



Te Kotahi
Research Institute

Intellectual Property, Mātauranga Māori, and Māori Data

Report prepared for Science for Technological
Innovation National Science Challenge &
Genomics Aotearoa

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Executive Summary

This literature review has been conducted to consider the various national legislation and international agreements that comprise New Zealand's Intellectual Property Rights (IP) regime. It will evaluate if and how such legislation and agreements protect and enable Māori IP rights and interests with respect to Māori data, genomic data and mātauranga Māori. The review also identifies some mechanisms that might also enhance Māori control of these types of data.

The Westminster approach of legislation in New Zealand and its approach to IP protection based on Copyrights, Patents and Trade Marks are juxtaposed against traditional Maori approaches of communally held ancestral knowledge (mātauranga) passed down through generations (whanaungatanga) based on guardianship and protection (kaitiakitanga) and the self-determination of use of such knowledge (rangatiratanga). Attempting to align tikanga concepts to the Westminster model of law is challenging as the two share completely different notions of ownership and responsibility. Expectations of protection, to prevent misappropriation and commercialisation by non-Māori of mātauranga Māori and Māori data, extend beyond the parameters of existing IP law, creates a similar disjunct.

Genomic Research generates data, some of which can be protected by IP, however researchers working with genetic/genomic data from taonga species have often failed to acknowledge the non-IP interests of Maori. As a result, Maori have taken it upon themselves to advocate for their rights to data through Māori data sovereignty discourse as well as create guidelines for culturally appropriate genomic research with explicit references to data security and management (e.g. Te Mata Ira, Te Nohonga Kaitiaki). Other extra-legal options, such as Biocultural Labelling to alert users where particular data has Māori rights and/or interests, are emerging to maintain create durable provenance data and connect next users of data with the responsible Indigenous communities.

Though the intellectual property regime in New Zealand may provide some protections, there are still significant areas where the legal system does not provide sufficient protections for Māori data, taonga species and mātauranga. The UN Declaration on the Rights of Indigenous Peoples provides a framework of international support for Indigenous rights, but local government and other home-grown mechanisms are important to enable Māori governance of data. Local approaches Māori Data Sovereignty and Māori Data Governance afford Maori the opportunity to be directly involved as kaitiaki of their mātauranga and assert rangatiratanga over data and its use.

Key Concepts

Taonga

Taonga is anything that is treasured including tangible things (such as land, waters, plants, wildlife and cultural works) and intangible things (such as language, identity, and culture, including mātauranga Māori itself).¹ Taonga can also include tangible products of mātauranga Māori – traditional artistic and cultural expressions that we will call taonga works.² Taonga and taonga-derived works are defined as follows:³

- A taonga work is a work, whether or not it has been fixed, that is in its entirety an expression of mātauranga Māori; it will relate to or invoke ancestral connections (whakapapa), and contain or reflect traditional narratives or stories. A taonga work will possess mauri and have living kaitiaki in accordance with tikanga Māori.
- A taonga-derived work is a work that derives its inspiration from mātauranga Māori or a taonga work, but does not relate to or invoke ancestral connections (whakapapa), nor contain or reflect traditional narratives or stories, in any direct way. A taonga-derived work is identifiably Māori in nature, but has neither mauri nor living kaitiaki in accordance with tikanga Māori.

Another important taonga are taonga species – the unique characteristics of indigenous flora and fauna and the natural environment of this country more generally.⁴

Māori Data

Māori data are data that are produced by Māori, and data that are about Māori and the environments we have relationships with. Data are a living tāonga and are of strategic value to Māori. Māori data include but are not limited to:⁵

- Data from government agencies, organisations and/or businesses
- Data about Māori that are used to describe or compare Māori collectives
- Data about Te Ao Māori that emerges from research

Mātauranga Māori

Mātauranga Māori (MM) refers to the Māori world view, including traditional culture and knowledge).⁶ MM was stated in the WAI262 report as including:⁷

Mātauranga Māori incorporates language, whakapapa, technology, systems of law and social control, systems of property and value exchange, forms of expression, and much more. It includes, for example, traditional technology relating to food cultivation, storage, hunting and gathering. It includes knowledge of the various

¹ Waitangi Tribunal *Ko Aotearoa tēnei: a report into claims concerning New Zealand law and policy affecting Māori culture and identity* (WAI 262 Volume 1 Legislation Direct 2011) at 23.

² At 17.

³ At 99–100.

⁴ At 17.

⁵ “Te Mana Raraunga” Te Mana Raraunga <<https://www.temanararaunga.maori.nz/>>.

⁶ Waitangi Tribunal, above n 1, at 17.

⁷ At 22.

uses of plants and wildlife for food, medicine, ritual, fibre, and building, and of the characteristics and properties of plants, such as habitats, growth cycles, and sensitivity to environmental change. It includes systems for controlling the relationships between people and the environment. And it includes arts such as carving, weaving, tā moko (facial and body tattooing), the many performance arts such as haka (ceremonial dance), waiata (song), whaikōrero (formal speechmaking), karanga (ceremonial calling or chanting), and various rituals and ceremonies such as tangihanga, tohi (baptism), and pure (rites of cleansing).

Genomic Data

A genome is an organism's complete set of DNA including all of its genes.⁸

'Genomic data' is a broad term referring to sequenced DNA that can be in the form of raw data derived from sequencing, a person's genome in whole or in part (whole assembled genome sequences or whole exome sequences – the genes that encode proteins), or individual DNA variations.⁹

Digital sequence information (DSI) is data that are derived from the sequencing and analysis of genetic information in cells.¹⁰

Genomic Research

Genetic research investigates the influence of inherited genetic variation on specific characteristics. Genetic research in a health context usually involves correlating either DNA sequence variants with health outcomes.¹¹

Genomics refers to the study (including technologies) of the entire genome of an organism, including the physical arrangement of the genome.

Genomic Research represents a new frontier for research, providing the platform for the introduction of personalised or precision medicine and pharmacogenomics. While genetic research looks at the function of specific genes, genomic research looks at the functions of groups of genes and their interactions with the environment. Technology is constantly evolving and next generation 'omics' research including proteomics, metabolomics, transcriptomics, and epigenetics is becoming part of the research environment.¹²

⁸ Thomas Finnegan and Alison Hall *Identification and genomic data* (2017) at 11.

⁹ At 11.

¹⁰ Jon Ambler and others "Including Digital Sequence Data in the Nagoya Protocol Can Promote Data Sharing" [2020] *Trends in Biotechnology* at 3.

¹¹ Maui Hudson and others *Te Mata Ira* (Te Mata Hautū Taketake – Māori & Indigenous Governance Centre University of Waikato, 2016) at 41.

¹² At 1.

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Introduction

In 2019, Lida Ayoubi produced a research report: *Intellectual Property Commercialisation and Protection of Mātauranga Māori in New Zealand Universities*. The report reviewed the various universities policies of mātauranga Māori in the process of commercialisation. The report concluded:¹³

- To protect Māori interests, in line with the recognition of their rights in mātauranga, it is recommended that universities adopt appropriate and effective identification and assessment practices when developing and commercialising intellectual property.
- To ensure that Māori input is part of the commercialisation decision making, it is recommended that a competent authority, in the form of an individual or team, is available to assist the universities' IP and commercialisation teams.
- To complement the abovementioned mechanisms for safeguarding mātauranga interests in IP commercialisation, it is recommended that universities' IP or other relevant policies introduce monitoring and enforcement measures.
- Finally, it is recommended that NZ universities cooperate to maximise the impact of their efforts for protection of mātauranga interests through ensuring consistency of their policies and practices.

However, around this piece of research is a need to surround with a fuller investigation regarding the rights and interests of Māori and their rights and interests. It is necessary to consider the various legislation that makes up the Intellectual Property Rights (IPR) regime. Evaluation of the legislation enables a view of whether and how they protect and enable Māori rights and interests.

This review seeks to consider how Māori rights and interests are protected within the IP regime and what is required to capture areas where it is lacking. There is a particular focus on data and genomic data. It will also investigate mechanisms that are possible to fill in the gaps that are not provided for under the IPR regime.

Ko Aotearoa Tēnei: WAI 262

Before entering the current systems of IPR in Aotearoa New Zealand, it is important to note the critical report, *Ko Aotearoa Tēnei: WAI 262* (hereafter the WAI262 report), that outlines Māori rights and interests regarding intellectual property and taonga and genomic data. The report was initially lodged in October 1991 by 6 claimants¹⁴ to the Waitangi tribunal that has mandated with considering and making recommendation regarding any breaches of the Treaty of Waitangi 1840, something that is regarded as New Zealand's founding document.¹⁵ It finally came out in 2011 as two volumes.¹⁶ The focus of the report was to evaluate the

¹³ Lida Ayoubi *Intellectual Property Commercialisation and Protection of Mātauranga Māori in New Zealand Universities* (2019) at 23–29.

¹⁴ "Ko Aotearoa Tēnei: Report on the Wai 262 Claim Released" Waitangi Tribunal Te Rōpū Whakamana i te Tiriti o Waitangi <<https://waitangitribunal.govt.nz/news/ko-aotearoa-tenei-report-on-the-wai-262-claim-released/>>.

¹⁵ Fleur Adcock "Diluted Control: A Critical Analysis of the WAI 262 Report on Maori Traditional Knowledge and Culture" in Matthew Rimmer (ed) *Indigenous intellectual property: a handbook of contemporary research* (Edward Elgar Publishing, Northampton, MA, 2015) at 497.

¹⁶ Waitangi Tribunal, above n 1; Waitangi Tribunal *Ko Aotearoa tēnei: a report into claims concerning New Zealand law and policy affecting Māori culture and identity* (WAI 262 Volume 2 Legislation Direct 2011).

“place of Māori culture, identity and traditional knowledge in New Zealand’s laws, and in government policies and practices.”¹⁷

The claimants that led to the report had concerns relating to “... the misuse and misappropriation of taonga works and mātauranga Māori by non-kaitiaki, and to the inability of kaitiaki to benefit commercially from the use of their own cultural creations when they wish to do so in accordance with their tikanga.”¹⁸ They argued that the IP system did not prohibit offensive treatment of mātauranga Māori, and that non-kaitiaki were able to acquire rights in mātauranga without the consent of or any benefit to kaitiaki.¹⁹ Tribunal found that the failure of New Zealand’s IP laws to adequately protect mātauranga Māori, as a taonga under the Treaty, was evidenced and further entrenched by New Zealand’s IP regime and “demonstrate[s] the dissonance between the kaitiakitanga of Māori communities and the Pākehā system of IP rights.”²⁰ The key to the Tribunal’s reasoning is the kaitiaki relationship inherent in Māori cultural works and expressions.²¹ The report highlighted that the guiding principles of kaitiakitanga on the one hand and property rights on the other are really different ways of thinking about the same issue—that is, the ways in which two cultures decide the rights and obligations of communities in their created works and valued resources.²² The Tribunal also explained that ‘IP rights are never absolute’, and as such there needs to be a transparent and principled mechanism to balance the interests of Māori with those of other participants in New Zealand’s commercial and cultural life.²³

Some argue that the report hit the middle-ground excluding historical context, by refusing to address constitutional issues and by rejecting claimant assertions about ownership of taonga.²⁴ He stated that the report enabled the Crown to state that as the Wai 262 Report had explicitly rejected [the ownership] approach in favour of negotiated partnership principles based on kaitiakitanga.”²⁵ While other highlight that the report illustrated the failings of the Crown to uphold the Treaty of Waitangi. The report and the reality afterward indicated that under the proposed reforms, Māori will “rarely be able to exercise full authority and control over their taonga works, taonga species, and associated mātauranga Māori” and much of the protection is only through a weaker consultative and advisory body.²⁶ The IP bodies have not served Māori well in the past. Despite the fullness and importance of the report, it does not recommend a changing or overhaul to the IP law system in New Zealand.²⁷ For example, if something is in the public domain, it can only be prevented if it is being used in an offensive way and there are no requirements for provisions of benefit-sharing.²⁸ While

¹⁷ “Ko Aotearoa Tēnei: Report on the Wai 262 Claim Released”, above n 14.

¹⁸ Tai Ahu, Amy Whetu and James Whetu “Mātauranga Māori and New Zealand’s intellectual property regime—challenges and opportunities since Wai 262” (2017) 8 NZIPJ 79 at 80.

¹⁹ At 80.

²⁰ At 80.

²¹ At 80.

²² Barbara Sullivan and Lynell Tuffery-Huria “New Zealand: Wai 262 report and after” (2014) 9 Journal of Intellectual Property Law & Practice 403 at 404.

²³ At 404.

²⁴ David V Williams “Ko Aotearoa Tenei: Law and Policy Affecting Maori Culture and Identity” (2013) 20 International Journal of Cultural Property 311 at 323.

²⁵ At 325.

²⁶ Adcock, above n 15, at 509.

²⁷ At 512–513.

²⁸ At 513.

an invention or plant variety that interferes with the kaitiaki relationship with taonga species may not be denied protection under the patent or Plant Variety Rights (PVR) schemes, it does not prevent the commercial exploitation of the invention or PVR.²⁹ Lastly, the chapter notes that Māori only have ‘interests’ (“an inherent morality that is absent from other interests”) and not ‘rights’ (“connected with legal duties”).³⁰

Intellectual Property Legal Perspective

To put the WAI262 report in context, it is important to understand the current IP system in New Zealand. The system that is currently in place is one that was brought in by England and has been upgraded due to other international instruments that New Zealand is party to. Some of these, such as the Plant Varieties Act is currently in the review process at present.

Alongside the changes in sovereign states to nation-states were the changes in economic and social order with the private patronage in the arts, science, and education meaning that artists and writers no longer needed to rely solely on ecclesiastical or regal backing.³¹ Wealth as well as title came to define social class but rather than solely on birth, it was now possible to achieve wealth through individual effort and skill and therefore the rights in their product of their labour was worthy of protection.³² These historical streams created a shift in the balance of power between individual and community.³³

Since the 1300s, intellectual property has been a mechanism to protect innovation and property rights of those who created and own the works.³⁴ The early forms protected the guilds (such as printers and publishes) to hold privileges and enforce their monopolies, though over it there was a shift to enable privileges to be granted to the individuals.³⁵ Primarily, the core justification is economic where IP rights benefit those who finance the works and not always the inventor.³⁶

The broad term ‘intellectual property’ refers to a group of exclusive rights which protect specific creations of the human mind [including everything from an inventive activity that has industrial or commercial application, to a work of art or literature, a symbol, or a design].³⁷ The IP rights relate not to the physical machine, painting, book, or logo but confer certain privileges over “aspects of the ideas, expressions, knowledge, or information contained in these things.”³⁸ IP rights were designed to encourage and reward creativity and innovation in science, technology, and the arts, though this is debated whether it actually stifles creativity.³⁹

²⁹ At 514.

³⁰ At 514–515.

³¹ Waitangi Tribunal, above n 1, at 47.

³² At 47.

³³ At 47.

³⁴ Frank D Prager “A History of Intellectual Property from 1545 to 1787” (1944) 26 J Pat Off Soc’y 711.

³⁵ Waitangi Tribunal, above n 1, at 47.

³⁶ At 49.

³⁷ At 48.

³⁸ At 48.

³⁹ At 49.

Garrity in his article “Conflict between Maori and Western Concepts of Intellectual Property” at risk of oversimplifying the Western system described it as follows:⁴⁰

At the risk of over-simplification, Western legal tradition and philosophy has historically placed fundamental importance on the exploitation of resources through an extraction of the benefits they contain. This necessitates division, distribution, and apportioning of “bundles of rights” in relation to the resources. In conjunction with this is the fundamental proposition that property must be compartmentalised into separate physical components to further facilitate the allotment of appropriate rights and interests. Williams suggests:⁴¹

[that] the genius of the Western legal tradition is its ability to deconstruct resources whether they be land or other resources, to separate them, subdivide them and apportion rights or interest in the parts ... [rights to certain resources within the land are divided as between the State and the landowner or third party transferees.

As a consequence of such a view, knowledge of what is actually incorporated in the concept of ownership becomes vital. Western discourse argues that this notion involves “[t]he exclusive right to use, possess, and dispose of property...” Resources are attributed economic value only. They are “things” to be owned, exploited and eventually exhausted. Undoubtedly, the current Western intellectual property regime conforms with such ideals. Compartmentalisation and distribution of rights in the intellectual property realm is common place.

In New Zealand, the IP law system centres around several pieces of legislation including the *Trade Marks Act 2002*, *Patents Act 2013*, *Copyright Act 1994*, *The Designs Act 1953*, *the Geographical Indicators (Wine and Spirits) Registration Act 2006*, and *the Plant Variety Rights (PVR) Act 1987*. Each of them is enacted to protect particular elements of creativity and innovation. A summary is noted in the table below:

Act	Applications	Maori Provisions	Recommendations
Copyright Act 1994	Protects artistic and literary work from unauthorised copying, as owner enjoys its full rights and privileges	No provision for Maori interests or the Treaty of Waitangi	Currently under review. Should incorporate WAI 262 recommendations
Patents Act 2013	Grants exclusive rights to exploit the invention and authorise others to use it	Provides for a Māori Advisory Committee (MAC) to consider patents, decisions not binding	Reform to account for Maori concerns, and ensure the MAC is made of experts and their decisions are binding
Trade Marks Act 2002 and The Designs Act 1953	Protects brand names and logos used on goods and services.	Provides for a MAC to consider trademarks, and consider whether they are likely to be offensive to Māori. Decisions not binding	Definition of offensive to Māori should be provided, MAC needs broaden mandate and binding decisions

⁴⁰ Brian Garrity “Conflict between Maori and Western Concepts of Intellectual Property” (1996–1999) 8 Auckland U L Rev 1193 at 1193–1194.

Toi Iho	Trademark for Maori artworks, wide scope for qualification.	Does not protect the kaitiaki interest in taonga works	Artists' personal brands should be utilised, and remove need to submit for appraisal.
Geographic Indicators	Geographic Indicators (GI) are signs used on products that originate from a particular location. This is usually for the qualities and reputation the location's products have.	Provides for a MAC to consider use of GI, and consider whether they are likely to be offensive to Māori. Decisions not binding	Definition of offensive to Māori should be provided, MAC needs broader mandate and binding decisions. More heed given to kaitiaki relationships needed
Plant Variety Rights Act	Grants the exclusive right to produce for sale and to sell propagating material of the variety.	In respect of the CPTPP obligations, New Zealand has the right to adopt any measures that it deems necessary to protect indigenous plant species in fulfilment of its obligations under the Treaty of Waitangi	MBIE currently reviewing law to comply with CPTPP
Trade Secret	protection of proprietary information against unauthorized commercial use by others. Found in contract law and enforced by the Crimes Act 1961.	No provision for Maori interests or the Treaty of Waitangi	Legislation governing trade secrets should be formed with specific provision for Māori.

