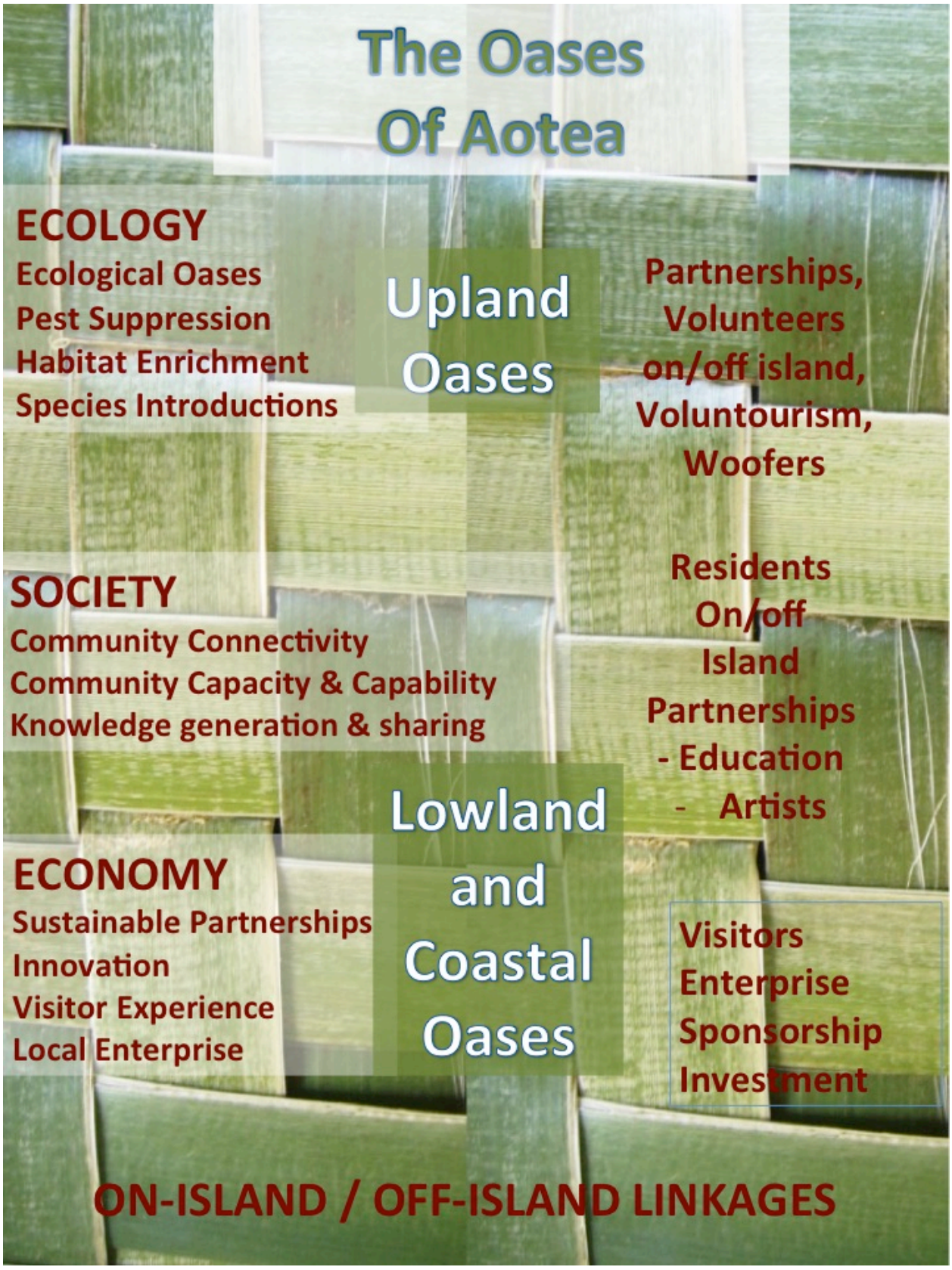
By conceptualising this network of habitats from the beginning, the initiative can be planned and developed in a coherent and staged way. The actions that need to be taken become clear and can be prioritised and importantly the cost and resources that will be needed to complete each action can be determined.

It has been through a similar process of "bootstrapping" that New Zealand now has Te Araroa, a walking trail the length of New Zealand that is increasingly recognised as one of the greatest walks in the world and one that came from a single vision and community belief in its possibility, despite the fact that government agencies had been unable to achieve this outcome over several decades. Te Araroa now supports an industry of visitor services and it is taking walkers to parts of New Zealand where previously there were few reasons to visit.

The concept of the 'Oases of Aotea' differentiates Great Barrier Island from the other Gulf Islands and the features that attract visitors to each of these places – Waiheke with its wine and art focus; Tiritiri Matangi with its bird focus; Kawau with its historical focus; and Rangitoto with its volcanic focus. Aotea becomes the island of diverse habitats where you can explore a single oasis or a group of diverse oases in one island experience.

The concept of the Proposed Keystone Initiative being a tapestry woven from the wefts of the strategic objectives, with the warps of the island's diverse habitats to form the 'Oases of Aotea' is illustrated in Figure 7 below.

Figure 7: Weaving the tapestry



7.0 NEXT STEPS

This document outlines a series of interlocking considerations that while they are articulated by the authors are wholly guided by the information, knowledge, hopes, wishes, dreams, aspirations, frustrations, and comments that the community of Great Barrier Island have openly and willingly shared with us since March 2015. These have been organised to become a self-supporting scaffold that will allow the story of Great Barrier Island's ecological vision to be told to people who are yet to hear and appreciate it.

That it has resulted from a truly community-led and collaborative participatory process ensures it is not just another environmental conservation dream but rather is a well founded and carefully crafted possibility for a new future. Being able to demonstrate broad and deep community ownership of this new future will help to maximise the chances that it will also excite others who will want to help to make it a reality and will be happy to contribute to bring it to fruition.

7.1 House for the Initiative

Consideration of a 'house' for the vision and keystone initiative is a critical next step. This was identified previously in the Phase 1 report and the comments in that report remain relevant. We therefore reiterate what was previously stated…

> *"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."

This idea needs careful and detailed consultation with, and consideration by, the community. In addition the following should be considered

- personnel to implement the vision and keystone initiative
- a 'steering group' of residents to oversee the vision and keystone initiative
- a technical advisory group to assist with 'specialist' advice

The community have considerable on-island expertise. It is essential that any personnel are drawn from this talented pool of people, and reflects one of the key goals of this initiative – local jobs for local people. Agreement on where the vision and keystone initiative is housed will maintain critical community connections and provide the long-term stability needed to give surety.

7.2 Other matters

Any significant project that comes out of this overall ecological visioning project will require the development of an implementation plan that will need to incorporate an implementation timeline. To attempt to begin the development of an implementation plan as part of this current phase of the project is premature as it is important that the community and the Local Board have an opportunity to consider and discuss the proposed initiative. Should the initiative be accepted in either its proposed or an amended form then the development of an implementation plan can proceed in the knowledge that it has purpose.

As one of the key outcomes sought by the community for any significant project is opportunities for economic development then the preparation of an economic feasibility study may be appropriate to begin to quantify the economic benefits that may accrue to the island as a result of the project being operationalised. This will help to demonstrate the gains that the community may benefit from as a result of this ecological visioning project having been initiated by the Local Board.

8.0 LIMITATION

This report has been prepared solely for the benefit of the Great Barrier 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: COMMUNITY FEEDBACK ON DRAFT REPORT OCTOBER 2016

Community Feedback on the Ecological Vision Document

There was wide support for the Ecological Vision Document including the values statement, vision statement, and strategic objectives. Clarification was sought around the lifespan of the vision document. This is identified in the Local Board plan as 10 years, although it is recognised the current vision could have a much longer lifespan. A review at 10 years was recommended to ensure the values statement in particular remained relevant as it was acknowledged that values do slowly change over time.

Most people felt the values statement accurately represented the values of the community of Great Barrier Island. A few people commented about the potential ambiguity of the phrase "preserve our way of life", with some suggesting it could be removed. However, as this phrase received strong approval by residents who had lived full time on the island for many years, it was agreed that the phrase should remain to reflect the special character that is "the Barrier way". The values statement therefore remains unchanged from the draft.

The Vision statement was also well received despite a few comments in relation to the grammar, the use of mixed metaphors and the length of the statement. Clarification was sought by a few about the phrase, "A World of its Own". The wide positive feedback has resulted in the Vision statement remaining unchanged from the draft.

The strategic objectives also were positively received and remain largely unchanged – except in the ecological objective the word "the" island's ecosystems has been changed to "our" island's ecosystems to ensure consistency with the other objectives. It was also noted that while the economic strategic objective did not make specific mention of 'educational' enterprise and services, these were recognised as an important focus of this objective and so are identified in the strategic goals (chapter 6).

Community Feedback on the Keystone Initiative and Report

In general the keystone initiative was viewed as a positive and worthy initiative. This was most strongly stated at all on-island meetings where people commented positively about the opportunity it provided for local communities to undertake work that had local significance. Residents liked that the initiative recognised variability between what people valued in the different locations on the island and that it was consistent with all the key community requirements identified in chapter 3 of this report. People felt the 'local identity' of projects would engender greater ownership by the community.

People provided the following advice for the project moving forward:

- that each year one 'significant' project should receive significant attention and be the focus of funding efforts to avoid the Vision becoming fragmented. However careful consideration needs to be given to the process by which this significant project would be chosen and it was recognised this did not rule out the opportunity for smaller community initiatives to be undertaken each year. There were a few ideas provided for an initial oasis, with one person also emphasising the need to consider the roading network between oases as a key 'ecological' pathway connecting oases;
- there was continued emphasis that the community was already over-volunteered so novel ways of attracting a 'work-force' for any work should be explored;
- that the 'Vision' would require a strong governance structure to ensure that the work is managed in a structured, coherent and meaningful way (see community feedback regarding 'Next Steps').

