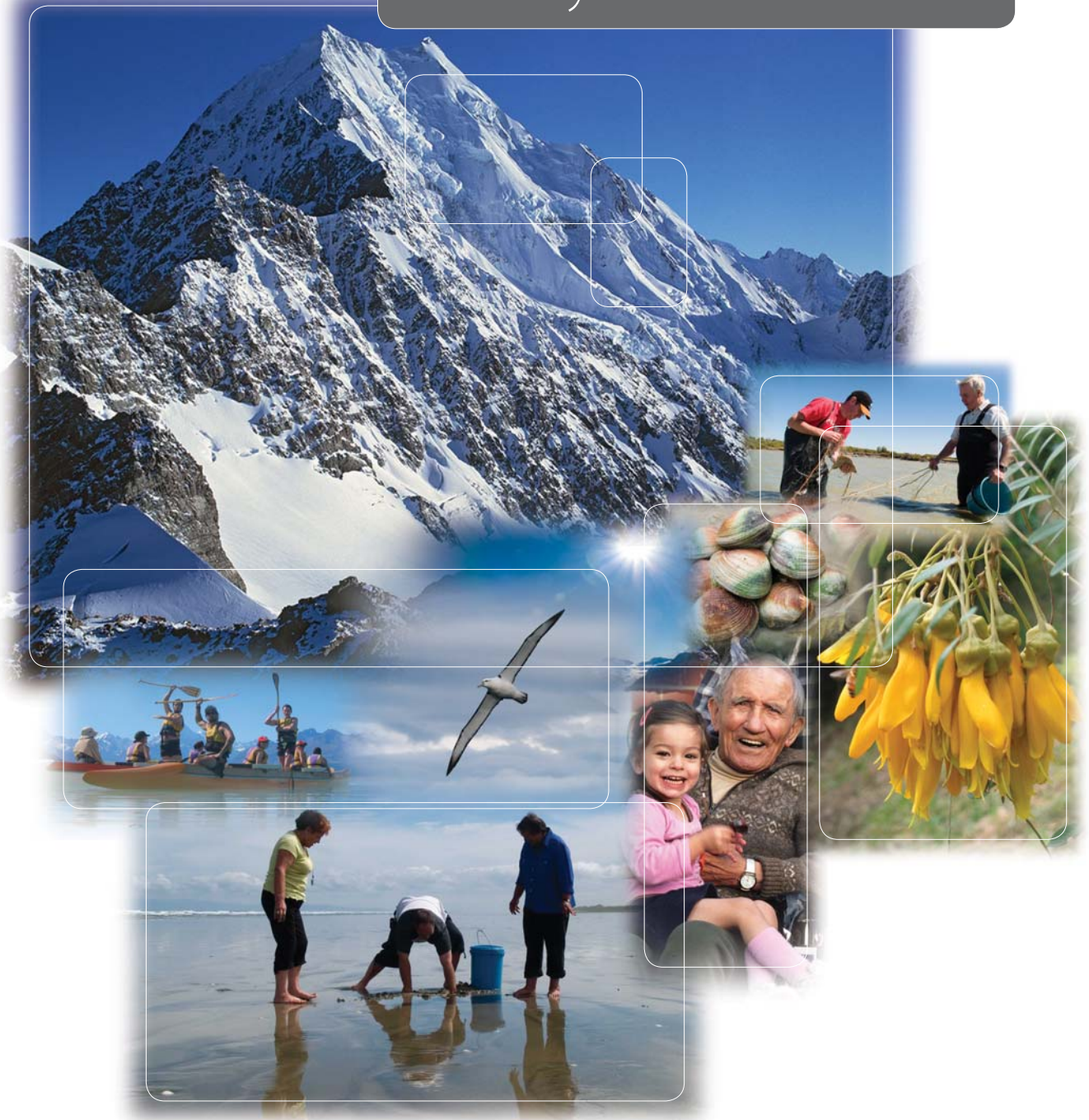


# Hazardous Substances and New Organisms

Policy Statement 2008



Te Rūnanga o NGĀI TAHU

### **Disclaimer**

While every attempt has been made to ensure the veracity of the material in this policy document, the Te Rūnanga o Ngāi Tahu Hazardous Substances and New Organisms Committee makes no warranty as to its accuracy, completeness or usefulness for any particular purpose and accepts no liability for errors of fact or opinion, in or based on, this document, whether or not due to negligence on the part of any party.