Table 1: Summary of current IP framework and future recommendations for development

There were some pieces of legislation that are indirectly related to IPR and taonga species. Examples of these are Animal Products Act 1999, Animal Welfare Act 1999, Wild Animal Control Act 1977, and the Agricultural Compounds and Veterinary Medicines Act 1997. None of these Acts (legislation) had provision for the protection of Māori rights and interests. There is a need to implement the Waitangi Tribunal Report's recommendations in all of the areas affecting Māori rights and interests relating to IPR that have been identified in the WAI262 report.

As can be seen from the above summary, it is clear that within the laws governing IP do not contain specific provisions for Maori, Maori interests or the Treaty of Waitangi apart from the formation of Maori Advisory Committee (MAC). These committees have no binding powers, and are limited to discussing only what may be considered offensive to Maori. The meaning of 'offensive' in relation to these Acts has not been defined, and so may have potential for broad scope in their application. However, as these committees have no binding powers, as their name suggests they are merely advisory. This means overall that any advice given by the MAC can be overruled, and provides no real protection for Maori and their interests. Even with the recommendations made within the WAI262 report, very little substantive change has yet been made.

Below is a more in-depth analysis of each of the IPR legislation. It details what each piece of legislation covers and whether it protects Māori rights and interests and if so, how.

Copyright Act

The *Copyright Act 1994* protects artistic and literary work from unauthorised copying. The Act grants creators of works a bundle of exclusive rights with the primary one being the ability to prevent others making copies of those works.⁴¹ Copyright is considered as property and so it is not the author, but the owner has the rights and privileges of that property, for example, an employer will usually own copyright in a work created by an employee or a publisher of the writer.⁴²

Unlike other forms of IP law, copyright does not require registration and it is invested in the owner as soon as it is created providing it meets one of three criteria:⁴³

- falls within one of the categories of copyright work listed in section 14 of the Copyright Act;
- is original; and
- in some instances, is written, recorded or fixed in some material form.

The current Act makes no mention regarding issues to do with Māori rights and interests connected with traditional knowledge, for example. Moreover, the Act does not refer to any obligations under the Treaty of Waitangi. The Act, though, is currently under review. The issues paper for the review of the Copyright Act 1994, has a section concerning the recommendations of the WAI 262 Waitangi Tribunal report.⁴⁴ It has highlighted the issues the tribunal found within the IP system and the recommendations to remedy the gaps.

Patents Act

The *Patents Act 1953* initially set out the regulations regarding the requirements for the registration, ownership and maintenance of patents. This has largely been repealed. The current Act, the *Patents Act 2013*, now contains the up-to-date requirements for the registration, ownership and maintenance of patents. A Patent is personal property, s 17(1) and the patent gives the patentee the exclusive rights, during the term of the patent, to exploit the invention and the rights to authorise another person to exploit the invention in s 18(1).

As with Trade Marks, the legislation provides for a Māori Advisory Committee to consider patents (Patents MAC). The members are appointed by the Commissioner of Patents under section 225 of the Patents Act 2013 and the members of the committee are noted on the IPONZ website.⁴⁵ The committee considers patents that “address Māori concerns relating to the granting of patents for inventions derived from indigenous plants and animals or from Māori traditional knowledge,” as noted in section 3 of the Act.

⁴¹ Waitangi Tribunal, above n 1, at 54.

⁴² At 54.

⁴³ At 54.

⁴⁴ Innovation & Employment Ministry of Business *Issues Paper: Review of the Copyright Act 1994* (Ministry of Business, Innovation and Employment (MBIE) 2018) at 109–117.

⁴⁵ Ministry of Business Employment Innovation and “Māori Advisory Committees” (2020) Intellectual Property Office of New Zealand <<https://www.iponz.govt.nz/about-ip/maori-ip/maori-advisory-committees/>>.

In the Article, The patentability of Maori Traditional Medicine and the Morality Exclusion in the Patents Act 1953, Young notes that the Māori concerns need to be addressed, and although this was written prior to the 2013 Act, the comments are still relevant.⁴⁶ The ultimate would be a *sui generis* system specifically designed to accommodate traditional Maori knowledge, but a less complete form would be to reform the Patent Act to account of Māori concerns.⁴⁷ Utilising the morality clause in one possibility but would have to be practically workable, politically acceptable and consistent with New Zealand’s international obligations.⁴⁸ It would require the patent panel to have Māori experts rather than only having an advisory Māori Board.

Sullivan and Tuffery-Huria. They note that the 2013 Act requires the appointment of a ‘Maori advisory committee’ that advises on whether a claimed invention is derived from Maori traditional knowledge or from indigenous plants or animals, and if so, whether the commercial exploitation of that invention is likely to be contrary to Maori values.⁴⁹ However, they also note that the committee is not required to advise on novelty, inventive step or utility issues.⁵⁰ The commissioner is not bound by that advice. The complete specification may not necessarily include, though the regulations could require them to, prescribed information include any Maori traditional knowledge relied on by the applicant. There is no provision in the legislation for the advisory committee to have the ability to revoke a patent.⁵¹

Trade Marks Act 2002 and The Designs Act 1953

The purpose of the *Trade Marks Act 2002* is to protect against brand names and logos used on goods and services. Trade Marks have value to organisations and to protect it and the value it holds within their organisation. The basis and requirements for trademarks are outlined in *Ko Aotearoa Tēnei*.⁵²

The Trade Marks legislation does have some protection of Māori interests. Section 2 of the Act affirms that the purpose of the Act is to “address Māori concerns relating to the registration of trade marks that contain a Māori sign, including imagery and text.” However, the Act does not define what is offensive to Māori.

To achieve this, the Act includes section 178 which enables a Māori Advisory Committee under the Commissioner to consider trademarks that appears to be a derivative of a Māori sign, including text and imagery, or, is likely to be, offensive to Māori. The members of the Māori Trade Marks Advisory Committee are appointed by the Commissioner of Trade Marks under section 177 of the Trade Marks Act 2002. Members of the Committee are noted on the IPONZ website.⁵³

⁴⁶ Susan Young “The Patentability of Maori Traditional Medicine and the Morality Exclusion in the Patents Act 1953” (2001) 32 Victoria U Wellington L Rev 255.

⁴⁷ At 274.

⁴⁸ At 274–275.

⁴⁹ Sullivan and Tuffery-Huria, above n 22.

⁵⁰ At 406.

⁵¹ At 406.

⁵² Waitangi Tribunal, above n 1, at 58–59.

⁵³ Employment, above n 45.

Sullivan and Tuffery-Huria in *New Zealand: Wai 262 report and after* highlight that the Māori advisory committee should have a broader mandate and its role strengthened as the commissioner is not obliged to follow the advisory committee's advice.⁵⁴ The committee only considers signs that come before the committee for trademarks and designs, that is, there are others possibly being used that have not been considered by the committee.⁵⁵ The Waitangi Tribunal also suggested that there should be a commission to protect, and give effect to, the kaitiaki relationship with taonga works and their associated mātauranga Māori who would have enough authority and control over their taonga works to enable them to meet the obligations and enjoy the benefits of the [kaitiaki] relationship'.⁵⁶

Toi Iho—Māori-made trade mark

The Toi Iho scheme was developed in February 2002 as a trade mark for quality and authentic Māori artworks under the government's art body, Creative New Zealand. Creative New Zealand decided to stop investing in this brand. Creative New Zealand has publicly stated that the Toi Iho concept 'failed to deliver on its promise in terms of increasing sales of Māori art by licensed artists and stockists (retailers)' and accordingly 'the funds that supported its operation will be reallocated to other Creative New Zealand Māori arts development initiatives'.²⁹ Anecdotally, it was said that some renowned Māori artists considered it inappropriate that they should be required to submit work for appraisal by their peers, and considered that use of the Toi Iho brand would not be an advantage because they had established reputations. A core group of supporters of the Toi Iho concept were able to convince Creative New Zealand to transfer all rights in this trade mark to a new entity entitled Toi Iho Charitable Trust (<http://www.toiho.co.nz/>).⁵⁷

Designs

The Designs Act 1953 enables the registration of a design such as Lego or furniture shape, or even wrapping. To qualify, a⁵⁸

...design must have features of shape, configuration, pattern, or ornament applied to an article through an industrial process. The finished product must appeal to the eye, but this requirement is very general in nature and does not call for any subjective judgement about beauty or aesthetic quality.

"Alongside this, it also must be new or original.

As copyright already covers design drawings and prototype models that are used in industrial design processes, it is more frequently relied on for protection than the registered design right. However, like copyright law, the system of registered designs does not protect the kaitiaki interest in taonga works.⁵⁹

⁵⁴ Sullivan and Tuffery-Huria, above n 22, at 405.

⁵⁵ At 405.

⁵⁶ At 405.

⁵⁷ At 407.

⁵⁸ Waitangi Tribunal, above n 1, at 58.

⁵⁹ At 58.

Geographic Indicators

Unlike in other countries, New Zealand's current Act on geographic indicators are limited to a specific area only: the *Geographical Indicators (Wine and Spirits) Registration Act 2006*. The Act does have some provisions to protect Māori rights and interests. For example, section 13A states that "The Registrar must not register a geographical indication if its use in relation to wine or spirits or its registration would, in the opinion of the Registrar, be likely to offend a significant section of the community, including Māori." Moreover, section 39A states that a "function of the advisory committee appointed under [section 177\(1\)](#) of the Trade Marks Act 2002 to advise the Registrar whether the use of a geographical indication in relation to wine or spirits, or the registration of the geographical indication, is, or is likely to be, offensive to Māori."

The report *Māori Interests and Geographic Indicators: Strategic Intellectual Property Management enabling Māori development* has well documented how other places, in particular Europe, have used geographic indicators.⁶⁰ There is an important suggestion that it could be applied more to protect Māori rights and interests.

Plant Variety Rights (PVR) Act

A grant of plant variety rights for a new plant variety gives you the exclusive right to produce for sale and to sell propagating material of the variety.⁶¹ Plant variety rights (PVRs) are presently available for varieties of any kind of plant other than algae and bacteria.⁶² The word "variety" is used not in the sense of a "botanical variety", but rather as being synonymous with "cultivar" or "cultivated variety."⁶³ In the case of vegetation, propagated fruit, ornamental and vegetable varieties, Plant Variety Rights give you the additional exclusive commercial right to propagate the variety for the commercial production of fruit, flowers or other products of the variety.⁶⁴

The current law protecting new plant varieties is the *Plant Variety Rights (PVR) Act 1987*. It is currently under review. It began review in 2017. A central reason for the review was not only that it was over 30 years old, but also that the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) "commits New Zealand to make changes to the Plant Variety Rights Act 1987 to either give effect to, or accede to, the most recent version of the International Convention for the Protection of New Varieties of Plants (UPOV 91)."⁶⁵ The latest version of the Act is of 13th January 2020, but it has not yet incorporated the outcomes of the review.

⁶⁰ Chris Karamea Insley, Lynell Tuffery-Huria and Penelope Gibson *Māori Interests and Geographic Indicators: Strategic Intellectual Property Management enabling Māori whānau development* (2020).

⁶¹ Ministry of Business, Innovation and Employment "Plant variety rights" (2020) Intellectual Property Office of New Zealand <<https://www.iponz.govt.nz/about-ip/pvr/>>.

⁶² Ministry of Business, Innovation and Employment, above n 61.

⁶³ Ministry of Business, Innovation and Employment, above n 61.

⁶⁴ Ministry of Business, Innovation and Employment, above n 61.

⁶⁵ New Zealand Ministry of Foreign Affairs and Trade "Māori interests" (2020) New Zealand Ministry of Foreign Affairs and Trade <<https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/cptpp/maori-interests/>>.

In September 2018, MBIE started consultation with Māori and stakeholders on the key issues in the review, including the obligations established under CPTPP.⁶⁶ When implementing this obligation, New Zealand has the right to adopt any measures that it deems necessary to protect indigenous plant species in fulfilment of its obligations under the Treaty of Waitangi.⁶⁷

At the beginning of the consultation with Māori stakeholders, MBIE produced the *Issues Paper: Review of the Plant Variety Rights Act 1987*.⁶⁸ The issues paper outlines the Act, how it works, and its purpose. In addition, in Part 4 discusses PVR and the Treaty of Waitangi focusing on the 'WAI 262 claim and findings', the 'kaitiaki relationship', and 'the kaitiaki relationship and the PVR'.

In May 2020, the Waitangi Tribunal released its report on the review of the PVR: *The Report on the Crown's review of the Plant Variety Rights Regime: Stage 2 of the Trans-Pacific Partnership Agreement Claims*. This report details the findings of Māori rights and interests under the PVR and outlines an understanding of what kaitiaki and kaitiakitanga are referring to. The report states that issues brought up before the Tribunal

range from important world view or paradigm conflicts to more practical concerns about process. The common foundation seems to be frustration that the Māori perspective is at the margins, always required to react as best it can to an agenda and timeframes set by the Crown (and others).⁶⁹

As it is the preliminary report, the later report will be important in its declaration.

Woods paper, *Patents, PVRs and Pragmatism: Giving Effect to WAI 262*, evaluated the WAI262 recommendations for patent and PVR law to achieve greater protection of Māori TK in NZ. The recommendations considered "positive" bundles of rights to supplement the predominantly anti-misappropriation measures. The larger the reforms in IP law, including PVR, the more effective the protections of Māori knowledge would be. Wood stated that "While there may be discomfort and uncertainty for the current regime, protections against third party exploitation of TK can be accommodated without alienating Western researchers or Maori groups."⁷⁰

Coulter in *Addressing the Root of the Problem: Suggested Amendments to the Plant Variety Rights Framework in New Zealand* argued that it is "impossible to grant breeders the protection over their varieties under UPOV 1991 without disregarding the recommendations of the Waitangi Tribunal in the Wai 262 Report."⁷¹ The article argues against ratifying UPOV91⁷²

⁶⁶ New Zealand Ministry of Foreign Affairs and Trade, above n 65.

⁶⁷ New Zealand Ministry of Foreign Affairs and Trade, above n 65.

⁶⁸ Ministry of Business, Innovation & Employment *Issues Paper: Review of the Plant Variety Rights Act 1987* (Ministry of Business, Innovation & Employment 2018).

⁶⁹ Waitangi Tribunal Report *The Report on the Crown's review of the Plant Variety Rights Regime: Stage 2 of the Trans-Pacific Partnership Agreement Claims* (WAI 2522 2020) at 42.

⁷⁰ Seamus Woods "Patents, PVRs and Pragmatism: Giving Effect to WAI 262" (2013) 19 Canterbury L Rev 97 at 128–129.

⁷¹ Paige Coulter "Addressing the Root of the Problem: Suggested Amendments to the Plant Variety Rights Framework in New Zealand" (2018) 24 Auckland U L Rev 121 at 148.

⁷² At 148.

It is Maori who cultivated and introduced much of New Zealand's indigenous flora; it would be a mistake if legislation fails to reflect neither this history nor the principles of the Treaty of Waitangi. As such, New Zealand should not ratify UPOV 1991, despite it leaving international breeders open to refuse New Zealanders access to their protected varieties for fear of lack of reciprocal protection. New Zealand has operated without ratifying UPOV 1991 for over 20 years. Even if this failure to ratify the Convention results in serious consequences for the plant breeding industry, another amendment can always change this in the future. For now, it is apparent that the requirements of UPOV 1991 are not suitable for the unique cultural, social and agricultural conditions of New Zealand. Working towards a solution that accommodates the needs of Maori and New Zealand's agricultural sector, as well as its environmental balance, is more important for New Zealand than accession to international standards.

Sullivan and Tuffery-Huria in *New Zealand: Wai 262 report and after* found that "while Māori have no proprietary rights in taonga species, the cultural relationship between kaitiaki and taonga species is entitled to reasonable protection."⁷³ The Tribunal concluded that the propagation, sale and export of taonga species should be restricted to kaitiaki only but is desirable to encourage businesses and individuals dedicated to the re-vegetation of New Zealand in native flora, and that such re-vegetation is consistent with the kaitiaki relationship.⁷⁴ In recommendation it suggested that the new legislation should include a power to refuse a PVR if it would affect kaitiaki relationships with taonga species; and the Commissioner of Plant Variety Rights should be supported by the same advisory committee as recommended for patents.⁷⁵

Trade Secret

A trade secret is the protection of proprietary information against unauthorized commercial use by others. The vast majority of employment agreements or contracts include clauses to protect the unauthorised passing of trade secrets on to others.

When this does occur, the Crimes Act 1961 provides a mechanism to prosecute against it. The Crimes Act in section 230 states: Taking, obtaining, or copying trade secrets

- (1) Every one is liable to imprisonment for a term not exceeding 5 years who, with intent to obtain any pecuniary advantage or to cause loss to any other person,—
 - a. dishonestly and without claim of right, takes, obtains, or copies any document or any model or other depiction of any thing or process containing or embodying any trade secret, knowing that it contains or embodies a trade secret; or
 - b. dishonestly and without claim of right, takes or obtains any copy of any document or any model or other depiction of any thing or process containing or embodying any trade secret, knowing that it contains or embodies a trade secret
- (2) For the purposes of this section, trade secret means any information that—
 - a. is, or has the potential to be, used industrially or commercially; and
 - b. is not generally available in industrial or commercial use; and

⁷³ Sullivan and Tuffery-Huria, above n 22, at 406.

⁷⁴ At 406–407.

⁷⁵ At 407.

- c. has economic value or potential economic value to the possessor of the information; and
- d. is the subject of all reasonable efforts to preserve its secrecy.

Trade secrets does not have a specific piece of legislation and it is covered in most contracts or employment contracts. Where a breach of trade secret has occurred, the crimes Act 1961 has a particular section to prosecute trade secret violations. There is nothing noted in the Crimes Act itself specifically mentioning mātauranga Māori.

Indirectly Affected Legislation to Intellectual Property

Some of these pieces of legislation do not contain any section that protects Māori rights and interests, in particular Māori data and genomic information, for example, *the Animal Products Act 1999*, *Animal Welfare Act 1999*, *the Wild Animal Control Act 1977*, and the *Agricultural Compounds and Veterinary Medicines Act 1997*. There are some pieces of legislation that relate Māori issues to specific contexts such as “pest management, Māori land and land notices” in the *Biosecurity Act 1993* and Māori land, and population management plans in the *Wildlife Act 1953*.

The *Hazardous Substances and New Organisms Act 1996* is a significant piece of legislation that concerns the protection of the “environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms” (section 4). It provides a definition of ‘new organism’ in section 2A. In section 2A(3), it states that “Despite the provisions of this section, an organism present in New Zealand before 29 July 1998 in contravention of the Animals Act 1967 or the Plants Act 1970 is a new organism.” Thus, according to the Act, any organism in existence prior to 1998 was a ‘new organism’. The Act does have protections for Māori rights and interests in particular sections 6(d) and 8.

