Ministry for Primary Industries
Manatū Ahu Matua

Swamp Kauri

Cultural Heritage Values Assessment

MPI Technical Paper No: 2017/03

Prepared for the Ministry for Primary Industries

ISBN No: 978-1-77665-474-1 (online)
ISSN No: 2253-3923 (online)

January 2017

New Zealand Government

Growing and Protecting New Zealand

Disclaimer

While every effort has been made to ensure the information in this publication is accurate, the Ministry for Primary Industries does not accept any responsibility or liability for error of fact, omission, interpretation or opinion that may be present, nor for the consequences of any decisions based on this information.

Requests for further copies should be directed to:

Publications Logistics Officer
Ministry for Primary Industries
PO Box 2526
WELLINGTON 6140

Email: brand@mpi.govt.nz
Telephone: 0800 00 83 33
Facsimile: 04-894 0300

This publication is also available on the Ministry for Primary Industries website at http://www.mpi.govt.nz/news-and-resources/publications/

EXTENT

HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC
Incorporating AHMS and Futurepast

Swamp Kauri

Cultural Heritage Values Assessment

FINAL

Prepared for Ministry for Primary Industries

January 2017

Extent Heritage Pty Ltd
ABN 24 608 666 306
ACN 608 666 306
www.extent.com.au
info@extent.com.au

SYDNEY
3/73 Union St
Pyrmont NSW 2009
P 02 9555 4000
F 02 9555 7005

MELBOURNE
2/35 Hope St
Brunswick VIC 3056
P 03 9388 0622

PERTH
25/108 St Georges Tce
Perth WA 6000
P 08 9381 5206

Document Control Page

CLIENT: Ministry for Primary Industries (MPI)

PROJECT NAME: Swamp Kauri – Cultural Heritage Values Assessment

EXTENT HERITAGE PTY LTD INTERNAL REVIEW/SIGN OFF				
WRITTEN BY	**DATE**	**VERSION**	**REVIEWED**	**APPROVED**
Susan McIntyre-Tamwoy Corinne Softley Cathryn Barr Niketi Toataua	19.10.16	V1.0	Susan McIntyre-Tamwoy	23.10.16
Susan McIntyre-Tamwoy Corinne Softley Cathryn Barr Niketi Toataua	20.11.16	V2.0	Incomplete	
Susan McIntyre-Tamwoy Corinne Softley Cathryn Barr Niketi Toataua	12.12.1026	V3.0	James Wheeler	13.12.2016

Copyright and Moral Rights

Cover image: word cloud as generated from answers to question 9 of the project survey. Why is swamp kauri important for present and/or future New Zealanders?

Kia hiwa ra! Kia hiwa ra!

He tohu hakamaumahararangi

Kei te tihi kei te pari

Kei matanuku kei matarangi

Kia tu! Kia aho! Matara!

Ko te wehi ki te Runga Rawa, Te Atua nui o te rangi nana nei nga mea katoa i hanga.

Tona manaakitanga ki te Ariki Kingi Tu Heitia puta noa ki te whare kahui Ariki.

He kura i tangihia he maimai aroha ki a ratou tini mate maha e moe nei i te whenua.

E moe, okioki koutou io te po te hokia taiao.

Tihei mauri ora! Te rangi e tu nei. Te papa e takoto nei. Tena korua

Tatou te iwi tena tatou katoa.

English Translation

Being alert & aware
Was a signal elevated
From the peaks and cliffs.
From the Earth & the Heavens to
Stand tall, be aware and stand firm.
The fear of the Almighty gives us understanding of all creation.
May he bestow his blessing on King Tuheitia & his royal household.
We pay homage and remember those who have passed on.
May the life force flow from the Heavens down to the Earth to you
And upon each and every one of us.

CONTENTS

CULTURAL HERITAGE VALUES ASSESSMENT I

GLOSSARY OF TERMS USED 1

EXECUTIVE SUMMARY 3

1 INTRODUCTION 4

1.1 Project Brief 4

1.2 Management of Swamp Kauri 4

1.3 Management and Protection of Heritage 4

1.4 Legislation 5

1.5 Government Departments and Agencies 7

1.6 Non-statutory Mechanisms 8

1.7 Limitations 8

1.8 Acknowledgements 8

2 METHODOLOGY 10

2.1 Rationale for Understanding 'Heritage Values' 10

2.2 Summary of Methods 11

2.3 Background Research 12

2.4 Development of Stakeholder List 13

2.5 Iwi and Hapu Consultation 13

2.6 Electronic Survey 14

2.7 Workshops and Interviews 15

3 UNDERSTANDING & ELICITING VALUES 20

3.1 Research on the Cultural Values associated with the trees and wood 20

4 OUTCOMES AND FINDINGS 26

4.1 General Outcomes of Electronic Survey 26

5 CULTURAL VALUES, ATTRIBUTES AND ISSUES EMERGING FROM THE RESEARCH 33

5.1 Age/Antiquity 34

5.2 Aesthetic 35

5.3 Historical Values: Interaction between people and swamp kauri 38

5.4 Archaeology 45

5.5 Identity/Rarity/ Intergenerational legacy/spirituality 51

5.6 Natural Heritage/Environmental Heritage 53

5.7 Monetary Value/Livelihood 56

5.8 Māori Connections, Concerns and Values 59

5.9 Summary of the Cultural Heritage Values of Swamp Kauri 63

6 MANAGING HERITAGE VALUES 64

6.1 Introduction to Managing Heritage Values 64
6.2 Swamp Kauri and the Management Regulatory Context 64
6.3 Threats (Potential or Real) to the Values Discussion and Recommendations for Management 65
6.4 Recommendations for Protecting the Perceived Values of Swamp Kauri 68
7 REFERENCES 74
APPENDICES FROM PAGE 79

GLOSSARY OF TERMS USED

Glossary Māori words used and their English meaning

Ariki	Highest leader/ paramount chief
Iwi	tribe
Hapū	kinship group within iwi/tribe
Kaitiaki	guardian
Kaitiakitanga	guardianship
Mana whenua	people that connect to all elements and environment to the area
Marae	tribal community centre
Ngahere	forest
Papatūānuanuku	Earth mother
Rāhui	prohibit
Rākau	a tree or sticks of a tree
Rangatira	of high rank
Ranginui	Sky father
Rongoā	medicine
Rohe	area
Tāne Mahuta	God of the Forests
Tangata whenua	people of the area, generally the original inhabitants of the land; specifically the people exercising kaitiakitanga over particular land, resources, or taonga.
Tangaroa	God of the sea and fishes
Taonga	treasure / a thing of value
Tararā	Dalmatians
Tikanga	right / correct / appropriate
Tohorā	Whale
Tohunga	a high spiritual priest
Wairua	the spirit / soul
Whenua	land
Waka wānanga	learning school of traditional boat building
Whakapapa	genealogy

Other words and Acronyms and their meaning

Connected people	any groups, organisations, or individuals having a sense of association with or responsibility for a place of cultural heritage value. (ICOMOS NZ Charter).
Conservation	all the processes of understanding and caring for a place so as to safeguard its cultural heritage value. Conservation is based on respect for the existing fabric, associations, meanings, and use of the place. It requires a cautious approach of doing as much work as necessary but as little as possible, and retaining authenticity and integrity, to ensure that the place and its values are passed on to future generations (ICOMOS NZ Charter).
Cultural heritage significance	the cultural heritage value of a place or object relative to other similar or comparable places or objects, recognising the particular cultural context of the place. (ICOMOS NZ Charter)
Cultural heritage value/s	possessing aesthetic, archaeological, architectural, commemorative, functional, historical, landscape, monumental, scientific, social, spiritual, symbolic, technological, traditional, or other tangible or intangible values, associated with human activity. (ICOMOS NZ Charter)
Intangible value	the abstract cultural heritage value of the meanings or associations of a place, including commemorative, historical, social, spiritual, symbolic, or traditional values. (ICOMOS NZ Charter)

DOC	Department of Conservation
MPI	Ministry for Primary Industries
NIWA –	National Institute of Water and Atmospheric Research
Stakeholder	A person, group or organisation that has an interest or concern in a topic, and can either affect or be affected by the topic.

EXECUTIVE SUMMARY

Extent Heritage Pty Ltd was commissioned by the Ministry for Primary Industries (MPI) to compile a report on the cultural, and heritage values of swamp kauri.

This work was commissioned by MPI in response to recommendations made by the Auditor General in September 2015 concerning the regulation of swamp kauri activities. The project was undertaken to an agreed methodology which included consultation between Extent Heritage and the National Institute of Water and Atmospheric Research (NIWA) who had been commissioned to deliver a parallel project on the scientific values of swamp kauri.

This report seeks to provide a broad understanding of the values that different groups associate with swamp kauri. Particularly:

- the cultural values that swamp kauri holds for relevant groups, such as hapu and iwi within Te Tai Tokerau;
- the heritage values associated with swamp kauri;

We discuss how the different values relate to one another including the relationship between the scientific and cultural heritage values, and consider what the greatest risks to those values might be. Although as this is a draft report and we have not yet had access to NIWAs findings we acknowledge that further discussion with NIWA may lead to minor adjustments in our recommendations in the final report.

Swamp kauri holds significant value for a sector of the New Zealand population. Outside of New Zealand, knowledge of swamp kauri appears limited to a discrete and specialist group of scientists and a number of timber enthusiasts who appreciate the aesthetics of the timber. Within New Zealand the appreciation of swamp kauri is strongly linked to both the aesthetics and identification with the uniqueness of the timber which is only found in northern New Zealand combined with an appreciation of the scientific values that arise from its capacity to hold internationally important information on past climate change. Many respondents made reference to this connection between the timber and a New Zealand identity.

There is a tension between the values that are invested in the tree, its timber, and cultural values that are vested in its immediate environment. New Zealanders expressed concern about the loss and or damage to archaeological (Māori and historical) and natural heritage values associated with the wetlands and swamp deposits in which the timber is found.

The idea of intergenerational legacy, equity and stewardship was also strongly and repeatedly expressed by the participants in the study including Māori people. We have therefore focussed our recommendations on this concept of stewardship to maintain the cultural and heritage values. These recommendations are discussed under four main headings in Sections 6.4.1- 6.4.4.

- Develop a strategic approach and a Code of Practice
- Adopt a landscape management approach to manage overlapping or competing values
- Education and transparency
- Identification of Future Areas of Research needed to support cultural heritage values

1 INTRODUCTION

1.1 Project Brief

In July 2016, EXTENT Heritage Pty Ltd was commissioned by Ministry for Primary Industries (MPI) to prepare a Cultural and Heritage Values Assessment on swamp kauri, prehistoric timber which has been buried and preserved in peat. The purpose of the report is to identify the cultural and heritage values swamp kauri may have the potential or existing risks to those values and how those values can be maintained for future New Zealanders. The study was undertaken between July-November 2016, utilising a variety of methods to gain relevant and valuable insight from individuals, groups and organisations.

More specifically, the objectives of the project were to:

- Seek a broader understanding of the values that different groups associate with swamp kauri, in particular regards to:
    - The cultural values that swamp kauri holds for relevant groups, such as hapu and iwi
    - The heritage values associated with swamp kauri
    - How information from different sources relates to one another
    - How different values relate to one another
- Establish what the greatest risks to those values might be
- Provide an indication of the steps that can be taken to maintain these values for future New Zealanders

In addition to the above, the project aimed to integrate the findings of the Cultural and Heritage Values Assessment with the Scientific Values Assessment prepared by the National Institute of Water and Atmospheric Research (NIWA). This method allows for a holistic approach that responds to all identified values – cultural, heritage and scientific – and provides a co-ordinated assessment of significance. This methodology has been described in detail in Section 2.

1.2 Management of Swamp Kauri

New Zealand's indigenous timbers, including swamp kauri, are managed under the Forests Act 1949 and the Resource Management Act 1991 (RMA). Responsibility for the sustainable management of this resource rests with local and regional councils under the RMA (extraction) and the Ministry for Primary Industries (MPI) under the Forests Act 1949 (milling and export). Earthworks associated with the extraction of swamp kauri require 'resource consent' from the relevant council if work is being carried out in areas of indigenous wetland, or requires the clearance of indigenous vegetation. If extraction work is located within areas of pasture or farmland, consent may not be required, if work complies with the rules of the relevant district or regional plan.

1.3 Management and Protection of Heritage

There are a number of laws that are relevant to the protection of historic and cultural heritage of New Zealand:

- Heritage New Zealand Pouhere Taonga Act 2014
- Protected Objects Act 1975
- Resource Management Act 1991 (RMA)

All government departments and crown entities are bound by this legislation and therefore have responsibilities to implement aspects relevant to their operations. Several departments have the management of heritage sites and places as a core element of their function. These include:

- Ministry for Culture and Heritage,
- Ministry for the Environment
- Department of Conservation

While the MPI have no direct management of heritage sites there is a requirement of the Ministry to have regard to the legislation of New Zealand as it relates to the activities they manage or oversee.

1.4 Legislation

Key to the management of swamp kauri in New Zealand is the Forests Act 1949 and the Resource Management Act 1991. It is the purpose of these pieces of legislation to promote the sustainable management of resources in New Zealand. A summary of key aspects of this legislation as it relates to swamp kauri is provided below.

1.4.1 Forests Act 1949 New Zealand

It is the purpose of this Act to promote the sustainable management of indigenous forest land (Part 3A Section 67B). The Act provides clear guidelines for the milling and export of indigenous timber (Part 3A Sections 67C and 67D), which covers the export and milling of swamp kauri.

MPI monitor and enforce the Forests Act 1949, and specifically the milling and export of indigenous timbers. Indigenous timbers can only be milled at registered sawmills, and in the case of swamp kauri, must have an approved "Milling Statement" from MPI before it can be milled. The statement must include details that identify that the swamp kauri has been salvaged from land that is not indigenous forest land, or is from indigenous forest land and the natural values of that land will be maintained.

Export of swamp kauri is also regulated by the Forests Act 1949 and managed by MPI. Swamp kauri can be exported as finished product, or is sawn or whole stumps or roots. Within Section 2 of the Act (Interpretation) there are clear definitions of what constitutes a finished product and stumps.

- A finished or manufactured product is one that is in its final state and ready to be installed for its intended use without any further working or modification.
- Stumps can include that part of the trunk that extends from the ground-line to a point (up the trunk) equal to the maximum diameter of the trunk.

Whole swamp kauri logs, sawn timbers and unfinished projects cannot be exported from New Zealand.

While it is the primary role of MPI to oversee the milling and export of indigenous timbers, Section 67V of the Forests Act 1949 notes that nothing in Part 3A of the Act derogates from any provisions of the Resource Management Act 1991.

1.4.2 Resource Management Act 1991 (RMA)

The Resource Management Act 1991 (RMA) establishes an integrated framework for the sustainable management of New Zealand's natural and physical resources such as land, air and water. Under the Act, sustainable management means providing for the use, development and protection of natural and physical resources in a way that enables people and communities to provide for their social, economic, and cultural well-being as well as their health and safety (Part 2 (S.5(2)), while:

> *(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The RMA requires territorial authorities and regional councils (District and Regional Councils) to prepare plans outlining policies, rules and functions to aid the management of resources within the district or region. Plans must have regard to relevant entries on the New Zealand Heritage List / Rārangi Korero as required by the Heritage New Zealand Pouhere Taonga Act 2014. In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). Plans developed by territorial and regional authorities are required to allow for consideration of effects of proposed activities on historic heritage, identified as a Matter of National Importance (Part 2 S6).

Part 2 Section 6 of the RMA identifies that all persons exercising functions under the Act shall recognise and provide for the protection of several matters considered to be of national importance. Of relevance to this study are:

(e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga:

(f) the protection of historic heritage from inappropriate subdivision, use, and development:

Historic heritage is defined in the RMA as:

a) means those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, deriving from any of the following qualities:

(i) archaeological,

(ii) architectural,

(iii) cultural,

(iv) historic,

(v) scientific,

(vi) technological, and

b) includes

(i) historic sites, structures, places, and areas; and

(ii) archaeological sites; and

(iii) sites of significance to Māori, including wāhi tapu; and

(iv) surroundings associated with the natural and physical resources

Under the RMA (Sections 30 and 31) the functions of regional and territorial authorities are outlined. These include for both, the establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the region or district. There is a requirement for regional and territorial councils to establish objectives and policies for the management of actual or potential effects of the use, development or protection of land, and these are outlined in regional or district plans.

Consideration of listing of heritage sites in plans is not dependent on age, such as that for archaeological sites in the Heritage New Zealand Pouhere Taonga Act 2014, and sites can be identified based on assessment of their local, regional or national significance as determined by the planning authority. In relation to this project if cultural and historic values are associated with swamp kauri, consideration of these values must be made as part of any consent application that may impact on these. The most likely triggers for heritage consideration in the consent process would be application under district or regional plans for consent for earthworks.

A summary of key heritage legislation is provided with this report as Appendix A.

1.5 Government Departments and Agencies

1.5.1 The Ministry for Primary Industries

The Ministry for Primary Industries provides policy and regulatory advice to support and promote the sustainable use of resources in New Zealand. The core business of the Ministry is described on its website as:

MPI provides policy and regulatory advice, market access and trade services, and operates large-scale biosecurity, food safety, forestry, fisheries management, and animal welfare programmes. MPI also has strong relationships with other government agencies, primarily within the economic, border, and natural resources sectors. [1]

MPI oversees New Zealand's primary production industries. Their role includes educating on, and enforcement of, animal welfare standards, developing mechanisms for sustainable limits and practices within our agriculture, fisheries and forestry industries. MPI works with central and local government to support increased productivity across the primary sector, and increased sustainable use of resources, such as water and soil.

Trade: MPI maintains and enhances market access and the New Zealand export system. As the major regulator of the primary sector, MPI is a critical player in the negotiation and maintenance of access to overseas markets for primary products. Many companies and primary producers depend upon MPI's facilitation, certification and verification activities to get products across borders. New Zealand also plays a key role in influencing international arrangements and standards that facilitate trade.

In relation to swamp kauri, MPI's role stems from its responsibility in relation to the harvesting and export of timber under the Forests Act 1949. However its role in promoting sustainable resource use in New Zealand is linked to the RMA and other relevant legislation.

1.5.2 Ministry for Cultural and Heritage

The Ministry for Culture and Heritage provides advice on legislation, policy and sector development to government on arts, culture, heritage, sport and recreation and broadcasting. The Ministry administers the Heritage New Zealand Pouhere Taonga Act 2014 and the Protected Objects Act 1975

[1] https://www.mpi.govt.nz/about-mpi/governance-and-structure/

and has developed national Heritage Policy guidelines for Government departments in relation to the management of historic heritage[2].

1.5.3 The Department of Conservation

The Department of Conservation (DOC) is a Crown agency responsible for the management 8.6 million hectares of public conservation estate. The DOC is charged with the conservation of New Zealand's natural and historical heritage on land that it manages. There are over 12,000 recorded archaeological sites on DOC estate, and the Department actively manages 660 key or icon historic heritage sites, identified to reflect sites of national significance or themes that reflect New Zealand's diverse history. Within Te Tai Tokerau sites on DOC estate include examples of gum digging camps from the 19th and early 20th century and large areas of historic swamp or wetlands that contain swamp kauri (such as Ahipara and Kaimaumau).

1.6 Non-statutory Mechanisms

The New Zealand Archaeological Association (NZAA) is a voluntary organisation and registered charity with a membership made up of students, professional and amateur archaeologists, organisations and businesses. It is the purpose of the Association to promote and foster research into the archaeology of New Zealand and to advocate for the protection of archaeological sites. Established in the 1950s, the Association manages a national database of recorded archaeological sites (ArchSite) which contains records for over 60,000 sites, and is regularly being added to as surveys and assessments are completed across the country. This resource is used as tool to assist researchers, archaeologists, consultants and planners in the identification of archaeological sites.

There are a number of environmental NGOs that have been active in monitoring and reporting on activities to do with swamp kauri extraction and several of these participated in the survey for this project.

1.7 Limitations

There were several limitations to the project:

- Background research showed that most existing literature and documentation relates to kauri trees, rather than swamp kauri;
- Not all stakeholders responded to the survey or request for interviews;
- Not all Māori groups identified for consultation were available.(see Appendix B for a list of people and organisations consulted);

1.8 Acknowledgements

Extent Heritage would like to acknowledge the contribution of Niketi Toataua (Ngāti Hikairo, Ngāti Maniapoto, Ngāti Raukawa, Ngāti Tuwharetoa, Waikato, Te Atiawa) – Iwi Liaison Consultation Specialist, Kowhai Consulting – in assisting with the Iwi and Hapu consultation.

Extent Heritage would also like to acknowledge the contribution of the various stakeholders, including iwi / hapu, who participated in this study and their generosity in contributing their time and their knowledge of the swamp kauri industry. One participant remarked that although previously

[2] Policy for Government departments' management of historic heritage 2004 (August 2004) http://www.mch.govt.nz/research-publications/our-research-reports/policy-government-departments-management-historic-heritage

considering the future of swamp kauri as hopeless, after being consulted he *felt a small rekindling of optimism that the future might be positive and he was pleased that the MPI was investigating the potential cultural and scientific values of swamp Kauri.*

2 METHODOLOGY

2.1 Rationale for Understanding 'Heritage Values'

In this project we have used a variety of methods of enquiry to elicit the range of cultural and heritage values of swamp kauri held by the community. The 'community' in the context of this project is loosely defined as all those people with an interest in the use and management of swamp kauri.

Too often, experts determine significance on the basis of a limited number of established criteria. As an alternative to this approach… a deliberate, systematic, and transparent process of analyzing and assessing all the values of heritage. (Mason 2002:5)

We are cognizant of the criticism that the cultural heritage paradigm, as often applied, is a western construct restricted to a consideration of specific criteria. To counteract this we have adopted an expansive approach to the collection of data by listening to stakeholders representing a broad range of interests and asking them what they consider to be important (if anything) about swamp kauri. Considering all inputs, we have analysed and grouped the responses into categories (see section 6) to facilitate discussion

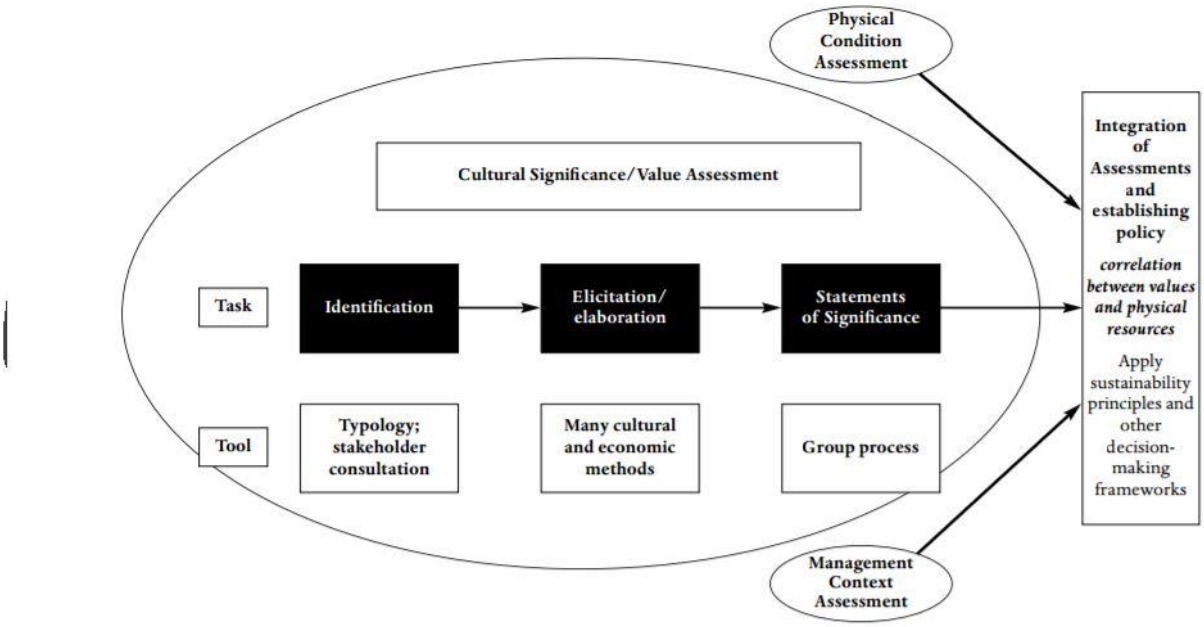

Figure 1. The cultural significance/value assessment process. With the different parts of the value assessment process identified, planners can apply a logical sequence of tasks to generate and collect knowledge about values and use this within the overall planning process (from Mason 2000:7 Figure 2)

2.1.1 Understanding cultural heritage value

Conservation of a place should be based on an understanding and appreciation of all aspects of its cultural heritage value, both tangible and intangible. All available forms of knowledge and evidence provide the means of understanding a place, its cultural heritage value and cultural heritage significance. Cultural heritage value should be understood through consultation with connected people, systematic documentary and oral research, physical investigation and recording of the place, and other relevant methods. All relevant cultural heritage values should be recognised, respected,

and, where appropriate, revealed, including values which differ, conflict, or compete. The policy for managing all aspects of a place, including its conservation and its use, and the implementation of the policy, must be based on an understanding of its cultural heritage value. (ICOMOS New Zealand 2010)

Indigenous cultural heritage

New Zealand is considered a leader internationally in the integrated consideration of indigenous cultural heritage into its policies and it is specifically recognised in the ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value (see ICOMOS New Zealand 2010).

There are a range of values that may be associated with cultural heritage places these include aesthetic, historical, scientific, social or spiritual and scientific/technical values. The latter are being considered by NIWA in a parallel project.

Historical Value

Historical values are at the root of the very notion of heritage. The capacity of a site to convey, embody, or stimulate a relation or reaction to the past, is part of the fundamental nature and meaning of heritage objects. Historical value can accrue in several ways: from the heritage material's age, from its association with people or events, from its rarity and/or uniqueness, from its technological qualities, or from its archival/documentary potential.

Social Value

The concept of social value follows closely the notion of "social capital," a widely used concept in the social science and development fields. The social values of heritage enable and facilitate social connections, networks, and other relations in a broad sense, one not necessarily related to central historical values of the heritage. The social values of a heritage site might include the use of a site for social gatherings such as celebrations, markets, picnics, or ball games. Social value also includes the "place attachment" aspects of heritage value. Place attachment refers to the social cohesion, community identity, or other feelings of affiliation that social groups (whether very small and local, or national in scale) derive from the specific heritage and environment characteristics of their "home" territory.

Spiritual/Religious Value

Heritage sites are sometimes associated or imbued with religious or other sacred meaning. These spiritual values can emanate from the beliefs and teachings of organized religion or indigenous world views that link nature, culture and spiritual values. These values can also arise from the personal relationships and experiences that certain individuals have developed with heritage places and objects over time.

Aesthetic Value

In the main, aesthetic refers to the visual and or emotive qualities of heritage. Aesthetic value is a strong contributor to a sense of well-being. They can also encompass secular experiences of wonder, awe, and so on, which can be provoked by visiting heritage places.