Material in the policy document may be used if the source document (*Te Rūnanga o Ngāi Tahu HSNO Policy Statement 2008*) is acknowledged and the context is made clear.

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## Ka kai i taona ai e Rehua

### The foods ripened by Rehua – the summer

*This whakataukī or traditional proverbial saying tells of the cooking (taona) or ripening of food (kai) by Rehua, who is the personification of the summer season. The summer is an important growing period in the Māori calendar that allows for the harvest of birds, tree-fruit, kūmara as well as fish in late summer and autumn. It reminds us that there is a natural cycle to life and that some things cannot be sped up. It teaches us to respect the natural world and that things will come all in good time.*

## PART 1: BACKGROUND AND PURPOSE

### 1.1 Tāhuhu Kōrero Background

The Hazardous Substances and New Organisms (HSNO) Act 1996 manages the risks of using and introducing hazardous substances (such as explosives, corrosives, toxins and ecotoxins/pesticides) and new organisms (including new plants and animals and Genetically Modified Organisms) in or into New Zealand. Anyone wanting to import or manufacture a new hazardous substance or to develop, import or release a new organism must apply to the Environmental Risk Management Authority New Zealand (ERMA) for approval.

Under the HSNO Act, the environmental and cultural health and well-being of Māori, and Treaty of Waitangi outcomes and values, must be taken into account when making decisions about introducing and using hazardous substances or new organisms into New Zealand.

**Section 5(b)** of the Act provides (amongst other things) for the:  
“Maintenance and enhancement of the capacity of people and communities to provide for their own economic, social and cultural well-being”.

**Section 6(d)** of the Act requires that ERMA New Zealand, when exercising functions under the Act, take into account:  
“The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna, and other taonga”.

**Section 8** of the Act requires that all persons exercising functions under the Act take into account:  
“...the Principles of the Treaty of Waitangi”.

Te Rūnanga o Ngāi Tahu is regularly consulted on ERMA applications for hazardous substances and new organisms. The cultural issues associated with these applications are diverse and often not well understood. Thus, Te Rūnanga o Ngāi Tahu has developed the *Te Rūnanga o Ngāi Tahu Hazardous Substances and New Organisms (HSNO) Policy Statement 2008*, as a resource for cultural risk assessment and decision making based on Ngāi Tahu values.

The Policy Statement was prepared by the Te Rūnanga o Ngāi Tahu Hazardous Substance and New Organisms (HSNO) Committee (see Appendix 1 for a list of names). Ngāi Tahu Papatipu Rūnanga were consulted about the Policy Statement which included a wānanga, it was also peer reviewed by two external experts. Policies in this document replace any previous Te Rūnanga o Ngāi Tahu policy on HSNO matters.

### 1.2 Te Rūnanga o Ngāi Tahu HSNO Committee

Te Rūnanga o Ngāi Tahu is the tribal representative body of Ngāi Tahu Whānui, established under Section 6 of the Te Rūnanga o Ngāi Tahu Act 1996 to protect the beneficial interests of all members of Ngāi Tahu.

The tribal council of Te Rūnanga consists of elected representatives from each of eighteen Papatipu Rūnanga. Papatipu Rūnanga are regional collective bodies that act as governing councils of traditional Ngāi Tahu hapū and marae-based communities.

The Te Rūnanga o Ngāi Tahu HSNO Committee is mandated by Te Rūnanga o Ngāi Tahu and Papatipu Rūnanga to provide guidance on HSNO matters. The members of the committee are appointed by Te Rūnanga o Ngāi Tahu based on their knowledge and expertise in the areas of hazardous substances and new organisms. The committee works closely with relevant staff members of Te Rūnanga o Ngāi Tahu.

### 1.3 Purpose of this Policy

This policy statement sets out Te Rūnanga o Ngāi Tahu perspectives on hazardous substances and new organisms, including genetic modification. The statement provides policy guidance for Ngāi Tahu Whānui, ERMA and ERMA applicants to:

- (a) Evaluate issues of importance to Ngāi Tahu
- (b) Identify and assess effects (risks and benefits), from a Ngāi Tahu perspective
- (c) Identify options to avoid or minimise adverse effects on Ngāi Tahu values
- (d) Identify outcomes important to Ngāi Tahu (e.g. environmental, cultural, health and well-being, economic).