Summary

Indigenous peoples and traditional customary law had a different view of ‘intellectual property’ both in Europe,⁷⁶ and in all other areas of the world. There is a growing awareness amongst Indigenous peoples including Māori that “the current western intellectual property system fails to take account of their needs.”⁷⁷ As opposed to Western IP law, kaitiakitanga right which tikanga Māori bestows on the kin group having obligations towards the creation.⁷⁸

Maori achievements of the intellectual kind are not afforded adequate protection under present copyright laws. This paper presents the view that this is mainly due to the disparity between traditional Maori and conventional Westminster intellectual property systems. The development and application of legislation premised on Western concepts of possession have

⁷⁶ Ray Corrigan “Colmcille and the Battle of the Book: Technology, Law and Access to Knowledge in 6th Century Ireland” in *Gikil 2: Workshop on the intersections between law, technology and popular culture* (19 September 2007).

⁷⁷ Young, above n 46, at 256.

⁷⁸ Waitangi Tribunal, above n 1, at 48.

little or no regard for traditional Maori concepts, and a total disregard for fundamental ideas arising out of the Treaty of Waitangi.⁷⁹

The issues of legal discourse, and in particular intellectual property, in relation to Māori culture was raised in *Maori Intellectual Property Rights and the Formation of Ethnic Boundaries*.⁸⁰ The article noted that “the notion of intellectual property rights is appealing less for reasons of material gain than because it supports Māori attempts to mark out boundaries around their social, cultural, and symbolic practices to regain their indigenous autonomy and differentiate themselves from mainstream New Zealand society.”⁸¹ The appeal to IP law is not to secure exclusive rights to a limited number of biological resources, but mainly to prevent their commercialization by non-Māori and also to stop the (mis-)appropriation of their heritage by others.⁸² In other words, a move towards indigenous sovereignty.

Genomic Data and Taonga Species

The Waitangi Tribunal recognises Taonga species of which iwi, hapū and whanau have a kaitiaki responsibility through whakapapa.⁸³ The Crown is obliged to recognise this relationship under the Treaty of Waitangi, and also to protect this relationship between Maori and these taonga species. While this kaitiaki relationship does not create an ownership right of the species itself, or any of the publicly available knowledge associated with it. Kaitiaki have rights also where commercial exploitation of mātauranga Māori has occurred.⁸⁴ In such cases, kaitiaki have an entitlement to ‘proper recognition’; which pertains to a reasonable degree of control over mātauranga Māori, and acknowledgement.⁸⁵ These however must be applied on a case by case basis depending on the circumstances. The appropriate actions to take may be to ask for consent, disclosure or consultation as sufficient actions.⁸⁶ The method to determine which action may be most appropriate, is a matter of balancing the “importance of the relationship” and “the interests of researchers or the applicants or holders of IP rights”.⁸⁷ The intention from this is to balance competing interests alongside preserving the safety and health of the kaitiaki relationship.⁸⁸ Some examples of taonga species include (but are not limited to) Manuka, Kawakawa, Harakeke, Koromiko, Pohutukawa, Kowhai ngutukaka and Tuatara.

The conflict between the westernised and tikanga concepts of property, as well as the term ‘indigenous plants and animals’ turns on the facts that taonga is a much broader term with deep meanings enshrined within tikanga Māori. It has also been suggested that the interpretation of the term ‘indigenous plants or animals’ is too narrow to effectively

⁷⁹ Garrity, above n 40, at 1193.

⁸⁰ Toon van Meijl “Maori Intellectual Property Rights and the Formation of Ethnic Boundaries” (2009) 16 IJCP 341.

⁸¹ At 343.

⁸² At 346.

⁸³ Waitangi Tribunal, above n 1, at 117.

⁸⁴ Waitangi Tribunal, above n 1; Waitangi Tribunal, above n 16, at 210–212.

⁸⁵ Waitangi Tribunal, above n 16, at 210–212.

⁸⁶ At 210–212.

⁸⁷ At 210–212.

⁸⁸ At 210–212.

encapsulate the meanings of each of the three key terms.⁸⁹ The term taonga however is a more encompassing term, but appears to have a high threshold pertaining to the acknowledgement of whakapapa to certain species. If a MAC has been formed, their role is to advise on whether a claimed invention is derived from Maori traditional knowledge or from indigenous plants or animals, and if so, whether the commercial exploitation of that invention is likely to be contrary to Maori values.⁹⁰ However, they also note that the committee is not required to advise on novelty, inventive step or utility issues. The complete specification may not necessarily include, though the regulations could require them to, prescribed information include any Maori traditional knowledge relied on by the applicant.

Genetic data has traditionally been shared openly on globally accessible databases and has led to data being more complex and valuable.⁹¹ Therefore, rangatiratanga has become increasingly important in how mātauranga Māori from taonga species are shared. The challenge of upholding Te Tiriti o Waitangi is a national one, but it is tangata whenua who ultimately have the right or interest to determine how their own whakapapa is shared.⁹² As people of Te Tiriti o Waitangi, researchers and tangata whenua can collectively make decisions regarding how whakapapa as to how genomic data is stored and accessed in a mutually beneficial way (e.g. password protection of genomic data).⁹³ For example, as one of few available decapod genomes, the kēkēwai reference genome is likely to be of interest to domestic and international researchers to address both fundamental and applied questions. Thus, we will continue to engage with relevant mana whenua regarding the ongoing security and management of these data.⁹⁴

Some sources and repositories of taonga species are research institutions and universities in New Zealand. Many of them are part of a collective called Genomic Aotearoa (GA) (<https://www.genomics-aotearoa.org.nz/about>). It is reputed to be an agile and collaboration-oriented platform at the leading edge of the ever developing fields of both genomics and bioinformatics. The nine partners which form this alliance are:

- Universities – Auckland, Massey, Otago, Waikato, Victoria University of Wellington
- Crown Research Institutes – AgResearch, ESR, Plant & Food Research, Manaaki Whenua – Landcare Research
- 30 [associate members](#) – organisations that are researchers or end users of genomics and bioinformatics.

GA is undertaking a suite of nationally significant research activities supporting New Zealand’s economic, environmental and social wellbeing. It has national collaborations, health, environment and primary production, and has funded projects across these three key research themes. The projects are underpinned by the development of a national genomics

⁸⁹ Jessica C Lai “A successful recalibration of patent law vis-a-vis miitauranga Maori? A case study of Manuka (*Leptospermum scoparium*)” in Susy Frankel (ed) *The Object and Purpose of Intellectual Property* (Edward Elgar Publishing, 2019) at 37.

⁹⁰ Sullivan and Tuffery-Huria, above n 22, at 406.

⁹¹ Levi Collier-Robinson and others “Embedding indigenous principles in genomic research of culturally significant species: a conservation genomics case study” (2019) 43 *New Zealand Journal of Ecology* at 7.

⁹² At 7.

⁹³ At 7.

⁹⁴ At 7.

data repository and bioinformatics analytical platform, and by enabling and growing the skills and capability of researchers in New Zealand. Its aim is to place Te Ao Māori at the centre of these activities, through research undertaken by and for Maori and embedding Māori management of indigenous genomics research practice and data.

Kaupapa Māori should underpin research enables rangatiratanga by providing tangata whenua with the autonomy and authority to practice and share their own culture, knowledge and other taonga in their own way.⁹⁵ Such research involves particular principles:⁹⁶

- Whanaungatanga represents our relationships with one another and enables kaupapa Māori research through the process of building and maintaining meaningful partnerships with tangata whenua that are necessary for collaborative projects and an expression of rangatiratanga.
- Kaitiakitanga includes the environment, language, culture and knowledge associated with harvesting practices and thus research that aims to enhance species recovery can facilitate more interactions with these species, allowing for the revitalisation of the associated language and practices.
- Tohunga were traditionally expert practitioners in a given field that gave direction to others and helped to develop others and the very nature of science collaboration with mana whenua achieves tohungatanga, as it builds expertise within iwi and hapū to pursue knowledge and ideas that will enable them to strengthen and grow (4).

Furthermore, whanaungatanga is realised through genuine co-development of research ideas and active engagement throughout the research process. In doing so, rangatiratanga and kaitiakitanga are also realised because the authority and sovereignty that mana whenua have over their own taonga are recognised.⁹⁷ It upholds the promises set out in Te Tiriti o Waitangi.

We have shown that using a bicultural approach enriches research. In addition to upholding the promises of Te Tiriti o Waitangi, embedding kaupapa Māori principles leads to more contextualised genomic research on taonga species thereby maintaining both the cultural and biological integrity of Aotearoa New Zealand. No reira, aukahatia tō waka, kei waiho koe hei tāwai i kā rā o tō oraka.⁹⁸

Laws Surrounding Taonga Species

Maori may have no proprietary rights in taonga species, but the cultural relationship between Kaitiaki and taonga species is entitled to reasonable protection.⁹⁹ Some of the laws currently in place governing taonga species are the Plant Variety Rights Act, the Patents Act 2013 and the Hazardous Substances and New Organisms Act 1996.

The Hazardous Substances and New Organisms Act 1996 affirms that the “relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, valued flora and fauna, and other taonga” should always be taken into consideration when

⁹⁵ At 3.

⁹⁶ At 3–4.

⁹⁷ At 4.

⁹⁸ At 7.

⁹⁹ Waitangi Tribunal, above n 16, at 210–212.

exercising functions, powers, and duties under said Act as noted in section 6.¹⁰⁰ It can also be seen that there is a clear link regarding Maori holding opposing views towards Genetically Modified Organisms and the impacts it has on tikanga as well as “tino rangatiratanga (Maori self-determination), flora and fauna, food, traditional medicinal practices, human health, intellectual property rights.”¹⁰¹ This is because “Māori values and cultural concepts continue to inform Māori perspectives on biotechnology and their regulation.”¹⁰² Much concern has also been raised towards the strategic consultation with Maori who favour towards GMO’s and their research or use.¹⁰³ An issue also raised along the same lines regards law reform in the spaces of Intellectual Property and patentability of GMO and inventions created using traditional knowledge.¹⁰⁴

It has been made clear that the Patent Act provides very little appropriate protections needed for taonga species unless a party has been successfully granted a patent over it, or the Commissioner chooses to heed advice from the Patents MAC, who have the authority to meet based on specific criteria, without the prerogative to discuss beyond these means. The interconnected nature of tikanga Māori with the environment extends well beyond the bounds of what may be simply offensive, or pertaining to only the land itself. The relationship between Māori with the flora, fauna and other taonga are interconnected, symbiotic and sacred.¹⁰⁵

The Plant Variety Rights Act 1987 however provides more insight as to any protections available, as it is currently under reform. This reform in particular looks to fulfil its obligations under the 1991 version of the International Convention for the Protection of New Varieties of Plants as well as the Treaty of Waitangi.¹⁰⁶ It is also looking to protect taonga species as a key feature of the reform.¹⁰⁷ In terms of genomic research, the protection offered by a Plant Variety Right;¹⁰⁸

covers the phenotype; the morphological characteristics (e.g. flower colour or leaf shape) or physiological characteristics (e.g. disease resistance or drought survival) of the cultivated variety. PVR protection does not protect the genotype, the underlying genetic material.

New Zealand is also bound by certain international laws and treaties including the 1992 Convention on Biological Diversity (CBD). The purpose of this Convention regards “conservation of biological diversity, the sustainable use of the components of biodiversity and the fair and equitable sharing of the benefits arising from the utilisation of genetic

¹⁰⁰ Hazardous Substances and New Organisms Act 1996 s 6.

¹⁰¹ Jessica Hutchings and Paul Reynolds *The Obfuscation of Tikanga Maori in the GM Debate* (2005) at 1.

¹⁰² Maui Hudson and others “Indigenous Perspectives and Gene Editing in Aotearoa New Zealand” (2019) 7 *Front Bioeng Biotechnol* 1.

¹⁰³ Hutchings and Reynolds, above n 101, at 5.

¹⁰⁴ At 5.

¹⁰⁵ At 8.

¹⁰⁶ “Mātauranga and Taonga Māori and the Intellectual Property System” (2020) Ministry of Business, Innovation & Employment <<https://www.mbie.govt.nz/business-and-employment/business/intellectual-property/matauranga-and-taonga-maori-and-the-intellectual-property-system/>>.

¹⁰⁷ “Mātauranga and Taonga Māori and the Intellectual Property System”, above n 106.

¹⁰⁸ Ministry of Business, Innovation & Employment, above n 68, at 7.

resources.”¹⁰⁹ While New Zealand is a party to this convention, they have not yet ratified its supplementary treaty – the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (Nagoya Protocol). This treaty would require New Zealand to first consider how it “regulates the discovery and subsequent use of genetic resources and protects mātauranga Māori in this context.”¹¹⁰ This needs to be considered first, as a key aspect of the Nagoya Protocol is regarding benefit sharing and transparency.

The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization which was established by the International Convention for the Protection of New Varieties of Plants.¹¹¹ UPOV 19 is the latest and updated convention, which New Zealand has signed but not ratified;¹¹²

... and is therefore not legally bound by it. The PVR Act is not consistent with UPOV 91 and would need to be amended if New Zealand decided to accede to UPOV 91. This may be required under the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

Once the PVR Act has been amended, it is likely New Zealand will then give effect to UPOV 19 and ratify the CPTPP.

What’s Missing in the Law?

It is clear that these laws alone are not sufficient protection for kaitiaki relationships. Patent Law in New Zealand grants exclusive private interests in a patent holder, which is in opposition to Maori concepts of ownership. Once a patent is granted, its period of exclusivity is finite, and once the patent time has lapsed, the public have complete access to this knowledge.¹¹³ This system is “based upon international standards and grants the patent owner a monopoly over the invention”,¹¹⁴ but taonga and taonga species are not an invention, nor necessarily a product by regular standards. It has been argued that taonga species are “nature and living things, tangible and intangible, all are sacred. They are not objects, they are not property, they cannot be owned.”¹¹⁵ When attempting to force tikanga concepts to fit a westernised model of law, it becomes clear that the two share completely different notions of ownership and responsibility. The kaitiaki relationship between Māori and Taonga Species was significant in the WAI262 report, which made significant recommendations on this matter, which were created so work in sync with the laws currently in place.¹¹⁶

Many pieces of legislation that would logically contain provision for Māori, do not do so, or if they do, this law is often threadbare and provides avenue for optional consultation. The Commissioner is not obliged to seek advice from the Patents MAC, and nor is their judgement

¹⁰⁹ At 21.

¹¹⁰ At 22.

¹¹¹ <https://www.upov.int/portal/index.html.en>

¹¹² Ministry of Business, Innovation & Employment, above n 68, at 19.

¹¹³ Waitangi Tribunal, above n 1, at 139.

¹¹⁴ At 139.

¹¹⁵ Lai, above n 89, at 35.

¹¹⁶ Waitangi Tribunal, above n 1, at 210–212.

binding. This is a mechanism for optional consultation only. As has been discussed, a merely advisory function is an insufficient mechanism to protect Māori interests. There is also no compulsory obligation to disclose “whether the alleges inventions are derived from Māori TK or ‘indigenous plants or animals’”,¹¹⁷ and so Māori interests may not always be identified. Making this compulsory would create an increase in disclosure.

An increase in disclosure is also important for New Zealand to consider before it is able to ratify the Nagoya Principles. When signing up to various international conventions and treaties, it is key that the full implications of each principle are considered through a tikanga lens. When signing up to more westernised concepts, this means that there must be a space for New Zealand to honour its obligations under the Treaty of Waitangi. It is not enough to have mere consultation, rather, the protection given to kaitiaki should be upheld and not given any opportunity to be diminished.

It is also important to consider the full implications of any rights or interests granted to any party over taonga species, in the sense that more thought should be given to synthetic genetic reproductions and the implications of genetic study and data collection. The places this data is held, who has access to it, and how it may be used. Once that information has been used, how should be maintained, stored and kept over time is also unclear. There is a severe lack of provision for such circumstances, and thus a lack of public clarity on their abilities to use such information. Should a synthetic genetic reproduction of a taonga species be created, this synthetic version is still connected to the natural genetic copy, yet has no provision over it. As Aroha Te Pareake Mead so aptly puts it;¹¹⁸

The practice, then, of synthetically reproducing a gene from an original for research use would not withstand cultural scrutiny, as most Maori would consider that a copy, like a mould, only exists because of an original. Without an original whakapapa, copies and variations would not exist. Isolation, reproduction or manipulation of the physical gene would not alter the perception by Māori of the whakapapa and mauri inherent and inextricable from the gene.

Another issue found in the governing of taonga species is that the relevant legislation is split between multiple Acts with very little substantial ruling. This creates complexities for kaitiaki when managing their rights and interests, as it can be hard to know exactly what their rights are and how to assert them, as well as how to know when these rights need to be asserted in the first place.

Recommendations

It has been shown that using a bicultural approach enriches research. In addition to upholding the promises of Te Tiriti o Waitangi, embedding kaupapa Māori principles leads to more contextualised genomic research on taonga species thereby maintaining both the cultural and

¹¹⁷ Lai, above n 89, at 38–39.

¹¹⁸ Hutchings and Reynolds, above n 101, at 23.

biological integrity of Aotearoa New Zealand. No reira, aukahatia tō waka, kei waiho koe hei tāwai i kā rā o tō oraka.¹¹⁹

It has been recommended within the WAI262 report that;¹²⁰

... any new PVR legislation also include a power to refuse a PVR if it would affect kaitiaki relationships with taonga species. In order to understand the nature of those relationships and the likely effects upon them, and then to balance the interests of kaitiaki against those of the PVR applicant and the wider public, the Commissioner of Plant Variety Rights should be supported by the same Māori advisory committee that we recommend becomes part of the patent regime.

On top of this, it has been recommended that;¹²¹

... each of the advisory committees (that is, the pātaka komiti, Ngā Kaihautū, and the Māori advisory committee to the Commissioner of Patents) assists in the preparation of adequate ethical guidelines and codes of conduct relevant to their field for use by those in research and development, and in the education sector more broadly. They could range in subject matter from identifying when an issue in relation to tikanga Māori arises, to locating and engaging with kaitiaki. We would expect universities, private research institutions, CRIs, DOC, ERMA, and IPONZ all to be interested in, and contributing to, the preparation of such guidelines and codes.

WAI262 has not been incorporated into law yet, despite the fact that its recommendations have been clear for years. Should the updated PVR Act incorporate these recommendations, it is unclear if they will be offered the same gravity and detail that has been given in the original report, and whether these recommendations will be given the full force of law that has been recommended.