2.2 Summary of Methods

In this project, we used a variety of methods to elucidate the range of cultural heritage values which may exist. These included:

- Ethnographic methods including qualitative data gathering techniques such as interviews, and oral histories,

- Quantitative data gathering through the survey and the collation of existing data sources
- Documentary/historical research.

In relation to the latter point in this project we relied on secondary sources and some primary sources where these were identified to us. As the project aimed to study a diverse group of stakeholders, a range of methods were employed to ensure that consultation captured as wide an audience as possible. The agreed methodology provided to MPI included the following approaches:

- Compilation of a list of stakeholders including iwi/hapu Māori groups, heritage and environmental groups/NGOs, artisans and craftspeople, swamp kauri operators and resource managers.
- Gathering of existing documentation, including scholarly publications, and historic sources, and popular data sources such as blog posts, as well as newspaper and magazine articles to establish a statement of values based on known information.
- Provision of a focused questionnaire to reach the extensive and broad number of industry related workers, community stakeholders, members of the Dalmatian community and those located in geographically restricted areas.
- Face-to-face consultation with Iwi and Hapu representatives, with the assistance of Niketi Toataua (Iwi Liaison Consultation Specialist).
- Combination of face-to-face, skype and phone call meetings with key stakeholders and interested parties as they emerged throughout the process.
- Follow up meetings emerging using the non-probability sampling technique "snowballing" appropriate for research such as this when the members of a population are difficult to locate. Meetings were undertaken as face-to-face, phone or skype meetings.

A meeting with NIWA was held at their offices to present the emerging issues from the survey. Since that time the responses have tripled although the issues remain fundamentally the same.

These methodologies have been explained in more detail below.

2.3 Background Research

Background research aimed to review existing documentation in order to establish a statement of cultural and heritage values based on known information. Information was primarily sourced via desktop research, examining online archives and library catalogues. In summary, information was sourced from:

- National Library of New Zealand (including papers past)
- University of Sydney Library Catalogue
- JSTOR (digital library of academic journals, books and primary sources)
- Interest/opinion pieces on swamp kauri, commonly written by industry and tourism related groups
- New Zealand Geographic
- The Kauri Museum, Matakohe
- Literature review provided by NIWA in the “Progress on understanding the scientific value of swamp kauri” report prepared for Ministry for Primary Industries in September 2016.

Background research informed the initial directions of the study, highlighting cultural and heritage values emerging from existing literature and documentation. The research was also essential in the development of the stakeholder list, creation of an electronic survey and interview questions.

Figure 1 One of the research team Cathryn Barr stands near an excavated swamp kauri stump at Camp Road Waiharara.

2.4 Development of Stakeholder List

Utilising our specialist team and background research, Extent Heritage compiled a list of stakeholders including iwi/hapu Māori, heritage and environmental groups/NGOs, artisans and craftspeople, swamp kauri extractor and resource managers. Through the utilisation of professional contacts such as IUCN, ICOMOS and other networks established within New Zealand, Extent aimed for a local and international reach. The stakeholder list was revised and approved by MPI in August 2016.

The stakeholder list was used as the baseline for consultation on the project and was expanded by referral as meetings, interviews and the survey revealed new stakeholders and knowledge holders.

2.5 Iwi and Hapu Consultation

Key to the development of a program of consultation with tangata whenua as part of the project was the development of a Statement of Māori Interest (SIMI) to assist in identifying key iwi within the project area. Using this, a database of key contacts within iwi in Te Tai Tokerau was developed. Consideration was given to organising full hui with iwi at key locations in Whangarei, Kaitaia and Dargaville. In discussion with representatives of identified consultation groups it was determined that a more time efficient and appropriate means of consultation was to meet with Iwi trust board chairs, committee members and where possible environmental staff. This was to ensure that discussions were able to be focused on the project brief, while allowing consultation with as many groups within Te Tai Tokerau as possible.

Focus for consultation was with groups within whose rohe there was known swamp kauri resource, as such the preliminary list for consultation included the following groups:

- Ngāti Kuri
- Ngāi Takoto
- Te Rarawa
- Ngā Puhi
- Ngāti Hau
- Ngāti Wai
- Te Uri o Hau
- Ngāti Whatua

Meetings with representatives of each of the groups were arranged between 22 and 26 August 2016, and invitations to attend meetings with Cathryn Barr and Niketi Toataua were extended to representatives of MPI and project partners NIWA who had been engaged to complete the scientific values assessment. NIWA were not available to attend any of the meetings with iwi, and representatives from MPI attended meetings with Ngāi Takoto, Ngāti Wai, Te Uri o Hau and Ngāti Kuri.

Meetings had also been arranged with Ngā Puhi, Ngāti Whatua and Te Rarawa, however these were cancelled by them during the week meetings were to be held. This was for a combination of reasons, including attendance by some representatives at celebrations for the coronation of the Māori King, illness, tribal commitments, tangi and requirements of Treaty of Waitangi hearings. Follow up telephone calls were made to representatives of the groups who have advised that they would be interested in being kept up to date on the project but were unable to meet.

All meetings were semi- formal, and were held at a variety of venues – offices of Runanga or Trusts, a marae and a business office. One meeting was held over lunch to fit with work commitments of the representative, and another was held via Skype as it was recommended that we speak to a committee member of one Trustee group who was living overseas. At the commencement of the meeting, the brief of the project was outlined, and it was made clear that the focus of work was on identifying past and present cultural values associated with swamp kauri. Participants were asked about their understanding of traditional use of swamp kauri as a resource, associations with land containing swamp kauri, and their current views and values associated with swamp kauri.

Meetings were generally in a conversation format. General questions were asked in relation to the organization, the extent of the rohe and role of the individual/s present. More specific questions were then asked in relation to traditional knowledge of swamp kauri, whether there were any traditions or stories that were known that were associated specifically with swamp kauri; what was the value of swamp kauri to the community – in the past and at present.

At several of the meetings, particularly those where MPI representatives were present, attendees raised questions in relation to the extraction and export process. This was explained in general terms, however the focus of the project, and the reasons for it were reiterated. As part of each discussion, each group representative was also asked, in relation to values they had identified, would they, as an organization consider swamp kauri extraction, if they were approached in relation to land they owned / managed in their rohe.

2.6 Electronic Survey

Based on the knowledge gained from background research, iwi/hapū consultation and staff expertise, a series of questions were developed for use within an electronic survey. A survey was considered a necessary and useful research tool to reach a broader number of stakeholders, the majority of which

are located in geographically dispersed areas. The questions were developed in consultation with NIWA to ensure that information on cultural, heritage and scientific values was captured.

The survey was created using SurveyMonkey, an online survey program using cloud-based software.[3] The benefit of this service is its ability to share online surveys widely and easily, to get responses in real time and to collate data into high quality and informative formats.

The questions aimed to identify any cultural heritage and scientific values people associated with swamp kauri and potential, or existing, risks to those values. A majority of questions were quantitative, with some including qualitative open ended responses. The survey was limited to 35 questions in total and took 10-15 minutes to complete. Respondents were not required to complete every question and could remain anonymous.

One aspect of the survey that would benefit from clarification is the use of the terms 'cultural value' and 'cultural heritage value', the terms required by the client. However, in cultural heritage practice these terms mean much the same thing. Nevertheless, the terms as requested were used in the survey.

With their permission, follow up contact with some of the stakeholders was undertaken to follow interesting lines of enquiry or to clarify responses. In addition, some stakeholders indicated that they had historic sources they wanted to share. Contact with these stakeholders was made via phone, skype and email, depending on their preference.

The full set of survey questions has been included in Appendix B.

2.7 Workshops and Interviews

Initial contact was mainly via email where email addresses were known and by phone call where email addresses were or in cases where our initial email went unanswered (see Appendix D). Initial contact was to ascertain if the identified stakeholders wanted to engage in the project and speak to us and if so what was the preferred way of doing this.

2.7.1 Meeting with NIWA

Initially our methodology included an integration charrette with NIWA and the client however this was dependent on it being scheduled after the workshop of scientists and stakeholders being conducted by NIWA. For various scheduling reasons this was not possible and an alternative option of attending day two of NIWA workshop (i.e. 27th October 2016) to share interim findings and discuss emerging issues was agreed. Accordingly two of the Extent team attended the NIWA workshop and presented an overview of the cultural heritage values component of the project and discussed emerging information on the values, however perhaps due to the early stage of their deliberations there was no corresponding presentation on the scientific values.

2.7.2 Meeting at Dargaville Museum

The Extent team investigated the possibility of holding a stakeholder workshop in Auckland to maximise the time previously allocated to the integration charrette. To this end an invitation was distributed to relevant stakeholders to attend a workshop in Auckland on Tuesday the 26th October. However, as the majority of stakeholders are located in Northland and the Far North, following discussion with them several phone interviews were booked for the 26th October and Susan McIntyre-Tamwoy and Corinne Softley travelled to Dargaville to speak to several other stakeholders. On the 26th October 2016 we met with the Director of the Dargaville Museum, Andrea Hemmins; the Director of the Kauri Museum Ms Lisa Tolich; Mr Don Elliott, the Chairman of the Dargaville Museums

[3] https://www.surveymonkey.com/

Board; Mr Shane Hewitt a long term swamp kauri artisan and Mr Nelson Parker a long term participant in the swamp kauri timber industry and owner of Nelson's Kaihu Kauri.

At that meeting, Andrea expressed her concern that a project such as this which sought to elicit the opinions and issues at an individual level could create or exacerbate tensions in the community. She expressed the opinion that she would like the project to be 'longer term' with time to work more closely with the museum and the community. Unfortunately the time frames for this project do not allow for the extended time frames envisaged by her.

2.7.3 The Kauri Museum, Matakohe

In the afternoon of the 26th October 2016 two of the team visited the Kauri Museum. The museum includes detailed exhibits covering all aspects of the extraction milling and use of swamp kauri (as well as green kauri).

2.7.4 The Tsi Ming Buddhist Temple, Auckland

On the afternoon of 27th October some of the study team visited the Tsi Ming Temple in Auckland as we had been told that it contained certain elements made from swamp kauri. Although the Abbess was absent, the volunteer on duty kindly allowed us to view the large carved stump of swamp kauri which forms the base for the carved timber statue of Buddha. When asked why swamp kauri was chosen she replied that the Abbess loved timber because it was "natural and had a warmth about it" and when she had arrived in Auckland she had made enquiries and was told that swamp kauri was the best timber because of its rarity, beauty and because they had been told it was 'especially New Zealand'.

The base is carved with lotus leaf pattern. Carvers from Taiwan partnered with Māori carvers to create something unique both visually and spiritually, blending techniques and traditions.

Figure 2. One of the many detailed exhibits in the The Kauri Museum

Figure 3. Both The Kauri Museum and the Dargaville Museum have large displays of swamp kauri gum.

2.7.5 Skype and telephone interviews

This was an important component both in following up people who indicated they had further information and to discover others who might contribute useful data. This is called "snowballing" and is a common social science technique that is appropriate for research when the members of a population are difficult to locate. In effect our original stakeholder list was used as a "snowball sample". In this case a standard question in both our survey and every follow up interview was: *Do you know of anyone else we should speak to?* In this way, not only did we build our list of informants, but repeated reference to certain individuals provided a verification of credibility for the source information.

Those stakeholders who we were unable to meet face-to-face, were contacted by Skype and phone calls. The list of people contacted for follow-up interviews is indicated in Appendix C. Over the project a total of seven people were interviewed via skype or phone.

2.7.6 Integration with Scientific Values Study

Originally this was planned to be through a joint charrette after the collation of data by both teams and before the formation of final recommendations, but this was not possible for various scheduling reasons between the two strands of the project. Preliminary feedback was provided by the cultural heritage team to the scientific workshop at NIWA on the emerging issues being revealed in the early stages of the survey.

The survey data pertaining to the demographics and the scientific values were provided to NIWA on the agreed date of the 20th November 2016. The survey remains open to capture straggling respondents and any relevant new survey response will be provided to NIWA prior to the finalisation of the reports.

Follow up phone and skype meeting occasionally yielded information more relevant to the scientific values study and these were, with permission of the interviewees forwarded on to NIWA for consideration. These included:

- The lack (or perceived lack) of systematic sampling of swamps for other scientific data such as core samples for pollen, insects and other vegetation; and
- The idea of using permitting data such as from Northland Regional Council as a proxy for (or contributing information on) swamp disturbance mapping;
- Respondents who were happy to speak to NIWA about their knowledge of areas where logs have been extracted.

Further work will be done on this following the production of the draft reports from each of the studies. In particular, it will be important to share recommendations to reduce unnecessary conflicting recommendations.

Figure 4. The carved swamp kauri base on which the statue of Buddha sits

3 UNDERSTANDING & ELICITING VALUES

There is an extensive literature on cultural values that ranges from practical guidelines of how to identify and manage them to more theoretical approaches (de la Torre 2002; Mason 2002, Quantrill 2011; Buckley and Sullivan 2014). In this section we provide an introduction to selected information on this issue so that we can establish the framework for how values are considered in this report. The study of values is increasingly understood to be a useful way of understanding the contexts and sociocultural aspects of heritage conservation and importantly it acknowledges that some values may be in conflict with each other and that this conflict and its implications need to be understood to ensure transparent decision about management.

That people have emotional and spiritual connections to their surroundings, including both natural landscape elements and humanly created structures and places, is a concept that is well accepted (e.g. Johnston 2014). It is enshrined to some extent in heritage legislation but only patchily integrated into heritage practice which still tends to favour quantitative methods of things that can be counted measured and dated.

"Social significance rests with the community and its values, and by its very nature does not lend itself to 'expert' analysis in the ways that the assessments of historic or architectural values have been approached." (AHC 1988 cited in Johnston 2014:39) For the purpose of this survey while we have posed the explicit questions in the survey 'Do you think that swamp kauri has cultural significance?' we counterbalance that with the more useful question: 'Briefly explain why in your opinion swamp kauri is important for present and/or future New Zealanders?' In our experience, when identifying cultural heritage values, people are often more comfortable talking about what is important to them personally. They often perceive this to be limited to particular values, and confined by their understanding of heritage practice. Our methodology involved following up with those respondents who indicated that swamp kauri was important and teasing out the basis for their opinion to develop a more nuanced understanding of the values that the community associates with this resource.

For this reason we have explored the elements of social value revealed through the respondents responses such as: a sense of New Zealand identity (and perhaps to some extent a northern New Zealand identity); and a sense of intergenerational legacy/responsibility and entitlement.

> *In seeking to understand social value we are looking at the essence of ourselves — our cultural traditions (past), our cultural identity (present) and our cultural aspirations (future) and how we create and give meaning to our environment (Hester 1979:476).*

3.1 Research on the Cultural Values associated with the trees and wood

The research summary below is not intended to be exhaustive but rather to capture the international context for a consideration of the values of the resource.

3.1.1 Cultural heritage value and trees generally

Most of the research on the cultural values of trees relates as one might expect to standing trees both in natural forest contexts and in silvicultural and created garden contexts. The cultural values of ancient timber are also documented.

Laband (2013) explores the concept that humans often form strong personal attachments to trees. The report focuses on the meaning that trees can have in our lives, in particular the cultural (shared) or spiritual (individualistic) values (Laband, 2013: 39). Using the backdrop of environmental services, the article addresses the importance of cultural, aesthetic and spiritual values of trees and how they are not trivial concepts. Rather, these values command the attention of scientists and those in policy

discussion in order to appropriately understand trees and what they mean to individuals and communities.

Whether derived from shared/cultural or unshared private experiences, these attachments can have valuable meaning in our lives. As Laband points out however private markets commonly fail to account properly for aesthetic, spiritual, and cultural values associated with trees. Such failure may reflect an inability to correctly value the benefits (and/or costs) associated with aesthetic, spiritual, and cultural values (Laband, 2013: 44).

In many cultures including those in the Pacific region (Māori, Polynesian, Melanesian and Aboriginal) certain "sacred" trees have a ritual significance although most often these trees are modified through ritual (Etheridge 1893; Grimwade 1992; Stanton 1993). Indeed much of the scholarly literature on the spirituality of trees focuses on non-western examples e.g. Hindu tree veneration (Fowler- Smith 2009); sacred trees of Israel (Dafni 2002); Shenoy and Sen 1992; Khaneghah, 1998; Frese and Gray 1995; Chandervaker 1965). "*The trees and their meanings may be incorporated into rituals of curing, initiation, marriage and death. Trees used in any of these contexts stand for the divine and represent the sacred beliefs being honored through the ritual."* (Frese and Gray 1995:32).

In western society there has long been an understanding of trees (and nature in general) as being necessary to the human psyche from the elaborate Elizabethan gardens (e.g. Woodhouse 1999) to the conception of nature as places of respite for humankind from an industrialised world as seen in the early national parks; to the post - modern concept of protected areas as *refugia* for biodiversity and in essence as places of respite for nature from humankind.

Recent decades have seen a growing literature in conservation policy as it relates to forests, heritage trees and so called old growth trees (e.g Blichaeska and Mikusinski 2014). Focussing on 'large old trees' and their social and cultural values, Blichaeska and Mikusinski note that while large old trees do have social/cultural benefits for people, these values are often neglected when preparing conservation policies and management guidelines (Blichaeska and Mikusinski, 2014, p. 1558).

> *"We believe that awareness of large old trees as a part of human identity and cultural heritage is essential when addressing the issue of their decline worldwide. Large old trees provide humans with aesthetic, symbolic, religious, and historic values, as well as concrete tangible benefits, such as leaves, branches, or nuts. In many cultures particularly large trees are treated with reverence. Also, contemporary popular culture utilizes the image of trees as sentient beings and builds on the ancient myths that attribute great powers to large trees."* (Blichaeska and Mikusinski, 2014, p. 1558)

'Large old trees' are "important elements of many ecosystems and have a multitude of functions, both ecological and social".... "From a human perspective, these functions include tangible and intangible values of which both are equally important across different cultures and societies." (Blichaeska and Mikusinski, 2014, p. 1559)

With regards to aesthetic values specifically, large old trees can be perceived as "special entities" that drive imagination and emotions, and are treated with particular care in many cultures for this reason (Blichaeska and Mikusinski, 2014, p. 1560-61). As well as sometimes being of spiritual importance, 'large old trees' can also have heritage (historic) value as they often preserve "elements of cultural heritage from pre-industrial times" (Blichaeska and Mikusinski, 2014, p. 1563).

3.1.2 Submerged or buried trees

Internationally the literature focuses on fossilised forests such as the petrified forests of Yellowstone National Park (Andrews and Lenz 1946) which are seen as source of wonder not only because of their size but because of their antiquity. However, most of the literature on fossil forest focuses on the scientific values rather than explicitly cultural values.

There is a plethora of material relating to swamp kauri which has been printed in magazines and posted online in the recent past. Many of these sources identify several important cultural and heritage values that industry related individuals and groups associate with swamp kauri. Relevant articles have been summarised below, quoting key values as they emerge throughout the texts.

Our research identified little or no scholarly publications on the cultural values of the swamp kauri itself. A number of non-academic articles in popular publications do however make explicit or indirect reference to cultural values of swamp kauri. A sample of these documents are summarised below. While few of these articles do not specifically use the term 'cultural heritage values' they refer to age, aesthetic, scientific importance all of which speak to the cultural heritage values of swamp kauri.

Wendy Laurenson (1995) "Buried Treasure", *North and South*, no.113, pp.14-15.

This article features the Ancient Kauri Kingdom Co Ltd, which was set up in Awanui to extract, dry and mill peatland swamp kauri, and work it into finished products for local and export sale. Wendy Laurenson speaks to Dave Stewart about the company and why he chooses to use swamp kauri. While the article is somewhat based on how the swamp kauri is extracted, treated and sold, the article is rich in comments from David Stewart about the value of the timber:

- *"It's intriguing – like a window into another era. And what's more intriguing is that these trees seem to have been buried alive"* (Laurenson, 1995, 14)
- *"People are fascinated with the story of these sleeping giants"* (Laurenson, 1995, 14)
- *"These kauri [swamp kauri] are the same Agathis Australis species that we see now, but the wood is different from the milled kauri we're used to seeing. This timber has far more character and intricacy of grain"* (Laurenson, 1995, 14)
- *"People up here have known about this kauri for a long time, but while live kauri were still being milled, this ancient swamp kauri was considered an inferior timber because it is unstable to handle"* (Laurenson, 1995, 14)

Furthermore, David Stewart remarks on the viability of the timber as a resource of which there is an abundance of supply:

- *"There is plenty of resource here without having to touch any environmentally sensitive areas, and plenty of the ancient forest will be preserved undisturbed"* (Laurenson, 1995, 14)
- *"What we take out is classified as salvaged timber. The water table is dropping, so if the trees are left there they will eventually rot. The peat water is preserving them"* (Laurenson, 1995, 15)

These quotes indicate aesthetic, age and historic value in the view of David Stewart and his customers.

Iain Sharp (1996) "Out of the Woods", *Pacific Way*, no.90, pp:14-19.

This article features Rose & Heather Ltd, an Auckland-based furniture company which specialises in selling swamp kauri furniture in New Zealand, Australia and the United States of America. Rose and Heather's slogan is: 'Timber with a history, furniture for a lifetime' (Sharp, 1996:19). Iain Sharp writes about the history, setting and use of the prehistoric resource, whilst speaking to Martin Bell about the timber and his company. The following quotations from the article speak to the cultural heritage values:

- *"Would you like to dine at a table, write at a desk and sleep in a bed older than the Trojan Horse, the Egyptian pyramids, the invention of the wheel and the earliest cave paintings?"* (Sharp, 1996:14)
- *"It's among the world's most ancient surviving timber"* (Sharp, 1996:14)

- *"The deepest layer is a now-extinct species which was buried by some catastrophic event around 60,000 years ago"* (Sharp, 1996:14)
- *"Some of the trees that have been recovered are gigantic and still amazingly straight after being buried in the ground for thousands of years"* (Sharp, 1996: 14)
- *"In the right conditions a tree can reach massive proportions – as tall as a 10-storey building with a perfectly symmetrical trunk"* (Sharp, 1996:15)
- *"The wood has undergone various chemical changes because of its long burial…Exposure to air after thousands of years of submersion also weakens the wood"* (Sharp, 1996:18)
- *"Already there is strong international interest in their furniture"* (Sharp, 1996:19)
- *"The great column of its trunk impresses you like the pillar of an Egyptian temple, not by classic grace, but by a rotund bulk, sheer size and weight speaking of a massive antiquity"* (Sharp, 1996:19)
- *"Customers are provided with an "owners register", which describes the source and age gauged by carbon-dating) of the timber for every item produced"* (Sharp, 1996:19)

Several values come through in these quotes, including age, aesthetic, size/scale, timber quality and historic value. In addition, particular attention is made to the "great catastrophic event" which entices people's interest in the material (Sharp, 1996:14). Finally, the article touches on the international interest in the material, highlighting that New Zealand is the only place in the world where swamp kauri is found (Sharp, 1996:19).

Vicki Jayne (1995) "Art from The Swamps", NZ Forest Industries, pp. 31-32.

In another article about Rose & Heather Ltd, Martin Bell once again speaks of the historic, aesthetic and age value of the timber, stating, "Imagine eating your dinner from a timber surface that's been around since our early Cro-Magnon ancestors were painting animals on cave walls in Europe – thousands of years before the first farmers started growing crops" (Jayne, 1995:31).

Martin Bell discusses the quality of the timber and recent (at the time) breakthrough treatments for soft and brittle timbers. The article states, "swamp kauri has proved difficult material for any larger-scale manufacturing – until recently. What changed things was the development of a wood-hardening treatment aimed at expanding the range of uses for softwood timbers" (Jayne, 1995, 31). This treatment is described as rebuilding the timber structure, giving the timber the stability of a durable hardwood and therefore increasing its value as a high-quality, usable timber.

Whilst the timber does have certain limitations when it comes to the strength and physical quality, Martin Bell highlights its aesthetic value, stating "The ancient kauri is darker, honey-brown shade compared to the golden tones of traditional kauri. We've built up a customer base for that timber" (Jayne, 1995, 32).

Finally, the article also comments on the availability of the resource, describing swamp kauri as a "bonus" as the supply constraints haven't been held back with swamp kauri as they have with indigenous timbers (Jayne, 1995, 31). This availability was considered to have a positive impact on the monetary value of the resource for Rose & Heather Ltd with the use of swamp kauri adding a premium of approximately $200 to each piece of furniture (Jayne, 1995, 32).

Marion Bridge (2007) "Swamp Art", *New Zealand Growing Today*, v. 21, n.7, pp. 42-43.

This two-page article features John Freeman, a sculptor who lives on Waiheke Island near Auckland. While the article mainly discusses the life of John Freeman and how he gets access to swamp kauri from the island, the article touches on the aesthetic value of the timber and community interest in the material on Waiheke Island. As quoted, *"Now on the artists' trail on the island, visitors are attracted by the massive piece of kauri that sits at the entrance to his garden and studio, with its twisted and convoluted form"* (Bridge, 2007, 42). Furthermore, the article goes on to state *"Retaining the beautiful shapes nature has supplied, john makes polished tables as well as art pieces"*.

University of Waikato (2006) "Wayne Takes kauri from Swamps to Tourist Lodges", New Zealand Logger Magazine, pp.30-34.

Several values associated with swamp kauri are identified in this article, including age, aesthetic, monetary and historic values. The article explores the work of Wayne Ross, a swamp kauri sculptor based in Ngaruawahia. He explains his experience early on in the swamp kauri industry, describing the lack of value attributed towards the resource. Mr Ross states:

> *"I heard about some kauri being dug up near Huntly, and when I got there it was going to be burnt. I managed to get some of it with a chainsaw, and then the guy managing the job persuaded the farmer to let me have the stumps. That was a lucky break…In those days farmers were keen to get land into production and the stumps were just in the way…I cut up what I could take away, and they burnt the rest. The memory makes my blood boil sometimes."* (University of Waikato, 2006, 31-32)

Reflecting on the irony of the situation, whereby the timber is now highly valuable and sought after, Wayne states, *"I mean, it's a real irreplaceable New Zealand heritage – and here they were burning it all over the place. These trees take hundreds of years to grow. They are the giants of the forest. It just doesn't compute"* (University of Waikato, 2006, 32). Further to this, he remarks on the fact that these farmers are among some of his worldwide customers, "*They come into the gallery, look at the stuff they used to burn, then try to say it's expensive when their wives make them buy some*" (University of Waikato, 2006, 34). The article also touches on the age and beauty of the timber, as well as the catastrophic event which saw the trees demise, *"The theory is that there was a massive storm or eruption creating a large swamp with engulfed the kauri forest"* (University of Waikato, 2006, 33).

Gum Diggers Park (date unknown) "What Mysterious Event Caused the Demise of the Great Forests?" <http://www.gumdiggerspark.co.nz/the-demise-of-the-great-forests.html> Accessed 15th August 2016.