Further, the Policy Statement will:

- (e) Provide support and security for Te Rūnanga o Ngāi Tahu decisions relating to HSNO matters
- (f) Ensure that Te Rūnanga o Ngāi Tahu perspectives are incorporated into HSNO Act decision-making processes.

The policy statement is written in a way that promotes a case-by-case, and thus precautionary, approach to HSNO matters. Such an approach is reliant on having effective consultation processes between iwi, ERMA, applicants and other stakeholders, in order to maximise opportunities for positive outcomes.

***The way that consultation takes place can have a significant effect on the outcomes of the consultation process (i.e. iwi response to an application). Meaningful consultation requires access to information that is relevant and comprehensible, the provision of opportunities to learn more if needed, and a willingness to address cultural concerns.***

### 1.4 Who will use this Policy Statement?

The *Te Rūnanga o Ngāi Tahu HSNO Policy Statement 2008* will be implemented by Te Rūnanga o Ngāi Tahu and the Te Rūnanga o Ngāi Tahu HSNO Committee, as a tribal policy on behalf of the tribal collective. However, the policy statement recognises:

- (a) The customary authority of whānau, hapū, Papatipu Rūnanga within their own takiwā
- (b) The manawhenua of other iwi in their respective territories
- (c) The role of Māori as tangata whenua under the Treaty of Waitangi.

The Policy Statement is first and foremost a mechanism to assist Te Rūnanga o Ngāi Tahu to provide tribal responses to HSNO matters. The policy may also be used by individual Papatipu Rūnanga as a basis for regional responses to specific HSNO matters. The policy does not inhibit the ability of Papatipu Rūnanga or Ngāi Tahu individuals to hold different views or perspectives with regard to their local values which they may voice formally.

Further, this policy will be useful to any person preparing an application under the HSNO Act, to identify potential issues of cultural concern for Te Rūnanga o Ngāi Tahu, and to assess the nature and extent of consultation that may be required. It may also be used by ERMA to assist the Authority to fulfil responsibilities under Sections 6 and 8 of the HSNO Act.

## 1.5 Structure of this Policy

The policy statement is divided into four parts:

<b>Part 1</b>	Background and Purpose of the Policy Statement
<b>Part 2</b>	Summary of Cultural Values
<b>Part 3</b>	Policy
	3.1 Hazardous Substances <ul style="list-style-type: none"><li>• <i>Issues</i></li><li>• <i>Policy Objectives</i></li><li>• <i>Policy</i></li><li>• <i>Explanation and Reasons</i></li><li>• <i>Significance</i></li></ul>
	3.2 New Organisms <ul style="list-style-type: none"><li>• <i>Issues</i></li><li>• <i>Policy Objectives</i></li><li>• <i>Policy</i></li><li>• <i>Explanation and Reasons</i></li><li>• <i>Significance</i></li></ul>
	3.3 Genetic Modification <ul style="list-style-type: none"><li>• <i>Issues</i></li><li>• <i>Policy Objectives</i></li><li>• <i>Policy</i></li><li>• <i>Explanation and Reasons</i></li><li>• <i>Significance</i></li></ul>
<b>Part 4</b>	Implementation Methods

## PART 2: SUMMARY OF CULTURAL VALUES

The *Te Rūnanga o Ngāi Tahu HSNO Policy Statement 2008* is an expression of Ngāi Tahu values, principles and mātauranga, as applied to issues associated with hazardous substances and new organisms. The Policy Statement provides a tikanga or values based framework for cultural risk assessment and decision-making.

*When the fires of ethical controversy flare up close to home they can be tested according to tikanga Māori, and a tikanga Māori perspective developed to guide our actions in controlling the fires (Mead 2003).*

A tikanga or values based framework for cultural risk assessment allows Te Rūnanga o Ngāi Tahu to make informed decisions about HSNO matters, knowing that the decisions will be consistent with cultural values. The process can be compared to a pōwhiri, whereby we bring manuhiri onto the marae through a process of lifting tapu that removes restrictions, to whakanoa them so that they are accessible and on the same level as tangata whenua. We can take HSNO matters through a similar process, guided by our values and tikanga. We take the new or unknown – what is tapu – and bring it to a state of better understanding and balance, or noa.