If one also considered the merely advisory function of MACs:¹²²

Whether the Commissioner should be bound by the Committee's opinion is a different and more complicated question. The inquiry into public order/morality is a potentially broad one. Rather than making the Commissioner of Patents bound by the Committee's opinion, the legislation (possibly secondary legislation) could more clearly delineate how it is that the Commissioner is to consider the Committee's opinion, what other factors the Commissioner might consider, and when the Commissioner may decide contrary to the Committee's opinion.

¹¹⁹ At 4. (see original document we gave to maui for this as i am unsure where exactly this quote is from)

¹²⁰ Waitangi Tribunal, above n 1, at 210–212.

¹²¹ At 210–212.

¹²² Lai, above n 89, at 56.

Genomic Research

Genetics and genomics approaches for studying DNA have become invaluable tools for many biological disciplines, including the conservation of threatened species.¹²³ New technologies are rapidly expanding our ability to extract, generate and understand DNA. As these technologies become more efficient, they become more affordable and accessible too. Here, we provide a brief description of conservation genetics and genomics, and outline several necessary considerations when generating these data from taonga species.¹²⁴

Traditionally, conservation genetic studies use a small set of genetic markers scattered throughout the genome to estimate genetic diversity within and between populations in an effort to inform conservation management.¹²⁵ These strategies are generally implemented in a way that seeks to reduce adverse effects associated with small, isolated populations by minimising inbreeding and the loss of genetic diversity.¹²⁶ However, there are limitations to using only a small number of genetic markers within a genome that has millions, if not billions, of DNA base pairs, including variation at a small number of selectively neutral markers unlikely being representative of genome-wide variation. At best, using limited numbers of genetic markers will only be able to be used as a proxy for the ability of a species to adapt to changing environments.¹²⁷

High-throughput DNA sequencing is rapidly changing the way that we address conservation genetic questions. These new technologies are enabling the generation of reference genomes, as well as the characterisation of many thousands of single nucleotide polymorphisms (SNPs), for non-model species.¹²⁸ The ability to generate a large number of genome-wide markers within and among natural populations is enabling researchers to address old questions at higher resolution (estimating relatedness) and to tackle entirely new ones (characterising adaptive potential).¹²⁹

Regardless of whether researchers generate handfuls of microsatellites versus thousands of SNPs, or single reference genomes versus numerous re-sequenced genomes, the status of these data as taonga remains the same. However, researchers working with genetic and genomic data from taonga species have often failed to acknowledge this in a meaningful way. As a result, data security and management of genetic and genomic data from taonga species has become paramount and discussions from a Māori perspective are underway across Aotearoa New Zealand (e.g. SING Aotearoa - Summer internship for Indigenous peoples in Genomics, see: <https://www.singaotearoa.nz/>). These include discussions that will lead to the development of guidelines for genomic research of taonga species led by Genomics Aotearoa (Te Nohonga Kaitiaki, see: <https://www.genomics-aotearoa.org.nz/projects/te-nohonga->

¹²³ Stephanie J Galla and others “Building strong relationships between conservation genetics and primary industry leads to mutually beneficial genomic advances” (2016) 25 *Molecular Ecology* 5267.

¹²⁴ Collier-Robinson and others, above n 91, at 4.

¹²⁵ Richard Frankham, Corey JA Bradshaw and Barry W Brook “Genetics in conservation management: Revised recommendations for the 50/500 rules, Red List criteria and population viability analyses” (2014) 170 *Biological Conservation* 56.

¹²⁶ Frankham, Bradshaw and Brook, above n 125.

¹²⁷ Collier-Robinson and others, above n 91, at 4.

¹²⁸ Galla and others, above n 123.

¹²⁹ Collier-Robinson and others, above n 91, at 4.

kaitiaki). In the meantime, there are growing initiatives in Aotearoa New Zealand that seek to manage access and storage of genomic data from taonga species with appropriate kaitiakitanga.¹³⁰

International Instruments UNDRIP and the Nagoya Protocol

The Ko Aotearoa tēnei report, or Wai262 report, was a ground breaking report. It strongly stated Māori rights and interests in intellectual property and taonga. Though the report stance was based in the Treaty of Waitangi, there are also international instruments that also support Māori rights and interests in (genomic) data and intellectual property. These connect back to the International Bill of Rights which is a central foundation of the UN.

A central instrument upholding such rights and interests is the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).¹³¹ The Articles of 3, 5, and 23 clearly provide the right to self-determination that includes the right to control and determine what for them constitutes economic, social and cultural development.¹³² Moreover, UNDRIP upholds Indigenous people's rights and interests in their data and genomic data and resources. Article 31 declares:¹³³

1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.
2. In conjunction with indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

States that have signed and ratified the Declaration have an obligation to ensure their laws and policies in partnership with indigenous peoples have effective measures to recognise and protect the exercise of their rights as noted in Article 31(2).

The support of the UN for Indigenous peoples' rights and interests in governance and data are noted in its inclusion in the Sustainable Development Goals. These goals support the aspirations of underscoring the need for the participation of Indigenous peoples at the country level and calling for disaggregated data on Indigenous status on Indigenous peoples' terms.¹³⁴ Since the open data of nation-states plays a key role in tracking progress toward the SDGs, the engagement of Indigenous peoples and respect for Indigenous rights must be

¹³⁰ At 4.

¹³¹ United Nations Declaration on the Rights of Indigenous Peoples, GA Res 61/295 (adopted 13 September 2007, signed 13 September 2007, entered into force 13 September 2007).

¹³² Stephanie Carroll Rainie and others "Indigenous Data Sovereignty" in T Davies and others (eds) *The State of Open Data: Histories and Horizons* (African Minds and International Development Research Centre, Cape Town and Ottawa, 2019) at 306.

¹³³ United Nations Declaration on the Rights of Indigenous Peoples, (adopted 13 September 2007, signed 13 September 2007, entered into force 13 September 2007), Art. 31.

¹³⁴ Rainie and others, above n 132, at 306.

fundamental components of this process, as well as the open data principles of the ODC and practices.¹³⁵

Relating to and deriving from UNDRIP is the right and interest of indigenous peoples to share in the benefits of data and resources, particularly when it concerns taonga species. This was provided for within the Convention for Biological Diversity. The Preamble states that:¹³⁶

... Recognizing the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components, ...

The ideas are also noted in Article 8(j) on In-situ Conservation. Moreover, Article 17 indicates that in addition to equitable sharing, “where feasible, include repatriation of information” to Indigenous peoples.

As a derivative protocol from the Convention on Biological Diversity, The *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity* (Nagoya Protocol)¹³⁷ that derives from its parent - the Convention on Biological Diversity.¹³⁸ The protocol is a significant achievement for developing countries in asserting sovereignty over their biodiversity and traditional knowledge.¹³⁹ Its provisions facilitate the transfer of traditional knowledge to supporting communities’ biocultural rights to self-govern their natural resources and associated traditional knowledge.¹⁴⁰ It encourages countries to recognise community protocols and customary laws of Indigenous peoples and local communities.¹⁴¹ It also enhances the details of the ABS provisions of the CBD and clarified ABS to include biochemical derivatives within the definition of GRs, and to also include associated TK.¹⁴² The Protocol establishes the following four pivotal biocultural rights that significantly affirm the self-determination of Indigenous peoples and local communities:¹⁴³

- The right over their genetic resources;
- The right over their traditional knowledge;
- The right to self-governance through respect for their customary laws and community protocols; and
- The right to benefit from the utilization of their traditional knowledge and genetic resources by third parties.

¹³⁵ At 306.

¹³⁶ Convention of Biological Diversity, (signed 5 June 1992, entered into force 29 December 1993), Preamble.

¹³⁷ The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, (adopted 12 October 2014, signed 29 October 2010, entered into force 12 October 2014).

¹³⁸ Convention of Biological Diversity.

¹³⁹ Harry Jonas, Kabir Bavikatte and Holly Shrumm “Community Protocols and Access and Benefit Sharing” (2010) 12 Asian Biotechnology and Development Review 49 at 49.

¹⁴⁰ At 70.

¹⁴¹ Jessica C Lai and others “Māori knowledge under the microscope: Appropriation and patenting of mātauranga Māori and related resources” (2019) 22 The Journal of World Intellectual Property 205 at 206–207.

¹⁴² At 206–207.

¹⁴³ Jonas, Bavikatte and Shrumm, above n 139, at 51.

The protocol clarifies and emphasises the importance of ensuring that genetic resources and associated TK are accessed and utilized in a fair and equitable way.¹⁴⁴ It puts forward the basic principles for gaining access require obtaining prior informed consent of TK holders as well as negotiating agreements with mutually agreed terms.¹⁴⁵ Moreover, it provides a framework to appraise benefit-sharing agreements with Indigenous communities regarding their rights and interests.¹⁴⁶ A central purpose to benefit-sharing is enabling of Indigenous governance and self-determination. However, for much of modern history, colonial and imperial governance has denied indigenous peoples in the access to or sharing in benefits derived from indigenous land and resources.

Though New Zealand has a critical interest in genetic resources in the domestic economy including mātauranga Māori for research and other purposes (including commercialisation), it has not yet become a signatory nor ratified it.¹⁴⁷ If New Zealand were to ratify the protocol, the Government would then consider which legislation is required for implementation that also incorporates a bioprospecting regime.¹⁴⁸ The formation negotiations have provided the flexibility so as to ensure the Government could maintain its ability to meet Treaty of Waitangi obligations.¹⁴⁹ Many other nations are already actively working on establishing national programs and building domestic capacity to become fully compliant with the protocol.¹⁵⁰ Though some are not yet such as Canada are not for several reasons: stakeholders not yet reaching consensus on how to implement ABS policies; Indigenous peoples in Canada have voiced concerns over ABS policies and the Nagoya Protocol; and the government has faced little pressure from stakeholders for implementation of an ABS framework.¹⁵¹ Despite limited implementation the Canadian Supreme Court has ruled that Indigenous peoples and their TK are protected through the Canadian Constitution and other domestic policies¹⁵² and any infringement of these rights and interests must be in keeping with the government's fiduciary obligations.¹⁵³

Whether the Nagoya Protocol will deliver the environmental and (non-)monetary benefits for which it was designed will depend on the ways in which communities engage with the framework at the local level.¹⁵⁴

¹⁴⁴ Janis Geary and others "Access and benefits sharing of genetic resources and associated traditional knowledge in northern Canada: understanding the legal environment and creating effective research agreements" (2013) 72 *International Journal of Circumpolar Health* 21351 at 3.

¹⁴⁵ At 3.

¹⁴⁶ Jonas, Bavikatte and Shrumm, above n 139, at 70.

¹⁴⁷ "Convention on Biological Diversity – Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising from their Utilization" (2019) *New Zealand Treaties Online* <<https://www.treaties.mfat.govt.nz/search/details/p/41/1200>>.

¹⁴⁸ "Convention on Biological Diversity – Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising from their Utilization", above n 147.

¹⁴⁹ "Convention on Biological Diversity – Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising from their Utilization", above n 147.

¹⁵⁰ Mariko Kageyama "Bio-Property Contracts in a New Ecosystem: Genetic Resources Access and Benefit Sharing" (2017–2018) 13 *Wash J L Tech & Arts* 109 at 133–134.

¹⁵¹ Geary and others, above n 144, at 3.

¹⁵² At 3.

¹⁵³ At 3.

¹⁵⁴ Jonas, Bavikatte and Shrumm, above n 139, at 49.

However, an early attempt of benefit-sharing, though considered ground-breaking at the time illuminated issues. Certain lessons have been learnt from the Hoodia agreement when evaluating Access and Benefit-Sharing (ABS) as a legal and policy framework through which to protect their traditional knowledge and to support their ways of life.¹⁵⁵ On the one hand the agreement represents a moral victory for their rights to TK and resource governance systems, but on the other, it has weakened traditional forms of authority among other things by reliance on external expert opinion; led to largely misunderstood and at times corrupt new forms of governance; raised and dashed hopes of new found wealth; exacerbated power and information asymmetries in and across San communities; and initially fostered mistrust between the San and Nama communities.¹⁵⁶ To ensure more equitable benefit-sharing and avoiding some of the mistakes, it was necessary to evaluate future agreements.

The ability to engage indigenous rights and interests through the benefiting-sharing will hinge on the ability to operate through the legal framework.¹⁵⁷ Benefit-sharing will only occur when the legal and administrative system enable Māori to purposefully exercise their rights to protect their knowledge, innovations and practices and to support their customary uses of natural resources.¹⁵⁸ In asserting their rights to self-determination and well-being, Māori seek to share benefit in genomic research and innovation. In the absence of such approaches, the very act of using rights can be disempowering and disenfranchising.¹⁵⁹ However, the Protocol is not retroactive, so any IPR registered prior to any enactment will not address any rights and interests of Indigenous peoples. The Protocol provides no remedy to the holder of the traditional knowledge.¹⁶⁰ The only requirement is that each state party should make efforts to promote mutual recognition and enforcement of foreign judgments and arbitral awards through international dispute resolution mechanisms.¹⁶¹

Though international law provides frameworks, it is the States who are responsible for making laws, regulations and policies regarding associated rights and obligations of genetic resources.¹⁶² A concern raised, particularly by industry is that restrictive control may have a chilling effect on bona fide biodiversity research and bioprospecting activities that could lead to discoveries of next-generation cancer therapies or biotechnological breakthroughs.¹⁶³ Legal systems can conflict with customary law and can undermine customary laws and traditional governance structures¹⁶⁴ They can result in issues of implementing a benefit-sharing regimes.¹⁶⁵ For example, access and benefit-sharing has the potential to undermine the interconnected and adaptive systems that underpin biocultural diversity.¹⁶⁶ As Māori ownership, property, and privacy may require continuing control over biological materials

¹⁵⁵ At 57.

¹⁵⁶ At 57.

¹⁵⁷ At 70.

¹⁵⁸ At 70.

¹⁵⁹ At 59–60.

¹⁶⁰ Tim Stirrup “Bioprospecting, the Nagoya protocol and indigenous rights; A New Zealand perspective” [2016] 107 Intellectual Property Forum: journal of the Intellectual and Industrial Property Society of Australia and New Zealand 53 at 57.

¹⁶¹ Kageyama, above n 150, at 134.

¹⁶² At 128.

¹⁶³ At 138–139.

¹⁶⁴ Jonas, Bavikatte and Shrumm, above n 139, at 59–60.

¹⁶⁵ At 58.

¹⁶⁶ At 59–60.

removed from an individual it conflicts with that of treating the “biological specimen” as something to be controlled by the researcher.¹⁶⁷ Or in another example, Māori understandings of human identity and the sacred nature of the body which is likely to conflict with the legal and ethical frameworks that are based on Western value systems.¹⁶⁸ Biological diversity cannot be seen as separate from cultural and linguistic diversity, as “the diversity of life in all its manifestation are interrelated (and likely co-evolved) within a complex socio-ecological adaptive system.”¹⁶⁹ The multiplicity of interrelated knowledge, innovations, Community Protocols and Access and Benefit Sharing practices, values, and customary laws are embedded within mutually supporting relationships between land, natural resource use, culture, and spirituality.¹⁷⁰ This connectivity underpins communities’ dynamic worldviews and understandings of the laws of nature.¹⁷¹

An issue with benefit-sharing regards ‘who’ is sharing the benefit. ‘Communities of origin’ (for example family, geography, culture, history, race, religion) and ‘communities of circumstance’ (shared interests, workplace, and disease).¹⁷² Where it is sought to identify specific legal rights, namely the right to claim benefits as TK or knowledge holders relating to a certain plant, greater specificity on the word ‘community’ is required; continued avoidance of the issue may then lead to ABS legislation becoming unintelligible and less enforceable.¹⁷³ The nature and extent of the community being referred to is usually indicated by the context of the use, and is thus seldom explored or challenged in practice.¹⁷⁴ The answer to such question will be determined by the type and connectedness of the data.

Another issue is whether there is the ability to discover the ‘community of origin’. Māori view the origin critical as it indicates the whakapapa of taonga.¹⁷⁵ These have not been incorporated as suggested by the WAI262 Report.¹⁷⁶ As there are limits to the disclosure to origin, it inhibits the ability to track where rights and interests lie and breaks the chain of whakapapa. A disclosure of origin patent requirement has been argued to be a useful checkpoint which would allow cross-checking against the certificates of compliance in the ABS Clearing House for Party countries to the Nagoya Protocol.¹⁷⁷ As it was opposed by several international actors including US, Republic of Korea and Japan, it has not yet been adopted and thus a failure in the international and domestic legal regimes.¹⁷⁸

When implemented, benefit-sharing will enhance the ability of Māori to co-govern or be partners in projects. For example, projects that are explicitly co-led, co-curated and governed by iwi-mandated and Pacific representatives will have the potential to benefit the Māori

¹⁶⁷ Hudson and others, above n 102; Rosalina James and others “Exploring pathways to trust: a tribal perspective on data sharing” (2014) 16 *Genetics in Medicine* 820 at 824–825.

¹⁶⁸ Hudson and others, above n 102; James and others, above n 167, at 824–825.

¹⁶⁹ Jonas, Bavikatte and Shrumm, above n 139, at 57–58.

¹⁷⁰ At 57–58.

¹⁷¹ At 57–58.

¹⁷² Roger Chennells “Traditional knowledge and benefit sharing after the nagoya protocol: three cases from South Africa” (2013) 9 *Law Env’t & Dev J* 163 at 171.

¹⁷³ At 171.

¹⁷⁴ At 171.

¹⁷⁵ Hudson and others, above n 102.

¹⁷⁶ Waitangi Tribunal, above n 1.

¹⁷⁷ Lai and others, above n 141, at 221.