In a blog post by Gum Diggers Park, the historic value of swamp kauri is discussed with direct reference to the mysterious events which caused the kauri forests to fall into the swampland of Northland and the Far North over several generations. The article theorises various events, including a hurricane, Tsunami, volcanic eruption, earthquake, meteorite, encroachment of the sand hills of the west coast or a fall in temperature. Simultaneously, the article explores the idea that catastrophic events did not occur at, with the swamps simply increasing in size which exposed the trees to the waterlogged conditions.

Kate Evans (Nov-Dec 2016) "Buried Treasure", New Zealand Geographic, Issue 142

In a recent article by New Zealand Geographic, the contemporary history, extraction, trade and use of swamp kauri is discussed with reference to a range of issues arising from the industry. The article utilises interview material from many stakeholders who were also consulted for this cultural and heritage values study, commenting on topics such as log extraction, artisan craftsman, the scientific research of NIWA and a series of law suits which have arisen in the last 10-15 years. Of particular note, the article comments on the range of values people associate with swamp kauri, stating for example, "*Depending on who you ask, it's a taonga, a precious and wonderful timber, a unique scientific resource and globally significant record of climate change, a source of employment, the focus of illegal activity and the agent of destruction of Northland's rare and vanishing wetlands*" (Evans, 2016). Extensive and detailed, the article draws on a wide range of values including Māori, age, economic, environmental and scientific values, as well as New Zealand identity. In addition, the author expresses her own values of swamp kauri, stating such things as "Leaving all swamp kauri in the ground would be New Zealand's loss, and not just for economic reasons" (Evans, 2016). Evans concludes, noting that there has been a recent drop off in the export of swamp kauri. She then suggests that while it is unclear if this change "…*is a blip or a trend, … this could be the perfect time to improve how we manage this rare and irreplaceable resource to ensure some survive – maybe not for the next 60,000 years, but at least for the next generation*" (Evans, 2016).

3.1.3 Timber/Wood

The choice of timbers for seemingly domestic uses can often have a cultural rather than a technical element (e.g. see Morehart, Lentz and Prufer, 2005 in relation to Mayan culture). The use and choice of timber often has a spiritual aspect in eastern vernacular building traditions buildings. For example Vijayanath Shenoy and Geeti Sen (1992) describing the importance of timber used in the traditional buildings in coastal Karnataka and Malnard districts of India write:

> *Man's close kinship with wood brings a certain feeling of intimacy, of sharing. Wood is close to the human psyche. We recall that remarkable mantra from the Purusa Sukta: urdhvam mula madhasakah asvatthah. The whole universe is depicted through the image of the tree, whose roots reach up into the heavens, and whose energy flows down through its branches, its fruits and flowers, into the earth. (Shenoy and Sen 1992:164)*

In Polynesia (e.g Kolb and Murakami, 1994) there is evidence that particular significant or sacred timbers were used in the construction of houses and Kahn and Coil 2006 point to the fact that "ethno historic descriptions refer to the sacred or ritual nature of house posts in the Society Islands, a pattern which can be demonstrated for many areas of Eastern Polynesia (Kahn 2005; see Firth 1957:77, 81; Green 1998a:129, 1998b:264; Kirch 1996:262; Kirch and Green 2001:251)".

4 OUTCOMES AND FINDINGS

The electronic survey was circulated by Extent Heritage to forty-nine (49) email addresses, some of which were group addresses and /or the secretariat of relevant NGOs such as the New Zealand Archaeological Association and ICOMOS New Zealand. NIWA distributed it via the Australasian Quaternary Association (AQUA) list and via Facebook and Twitter. It is estimated therefore that in excess of three hundred (300) individuals have had the opportunity to respond to the survey. A total of sixty-two (62) responses were received. They come from a range of people including scientists, landowners with swamp Kauri and people who have worked in the industry.

In section 4.1 below, we outline the demographic context of the survey. From sections 4.2 onwards we discuss the themes emerging from an analysis of the survey, the background research and the interviews and consider how these contribute to an understanding of the cultural heritage values of swamp kauri.

4.1 General Outcomes of Electronic Survey

A total of sixty two (62) responses to the electronic survey were received. Of the responses received nine (9) were considered incomplete (see Table 1) as they had only completed question 1-7 inclusive which is the preliminary demographic data. One other person, identified as respondent #45, answered only questions that did not require an opinion, provided only minimal information and provided no opinion as to value of swamp kauri. Not all respondents answered every question in the survey. Where specific question responses are discussed below, the total number of responses for that question is identified.

Table 1: Incomplete questionnaires to be discounted from statistics

Male	Female	Age group	Respondent #
	2	36-55	#20, #25
	1	26-35	#30
2		56-65	#41, #51
2		36-55	#19, 49
3		66 or older	#50, #45
7	**3**		

4.1.1 Respondent Demographic

Of the respondents 88.71% were New Zealand citizens. 15.79% of the total respondents indicated they were living in Australia, and while some of these were Australians, a few were New Zealand residents currently residing in Australia. There was good gender representation across the respondent group, with 64.52% identifying as male and 35.48% as female (see Figure 5).

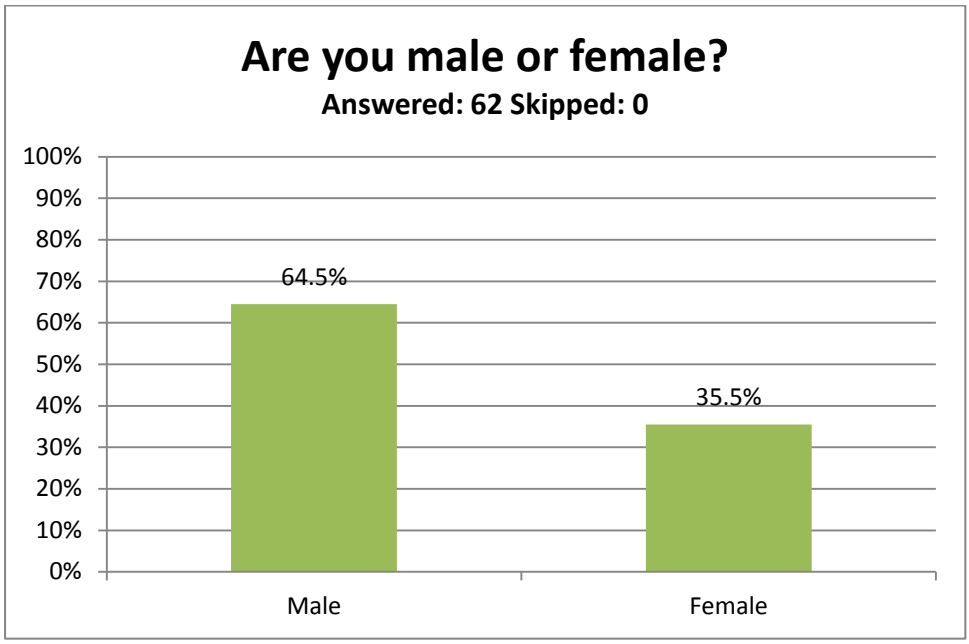

Figure 5. Gender of respondents

Most respondents (61.29%) were 56 year or older (see Figure 6). As can be seen from the Figure 7, the largest source of New Zealand respondents was from Northland (48.1%) followed by Auckland (29.6%) with a small number of respondents from elsewhere.

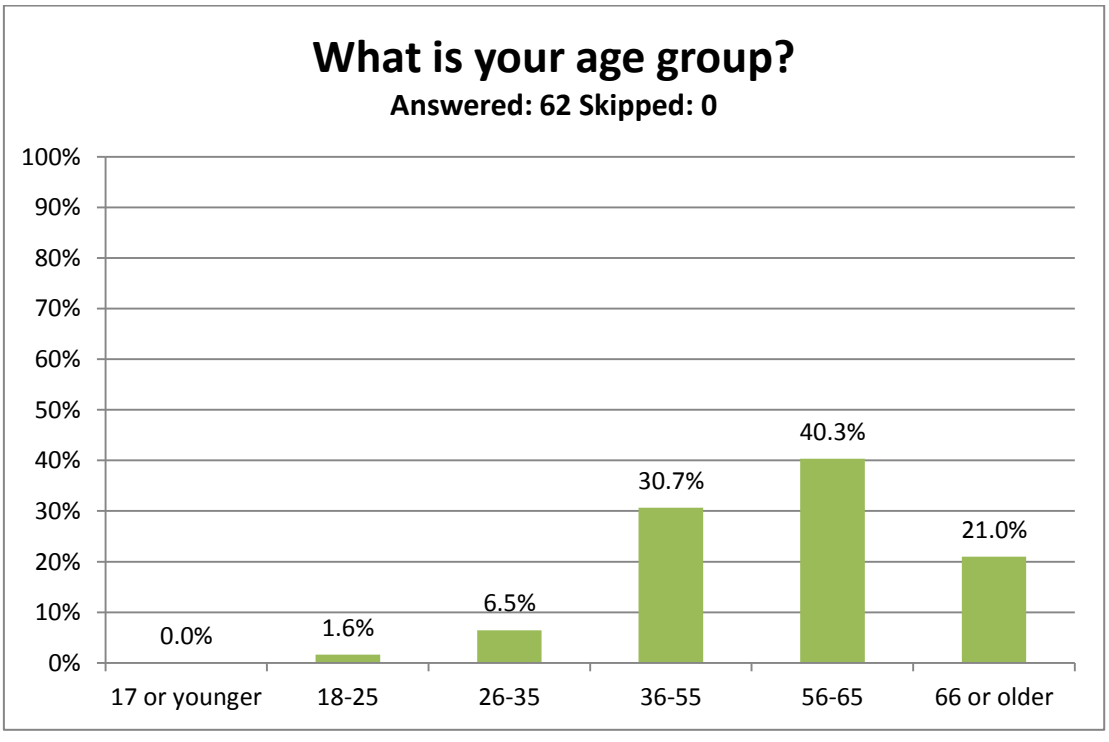

Figure 6. Age groupings of survey respondents

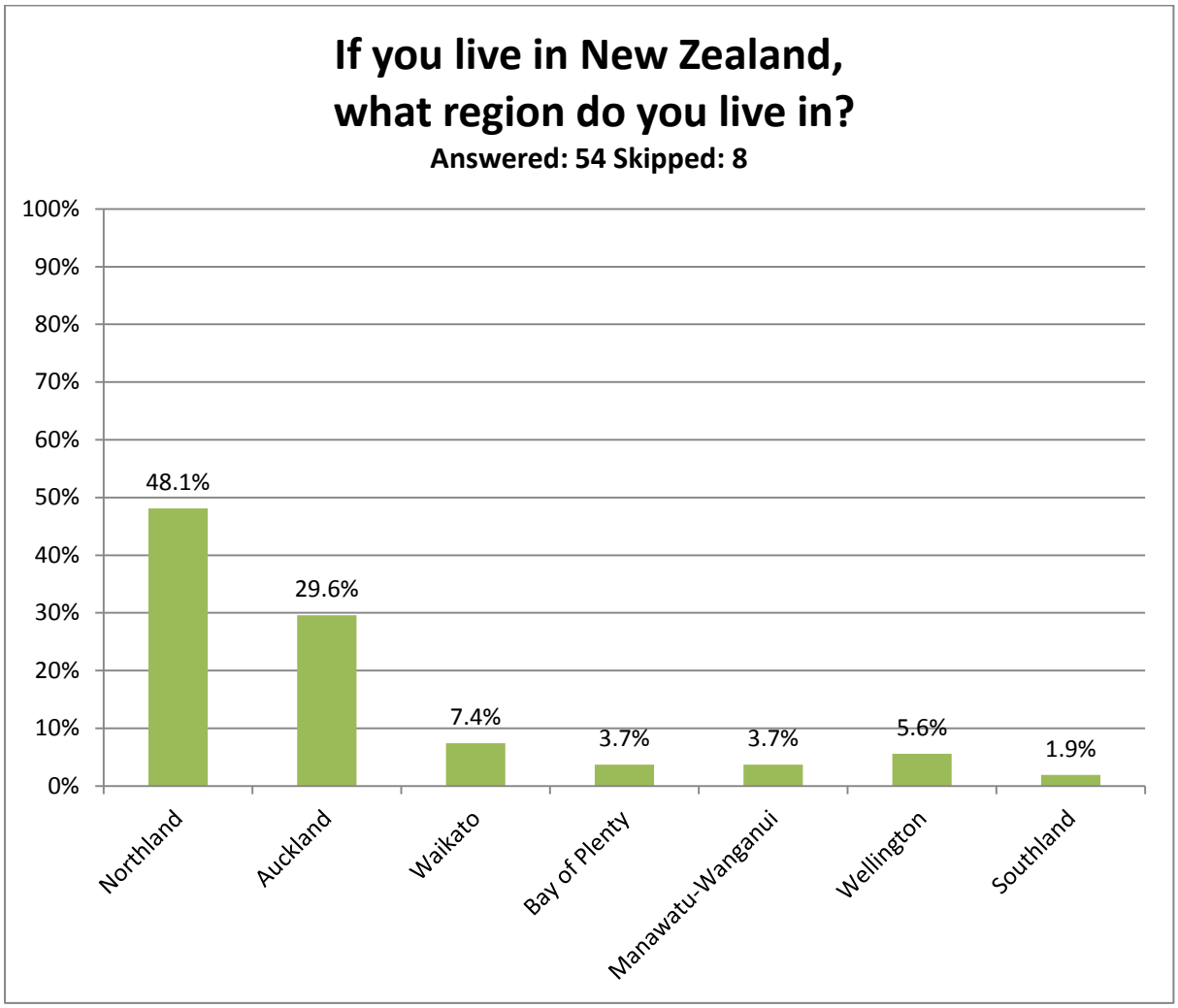

Figure 7. Geographical distribution of New Zealand respondents

Respondents were asked to select from a drop down menu of possible interest in the subject of swamp kauri. These options can be seen in Figure 8 as shortened labels (for actual wording see the questionnaire attached as Appendix B). As can be seen, respondents had a broad range of interests and represented people who work in the swamp kauri industry, as timber extractors and craftsman, as well as people from conservation groups and regulators. The broad range of respondents ensures that the results of the survey represent the broadest cross section of the community with interest in swamp kauri.

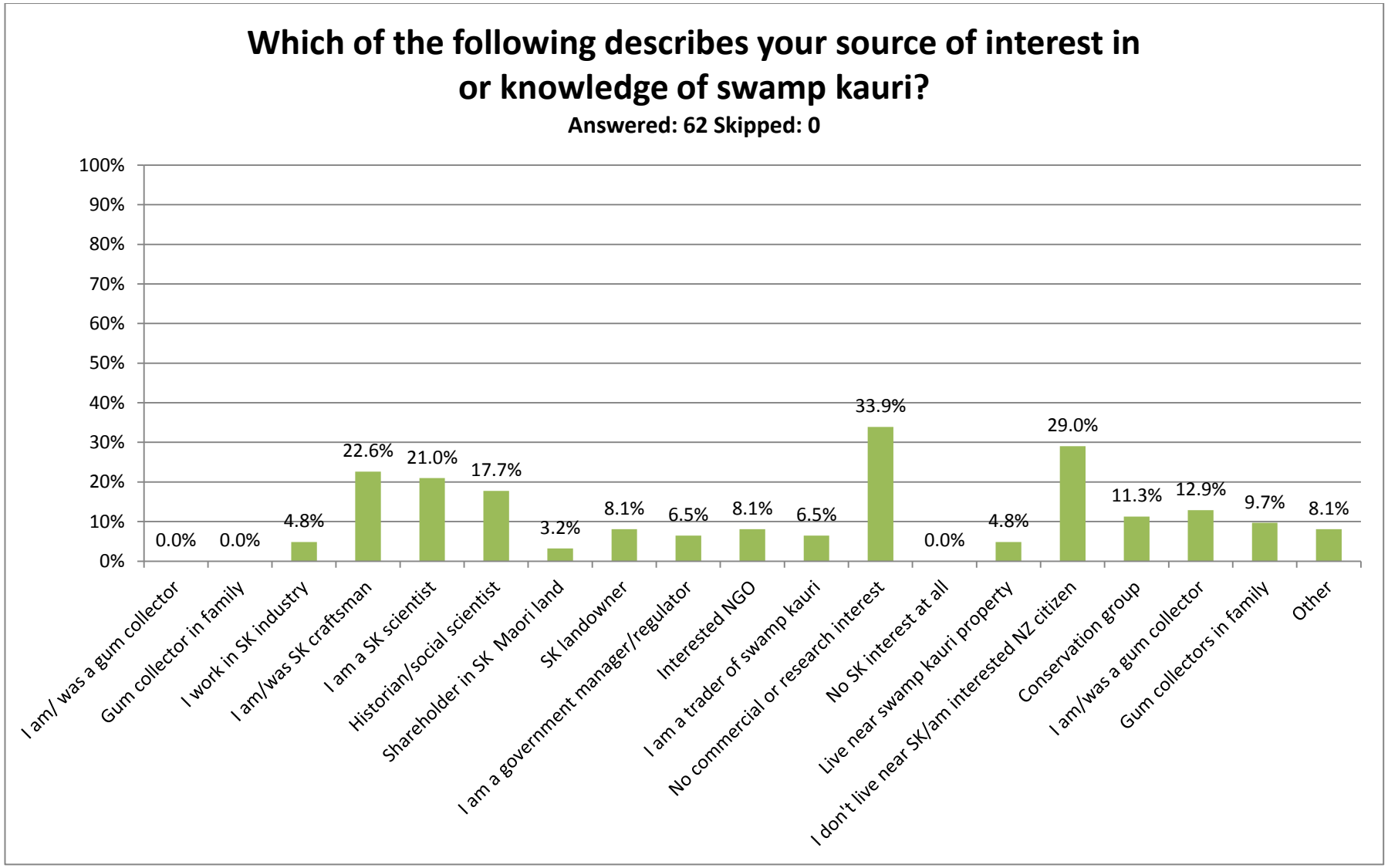

Figure 8. What interests did respondents have in swamp kauri (for full response options see the survey in Appendix B)

Another question that helped characterise the respondent group was Question 7, which asked about the ethnicity of the respondent. An abridged list of the New Zealand census groups were used for this purpose. Most respondents fell into the category of 'New Zealanders of European descent (excluding those of Dalmatian descent)'. A separate category of 'New Zealanders of Dalmatian descent' was included as a separate category in order to identify if any descendants of the early Dalmatian gum collectors participated in the survey. Only two people identified as being of Dalmatian descent, however one of these responded in the "other category" (see below). 10.9% of respondents identified as Māori, although it should be noted that the number of Māori people consulted during this project was higher than this due to our parallel process of direct consultation with iwi/hapu see section 3.5.

Figure 9. Self-ascribed ethnicity of respondents.

Where respondents noted that they were of Māori decent in Question 7 they were asked to specify with which iwi/hapu they identified. Three responses were recorded:

- All Taitokerau Northern Māori Iwi.
- Ngā Puhi, Te Roroa, Ngāti Whātua
- Matamata district.

Four respondents selected "other". They identified as follows:

- European -European
- NZ European, Māori and Dalmatian
- Fiji/ European
- New Zealand Celt.

Values Associated with Swamp Kauri

In Question 9 respondents were asked what they thought was important about swamp kauri. The answers of the 47 people that responded to this question covered a broad range of opinions. Many expressed a concern for both scientific and cultural values, and the finite nature of the resource and its uniqueness to New Zealand was a recurring message. One or two responses were ambiguous and suggested the respondent may have been confusing swamp kauri with living kauri, however overall there was a consistent array of repeat responses. Some examples are provided here to indicate the range of responses.

> *Swamp kauri is unique to Aotearoa. Once extracted from the ground it can never be replaced. To its uniqueness it has become an economic resource as a raw material for both local (e.g. tourist artefacts) and overseas markets. let's learn from history….do we want a repeat of the 19th century extractive industries such as the loss of our kauri forests for timber, kauri gum, gold all sent overseas but we are left with grossly modified landscapes and altered ecosystems.*
>
> *Now swamp kauri is a 'resource' it needs to be better managed. In fact, both the kauri and the land it is found in need to be taken into consideration as a whole as well as independent. Both have importance that is beyond mere economic 'value'. Hopefully your research will shed light on some of the other 'values' that people hold. (Respondent #4)*
>
> *A past climate and biological data source. Specifically, I am concerned that machine extraction of swamp kauri may damage important archaeological sites and deposits. (Respondent #21)*
>
> *It is a natural physical resource of great commercial, social and cultural value to New Zealanders (Respondent #21)*
>
> *It is a finite NZ Taonga and its extraction can be very damaging to the local environment. (Respondent #13)*
>
> *As a wood turner, items produced from swamp kauri are the most sought after items. If this product continues to be exported in large quantities there will be no stock left for local crafts persons. (Respondent #32)*
>
> *Swamp Kauri is, if managed properly could be a source of income for present and future generations, as well as a valuable source of information in the study of past and future climate change (Respondent #40)*
>
> *It is a taonga and kaitiaki (Respondent #35)*

Fifteen respondents skipped Question 9, however, this includes the 10 Reponses identified in Table 1 as incomplete. As such, the 5 remaining respondents who skipped this question, plus one who simply recorded 'xx" may be characterised as either unsure of what is important or, of the opinion that nothing is important. Only one respondent expressed the unequivocal view the swamp kauri was not important. The complete list of responses to this question is provided at Appendix C.

In analysing the range of cultural values held by respondents, we did not rely solely on the following two questions:

- Do you believe that swamp kauri has cultural value? (Question 14)
- Do you believe swamp kauri has heritage value? (Question 16)

Responses to these questions to some extent reflected confusion with the terms (See section 3.6). For example in Question 14 respondents were asked to indicate if they believed swamp kauri had

cultural value and only 7 people answered yes. They were asked to elaborate on that value if they had answered "yes" however far more people (31) elaborated under 'please specify' than answered yes. A similar situation occurred with Question 16. We therefore note that the statistical response count data (numbers of yes/no responses) relating to these questions is unhelpful and the useful data is in the response contained generally in the explanation provided by respondents.

In some cases the respondents declared their frustration with the question. For example:

In response to 14: *This is an impossible question to answer because culture means different things to different peoples. (Respondent #6)*

In response to 16: *Once again largely redundant* [question]. (*Respondent #56)* and*, you haven't explained the difference between 'cultural' value and 'heritage' value. (Respondent# 16)*

After reviewing the completed questionnaires of all sixty-two (62) respondents, it was evident that nearly all respondents had identified cultural heritage values associated with swamp kauri, although these may not have been specifically identified in questions 14 and / or 16. The exceptions were three respondents who identified as scientists, the ten incomplete surveys and one respondent that declared that swamp kauri only had economic value. Even of the twelve responses that listed 'scientific research' as the most important thing about swamp kauri - nine of these also referred to cultural values such a Māori traditions, aesthetics, archaeology, historic connections with the north and New Zealand identity in other responses. In identifying and analysing the cultural values therefore we have reviewed the questionnaires in their entirety. This analysis provides a very different answer, with 77.4% of respondents identifying cultural heritage values associated with swamp kauri.

5 CULTURAL VALUES, ATTRIBUTES AND ISSUES EMERGING FROM THE RESEARCH

In this section we outline the input from respondents in both the questionnaire and the survey regarding what they perceive are the cultural values of swamp kauri, attributes that contribute to those values and the issues affecting them. We first outline the information extracted from the various strands of research and in doing so have aimed to reflect the diversity of views, then we briefly discuss each with a view to determining if cultural heritage values have been established.

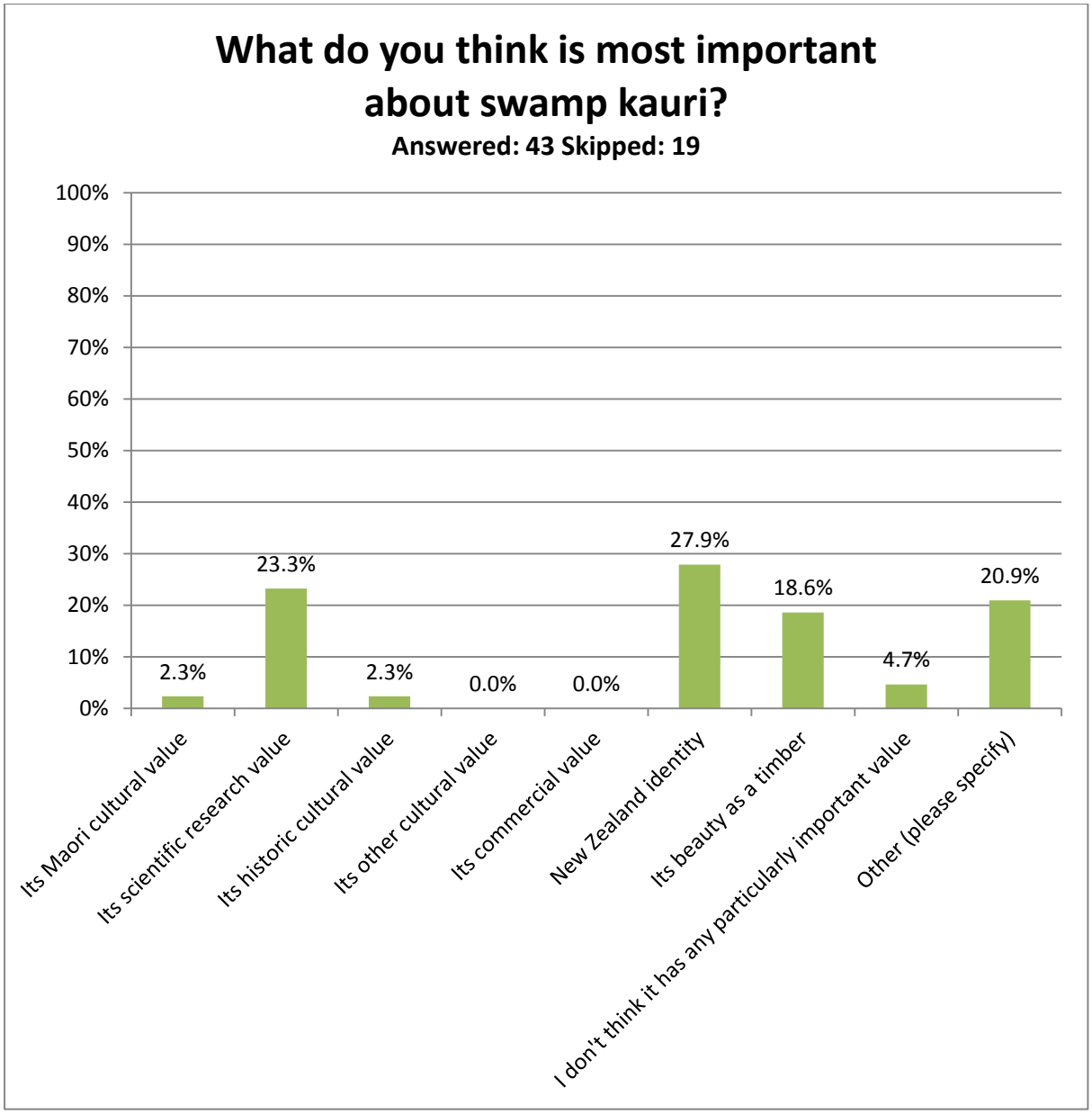

Figure 10. Survey responses to Question twenty-nine: What do you think is most important about swamp kauri?