Several key values are used by Te Rūnanga o Ngāi Tahu to identify issues of importance and assess the effects of particular HSNO matters on Ngāi Tahu values and interests (i.e. environmental, cultural, health and well-being, economic and Treaty issues). These values are but not limited to: whakapapa, kaitiakitanga, and rangatiratanga.

- **Whakapapa** ensures cultural safety, by allowing us to determine whether an activity is natural or unnatural, appropriate or inappropriate. It ensures a holistic view of HSNO matters, recognising the interconnectedness, relatedness and relationships between all things. Whakapapa encourages us to think long-term and recognise and provide for the intergenerational aspect of decision-making.
- **Kaitiakitanga** is about our responsibility as Te Rūnanga o Ngāi Tahu, both tribally and in our communities, to assess the cultural acceptability of a proposed activity. We are part of the landscape and therefore have a responsibility to ensure its sustenance for this generation and for those to come.
- **Rangatiratanga** is about our ability as Te Rūnanga o Ngāi Tahu to influence and participate in decision-making processes and ensure that our values and perspectives are reflected in those processes. It is also about the customary authority of whānau and hapū within their own takiwā, the manawhenua of other iwi in their respective territories, and the role of Māori as tangata whenua under the Treaty of Waitangi.

The values of whakapapa, kaitiakitanga and rangatiratanga encompass numerous other values important to a tikanga based framework for cultural risk assessment. These include values such as mahinga kai, tapu, mana, and mauri.

Cultural values and principles provide benchmarks or ‘tests’ against which cultural risks and benefits can be evaluated. They ensure that we ask the right questions when assessing likelihood of risk and magnitude of impact. They also ensure that our responses to HSNO matters are consistent with our tribal vision: Mō tātou, ā, mō kā uri ā muri ake nei – For us and our children after us.

*Ngāi Tahu have a unique body of knowledge and practice relating to the environment and the relationship of people to the environment. This knowledge and practice can complement scientific knowledge, and provide better understandings of the effects of hazardous substances and new organisms on the environment and our communities.*

## PART 3: POLICY

### 3.1 Hazardous Substances

A hazardous substance is a substance that can harm people or the environment and its components when it exceeds the level defined in regulations of any of the following properties:

- an explosive nature
- flammability
- ability to oxidise
- corrosiveness
- acute or chronic toxicity
- ecotoxicity (poisonous to the environment), with or without bioaccumulation
- can generate a hazardous substance on contact with air or water.

Under the HSNO Act, hazardous substances can be imported or manufactured

- (a) in containment, and/or
- (b) for release.

Hazardous substances have a number of applications, and can provide benefits to the community and the environment. However, while there may be benefits associated with the use of some hazardous substances, the properties of such substances can also create adverse effects on people and the environment. This Te Rūnanga o Ngāi Tahu policy on hazardous substances seeks to address how best to manage both the beneficial and adverse effects of such substances.

#### Ngā Take Issues

Significant issues<sup>1</sup> for Te Rūnanga o Ngāi Tahu with respect to the import, manufacture, containment or release of hazardous substances include:

- Lack of culturally relevant information in applications
- Difficulties associated with assessing highly technical applications
- Time and cost burden to Te Rūnanga o Ngāi Tahu and Papatipu Rūnanga of assessing applications, particularly when applicants provide insufficient information on issues of cultural importance
- Pollution of the natural environment from the storage, use and disposal of hazardous substances, including contamination of land and degradation of water or air quality
- Potential effects (positive and adverse) on native species from the use and disposal of hazardous substances, particularly mahinga kai or taonga bird, plant or fish species
- Potential effects on culturally significant sites and places from the use and disposal of hazardous substances
- Risks to human health, posed by the storage, use or disposal of hazardous substances, directly or indirectly (e.g. bioaccumulation of hazardous substances in mahinga kai species and subsequent human consumption)
- Cultural and environmental effects of transport of hazardous substances (i.e. volume transported and container size, risk of accidental spillage during transport and storage)
- Extent of information and understanding about long term effects of hazardous substance use
- Risks of emergencies or accidents associated with the manufacture, use, disposal and transport of hazardous substances and how those emergencies are managed
- How cultural concerns are reflected in ERMA decisions on applications
- Contingency plans and liability.