Some people however were more temperate in their support of the initiative. While these people did not disagree with the initiative they felt:

- oases should not "create anything new" but rather enhance what already exists;
- that work must be undertaken according to sound ecological principles;
- that since the oases were continuing the work already carried out by others eg. Glenfern, Kotuku Peninsula Trust, Windy Hill and Motu Kaikoura, they sought recognition of this work in the report;
- there were two expressions of concern that the vision and the report did not explicitly align with Pest Free New Zealand.

In response to these concerns, the GBI Ecology Vision project has always recognised the considerable work undertaken on the island by other groups. The initial draft report and this final report both make explicit mention of this in the chapters relating to the keystone initiative and the strategic goals. The 'Oases of Aotea' initiative does not seek to reinvent the wheel but rather to build on the work already carried out by a dedicated but small group of people. This initiative seeks greater linkages with both on-island and off-island groups and specialist expertise.

The difference however with this initiative, is that it is derived from a Vision that was created from a whole-of-community process of collaboration. The vision presented in this report is the community's vision. As such it is broader in scope than the more focused vision of other island groups. Nonetheless this vision is seeking robust and sound ecological outcomes as chapter 6 illustrates. The importance of the vision remaining a whole of community vision that is community-owned and driven was emphasised at one of the on-island community meetings, where the community sought this as an explicit social outcome and as such this has now been added to the Key Project Outcomes (see Figure 4).

This final report has included in the strategic goals acknowledgement of the possible funding opportunities in the pest technology space (i.e. trapping) that may arise in the future from the recently announced Pest Free NZ 2050 initiative. This addition can be included in this final report as it is consistent with people's conversations in Phase 1 and 2 where they stated that Great Barrier was well positioned to become a leader in technology (trapping) advancements particularly non-poison based systems.

However, as pest management remains a potentially divisive issue on Great Barrier Island, the community of Great Barrier Island have not granted this project the "social licence" to enable a wholesale alignment of their community vision with Pest Free NZ 2050. In addition, and most importantly, conversations with the Great Barrier community have indicated the community want their ecological vision to be much broader in scope than that articulated by the Pest Free NZ 2050 initiative.

Pest Free NZ 2050 however may wish to look at this visioning work, to see how a diverse community can move forward ecologically with an aspirational, realistic and most importantly inclusive vision. Given that this work has emerged from a history of division around pest management on the island that has often overshadowed wider ecological efforts, others around New Zealand and beyond may wish to look at how

aspirational a truely community derived ecological vision can be, when it is not driven by a single divisive focus. As the community has emphasised at the community meetings, the 'Next Steps' are now key to ensure this aspiration is realised.

Community Feedback on Housing the initiative

At the community meetings in October the following was recorded from people's comments in regards to housing the Vision and the Keystone Initiative:

- There was wide acknowledgement that the community needed to have input into the decision on where to house the Vision and Keystone Initiative
- While people were worried about another trust being created, there was acknowledgement that housing the vision and keystone initiative in an existing island group presented considerable problems as this could potentially dilute the whole of community focus of the Vision and furthermore other groups' visions were different to what the community had articulated in this vision
- If a trust was to be created, people talked about the likely need to include in its governance group, representatives from key 'groups' on the island along with community representatives
- While the Local Board was suggested as a possible house it was generally agreed this presented problems as the Vision and Initiative could then become subject to the political process
- The initiative and vision must remain community owned and driven
- It was acknowledged that careful consideration needed to be given to personnel, with many talking about the need for a Project Manager to drive the initiative and provide accountability and a person with environmental qualifications to guide the key outcomes
- Personnel needed to come from the community
- Avenues for funding were discussed. In general people recognised that the Local Board would be unable to provide significant funding. People talked about off-island grants and philanthropic sources of funding and some even talked about the need for the initiative to generate its own source of on-island revenue to fund personnel.

APPENDIX II: WORKSHOP RESOURCES

During Phase 2 a pest management workshop was provided for on-island and off-island residents. At this meeting, Dr Grant Dumbell presented information on pest management for conservation outcomes at the local scale. A variety of workshop resources were made available. These are contained in this section as follows:

- DIY Guide to Mammalian Pest Management
- Rodent Trapping Tips and Tricks
- Rodent Bait Stations Tips and Tricks
- DIY Ice-cream Container Rodent Bait Station
- DIY Rodent Bait Station Service Record

Aranovus environmental
Delivering natural resource management

Aranovus Limited
Freephone 0508 973 573
PO Box 24522 Royal Oak Auckland 1345 NZ
111 Oakdale Rd Hillsborough Auckland 1041 NZ
T 09 625 9002 | E office@aranovus.co.nz
F 09 625 7002 | W www.aranovus.co.nz

A Self-help Guide to Mammalian Pest Management

Introduction

Background

This self-help guide is an introduction to mammalian pest management for anyone wanting to manage mammalian pests over an area of several hectares or tens of hectares, particularly small mammals such as rodents. It is not specific on catching or controlling pests in a specific location, such as a building, however the same principles can be applied for this. It begins with a brief introduction to pests and some key biological concepts before using real-world examples to illustrate how a pest management programme can be effectively established and managed.

What is a Pest?

This question may appear frivolous, however, one person's pest is another person's livestock, game animal or pet. It is important to remember that classifying an animal as a pest is context dependant so a well cared for cat can be a pet but its wild-living feral cousin can be a wildlife disaster. Similarly, wild-living pigs or goats can be seen as a sustainably hunted food resource but when numbers increase they can become pests. Kaimanawa horses are a further example - a pest in the wild and a pet in the paddock.

In general, pests are animals that cause damage to and loss of resources that humans value. This could be crops, stored products, or wildlife. Damage can be caused by physical damage such as eating or soiling through deposition of droppings, or by the transmission of disease. Pests come from every animal group and include worms, nematodes, snails, starfish, crustaceans, insects, plus all the vertebrates including fish, amphibians, reptiles, birds and mammals. Plants can also be pests, but are generally referred to as weeds.

Mammalian Pests

Mammals are warm-blooded vertebrates (animals with backbones) that have hair and suckle their (usually) live born young with milk. In New Zealand there is a range of introduced mammals that in particular situations can be pests including: rodents (mice, ship rat, Norway rat, kiore) mustelids (stoat, ferret, weasel), marsupials (possum, wallaby) cats, lagomorphs (rabbit, hare), hedgehogs and ungulates (pig, goat, deer, chamois, thar).

Pest Management

Pest management can be a choice between excluding the pest from an area with a physical barrier, such as a fence, or by blocking a point of entry, or reducing their population size. "Pest management" generally implies that some level of pests is acceptable within the area of interest whereas "pest control" implies the objective is to eliminate pests from the area and then remove any further individuals that arrive in the area. "Pest eradication" implies the permanent removal of pests so they cannot re-establish without exceptional circumstances and is really only possible in a closed environment such as on an island or in an exclusion fenced sanctuary.

Pest control is generally more expensive than pest management as it can be very time consuming to eliminate the last individuals and then monitoring must be maintained to detect any new invaders. This self-help guide focuses on pest management by controlling pest numbers as this is the easiest, quickest, cheapest and is a generally effective approach. To do this it divides pest management into two main phases - the knockdown phase to initially reduce pest numbers to a low level and the maintenance phase to keep numbers at an acceptably low level.

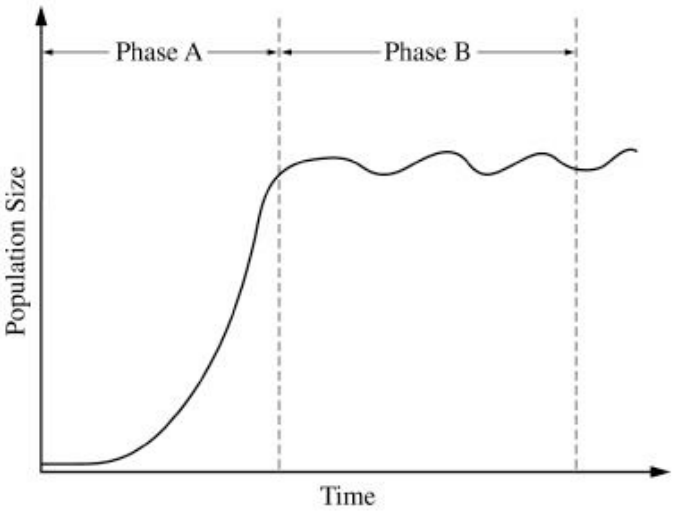
Pest Populations

Population Size

There are only four factors that determine the population size of any animal. These are birth rate (natality), death rate (mortality), arrivals (immigration) and departures (emigration). The natural rate of each of these factors varies seasonally and annually so pest populations constantly change. In general, pests have high birth rates so can rapidly increase in numbers. This may be due to their natural predators being absent which decreases mortality.

Population Growth

Populations of animals grow by following a typical population growth curve. When a population becomes established the number of animals is small but their numbers can rapidly grow. Phase A on the graph shows this exponential growth. Extremely rapid population growth is called an irruption. As numbers increase, environmental limiting factors, such as food availability or the impact of predators, slow the growth rate as the population reaches the carrying capacity of the environment. Population numbers then fluctuate around this level as shown in Phase B. At this point the population is approximately stable possibly with seasonal variations caused by annual fluctuations in the four factors that determine population size.



Population Control

Killing pests does not necessarily mean you are achieving population control. As pests often have high birth rates you may only be slowing the rate of growth. Populations are only reduced when death rates exceed birth rates and immigration combined.