5.1 Age/Antiquity

The perceived antiquity of the timber was something that many respondents referred to as an attribute that describe the cultural value of swamp kauri. The age was sometimes linked to its relative rarity i.e. the fact that it only occurred in north of New Zealand and also to a sense therefore that it was linked to a national identity and/or was of significant to the world. This understanding of antiquity of the timber was heavily influenced by popular understandings arising from the scientific values of swamp kauri.

5.1.1 Background Research

The popular literature in magazines and newspapers highlights the antiquity if the timber as linked to a sense of wonder and mystery. Anthropomorphic terminology such as, 'buried alive' and 'sleeping giants', serve to romanticise the subject. Dating up to 50,000 years old in some cases, swamp kauri is amongst the world's oldest surviving timber. *The timber appears as though it has been buried alive and is sometimes found to be an extinct species* (Sharp, 1996, 14). Therefore, the ancient material is *"like a window into another era"* for some (Laurenson, 1995, 14). This heritage value is further supported by the historic value of the timber. While much research has been undertaken in the past, the events that resulted in the creation of the swamp kauri of forests remain unclear. This has piqued an interest in people from all over the world who are "*fascinated with the story of these sleeping giants*" (Laurenson, 1995, 14)

5.1.2 Survey/Interview Outcomes

Clearly the age of the swamp kauri is closely related to its scientific value. It is not only the age of the trees however, that make up this scientific value, it is the potential to develop a record of climatic and environmental change through examination of the resource. Some respondents to the survey listed this attribute as if it were a cultural heritage value, and when they did, it was more often linked with the concept of rarity/scarcity and New Zealand identity (only found in New Zealand) or perhaps New Zealand identity as embedded in the land. For example:

> *Swamp kauri has heritage value - it is part of the history of our land and has a story to tell about that history"* (Respondent #31).

> *I have to say that a few precious hours with some of the scientists like Jonathon Palmer could inspire me again and it would last for a very long time. (pers. comm., John Spier, 24th November 2016).*

5.1.3 Known Values

The age and more importantly the range of ages of swamp kauri, is one of the key things that drive the scientific value of the resource as an archive of past climates and environmental data. However the age has also captured the imagination of the public and has become entwined in the idea that swamp kauri is a symbol of New Zealand identity.

5.1.4 Issues

Unlocking this databank of information through time involves an element of destruction, (this is similar to the quandary which faces archaeological research). This is particularly the case if collection of data is associated with swamp kauri extraction activities, which results in disturbance of the environmental context in which the timber is lying, any associated deposits, and ultimately the removal of the timber. Full retrieval of available information requires more holistic research effort, including the capture of information from the swamps or former swamps within which the timber occurs, including swamp cores to retrieve insects, other tree species, vegetation and pollens etc. associated with the kauri, and which is likely to have been buried for a similar period.

5.1.5 Recommendation expressed by participants

Most respondents who highlighted the perceived or potential antiquity of swamp kauri were not necessarily against its extraction. The primary recommendations from respondents that emerged in relation to the appreciation of age/antiquity were as follows:

- This finite resources needs to be conserved or at least responsibly managed.
- Scientific research should continue but be expanded to include salvage of other information such as plants and fossil record.
- Disseminate information to all New Zealanders.
- Scientific research enhances the value of the timber by highlighting its uniqueness, age and New Zealand essence.

5.1.6 Discussion

The age of something is not in itself a heritage value but rather a quantifiable characteristic that may or may not contribute to the heritage value of an object or place (Eriksen 2014). Antiquity is often seen as contributing to heritage significance through its correlation with rarity. So for example the oldest archaeological site of a type is often seen as of higher significance than more recent ones, of which there may be many more that have survived. However, not all old things have heritage value.

In relation to swamp kauri it seems that this notion of antiquity is most closely related to peoples understanding, or at times misunderstanding, of the scientific values of swamp kauri. There appears to be a common perception that it is all equally ancient while scientists have pointed out that the time of deposition of individual trees varies greatly from the recent past to the Pleistocene. No doubt this is because the maximum date range is favoured in media and popular exhibits. It is also linked to the knowledge that this resource as a whole can reveal important scientific data on climate change through time back to the ancient past.

Because swamp kauri occurs only in New Zealand and is understood by the public to be a rare resource that provides valuable information on past climate and environments, this notion of an ancient rare resource has become associated for many respondents with a national sense of pride that this globally rare resource is in New Zealand.

In summary **antiquity in itself is not a cultural heritage value** although cited by many respondents as one. In addition not all swamp kauri is particularly ‘ancient’. This characteristic is therefore considered in relation to natural heritage values and social heritage values which with be discussed later and will no doubt be discussed in the parallel assessment of scientific values by NIWA.

5.2 Aesthetic

Aesthetic values are dealt with very differently by cultural heritage practitioners (as guided by ICOMOS) from natural heritage practitioners (as guided by the IUCN). Indeed at world heritage level aesthetic values are considered to be a 'natural' criterion that relates to landscape features. However in the case of swamp kauri, the IUCN's assessment methodology is not appropriate as the aesthetic qualities relate not to the tree itself (which in its natural state is buried and is not a visible component of the landscape) but to the characteristics of the timber and to some extent the gum.

5.2.1 Background Research

In cultural heritage terms aesthetics is defined broadly to include sites, landscapes and objects that draw an emotional response.

> *Aesthetics is born as a discourse of the body and the term refers not in the first place to art, but to the whole region of human perception and sensation, in contrast to the more rarefied domain of conceptual thought.* (Eagleton 1995:13 cited in Taylor 1991:52)

Unlike the IUCN assessment process for aesthetic landforms which is expert driven (Ode et al 2008; 2009; 2010), the cultural heritage approach to aesthetic values is essentially community driven. There is frequently a call in the nature conservancy realm to also be more receptive to more community based approaches to the consideration of aesthetics (e.g. Jepson and Canney 2003) and in recent years IUCN and ICOMOS have been collaborating to better integrate the approaches to the assessment and documentation of aesthetic values particularly as they apply to World heritage Places (Mitchell et al., 2013).

> *... the issue of connection with community is particularly critical for aesthetic value. It is advisable to move away from a visual definition of aesthetics to embrace a critical and deeper understanding of the role of people/place attachment and engagement.* (Taylor 1999:55)

In the cultural heritage area aesthetic values are approached with some caution as there is no agreed practice note that can assist. However, the concept has been applied to a range of cultural heritage places including archaeological sites (e.g. Pollard 2001); indigenous objects (Harrison 2006) and of course built structures and landscapes (Taylor 1999). It is inappropriate to impose our sense of aesthetic judgement on the worlds of others, and consultation with local communities is therefore invaluable when trying to gain an understanding of aesthetic values.

At national heritage levels aesthetic values a most commonly ascribe to landscape scenic qualities and built heritage places. In relation to the former there has been a body of research into the aesthetic value of standing forests (Rolston 1998; Brook R 20120 Carlson 2010, Gobston 2001, Moore 2008). While the aesthetic values of forests and particularly natural/ indigenous forests has been an active area of research there has been little research on the aesthetic values of the wood except in relation to timber structures.

5.2.2 Survey/Interview Outcomes

The aesthetic values of the timber and the products made for the timber were a value cited by the artisans and crafts people who worked with the timber and by some respondents who worked in swamp kauri extraction.

A particularly poetic description presents antiquity as an aesthetic as if you can see and somehow capture or own 'antiquity' housed in a beautiful object "*People like the colour, swirls and golden shimmer, and the antiquity of it all"* (Karin Venator pers.comm., 25th October 2016). Some responses suggested the timber had agency, exhibiting intention, causation, result and transformation (cf. Gell 1998: 6), for example: *Another thing that would inspire me was milling some special pieces of wood and seeing them turned into very beautiful things- that was rewarding! There was a great sense of fulfilment in it"*. (pers. com., John Spier 24th November 2016)

Other respondents to the survey echoed these sentiments, for example:

> *It is a beautiful grained and coloured timber (Respondent #7)*
>
> *It has a unique beauty and reflects the uniqueness and beauty in creation. (Respondent # 38)*
>
> *Our clients desire it for its unique age and beauty (Respondent #38)*
>
> *Swamp kauri is more valuable to trade or with than other native timbers because it is unique in its age and often more beautiful in appearance (Respondent # 17)*

5.2.3 Known Values

Responses in the survey, a review of public interpretation information (for example that available in the Kauri Museum) responses identified that aesthetic value is the most common cultural value; with the timber being described as a "darker, honey-brown shade" (Jayne, 1995, 32) which has far more character in intricacy of grain" than living kauri trees (Laurenson, 1995, 14). Furthermore, they are

described as “gigantic and still amazingly straight after being buried in the ground for thousands of years” (Sharp, 1996, 14). Many suppliers or artisans who deal with swamp kauri have built up a customer base around the aesthetic qualities of the worked timber (see Figure 10).

5.2.4 Issues

The aesthetics is linked to the end products crafted from the timber and not the tree itself. The sheer size of the excavated trees can induce a sense of awe, which seem consistent with the broadest definition of aesthetics as ‘something which draws an emotional response’. However most of the respondents that used focussed on the beauty of the timber after it has been carved and polished. They variously used words like beauty, shimmer and gleam. In both cases the aesthetic value is only recognised after the tree is extracted.

The gum too can have a sort of evocative beauty with one interviewee describing how he likes to pick up a piece and “*you rub it on the palm of your hand and the heat from your body draws the scent from the deep past…everyone I have shown that to has felt the connection”* (pers. comm., Kevin Matthews 25th October 2016).

Figure 11. Examples of swamp kauri finished products showing the range of distinctive patterns in the timber. (Images left to right: unknown swamp kauri box, bowl created by Kauri Vault, privately owned guitar crafted from swamp kauri)

5.2.5 Recommendation expressed by participants

Respondents to the survey and interviewees offered some recommendations relevant to the aesthetic value of the timber these centred on promoting an understanding and appreciation of the unique characteristics of the finished timber, understanding and recording the technical aspects of the post excavation treatment of the timber that is necessary to effectively use the timber and maintain the aesthetics and ensuring that the aesthetic value is translated in to high value New Zealand products. The primary recommendations that emerged from the survey relating to the management of aesthetic values were as follows:

- Ban the export of unfinished products and develop the industry around value added high end artisan production made by New Zealand craftsman.

- There is a high degree of technical skill in treating milling and working with the timber and this should be recognised and documented.
- Educate the market about the 'beauty' of the timber and the importance of proper post excavation treatments and people will be less likely to buy unfinished product.
- Promote the finished products as uniquely 'New Zealand' products.

5.2.6 Discussion

There was strong expression of the aesthetic qualities of the timber once worked. **The aesthetic value lies in the qualities of the finished timber and is only realised after extraction**. This value does not apply to the buried timber in its natural state. There was a strong connection between the aesthetic qualities and the skill and techniques needed to mill and work the timber to reveal this aesthetic quality.

5.3 Historical Values: Interaction between people and swamp kauri

Taking all responses into consideration 40% of respondents said they believed swamp kauri had historical heritage values. However many of these responses provided little information about what these were considered to be. 'Historical values' as the name implies derive from the connection between the object and place and the history of New Zealand or the region. In other words historical value relates to whether or not the place or object is either associated with the life or work of an important person or group of people; or is associated with important historical events or patterns/ themes in the history of the region or the country.

> *Every society has had a relationship with its past, even those which have chosen to ignore it, and it is through understanding the meaning and nature of what people tell each other about their past; about what they forget, remember, memorialise and/or fake, that heritage studies can engage with academic debates beyond the confines of present-centred cultural, leisure or tourism studies. (*Harvey 2001:320)

Important historical themes or narratives relevant to the Northland region include:

- Environmental history and the evolution of the environment and landscape prior to and since the arrival of humans in New Zealand.
- Early discovery and settlement by Māori: Northland is thought to be one of the first parts of New Zealand to be discovered by the early Māori settlers.
- Encounters between Māori and Europeans some of which occurred well before permanent European settlement in the North and were associated with the recovery of kauri timber.
- The first signing of the Treaty of Waitangi on 6th February, 1840 at the Treaty House in Waitangi, by Māori and European leaders.
- Industries some of which have now totally disappeared
    - The forestry / timber industry has always been important, first with the felling of kauri forests and later in the early 20th century with the development of plantation forests;
    - Gum collection and export including the role of Dalmatian settlers and Māori gum collectors;
    - Livestock farming (for meat and dairy) developed in the early 20th century although did not become a significant industry for the economy until after World War Two;
    - Historic mining in the region included aluminium, antimony, copper, iron, manganese and mercury, coal, gum and silica sand;
    - Whaling in coastal areas;
- Immigration, shared history of ethnic and religious settlement.

For many of the local communities in the North the history of forestry, and gum digging are important historical narratives that have contributed to shaping their social and economic development. The

history of swamp kauri extraction and export while having some historic time depth (see Figures 11 & 12), really developed in earnest in modern times.

5.3.1 Background Research

> *We are all products not only of our own pasts but of the collective pasts of our forebears and of the various groups, local ethnic and religious groups to which we belong. We value heritage defined by associations with those pasts personal and collective whether we consciously admit it or not. (Aplin 2009:19).*

The extraction and use of swamp kauri timber has a largely modern history. A short newspaper article written in 1926 speaks disparagingly of the timber stating that swamp kauri is worthless in comparison to green kauri timber and that it should be avoided (Figure 12). When it was encountered during the cutting of drains and land development, it was considered a nuisance (see Figure 24). Swamp kauri is a soft wood which can become brittle and warped once the drying process has occurred. Over time however, techniques have been developed by the industry to assist with the slow drying and stabilization of the swamp kauri. Nelson Parker, in discussing the extraction and treatment of swamp kauri, suggests that much of this was developed on a trial and error basis over the years (Evans 2016:31). With modern treatments for soft timber (slow drying to stabilize), swamp kauri is no longer associated with the brittle and warped timber described by historical resources and saw millers in the early in the days of the industry. While treatment and management, such as slow drying of recovered timber has reduced loss of timber through splitting and structural breakdown, sources acknowledge that the timber does have certain limitations when it comes to the strength and durability. Little attention paid to the historical developments of the techniques and methods used for the successful treatment and milling of this timber and documenting this. This element of the historical development of the history of the timber industry over the past four decades should be recorded and this may identify historical connections with specific mills, individuals and equipment.

Prior to the availability of large-scale excavation equipment, interest in the swamps of Northland centred on the retrieval of kauri gum - the semi fossilised resin from the kauri trees. While there are references to swamp kauri being removed from swamps in the early 20th Century (see Figures 12 and 13) one presumes this was a rare event. The gum digging industry was strong in the 19th and early 20th centuries, attracting Māori people and European settlers (such as Dalmatians) to work in the gumfields. Nevertheless, these gum diggers were aware of swamp kauri timber, commonly digging up small chipped pieces of timber when extracting the gum. Furthermore, one source (see Figure 12) indicates the attempted trade of swamp kauri timber in the 1920s.

An excerpt from a local newspaper, published in 1913 and titled “Long Buried Forest”, identifies the existence of swamp kauri in relation to gum digging activities which were occurring at Lake Ohia (Figure 13). Of interest to this study is the reference “the timber is striking evidence of the durability of the kauri pine”, acknowledging the timber quality and age values of the resource (Poverty Bay Herald, 20 May 1913).

SWAMP KAURI

POOR TIMBER EXPORTED

EXPERIENCE IN AUSTRALIA

PROVES PRACTICALLY WORTH LESS.

(United Press Association.—Copyright.)
(Received 6th December, noon.)
SYDNEY, This Day.

In a paper read before the Royal Society, Mr. M. B. Welch, B.Sc., pointed out that owing to the shortage of New Zealand kauri a considerable amount of timber was being milled from buried logs taken from swamps and shipped to Sydney. Although it appeared of excellent quality, on drying it warped badly and ruptured across the grain. Tests showed that it was only a third as strong as sound kauri. This swamp kauri was in most cases practically worthless and should be avoided.

Figure 12. Excerpt from Evening Post, Volume CXII, Issue 136, 6 December 1926. (Source: Alexander Turnbull Library Wellington)

LONG-BURIED FOREST.

FOUND IN NORTHERN SWAMP

At Lake Ohia—which is practically a swamp—a huge kauri forest must have flourished aeons ago (writes the Auckland Herald's Mangonui correspondent). The place is a veritable deposit of gum, and the dry summer has allowed of digging to a considerable depth, and tunneling at low levels has revealed a large number of kauri trees, of just what age, or the period when they were above ground, it is hard to say. The timber, "heart" chiefly, is in a good state of preservation, but the upper portions of the logs have been worn in flat and smooth as a table top. Practically they are but half-logs, just as if a saw had ripped them down the centre. Theories are advanced for their peculiar condition —sand driven by high winds when the trunks lay on the surface, being the principal—but nothing very definite can be arrived at, which will settle the problem. The timber is striking evidence of the durability of the kauri pine.

Figure 13. Excerpt from Poverty Bay Herald, 20 May 1913. (Source: Alexander Turnbull Library Wellington)

In relation to gum digging and collecting most of the publically available information focuses on the Dalmatian gum diggers. It appears that the archaeology of gum diggers' camps is not actively investigated or conserved although there is a map of gum diggers' camps published by the Dalmatian Pioneer Trust. Historical accounts seem slightly skewed as there is little mention in the available literature and in the local museums of the Māori gum diggers (see Figures 14, 15 and 17).

Pre - European use of gum resin has been documented as including burning and using as a pigment in tattooing, chewing the resin and using to light fires. However Māori people were amongst the first to get involved in commercial gum collection. From 1814 when the fledgling industry started with the first small exports from the colony until 1866, the gum digging workforce was predominantly Māori. This was the case until the economic recession in 1884 when gum digging became one of the few jobs available in Auckland province (which at that time included Northland). In 1885 Dalmatian immigrants began to arrive and many entered the gum trade. In 1891 the census shows 564 Austrians out of total gum workers numbering 2558. In 1893 the new commission recorded the following workers in the industry were "British 4303, Māori 1244 ,settlers who dig 416, Austrians 519 and other foreigners 415, total 6897". It seems that the popular version of the history of the gum digging industry has obscured other groups who were active in this industry.

Figure 14. A Māori woman in the gumfields (image shared under creative Commons licence corutesy of http://www.teara.govt.nz/en/kauri-gum-and-gum-digging/page-2)

Figure 15. Domestic scene in a gum digging village in Northland, around 1910. (source: Alexander Turnbull Library, Northwood Collection (PA-Group-00027) Reference: 1/1-006280; G under creative Commons Licence)

5.3.2 Survey/Interview Outcomes

The survey respondents and the interviews revealed a general understanding of the history of swamp kauri timber extraction and gum collection. Many people were familiar with the exhibits at The Kauri Museum and in the Dargaville Museum and others had read a range of non-scholarly literature on the subject. While many respondents stated that swamp kauri had historical value, most provided little specific information to support the claim.

> *Depending on how it is / has been used. The kauri item should also be telling the story of where it came from & how it came about*. (Respondent #40)
>
> *It has an important history- Historic discovery and use of swamp kauri in the 1800s and early 1900*s (Respondent #37)
>
> *It has been preserved over hundreds of years and is part of the countries heritage* (Respondent #37)
>
> *Historical use of gum and timber by Māori* (Respondent # 7).

Several respondents questioned the lack of research into early uses of the timber and whether or not Māori people had used the timber from shallow buried kauri. While our research did reveal examples of early historic discovery and use we could find no evidence of Māori use of the timber and no evidence of any research that considered this question. There is however anecdotal information available for the pre contact use of kauri gum by Māori, for lighting, tattoo dye and chewing (the latter if not all using fresh kauri gum) (Hayward 1989).

5.3.3 Values

It is clear that swamp kauri has local and regional heritage value. Its successful extraction and use today is the end result of some experimentation with post excavation treatment and milling techniques the documentation of which appears to be incomplete.

Closely related to the swamp kauri is the history of gum digging which has become an important narrative in the history of the North and the development of some towns such as Dargaville, Ahipara and Kaitaia. While research and emphasis has been on the contributions of Dalmatian immigrants to this industry the role of other ethnic groups is less well documented. This even though Māori involvement in the industry appears to have outnumbered Dalmatian participants and extended some seventy years before the arrival of the Dalmatian gum diggers.

For the most part these histories are currently told through documentation and displays (see Figure 16), and the connection to the physical place where these histories unfolded is largely ignored and/or destroyed. A survey that identified remaining structures, landscapes and/or archaeological sites associated with this history is urgently needed to further explore the historical heritage values of this aspect of swamp kauri.

Figure 16. Gumdigger's hut display at the Dargaville Museum

Figure 17. A picture of Māori Gumdiggers that appeared in the Auckland Weekly News December 7 1900 p10 (source 'Sir George Grey Special Collections, Auckland Libraries, AWNS-19001207-10-2)

5.3.4 Issues

The archaeology relating to the much of the evidence of early gum diggers camps is thought to have been destroyed in many areas by swamp kauri extraction, modern farming, land development and other activities. Several interviewees mentioned a gumdigger's camp that was destroyed near Kaimaumau with Heritage New Zealand Pouhere Taonga apparently unable to prevent it as it could not be proven to meet the 100 year threshold under the Heritage New Zealand Pouhere Taonga Act. The structure and features would however be considered to be historic heritage as defined under the RMA, and impact on them considered under that legislation.

There is a lot of activity relating to the collection of moveable heritage and its interpretation due to the two museums active in the area. However there is little if any in situ conservation of heritage items and places.

The historical information available while fascinating seems to overshadow the historic contributions of some groups within the community although this might easily be addressed with some funding for specific gap filling projects.

Documentation of the advances and adaptation made in the extraction, treatment and milling of swamp kauri timber to maximise the beauty of the timber should be undertaken while there are key individuals who still recall this aspect of the development of the industry.

5.3.5 Recommendation expressed by participants

Few recommendations were made by respondents and interviewees directly relating to this historical value of swamp kauri. The importance of swamp Kauri to the local historical narratives of the North are well accepted and there appears to be a general satisfaction with the recognition of this history through static museum displays and the documentation of oral histories. Some recommendations that were included are:

- *It is a valuable historical product and as such needs to be monitored closely* (Respondent #37)
- *The kauri item should also be telling the story of where it came from & how it came about*. (Respondent #40)
- *The timber is unique and has its challenges to work - the milling process should be better documented.*
- *Gum diggers camps are important sources of historic evidence that should be researched and at least some should be conserved and interpreted.*

5.3.6 Discussion

Swamp kauri and swamp kauri gum digging **have historical cultural heritage value to communities in northern New Zealand.** Both industries have contributed to the development of local economies in this historic and recent past. Even today this history contributes to regional tourism largely through local museums. However there are some areas of research that are needed to fully determine the historical heritage values, these include research into the historic places, archaeological sites (see section 7.4) and or standing structures (if the latter still exist) related to this history. There is little documentation of the specialist extraction, processing and milling techniques required to maximise the value of swamp kauri and how these have changed and developed over time.

There is a strong emphasis in the publically available history on the role of the Dalmatian community particularly in the gum collection industry. Perhaps this has arisen because of the fascinating and colourful collections of cultural material that that have been donated to museums and which attest to the contributions of this particular group not only to the industry but also to the social fabric of the north (e.g. the collection of piano accordions in the Dargaville Museum). While not wishing to detract

from this important historical contribution, the role of other ethnic groups and particularly Māori (which was of a longer duration and in greater numbers) is under documented and interpreted.

Swamp kauri is also of regional and national significance in relation to its ability to extend our understanding of environmental history of New Zealand and the Pacific (see also section 7.6). While this story is told to some extent in local museums - it is generally superficially alluded to and a more nuanced narrative is needed.

5.4 Archaeology

5.4.1 Background Research

Only one of the survey respondents raised archaeological values in their response to Question 16 (*Do you believe swamp kauri has heritage value?*) however several respondents and interviewees provided substantial detail about known and potential archaeological values of wetlands containing swamp kauri. There are over 60,000 Māori archaeological sites recorded throughout New Zealand. These site records are likely to be an under-representation of the actual number of sites as they represent sites occurring in areas where active survey and investigation has occurred as well as incidental discoveries. The database of known archaeological sites is maintained by The New Zealand Archaeological Association (NZAA). The geographic spread of known sites in relation to peat swamps can be seen in Figure 18.

Less is known about the spread of other archaeological sites such as gum diggers camps and archaeological evidence of early towns and farms etc. that may have the potential to be affected by swamp Kauri extraction. A map showing the location of some gum diggers' camps can be found in Figure 19. Anecdotal information from the interviews undertaken suggests that few of these sites remain undisturbed.

An under-represented type of archaeological site in this database are historic sites associated with late nineteenth and early twentieth century sites associated with gum digging camps and early farms (see Figure 20). The location of these early settlements and activities can sometimes be identified on historic survey plans, but often may only be identified as a result of ground disturbance or land development.