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1. This is not a comprehensive or exhaustive list; to be used as a guide only.



## Ngā Paetae Policy Objectives

- Limit the overall use of hazardous substances.
- Safe and responsible storage, use, disposal and transport of hazardous substances, in a way that protects the environment and Ngāi Tahu values.
- The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga is recognised and provided for by HSNO Act applicants and by ERMA.
- Establishment of good working relationships between Te Rūnanga o Ngāi Tahu, ERMA, applicants and other relevant stakeholders.

## Ngā Kaupapa Policy

### Applications

- 3.1.1 To require that applicants provide high quality, culturally relevant information on the potential effects of the hazardous substance.

*‘Culturally relevant’ refers to the kinds of information provided (e.g. effects on native species), and also how that information is presented (i.e. magnitude and likelihood of impact should be presented in a way that enables assessment of cultural risk, such as how many fish a person would have to consume from a stream where an aquatic herbicide is used, to have an observable effect).*

- 3.1.2 To encourage applicants to provide lay summaries of highly technical information.
- 3.1.3 To encourage pre-application consultation, to identify issues of cultural concern and determine the nature and extent of further consultation required to address such issues.
- 3.1.4 To require that appropriate consultation occur with the appropriate Papatipu Rūnanga (see Appendix 2 for a list of Papatipu Rūnanga) with respect to the management and use of hazardous substances in that area.
- 3.1.5 To ensure that the costs of manawhenua participation in HSNO processes are not unreasonably borne by manawhenua and Te Rūnanga o Ngāi Tahu.

### Cultural Effects

- 3.1.6 To generally oppose the use of any hazardous substance where it will have direct adverse effects on cultural values, including mahinga kai or other valued flora or fauna, or their habitats.
- 3.1.7 To generally support any application where there is evidence of benefit to Ngāi Tahu cultural values, including mahinga kai or other valued flora or fauna, or their habitats.
- 3.1.8 To require that applications for hazardous substance use, where that substance may have impacts on mahinga kai species, provide information on the impacts (including bioaccumulation) on that species, and on the health and well-being of people who may consume those species.
- 3.1.9 To not accept the discharge of any hazardous substance to water or land whereby the discharge will result in the contamination (physical or spiritual) of that water or land.
- 3.1.10 To require that assessments of effects take into account both site-specific information and ‘downstream’ effects (e.g. herbicides used on land entering water and having adverse effects in lower catchment areas).
- 3.1.11 To recommend measures to avoid, remedy and mitigate the effect of hazardous substances on mahinga kai, wāhi taonga/tapu and other taonga tuku iho, including the provision of exclusion zones (particularly around waterways), buffer zones, and the use of alternative, less harmful techniques.

### Alternatives

- 3.1.12 To request that applicants provide an assessment of alternatives for the use of a particular hazardous substance (e.g. manual cleaning to control aquatic weed versus aquatic herbicide; 1080 versus zinc phosphide versus trapping for possum control), including the comparative risks and benefits, to allow Te Rūnanga o Ngāi Tahu to fully and effectively assess the potential benefits and the risks associated with the use of a particular hazardous substance.
- 3.1.13 To advocate for research into, and/or the use of, less harmful substances and techniques, particularly for potential effects on resources or sites of significance to manawhenua.

**Monitoring**

- 3.1.14 To advocate for monitoring and reviewing of provisions in applications, to address long term and cumulative effects, including potential effects of the hazardous substance on particular sites or species of significance to Papatipu Rūnanga. Monitoring provisions should include opportunities for local Papatipu Rūnanga involvement, and for the use of culturally appropriate monitoring tools (e.g. *Cultural Health Index for Streams and Waterways, Tipa and Tierney, 2005*).