¹⁷⁸ At 221.

community.¹⁷⁹ Having a seat at the table at all levels including at government-to-government level.¹⁸⁰ Co-researchers should acknowledge, understand and enact the tikanga as a governing mechanism, especially initially when the number of Māori and Pacific experts will be outnumbered by tauwi (non-Māori/non-Pacific) experts.¹⁸¹ Moreover, an effort must be made to ensure future leaders in genomics/genetics/bioinformatics who are Māori and/or from Pacific communities and can both lead this research and its governance, and who also have the skills to form relationships with their communities and to share and communicate research findings and knowledge with them.¹⁸² It must take into account tribal sovereignty and the need for accountability including appropriate oversight of research—e.g., research review committees, tribally based institutional review boards, and review of draft manuscripts.¹⁸³ The key elements are transparency of the data-sharing obligations and options and the opportunity for tribal authorities to review and approve research involving tribal samples or data.¹⁸⁴ The group also felt that tribes should have an opportunity to give input related to, and be involved in, the review process for any secondary research uses of tribal data.¹⁸⁵ There are also fears that the bureaucratic burden on users to negotiate access agreements and monitor downstream use may ultimately end up inhibiting rather than encouraging collaborative research into natural products.¹⁸⁶

Addressing access and benefit-sharing reduces the issues with the imbalance in power. Research is still being described as colonising because Indigenous peoples are systematically excluded from a process of creating knowledge that does not recognise TK or world views because it is defined predominantly by Western thought.¹⁸⁷ Another issue arising from benefit-sharing is how the systems may overcome the power asymmetries inherent in their interactions with external stakeholders such as state agencies and private interests.¹⁸⁸ Well-resourced institutions from developed countries employ professionals adept at protecting their clients rights, and agreements reached may be to the detriment of the less well-resourced Provider state or community.¹⁸⁹ Many existing tribal–university research partnerships have benefits from data sharing and where there are benefit-sharing in the agreements, they are often poorly defined, indirect, and long-term, whereas possible harms such as stigmatization of small, readily identifiable communities are more immediate.¹⁹⁰ Although the competent national authority and national focal point may be able to assist with effective representation and advocacy, there is no guarantee that the Provider community

¹⁷⁹ Stephen P Robertson and others “Genomic medicine must reduce, not compound, health inequities: the case for hauora-enhancing genomic resources for New Zealand” (2018) 131 *The New Zealand Medical Journal* (Online); Christchurch 81 at 86.

¹⁸⁰ James and others, above n 167, at 825.

¹⁸¹ Robertson and others, above n 179, at 86.

¹⁸² At 86.

¹⁸³ James and others, above n 167, at 825.

¹⁸⁴ At 825.

¹⁸⁵ At 825.

¹⁸⁶ Stirrup, above n 160, at 57.

¹⁸⁷ Geary and others, above n 144, at 1.

¹⁸⁸ Jonas, Bavikatte and Shrumm, above n 139, at 70.

¹⁸⁹ Stirrup, above n 160, at 58.

¹⁹⁰ James and others, above n 167, at 824.

would fully understand or appreciate the consequences of certain clauses in the agreement.¹⁹¹

Benefit-sharing requires the establishing of a relationship of trust in which tribal laws and cultural interests are given deference and in which an ethic of respectful negotiation is used to secure the rights of the tribe and the interests of the research community in promoting forms of knowledge that are truly of benefit to all.¹⁹² Government agencies are responsible for funding and contracts could develop mechanisms focused on consultation between researchers, research institutes, and the tribal leadership and community to negotiate data-sharing plans.¹⁹³ Funding and contracts should include capacity-building requirements for grant proposals, requiring tribal approval as part of the NIH grant approval process, and revisiting the definitions of tribal benefit and dissemination to ensure that there was common agreement about the meaning of these terms.¹⁹⁴ The community-based participatory research approach values communities as partners in all aspects of the research process and has the potential to re-establish trust and reorganize power relationships.¹⁹⁵

Data sharing may result in benefits for tribal communities, but the risks must be acknowledged and addressed as part of negotiations concerning research policies and partnership agreements.¹⁹⁶ There is a need to preserve cultural heritage and protect against tribal level harm when considering participation in genomic research, and as such factors need to be considered such as the following questions:¹⁹⁷

Can information in the public domain have restrictions on how it may be used in patents or for profit? Can genomic information from geographically isolated indigenous groups be truly de-identified if genetic variation distinguishes them from other populations? Can new models for tribal representation on the Data Access Committees for federal repositories be explored to develop conditions for secondary data uses, including evaluation of the appropriateness of studies and their potential for benefit or harm to indigenous sources?

For benefit-sharing to be of benefit, there must be an awareness of and the skills to avoid the pitfalls of “commodification, objectification and subordination.”¹⁹⁸ Communities are likely to make more informed decisions about whether to either decide to spurn the framework or negotiate for more appropriate economic, cultural, social, and/or environmental benefits.¹⁹⁹ Benefit-sharing includes involvement of these representatives in how genetic and genomic resources are used in diagnostics and the science that it potentiates.²⁰⁰ Designing of any research should only occur if it will enhance that population being studied.²⁰¹ Among the data-use limitations is a bar to the study of individual genotypes or “variables that could be

¹⁹¹ Stirrup, above n 160, at 58.

¹⁹² James and others, above n 167, at 825.

¹⁹³ At 825.

¹⁹⁴ At 825.

¹⁹⁵ At 824.

¹⁹⁶ James and others, above n 167.

¹⁹⁷ At 825.

¹⁹⁸ Jonas, Bavikatte and Shrumm, above n 139, at 57.

¹⁹⁹ At 57.

²⁰⁰ Robertson and others, above n 179, at 86.

²⁰¹ At 86.

considered as stigmatizing to an individual or group”; this example suggests ways in which tribal concerns might be addressed in negotiations regarding data sharing.²⁰² The generation of hauora-enhancing genomic resources for Aotearoa New Zealand is essentially the formal creation and cataloguing of a unique national treasure—a taonga—that will be key to equitably delivering positive healthcare outcomes.²⁰³ It will also have oversight of how the results of research are interpreted, disseminated and explained to the general public and, above all and as a priority, with the communities with whom the research was conducted.²⁰⁴

Rights and Interests in Mātauranga Māori

The WAI262 report clearly indicated Māori rights and interests and these are supported by and upheld through international law. Moreover, international law clearly states the important of Indigenous peoples sharing in the benefits of data and taonga. Indigenous peoples globally have deep spiritual and cultural links to traditional lands and waters and have spiritual obligations to their people, place, and world under their traditional laws. Brad Morse noted that:²⁰⁵

While there are naturally many cultural, linguistic, and lifestyle differences among Indigenous nations, a relatively common perspective is a worldview in which human beings are merely one element of nature—with no greater or lesser importance in the cosmos than plants, animals, rocks, sea creatures, or waters—as all are alive, have a role to play, and possess spiritual value. This view of the world means that distinctions between animate and inanimate objects are of far lesser significance than they are in many other societies. The living nature of inanimate things, and the spiritual element imbued within many such objects, has profound implications for the work of archivists, librarians, art curators, museumologists, and others who spend their days devoted to the vital tasks of preserving and/or displaying ‘objects’ of varying natures.

In the past, Māori, like many Indigenous peoples, have lost control and authority over their data and resources. They have been fighting for years for the authority over and the ability to maintain mātauranga Māori. They have faced a struggle for biocultural rights including respect for their diversity of ecosystem management practices, customary laws and traditional authority.²⁰⁶

The WAI262 report enumerated the issues regarding intellectual property and Māori rights and interests. There was also a chapter devoted to genetics and taonga species. The Table below sets out the current system or the areas that are currently under review:

²⁰² James and others, above n 167, at 825.

²⁰³ Robertson and others, above n 179, at 86.

²⁰⁴ At 86.

²⁰⁵ Bradford W Morse “Indigenous human rights and knowledge in archives, museums, and libraries: some international perspectives with specific reference to New Zealand and Canada” (2012) 12 *Archival Science* 113 at 114.

²⁰⁶ Jonas, Bavikatte and Shrumm, above n 139, at 69.

Kaitiaki Relationships	<ul style="list-style-type: none"> • Entitled to reasonable degree of protection; • In exceptional cases, may claim interest in living specimens of taonga species; • Interest does not amount to ownership of resources; • Valid rights for mātauranga Māori (MM) associated with taonga species (TS), but not exclusive; • Commercial exploitation of MM must give proper recognition and reasonable degree of control; • Consent, disclosure or consultation required on case by case basis; • Should enshrine relationship protection in law; • Must balance relationship with other interest holders; and • Amend s5 HSNO Act to require recognition and provision for kaitiaki and TS relationship.
Bioprospecting	<ul style="list-style-type: none"> • DOC should develop bioprospecting regime in line with existing barriers; • Joint decision-making between DOC and the pātaka komiti, with the latter's role expanded to participate in decision making; and • No compulsory requirement for access and benefit sharing.
Genetic Modification	<ul style="list-style-type: none"> • Methodology order to be brought in line with HSNO Act 1996 • No automatic privilege to physical risks; • Ngā Kaihautū Tikanga Taiao maintain advisory role, but also appoint at least two members to the Authority itself; and • Ngā Kaihautū to give advice when it considers an application to be relevant to Māori interests.
Intellectual Property	<ul style="list-style-type: none"> • Measures enacted to protect kaitiaki relationship with TS and MM; • MM to be a key consideration for patent applications; • Establish Patents MAC to advise on presence of MM or TS and consistency with tikanga Māori and kaitiaki relationships; • Kaitiaki ability to formally notify interest in species or MM through registration; • Kaitiaki right to object to patent application even if interest not registered; and • Patent application public disclosure requirement for MM or taonga species contribution. Failure to disclose has range of outcomes on case by case basis.
PVRs	<ul style="list-style-type: none"> • cultural relationship between kaitiaki and taonga species is entitled to reasonable protection; • new PVR legislation also include a power to refuse a PVR if it would affect kaitiaki relationships with taonga species; and • Establish PVR MAC to assist commissioner.
Overall	<ul style="list-style-type: none"> • Enable MACs to assist in the preparation of adequate ethical guidelines and codes of conduct relevant to their field for use by those in research and development; • Broad advisory function including regarding tikanga Māori and location and engagement with kaitiaki; and • Educational facilities to assist in preparation of guidelines and codes.

Table 2: WAI262 report recommendations

Despite the current reviews, New Zealand still has a not made sufficient progress to meet its Treaty and international obligations. As noted in the table, there are large gaps that still do

not provide for Māori rights and interests and in particular their collective rights and interests. The collective nature of Māori rights and interests create complexities that are beyond the IPR regime to incorporate within a Western based-system. For example, the nature and understanding of taonga within mātauranga Māori and its protections through tikanga are mostly incompatible with the current system. As noted in the WAI262 report, the concept of intellectual property in te ao Pākehā is as much a product of culture, history, and economics as kaitiakitanga is in te ao Māori.²⁰⁷

There are important collective rights and interests in mātauranga Māori, taonga such as genomic data, and administrative data. Individual Māori may be able to use mātauranga Māori and/or taonga and claim particular rights and interests through the IPR as an individual, providing they meet the criteria according to the regime. Administrative data has importance for Māori governance and self-determination but again there is limited protection or provision for such rights and interests, but at present much of it is held in government agencies and there are difficulties for Māori to access and have governance and self-determination over their data. Furthermore, despite the statements in the WAI262 report on benefit-sharing and the international law supporting it that New Zealand has signed and ratified, there has been slow or limited movement to enable Māori to share in the benefits of their knowledge and taonga.

Central to Indigenous Data Sovereignty is the maintenance and protection of mātauranga Māori. It is a central to the identity and life as well as their life and existence of being Māori as outlined in the WAI262 report.²⁰⁸ It has been described in the WAI262 report as;²⁰⁹

Mātauranga Māori incorporates language, whakapapa, technology, systems of law and social control, systems of property and value exchange, forms of expression, and much more. It includes, for example, traditional technology relating to food cultivation, storage, hunting and gathering. It includes knowledge of the various uses of plants and wildlife for food, medicine, ritual, fibre, and building, and of the characteristics and properties of plants, such as habitats, growth cycles, and sensitivity to environmental change. It includes systems for controlling the relationships between people and the environment. And it includes arts such as carving, weaving, tā moko (facial and body tattooing), the many performance arts such as haka (ceremonial dance), waiata (song), whaikōrero (formal speechmaking), karanga (ceremonial calling or chanting), and various rituals and ceremonies such as tangihanga, tohi (baptism), and pure (rites of cleansing).

For Māori, the term mātauranga Māori has a broader meaning than just “Māori knowledge” and encompasses a breadth of areas of knowledge including that relating to taonga (sacred) flora and fauna.²¹⁰ Moreover, unlike Western knowledge which is often compartmentalised such as science and non-science, such divisions would be inappropriate within mātauranga Māori.²¹¹ The ability to apply kaitiakitanga over mātauranga Māori is critical for tino

²⁰⁷ Waitangi Tribunal, above n 1, at 46.

²⁰⁸ At 22.

²⁰⁹ At 22.

²¹⁰ Lai and others, above n 141, at 208.

²¹¹ D Broughton and others “Mātauranga Māori, tino rangatiratanga and the future of New Zealand science” (2015) 45 *Journal of the Royal Society of New Zealand* 83 at 83–84.

rangatiratanga and the need for mātauranga to flourish if Māori are to survive as Māori.²¹² The government must take responsibility to put in place effective measures to prevent and redress rights violations, providing redress for intellectual property taken without consent, and consulting and cooperating in good faith.²¹³ These obligations arise from national and international standards, and in recognition of the impact that successive government policies have had on the state of mātauranga.²¹⁴

Since colonisation, much of the data relating to Māori and their taonga (relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, valued flora and fauna, and other taonga) has been held in public institutions. These include government ministries and departments, universities, libraries, and museums. For example, the report *Ko Aotearoa tēnei* notes that the location of data in institutions and also how some of the data and resources came into the hands of such institutions;²¹⁵

Major collections of Māori heritage materials are held in Auckland Libraries, Auckland War Memorial Museum Library, Alexander Turnbull Library, and the Hocken Library (University of Otago). Libraries in other centres typically hold smaller collections that are more likely to be dominated by secondary sources such as books, journals, and audio-visual materials.

The larger collections have developed principally as a result of the efforts of private collectors. Their collections were donated to form the basis of the libraries that, in the case of Turnbull and Hocken, bear their respective names and, in Sir George Grey's case, formed the basis of the heritage collections held by Auckland Libraries. The Auckland War Memorial Museum Library heritage collections are drawn from a variety of sources with the most notable being the items collected by ethnographer George Graham mainly from the Auckland and Hauraki regions with his main areas of interest being waka (boats), waiata, whakapapa, kaupapa, and tikanga. All of these institutions have benefitted from the collection of manuscripts, diaries, and letters by Māori or that have been recorded and/or translated by the collectors. These collections have been strengthened further by pictorial resources, including photographs, drawings, prints, and artworks that illustrate

aspects of Māori life and customs tikanga. These items have become the primary research materials for scholars focusing on aspects of tikanga and te reo Māori. These materials rarely have any restrictions placed upon their use other than rules around borrowing, handling, photocopying, and/or reproduction.

Moreover, some knowledge and resources have been moved to private ownership. There are no comprehensive surveys done regarding what Māori data is held by who and where. Though a large exercise, if it is not done, it means there is a lot of data held that is uncounted for and the kaitiaki are unable to be custodians of it.

²¹² At 84.

²¹³ At 84.

²¹⁴ At 85.

²¹⁵ Spencer C Lilley "Ko Aotearoa Tenei: Indigenous Cultural and Intellectual Property Rights in Aotearoa New Zealand" in Camille Callison, Loriene Roy and Gretchen Alice LeCheminant (eds) *Indigenous Notions of Ownership and Libraries, Archives and Museums* (Walter de Gruyter GmbH, Berlin/Boston, GERMANY, 2016) at 115.

For much of New Zealand's history since 1840, mātauranga Māori has been seen through a Western lens. Official national libraries, museums, and archives preserved historical records and artefacts for future generations and governmental needs and evolved to collect objects from other jurisdictions, and for their educational value.²¹⁶ Any acknowledgement was of existence of data, knowledge and resources, but not the knowledge system or worldview through which the community was governed and operated. More recently, there has been a move, and State policy providing, that libraries, museums, and archives have evolved in recent years within a framework that seeks to express Māori values, culture, and concepts through mātauranga Māori including respect for the pursuit of tikanga Māori (proper protocol and tradition).²¹⁷ Institutions such as museums and libraries are now employing more Māori with expertise in mātauranga Māori.

Local government is also recognising Māori have a role. While Māori once performed a consultative role, there is a slow but increasing move by many local governments to increase their role as a partner in governing. A central part of that is having control over the data that is of or about them. An example of that is the Auckland Council. They recognise the need to apply a Te Ao Māori lens to research and policy development including the fit for purpose measuring and monitoring of wellbeing from a Te Ao Māori view.²¹⁸ They support the idea of national and regional repositories in particular to Māori populations to ensure that relevant indicators can be easily accessed at the right spatial scale and in locating and integrating relevant data for their own use. Furthermore, they will work with other agencies on designing a best practice Treaty approach to data management and performance that involves an understanding of the social and cultural licenses to operate in an ethically appropriate way, where data sovereignty, integrity and safety are critical points.²¹⁹

One area where there is a growing recognition of Indigenous data sovereignty is through academia and research facilities. This was noted in the *Ko Aotearoa tēnei*. noted that '[t]he greatest collaboration between Māori and the science sector seems to occur at the furthest remove from the policy-makers, and at the practical level of those conducting the actual research.²²⁰ Many successful collaborations have involved use of mātauranga Māori and Western science to produce beneficial outcomes, and to address/solve challenges, including health and environmental challenges. These collaborations have taken place between local Māori communities and scientific agencies and/or research institutes.²²¹

Therefore, Though IPR of New Zealand may provide some protections, there are still some areas where the legal system does not provide sufficient protections in (genetic) data and resources. UNDRIP have provided a framework and international law support, but local mechanisms are important to enable Māori governance of data of and about them. An early form has been the OCAP principles, but these are only sufficient when the community owns the data. For this reason, various leaders and Indigenous experts came together to form principles of Indigenous data sovereignty. These principles are critical to enhance Māori

²¹⁶ Morse, above n 205, at 121.

²¹⁷ At 123.

²¹⁸ Independent Māori Statutory Board *Data Issues of Significance: Independent Māori Statutory Board 2019* (2019) at 4.

²¹⁹ At 4.

²²⁰ Sullivan and Tuffery-Huria, above n 22, at 409.

²²¹ At 409–410.

governance. Resulting out of this has been a project that has created a system of Indigenous Labelling.

OCAP

The development of OCAP (ownership, control, access, and possession) principles were a political response to tenacious colonial approaches to research and information management.²²² To protect the integrity of the principles, FNIGC's Board of Directors approved the application for a registered Trade Mark for the principles which was finally completed in 2105 which then became OCAP™. The aim was to protect and ensure the integrity of OCAP® after it was discovered that researchers, academics, and others were misrepresenting and distorting its original intent.²²³

OCAP™ enabled First Nations to have control over data collection processes in their communities.²²⁴ They had the authority to own, protect and control how their information is used. Access to First Nations data is important and First Nations determine, under appropriate mandates and protocols, how access to external researchers are facilitated and respected. The right of First Nations communities to own, control, access, and possess information about their peoples is fundamentally tied to self-determination and to the preservation and development of their culture. OCAP™ allows a community to make decisions regarding why, how and by whom information is collected, used or shared.²²⁵

The OCAP principles are as follows:²²⁶

- **Ownership:** Ownership refers to the relationship of First Nations to their cultural knowledge, data, and information. This principle states that a community or group owns information collectively in the same way that an individual owns his or her personal information.
- **Control:** The principle of control affirms that First Nations, their communities and representative bodies are within their rights in seeking to control over all aspects of research and information management processes that impact them. First Nations control of research can include all stages of a particular research project-from start to finish. The principle extends to the control of resources and review processes, the planning process, management of the information and so on.
- **Access:** First Nations must have access to information and data about themselves and their communities, regardless of where it is currently held. The principle also refers to the right of First Nations communities and organizations to manage and make decisions regarding access to their collective information. This may be achieved, in practice, through standardized, formal protocols.
- **Possession:** While ownership identifies the relationship between a people and their information in principle, possession or stewardship is more concrete. It refers to the physical control of data. Possession is a mechanism by which ownership can be asserted and protected.