However, because of the shape of the population growth curve, if the population is only reduced part way down the steepest part of the curve (Phase A) before control ceases the population may bounce back very quickly and reach higher numbers than before control began as the population has been driven to the point of its **highest rate of growth**, as the graph is at its steepest. Effective population control must reduce the population right down to the bottom part of the 'J' shaped growth curve in Phase A as in this region population size and population growth rate are both small and the task of keeping the population in that space is easier than if you generate rapid growth by only partly reducing population size.

This is well illustrated by monitoring results from our own rodent control work in a Northland forest. After an initial knockdown population control, rodent numbers then doubled every month for eight straight months and reached a population level almost three times higher than before pest management began. Thankfully a second control programme reduced numbers sufficiently and allowed them to be kept low for many years afterwards.

Pest Management

Control Methods

Available methods to control mammalian pest populations include hunting, trapping and poisoning. Hunting is really only effective against larger mammals that have lower birth rates and often needs to be continued for an extended period of time, or a very large hunting effort can be applied over a shorter time. Trapping can be an effective control technique for reducing pest populations that only breed once per year, however when the pest can breed several times per year, or they have large numbers of young per birth such as cats, rabbits and rodents, then trapping gradually loses its effectiveness and poisoning becomes the only realistic method of population control.

Trapping has an advantage over hunting in that many points of control can be established at the same time and operated continuously whereas a hunter represents only one point of control while they are in the field. Poisoning has an advantage over trapping in that continuous control pressure can be exerted at many points during the period of management whereas traps that are sprung reduce the control pressure until they can be reset. This guide doesn't consider hunting but will rather concentrate on trapping and poisoning as these can both be effective control methods. Used in combination they can be extremely effective at delivering targeted pest management that is cost effective and minimises collateral damage to non-target species.

Non-target Species

Both trapping and poisoning can be indiscriminate and if poorly implemented can have significant impacts on non-target species. In any pest management programme it is very important that effects on non-target species are minimised through the placement of control devices, types of baits used and the presentation of the control devices in the field. Anything less than a professional approach to pest management may do more harm than good.

Trapping

Trapping pests requires animals to be lured to the trap, generally using bait, and either capturing them live of killing them with lethal mechanical force. Traps can either be set on known pathways used by the target species, or they can be spread out across the control area in a regular pattern and at a density that pests will randomly encounter.

In almost all cases kill traps need to be set under a cover to reduce the capture of non-target species. When setting traps consider the following points:

- The trap cover needs to be large enough to allow the trap to operate without striking the cover
- The cover needs to be long enough to prevent non target species from reaching into the trap
- If the trap requires the pest to approach from one direction then set two traps back to back under the cover
- Rodent snap traps generally need the pest to approach from the front but Fenn traps do not
- Always tie traps down as predators will scavenge a dead animal in the trap and you may lose the trap
- Always ensure traps are placed in a position so they do not wobble when an animal stands on it
- Always peg down the trap cover to prevent it from being blown off or dislodged to leave the traps exposed
- Maintain traps using vegetable cooking oil only as mineral oil can leave an odour avoided by pests
- When laying out traps mark each trap location with a uniquely numbered marker or grid position
- When checking traps always spring and reset any unsprung traps to confirm they are operating correctly
- Always bait traps with fresh bait and consider leaving a small “lead-in” bait at the entrance to the cover
- For rodents peanut butter is a great bait and can be mixed with rolled oats to make it go further
- When first establishing or restarting a trap network consider baiting all traps but leave traps unset
- Animals are naturally wary of new things in their environment so baited unset traps increase acceptance
- When setting traps use the finest setting possible but not so fine that traps will prematurely spring
- Keep fingers clear of the strike zone as some traps are powerful enough to break fingers
- When setting traps record the date of set and record the trapping outcome when traps are checked

Traps have the advantage that once sprung they are no longer a threat to non-target species. They also have the disadvantage that once sprung they are also no longer a threat to pests. Accordingly, as traps across the network are sprung the control pressure being exerted on the pest is gradually reduced. Resetting traps are now available to help offset this. Therefore pest management based on trapping needs to have a servicing routine that regularly checks and reloads sprung traps to maintain an even trapping pressure across the trap network.

Animal welfare considerations also require traps to be regularly checked and serviced, specifically to minimise distress to animals that may have been captured but not killed so are held in the trap and may be injured. This may require traps to be checked at least once every 24 hours while trapping is operational.

Poisoning

Poisoning pests requires animals to be lured to a bait station, encouraged to feed, and then killing them with a lethal dose of biochemicals. Bait stations are generally best set out in a regular pattern across the control area and at a density so that all pests in the area can access to bait station. When poisoning consider the following points:

- In general all poisons registered for vertebrate pest control in New Zealand MUST be laid in a bait station
- Bait stations must be appropriate for the type of bait being used
- Bait stations need to protect the bait from spoiling by keeping rain away from the bait
- Bait stations should be securely fixed in place to give pests reassurance they are safe to feed from
- Bait stations should hold sufficient quantity of bait for multiple animals to feed between bait station checks
- For high dose baits secure the bait inside the bait station to prevent it being carried away and lost
- For high dose baits bait stations should be lockable to reduce tampering and access by pets and children
- High dose baits are generally formed as a wax based block with cereal bait and loaded with 50ppm of toxin
- Wax based baits are moisture resistant, long lived and formed with a hole to secure them in the station
- Wax based baits are generally formed with edges and ridges so rodents can easily gnaw them to feed
- Low dose baits are generally formed as a cereal pellet and loaded with 20ppm of toxin
- Low dose baits are usually fed in bulk which allows pellets to be carried away
- Low dose baits are usually targeted at possums and rabbits which generally feed at the bait station
- Bait acceptance can be enhanced with a lure scent such as raspberry for rabbits and peanuts for rodents
- When setting bait stations record the quantity of bait placed in each bait station and the date it was set
- When checking bait stations always record the amount of bait remaining and the amount of bait added
- Always remove all residual bait from bait stations at the end of a control programme to prevent it spoiling

Remember that poison is toxic so always read the label first, know the antidote for the toxin you are using, and use safe handling techniques. Once poison is released into the environment you lose control of a dangerous substance so always be responsible. Most toxins are also hazardous to fish so keep them away from waterways.

Pest Behaviour

Many pest species have social hierarchies so dominant animals, usually males have first access to the control devices. To achieve effective pest management, control pressure must continue to be exerted to remove these animals so that lower status animals can access the control devices, including females and juveniles.

When control devices are laid in a regular pattern, devices in the centre of the control area provide support to devices on each side of them however, devices on the edges and corners of the control area have no support on

one side. These devices often have a different pattern of use by the pest population. As control devices in the core of the control area reduce the pest population this causes a pest vacuum that means animals move toward the centre of the control area. Along the edges of the control area this results in immigration of pests into the control area and control devices along the edges can record pest activity even when control devices in the core of the control area indicate pest activity is low.

Designing Pest Management

Control Device Layout

Designing a network of control devices for pest management is not difficult, however, accuracy of setup will help ensure a consistent control pressure is able to be exerted across the whole control area. For rodent control the best network layout to use is a simple grid with control devices spaced evenly across the control area as rodents have overlapping home ranges. With appropriate spacing it is possible to locate at least one control device in each rodent home range. For rabbits it is better to focus the location of control devices on areas of high usage. Rabbits live in social groups so tend to use favoured areas repeatedly. Cats generally live at extremely low densities and have very large home ranges so controlling these pests needs to rely on very strong lure scents to attract the target animal to a control device.

Grid Layouts

For rodents the following grid spacing's give the following control results:

Grid Spacing	Rodent Control Results
100m x 100m	Good control of rats but poor control of mice whose numbers are likely to increase very quickly after control has ended as a result of rat numbers having been suppressed.
100m x 50m	Excellent control of rats and good control of mice. This grid spacing is capable of reducing rodent populations to below the level where they can be detected by trapping.
50m x 50m	Excellent control of both rats and mice. This grid spacing is best suited to smaller control areas as it requires twice as many control devices as a 100m x 50m grid and four times as many as a 100m x 100m grid. This grid spacing can also be used around the perimeter of a larger grid to counter immigration into the control area.

In Auckland, plotting a control grid is straightforward as Auckland Council's on-line GIS viewer shows an aerial photograph of all properties with a scale bar and property boundary lines marked. By printing off a suitable enlargement of the property the spacing of the control devices at the chosen grid spacing can be plotted using the scale marked on the printout. Grid lines running in one direction can be labelled A, B, C etc and grid lines running at 90 degrees can be labelled 1, 2, 3 etc giving control devices to be situated at each grid line intersection the location of A1, B2, C3 etc. The overall grid should be positioned so the highest number of control devices possible can be situated in the control area even if the grid lines run at an angle across the image. For irregular shaped control areas partial grid lines can be used.

For properties outside Auckland, Google Earth and Google Maps can both provide excellent aerial images and a scale bar for the chosen enlargement. However, property boundaries may not be as accurate, or not shown at all so landmarks visible on the images can be used to plot the control area boundaries before the grid is laid out.

On-line aerial images are usually oriented to True North with north facing to the top of the screen or printout. If you are going to layout your grid using compass bearings you will need to measure the angle of deviation of your grid lines from True North. For example an east-west grid line would be oriented at 90^{o} when facing east and 270^{o} when facing west. However, because Magnetic North deviates from True North by approximately 18^{o} at North Cape and 26^{o} at Bluff (about 20^{o} in Auckland) you need to correct for this. In Auckland the east-west grid line would be laid on a compass bearing of 70^{o} facing east and 250^{o} degrees facing west. The spacing of control devices along each grid line can then be measured with a light cord with markers tied at the correct distances.