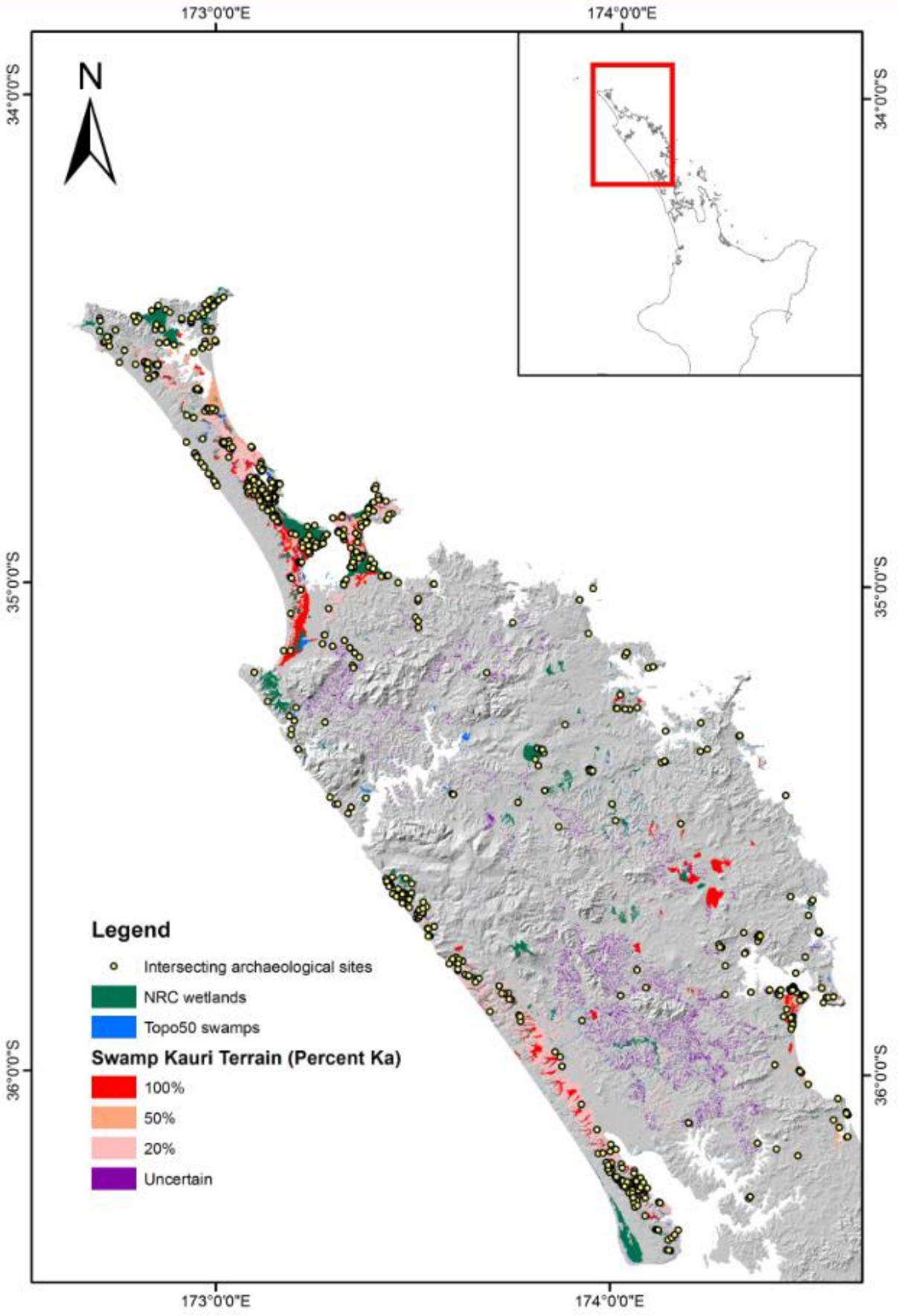

Figure 18. Map of archaeological sites in relation to peat swamps.

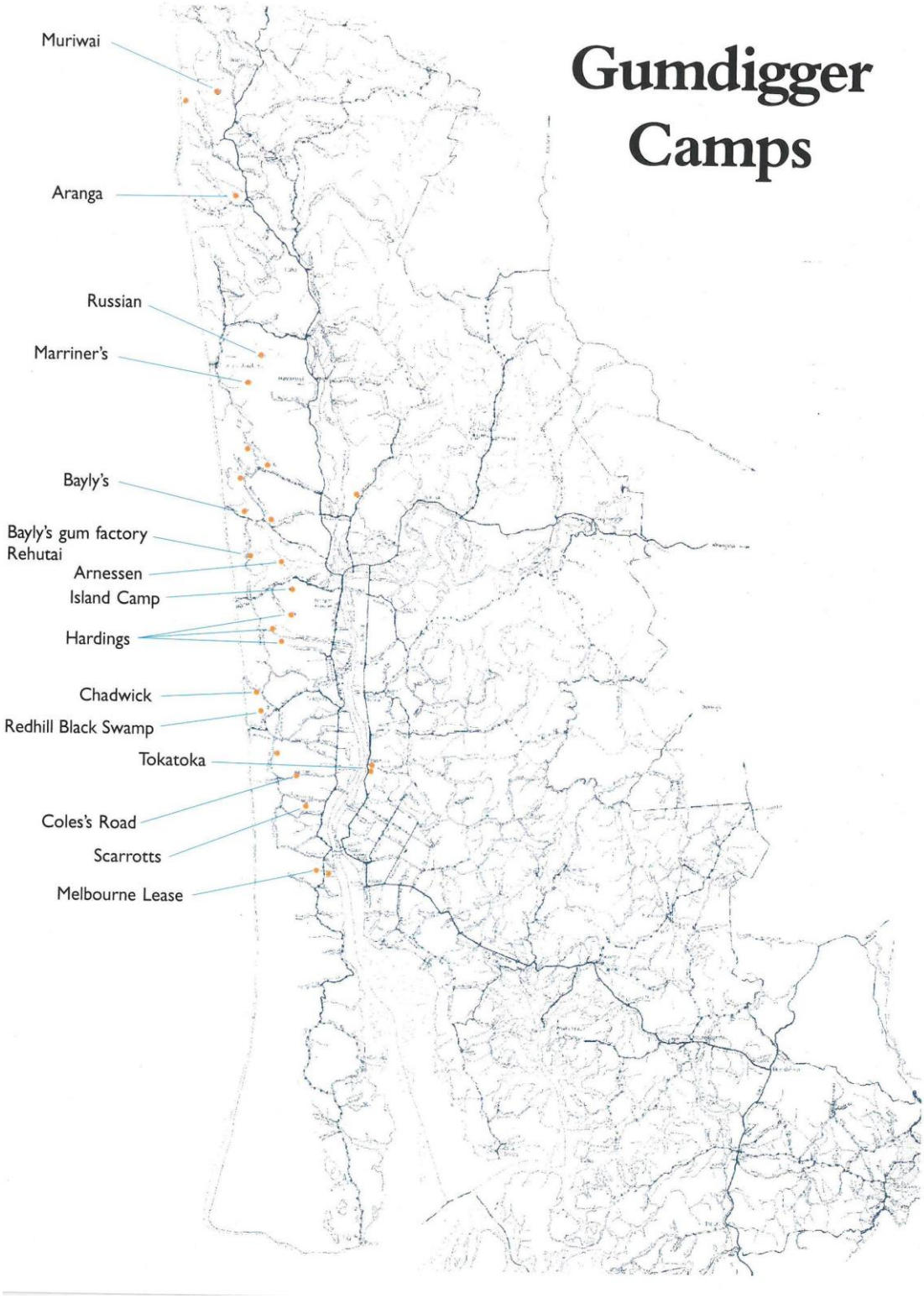

Figure 19. Map of Gum Diggers Camps (Source 'The Figs and the Vines: Gumdigging in Kaipara' (n.d.)).

Figure 20. Gum Diggers camps are likely to leave little in the way of built remains and may be difficult for non-archaeologists to recognise. (Image courtesy of the National Library: Gum diggers' camp, Northland, [191-?] Reference Number: 1/1-010562-G)

All archaeological sites in New Zealand are protected under Heritage New Zealand Pouhere Taonga Act 2014. Under the Act, an archaeological site is defined as any place which holds evidence of human activity that can be investigated using archaeological techniques, and dates prior to 1900 as historic places if they are over 100 years old. This blanket legislation provides protection for sites of both Māori and early European origin. The Resource Management Act 1991 (RMA) provides a level of identification and protection for heritage sites through listing in plans developed by territorial and regional authorities. Agencies making decisions under the RMA are required to consider the effects of proposed activities on historic heritage. Under the RMA there is no age threshold and therefore there is flexibility in the definition of historic heritage to be considered under Section 2 of the Act, to include more recent heritage sites and places (including archaeological sites) that are significant to the history of local communities, such as gum digger camps. Objects from archaeological sites may also be protected as moveable heritage under the Protected Objects Act 1975.

The potential for swamps to contain carved and other wooden items of Māori cultural heritage has been known for many years; for example Taranaki was reported as a particularly rich area for swamp-preserved carved art (Barr 1989, 1998; Houston Barrow 1956; Houston 1948; Phillips 1939; Skinner, Shawcross and Terrell 1966). It is not only the buried objects that may occur in such area but other archaeological features have been well noted for many years (Allen et al 2002). For example complex Māori drainage systems were recorded at Kaitaia almost 100 years ago (Wilson 1922). Wilson (1922) also mentions that large quantities of timber artefacts were found in a drained swamp at Papatoetoe in the 1840's all of which were removed and burnt by farmers. He mentions other such events at

Whatatiri Block at Maungatapere. Shawcross (1964) reports on an assemblage of wooden combs which was excavated from a swamp site at Kauri Point, in the western part of the Bay of Plenty area of the North Island. When the use of bulldozers increased following WWII, the rate of incidental reports of artefacts from swamps increased as these were rapidly drained for farmland (Allen et al 2002:318).

Despite this long history of archaeological research and discovery, wetlands/swamps continue to be impacted, drained and turned into pastureland, often without prior assessment and or investigation in relation to archaeological or cultural heritage values. The cumulative impacts of this are likely to be substantial and there have been ongoing attempts by Māori people to regain a control of this cultural heritage (Allen et al. 2002). Allen et al discuss some of these issues including the development of attitudes between Māori and Pakeha (non-Māori) in north Taranaki through a consideration of history, legislation and practices relating to Māori places and artefacts.

It is clear from even a cursory glance at the archaeological literature that wetlands in New Zealand are an under researched landscape and that when research has been undertaken it has yielded important results. Allen et al (2002:318) summarise the situation as follows:

> *Wetlands form a significant part of the archaeological landscape in New Zealand, and Māori have used them for food and for the storage of cultural materials for nearly eight hundred years. Māori understood the preservative qualities of wetlands, and in the past used them to conserve and store both their cultural treasures and domestic items (Johns 2001). Many significant decorated artefacts have been discovered by chance. However, little contextual information is available for finds of nationally significant artworks which play an important role in the history of Māori carving styles (Mead 1986; Neich 1996). Recent palaeo-environmental studies in New Zealand, including tephrachronology, palynology, charcoal analysis and geomorphology, have demonstrated that wetlands also hold significant environmental information for archaeological studies (Anderson and McGlone 1992; Lowe et al. 2000; McGlone 1983, 1989; McGlone et al. 1988). Despite the potential for wetlands to provide valuable cultural and environmental evidence, there have been few archaeological studies of them since the 1960s and 1970s, when a number of excavations took place (Bellwood 1978; Irwin 1975; Edson 1979; Shawcross 1963, 1968).*

5.4.2 Survey/Interview Outcomes

Several of the follow up interviews raised the issue of archaeological sites either destroyed by or at risk of destruction by swamp kauri extraction activities. Many respondents had more questions than answers in relation to the possibility of archaeological sites and Māori historic objects.

> *Specifically, I am concerned that machine extraction of swamp kauri may damage important archaeological sites and deposits. (*Respondent #21)
>
> *The setting and material probably has unrealised archaeological potential to augment our current knowledge of the physical development of NZ's landscape* (Respondent # 47)
>
> *Archaeological sites and deposits, particularly irreplaceable swamp pa and wet wood artefact caches of high archaeological (and in some cases traditional) significance.* (Respondent #31)
>
> *Up to 50,000 years ago, thus cultural value linked to NZ identity, possible Māori carving* (Respondent #57)
>
> *Obvious value to Māori traditional owners of 'kauri country' Māori and settlement history* (Respondent #33)
>
> *It holds records of our planets history. It's not only about the timber. It's also about the many cultural values of the wetlands and connections of the water bodies it is buried in including*

food. Timber artefacts were buried in these peat swamps to preserve them, Motutangi for instance. The Kauri timber has a unique association with some species of Maikaika tuber (food source). The high resin content of the timber made fire starting easy in wet conditions. All Kauri holds a special place in Māoridom, Tāne of the forest. (Respondent #26)

Historical value around the swamp kauri ties in with the cultural uses of these trees. They have been used in construction which when analyzed can tell us about past cultures (both long ago and modern historical uses). An understanding of the relationship between people and swamp kauri is very important. (Respondent #32)

Was swamp kauri used by Māori & if so what for? Are typical northern carvings (e.g. burial boxes made from such wood (try C14 dating)? (Respondent #56*)*

Motutangi and Kaimaumau, located on the Aupouri Peninsula north of Kaitaia are large wetland areas that were mentioned by several interviewees in relation to both the significance of past archaeological finds, and illegal damage to the wetlands. Examination of Figure 18 indicates that this area, at the north-eastern entrance of the Rangaunu Harbour has a high density of archaeological sites associated with areas of NRC wetland and areas of swamp kauri terrain.

5.4.3 Values

Peat swamps are known to be potential archaeological deposits - places where buried and preserved wooden Māori implements might be found. Vulnerable prehistoric earth works such as constructed channels and pas are also known to occur. The cumulative impact on such sites since European settlement is likely to be substantial as accounts exist of these being destroyed by farming practices from the 19th century.

5.4.4 Issues

Notwithstanding the policy leadership regarding the integration of Māori cultural heritage values into all legislation and processes, questions remain as to how well this is applied in practice in relation to swamp kauri.

Despite the well demonstrated information on the archaeological and Māori cultural significance of wetlands, development/transformation of wetlands is still occurring with a potentially negative impact on these values and resources. While protection of these sites is nominally provided by the legislation (Heritage New Zealand Pouhere Taonga Act and RMA) in practice there does not seem to be a systematic or co-ordinated approach to the monitoring and enforcement of the legislation. In a 2001 report on the Kaimaumau wetland produced by DOC, there is little or no comment on the Maori or historic values of the area, with the exception of a paragraph noting the impact of drains excavated by gumdiggers, "*mainly in the period 1910-40. Most of the gumdiggers' drains have fallen into disuse since the 1940s, silting up with a mixture of peat and sand, so that the gum diggings which pock the swamps are once again flooded. … Most of the functioning drains lie outside public conservation land, and are either on farmland or scrubland in private ownership*." (Hicks et.al 2001:23). Examination of the NZAA site database, Archsite, indicates few recorded archaeological sites in this area, with the majority located along the coastal fringe around the Rangaunu Harbour, and at the Houhora Heads in the north. As is identified in the DOC report, this is an area where there is clear evidence of gumdigger activity, including on adjacent private land, and in an area where swamp kauri extraction has taken place in recent years.

Anecdotal reports, claim that *in situ* archaeological evidence of many gumdigger camps has likely been destroyed by subsequent extraction and other activities. This requires urgent verification and if possible research into these sites.

The threats to wetlands are clearly not limited to swamp kauri extraction, however respondents pointed to the cumulative impacts of various threats and actions and noted that the drainage of

swamps to convert it to farmland has made it accessible for swamp kauri extraction. It is acknowledged that the draining of wetlands for conversion to farming land has a long history in region. As one participant noted: *It doesn't take long to turn a wetland into a paddock (Fiona Furrell per. comm. 2nd November 2016).* This claim points to issues that occur before MPI becomes involved in assessment and the issuing of milling statements however it highlights the need for an integrated response to the management of wetlands and extraction activities in farmland.

As part of this project we spoke to a number of people involved in the regulation side of swamp kauri extraction, including representatives from MPI and Heritage New Zealand Pouhere Taonga. As a result of discussions we could find no clear evidence that systematic consideration of the potential for archaeological sites to be impacted occurs in the routine practice of the assessment of extraction sites. This was a matter that was also raised as a concern by several of the iwi groups spoken to during consultation.

"Anywhere you have a Māori settlement there is a strong possibility that there will be cultural material present in the swamps" (Bill Edwards pers. comm. 8th November 2016).

5.4.5 Recommendation expressed by participants

The primary recommendations that emerged from the respondents in relation to archaeological values are as follows:

- Wetlands should not be drained or subject to earthworks prior to archaeological assessment without an authority and without mitigation in the form of salvage investigations.
- Even drained wetlands which have been converted to farming land retain potential for archaeological sites/deposits and require assessment.
- The assessment process connected with permitting for swamp kauri extraction currently does not include an assessment of archaeological potential. This should occur as a matter of course and should be carried out by a qualified archaeologist.

5.4.6 Discussion

While swamp kauri itself does not have archaeological value, the **swamp deposits in which it is found have potential to have significant archaeological value**. Northlands' swamps have been demonstrated to have potential to contain significant Māori archaeological material including timber items deliberately buried to hide and protect them. Other archaeological values may be associated with nearby archaeological traces of gumdiggers' camps. Although the potential for both types of sites is well known there does not currently seem to be a systematic approach to the survey, and assessment of such sites and the results of our interviews suggest that consideration of archaeological potential is not a routine consideration in the assessment associated with the permitting process for swamp kauri extraction.

5.5 Identity/Rarity/ Intergenerational legacy/spirituality

As previously stated this was perceived as an important value by respondents 52% of whom claimed there was a connection between New Zealand Identity and swamp kauri. Swamp kauri is only found in New Zealand, and this is seen by many to make it uniquely 'New Zealand' and something then to be guarded to provide value for New Zealanders. There were many statements made by respondents about inter-generational legacy and the idea that this resource which originates from the country's ancient past binds New Zealanders and links past, present and future.

> *Swamp kauri promotes a dialogue between the past and the present, as well as the future for Māori and for all New Zealanders* (Survey Respondent #22)

It was also evident that while some people just saw it as another attractive timber that should be used wisely, others working in the industry, felt a special affinity with it. A few people described this as a spiritual connection and a continuity of their family traditions.

5.5.1 Background Research

The matter of identity is complex and includes both the identity of people as northern New Zealanders, the identity of Māori "Māoritanga" (van Meijl 1996) and the identity of people as New Zealanders, and family identity as in descendants of Dalmatian immigrants, locally reified through local histories as depicted in exhibits at the Kauri Museum and in oral history publications (Brown and Aleida (eds):1996). In our survey we used the New Zealand census categories to capture demographics of respondents however such categories do not always capture the complexity of identity. *Many people claim multiple heritages and their personal identity and political allegiances are complex and are not easily reduced to ethnic and tribal heritage, gender and class* (Statistics New Zealand, 2006).

5.5.2 Survey/Interview Outcomes

A large percentage of survey respondents (28%) mentioned the association of swamp kauri with a sense of New Zealand identity explicitly. A further 8% of respondents refer to implicitly or indirectly:

> *Swamp kauri promotes a dialogue between the past and the present, as well as the future for Māori and for all New Zealanders*"(Respondent #22)
>
> *"We don't sell our legacy" (*Respondent #22)
>
> *It is a resource used by my ancestors to make beautiful pieces of furniture, it has a feel about it that is priceless* (Respondent #37)
>
> *In response to the question - what do you think is most important about swamp kauri - Its identification with New Zealand identity* (Respondent #37)

5.5.3 Values

The social value of swamp kauri is associated with community and national identity. The uniqueness of this timber to New Zealand was mentioned across all stakeholder groups including: extractors, artisans, scientists and conservationists. Many respondents commented on the need to either conserve or at least to 'steward' swamp kauri resources for future generations of New Zealanders.

- Intergenerational legacy - ensuring the resource lasts for future generations of New Zealanders.
- Family traditions - continuing them and the connection with the past.
- Developing the timber as something unique to New Zealand.
- The history of the industry including gum digging has shaped local community identity e.g. the social and historical contributions of the Dalmatian community.

5.5.4 Issues

This connection with local, regional and national identity comes with a certain tension. For example there are tensions between the desire to continue family traditions and to conserve resources for future generations. There is a tension between realising the unique scientific information (of which many respondents were proud) stored within swamp kauri and the need to excavate the tree to do this. How does one do this when you don't know the size and extent of the swamp kauri left and how long it will take to exhaust it? Is it a matter of knowing that it will last out your lifetime and it will then be someone else's problem or is there a way that the industry can be more sustainable or at least demonstrate informed stewardship/management of the resource.

5.5.5 Recommendation expressed by participants

The recommendations from respondents relating to this issue largely call for strong regulation to ensure that the timber is not exported *en masse.* There was a fair amount of distrust expressed regarding whether MPI would implement this recommendation, however this was balanced somewhat by respondents who identified the perceived positive step of the commission of this project to consider the cultural heritage values and the companion study into scientific values. In identifying recommendations, respondents noted the following

- There is an urgent need to get good data on the potential of the resource and to ensure that some wetlands are set aside for long term conservation and that the system works.
- Regulation and monitoring is essential - bigger fines and loss of future permits and licences if caught doing the wrong thing
- More information on the history and the scientific values to be shared with all New Zealanders.
- More focus on the use of the timber to develop art and high end products which will be seen as quintessentially 'New Zealand'.

5.5.6 Discussion

The social value of swamp kauri is associated with community and national identity. **A strong aspect of the demonstrated social value of swamp kauri lies in its uniqueness occurring only in the north of New Zealand.** This makes it sought after where a symbolic spiritual association with the nation is needed such as in the choice of swamp kauri for the Tsi Ming Temple (see Figure 4).

There was a strongly expressed belief that this material should be developed to produce a value added product that contributes to the reputation of New Zealand in terms of artistic qualities and excellence.

5.6 Natural Heritage/Environmental Heritage

Natural heritage issues were raised by 20% of respondents mostly in relation to the potential threats to wetlands but also in relation to unrealised values of swamp deposits. Natural heritage refers to the sum total of the elements of biodiversity, including flora and fauna and ecosystem types, together with associated geological structures and formations (geodiversity). While it is linked of course to scientific value it extends beyond the focussed speciality of scientific disciplines as it incorporates the concept of intergenerational legacy inherent in the term "heritage" The latter defined as that which is inherited from past generations, maintained in the present, and bestowed to future generations. The term natural heritage is therefore a term that fits more closely with some of the concerns held by community members who are concerned about a range of impacts on their environment. This is not to say however that these people do not also recognise specific scientific or other values.

5.6.1 Background Research

Swamp kauri has been found to date to a range of years from the late Holocene to the Pleistocene which means there is potential to develop long tree-ring chronologies. These in turn can be used to investigate environmental change. The swamp kauri and other material located in these northern swamps can assist in the gradual reconstruction of the environmental history of New Zealand. This is recognised as a globally rare resource. It has also long been recognised that there is other environmental data associated with the swamp deposits that contain buried kauri (D'Costa et. al., 2009; Ogden 1993).

5.6.2 Survey/Interview Outcomes

> "*Where the timber lies is important to its cultural value. You can't view the timber and the land separately*" (Kevin Mathews pers. comm., 25th November 2016).

"Whatever the data gained volume of kauri/ extraction of kauri will always be at the expense of another wetland/swamp destroyed." (Survey respondent #23)

If you take the timber out, you destroy the value of that area and vice versa" (Kevin Mathews pers. comm., 25th November 2016)

That was the start of the growth of northland. I guess you could liken it to a gold rush. A lot of other business revolved around the gum diggers. I recently donated an old shop to a local museum, that was towed around the gum-fields on skids, with supplies for the diggers. (Respondent # 39)

It is a finite NZ Taonga and its extraction can be very damaging to the local environment (Respondent # 40).

5.6.3 Values

During the consultation with Māori there was much discussion about the impact of swamp kauri extraction on the land, and how that impacted on cultural values, in particular the role of Māori as kaitiaki of the land. This is a cultural value – core to Māori, in protecting the wairua and mauri rather than association with swamp kauri as such.

Several respondents from environment groups and NGOs, expanded on this, expressing the opinion that extraction should be stopped, however, many of these comments are associated with a concern over what is viewed by respondents as the cumulative effect of extraction on the destruction of wetlands rather than concern for the kauri itself.

5.6.4 Issues

For most of the respondents who highlighted the natural/environmental values at risk from the swamp kauri extraction, responses suggest that it was not so much a question of the swamp kauri having value, rather it was the wetlands / swamps that were the primary concern. The matter of New Zealand's approach to the management of indigenous wetlands goes beyond the scope of this project except as it relates to the extraction of swamp kauri.

How sustainably is it being extracted, processed and managed? (Respondent #40)

Amongst survey respondents, there is a perceived view that there is a lack of information held by decision maker in relation to the archaeological and natural values of the areas being targeted. Further respondents to the survey and the follow up interviews do not consider that appropriate specialist skills are involved in the assessments or that the investment in personnel is inadequate to enable effective monitoring of the industry.

A number of respondents who identified as conservationists stated that the environmental values of native wetlands are being destroyed by extraction activities. They point to past examples of impact at Kaimaumau, Lake Ngatu and other places and express a concern that the extraction of swamp kauri is linked to an ongoing destruction of native wetlands. For example:

I expected some of the registered wetlands to be there when my grandchildren grew up, not to be destroyed within 5 years. (Fiona Furrell pers comm 2nd November 2016).

MPI and Northland Regional Council acknowledge historical infringements on native wetlands but they maintain that improved processes and greater co-operation between District Councils and themselves now ensures that extraction no longer occurs in native wetlands. In June 2015 MPI issued a statement that said

Since July 2012, MPI has issued 59 milling statements for swamp kauri. These have all been for salvaged swamp kauri, extracted from farm land or exotic scrub land. No milling statements in this period were issued for swamp kauri extracted from indigenous forest land.

MPI regularly inspects all registered sawmills to ensure the timber they are milling has been properly sourced.[4]

5.6.5 Recommendation expressed by participants

Not unexpectedly the primary recommendation of this group of stakeholders was to cease extraction. However, some respondents noted extraction in all areas might still be possible but they saw the need for increased assessment of potential impacts on natural and cultural values and that this should be tackled in a similar way to other extractive industries… *everyone talks up the economic value of the industry so it should adopt a 'users pays' system where the industry bears the cost of proper environmental and /or archaeological investigation. (Respondent #40)*

Develop a strategic management plan that:

- establishes the likely extent of the resource;
- sets a target for establishing protected areas and does this on an understanding of the natural and archaeological/potential archaeological and other relevant values;
- ensure that protected wetlands really remain protected; and
- puts in place holistic research programs to do a better job of systematically recovering data from areas to be impacted,
- report on conservation targets, extraction permits and incidents annually.

Figure 21. The main concern of those who expressed a concern about natural or environmental heritage values is the damage caused to wetlands through the methods of extraction due to the size of the equipment needed and the size and often the depth of the logs.

[4] MPI June 2015 *Management of Swamp Kauri in New Zealand*

5.6.6 Discussion

There is an environmental value associated with the tree itself in terms of the information stored within it that can contribute to our understanding of environmental change. This value is currently realised only when the tree is sampled following extraction. A similar value exists in relation to the associated swamp deposits which may contain an array of environmental data. Unlike the collection of samples of the timber there does not seem to be any systematic investigation of swamp deposits and therefore this potential value is diminished with every extraction.

The conservation NGOs are adamant that the impact of extraction is too great on other natural and cultural (archaeological) values to be allowed to continue, at the current level, if at all.

Figure 22. Swamp Kauri recovery in farmland, Camp Road Waiharara.

5.7 Monetary Value/Livelihood

Economic evaluation is outside the current brief however this is discussed here briefly in terms of its connection to social value as it was raised by several respondents in the survey and interviews. In fact 44% of respondents referred to the economic value of the swamp kauri.

5.7.1 Background Research

From these cultural values emerges the monetary value of the resource, with strong local and international interest in the age, history, quality and aesthetic of the swamp kauri driving the market price. Furthermore, Martin Bell of Rose & Heather stated that (at the time of writing) swamp kauri was more obtainable than other native timbers (Jayne, 1995, 31-32).

The development of a market for swamp kauri is historically recent. Up until the second half of the 20th century it had little or no monetary value and was often considered a nuisance by farmers trying to drain land (see Figure 23). There was a brief period in the late 1920's when scrap timber purchased from farmers and excavated from the gum fields was used to extract resin (see Figure 24).