²²² Brian Schnarch "Ownership, Control, Access, and Possession (OCAP) or Self-Determination Applied to Research: A Critical Analysis of Contemporary First Nations Research and Some Options for First Nations Communities" (2004) 1 Journal of Aboriginal Health 80 at 80.

²²³ The First Nations Information Governance Centre "OCAP® | FNIGC" (2020) FNIGC/CGIPN <<https://fnigc.ca/ocap>>.

²²⁴ The First Nations Information Governance Centre *The First Nations Principles of OCAP*.

²²⁵ At 1.

²²⁶ The First Nations Information Governance Centre, above n 224.

The OCAP™ is a useful mechanism providing that there is ownership and control over the data and its processes. OCAP™ is a useful tool but has limitations. Where data is not owned or controlled by indigenous peoples, they have limited usefulness.

Indigenous Data Sovereignty

For Māori, as with most Indigenous peoples, they do not have access to much of the data of and about them. Even some of the taonga that once was theirs is now in the private or institutional ownership. If Māori are to regain sovereignty over their data, then there was a need for another system, a means for the support to enhance governance of their data and their tino rangatiratanga – Indigenous Data Sovereignty.

The genesis of Indigenous Data Sovereignty began in 2015.²²⁷ It came out of a workshop considering the implications of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) for the collection, ownership and application of data pertaining to indigenous peoples and what these might mean for indigenous peoples' sovereignty.²²⁸ An inaugural meeting on Māori Data Sovereignty was held at Hopuhopu on 19 October 2015. One result of the meeting was a book *Indigenous Data Sovereignty: Towards an Agenda*²²⁹ and the other was the Principles of Data Sovereignty. A collective from Indigenous peoples in Australia, Aotearoa/New Zealand, and the US began to form with the aim towards Indigenous Data Sovereignty. Together they formed the Global Indigenous Data Alliance (GIDA).²³⁰ It was at the conference that the seeds of Te Mana Raraunga as a Māori Data Sovereignty Network generated. The members approved the Charter at a hui in 2016. In 2017, the fourth hui discussed the challenges to operationalising Māori Data Sovereignty and explore the Social License for Data Use.²³¹

Indigenous data sovereignty promotes a paradigm where Indigenous peoples can directly create and participate in the sharing of benefits that come from Indigenous data.²³² Indigenous data sovereignty centres the need for greater Indigenous control and governance over Indigenous data. Indigenous data sovereignty collectives describe Indigenous data as including Indigenous or traditional knowledge as well as other forms of administrative or scientific data that relate to Indigenous peoples and their territories.²³³ They support the rights of Indigenous peoples to govern the collection, ownership, and application of data about Indigenous communities, peoples, lands, and resources.²³⁴ Indigenous data sovereignty includes and stretches across binary digital data (e.g. scientific, administrative, corporate), as

²²⁷ "Our History" (2019) Te Mana Raraunga <<https://www.temanararaunga.maori.nz/whakapapa>>.

²²⁸ "Our History", above n 227.

²²⁹ John Taylor and Tahu Kukutai *Indigenous data sovereignty* (ANU Press, ACT, Australia, 2016).

²³⁰ "Global Indigenous Data Alliance (GIDA)" Global Indigenous Data Alliance <<https://www.gida-global.org>>.

²³¹ "Our History", above n 227.

²³² Rebecca Tsosie "Indigenous Peoples' Claims to Cultural Property: A Legal Perspective" (1997) 21 *Museum Anthropology* 5.

²³³ Stephanie Carroll Rainie, Desi Rodriguez-Lonebear and Andrew Martinez *Policy Brief: Indigenous Data Sovereignty in the United States* (Tucson: Native Nations Institute, University of Arizona, 2017); Te Mana Raraunga *Principles of Māori Data Sovereignty* (2018).

²³⁴ Stephanie Carroll Rainie and others "Indigenous Data Sovereignty" in T Davies and others (eds) *The State of Open Data: Histories and Horizons* (African Minds and International Development Research Centre, Cape Town and Ottawa, 2019).

well as information and knowledge. As a result, Indigenous data sovereignty is broader in scope than normally considered by the open data movement.²³⁵ It expresses:²³⁶

... legitimate rights to control, access, and utilize in any way, including restricting other's access to, knowledge or information that derives from unique cultural histories, expressions, practices, and contexts.

The rights based language of Indigenous data sovereignty asserts the ability of Indigenous peoples to own, control, access and possess data that derive from us, and which pertain to our members, knowledge systems, customs, or territories.²³⁷ Asserting Indigenous peoples' right to exercise their own norms and values to structure their collective futures is an exercise in both political and cultural sovereignty.²³⁸ Indigenous data sovereignty also aligns with a concept of 'Network Sovereignty', which emphasises the significance of information and communication technologies in developing infrastructures and information flows, that impact on Indigenous sovereignty across diverse contexts and impact aspirations for self-governance and self-determination.²³⁹ Indigenous claims of sovereignty in the context of data and information are replicated in larger global debates about the state of open data and whether the authority for data governance should sit with sovereign nations or with global institutions.²⁴⁰ Data supports and strengthens Indigenous sovereignty and Indigenous data are becoming a valuable tool for self-determination because they drive nation-building by Indigenous communities for Indigenous communities.²⁴¹

The digitisation of knowledge, the increasing interconnectedness of digital networks, as well as the promotion of open government data and open science, is shifting more personal information and Indigenous data into publicly accessible spaces. Data linkage and data sharing are creating debates about the secondary use of data and whether Nation States need to gain a social and cultural license before extending the parameters of data reuse.²⁴²

In addition to the innovation economy, data is an important element in governmental administration. Government agencies possess valuable data, often secured through required consultations with tribal governments about environmental and, or, cultural resources pursuant to statutes or administrative processes such the rich and research-ready data-set derived from linking census data with administrative data. Data is a vital precondition for devising adequate policy responses to address inequalities and to monitor the effectiveness

²³⁵ Rainie and others, above n 234.

²³⁶ Jane E Anderson "Indigenous Knowledge and Intellectual Property Rights" in James D Wright (ed) *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)* (Elsevier, Oxford, 2015) 769 at 769.

²³⁷ Tahu Kukutai "Reflections on Indigenous sovereignty" (2019) 4 *Journal of Indigenous Wellbeing* 3.

²³⁸ Rebecca Tsosie "Tribal Data Governance and Informational Privacy: Constructing Indigenous Data Sovereignty" (2019) 80 *Mont L Rev* 229.

²³⁹ Marisa Elena Duarte *Network Sovereignty* (University of Washington Press, Seattle, 2017).

²⁴⁰ Andrew Keane Woods "Litigating Data Sovereignty" (2018–2019) 128 *Yale L J* 328; T Davies and others *The State of Open Data: Histories and Horizons* (African Minds and International Development Research Centre, Cape Town and Ottawa, 2019).

²⁴¹ Davies and others, above n 240; Desi Rodriguez-Lonebear "Building a Data Revolution in Indian Country" in John Taylor and Tahu Kukutai (eds) *Indigenous data sovereignty: toward an agenda* (ANU Press, ACT, Australia, 2016).

²⁴² Science for Technological Innovation NSC, Data ILG, and Victoria University of Wellington *Māori Data Futures: Hui Report* (2018).

of measures to overcome discrimination.²⁴³ Yet, despite participating in the production of the data, as well as providing access to it, the deployment of research and policy derived from this data rarely affects or changes the every-day lives of Indigenous peoples. As a result, Indigenous peoples remain invisible, or included under categories of ‘other’, within national statistics.²⁴⁴ There is an urgent need to develop systems of data provenance that properly indicate where data came from. Not only does this help data meet standards like FAIR,²⁴⁵ but also begins extending data-centric concerns into a more dynamic set of data relations that stretch themselves across time. Indigenous peoples find the data held by governmental or private organisations remains difficult to find and use despite their rights and interests in it. This hinders capacity for Indigenous peoples to fully mobilize around their data. These rights and interests in the data are supported by the UN. For example, the Special Rapporteur on the Right to Privacy encouraged:²⁴⁶

“... governments and corporations to recognise the inherent sovereignty of indigenous peoples over data about them or collected from them, and which pertain to indigenous peoples’ knowledge systems, customs or territories.”

Aspirations for Indigenous data sovereignty can be enabled through different mechanisms related to: the openness of the data; legally protected data or controlled access data. Each of these have different levels of access and governance and as such require different mechanisms of protection and/or control.

For example, if data is considered sensitive, from a cultural, commercial or privacy point of view, it should be restricted and not made publicly available. In these contexts, ‘ownership of the data’ is a function of possession and control rather than any formal intellectual property right. While copyright can be used to legally restrict access to datasets and databases, data can be managed as a trade secret, or in a repository with restricted access.

Indigenous peoples’ interests in data are part of a continuum of advancing rights and interests that have been repeatedly denied by colonial powers, systems and structures. Indigenous peoples are striving to regain control over data of or about them in order for this data to support ambitions around Indigenous governance and decision-making. If data is a powerful resource for society, Indigenous data is a critical resource for Indigenous peoples for multiple reasons, including capacity to participate in the current and future innovation economy.

Indigenous Data Governance

Indigenous data sovereignty is an important mechanism for Indigenous Data Governance. Indigenous Data Governance is the means of having tino rangatiratanga over data. It is the reclaiming of the governance that iwi, hapū and whanau had prior to colonisation. Indigenous Data Governance has several components including direct governance over direct information held within their control. A second is the governance with partnering organisations such as in business or research relationships. Finally, there is a governance of

²⁴³ Megan Davis “Data and the United Nations Declaration on the Rights of Indigenous Peoples” in John Taylor and Tahu Kukutai (eds) *Indigenous data sovereignty: toward an agenda* (ANU Press, ACT, Australia, 2016).

²⁴⁴ Davis, above n 243.

²⁴⁵ Mark D Wilkinson and others “The FAIR Guiding Principles for scientific data management and stewardship” (2016) 3 *Scientific Data*.

²⁴⁶ Joseph A Cannataci *Right to Privacy* (A/73/45712 2018) at [52].

data resulting from and connected with partnership with the State, New Zealand Government.

Indigenous data sovereignty requires governance ability when in turn requires access. Data deemed sensitive for commercial, cultural, or privacy reasons will often be kept within controlled access databases where it is subject to specific access and governance processes. Indigenous participation in these activities or the adoption of Indigenous data governance frameworks would demonstrate a tangible expression of Indigenous data sovereignty.²⁴⁷

In New Zealand, the Data Iwi Leaders Group and Te Mana Raraunga Māori Data Sovereignty Network led calls for Maori governance of the Official Statistics System including the Integrated Data Infrastructure. Statistics New Zealand has signed a Mana Orite Agreement with the Data Iwi Leaders Group and has also adopted Ngā Tikanga Paihere, a Māori values-based framework to guide data access for Māori data. While there is increasing recognition of the need to include Māori in data governance processes, agencies and Iwi are working out the best ways to enable this responsibility across the diverse range of datasets and institutional contexts.

The process of developing and using a community protocol is an opportunity for communities to reflect on their ways of life, values, customary laws, and priorities and to engage with a variety of supporting legal frameworks and rights. A biocultural approach to the law empowers communities to challenge the fragmentary nature of State law and to instead engage with it from a more nuanced and integrated perspective and assess how certain laws may assist or hinder their plans for the future. A wide variety of community members are involved by integrating legal empowerment processes with endogenous development and communication methodologies such as group discussions, written documentation, various types of mapping and illustrations, participatory video and photography, performing arts, and locally appropriate monitoring and evaluation. Community protocols vary in how they are documented, shared, and utilized and have been highlighted as something meaningful and affirmative that a community can be proud of. The approach is intended to mobilize and empower communities to use international and national laws to support the local manifestation of the right to self-determination.²⁴⁸

Ethics and CARE Principles

Any collection, storage and use of data incurs ethical issues. For example, it can include privacy, accuracy, property, and accessibility of information.²⁴⁹ Privacy restrictions may complicate researcher and corporate endeavours to maintain a competitive edge and

²⁴⁷ M Walter and others *Indigenous Data Sovereignty Briefing Paper 1* (Miaim nayri Wingara Data Sovereignty Group and the Australian Indigenous Governance Institute, 2018); Maggie Walter and Michele Suina "Indigenous data, indigenous methodologies and indigenous data sovereignty" (2019) 22 *International Journal of Social Research Methodology* 233.

²⁴⁸ Jonas, Bavikatte and Shrumm, above n 139, at 62.

²⁴⁹ Sam Grabus and Jane Greenberg "The Landscape of Rights and Licensing Initiatives for Data Sharing" (2019) 18 *CODATA* 29 at 2.

promote innovation through information insights and without them leaves vulnerabilities.²⁵⁰ Any ethics consideration should include the following principles:²⁵¹

1. Building trust, whereby Indigenous communities decide whether their genomic data and associated metadata are publicly available or accessible on request
2. Enhancing accountability, in which the provenance of Indigenous samples and genomics data must be transparent, disclosed in publications and maintained with the data
3. Improving equity, whereby credit should be given to Indigenous communities to support future use and benefit-sharing agreements as appropriate

More than ever we are living in a society of data much of which is open access, that is freely available to the people to access and use. Many organisations are calling for data to be open access for the 'commons' to enable use for research and innovation. In the data economy, digitisation, data re-use, data sharing, and data linkage are essential parts of the data ecosystem driven by advances in technology as well as advocacy for Open Data initiatives.²⁵² Although having governance is good in theory, how can that operate in practice?

In reaction to the open data environment, there was a call for ethical principles to guide the use of such data. In 2016, the FAIR principles were developed for 'scientific data management and stewardship to support data sharing by making datasets findable, accessible, interoperable, and reusable.'²⁵³ While these principles support changes to data infrastructures they fail to address social expectations around data reuse, especially those of Indigenous communities.

In consultation with the Indigenous scholars, Indigenous data sovereignty networks, non-profits organizations, and governments, some principles were developed to address the expectations and concerns of Indigenous peoples regarding data and its reuse. The Result of these discussions came the 'CARE Principles for Indigenous Data Governance'.²⁵⁴ CARE is an acronym for the four primary principles identified as central to Indigenous data governance; Collective Benefit, Authority to Control, Responsibility, and Ethics.²⁵⁵ Underlying this need were the primary goals of fostering Indigenous self-determination by enhancing Indigenous use of data for Indigenous pursuits and honouring the 'FAIR Guiding Principles for scientific data management and stewardship', including data sharing on Indigenous terms.²⁵⁶

²⁵⁰ At 2.

²⁵¹ Maui Hudson and others "Rights, interests and expectations: Indigenous perspectives on unrestricted access to genomic data" (2020) 21 *Nature Reviews Genetics* 377 at 379.

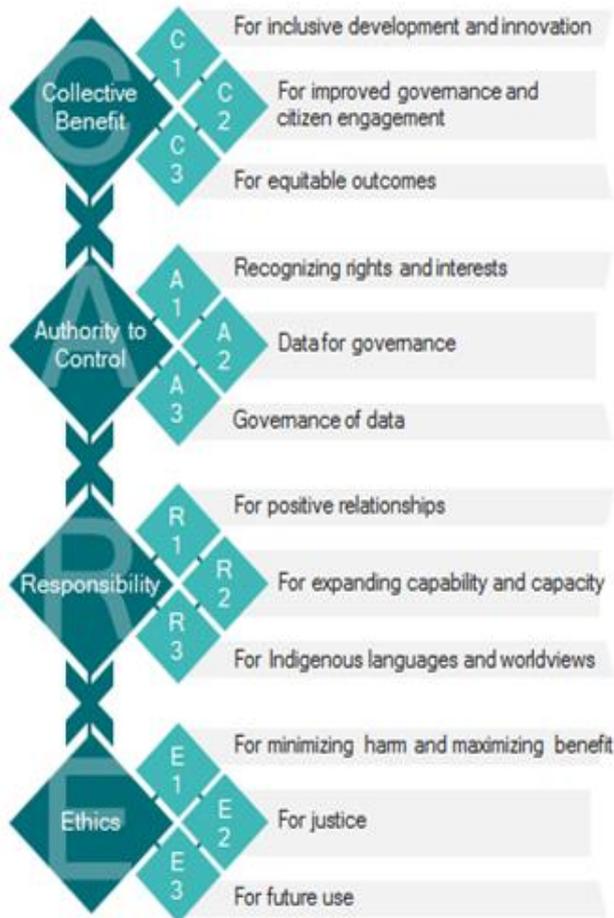
²⁵² "Principles" (2015) International Open Data Charter <<https://opendatacharter.net/principles/>>.

²⁵³ Wilkinson and others, above n 245.

²⁵⁴ Research Data Alliance International Indigenous Data Sovereignty Interest Group *CARE Principles for Indigenous Data Governance* (The Global Indigenous Data Alliance GIDA-global.org, 2019).

²⁵⁵ Stephanie Russo Carroll and others *The CARE Principles for Indigenous Data Governance* (Unpublished, 2020).

²⁵⁶ Stephanie Russo Carroll and others *The CARE Principles for Indigenous Data Governance* (Unpublished, 2020) at 4.



The CARE Principles for Indigenous Data Governance

The CARE Principles for Indigenous Data Governance are people and purpose-oriented, reflecting the crucial role of data in advancing Indigenous innovation and self-determination.²⁵⁷ Each principle has been described with accompanying sub-principles which are reflected in as seen in the diagram above. The principles go beyond just the release of data to realise benefits and innovation, and ensure equitable outcomes for Indigenous Peoples.²⁵⁸ The Principles require involvement in the whole life cycle from co-designing the data collection, to governance over the storage and management and eventual release and reuse of the data.²⁵⁹

A central important step in the development of these Principles is the reversing historical power imbalances, creating value from Indigenous data in ways that are grounded in Indigenous worldviews, and realizing opportunities for Indigenous Peoples within the knowledge economy.²⁶⁰ They serve as a guide for data producers, stewards, and publishers to affirm Indigenous rights to self-determination through CARE-ful data practices that will

²⁵⁷ Research Data Alliance International Indigenous Data Sovereignty Interest Group *CARE Principles for Indigenous Data Governance—Summary* (The Global Indigenous Data Alliance GIDA-global.org, 2019).