Using GPS

You can also lay out a control grid using a hand-held GPS unit. Ensure the GPS is set to a New Zealand geodetic datum. NZGD1949 has been replaced by NZGD2000 but if your GPS has neither of these then WGS84 is equivalent. By capturing the GPS position of several landmarks visible on an aerial image the GPS position of each grid line intersection can be calculated using a little trigonometry. Remember that hand-held GPS units are only accurate to about five metres with good satellite reception and may not work under tree cover.

Implementing Pest Management

Establishing The Network

Once you have decided if your pest management is going to be based on traps or bait stations and you have designed and plotted your control device layout it is time to establish the network in the field. It is often more efficient to layout and mark the positions of each control device on the ground first, before taking the equipment into the field. To help you navigate around your network it is a good idea to mark each position with a clearly visible marker, especially in tall or dense vegetation, so you can see it from some distance away. At each position also attach a permanent label that will prevent errors recording data and will ensure that all the locations are visited on each check. This may be a simply piece of plastic or metal with a number painted on it and attached to a tree.

With the network laid out the equipment can be distributed to each location. It is a good idea to secure each control device in place to stop it being shifted, accidentally or on purpose. Use a tether that will not degrade as it could be there for a long time. Once the equipment has been placed the network can then be made operational. With only a few control devices these stages may be able to be completed together but for larger networks it is better to complete each stage separately so the whole network can then become operational at the same time.

Remember Safety

Always use safe work practises, especially if you are working alone, or in a remote location. Also remember that you have to keep other people safe so if you are working in an area where other people have access with children or pets then if possible hide or conceal the control device. If you are working commercially then remember that you may need to be registered and that specific signage may need to be erected to notify people of the pest management programme. If in doubt, check with the Environmental Protection Agency who are very helpful.

Checking Progress

Traps or bait stations require different frequencies to check on progress. In general, when traps are set they should be checked daily unless you are using a trap that is unequivocally lethal so there is no chance an injured animal can be left to suffer for an extended period. In general, pest management using traps is more labour intensive than using bait stations that can be checked less frequently. During a knock-down control programme bait stations should be checked every 7 – 10 days to keep them provisioned with bait. During a maintenance control programme it may be possible to stretch this out to 14 – 28 days. Adjust your timing based on results.

Pulse Baiting

Pulse baiting is a technique to achieve good pest management while reducing the amount of bait used. By using bait that is lethal with a single feed you can periodically feed smaller amounts of bait. This way the animals that feed on the bait die before you refill the bait station so they only eat enough for a lethal dose rather than continuing to feed unnecessarily. Once the first wave of pests has died you can rebait for the second and later waves.

Monitoring Progress

Pest control without monitoring is like walking in the dark. You are unable to detect patterns or monitor progress and may end up wasting time and money unnecessarily. At the very least you should record the results for each control device each time you check it. Results can then be analysed as explained on the next page.

The most effective monitoring system is to use a combination of trapping and baiting. This way the trapping results can tell you when the bait stations need to be brought into operation to reduce the pest population. In this case the bait stations are set out as a grid and the traps are set as a single line through the control area. DoC uses rodent run tunnels for this work but this is much more labour intensive and traps work just as well.

By having a trap line with traps placed at regular distances allows you to easily measure pest numbers using corrected trap results. By trapping regularly, initial trap results form a baseline so when pest numbers increase, or begin to recover from a control operation you can respond with further control to keep numbers in check.

Seasonality

Controlling rodents during winter often gives better results for a number of reasons. During winter the pest has stopped breeding so it is easier to drive numbers to low levels. A successful winter pest management programme means the pest goes into the next summer at lower levels so should not reach the same peak population level by starting at a lower base. Furthermore, wildlife generally breeds in spring and many native plants flower and set seed through spring and summer. Having low pest numbers at this time of year means higher survival of wildlife young, more food for wildlife and better seed set for plants as rodents depress all these factors. As a result, wildlife numbers and habitat quality will respond in a virtuous circle where more leads to more in the absence of pests.

Recording Pest Management Results

Correcting Rodent Trap Results

To compare rodent trapping results between trapping episodes you must correct the results for traps that were sprung. When checking traps (say 100 traps) there can be four outcomes: a trap may be unsprung (say 65 traps), a trap may be sprung without a capture (say 24 traps), a trap may have caught a rodent (say 10 traps) or a trap may be lost (say 1 trap). Tally up the total traps with each outcome and multiply each outcome by the number of nights the traps were set (2 nights). From total traps nights (100 traps x 2 nights = 200 trap nights) subtract all the lost trap nights (2 nights), half the sprung trap nights (24 nights) and half the capture nights (10 nights). This gives a trapping effort of 164 trap nights. Now divide the number of captures (10 rodents) by the number of trap nights (164 nights) and multiply by 100. This gives a corrected capture rate of 6.1 rodents per 100 trap nights and allows you to make direct comparisons between trapping results from different trapping operations to judge if the number of rodents is increasing of decreasing. Graph the corrected results to see differences between seasons and years.

Bait Station Monitoring

Record the date and the amount of bait placed in each bait station when it is established. Periodically check the bait station and record the date, the amount of bait left and the amount of bait added. Daily bait take can be calculated for any check by taking the amount of bait left at the last check adding the bait added at the last check minus the bait left at this check. This gives the amount of bait taken from the station since the last check. Dividing this by the number of nights since the last check gives you the daily bait take from the station. Adding up daily bait take over all the bait stations allows total bait take to be calculated so it can be graphed as below.

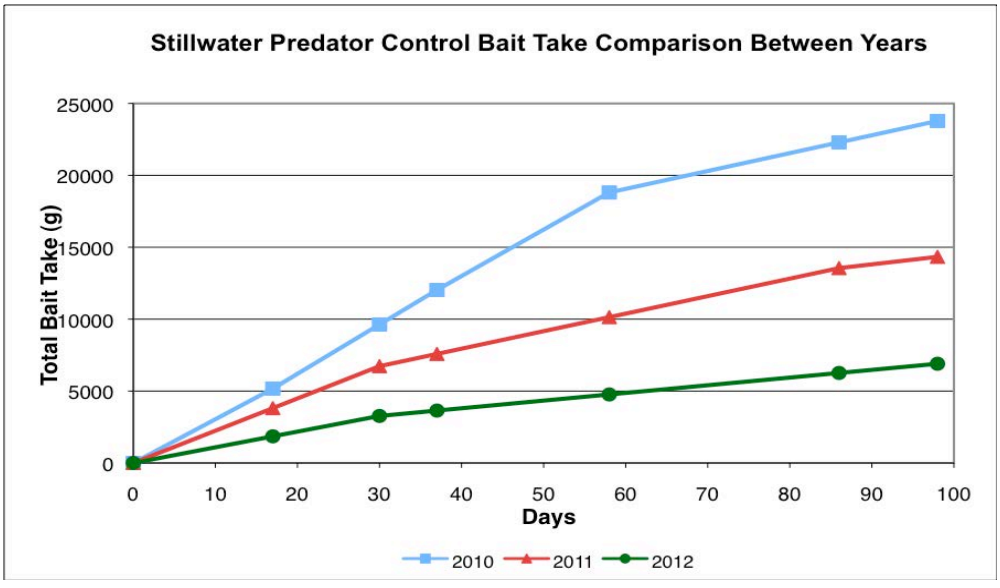
Station No	**1**			**2**			**3**		
Location									
Bait Used									
Date	**Bait Left**	**Bait Add**	**Bait Take**	**Bait Left**	**Bait Add**	**Bait Take**	**Bait Left**	**Bait Add**	**Bait Take**
Total Bait									
No Nights									
Daily Take									

Monitoring Results

The graph shows monitoring results from 16 bait stations on a 100m x 50m grid at Stillwater north of Auckland.

During each control programme the rate of bait take decreased as the programme progressed as shown by the graph lines becoming flatter over time.

Each year total bait take was less than the previous year as the pest population was unable to fully recover between control operations.



...intelligent pest control

RODENT TRAPPING TIPS & TRICKS

IDENTIFYING RODENTS

In New Zealand the three different rodent species you may need to control are the:

1. House mouse – a small rodent with a 7-10 cm long body. Its droppings are each 3-5mm long.
2. Black rat – a larger rodent with a 15–20 cm long body. Its tail is as long or longer than the body.
3. Brown rat – a large rodent with a body up to 25 cm long. Its tail is not longer than the body.

Correctly identifying the pest is important so you can choose the correct type of trap to use.

RODENT BEHAVIOUR

Rodents are generally active at night so often the first sign of them is droppings, urine stains and gnawing. They are very cautious and tend to move along walls rather than across open space and they are suspicious of new items, such as traps, that they may encounter in their daily movements.

Traps should be laid where sign tells you the rodents are active. To overcome their natural wariness firstly lay traps that are baited but are not set. This teaches the rodent that the trap is a source of food and is not a danger. When the bait has been taken, rebait the trap and set it.

CHOOSING RODENT TRAPS

Use quality traps that will be effective the first time they are sprung. Cheap traps are a false economy as they may trip prematurely, or worse, they may injure the rodent teaching it to NEVER go near another trap. We use and recommend Victor snap traps and Trapper rodent traps. These are powerful traps with sensitive triggers and they will last a long time when well maintained.

BAITING RODENT TRAPS

Rodents eat a wide range of food so to catch them you have to use bait that will make them choose the trap bait over everything else. Cheese is not recommended, despite what many people think. Peanut butter or chocolate are better but the bait must be firm enough to stay on the trap so the rodent triggers the trap trying to remove the bait. Handling traps may leave your scent on them however as everything else in your home also has your scent on it this is less of a problem.

PLACING RODENT TRAPS

Rats and mice favour moving along walls rather than across open areas so this is where to place traps. They prefer to feed where they feel secure behind furniture or appliances so these are also good trapping locations. Leave enough room around and above the trap for it to operate freely.