The Kauri Gum Extracting factory opened in 1927 but proved to be economically non-viable and closed a few years later

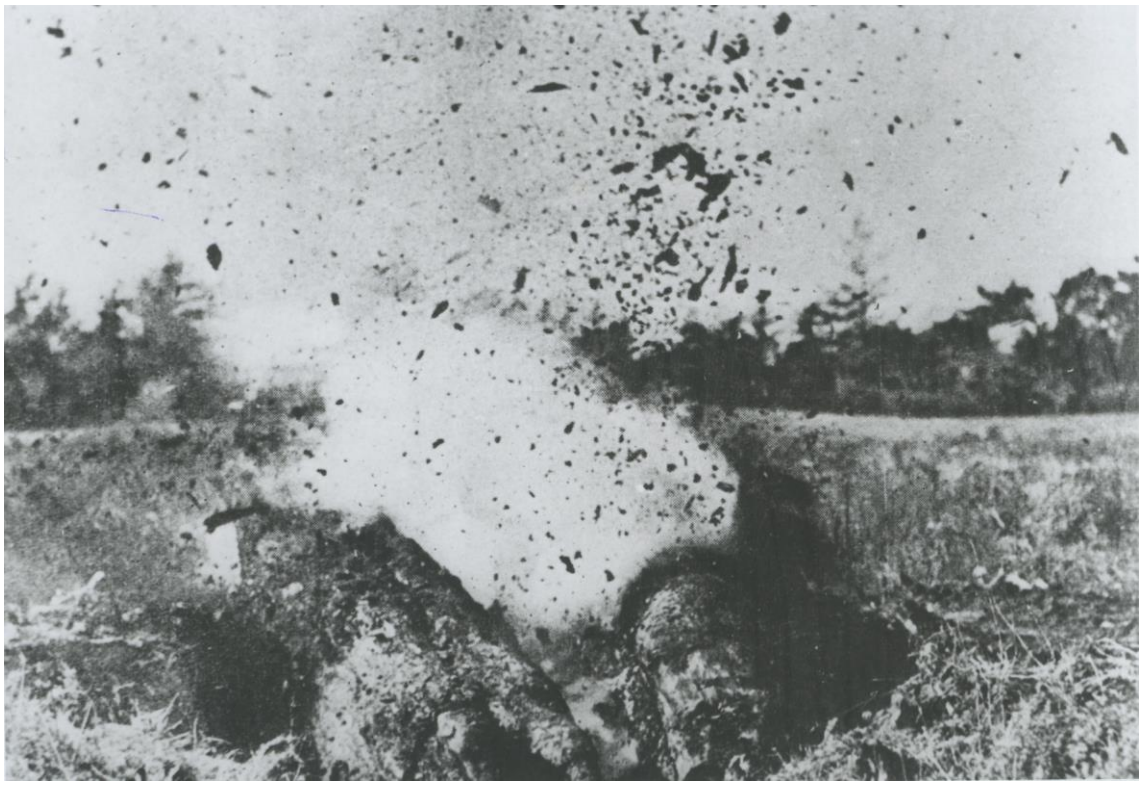

Figure 23. Swamp kauri log being blown up to aid its removal before such logs had a monetary value. (Source: courtesy of The Kauri Museum).

Figure 24. 1927 The Kauri Gum Extracting Works at Babylon near Dargaville. Note the piles of swamp kauri timber from excavation of gum fields (Source Hayward 1989 figure 65).

5.7.2 Known Values

The monetary value of the timber was well known amongst those surveyed and interviewed. It was of course widely acknowledged that this is what drives its extraction. Most people who made money from it acknowledged its particular beauty as a timber and the scientific value and they were well aware that these other values are what contribute to its desirability. They also often acknowledged the cultural heritage value. One respondent working in the timber industry commented as well speaking for example

> *Māori where (sic) here first (we believe) in fact the youngest date of 1000 years old was possibly happening for them to Witness!! They respected Raku (sic)... timber and all it provided for them. (Respondent 18).*

Only one respondent said that in her opinion *"It's for making money out of*." (Respondent #53). Most respondents however were aware of its monetary value and in many cases even those who were passionate about its cultural heritage values stopped short of advocating for extraction to stop completely but rather stressed the need to keep it as a value added high-end product.

> *It is dead wood, and could and should be used as such. Ideally to produce value added products made in NZ. (Respondent #38)*

5.7.3 Issues

Competing issues relate the financial value of swamp kauri. Most people, including those involved in the industry, noted that it was important to regulate to protect the resource. There were very different opinions however as to whether this was possible to achieve. Few people used the word sustainability recognising it as a 'finite' resource although many thought its worth would be better served (including the monetary value of the end products) if it was better managed and could be shared with future generations.

Multiple respondents expressed the belief that the value of swamp kauri was not being maximised. Based on information provided in responses, this was in reference to the fact that bulk exports of raw material were understood to have been exported despite a belief that there are rules in place which say this is not allowed. One interviewee who used to work in the industry claims to have witnessed this happening with full knowledge of individuals meant to oversee the regulation however this respondent acknowledged that this was a long time ago and things may have changed for the better since then.

> *There are economic uses but the destruction of all sites is not justified to provide tables and wooden bowls* (Respondent #23)
>
> *Why should we be selling off our heritage*? (Respondent # 39)
>
> *NZ and local economies are missing out*. (Respondent # 23)
>
> *It can be used for its beauty in the manufacture of products*. (Respondent # 38)
>
> *Clients desire it because of its unique age and beauty. (Respondent # 38)*

The tension between working in the industry and yet having a love of the resource can be stressful

> *As a young man I was incredibly passionate about it and quite excited to be working in the swamp Kauri timber industry. It raised so many intriguing questions and the milling of the timber itself was technically difficult. I can say I was really excited but after a few years -the waste and the working conditions and the attitude of some of the people I eventually had to disengage with it – I became numb to it. (pers. comm., John Spiers 24th November 2016)*

5.7.4 Recommendation expressed by participants

The primary recommendations that emerge for monetary value are as follows:

- Regulation to limit extraction of swamp kauri. (Respondent #38)
- Educate the industry and public about the regulations.
- Requirement that the timber be used for high end products made by New Zealanders.
- Protect the uniqueness and market as a New Zealand product crafted by New Zealanders.

5.7.5 Discussion

The economic value of swamp kauri has risen in recent decades. While there were some early attempts to capitalise on the resource (see Figures 11 & 12) the extraction industry has only become profitable in the past three to four decades. Other products associated with swamp kauri such as the gum, which once made a significant contribution to local livelihoods, are now not viable.

Many respondents said that if one of the justifications for extracting swamp kauri was its economic value then it was important to maximise this value for local and national economies and to promote the development of high value added artisan industries.

5.8 Māori Connections, Concerns and Values

5.8.1 Background Research

Although the survey was not our primary source of information on Māori cultural values it is worth noting that 36% of the survey respondents said that they believed swamp kauri (and/or the swamps themselves) had values important to Māori culture. The significance of kauri to Māori has been well documented in a variety of publications (see for example Biggs 1998; Orbell 1998); Kauri are associated with creation stories detailing how Ranginui (sky father) and Papatuanuku (earth mother), who were bound together in a tight embrace, were separated by Tāne Mahuta (god of the forests) who lay on his back, and pushed his parents Rangi and Papa apart, and in doing so let in the light. At this time the children of Rangi and Papa spread, to the sea, to the sky and to the land, but all were connected.

5.8.2 Consultation Outcomes

Consultation with all representatives of iwi groups spoken to reiterated the significance of the kauri to Māori. The tallest of the trees in the forest, the kauri were, and still are considered to be the chiefs of the forest. During consultation for this project, several groups told of the relationship between the land and the sea, the kauri and the whale – the bark and gum of the tree associated with the skin and ambergris of the whale confirming the association between the two as brothers. This association, and the significance of both the kauri and the whale was reinforced in discussions with representatives from one group, who referred to both the whale and kauri as ariki taonga (chiefly taonga or treasures).

Associated with creation stories, is the Māori view of mauri- the life force that connects all things. All of the groups spoken to highlighted the significance of mauri as well as the responsibility they had to protect this, and ensure that no harm is caused by any actions undertaken. All representatives spoken to commented that their communities had a strong role in the protection of the mauri of the whenua (land), that the land was the body of Papatuanuku, and harm caused to the land, to the body, impacted on the mauri. To all groups spoken to this role of kaitiakitanga (guardianship / conservation) is considered one of the key social and cultural values in Māori society. Rather than a specific cultural value associated with swamp kauri, these values are associated with the overall Māori world view. In relation to the extraction of swamp kauri, one representative stated that when Trustees were taken to view an operation, they were "... in total awe of the timber, seeing the size of the trees being revealed", however they did not like the impact that the operation had on the land. In their role as

kaitiaki they felt that they had to make sure that if they were to be involved, any activities undertaken had to be balanced with the impact on the environment, and "… we as Trustees, saw that value, that role, as outweighing any social or financial benefits that might come."

Another group noted, when asked if there were any cultural values specifically associated with swamp kauri that "in relation to that we are talking about Tāne Mahuta. Our stories tell us of our relationships, and it is not just one thing, these values are part of the whole world view." It was further noted that when talking of cultural values – "this is not just social or economic. Cultural values means what keeps people linked to a place, it is health, sustainability (environmental) and social."

When asked whether they held any information on the use of swamp kauri during the pre-European period, none of the groups spoken to had any stories or information on this. All noted that kauri was used as a timber for carving, however it was noted that this was a soft timber, and was really only suitable for indoor carvings. All groups noted that one of the reasons that the large buried swamp kauri was not used is more than likely to be linked with the fact that there was no way that the large stumps could be recovered without the use of horses, tractors or large excavators. What was well known is that kauri gum, often associated with the swamp kauri deposits, was recovered from wetland areas both in the pre-European period, and at a much larger scale in the late 19th and early 20th centuries. Kauri gum was used traditionally as a fire starter and for torches, the soft gum (from standing trees) was used as a chewing gum and as a medicine. When burnt, kauri gum also provided material for tattooing. In the 1890s until the 1930s, the recovery of kauri gum from swamps was a major industry in Northland, not just by Dalmatian gum diggers, but in many Māori communities, and this resource was a major part of the economy in Māori communities during this time. One of those spoken to noted that "the swamp kauri was not known historically – they could not recover it to use – the gum digging was more significant to communities, a result of the diaspora from Dalmatia, as well as changes socially in New Zealand. It's really only in the last 20-30 years that there has been the ability to tell a story around swamp kauri – mainly because before this it could not be accessed."

When another group were asked if they were aware of past use of swamp kauri or extraction of swamp kauri, they responded "why would they excavate it? The only thing taken from the ground in those areas was the gum." It was further noted by this group that the swamp kauri was considered to be "not rakau (wood / timber)" it had "gone back to Papatuanuku, and was a taonga". This links with traditional values that what was taken from the earth, or sea in the past, was taken for a specific use. If there was no use for something, it stayed where it was, and the balance of things was not upset.

While all communities identified significance of the kauri to Māori, today and in the past, there was a difference between groups with regard to the difference between standing kauri and ancient kauri located in swamps. Two of the groups noted that kauri was kauri, regardless of whether it was represented as a standing tree, or lying in a swamp or wetland. Two other groups however acknowledged the cultural values associated with kauri as a taonga and representing Tāne Mahuta, however both noted that these values were primarily associated with standing trees rather than with swamp kauri.

When asked if there were any traditional stories as to how the kauri came to be buried, none of the groups spoken to provided any traditional stories. Several of the groups did however mention that they were aware of different theories, linked with floods or tsunami that had resulted in the trees being swept over, trapping sand and water and resulting in them being covered by water. It was further acknowledged that this event must have occurred several times, as the swamp kauri is buried in different directions and at different depths in several places. Several of the groups mentioned the significance of swamps or wetlands to Māori, as places of food, and places where taonga were kept. "Our people used the wetlands, things were stored there, carvings, taonga, particularly at times of threat." One of the respondents, on thinking on this, and the extraction of swamp kauri then queried what would happen, if they were digging the kauri out of the wetlands and other taonga were harmed

and not noticed “who is managing these and ensuring that other cultural things of value in these areas are protected and kept safe?”

One of the main considerations in all discussions was the extent of ground disturbance during the extraction process and the implications that this has. All groups were asked if they had been approached, or were considering themselves, extracting kauri from land within their rohe that they managed or owned. All of the groups or representatives spoken to noted the impact of the extraction activity on the environment, and therefore the impact on the cultural association with this. The concept of all things connected, the embodiment of Papatuanuku as the earth mother and all things having a mauri or life force resulted in several groups questioning what the implications on the mauri, “what happens to the wairua of the whenua when you remove the kauri from the swamps? Papa is a body, so when you dig …you damage her.”

Two of the groups spoken to have been, or are intending to be, involved in swamp kauri extraction. Both groups identified environmental issues and concerns associated with the industry, with one of these having been vocal against one operation in the vicinity of a lake, which result in impacts on the health of the lake (the lake is considered a significant cultural, social feature in the area). Both groups however have considered the social values and benefits if the industry and work is managed appropriately. One group noted the benefits of removal of kauri from swamp and peaty areas on farmland – meaning better pasture, and better land management, with better economic returns for iwi owners. The other group have recently purchased a retail and manufacturing premises that has in the past been a focus of swamp kauri furniture and souvenir sales. It is the intention of this group to upgrade the premises and establish it as a carving and waka training base as well as tourist venture. The location will be marketed as a gateway on the journey to Te Rerenga Wairua (Cape Reinga), and is seen as a significant opportunity to share aspects of the Māori culture with visitors as well as provide financial and social inputs to the community and member of the Trust through the provision of jobs.

Representative 7 noted that they had recently received back several areas of land as part of the Treaty settlement process, some of which had swamp kauri identified on it, and they were looking at options of recovering this. If this was to be done, it was seen as a means of improving the land, making it better for farming. It was acknowledged that while some money would be made by the landowners (them) as part of the work, this was only a small amount, and again, it would be put back in to the land so that there was overall benefit for members of the Runanga.

While no specific cultural values were attributed to swamp kauri by any of the groups spoken to, one of the over-riding cultural values identified was the need to ensure the protection of the mauri. There was an association of all things, and the impact on the ground by removing the kauri, if not carried out appropriately, would negatively impact on this value.

5.8.3 Feedback through the Survey

Several respondents to the on line survey identified themselves as Māori. One of these (Respondent #12) noted that *swamp kauri was kauri and all kauri was important.*

> *All kauri has heritage value as a globally unique species, putting swamp in front of it doesn't change what it essentially is*. (Respondent # 12)
>
> *Swamp Kauri has cultural value it is a significant Taonga species, a guardian and embodiment of our atua and tupuna* (Respondent #12)

Respondent 12 was not totally against regulated use of swamp kauri saying that they worked/carved swamp kauri and noting that: *I have a spiritual connection with it. It is taonga tuku iho o nga tupuna, a treasure handed down from our tupuna.*

Respondent 23 on the other hand was more focussed on the environmental damage caused by extraction to the Māori natural and cultural landscape.

> *Those wetlands that a lot of the swamp kauri are in area ecological bastions, chemist and food stores for iwi Māori since time immemorial (Respondent #23)*

Respondent #23 did not see any justification for the extraction of swamp kauri noting that:

> *Whatever the data gained or the volume of kauri extracted, extraction of kauri will always be at the expense of another wetland /swamp destroyed*.

5.8.4 Known Values

Through both direct consultation with iwi groups and the online survey it was identified by participants that there are strong Māori cultural values associated with kauri. This is regardless of whether this is represented by the standing tree, or trees that have fallen many thousands of years ago and are located in wetland or former wetland areas. Associated with the values attributed to the swamp kauri itself, are cultural values linked with the association of it with the environment in which it is located. All respondents commented on the significance of the environment in which swamp kauri is located, and the need for this to be managed appropriately to ensure its protection, even if the kauri is to be extracted, maintaining the mauri of the land.

5.8.5 Recommendation expressed by participants

While many of the Māori respondents identified that they considered extraction of swamp kauri as resulting in a negative outcome, two of the groups indicated that they supported extraction if it was managed appropriately. The key recommendations made by respondents in relation to cultural values included:

- Greater consideration of Māori values in considering applications for extraction,
- Greater link between RMA (extraction) and the MPI (milling/export) management processes,
- Better monitoring of extraction, to include not just on site impacts, but the impact on neighbouring waterways and wetlands,
- Increased research in to the location and extent of this finite resource,
- Clearer information to public regarding export of stumps, and finished products.

5.8.6 Discussion

Consultation with Māori as part of this project identified that **there is a strong link between swamp kauri and the land in which it is located**. The kauri holds strong cultural values for Māori, with oral tradition linking kauri with the creation stories - the separation of Rangi and Papa, and of their children, particularly Tāne (forest) and Tangaroa (sea). None of the groups consulted identified the cultural use of swamp kauri in the pre-European period, with all noting that this is likely to be associated with the lack of resources to extract the extremely large buried trees. All groups however noted the significance and cultural use of wetlands in the past.

One of the key values identified by Māori as part of this project was kaitiakitanga - the management of the environment based on the Māori world view, the need to ensure the appropriate protection of the mauri of the land, and the impact of swamp kauri extraction on this. Not all of the groups spoken to were totally opposed to the extraction of swamp kauri, but all commented on the impact of work on the environment if work is not managed properly. Linked with this, several of the groups identified the difficulty in managing or monitoring the industry due to an apparent lack of co-ordination between extraction under the RMA, and milling and exporting under the Forests Act.

In summary, kauri – both standing trees, and swamp kauri - are considered by Māori interviewees as a culturally significant resource, a taonga. While considered as significant on its own, the values of

swamp kauri are also considered tied with the cultural idea of kaitiakitanga and land management. These values must also be considered in relation to social heritage values.

5.9 Summary of the Cultural Heritage Values of Swamp Kauri

It is clear that swamp kauri is holds significant value for a sector of the population within New Zealand. Outside of New Zealand knowledge of swamp kauri appears limited to a discrete and specialist group of scientists and a number of timber enthusiasts who appreciate the aesthetics of the timber. Within New Zealand the appreciation of swamp kauri is strongly linked to both the aesthetics and identification with the uniqueness of the timber which is only found in northern New Zealand combined with an appreciation of the scientific values that arise from its capacity to hold internationally important information on past climate change. The idea of intergenerational legacy, equity and stewardship was expressed by several respondents. For example:

> *Swamp kauri is something that belongs to all of New Zealand" (*Karin Venator pers. Comm. October 25th 2016)
>
> *Māori have a role of kaitiaki (guardianship of the land) in protecting the wairua (spirit) and mauri (life force)*

There is a tension between the values that are invested in the tree (and its timber) and cultural values that are vested in its immediate environment. New Zealanders expressed concern about the loss and or damage to archaeological (Māori and historical) and natural heritage values associated with the wetlands and swamp deposits in which the timber is found.

5.9.1 Statement of Known Values

Swamp kauri (like living kauri) is culturally significant, a taonga, to Māori and its values are also tied with the cultural idea of kaitiakitanga and land management. In addition the archaeological potential of the kauri bearing swamps to contain significant Māori archaeological deposits has been repeatedly demonstrated.

The finished timber has an aesthetic quality that is unique with a complexity of grain and what is described as a characteristic shimmer that is only realised after extraction and working the timber. This value does not apply to the buried timber in its natural state.

There was a strong connection between the aesthetic qualities and the skill and techniques needed to mill and work the timber to reveal this aesthetic quality and this connects with one aspect of the history heritage value of the timber which is the development of specialist treatments milling techniques. Apart from this the timber itself has limited historical value. Historical heritage value is however associated with the gum fields and the important regional historic narrative around the gum digging community and there is an unrealised potential for historical archaeological value in the remains of gum diggers camps which appear to be unprotected.

There is a natural heritage/ environmental value associated with the tree itself in terms of the information stored within it that can contribute to our understanding of environmental change and a similar value exists in relation to the associated swamp deposits which may contain an array of environmental data.

From these cultural values emerges the monetary value of the resource, with strong local and international interest in the antiquity, history, quality and aesthetic of the swamp kauri driving the market price. This economic value is relatively recent as the timber was rarely utilised and not highly valued in the historic past. It gives rise to the challenge of managing competing values as some values are only realised after extraction, which impacts on others.

6 MANAGING HERITAGE VALUES

6.1 Introduction to Managing Heritage Values

Finding technical solutions to heritage problems has only ever been part of the answer. It is also necessary to understand the value of the resource we are dealing with — what matters, why, and to whom. In the case of swamp kauri many of the values are predominantly intangible social values such as the importance of swamp kauri to regional and national New Zealand identity. This project has found that there are number of cultural heritage values associate with swamp kauri including historic (especially relating to the early history of gum digging), archaeological values and Māori spiritual connections. Furthermore there are aesthetic values associated with finished timber products and natural heritage values associated with the physical context of swamp kauri.

This mixture of tangible and intangible values is not only imbued in the tree itself but also in its physical context is consistent with New Zealand's holistic heritage concept.

> *In New Zealand we may perceive two overlapping understandings of the nature of heritage. First, a Pakeha (European) concept of heritage which identifies specific elements of the landscape or built environment as constituting heritage, i.e. humankind as separate from the landscape... Second, an indigenous (Māori) notion of heritage which emphasises that humankind is not separate from the landscape but part of an indivisible whole, i.e. where heritage is an everyday lived experience and all aspects of life are tied into one reality. (Hallet al 1993:316)*

6.2 Swamp Kauri and the Management Regulatory Context

Cultural heritage is often left out of high-level strategic thinking about the environment, about culture, about cities, and about quality of life. Yet cultural heritage can contribute to all of these areas. Given the division of responsibilities relating to swamp kauri extraction a holistic management approach must involve not only MPI, but the district and regional councils and the operators and millers. Currently the extraction of swamp kauri and any potential environmental effects of this activity is managed under the Resource Management Act 1991. This means that in Northland, the Northland Regional Council and District Councils set the relevant rules and policies to control the entire extraction process. Under the Northland Regional Plan, extraction of swamp kauri requires a 'consent' when it is being extracted from indigenous wetland. In all other circumstances, like on farm land, it is a permitted activity (that is, no consent is required). Similarly, territorial authorities, such as the Far North District Council and Kaipara District Council, have restrictions on when resource consents are required. These are often linked with clearance or impact on indigenous vegetation, or the extent of earthworks. In many cases, it appears that the area of "open" earthworks at any one time in association with swamp kauri extraction in farmland is below the threshold for the trigger for consent requirement under district plan rules.

MPI's role relates to the regulation of the milling and export of indigenous timber products. Recently MPI has increased their staff capacity in the region and inspects all extraction sites in order to determine the status of the land that the swamp kauri is being extracted from. If a person wants to mill swamp kauri once it has been extracted, they must apply to MPI for a milling statement under the Forests Act 1949. Without a milling statement, swamp kauri cannot be legally milled. Milling statements can only be issued where the applicant can demonstrate that the swamp kauri has either:

- been salvaged from land that is not indigenous forest land; or
- if it is salvaged from indigenous forest land (including wetlands), that
  (1) the trees have died from natural causes and
  (2) that in removing the trees the natural values of that land will be maintained.

Given the physical impact of extraction methods, it would seem that it would not be possible to satisfy the second criteria for removal of swamp kauri from a wetland. MPI maintain that in the past three years no milling statements have been issued for swamp kauri extracted from an indigenous wetland[5].

For their part the Regional Council maintains that they are proactive in monitoring swamp kauri extraction and officers in the district councils assess all sites before extraction commences. They note that most operators in the past two-three years confine their operations to areas of farmland outside of indigenous wetlands.

6.3 Threats (Potential or Real) to the Values Discussion and Recommendations for Management

In Question 11 of the survey compiled for this project, the respondents were given the same list of possible answers provided in Question 9. This time they were asked to select which they thought would have NEGATIVE impact on the important values that they had identified in Question 9. The possibility of reduced regulation of the industry was by far considered to be the biggest risk.

One person provided an alternative answer: *Who cares?* While nine others provided additional information as follows:

- *Damage to wetland or swamp ecosystems during harvest of swamp kauri from these ecosystem types*
- *The unregulated export of swamp kauri and the amount going offshore*
- *Unsound land management in extracting it & also regarding it as a low value resource*
- *Selling off as "table tops" slabs, is a joke. China is laughing all the way to the bank.*
- *Failure of MPI to administer swamp kauri extraction under law and have openness in their administration.*
- *Lack of control over wholesale extraction stockpiling and export of swamp kauri of unprocessed product often disguised as processed product*
- *'swamp' kauri is a misnomer in this context, it diminishes the true value this taonga species*
- *Enforce the law against the exporting of Kauri logs*
- *Permitting the export of Kauri stumps and logs. This practice should be banned.*

[5] June 2015 MPI Statement on Management of Swamp Kauri in New Zealand accessed

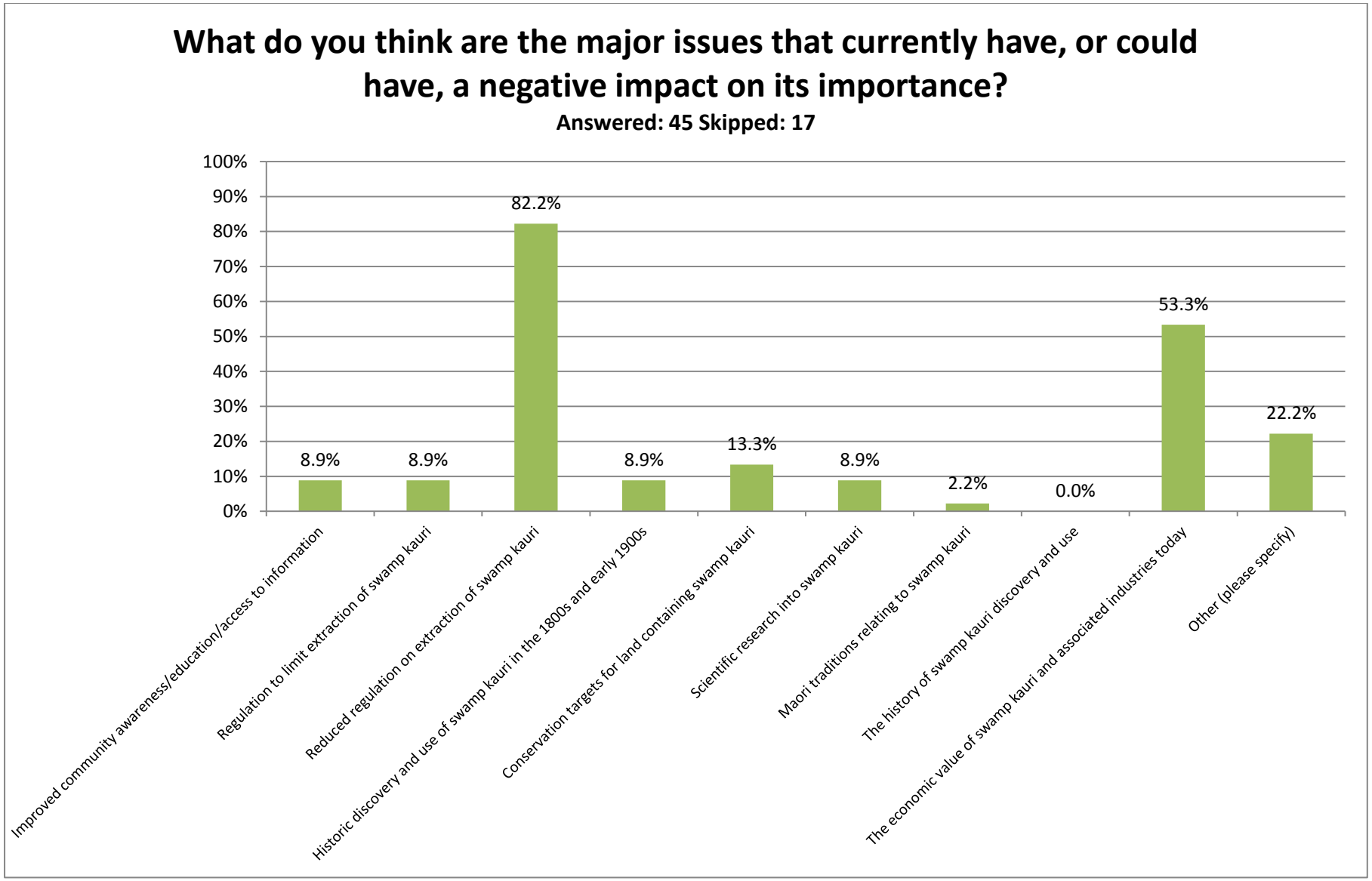

Figure 25. Response to Question 11 - What the survey participants identified as threats to the heritage values

Five main concerns about the management of swamp kauri and the impact of the extraction industry on the cultural heritage values of the timber and its environment have been identified. They are:

- Distrust in the data about the source of the timber.
- Decisions are not informed by sound baseline data i.e. about swamp kauri distribution and the conservation status, disturbance conditions and distribution of remaining wetlands.
- Associated cultural values such as the natural heritage values of the swamp kauri environment and the potential for archaeological sites is inadequately or not at all considered.
- Concern that the definition of finished products is open to manipulation and large amounts of timber is being exported thereby devaluing the unique New Zealand identity of the product.
- Need for a strategic approach based on co-operation and including education and transparency.