²⁵⁸ Open Data Charter “[Spotlight] CARE Principles Unpacking Indigenous Data Governance” (5 November 2019) Medium <<https://medium.com/@opendatacharter/spotlight-care-principles-f475ec2bf6ec>>.

²⁵⁹ Open Data Charter, above n 258.

²⁶⁰ Carroll and others, above n 256, at 14.

ultimately address complex issues related to privacy, future use, and collective interests, and increase the value of data for reuse.²⁶¹

Labelling

As the IPR regime is limited in respects to fully protecting the rights and interests in data (and information), there is a need to create mechanisms that support Indigenous data sovereignty and data governance. Drawing on the experience of the Creative Commons and Fair-Trade Labels, the Traditional Knowledge (TK) and Biocultural (BC) Labels are one instance of an initiative that operationalizes principles of Indigenous data sovereignty.²⁶² It is a way to raise awareness of the cultural significance in data (and other content) and express restrictions and expectations around the access and use of the data by non-community users.²⁶³ In a larger scan of tools or mechanisms for protecting data, labelling functions as a strategic means for indicating several common interests including: ShareDB (A Licensing Model and Ecosystem for Data Sharing), DataTags, and Legal Assessment Tool (LAT).²⁶⁴

An example of directly influencing market needs is through the project of developing a labelling system for labelling products that arise from biological and heritage based contexts. For example, biocultural heritage-based products and services can provide a source of income and generate incentives for conserving biological and cultural diversity.²⁶⁵ While labelling and certification schemes exist for ecological and fair trade products, in the early 2000s there was no such scheme that explicitly seeks to protect both biological and cultural diversity.²⁶⁶ One survey done has found broad support for a labelling scheme for biocultural heritage-based products.²⁶⁷

For small communities and producers, certification can be burdensome and expensive.²⁶⁸ In a similar way to how Fair Trade Labelling has functioned, a systematic labelling system for specific heritage based products has the possibility of giving producers more responsibility for compliance within a market context.²⁶⁹ Another example is offered through the Māori Organics label which offers a system of local verification and validation system for biocultural heritage that ensures economic, cultural and environmental goals are met.²⁷⁰ Hua Parakore was developed to realize whanau (families), (sub-tribal communities) and Iwi (Tribes) socio-

²⁶¹ At 15.

²⁶² Jane Anderson and Kimberly Christen “‘Chuck a Copyright on it’: Dilemmas of Digital Return and the Possibilities for Traditional Knowledge Licenses and Labels” (2013) 7 *Museum Anthropology Review* 105; Jennie Rose Halperin “Is it possible to decolonize the Commons? An interview with Jane Anderson of Local Contexts” (30 January 2019) Creative Commons <<https://creativecommons.org/2019/01/30/jane-anderson/>>.

²⁶³ Open Data Charter, above n 258.

²⁶⁴ Grabus and Greenberg, above n 249, at 4.

²⁶⁵ Krystyna Swiderska and others “Designing a labelling system for biocultural heritage-based products” in Pavel Castka and Danna Leaman (eds) *Certification and biodiversity: how voluntary certification standards impact biodiversity and human livelihoods* (IUCN, Gland, 2016) at 141.

²⁶⁶ At 141.

²⁶⁷ Krystyna Swiderska “Designing a biocultural heritage labelling system: survey results” (16 January 2017) International Institute for Environment and Development <<https://www.iied.org/designing-biocultural-heritage-labelling-system-survey-results>>.

²⁶⁸ Swiderska, above n 267.

²⁶⁹ Swiderska, above n 267.

²⁷⁰ Swiderska and others, above n 265, at 145–146.

economic interests and support differentiated cultural, social and economic outcomes.²⁷¹ While based on Maori values, it is also a means for supporting food sovereignty for families and communities and is a locally owned and managed verification system.²⁷² The production system is based on a self-evaluation process that upholds Māori cultural principles of mana whenua (local indigenous communities) and practices mana motuhake (independence).²⁷³

Another system that is more international in scope and purpose is the Traditional Knowledge (TK) and Biocultural (BC) Labels delivered through Local Contexts.²⁷⁴ Developed in 2010 with the Biocultural Label extension in 2019, this system is an extra-legal digital mechanism that re-positions Indigenous cultural authority and governance over Indigenous data and collections.²⁷⁵ One key focus for this system is in restoring relationships between Indigenous and non-Indigenous rights holders by correcting and providing more information about cultural material that was historically collected, often in circumstances of duress and with questionable consent, and thus without this vital information. Having more information about provenance and the history of a collection increases capacity for better understanding of equity and decision-making regarding re-use and circulation. At the point of access, the TK Labels create a means for proper Indigenous authority to be recognised, often for the first time, and then to also assist in building better relationships between research and knowledge-holding institutions and the communities whose collections they hold, steward, own and manage.

The TK & BC Labels are human and machine readable digital tags that include community developed metadata that are directly incorporated into the digital infrastructure of catalogue, classification and content management systems within archives, libraries, museums, universities and other repositories holding Indigenous collections and data. The Labels work at the level of metadata to enhance and legitimize locally based decision-making and Indigenous governance frameworks for determining ownership, access and culturally appropriate conditions for sharing historical and contemporary collections of cultural heritage. They also function to promote a new classificatory, curatorial and display paradigm and workflow for museums, libraries and archives that hold extensive Indigenous collections and data. Developed and customized directly by communities themselves, the Labels elevate the visibility of erased or excluded voices from catalogue, collection and metadata structures. Including Indigenous rights and interests function to significantly impact how Indigenous perspectives about the management of Indigenous collections and data are recognized, legitimized and incorporated into contemporary practice. By adding critical and missing information, and facilitating new collaborative and reciprocal relationships between Indigenous communities and cultural institutions, the Labels are a digital tool for increasing knowledge about how Indigenous collections and data should be accessed, shared, governed, circulated, used and curated within institutions and data repositories so that non-Indigenous users of this material are made aware of the cultural protocols that govern future-use.

The Traditional Knowledge (TK) and Biocultural (BC) Labels are one part of the Local Contexts system (www.localcontexts.org) developed to refocus the relationships between people,

²⁷¹ At 146.

²⁷² At 146.

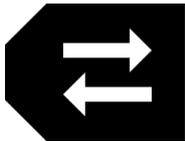
²⁷³ At 146.

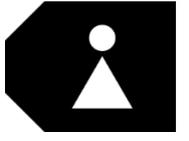
²⁷⁴ See: www.localcontexts.org

²⁷⁵ Anderson and Christen, above n 262; Halperin, above n 262.

place and data within archives, museums, libraries and open data environments. Created as a response to the failure of IP law to properly address Indigenous cultural and intellectual property interests especially in contexts of research, collection and preservation, the Labels are a practical digital tool that supports community aspirations for Indigenous data sovereignty. There are 18 TK Labels and 6 BC Labels that reflect Indigenous cultural protocols, provenance and permissions that are operational within and derive from Indigenous local contexts. Together they reflect a complex epistemological ecosystem around knowledge and data circulation and sharing. As an extra-legal mechanism - meaning an initiative beyond the authority of traditional law - the Labels can be used across all areas of the Indigenous data paradigm: from open access to legally protected data. This is because they add information about accompanying rights and interests that sit outside, or have never been included within current IP law frameworks.

As an extra-legal (meaning beyond the authority of law) intervention that repositions Indigenous cultural authority and governance over Indigenous data and collections, the Labels add critical information like community names and protocols for access, use and circulation. Inspired by locality marks such as geographical indicators, fair trade labels and initiatives like Creative Commons, TK & BC Labels work to connect relationships between Indigenous communities and their cultural materials is appropriately represented within institutions and push for the recognition that within digital infrastructures these relationships are maintained as collections are digitized and travel across platforms nationally and internationally. The Labels were developed to respond to missing, incomplete and impoverished information within Indigenous collection records. In many instances, cultural heritage materials were collected and stored with little knowledge about the items or what they represent. Having more information or metadata about the provenance of a collection makes Indigenous interests and relationships clear. This added information increases its value to researchers and the public who can make better decisions about engaging communities, entering into partnerships about future use of materials. Both the TK and BC Labels create the possibility for these relationships as well as allow for community protocols around appropriate access and use to be visible. They provide a direct means for Indigenous authority to be acknowledged and incorporated into collections management, enhancing relationships between communities and institutions, and improving decision-making regarding circulation and re-use. This Label intervention (see Table 2 below) reflects particular protocols for uses and practices in the circulation of knowledge.

Label	Purpose	Icon
TK Attribution	Ensures legitimate cultural authorities are named and acknowledged in the record and in the metadata.	
TK Outreach	Clarifies that the purpose for sharing cultural material is to help educate and this has been decided through community decision-making and authority.	

TK Multiple Communities	Indicates that responsibility, obligations and relationships for certain cultural and environmental heritage is shared by and across multiple communities.	
TK Clan	Clarifies that there are conditions of circulation that are subject to clan membership and protocols around clan relationships.	
TK Family	Indicates that certain responsibilities around sharing and circulation of knowledge vest with specific families within the community.	
TK Non-verified	Specifies cultural material that has been produced through inequitable research practices and has mistakes and/or omissions.	
TK Verified	Designates cultural material that has gone through community research processes and adheres to community protocols and decision-making.	
TK Community Use Only	Indicates that there are community specific rules for sharing this cultural material and it was not intended to be made open and available to everyone.	
TK Seasonal	Specifies certain knowledge that is always connected to place and that is connected to land-based teachings.	
TK Secret / Sacred	Designates cultural material that is normally highly restricted within a community context, is of a secret/sacred nature which requires extreme care.	
TK Women General	Indicates that women hold primary responsibility for the sharing and transmission of knowledge and cultural material.	

TK Men General	Indicates that men hold primary responsibility for the sharing and transmission of knowledge and cultural material.	
TK Women Restricted	Specifies that there are community and gender specific rules for sharing this cultural material and it was not intended to be made open and available to everyone.	
TK Men Restricted	Specifies that there are community and gender specific rules for sharing this cultural material and it was not intended to be made open and available to everyone.	
TK Non-commercial	Clarifies that it is not appropriate to derive economic benefit from use.	
TK Commercial	Indicates that commercial uses are permitted.	
TK Community Voice	Encourages community members to share their voices, stories and experiences supporting multiplicity in the telling, listening and sharing of community histories and cultural knowledge.	
TK Culturally Sensitive	Highlights that there are unique cultural sensitivities and that great care needs to be taken in using and sharing this material.	

Table 2: The TK Labels

One of the most important components of the Labels is that each Label has the capacity to reflect unique community protocols. While the icon of the Labels remains static, so that they can be immediately recognized and used internationally, the text for each Label can be customized by each community, reflecting unique perspectives, histories and interests. The name of the Label can also be translated into the community language. This customization becomes the metadata for the Label icon and each community controls their unique customization.

In the first instance, the focus for this initiative was on the development of the TK Labels. The second stage of development initiated the development of Labels that could be extended into

the biocultural environment. For Indigenous peoples, contexts for open data and sharing of biocultural information and data are not necessarily reflective about or concerned for the ongoing taking of Indigenous knowledge and therefore the relational rights and interests that must be taken into account. Moreover, there remain questions of ethics and equity, especially in relation to responsible sharing of data across multiple national platforms.²⁷⁶ This solidifies the urgent need to encode Indigenous provenance information and cultural responsibilities into research data, including DSI, on genetic resources.²⁷⁷

In the last 3 years, guided by the Aotearoa Biocultural Labels Working Group (ABWLG), the TK Labels have been extended to address Indigenous rights and interests in biodiversity and genomic research on plant and animal species. This unique initiative embeds Maori interests as foundational to the development of the Biocultural Labels. The 6 Biocultural Labels include:²⁷⁸

Provenance BC Label (BC P) | Ahunga Taketake.



Indigenous peoples have the right to make decisions about the future use of information, biological collections, data and digital sequence information (DSI) that derives from associated lands, waters and territories. This Label supports the practice of proper and appropriate acknowledgement into the future.

Open to Commercialization BC Label (BC C) | Ka Rata Pea Kia Whakapakahi



Indigenous peoples have the right to benefit from information, biological collections, data and digital sequence information (DSI) that derives from traditional lands, waters and territories. This Label is being used to indicate the express interest that [community name or authorizing party] has in being a primary party to any future negotiations if future commercialization opportunities arise from these resources.

Open to Collaboration BC Label (BC OC) | Ka Rata Pea Kia Mahitahi



This Label is being used to indicate that the community is open to research collaborations and outreach activities. With this Label, future opportunities for collaboration and engagement are supported.

Consent Verified BC Label (BC CV) | Whakaaetanga Manatoko

²⁷⁶ Hudson and others, above n 251.

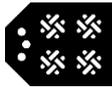
²⁷⁷ “BC Labels Initiative” ENRICH <<https://www.enrich-hub.org/bc-labels>>.

²⁷⁸ “BC Labels and Notices” ENRICH <<https://www.enrich-hub.org/bc-labels-and-notice>>.



Indigenous peoples have the right to permission the use of information, biological collections, data and digital sequence information (DSI) that derives from associated lands, waters and territories. This Label verifies that there are consent conditions in place for uses of information, collections, data and digital sequence information.

Multiple Community BC Label (BC MC) | Hāpori Maha



This Label should be used to indicate that multiple communities have responsibility, custodianship and/or ownership over the geographic regions where this species or biological entity originates/is found. This Label recognizes that whilst one community might exert specific authority, other communities also have rights and responsibilities for use and care.

Research Use BC Label (BC R) | Hei Rangahau



This label should be used for granting permission for the use of information, collections, data and digital sequence information for unspecified research. The research use label does not give permission for commercialization activities.

The BC and TK Labels are also supported by a discrete mechanism for researchers and institutions and repositories – the Biocultural (BC) and Traditional Knowledge (TK) Notices and the Cultural Institution Notice (Attribution Incomplete and Open to Collaboration). Notices are a digital identifier (mark/symbol) that offers a complementary option for the recognition of Indigenous rights in data resources. Notices are different to Labels in that they can be applied by researchers or institutions and act as a placeholder until Labels are applied. Notices provide a visible notification that there is accompanying cultural rights and responsibilities that need further attention for any future sharing and use of this material. The current notices in use include:



BC (Biocultural) Notice: This Notice should be used to recognize the rights of Indigenous peoples to permission the use of information, collections, data and digital sequence information (DSI) generated from the biodiversity and genetic resources associated with their traditional lands, waters, and territories. It acknowledges the importance of cultural protocols and recognizes that appropriate permissions may need to be sought for future use/s of this material.



TK (Traditional Knowledge) Notice: This Notice should be used to recognize the rights of Indigenous peoples to their Traditional Knowledge. Place-based knowledge can carry accompanying cultural rights and responsibilities which

mean that appropriate permissions may need to be sought for future use of this material.

The two Cultural Institution (CI) Notices:



Open to Collaborate Notice: The Open to Collaborate Notice indicates that an institution is committed to developing new modes of collaboration, engagement, and partnership over collections that have colonial and/or problematic histories or unclear provenance. This notice indicates an institutional commitment to change and to develop new processes for the care and stewardship of past and future heritage collections.



Attribution Incomplete: The Attribution Incomplete Notice is attached to collections or items that have incomplete, inaccurate, or missing attribution. This notice is a signal to viewers alerting them that the record and/or metadata is incomplete. Visibly identifying collections is the first step towards correcting existing attribution to include: contributors, collaborators, other authors and/or communities of origin.

Through Local Contexts – the Labels and Notices make an important intervention into the very real problem that few local communities have tools and mechanisms to define rights and interests in cultural collections held in institutions or, to define the types of access and management strategies that are culturally appropriate.

Repositories

Another important part of Indigenous data sovereignty and Indigenous data governance is the establishment of data repositories. Many of these projects have featured in the television series ‘Project Mātauranga’ which screens on the Māori Television channel and is supported by the Ministry of Business, Innovation & Employment. A recent example is the development of a repository with the Mātauranga Māori Digital Repository Project in the Sustainable Seas National Science Challenge.²⁷⁹

There is a small but growing number of articles discussing repositories of Mātauranga Māori. Some of these are being created by Māori organisation, iwi and hapū. They are creating their own portals, databases and repositories of their traditional knowledge, as a means of sharing, registering, protecting and recording the origin of that traditional knowledge.²⁸⁰ They noted the purpose of such repositories were to provide “a forum and a digital database for storing and recording traditional knowledge for the benefit of indigenous people or groups.”²⁸¹ One thesis was an example was a thesis that was written to develop a repository mechanism for

²⁷⁹ Ahu, Whetu and Whetu, above n 18, at 85.

²⁸⁰ At 85.

²⁸¹ At 85.

Ngātiwai.²⁸² Each of these repositories vary in the ways in which they work inside and outside their individual country's IP regimes, and include practical as well as legal components for management and protection of traditional knowledge.

²⁸² John Pelasio "Tukaiaia: a digital repository for the preservation of Ngātiwai knowledge" (Masters Thesis Dissertation, Auckland University of Technology, 2016).

Māori Data

Māori Data Sovereignty informed by knowing about ourselves - knowing who we are, where we are, what we do, when we do it, how we do it or how much we do what we do—all of the data that describe who we are is useful and informative and amenable to our analysis.²⁸³ It is an important part of enabling Māori data governance. It forms the background and basis from which governance can occur. As governance structures become more complex after the settlements, having the data and sovereignty over it is important to manage the relationships between the tribes and the Crown.²⁸⁴ It also provides the platform from which partnerships can be established and set in place within such agreements a benefit-sharing regime that returns to the collective. Data is critical to the sustenance of their people and land and to gain recognition and compensation for historical injustices.²⁸⁵

Data in the form of information and knowledge has always been a critical part of Māori society and tikanga. Over the last 40 years there has been a revival of Te Reo, but also a range of cultural practices, art forms and areas of expertise that collectively represent their indigenous knowledge or mātauranga Māori.²⁸⁶ Māori hold themselves responsible as kaitiaki to look after and protect both their tribal estate and their people.²⁸⁷ Today such information that administrative datasets, health and social service records, commercial information, historical accounts, indigenous knowledge, strategy documents and research.²⁸⁸

As Māori economic influence grows, so does the importance of having data to support it. The Māori economy has been valued in excess of NZ\$36 billion and it is growing while its contribution to the regional economies is having an impact in areas of ownership, employment and GDP.²⁸⁹ Utilisation of data and its analysis will enable Māori to secure and benefit from both tangible and intangible assets, nationally and internationally, and outlines initial steps towards creating a ‘smart’, collective Māori economy.²⁹⁰

There is a need for Māori both within Māori organisations and in areas of co-governance arrangements to have access to reliable data. There are a growing number of co-governance arrangements, for example, Waikato River Authority, Tupuna Maunga o Tamaki Makaurau Authority (Auckland Council 2016), Rangitaiki River Forum (Bay of Plenty Regional Council 2016) and the Independent Māori Statutory Board.²⁹¹ Having access to Māori data as well as the standard data enables a Te Ao Māori lens to be applied through the co-governance.