You can place two traps back to back along a wall so the rodent approaches the trigger whichever way it is travelling. The trigger towards the wall is also effective so the rodent approaches the trap from the side. In a corner place the trap with the trigger facing out of the corner so the rodent cannot climb over the trap to get to the bait as this can set off the trap without capturing the rodent.

MAINTAINING RODENT TRAPS

To keep your traps in good condition you can oil them using vegetable based cooking oil. Do not use a mineral oil as its smell may deter rodents from returning to the trap the next time you use it.

YOUR HEALTH AND SAFETY

Bait each trap before you set it. Traps have powerful springs so keep your fingers clear of the trigger plate and trap base and only place traps in locations where children cannot gain access to them.

Rodents carry disease and your health is paramount. Wear gloves when handling traps and rodents. Wrap animals in plastic bags and place in the rubbish. If necessary dump the trap with the animal still in it. Always thoroughly wash your hands with soap and hot water when you are finished.

xpelPest is a division of Aranovus Limited

PO Box 24522 Royal Oak Auckland 1345 | 111 Oakdale Road Hillsborough Auckland 1041

sales@xpelpest.co.nz | T 09 625 9002 | M 027 277 5433 | F 09 625 7002

www.xpelPest.co.nz | 0508 xpelPest

100% NZ owned & operated

...intelligent pest control

RODENT BAIT STATIONS TIPS & TRICKS

CHOOSING A RODENT BAIT STATION

Bait Stations are designed with many features to increase its effectiveness. Look for these features:

- It must be robust and preferably moulded from black polypropylene plastic for a long life
- "Run through" bait stations are dark inside so rodents feel secure while feeding
- Check it is lockable for added safety and to stop tampering is difficult to open without a key
- A permanent warning sign should be moulded into the body of the station
- Some bait stations have a supplied mounting bracket to secure the station in place
- Bait should be secured on a steel bait rod or bait spikes so a large bait load stays put
- The bait rod should hold the bait off the floor for good presentation and to maximise its life
- A removable bait tray will allow either granular or liquid bait to also be used with ease
- An overlapping lid keeps water out that could otherwise damage the bait, reducing its effectiveness
- The station should hinge wide open for easy cleaning and servicing

Most bait stations are suitable for controlling rats and mice, however small mouse bait stations are available.

BENEFITS OF RODENT WAX BAIT BLOCKS

Brodifacoum is a 2nd generation anticoagulant toxin. It works without the animal feeling ill, causing bait shyness. Its high toxic loading of 50ppm is usually fatal with just one feed. The blocks provide edges that are easily gnawed by rats and mice, they contain wheat, a favoured rodent food, and they are moulded with wax to protect against moisture. Being green, they aren't palatable to non-target animals like cats and dogs.

BENEFITS OF RODENT SOFT BAITS

These are also available with brodifacoum anticoagulant toxin and have a high toxic loading of 50ppm so are usually fatal with just one feed. These baits are made from pasta and contain moisture so are highly palatable during summer when rodents may be short of water.

ALTERNATIVE TOXINS

Apart from brodifacoum, other 2nd generation anticoagulant toxins include bromodiolone, diphacinone and flocoumafen. These different toxins are all marketed under different brand names. Cholecalciferol is a more specialised rodenticide that is not commonly available.

RODENT IDENTIFICATION

In New Zealand the three different rodents you may need to control are the:

1. House mouse - a small rodent with a 7-10 cm long body. Its droppings are each 3-5mm long.
2. Black rat - a larger rodent with a 15–20 cm long body. Its tail is as long or longer than the body.
3. Brown rat - a large rodent with a body up to 25 cm long. Its tail is not longer than the body.

RODENT BEHAVIOUR

Rodents are active at night so the first sign of them may be droppings, urine stains or gnawing. They are very cautious and tend to move along walls rather than across open space. They are suspicious of new items they encounter, such as a bait station, and this should be laid where signs tell you rodents are active.

YOUR HEALTH AND SAFETY

Rodents carry disease and your health is paramount. The bait is toxic so always wear gloves when handling the bait station, bait and rodents. Only place the bait station in locations where children cannot gain access to it. Wrap left over bait, rodent droppings and any dead animals in plastic bags and place in the rubbish. Always thoroughly wash your hands with soap and hot water when you are finished.

xpelPest is a division of Aranovus Limited
PO Box 24522 Royal Oak Auckland 1345 | 111 Oakdale Road Hillsborough Auckland 1041
sales@xpelpest.co.nz | T 09 625 9002 | M 027 277 5433 | F 09 625 7002
www.xpelPest.co.nz | 0508 xpelPest

100% NZ owned & operated

PREPARING THE BAIT STATION

Wear gloves to prepare the bait station to prevent odours on the bait and poison on your hands. Open the bait station with its key, unclip the bait rod, place it through a bait block then secure the rod back in its place. Close the station and check it has locked shut. Keep the key and any spare bait in a secure location.

PLACING THE BAIT STATION

Rodents are more likely to use a "run through" bait station where they can see an exit before they enter. Place the station along a wall, or behind items where rodents feel secure. If possible, place the station near signs of rodent activity and for added safety and security fix the bait station in place with a tie.

CHECKING THE BAIT STATION

Regularly check the bait station. When controlling a rodent problem, check weekly. When guarding against rodents, check monthly. Use the Bait Station Service Record below to record rodent activity. When the bait station is established, record the date and how much bait is placed in the station.

When checking the station, wear gloves. Unlock the station and check the condition of the bait. Record how much bait remains and how much new bait is added. Over time you will see when you have controlled the problem, if the station may require more bait, or if some stations have more rodent activity than others.

BAIT STATION SERVICE RECORD

Use this Bait Station Service Record to record rodent activity in the bait station. This will identify when you have successfully controlled the problem. You can download further copies from our website at www.xpelpest.co.nz/downloads/servicerecord.pdf.

When establishing the bait station, record:

- the location of the bait station;
- the type of bait used in the station;
- the date the station is established;
- how much bait is placed in the station.

When servicing the bait station:

- record the date of the check;
- record the bait remaining eg. 2.5 blocks;
- record how much bait is added;
- look for patterns of bait take over time

Station No	1		2		3		4	
Location								
Bait								
Date	Bait Left	Bait Add	Bait Left	Bait Add	Bait Left	Bait Add	Bait Left	Bait Add
Total Bait								

CONSTRUCTION & SETTING NOTES:

Make the bait station from a dark coloured two litre ice cream tub positioned upside down.

Paint over or remove any labelling that refers to food and clearly label the tub POISON.

Once all the cuts have been made, fix the lid to the tub with cable ties through holes at the mid-point of each side.

Make bait rod and ground staples from rigid c3mm wire such as galvanised fencing wire.

To load bait blocks, push bait rod through one bait rod hole and slide bait blocks onto bait rod through the opposite entrance hole.

With baits in place, push the bait rod through both bait rod holes to keep bait off the floor.

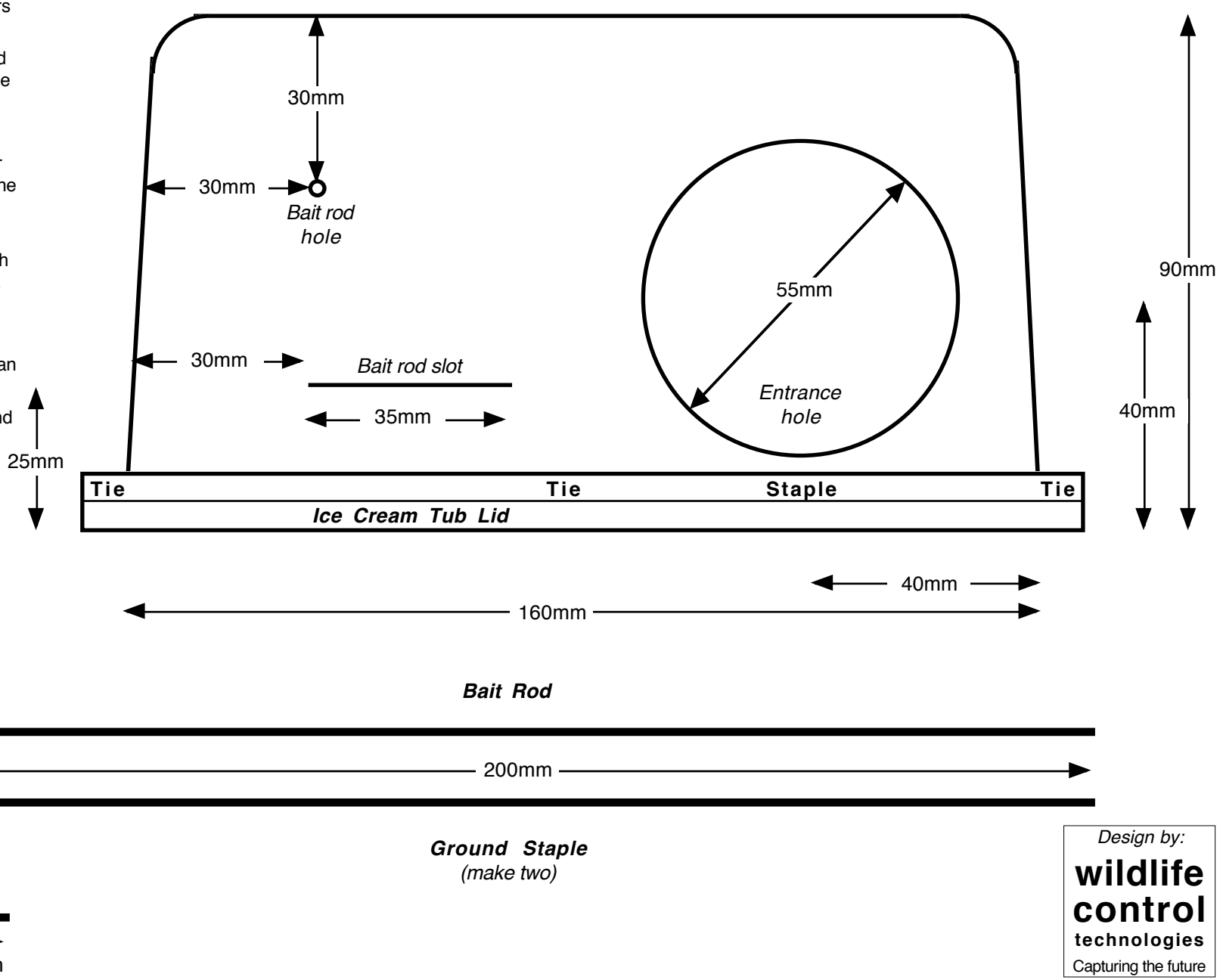
When bait rod is in place turn the end down into the bait rod slot to secure the bait rod.