Respondents also revealed that there is a lack of clear understanding of MPI's role, and that this is restricted to milling and export.

6.3.1 Distrust in the data about the source of the timber.

MPI produce fact sheets that outline their role and ability to manage and intervene in the swamp kauri industry[6] which are available from their website. Despite this, a significant proportion of the survey respondents displayed a high level of scepticism if not distrust of the data produced by government and the industry relating to sources and quantities of extraction:

> *What we are seeing and hearing from within the extraction industry, and from the local people, tells us a different story to what we are hearing from government/media sources. It would be good to have factual data to verify exactly where things are at*. (Respondent #17)

It would seem that this distrust stems from incidents in the recent past for example where damage was caused to Kaimaumau and Motutangi swamp and at Lake Ngatu; and recent activity 2012-2014 when there was a sudden influx of operators and extraction activity some of which resulted in milling statements being withheld.

6.3.2 The lack of baseline data to inform decision making

Related to the former point is the basic concern that there is the lack of baseline data about the distribution and status of wetlands and swamp kauri bearing wetlands in particular.

> *We don't know how 'rare' swamp kauri is - of the swamps that are protected in some way we do not know how representative this area is in terms of the total range of swamps and wetlands*

A strategic management approach for the resource would look at all the wetland areas left and research their attributes and ensure that an appropriate sample of these places are conserved. A consideration is how representative are the areas currently in some form of conservation zoning (see Harrington *et. al*., 2004 for a discussion on the concept of representativeness in heritage).

Another factor that should be considered and documented is the disturbance history of remaining swamp kauri deposits and wetlands and this also has implications for the point below. Some interviewees suggested that most swamps/ wetlands will have suffered disturbance through historic timber and gum extraction.

6.3.3 Threats to Māori, archaeological and natural heritage values

It became clear during the study that potential archaeological values are not considered in extraction process. Both council and MPI staff commented that they inspect sites prior to extraction and council officers consider environmental issues such as rare birds and plants (orchids) however potential

[6] https://www.mpi.govt.nz/document-vault/3564

archaeological material is not considered despite demonstrable evidence that swamps may contain significant Māori cultural material.

> "*You can't see any cultural values in swamplands but they are there. Wetlands are a forgotten part of our archaeological heritage* (Kevin Matthews pers. comm. 25th October 2016)

There appears also to be no consideration of the archaeological potential of historical sites associated with the historic gum industry such as the gumdiggers' camps, with at least one respondent suggesting that these have all now been destroyed.

Some interviewees went so far as to say they believed archaeological material was likely to have been excavated during extraction of some/many swamps and burnt or otherwise dumped. Whether these claims have any truth or are based on a conflation of events further back in history cannot be determined from the information to hand, however, it is clear that this aspect of the potential impact of swamp kauri extraction is not currently being addressed.

While the RMA requires cultural and historic heritage (including archaeological sites) to be considered as a Matter of National Importance, having sound legislation in place does not actually mean anything if the resources aren't provided to implement it. There have been a number of studies that have demonstrated that the cultural heritage resource of New Zealand is suffering from ongoing unmanaged attrition and there have been repeated studies that call for action on this ongoing problem (Challis 1992; Ross and Foster I996, Donaghey 2000, 2001).

In addition, during the interviews concern was expressed for the other sources of environmental or scientific data that is lost or compromised during extraction. Respondents pointed out that the swamps contain much more than just the kauri and that while the kauri might be sampled by scientist no systematic sampling or investigation of the other material in the swamp is undertaken. However some respondents commented that they were unsure if any swamps are indeed undisturbed as they believe most have been worked over at some point in the past.

Many respondents, including Māori people noted the impacts of extraction on the surrounding environment and stressed the need for these impacts to be assessed prior to permission for extraction being granted.

6.3.4 Threats to social value- identity and aesthetic value

The strongest social value of swamp kauri can be seen in its strong association with local and national identity. Over half the respondents expressed strong feelings about the uniqueness of this buried tree, its importance to the world and the fact that it was quintessentially 'New Zealand'. The aesthetic value of the timber also came through strongly. In both instances export of unfinished products or somewhat finished products (table tops) was seen as a threat to these values and a waste of the resource. Strong stewardship and regulation was seen as a necessity.

6.4 Recommendations for Protecting the Perceived Values of Swamp Kauri

Participants were asked in Question 10 of the survey, to keep in mind what they had identified was important (Question 9) and to consider those major issues that currently have, or which could have, a POSITIVE impact on this importance? The answers included a number of drop down options but also provided the opportunity to specify additional issues. Respondents were able to select more than one issue. They were given the same drop down options as the previous question about issues that could produce negative impacts but were also given the option of providing more information. A similar question was posed during consultation with iwi representatives.

Overwhelmingly respondents said that improved public education was key. Strong regulation, continuation of scientific research and the establishment of conservation targets were all seen as proactive strategies. Protection of Māori cultural traditions and research into the historic heritage were also considered positive steps.

Six respondents also selected "other" electing to provide more detail. Their responses were:

- *Extraction processes need to be monitored*
- *Greater monitoring and transparency from govt. and relevant departments*
- *The Public need to be informed of the positives in the industries ...i.e. farmers receiving royalties- their land been developed into more productivity. Logging and trucking contractors also benefit plus employment in regards to finishing products. ..exports brining in offshore revenue.*
- *Better regulations/controls over export of unprocessed s/kauri or product often disguised as processed*
- *What does the WAI262 report recommend in regard to extracting and commercialising the use of ancient kauri*
- *More funding for the regulation as it currently stands*

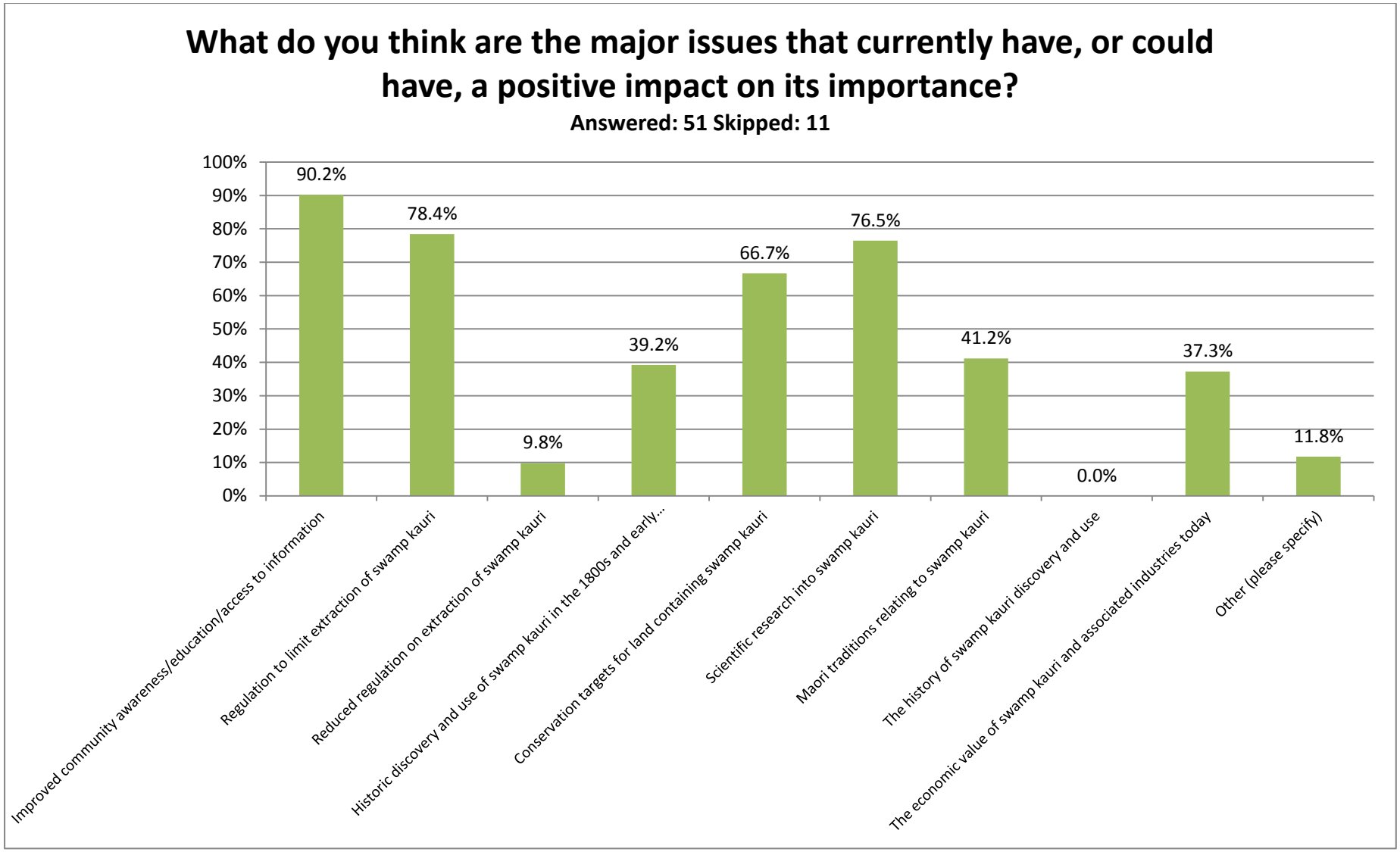

Figure 26. Responses to Question 10: What do you think are the main issues that could have, or currently have, a positive impact on the values of swamp kauri?

6.4.1 Need for a strategic approach and a Code of Practice

The swamp kauri industry is a relatively recent phenomenon. Although sporadic attempts were made to recover and utilise the timber in the historic past it is really only in the past 4-5 decades that it has proved economically viable to extract and market this timber. Over that time extraction, post extraction and milling treatments have developed to maximise the value of the resource. A partnership approach between MPI and the Regional Council has developed to effectively manage this resource and this has resulted in improved management as assessed by the reduction in incidents involving breaches of consents and extraction from wetlands as reported by Council. Current operators have indicated that they too see themselves as working in this partnership framework. However public concerns remain that this is only because the industry is quiet at the moment and point to the problems that arose in 2012/13 when a number of new operators entered the market.

Elsewhere co-operative arrangements in the timber industry have been formalised through development and adoption of a code of practice[7] and it would seem that it is now appropriate to formalise the co-operative process that has developed between the parties involved in the swamp kauri industry and build in explicit consideration of cultural and natural heritage values. As a starting point the code should cover:

- The roles and responsibilities of all involved
    - MPI
    - Regional and District Councils
    - Operators
    - Customs
- The processes and consents required (consideration should be given to a consent requirement for **all** extraction so that appropriate assessments can be ensured)
    - The natural and cultural values to be assessed to get those consents
    - By whom and how are these assessments done
- Accreditation of operators who adopt the code
    - And consequences for those who contravene the code.
- Certification for products from timber sourced under the code

The development of the code should involve consultation with Māori, members of the public, operators, relevant environmental groups and Heritage New Zealand Pouhere Taonga.

6.4.2 Landscape management approach to manage overlapping or competing values

A landscape management approach is needed to achieve community and scientific conservation objectives. Ancestral landscape, as it applies in Aotearoa New Zealand, embodies relationships between people and their environment. In providing a local, cultural interpretation of values important to a place, ancestral landscape provides a platform for fully considering the cultural, political and social dimensions of associative cultural landscapes (Kawharu 2009:334).

There are a number of conflicts inherent in managing the values associated with swamp kauri. For example while the scientific research clearly contributes to the pride and perceptions of uniqueness of swamp kauri it also contributed to the diminishing of the resource through excavation and sampling (a dilemma not dissimilar to that of archaeology).

When speaking to interviewees about the need for baseline data on the extent of the remaining swamp kauri resource, several saw this as unanswerable without further disturbance and unless a

[7] New Zealand Forestry and the Forest Code of Practice
http://www.fao.org/docrep/W3646E/w3646e09.htm

non-intrusive proxy for the prediction of the likely presence of swamp kauri is developed then estimates of unexcavated swamp kauri remaining will be viewed with scepticism:

> *Without destroying the land, you can't know how much swamp kauri is there* (Fiona Furrell pers. comm. 2nd November 2016).
>
> *Whatever the data gained volume of kauri/ extraction of kauri will always be at the expense of another wetland/swamp destroyed.* (Survey respondent #23)

However, it is imperative that if the government and operators are to claim responsible stewardship of swamp kauri then they need to have better baseline data to assist them and to inform decision making. A landscape management approach to this would entail:

- mapping the distribution of known wetlands and former wetlands;
- overlaying important environmental data (threatened species etc.);
    - developing programs to fill any identified gaps in this data
- overlaying the known archaeological data (from NZAA);
    - developing a predictive model for undiscovered archaeological material (covering Maori pre-European sites as well as post contact period / 19th and early 20th century sites);
    - surveying and documenting archaeological and built heritage relating to gum digging history and early swamp kauri industry including camps, gum stores, mills, treatment plants etc.);
- mapping disturbance history;
- overlaying conservation status and tenure (so as to identify how much of the swamp kauri will be protected in a natural environment for future generations).

6.4.3 Education and transparency

Some working in the industry pointed to the fact that changes had been implemented and the public seemed unaware of these. In recent years swamp kauri has only extracted from farmland that had been drained and not from native swamps, and that the reformed industry was now more efficient and better managed. They felt that:

The public need to be informed of the positives in the industry...i.e. the farmers who are receiving royalties and at the same time their land has been developed into more productive [farmland]. Logging and trucking contractors also benefit plus employment in regards to finished products. Exports bring in off shore revenue. (Respondent # 18)

Increased education and awareness raising is recommended not only about the changes in regulation but also in relation to the cultural values of swamp kauri and its environmental context. This could involve partnership with the museums active in this space. Education should include information on cultural values of swamp kauri as they are further explored.

6.4.4 Identification of Future Areas of Research needed to support cultural heritage values

There are a number of areas of cultural heritage research that would positively contribute to the initiatives above and would strengthen and protect the cultural values. These include:

- A strategic archaeological and cultural heritage survey of the wetlands, swamps and areas of drained wetland should be carried out at the first opportunity. This should include consideration of Māori sites and early Maori and European gumdiggers sites (19th and early 20th century).
- Develop a predictive model for archaeological site distribution.

- Historical research, including interviews with descendants, with Māori and other ethnic groups involved in the gum digging industry to complement the current information available on the role of the Dalmatian community.
- Heritage interpretation of the historical heritage associated with the swamp kauri and the gum digging industries should be enhanced to include more nuanced information regarding the scientific work undertaken, environmental and cultural heritage impacts and issues associated with the industries and modern developments and debates in the industry.
- Research and documentation of the development of the swamp kauri extraction industry, including recording information from earlier extraction operators in industry, and how extraction, drying and milling techniques were developed. It is important that a record of this industry is compiled as many of the early operators are now retired and information and stories of this industry will disappear.

More place based heritage interpretation is also recommended. Smart phone technology is an economical way to achieve this as it can enable visitors/travellers to access relevant information including historic photos about a place.

7 REFERENCES

Andrew, H. N., and Lenz, L.W 1946. The Gallatin Fossil Forest A*nnals of the Missouri Botanical Garden,* Vol. 33, No. 3 (Sep., 1946), pp. 309-313.

Australian Heritage Commission, 1988. "Social Significance Assessment: Internal Report (AHC 88/87)," prepared for AHC 67th meeting, July 4, 1988 (Canberra: AHC, 1988).

Allen, H., Johns, D., Phillips, C., Day, K., O'Brien, T., and Mutunga, N., 2002. Wāhi Ngaro (The Lost Portion): Strengthening Relationships between People and Wetlands in North Taranaki, New Zealand *World Archaeology*, Vol. 34, No. 2, Community Archaeology (Oct., 2002), pp. 315- 329

Allen, J 2012. Wetland Destruction, Motutangi Stream, NZ Watermelon Distributors Ltd Property. Report prepared for Northland Environment Protection Society by John Allen and Associates Ltd.

Aplin, G. 2009 Australian Attitudes to Heritage AQ*: Australian Quarterly*, Vol. 81, No. 3 (MAY-JUNE 2009), pp. 19-24, 40.

Barr, C 1989 An Ecological Approach to the Management of Wet Archaeological Sites in New Zealand. M. A. Unpublished thesis submitted to University of Auckland, Anthropology Department, University of Auckland

Barr, C 1998 Wetland Archaeological Sites in Aotearoa (New Zealand) Prehistory In K Berwick (editor) *Hidden Dimensions: The Cultural Significance of Wetland Archaeology, Pacific Rim Archaeology and Wetland Archaeological Research Project (WARP)* Occasional Paper Number II

Barrow, T.T 1956. Māori Decorative Carving- An Outline, *The Journal of the Polynesian Society,* Vol. 65, No. 4 (December 1956), pp. 305-331.

Blichaeska Malgorzata and Grzegorz Mikusinski (2014) “Incorporating Social and Cultural significance of Large Old Trees in Conservation Policy”, Conservation Biology, Volume 28, No. 6, pp. 1558-1567.

Bowdler, S. 1984 Archaeological significance as a mutable quality. In S. Sullivan and S. Bowdler (eds), *Site Surveys and Significance Assessment in Australian Archaeology: Proceedings of the 1981 Springwood Conference on Australian Prehistory*, pp. 1-9. Canberra: Department of Prehistory, Research School of Pacific.

Biggs, B.G. 1966. 'Māori Myths and Traditions' in A.H. McLintock (editor), *Encyclopaedia of New Zealand,* 3 Volumes. (Government Printer: Wellington) II:447-454.

Brook R. 2010 ‘Ronald Hepburn and the humanising of environmental aesthetics’. *Environmental Values Vol 19 #3 Environmental aesthetics* pp265-271.

Brown, M. and Spoelstra, A. (eds.) 1996. *The figs and the vines: gumdigging in Kaipara.* Dargaville: Academy.

Buckley, K. and S. Sullivan 2014 Issues in Values-Based Management for Indigenous Cultural Heritage in Australia APT Bulletin, Vol. 45, No. 4, pp. 35-42.

Carlson, A. 2010. Contemporary environmental aesthetics and the requirements of Environmenatalism. *Environmental Values* Vol 19 # 3 pp 289-314

Challis. A. 1992. A review of archaeological site records for the Canterbury region, Department of Conservation, Wellington.

Chandervaker, P. 1965. Tree-cult in Saurashtra in S. S. Gupta, (ed.) *Tree symbols in India, a new survey of pattern of folk religion.* Indian Folklore Series No. 5, Indian Publications, Calcutta.pp41-46.

Clark, K 2014. Values-Based Heritage Management and the Heritage Lottery Fund in the UK. *APT Bulletin*, Vol. 45, No. 2/3, Special Issue on Values-based Preservation, pp. 65-71.

D'Costa D.M., Boswijk, G., & Ogden, J., 2009. Holocene vegetation and environmental reconstructions from swamp deposits in the Dargaville region of the North Island, New Zealand: implications for the history of kauri (Agathis australis). *Holocene, 19* (4), 559-574. 10.1177/0959683609104026.

Dafni, A. 2002 Why are rags tied to the Sacred Trees of the Holy Land? *Economic Botany* 56(4) pp. 315-327.

de la Torre, M (ed) 2002 *Assessing the Values of Cultural Heritage Research Report*. The Getty Conservation Institute, Los Angeles.

Donaghey, S. 2001 What is Aught, but as 'tis Valued? An analysis of strategies for the assessment of cultural heritage significance in New Zealand, *International Journal of Heritage Studies*, 7:4, 365-380, DOI: 10.1080/13581650120105561.

Eagleton, T. 1995. *The Ideology of the Aesthetic* Oxford, U.K., Blackwell.

Egenter, N 1981. The Sacred Trees around Goshonai/Japan *Asian Folklore Studies*, Vol. 40, No. 2 pp. 191-195+197-212.

Eriksen, A. 2014 *From Antiquities to Heritage: Transformations of Cultural Memory*. New York:Berghahn books, 2014. 188pp

Etheridge, R. 1893 Ethnological observations in Australia, *Nature* (London) -- Apr.20, 1893; v.47; 594-596.

Fowler-Smith, L. 2009 Hindu Tree Veneration as a Mode of Environmental Behaviour *Leonardo*, Vol. 42, No. 1 (2009), pp. 43-51, 9.

Frese, P. R., and S. J. M. Gray. 1995. Trees, in M. Eliade, (ed.) The *encyclopedia of religion, Vol. 15.* Macmillan Library Reference USA, Simon and Schuster & Macmillan, New York pp 26-33.

Gell, A. 1998. *Art and Agency: An Anthropological Theory*. Oxford: Clarendon Press.

Gobston, P.H. 2001. Human Dimensions of early successional landscapes in the Eastern United States. *Wildlife Society Bulletin* Vol, 29 # 2 pp 474-482.

Goddard, M. 2011. Muiata Pa Historic Heritage Assessment, Kaitaia Area Office report for Dept of Conservation.

Green R. 1978 Dating the Kauri Point sequence. *Historical Review* Vol. XXVI. No. 1. Journal of Whakatane Historical Society.

Greer, S., Harrison, R and McIntyre-Tamwoy, S. 2002. Community-Based Archaeology in Australia *World Archaeology, Vol. 34, No. 2, Community Archaeology*, pp. 265- 287

Grimwade, G 1992. Aboriginal tree carvings of northeast Queensland, Australia in Pantel, AG, Schneider, KA and Loyola-Black, (eds) *Environment and archaeology: proceedings: new world conference on rescue archaeology: inventory strategies and technologies in tropical forests worldwide p*p 74-81

Gum Diggers Park (date unknown) “What Mysterious Event Caused the Demise of the Great Forests?” <http://www.gumdiggerspark.co.nz/the-demise-of-the-great-forests.html> Accessed 15th August 20156.

Hall, C.M., Mitchell, I., and Keelan, N. 1993. The Implications of Māori Perspectives for the Management and Promotion of Heritage Tourism in New Zealand. *GeoJournal,* Vol. 29, No. 3, Antipodian Tourism Economy (March 1993), pp. 315-322.

Harrington, J., J. McDonald and P. Veth, 2004. 'Representativeness' in the Conservation of Aboriginal Heritage in NSW. Unpublished report to Cultural Heritage Division, Department of Environment and Conservation (NSW), Hurstville.

Harrison, R. 2006. An artefact of colonial desire? Kimberley points and the technologies of enchantment. *Current Anthropology*, 47 (1), 63-88. doi:10.1086/497673

Harvey, D. C. 2001. Heritage Pasts and Heritage Presents: temporality, meaning and the scope of heritage studies, *International Journal of Heritage Studies*, 7:4, 319-338, DOI: 10.1080/13581650120105534

Hayward, B.W. 1989 K*auri Gum and the Gum Diggers: a Pictorial History of the Kauri Gum Industry in New Zealand.* The Bush Press Auckland.

Hester, R. 1979. "A Womb with a View: How Spatial Nostalgia Affects the Designer," *Landscape Architecture* (Sept. 1979): 475-481

Hicks, D. L. D J Campbell, and I A E Atkinson 2001 Options for managing the Kaimaumau wetland, Northland, New Zealand Science for Conservation report 155, Department of Conservation, Wellington

Houston, John, 1948. " Taranaki Māori Carvings." Journal of the Polynesian Society, 57:301-3.

Iain Sharp (1996) “Out of the Woods”, *Pacific Way*, no.90, pp:14-19.

ICOMOS New Zealand 2010 ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value. The New Zealand National Committee of the International Council on Monuments and Sites.

Jepson, P and Canney S. 2003. Values-Led Conservation *Global Ecology and Biogeography*, Vol. 12, No. 4 (Jul., 2003), pp. 271-274

Johns, D. A. 2001. The conservation of wetland archaeological sites in New Zealand/Aotearoa. In *Enduring Records: The Environmental and Cultural Heritage of Wetlands* (ed. B. Purdy). Oxford: Oxbow Books.

Johnston, C. 2014. Inhabiting Place: Social Significance in Practice in Australia *APT Bulletin*, Vol. 45, No. 2/3, Special Issue on Values-based Preservation, pp. 39-47

Kahn, J. and Coil, J 2006. What house posts tell us about status difference in prehistoric Tahitian Society: An Interpretation of Charcoal analysis , sacred woods and intersite variability. *The Journal of the Polynesian Society*, Vol. 115, No. 4 (DECEMBER 2006), pp. 319- 352

Kawharu, M. Ancestral Landscapes and World Heritage from a Māori point of view. *The Journal of the Polynesian Society*, Vol. 118, No. 4 (DECEMBER 2009), pp. 317- 338

Khaneghah, A. A. 1998. Social and cultural aspects of sacred trees in Iran in P. S. Ramakrishnaan, K. G. Saxena, and V. M. Chanderashekara, (eds.,) *Conserving the sacred for biodiversity management*. Oxford & JBH Publishing Co., New Delhi pp 123-127.

Kolb, M.J. and G.M. Murakami, 1994. Cultural dynamics and the ritual role of woods in pre-contact Hawaii. *Asian Perspectives*, 33(l):57-78.