Health equity for Māori requires access to particular Māori health data. As Māori engage with health providers including having diagnoses, classifications, tests, investigations, treatments,

²⁸³ John Taylor and Tahu Kukutai “Indigenous data sovereignty: a Māori health perspective” in *Indigenous data sovereignty: toward an agenda* (ANU Press, ACT, Australia, 2016) at 208.

²⁸⁴ Maui Hudson, Dickie Farrar and Lesley McLean “9 Tribal data sovereignty: Whakatōhea rights and interests” in John Taylor and Tahu Kukutai (eds) *Indigenous data sovereignty: toward an agenda* (ANU Press, ACT, Australia, 2016) at 157.

²⁸⁵ At 158.

²⁸⁶ At 158.

²⁸⁷ At 158.

²⁸⁸ At 158.

²⁸⁹ At 159.

²⁹⁰ Insley, Tuffery-Huria and Gibson, above n 60, at 2.

²⁹¹ Hudson, Farrar and McLean, above n 283, at 158.

prescriptions and so on, each leaves a data footprint.²⁹² At present, much of the data, both personally and collectively, are dispersed, distributed and disseminated, and not easily accessible or even governable by those need the data to overcome the inequities.²⁹³ Moreover, the last census has “left Māori in the dark as to whether the Wellbeing Budget will make any difference for them.”²⁹⁴ Furthermore, exercising the control over such data is challenging, as we need to navigate confidentiality, health privacy and commercial proprietary interests.²⁹⁵ Any efforts to promote health equity have to be anchored in high-quality data that will assist in the evaluation of the effectiveness of interventions and policies.²⁹⁶ Health equity must also be a process of putting power back in the hands of Māori and that requires having data sovereignty over their health information and how it is understood. There is also a recognition that we need to address issues relating to guardianship and/or ownership of research data sets. This focus is particularly relevant with the growth of ‘big data’ and international collaborative research, particularly as data-sharing and cloud-based storage become integral parts of institutional practices, including within government agencies.²⁹⁷

Another important area of Māori data is as kaitiaki of conservation of taonga species which has been identified in the WAI262 report. Genomics Aotearoa have a project Te Nohonga Kaitiaki that reflects the importance of the role of traditional guardians and institutional stewards in the context of genomic research and taonga species. It aims to develop culturally informed ethical guidelines to connect Māori concepts and expectations of kaitiakitanga to the context of genomics. These guidelines incorporate Vision Mātauranga and support greater benefit sharing.”²⁹⁸ The purpose is to ensure the conservation and well-being of taonga species.

Despite the importance of Māori data, there are limitations on Maori rights and interests through the IPR regime in New Zealand. These have identified in the WAI262 report and have also been indicated above. Nothing conclusive and substantive has arisen to protect Māori rights and interests since the Waitangi Tribunal established or the Wai 262 claim was filed.²⁹⁹ More needs to be achieved in protecting their rights and interests by amending the IPR system including Geographic Indicators (GI).³⁰⁰ Given the difficulties in the two systems, it is also important to make use of other extra-legal mechanisms such as biocultural labelling.

²⁹² Taylor and Kukutai, above n 282, at 194.

²⁹³ At 194.

²⁹⁴ Editor “Māori have no measure of success following botched census” (24 September 2019) RNZ <<https://www.rnz.co.nz/news/te-manu-korihi/399473/maori-have-no-measure-of-success-following-botched-census>>.

²⁹⁵ Taylor and Kukutai, above n 282, at 194.

²⁹⁶ Mason Durie and Health Quality & Safety Commission New Zealand *He matapihi ki te kounga o ngā manaakitanga ā-hauora o Aotearoa 2019: he tirohanga ki te ōritenga hauora o te Māori (A window on the quality of Aotearoa New Zealand's health care 2019: A view on Māori health equity)* (2019) at 51.

²⁹⁷ At 52.

²⁹⁸ “Te Nohonga Kaitiaki” (2020) Genomics Aotearoa <<https://www.genomics-aotearoa.org.nz/projects/te-nohonga-kaitiaki>>.

²⁹⁹ Insley, Tuffery-Huria and Gibson, above n 60, at 3.

³⁰⁰ At 3.

Conclusion

Both the Treaty of Waitangi and international law uphold Māori rights and interests in their data including that of taonga species. The WAI262 report outlines the rights and interests that Māori have in data and the States responsibility as per obligations under the Treaty of Waitangi. Moreover, UNDRIP upholds Māori rights and interests and their tino rangatiratanga or self-determination over their data and the right to such data for the governance of their people and place.

Māori data comes in many forms including mātauranga Māori, taonga species and administrative data. Though all of these are important to the Indigenous Data Governance for Māori, but administrative data was beyond the scope of this research. Indigenous Data Governance requires the data sovereignty or control over the collection, access and use control of Māori data.

The IPR regime has not protected Māori data in particular protecting data for and behalf of the collective. The regime does have data protections of individuals who have a legal interest data that could include a legal person who is Māori. That is a person could use mātauranga Māori to add to something and claim an interest in that data. If it meets the requirements it would then mean that person has a legal interest. Having a legal interest due to innovation and enforcing a kaitiakitanga right or interest are not necessarily the same. Despite the WAI262 report coming out in 2011, there has been little change to the IPR regime.

Very little has improved in the current IPR regime in New Zealand. The regime is based on ownership and holding rights based in creation. Much of mātauranga Māori is not created by the person holding the knowledge, but has been passed down from generation to generation. The other issue is the knowledge is collectively held and difficult to assign 'ownership' in many cases to a particular person or entity.

There were some pieces of legislation such as the Patents Act, the Trademarks and Designs Acts, and the Geographic Indicators Act have provisions for a Māori advisory committees (MAC), but mostly the advice from them are not binding. Though there is potentiality in the Geographic Indicators, current the law is restricted to wines and spirits, so it has limited the scope of usefulness for Māori rights and interests. Toi Iho does provide a trade mark for Māori artwork but there is no provision for kaitiaki interests. Others like the Copyright Act do not have any provisions to protect Māori rights and interests.

Māori rights and interests in genomic data and taonga species having varying degrees of protection. It becomes complicated as it is spread over so many pieces of legislation. Only in exceptional cases does the law allow Māori to claim an interest in living specimens of taonga species. Where Māori do have an interest, it is not usually exclusive in that either the Crown or other parties may also have an interest. There is not sufficient bioprospecting and genetic modification regulations in place regarding the risks, interests, conceptual views, along with the enabling of benefit-sharing with Māori. Though there are some protections, in particular through the Patent Act, there are still some gaps in protecting Māori rights and interests and as the PVR review is not finalized yet, it is not possible to give a final comment.

Though the law is changing, any change does come slowly and often limited in protection. Therefore, it is important to instigate extra-legal mechanisms that fill spaces that law currently cannot provide protection for. Biocultural labelling and traditional knowledge labels are means of creating tags to data to indicate various rights and interests and information useful for researchers to know such as who to contact to gain consent. Use of such systems will enhance Māori sovereignty over their data and will support Māori governance over their land, people, and taonga.

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Appendix 1: WAI262 and Taonga Works

The Wai262 Report made several recommendations regarding Taonga Works and Intellectual Property:³⁰¹

1. Taonga works and mātauranga Māori should be legally protected. In certain circumstances, taonga-derived works should also receive some protection. The benefits of doing so will be felt not only by kaitiaki but by the country as a whole, in both the short and long term. Taonga works are not just about Māori identity – they are about New Zealand identity, and a regime that delivers kaitiaki control of taonga works will also deliver New Zealand control of its unique identity. Moreover, international law does not constrain New Zealand from protecting the kaitiaki interest.

We define taonga and taonga-derived works as follows:

- A taonga work is a work, whether or not it has been fixed, that is in its entirety an expression of mātauranga Māori; it will relate to or invoke ancestral connections (whakapapa), and contain or reflect traditional narratives or stories. A taonga work will possess mauri and have living kaitiaki in accordance with tikanga Māori.
- A taonga-derived work is a work that derives its inspiration from mātauranga Māori or a taonga work, but does not relate to or invoke ancestral connections (whakapapa), nor contain or reflect traditional narratives or stories, in any direct way. A taonga-derived work is identifiably Māori in nature, but has neither mauri nor living kaitiaki in accordance with tikanga Māori.

The key reforms we recommend for achieving the goal of protecting taonga works and mātauranga Māori are:

1. New standards of legal protection governing the use of taonga works, taonga-derived works, and mātauranga Māori. We recommend that the law be amended to provide for two new mechanisms:
 - a) A general objection mechanism to prohibit the derogatory or offensive public use of taonga works, taonga-derived works, or mātauranga Māori. Anybody should be entitled to object to the derogatory or offensive public use of taonga works, taonga-derived works, or mātauranga Māori.
 - b) A mechanism by which kaitiaki can prevent any commercial exploitation of taonga works or mātauranga Māori (but not taonga derived works) unless and until there has been consultation and, where found appropriate, kaitiaki consent. Only kaitiaki should be entitled to object to any non-derogatory or non-offensive commercial use of taonga works or mātauranga Māori.
2. An expert commission to have wider functions in relation to taonga works, taonga-derived works, and mātauranga Māori.

We recommend a commission be established. It should have multi-disciplinary expertise (encompassing mātauranga Māori, IP law, commerce, science, and stewardship of taonga works and documents) at both commissioner and secretariat levels. It would replace the Trade marks advisory committee currently operating within the Intellectual Property Office.

³⁰¹ Waitangi Tribunal, above n 1, at 99–100.

The commission's functions would fall into three broad areas. Adjudicative functions would include:

- a. Hearing complaints from anyone alleging offensive or derogatory public use of taonga works, taonga-derived works, or mātauranga Māori, and deciding what steps must be taken to remedy the situation.
- b. Hearing complaints from kaitiaki about the commercial use of taonga works and mātauranga Māori without their involvement. If the commission considers that the thing in question is a taonga work or mātauranga Māori for which the kaitiaki has an obligation of kaitiakitanga, it will need to decide whether consultation between the kaitiaki and user is sufficient, or whether consent must precede any further use.
- c. Determining whether, if the object in question is a work, it is a taonga work, a taongaderived work, or neither.
- d. Determining who is a kaitiaki (this is both an adjudicative and an administrative function). Our recommendations in respect of a kaitiaki register are referred to below.

In order to provide certainty, we recommend a process that allows for any person who wants to use a taonga work or mātauranga Māori to apply to the commission for a kind of declaratory ruling that the proposed use is permissible, or that it might be derogatory or offensive and the use of the work might give rise to an objection. This process should give guidance to those wishing to use taonga works or mātauranga Māori on whether kaitiaki rights might be infringed. The process should be quick, informal, and inexpensive. We also recommend that the commission produce advance guidelines in this area to give maximum assistance to kaitiaki and users.

The commission's decisions would be binding.

The commission's main facilitative function would be to establish best-practice guidelines for the use, care, protection, and custody of taonga works and taonga-derived works. These would assist (rather than direct) those dealing with such works to understand their significance and the mātauranga Māori and kaitiaki obligations behind them. They would help users with applying culturally appropriate practices if they wished to adopt them, and explain why the practices are followed. The commission would need a small secretariat to perform this function well.

The commission's administrative function would primarily involve operating a register of kaitiaki in respect of particular taonga works. Registration would be free, and iwi, hapū, 67aupap, or individuals could seek registration. We envisage a public notification process to allow for any objections, which the commission would have to resolve. If there are no objections, then the kaitiaki will be registered for the taonga work.

We recognise that some mātauranga Māori and taonga works are essentially secret: we would not wish to encourage their registration, nor that of their kaitiaki. The register is aimed at works that have become publicly available. In these instances, formal registration is a practical way of affording them some protection.

3. New principles on which to base decisions about the nature of kaitiaki involvement in the commercial use of taonga works.

Once a work has been determined by the commission to be a taonga work, we recommend that the involvement of kaitiaki be made compulsory in any future

commercial use of it. There are two possibilities – the right to be consulted or the necessity for consent. It will be for the commission to decide which option is applicable in any given case, taking into account factors such as the nature of the proposed use and the effect on the user. The important principle is that the choice between consultation and consent is about balancing the impact on the kaitiaki against that on the user and on other interests, particularly scholarship and the advancement of knowledge, and encouraging compromise where possible. This is the balance between the pursuit of intellectual property rights and enduring cultural obligations. As in all cases of competing interests, the law must provide for the balance to be struck as best it can.

APPENDIX 2: The WAI262 Response to Taonga Species

The WAI262 report made several recommendations regarding Genetic and Biological Resources of Taonga Species:³⁰²

The kaitiaki relationship with taonga species is entitled to a reasonable degree of protection. In exceptional cases, such as the tuatara, kaitiaki can justifiably claim an interest in each living specimen of a taonga species. But beyond this we do not think kaitiaki have rights akin to ownership in the genetic and biological resources of taonga species.

Kaitiaki also have valid rights in respect of the mātauranga Māori associated with their taonga species, even though such rights do not amount to exclusive ownership of that knowledge, at least where the knowledge is already publicly available. Thus, activities involving the commercial exploitation of mātauranga Māori must give proper recognition to the prior interests of kaitiaki; they are entitled to acknowledgement, and to have a reasonable degree of control over the use of mātauranga Māori. 'Proper recognition' will depend on the circumstances. There will be cases where a consent requirement is appropriate. In others, disclosure or consultation will be sufficient. The answer will depend on the balancing process in which the importance of the relationship will be weighed against the interests of researchers or the applicants or holders of IP rights on a case-by-case basis.

Accordingly, we recommend several changes to bioprospecting, GM, and IP legislation to ensure the kaitiaki relationship with taonga species and mātauranga Māori receives a reasonable degree of protection. Just what is reasonable requires case-by-case analysis, a full understanding of the level of protection required to keep the kaitiaki relationship safe and healthy, and a careful balancing of all competing interests. These include the interests of IP holders, the public good in research and development, knowledge, and the species itself. None of these, including the kaitiaki interest, should be treated as an automatic trump card.

Importantly, all the reforms we recommend can operate within the existing frameworks. They are:

1. Bioprospecting: We recommend that DOC take the lead in developing a bioprospecting regime that is applicable within the conservation estate and complies with the requirements of section 4 of the Conservation Act 1987. Joint decision-making between DOC's regional conservator and the pātaka komiti (which already deal with matters relating to the cultural harvest of native flora and fauna on the conservation estate) offers a potential avenue for protecting the kaitiaki interest in bioprospecting: we therefore recommend an expanded role for the komiti. Its role would need to change from an advisory one to one of joint decision-making with the regional conservator. We do not think a compulsory requirement for access and benefit sharing and prior informed consent is justified because not every bioprospecting proposal will involve mātauranga Māori or affect the kaitiaki relationship with taonga species. No one interest should have automatic priority.

2. Genetic modification: We recommend the following changes to the current regime to give greater recognition to the Māori interest:

- The Methodology Order (which details how ERMA conducts its multi-disciplinary risk assessments) should be brought in line with the HSNO Act

³⁰² At 210–212.

1996. That is, no automatic privilege should be given to physical risks, as it is currently under clauses 25 and 26.

- An additional paragraph vis-à-vis in section 5 of the HSNO Act should require all those exercising functions, powers, and duties under the Act to recognise and provide for the relationship between kaitiaki and their taonga species.
 - Ngā Kaihautū Tikanga Taiao (the specialist Māori committee that advises ERMA) should maintain its advisory role, but should be able to appoint at least two members to the Authority itself.
 - Ngā Kaihautū should give advice not only when the Authority requests it, but when Ngā Kaihautū considers an application to be relevant to Māori interests.
4. Intellectual property: We recommend various measures to protect the kaitiaki relationship with taonga species and mātauranga Māori to a reasonable degree, specifically:
- We recommend the law ensure that kaitiaki relationships with taonga species and mātauranga Māori are expressly protected in accordance with their proven depth (unless it can be demonstrated that other interests deserve priority). This includes a mechanism to ensure that any mātauranga Māori is treated as a key factor in decisions about whether a patent application is novel or involves an inventive step.
 - To ensure that mātauranga Māori is treated as a key factor, we recommend the establishment of a Māori committee to advise the Commissioner of Patents about whether mātauranga Māori or taonga species have contributed in any way to the invention, and whether the proposed use is consistent with or contrary to tikanga Māori. This advice should be relevant to the requirements of patentability and (even if the patentability criteria are satisfied) whether there are kaitiaki interests at risk.
 - We recommend the commissioner be empowered to refuse patents that are contrary to *ordre public* as well as morality.
 - The committee should not be reactive: the commissioner should be required to take formal advice from it, and work in partnership with a member of the Māori committee when making patent decisions that affect the kaitiaki relationship.
 - We recommend kaitiaki be able to formally notify their interest in particular species or mātauranga Māori by way of a register. This would allow kaitiaki to demonstrate the importance of their relationship, while also giving patent applicants fair warning of the kaitiaki interest. That said, kaitiaki should always have a right to object to a patent application, whether or not they have registered their interest.
 - We recommend patent applicants be required to disclose whether any mātauranga Māori or taonga species have contributed to the research or invention in any way. IPONZ must make these records publicly available. Patent applicants who fail to comply with a disclosure requirement can be subject to a range of outcomes, from no sanctions at all to the patent being revoked, to be decided by the commissioner and the chair of the Māori committee (or his or her delegate) on a case-by-case basis.

In respect of PVRs, while Māori have no proprietary rights in taonga species, the cultural relationship between kaitiaki and taonga species is entitled to reasonable protection. We support the Crown's proposed changes to the Plant Variety Rights Act, but recommend that any new PVR legislation also include a power to refuse a PVR if it would affect kaitiaki relationships with taonga species. In order to understand the nature of those relationships and the likely effects upon them, and

then to balance the interests of kaitiaki against those of the PVR applicant and the wider public, the Commissioner of Plant Variety Rights should be supported by the same Māori advisory committee that we recommend becomes part of the patent regime.

In addition, we recommend that each of the advisory committees (that is, the pātaka komiti, Ngā Kaihautū, and the Māori advisory committee to the Commissioner of Patents) assists in the preparation of adequate ethical guidelines and codes of conduct relevant to their field for use by those in research and development, and in the education sector more broadly. They could range in subject matter from identifying when an issue in relation to tikanga Māori arises, to locating and engaging with kaitiaki. We would expect universities, private research institutions, CRIs, DOC, ERMA, and IPONZ all to be interested in, and contributing to, the preparation of such guidelines and codes.