For added security fix bait rod in place with an additional cable tie.

Secure bait station in place by driving ground staples through the bait station lid into the ground at both entrance holes.

DIY Ice Cream Tub Rodent Bait Station

(repeat on opposite side so holes align)



WARNING:

Bait blocks are highly toxic.Use gloves and wash hands after use.

Securely store baits away from food, children and domestic animals.

ALWAYS READ THE LABEL

Design by:

wildlife control technologies

Capturing the future

...intelligent pest control

RODENT BAIT STATION SERVICE RECORD

Use this Bait Station Service Record to record rodent activity in a network of bait stations. This will identify which bait stations are used most frequently, and when you have successfully controlled the problem. You can download further copies from our website at www.xpelpest.co.nz/downloads/servicerecord.pdf

Station No								
Location								
Bait								
Date	**Bait Left**	**Bait Add**	**Bait Left**	**Bait Add**	**Bait Left**	**Bait Add**	**Bait Left**	**Bait Add**
Total Bait								

When establishing the bait stations, record:

- the number & location of each station;
- the type of bait used in each station;
- the date each station is established;
- how much bait is placed in each station.

When servicing the bait stations:

- check all bait stations on the same day;
- record the date of the check;
- record the bait remaining eg. 2.5 blocks;
- record how much bait is added.

xpelPest is a division of Aranovus Limited

PO Box 24522 Royal Oak Auckland 1345 I 111 Oakdale Road Hillsborough Auckland 1041

sales@xpelpest.co.nz I T 09 625 9002 I M 027 277 5433 I F 09 625 7002

www.xpelPest.co.nz I 0508 xpelPest

100% NZ owned & operated

11.0 APPENDIX III: NEWSLETTERS

Three newsletters were circulated to the community during 2016. These are contained here.

GBI Ecology Vision Newsletter

Staying Connected

This programme engages with the residents of Great Barrier Island to create a vision for the island's ecological future.

February 2016

Upcoming Activities

March 12	**Community Workshop 1** Exploring ideas for a signature project **- See Page 2 for details**
March 2016	Launch of the 'GBI Dawn Chorus' Facebook page
March 2016	Launch of the Children's Bird Feeder competition
April 23	**Community Workshop 2** - Details to come

Welcome

The Great Barrier Island Ecology Vision Programme has now entered its second phase and this newsletter is our first communication for 2016. We want to maintain good communication with the whole island community by talking with people directly and communicating through our website, this newsletter and updates on radio and in both the Barrier Bulletin and the Local Board eNewsletter.

Last year you told us that you wanted to achieve something ecologically substantial and sustainable with environmental, social and economic benefits for the community of Great Barrier. At the community meetings last September your feedback was that a signature or 'significant' project was a means to this, so on March 12 we will begin the conversation to make this happen.

We see a signature project as one that will be long term and will provide outcomes across all three areas. By June 2016, we will have the framework for a community-driven vision, with key priorities and the outline for a signature project. We are excited to see where this will lead and we look forward to working with you all to achieve this.

The GBI Ecology Vision Programme

The Aotea Great Barrier Local Board Plan has a key outcome to "*agree a plan with our community for our island's ecological future*".

This programme is independent and community-led to ensure this outcome is achieved collaboratively. Marie McEntee and Shirley Johnson are facilitating this programme.

The Programme So Far

Phase I began in March 2015 and ran until September. This focused on listening to and gaining an understanding of the community's aspirations for the ecology and environment of Great Barrier Island. We asked the community to *Join the Conversation* and you spoke honestly and frankly and we are very appreciative of the time and effort you committed to our request.

A total of 202 people engaged with the programme and requested questionnaires or an interview, from which 135 residents were interviewed individually, or in groups, or returned their survey. People also sent us photographs with their comments of what was great about the island, and what could be improved.

Within this rich treasure chest of information we learnt about people's varied perspectives and aspirations for the island's natural environment. From this information we were able to prepare a comprehensive Phase 1 report about "*Enabling an Ecological Vision for Aotea Great Barrier Island*". After presenting this to the Local Board we reported our findings to the community at a series of workshops across the island last September. This report is available to download from our website at http://www.gbiecologyvision.nz/phase-one-report.html.

Phase II began in November and seeks to build on the success of Phase 1. It has a focus on developing a signature project as a means to achieve what people believe is needed for the island. The Phase II programme was approved by the Local Board and is scheduled to run until June this year.

March 12 – Scoping Ideas: Developing a Signature Project Workshop

What could a signature project look like? How could it provide environmental, social and economic benefits to the community? How might it take shape?

Our first 2016 community event is scheduled for Saturday March 12. We are seeking your input at this workshop to scope ideas and suggestions for the creation of a GBI Ecology Vision Signature Project.

Workshop Venues And Times:

Tryphena -	Elephant Gallery, 2 Schooner Bay Rd.	10.00 - 11.30am,	Saturday March 12
Claris -	The Principal's House, Claris Art Centre.	1.00 - 2.30pm,	Saturday March 12

Come and join the discussion to help shape a signature project. Morning / afternoon tea will be provided. We look forward to seeing you there.

Creating a Vision

Talk of visions and plans may be uninspiring but you need to know your destination so you can arrive at a place of your choosing.

You can navigate or you can let the currents decide where you travel and which beach you land on. A good vision is a point over the horizon to steer to and will provide focus for a signature project.

Prior to Christmas Marie and Shirley explored visions of other environmental organisations and social enterprises from across New Zealand and overseas to see what others have done in a range of projects to learn from their experiences. We found some impressive and genuinely community-led initiatives that the GBI Ecology Vision programme can benefit from.

These visions all articulated a point to aim for so projects are guided by a clear and agreed direction. They were inspirational, aspirational and powerful. Successful visions need to be underpinned by a clear plan, key priorities, activities and preferably an innovative significant project.

Take a look at a couple of different ways visions can be aspirational and yet still provide practical plans to prioritise and guide action.

The Waikato River vision is succinct and inspirational accompanied by a comprehensive action plan. See: http://www.waikatoriver.org.nz/wp-content/uploads/2014/09/3-Vision-and-Strategy.pdf

The Sustainability Business Network's vision has four accompanying themes, each with related signature projects. Follow the link to: http://sustainable.org.nz/what-we-do/transformation-areas.

Small Initiatives to Involve Everyone

Alongside our signature project we are currently developing several small initiatives to give everyone the chance to be involved, and particularly to engage the island's children. Many people told us they want to individually contribute in a small but useful way. These initiatives are focused around the island's birdlife as Phase 1 showed that people particularly value the unique birdlife of Great Barrier.

"Puriri for Prosperity" - This initiative seeks to propagate and plant 1,000 Puriri trees with seeds eco-sourced from the island. Puriri have been chosen as they are long-lived forest trees that supply food for birds all year.

"Feed the Birds" - This bird feeder design competition is for the young ones of Great Barrier to give them an opportunity to engage in the programme and to support birds in their own backyard.

"The Great Barrier Island Dawn Chorus" - This Facebook page will be launched in March to enable GBI social media users to share their thoughts, experiences, wisdom, and encounters with the island's birds and provide a forum to discuss questions.

We will provide more detail about these activities in coming newsletters.