Laband, D. (2013) "The neglected stepchildren of forest-based ecosystem services: Cultural, spiritual and aesthetic values", *Forest Policy and Economic*, Vol 35, pp. 39-44

Marion Bridge (2007) "Swamp Art", *New Zealand Growing Today*, v. 21, n.7, pp. 42-43.

Mason, R 2002 Assessing Values in Conservation Planning in Marta de la Torre (ed) *Assessing the Values of Cultural Heritage Research Repor*t. The Getty Conservation Institute, Los Angeles.

Mitchell, N. with contributions from Leitão, L., Migon, P. and Denyer, S. 2013. *Study on the Application of Criterion (vii): Considering superlative natural phenomena and exceptional natural beauty within the World Heritage Convention*. Gland, Switzerland: IUCN. 112pp.

Moore, R. 2008. *Natural Beauty: A Theory of Aesthetics Beyond the Arts*, Peterborough: Broadview Press.

Morehart, CT., D.L. Lentz and K.M. Prufer, 2005. Wood of the gods: The ritual use of pine (Pinus spp.) by the ancient Lowland Maya. *Latin American Antiquity*, 16(3):255-75.

Ode, A., Tveit, M.S., and Fry, G. (2008) "Capturing Landscape Visual Character Using Indicators: Touching Base with Landscape Aesthetic Theory," Landscape Research 33 (1): 89-117.

Ode, A., Fry, G., Tveit, M.S., Messager, P., and Miller, D. 2009 Indicators of perceived naturalness as drivers of landscape preference, *Journal of Environmental Management* 90: 375-383.

Ode, A., Hagerhall, C.M. and Sang, N. 2010 Analyzing Visual Landscape Complexity: Theory and Application, *Landscape Research* 35 (1): 111-131.

Ogden, J. Newnham, R.M., Palmer, J.G., Serra, R.G. & Mitchell, N.D. 1993 Climatic implications of Macro and microfossil assemblages from Late Pleistocene Deposits in Northern New Zealand. *Quaternary Research*, 39: 107-119.

Orbell, M.1998. *The Concise Encyclopaedia of Māori Myth and Legend*. Canterbury University Press: Christchurch.

Phillipps, W. J., 1939. "Taranaki Carving." *Public Service Journal* (N.Z.), 26:235.

Pollard, J. 2001. The Aesthetics of Depositional Practice *World Archaeology*, Vol. 33, No. 2, Archaeology and Aesthetics (Oct., 2001), pp. 315-333

Quantrill, Trudy 2011 Whose heritage? : a regional perspective on the paradoxical devaluation of social value in cultural heritage. Unpublished dissertation James Cook University Townsville

University of Waikato (2006) "Wayne Takes kauri from Swamps to Tourist Lodges", New Zealand Logger Magazine, pp.30-34.

Ross, S. and Foster, R. I996. Cultural Heritage Inventory: The state and condition of archaeological sites in the Auckland region, Russell Foster and Associates, Auckland.

Shawcross, W. 1964 An Archaeological Assemblage of Māori Combs *The Journal of the Polynesian Society,* Vol. 73, No. 4 (DECEMBER 1964), pp. 382- 398

Shawcross, W. and J.E Terrell 1966 Paterangi and OPruarangi Swamp Pas *The Journal of the Polynesian Society*, Vol. 75, No. 4 (DECEMBER 1966), pp. 404- 429

Shenoy, V and Sen , G 1992 The Spirit of Wood *India International Centre Quarterly*, Vol. 19, No. 3 (MONSOON 1992), pp. 162-164.

Skinner, H.D. 1922. " The Kaitaia Carving." *Journal of the Polynesian Society*, 31:57-8.

Stanton, J. 1993. Poles form a spiritual fence. *Australian Geographic* Issue: 30; Apr-June pp 17-18.

Taylor, K. 1999. Reconciling Aesthetic Value and Social Value: Dilemmas of Interpretation and Application *APT Bulletin*, Vol. 30, No. 1, Landscape Preservation Comes of Age, pp. 51-55

Thomas, J. 1996. *Time, Culture & Identity: An Interpretive Archaeology*. London: Routledge

van Meijl, T. 1996 Historicising Māoritanga Colonial Ethnography and the Reification of Māori Traditions. *The Journal of the Polynesian Society,* Vol. 105, No. 3 (September 1996), pp. 311- 346

Vicki Jayne 1995. “Art from The Swamps”, NZ Forest Industries, pp. 31-32.

Walton, A. 2000. *Archaeology of the Taranaki-Wanganui Region*. Wellington: Department of Conservation.

Wendy Laurenson 1995. “Buried Treasure”, North and South, no.113, pp.14-15.National Library of New Zealand, historic newspapers.

Wilson, D.M. 1922 Ancient Drains. Māori Drains, North Auckland *The Journal of the Polynesian Society,* Vol. 31, No. 3(123) (September, 1922), pp. 130-133

Woodhouse, E. 1999. Spirit of the Elizabethan Garden. *Garden History*, Vol. 27, No. 1, Tudor Gardens (Summer, 1999), pp. 10-31

APPENDIX A – RELEVANT HERITAGE LEGISLATION

Heritage New Zealand Pouhere Taonga Act 2014

It is the purpose of this Act to provide for and promote the identification, protection, preservation and conservation of the historic and cultural heritage of New Zealand. All persons performing functions and exercising powers under this Act are required to recognise –

(a) the principle that historic places have lasting value in their own right and provide evidence of the origins of New Zealand's distinct society; and

(b) the principle that the identification, protection, preservation, and conservation of New Zealand's historical and cultural heritage should—

(i) take account of all relevant cultural values, knowledge, and disciplines; and

(ii) take account of material of cultural heritage value and involve the least possible alteration or loss of it; and

(iii) safeguard the options of present and future generations; and

(iv) be fully researched, documented, and recorded, where culturally appropriate; and

(c) the principle that there is value in central government agencies, local authorities, corporations, societies, tangata whenua, and individuals working collaboratively in respect of New Zealand's historical and cultural heritage; and

(d) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tūpuna, wāhi tapu, and other taonga.

(Heritage New Zealand Pouhere Taonga Act Section 4)

Under the Heritage New Zealand Pouhere Taonga Act 2014 modification or destruction of an archaeological site is prohibited unless an authority for such activities has been obtained from Heritage New Zealand Pouhere Taonga under section 48, 56 (1)(b) or 62 of the Act. Section 6 of the Act provides a definition for archaeological sites as being:

(a) any place in New Zealand, including any building or structure (or part of a building or structure), that—

(i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and

(ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) includes a site for which a declaration is made under section 43(1)

Within New Zealand, archaeological sites could include:

- Māori pa sites
- The remains of cultivation areas and gardens
- Middens or rubbish pits (either Māori or European).
- Rock art sites which may contain paintings, drawings, carvings or engravings
- Shipwrecks

Within areas of relevance to this study, the type of archaeological sites that may be identified include: pre-European gardening sites, artefact caches, wetland habitation sites (artificial islands), 19th century gum digger camp sites and workings.

Archaeological sites are protected regardless of whether the land on which the site is located is designated, the activity is permitted under the District or Regional Plan, or a resource or building

consent has been granted. The Act provides for substantial penalties for unauthorised destruction or modification.

The New Zealand Heritage List/Rārangi Kōrero ('the List')

The Heritage New Zealand Pouhere Taonga Act also establishes a list, known as the New Zealand Heritage List / Rarangi Korero[8]. The List is maintained by Heritage New Zealand Pouhere Taonga, and identifies New Zealand's significant and valued historical and cultural heritage places.

It is the purpose of the List to inform members of the public of historic places, historic areas, wahi tupuna, wahi tapu and wahi tapu areas, as well as notify the owners of such places. The List is also considered to be a key source of information for the purposes of the Resource Management Act 1991.

Under the List it is required that places of significance are identified as either:

- **Historic Places** – (such as archaeological sites, buildings, memorials)
    - Category 1 historic places are of special or outstanding historical or cultural significance or value
    - Category 2 historic places are of historical or cultural significance or value
- **Historic Areas** - groups of related historic places such as a geographical area with a number of properties or sites, a heritage precinct or a historical and cultural area
- **Wāhi Tūpuna** - places important to Māori for ancestral significance and associated cultural and traditional values
- **Wāhi Tapu** - places sacred to Māori in the traditional, spiritual, religious, ritual or mythological sense such as maunga tapu, urupā, funerary sites and punawai
- **Wāhi Tapu Areas** - areas that contain one or more wāhi tapu

Initial overview of places on the list does not reveal any places listed relating to swamp kauri or where swamp kauri is noted as having contributed to the significance of a place. A Gum Diggers Hut, housed at the Dargaville Museum, is the only listed item which relates to the swampland resources industry.

Protected Objects Act 1975

This legislation was enacted to protect items of moveable heritage. Its purpose is to provide for the protection of certain objects by -

> *(a) regulating the export of protected New Zealand objects; and*
> *(b) prohibiting the import of unlawfully exported protected foreign objects and stolen protected foreign objects; and*
> *(c) providing for the return of unlawfully exported protected foreign objects and stolen protected foreign objects; and*
> *(d) providing compensation, in certain circumstances, for the return of unlawfully exported protected foreign objects; and*
> *(e) enabling New Zealand's participation in—*
> *(i) the UNESCO Convention; and*
> *(ii) the UNIDROIT Convention; and*

[8] New Zealand Heritage List / Rārangi Korero replaces the Register established and managed under Section 22 the Historic Places Act 1993

(f) establishing and recording the ownership of ngā taonga tūturu; and

(g) controlling the sale of ngā taonga tūturu within New Zealand.

For the purposes of this Act the terms "protected New Zealand object" and " *taonga tūturu"* are defined as follows (Section 2 - Interpretation):

protected New Zealand object *means an object forming part of the movable cultural heritage of New Zealand that—*
(a) is of importance to New Zealand, or to a part of New Zealand, for aesthetic, archaeological, architectural, artistic, cultural, historical, literary, scientific, social, spiritual, technological, or traditional reasons; and
(b) falls within 1 or more of the categories of protected objects set out in Schedule 4 of the Act

taonga tūturu *means an object that -*
(a) relates to Māori culture, history, or society; and
(b) was, or appears to have been,—
(i) manufactured or modified in New Zealand by Māori; or
(ii) brought into New Zealand by Māori; or
(iii) used by Māori; and
(c) is more than 50 years old

APPENDIX B – ELECTRONIC SURVEY

Cultural Heritage and Scientific Values of Swamp Kauri

This short survey is part of a project that has been commissioned by the Ministry for Primary Industries (MPI), New Zealand to investigate the cultural heritage and scientific values of swamp kauri. This project is focused on 'swamp kauri' i.e prehistoric kauri trees that were buried in the North Island of New Zealand. MPI has commissioned Extent Heritage Pty Ltd (Extent) to undertake the cultural heritage values component of the project and NIWA (National Institute of Water and Atmospheric Research) to complete the scientific values component. For the purpose of this study we are making a distinction between 'cultural' values such as spiritual and intangible connections and 'historic heritage' values linked to historical practices.

This survey has been prepared by Extent Heritage and NIWA. We estimate that this survey will take around 10 minutes to complete. You do not have to supply your name or contact details, however if you have more information or would like to speak to us further about this project, we ask that you do provide your name and contact details and we will follow up by Skype or phone. We will not attribute statements to you by name unless we have your permission to do so.

When you respond to this survey your answers will be collected by Extent. We will collate and analyse the results and share those results with MPI and NIWA for the purposes of this study. If you want to ask questions about this survey you can contact Susan at smcintyre-tamwoy@extent.com.au

* 1. Which of the following describes your source of interest in or knowledge of swamp kauri ? (choose as many as apply)

- [ ] I work in the swamp kauri timber extraction/recovery industry
- [ ] I am or have been a craftsman who uses swamp kauri timber
- [ ] I am a scientist who has/had research interests in swamp kauri
- [ ] I am an historian/social scientist with research interest in swamp kauri
- [ ] I am a shareholder in Maori land with swamp kauri
- [ ] I am a landowner on land where swamp kauri exists, or is likely to exist
- [ ] I am a government employee with management/regulations responsibilities related to swamp kauri
- [ ] I represent a non-governmental organisation with interest in swamp kauri
- [ ] I am a trader of swamp kauri
- [ ] I have no commercial or research interests in swamp kauri - but I am interested in it
- [ ] I have no interest in or involvement with swamp kauri
- [ ] I am not a swamp kauri property owner but I live in a town or property adjoining a property where swamp kauri exists and /or is being extracted.
- [ ] I don't live near swamp kauri but I am an interested/concerned New Zealand citizen
- [ ] I belong to a conservation group concerned about swamp kauri
- [ ] I am/was a gum collector
- [ ] I am not a gum collector but I have/had gum collectors in my family
- [ ] Other (please specify)

* 2. Are you a New Zealand citizen?

- ◯ Yes
- ◯ No

3. In what country do you live?

* 4. What is your age group?

- ◯ 17 or younger
- ◯ 18-25
- ◯ 26-35
- ◯ 36-55
- ◯ 56-65
- ◯ 66 or older

* 5. Are you male or female?

- ◯ Male
- ◯ Female

6. If you live in New Zealand what region do you live in?

- ◯ Northland
- ◯ Auckland
- ◯ Waikato
- ◯ Bay of Plenty
- ◯ Taranaki
- ◯ Gisborne
- ◯ Hawke's Bay
- ◯ Manawatu-Wanganui
- ◯ Wellington
- ◯ Tasman
- ◯ Nelson
- ◯ Marlborough
- ◯ West Coast
- ◯ Canterbury
- ◯ Chatham Island
- ◯ Otago
- ◯ Southland

7. If you are a New Zealand resident, please tell us if you are descended from, or identify with, one of the following ethnic groups (listed here in order of population size):

- ◯ New Zealand- European (other than Dalmation)
- ◯ Maori
- ◯ Chinese
- ◯ Samoan
- ◯ Indian
- ◯ Cook Islands Maori
- ◯ Tongan
- ◯ Niuean
- ◯ New Zealand - Dalmation
- ◯ Other (please specify)

Cultural Heritage and Scientific Values of Swamp Kauri

8. If you selected Maori please provide details of the iwi/hapu you identify with.

9. Briefly, in your opinion, please explain why you think swamp kauri is important for present and/or future New Zealanders?

10. Keeping in mind your answer to question 9, what do you think are the major issues that currently have, or could have, a **positive** impact on this importance? [select as many answers as you think apply],

- [ ] Improved community awareness/education/access to information on swamp kauri
- [ ] Regulation to limit extraction of swamp kauri
- [ ] Reduced regulation on extraction of swamp kauri
- [ ] Historic discovery and use of swamp kauri in the 1800s and early 1900s
- [ ] Conservation targets for land containing swamp kauri
- [ ] Scientific research into swamp kauri
- [ ] Maori traditions relating to swamp kauri
- [ ] Economic value of swamp kauri and associated industries today
- [ ] Other (please specify)

11. Keeping in mind your answer to question 9, what do you think are the major issues that currently have, or could have, a **negative** impact on this importance? [Select as many answers as apply]

- [ ] Improved community awareness/education/access to information
- [ ] Regulation to limit extraction of swamp kauri
- [ ] Reduced regulation on extraction of swamp kauri
- [ ] Historic discovery and use of swamp kauri in the 1800s and early 1900s
- [ ] Conservation targets for land containing swamp kauri
- [ ] Scientific research into swamp kauri
- [ ] Maori traditions relating to swamp kauri
- [ ] The economic value of swamp kauri and associated industries today
- [ ] Other (please specify)

12. Do you believe that swamp kauri has **scientific value**?

- [ ] Yes
- [ ] No
- [ ] I don't know
- [ ] If yes please explain what you understand the scientific value to be.

13. Do you have any suggestions of people or organisations that we should speak to regarding the **scientific value** of swamp kauri?

14. Do you believe that swamp kauri has **cultural value**?

- ◯ Yes
- ◯ No
- ◯ If you answered yes please explain to us what you understand that value to be.

15. Do you have any suggestions of people or organisations that we should speak to regarding the **cultural** value of swamp kauri?

16. Do you believe swamp kauri has **heritage value**?

- ◯ Yes
- ◯ No
- ◯ If you answered yes, please explain to us what you understand that value to be.

17. Do you have any suggestions of people or organisations that we should speak to regarding the **heritage value** of swamp kauri?

18. Which best describes your knowledge of the science relating to swamp kauri

- ◯ I have read the peer reviewed scientific literature about swamp kauri
- ◯ I have read a range of general information such as on websites, magazine articles and general literature about swamp kauri
- ◯ I didn't know it had any scientific value

19. Which of the options below best matches your understanding of the length of time swamp kauri has been buried?

- ◯ I have no idea of the geological age of swamp kauri
- ◯ Swamp kauri deposits may contain a wide range of preserved trees and could be buried for hundreds, thousands, or hundreds and thousands of years
- ◯ It has been buried for only the last few thousand years
- ◯ Swamp kauri was buried in a very specific time period before the last ice age

20. Is swamp kauri scarce?

- ◯ There is still a considerable amount
- ◯ It is nearly all gone
- ◯ A moderate amount remains
- ◯ I don't know how much swamp kauri there is

21. What is your perception of the rate of extraction of swamp kauri and the implications for the resource?

22. Considering your answers to Questions 20 and 21 do you think that improved data about swamp kauri volume and/or changes in rates of extraction could provide information that might change or influence your view?

- ◯ Yes
- ◯ No
- ◯ Maybe

Please explain why

23. Do you have any historic photos or information related to swamp kauri and your personal connection with swamp kauri that you would be willing to share with us?

- ◯ Yes
- ◯ No

If yes please ensure you provide your contact details at the end of this questionnaire

24. Do you work with (as in carve, build, or create) swamp kauri products?

- ◯ Yes
- ◯ No

Cultural Heritage and Scientific Values of Swamp Kauri

25. If you do build, carve, create products or crafts from swamp kauri please tell us why you choose to use the material.

- [ ] Its age
- [ ] Its timber working properties
- [ ] My clients value it
- [ ] It is a cost effective alternative to other timber sources
- [ ] I have a spiritual connection with it
- [ ] Family history - continuing a family business tradition
- [ ] No reason
- [ ] Other (please specify)

Cultural Heritage and Scientific Values of Swamp Kauri

26. Are you a commercial extractor, exporter or trader in swamp kauri or swamp kauri finished products?

- ◯ Yes
- ◯ No

Cultural Heritage and Scientific Values of Swamp Kauri

27. If you are a commercial trader, exporter or extractor of swamp kauri, what are the major drivers of this swamp kauri trade over use of other timbers?

- ◯ Our clients desire / demand swamp kauri
- ◯ It is cheaper to extract than other timbers
- ◯ It is environmentally better than felling trees
- ◯ It is a historic family business
- ◯ It augments my farming /other income
- ◯ It is locally plentiful and accessible
- ◯ There is a strong export market
- ◯ There is a strong domestic market
- ◯ Other (please specify)

28. If you answered "our clients desire / demand it" - what is it about swamp kauri that your customers value?

29. What do you think is most important about swamp kauri?

- ◯ Its Maori cultural value
- ◯ Its scientific research value
- ◯ Its historic cultural value
- ◯ Its other cultural value
- ◯ Its commercial value
- ◯ Its identification with New Zealand identity
- ◯ Its beauty as a timber
- ◯ I don't think it has any particularly important value
- ◯ Other (please specify)

30. Is swamp kauri more valuable to trade or work with, than other native timbers?

- ◯ Yes
- ◯ No

If you answered 'yes' please explain why

Cultural Heritage and Scientific Values of Swamp Kauri

Contact Details and Use of Information

You do not have to provide your contact details. However if you want to discuss the project with us or you have more information you can contribute then please tell us your name and provide details of your preferred method of contact.

31. Would you be interested in talking to us further via phone or skype about the scientific, cultural or heritage values of swamp kauri?

- ◯ Yes
- ◯ No

32. If you answered 'yes' you would like us to contact you, please tell us your name?

33. What is the best way to contact you?

- ☐ Phone
- ☐ Email

Cultural Heritage and Scientific Values of Swamp Kauri

34. Please provide your phone number

Cultural Heritage and Scientific Values of Swamp Kauri

35. Please provide your email address

Cultural Heritage and Scientific Values of Swamp Kauri

* 36. Before you leave - please indicate your preference in the way we use the information you have provided?

- ◯ I understand that my answers will be collated and used for this project but I do not want to be quoted by name or my name to be included in the list of acknowledgements.
- ◯ I do not want my name and or contact details to be provided to government.
- ◯ You may quote me by name and recognise my contribution by including my name in the report acknowledgements.
- ◯ I do not want specific quotes attributed to me by name but I would like my contribution to be acknowledged in the acknowledgement section of your report.

APPENDIX C: LIST OF ANSWERS TO SURVEY QUESTION 9

Q9 Briefly, in your opinion, please explain why you think swamp kauri is important for present and/or future New Zealanders?

Answered: 47 Skipped: 15

#	Responses	Date
1	Potential heritage values	12/7/2016 10:13 AM
2	It is part of our heritage and as such should be cared for	11/28/2016 6:12 AM
3	The existance of such ancient timber is an extraordinary natural phenomenon	11/23/2016 4:08 PM
4	We shouldnt sell it off overseas.There wont be any around for our kids to see.	11/22/2016 12:47 PM
5	provides a history of catastrophes - check with Bruce McFadgen	11/11/2016 9:28 AM
6	Swamp kauri is unique to Aotearoa. Once extracted from the ground it can never be replaced. to its uniqueness it has become an economic resource as a raw material for both local (e.g. tourist artefacts) and overseas markets. let's learn from history….do we want a repeat of the 19th century extractive industries such as the loss of our kauri forests for timber, kauri gum, gold all sent overseas but we are left with grossly modified landscapes and altered ecosystems. Now swamp kauri is a 'resource' it needs to be better managed. In fact, both the kauri and the land it is found in need to be taken into consideration as a whole as well as independent. Both have importance that is beyond mere economic 'value'. Hopefully your research will shed light on some of the other 'values' that people hold.	11/11/2016 7:27 AM
7	Oldest naturally timber that is preserved intact and a beautiful timber to work with	11/11/2016 5:47 AM
8	It isn't	11/11/2016 3:53 AM
9	it is unique to and part of our hertitage and there is not an unlimited resource	11/11/2016 3:43 AM
10	It is a natural physical resource of great commercial, social and cultural value to New Zealanders	11/7/2016 12:39 PM
11	It provides a direct link to past environments within New Zealand. Evidence gained from swamp kauri can tell us about past climates and ecosystems, and how New Zealand developed. It is also a record of how important kauri was to Northland.	11/7/2016 11:27 AM
12	It is a historic record of previous kauri ecosystems and can tell us much about conditions and forest ecosystems from the past. It is a finite resource and if harvested should be used wisely for high value commodities. All kauri has very high cultural value to Maori, especially to northern New Zealand Iwi.	11/7/2016 6:53 AM
13	A finite resource that needs to be preserved for future generations	11/7/2016 5:56 AM
14	kauri is a cultural icon as well as a keystone species. Swamp kauri in it's self is scientific and cultural treasure.	11/4/2016 7:12 AM
15	It is a finite NZ Taonga and it's extraction can be very damagng to the local environment.	11/3/2016 10:03 AM
16	Why should we be selling off our heritage.	11/3/2016 7:20 AM
17	It can be used for its beauty in the manufacture of products.	11/2/2016 11:29 AM
18	Because it is a valuable historical product and as such needs to be monitored closely	11/2/2016 9:59 AM
19	It is a valuable finite resource that can provide work for New Zealanders adding value to it. It is also a valuable resource for scientific study and shouldn't be exported in raw form.	10/31/2016 7:38 AM
20	Required to understand the hsitoric distribution of the forests and their genetic distinctiveness. there are economic uses but the distruction of all sites is not justified to provide tables and wooden bowls.	10/31/2016 7:15 AM
21	it's a finite natural resource, rich in cultural associations	10/28/2016 2:47 PM
22	Swamp kauri is one of the few trees in New Zealand that provides a long-term record of past environmental conditions. As there are so few long-term records of such an annual nature in the Australasian region this is a valuable resource both to New Zealanders and to the international science community. Also they are beautiful majestic trees with value as a natural species.	10/27/2016 3:08 PM
23	A past climate and biological data source. Specifically, I am concerned that machine extraction of swamp kauri may damage important archaeological sites and deposits.	10/26/2016 9:36 AM

24	It is an internationally unique scientific resource for developing palaeoclimate proxies. It can also be used to build unique furniture.	10/25/2016 6:13 AM
25	It is a scarce and finite resource and needs to be managed sustainably so that there is still some for future generations.	10/24/2016 9:40 PM
26	Scientific research. Finite resource. NZ and local economies are missing out on it true Valuable	10/21/2016 1:39 PM
27	It is a rare and special resource, and its commerical extraction and export shoudl be appropriately managed	10/17/2016 1:40 PM
28	A finite resource that is in a very fragile environment	10/17/2016 1:35 PM
29	It is a legacy, as important and as relevant as kiwi. We don't sell our legacy	10/16/2016 3:57 PM
30	This is a limited resource which should be preserved for future generations of NZ's. I makes beautiful turned objects/furniture and with a value added approach this will have great economic benefits.	10/16/2016 11:25 AM
31	Natural Ancient resource for Crafting found NO WHERE else in the World	10/12/2016 8:30 PM
32	It is a unique resource for present and future NZers	10/12/2016 7:56 PM
33	It destroys wetlands to mine it	10/12/2016 6:35 PM
34	As a woodturner, items produced from from swamp kauri are the most sort after items. If this product continues to be exported in large quantities there will be no stock left for local crafts persons.	10/12/2016 6:20 PM
35	Important culturally, scientifically and as a resource of kauri for future generations	10/12/2016 5:53 PM
36	Specific to NZ with a historical significance and a finite supply	10/12/2016 5:05 PM
37	it is a taonga and kaitiaki	10/12/2016 4:57 PM
38	It is a part of our heritage- removing it destroys the ecology.	10/12/2016 4:07 PM
39	Provides unique scientific archive of past climate changes potentially at an annual resolution. Also provides unique tree-ring record for calibrating radiocarbon timescale during period c. 12000 to 60,000 years ago when elsewhere there is little/no wood available for such a calibration because of ice cover or cold conditions limiting tree growth.	10/12/2016 3:51 PM
40	It should be used for crafts and furnisher in this county only,	10/12/2016 2:20 PM
41	It is a unique iconic non-renewable resoure.	10/12/2016 12:23 PM
42	Swamp Kauri is, if managed properly could be a source of income for present and future generations, as well as a valuable source of information in the study of past and future climate change	10/12/2016 11:22 AM
43	It's a limited resourse	10/12/2016 11:22 AM
44	Because it is a valuable historical product and as such needs to be monitored closely	10/12/2016 10:40 AM
45	It is a finite resource. Kauri stands are dying.	10/12/2016 10:36 AM
46	the oldest workable timber in the world	10/12/2016 10:21 AM
47	XX	10/11/2016 2:07 PM