More Information

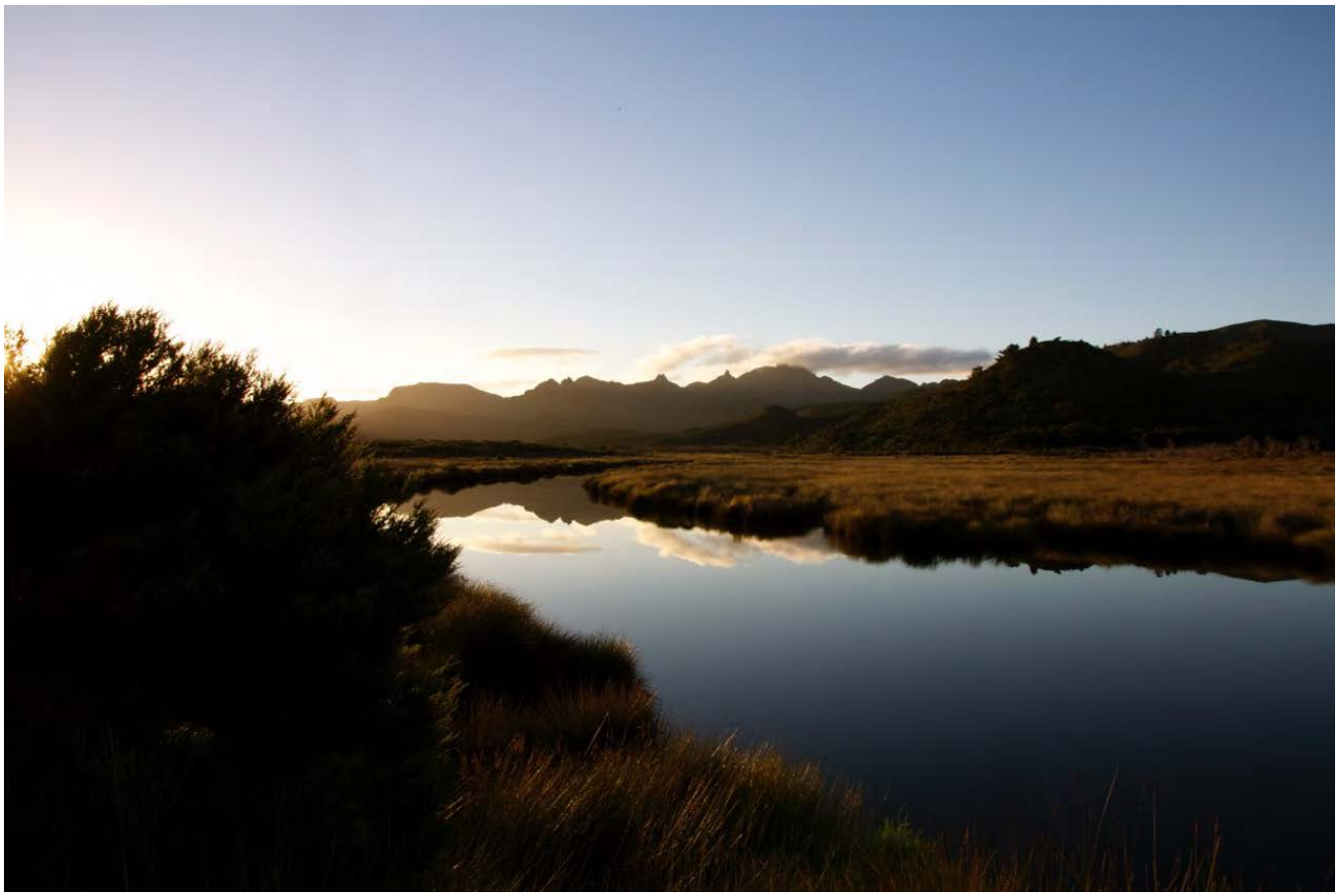
To find out more about the Great Barrier Island Ecology Vision programme you can visit our website at www.gbiecologyvision.nz.

Our home page has a quick link to our Phase 1 report. Our About Us page gives you an outline of the programme and is updated as we move forward. The 'Meet Us' page gives details about Shirley and Marie who are coordinating this programme.

Although it is only small at present, we look forward to our website growing as the programme moves forward. We are also establishing an email newsletter list and you will soon be able to signup to receive newsletters directly from our website.

Email: engage@gbiecologyvision.nz

Website: www.gbiecologyvision.nz



Photos: Courtesy of Auckland Council, Judy Gilbert, Alan Phelps, Marie McEntee

GBI Ecology Vision Newsletter

Staying Connected

This programme engages with the residents of Great Barrier Island to create a vision for the island's ecological future.

www.gbiecologyvision.nz

April 2016

Upcoming Activities

April 22	**Community Workshop 2 Theme: Pest Management - See Page 3**
April - May	Children's Bird Feeder Competition (see page 4)
May 3	Community Workshops 1 & 2, Auckland City for part-time residents – Freemans Bay Community Centre, 5.00-6.30pm
May 14	Community Workshop 3 Theme: Matauranga Maori. 'He Panui', see page 4
May 28	Island-wide community forum, Claris Conference Centre 2-4pm and join us for a drink after at the club. Details to come …but put it in your diary

Welcome

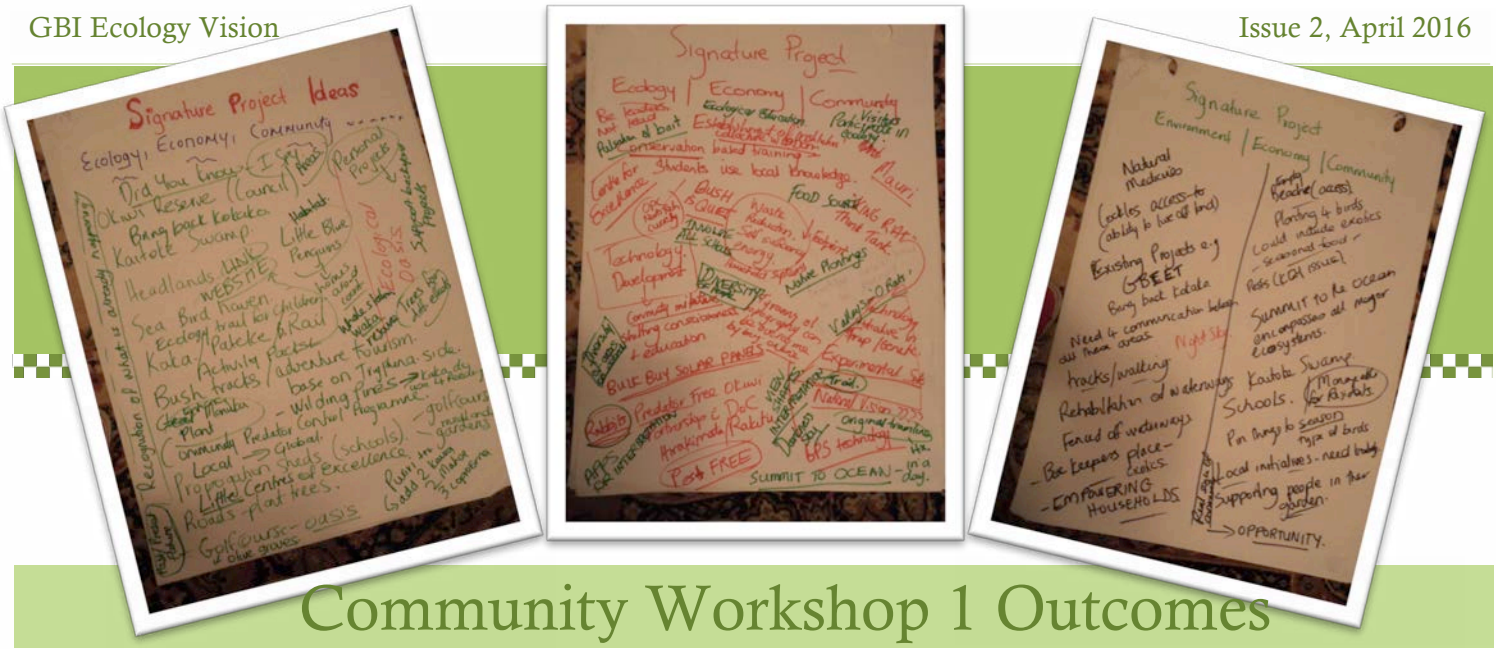
On March 12 we held the first of four community workshops to work with you to create an ecological vision for the island. Around 40-50 people joined us to discuss ideas for a significant project or projects. Three meetings were held at Tryphena (Elephant Gallery); Claris (Old Master's House); and Okiwi (Okiwi School). Thank you to everyone for your valuable contributions and to those who helped us to organise these events.

At the meetings the community shared some vibrant ideas about potential projects and importantly provided thoughts on a framework to support a project or projects. The outcomes from these meetings are presented on page 2 and 3.

Preparations are now underway for our second workshop. This will focus on pest management and will be held on Friday April 22 again at Tryphena, Claris and Okiwi. Although this was advertised in our last newsletter as April 23, we recognise this occurs on a long weekend, so we felt it was more appropriate to hold these meetings on the Friday, to avoid encroaching on the long weekend, when many of you are busy. You can read more about these workshops on page 3, and we hope you can attend.

Alone Faster, Together Further

The GBI Ecology Vision Programme is a community driven initative, which seeks to enable the residents of Great Barrier Island to be fully engaged in a collaborative process to decide an ecological vision and accompanying plan of action. Marie McEntee and Shirley Johnson are facilitating this project and welcome your input.



Community Workshop 1 Outcomes

The first community workshop was held at Tryphena, Claris and Okiwi on March 12 to explore options for a signature project or projects. Each meeting began with a discussion of 'brands' used to promote Great Barrier Island. Four brands dominated the conversation: A World of its Own; Spectacular by Nature; The World's Most Liveable Island; and Jewel in the Hauraki Gulf.

All three meetings felt positive towards 'A World of Its Own' and 'Spectacular by Nature', with a number of people suggesting a combination of these would capture Great Barrier. 'The World's Most Liveable Island', and the 'Jewel in the Hauraki Gulf' generally did not evoke positive responses, with the former seen as too closely aligned to Auckland's 'most liveable city' brand, and the latter seen as being too cliché. However, the island's positioning in the Hauraki Gulf was seen as important, with some saying it contributed a sense of place, with the island's geographic positioning as a 'Barrier' for the Hauraki Gulf reflecting its physical resilience and the resilience of its community.

This discussion around branding, provided insight to the values that an ecological vision must capture. 'Authenticity' was raised at all three meetings as being highly valued by the community. People also valued the Barrier's remoteness, its unique environment and its sense of 'stepping back in time', with the 'Barrier wave' often cited as a reflection of all these values. The ecological vision must be true to these values.

On the signature project, Phase 1 revealed the community wanted a project or projects to generate environmental, economic and social outcomes, and these were reflected in the range of ideas raised. At each meeting people's comments were captured on flipcharts (see examples of these in the above photos) and every single comment raised has since been clustered into groups. This has generated THREE separate themes that will inform the development of the vision and act as a framework for the accompanying action plan

Theme 1: 'Pockets of ecological richness' – to deliver ecological outcomes
Theme 2: 'Connecting pockets of excellence' – to deliver social outcomes
Theme 3: 'Enriching the visitor experience' – to deliver economic outcomes.

Pockets of Ecological Richness

A collection of ideas focused on enhancing ecological habitats. Some were significant endeavours, such as developing a summit to the sea pathway that would pass through every variety of habitat on the island. Others included developing ecological habitats at the golf course and adopting 'the Aotea Highway'. More locally based ideas included waterway fencing, planting puriri and other important bird feeding plants along local roads and developing penguin houses around the coast.

Workshop 1 Outcomes

The Claris Workshop

Connecting Pockets of Excellence

People sought greater connection for local knowledge to be captured and shared and for community to learn from each other, particularly across the island's regions. Offline and online solutions were suggested, including 'ecology talks' about the island's environment presented by locals and outside experts, and a comprehensive website to facilitate the storing and sharing of on/off-island expertise and wisdom (for locals and visitors).

There was a call for greater interpretation of, and access to the island's ecology. While some visualised an interpretation centre, others expressed this in more local ways such as an ecology trail for children. Digital options were suggested including apps for interpreting landscapes on a bike/walking trail. There was also a strong call, particularly at the Okiwi meeting for GBI to become a 'centre of excellence' around predator trapping and to lead in new technology development - a move that was recognised would require connection with the tertiary/science sector and greater internet capability on the island.

Enhancing the Visitor Experience

While there was contention over acceptable visitor numbers, everyone agreed that GBI needed to enhance the visitor experience to deliver an authentic island experience. Greater access to the island's ecology was seen as a 'selling' point and therefore this theme was highly connected to the other two themes, and to initiatives such as codes of best practice / or even green credentials for island operators. Ecology is seen as GBI's point of difference and a competitive advantage, with initiatves acting as an impetus for economic outcomes with success measured by greater number of bed nights, and greater visitor spend. A post-visitor experience survey was recommended to assess experiences so as to target ecology initiatves.

Community Workshop 2: 'Pest Management' – Friday April 22

Our second series of workshops will focus on pest management. This will begin with a practical session to provide information on establishing and managing your own pest management programme. Dr Grant Dumbell, a private ecologist, with over 35 years experience in restoration ecology and pest management will facilitate this session. Grant has managed small and large-scale private pest management programmes using both trapping and baiting methods. He is keen to answer your questions and will provide a useful guide on the do's and dont's of pest control for conservation outcomes at the local scale.

Following this, we will engage in a wider discussion about pest management on GBI. We have found that pest management is possibly the most contentious ecology issue on the island. There are a variety of views around the target species, acceptable methods of control and the scale of operations. This discussion will consider how pest management might acceptably feed into the ecological vision for the island. We look forward to canvassing the full range of views and ideas for a pathway forward.

On-island Meeting Venues and Times (Cake and coffee / tea available)

Tryphena	Mulberry Grove Cafe. 8.00 - 9.30am, Fri April 22
Claris	The Principal's House, Claris Art Centre. 12.00 - 1.30pm, Fri April 22
Okiwi	Community Centre, Okiwi School. 3.30 - 5.00pm, Fri April 22

Part time islanders: Auckland City Workshop: Tues May 3, Freemans Bay Community Centre 5.00-6.30pm

Design or Build a Native Bird Feeder & Win Prizes

To enter you must be enrolled at school (incl correspondence) & live on GBI. Send your design & explanation, or your model video to engage@gbiecologyvision.nz by May 20. Include your name, address and phone number.

The GBI Ecology Vision programme invites the school children of Great Barrier to join the competition to design *or* build a native bird feeder.

EITHER

DRAW a bird feeder & write an explanation of how it works

OR

BUILD a working model to show how it works & send us a video of the model in action.

PRIZES: For the most innovative design or best working model

FIRST PRIZE: Shimano Fishing Rod (Sponsored by Barrier Building)
TWO RUNNERS-UP: $25 voucher (sponsored by Stonewall Store)

The winning designs will be announced at the GBI Ecology Vision Community Forum on May 28 at the Claris Conference Centre.

Feeders should not feed bread as native birds prefer sugar water, fruit, nuts or suet. Your design could feed one or more of these different food types.

Entries Close May 20, 2016 **Get Inventing During the School Holidays**

HE PANUI – Community Workshop 3

Haere Mai, Haere Mai, Haere Mai.

Te Kaupapa o Te Hui: (The purpose of the gathering)

Motairehe Marae will host a Hui for all people interested in learning more about the relationship between Mātauranga Māori and ecology. We will discuss the potential of weaving this perspective into the Great Barrier Island ecology vision. Mātauranga Māori is understood as 'present–day, historic and traditional mana whenua knowledge, which includes goals and aspirations.'

Guest Facilitator: Dr Daniel (Dan) Hikuroa is an Earth Systems Scientist who integrates Mātauranga Māori and science to realise the dreams and aspirations of the communities. He is an established world expert on integrating indigenous knowledge and science and has undertaken projects including co-writing the 2014 State of the Hauraki Gulf Environment Report, geothermal developments and co-writing iwi environmental management plans.

Hui Date: Saturday May 14th, 2016
Time: 11.00am - 2.00pm Beginning with a whakatau
Venue: Motairehe Marae
Motairehe Road, Great Barrier Island

Please share the Hui date with any whanau and community members you feel may be interested in attending. For more information about this Hui, please contact Jeff Cleave, Chair Motairehe Trust Board. **Email:** *jeff.cleave@aucklandcouncil.govt.nz*

Mauri ora, Shirley Johnson and Marie McEntee

GBI Ecology Vision Newsletter

Staying Connected

This project engages with Great Barrier Island's residents to create a vision for the island's ecological future.

www.gbiecologyvision.nz

June 2016

Upcoming Activities

June	Meeting with Destination Barrier to seek their input to shaping the vision and particularly the economic dimension
July 29	Meeting with GBI Artists to explore the connections between ecology & art and how this may feed into the vision projects.
Late July	Meeting with Ngati Rehua/Ngati Wai Trust o Aotea to further conversations from Workshop 3
Late August/ September	Island-wide community forum - (details to be announced in July)

Welcome

The Great Barrier Island Ecology Vision Programme has now almost completed its second phase. We have sought to connect with the community through a series of workshops on and off the island. These have provided opportunities for the community to collaboratively develop ideas around three key areas that will feed into the shaping of the vision.

A variety of islanders volunteered to join Marie and Shirley in a visioning group to collectively write the vision. The feedback from the Phase 1 conversations, which we collated and reported in the Phase 1 Report and the ideas generated at each of the workshops, which are contained in our newsletters, are guiding this group in their task to create a succinct vision document. Your contributions which we have captured over the past 14 months are therefore shaping the vision. A draft document, consisting of a values and a vision statement, key strategic objectives (environmental, economic and social) and ideas for key projects will be distributed to the community in August to enable a productive discussion to take place at the island-wide meeting that is planned for late Aug / Sept.

Alone Faster – Together Further

Some people have said…"Why not just take one of the existing 'environmental' visions on GBI rather than write a new one?" If so then which one should we take? This programme provides the opportunity for everyone to contribute to creating a vision. It draws on and embraces the existing wisdom and knowledge of island groups, individuals and iwi, and it provides an opportunity for everyone to have a voice and to contribute. As a result the journey may take a little longer, but the outcome, which reflects all voices on the island who have wanted to contribute, will lead to an outcome that takes the community further in agreeing a path forward for the island's ecological future – which as you have told us is GBI's key point of difference and its unique selling point.

Workshop 2 –Pest Management

Workshop 2 discussed ideas for how the vision might appropriately reflect the community's wide views around pest management, while at the same time making meaningful gains to reduce the adverse impacts of predators. To frame this discussion, Dr Grant Dumbell, our guest speaker began with a seminar on the do's and don'ts of pest management for both home use and to meet wider conservation goals. Grant focussed on best practice when using traps and/or bait and his rodent trapping and bait station tips and tips, pest management guide and plan for making your own rodent bait station from a recycled ice-cream container are available to download from our website at http://www.gbiecologyvision.nz/downloads.html.

The group discussions that followed at each of the three venues were open and frank, and discussed the full range of approaches that participants felt were needed to address predator management on GBI. People had varied ideas on any scale of operation, target species and approach. Rats, cats, rabbits and mice were agreed to be having major impacts on birdlife and forest regeneration. However, meaningful management responses were seen as being dependant on resources (people, time and money) and social acceptability. In general community participants felt that while current technologies would likely limit any island wide management on a habited island such as GBI, the island should take a leadership role in developing new and more socially acceptable technologies and the trials underway in the Trypena area were highlighted by community members as positive initiatives. However, in the interim a number of people proposed community managed "pockets" of ecological richness where predator management would be part of a wider ecological restoration plan for the area. Predator management was therefore seen as a component, albeit critical, of ecological restoration rather than the sole focus. In addition there was a strong call for more quality and accessible information and education on options for predator management.

Workshop 3 at Kawa Marae

On Saturday 21 May, Nicola Macdonald, as Chair of Ngati Rehua Ngatiwai ki Aotea and whanau members hosted a hui at Kawa Marae to present the Ngati Rehua Ngatiwai ki Aotea ropu management plan.

The meeting was attended by community members interested in hearing more about the ropu management plan and its importance in relation to the Great Barrier Island Ecology Vision. We were warmly hosted and were provided the opportunity to hear more about the history, stories, landmarks and treasures of Ngati Rehua Ngatiwai ki Aotea.

The hui highlighted the importance of Tâha Mâori being foundational to the development of the vision and reiterated the significance of the imminent treaty settlement to mana whenua and the wider community.

Further conversations with a Ngati Rehua Ngatiwai ki Aotea are planned for late July to ensure the articulation of the vision, values and key objectives creates a unity of purpose and approach for all people of GBI.