**Cultural Impact Assessments**

- 3.1.15 To advocate for the use of Cultural Impact Assessments Reports, where appropriate, to provide a forum for risk assessment, evaluation and decision making based on Ngāi Tahu cultural values and principles. Such assessments are at the cost of the applicant and/or ERMA New Zealand, and may be necessary when:
- (a) The storage, use, disposal or transport of the hazardous substance may have significant effects on species or places of particular cultural importance
  - (b) The issue will generate significant discussion and debate within Ngāi Tahu.

**Contingency Plans**

- 3.1.16 To require that applications for the storage, use, disposal and transportation of hazardous substances include robust contingency plans, with clear identification of liability.

**Transport of Hazardous Substances**

- 3.1.17 To require that all precautions are taken to minimise the possibility of accidental spillage during transport of hazardous substances.
- 3.1.18 In the case of an accidental spill, the focus should be on containing and recovering the hazardous substance as opposed to dilution, or allowing the substance to 'flush away'. The dilution of spillage with water, or absorption into soils, is not an acceptable means to minimise adverse effects. Avoiding environmental effects must have precedence over economics when determining the best way to address accidental spillage.
- 3.1.19 To require that, in the event of an accidental spill, the appropriate Papatipu Rūnanga (see Appendix 2 for a list of Papatipu Rūnanga) is contacted immediately.

**Notification**

- 3.1.20 To support ERMA in requiring that applications to release a new hazardous substance be publicly notified.

**Incorporating Cultural Perspectives in ERMA Decision-Making**

- 3.1.21 To advocate that ERMA take a broad approach to weighing and balancing the perceived risks and benefits associated with the manufacture and use of hazardous substances, including what constitutes evidence, and what reliability might be placed upon spiritual or intangible concerns compared to physical, empirically based evidence.

**Te Kupu Whakamāhukihuki Explanation and Reasons**

Hazardous substances have the potential to benefit people, communities and the environment. However, by their very nature such substances also have the ability to pollute and contaminate the natural environment, and damage valued mahinga kai species and their habitats, wāhi taonga/tapu and other taonga as well as people. There are both spiritual (e.g. mauri) and physical (e.g. mahinga kai) dimensions to Te Rūnanga o Ngāi Tahu concerns about hazardous substances.

Applications for the use of hazardous substances in the environment can be highly technical in nature. This can make assessing potential issues of cultural concern time-consuming and difficult. It is the responsibility of the applicant and their supporting institution/organisation to ensure that the science is translated into plain language, with culturally (and other stakeholder) relevant information. Good information is the basis of informed consultation.

Some hazardous substances will be of more concern to Te Rūnanga o Ngāi Tahu than others. For example, hazardous substances that are poisonous to people or the environment, such as toxins used to control pests or aquatic herbicides used to clean drains, have a greater risk of significant adverse effects on cultural values. The use of such substances may have adverse effects on the ability of tangata whenua to exercise cultural practices, such as gathering of rongoā, or medicinal, plants.

Of particular concern to Te Rūnanga o Ngāi Tahu is the need for robust contingency plans to address what happens if something goes wrong (e.g. accidental spillage, non-target effects), and who will assume liability. Such information should be included in all applications to ERMA.

Te Rūnanga o Ngāi Tahu is also concerned when hazardous substances are considered universal panaceas. The use of a hazardous substance in the environment is culturally more acceptable if it is seen as one tool in a larger toolbox of methods.

Te Rūnanga o Ngāi Tahu supports a holistic approach to managing the beneficial and adverse effects of hazardous substances, one that adopts an integrated understanding of the interactions between the environment and hazardous substances. The severity of the issue or problem that use of a particular hazardous substance is seeking to address must be considered alongside the available alternatives.

### Significance

NOTE: The points below are to be used as a guide only. They are intended to provide a general understanding of those matters that may trigger cultural issues and should not be taken as a comprehensive nor authoritative statement of how Te Rūnanga o Ngāi Tahu may respond to an application.

(a) Applications that are likely to raise significant cultural issues to Te Rūnanga o Ngāi Tahu are those whereby:

- The hazardous substance is classified as a hazard in terms of toxicity (poisonous to people) and ecotoxicity (poisonous to the environment)
- The hazardous substance will or may be discharged to water
- The information in the application is highly technical, and little effort has been made to make information accessible and understandable
- There is a lack of culturally relevant information
- There is insufficient testing to address cultural issues
- A sound scientific knowledge and understanding of the use and nature of the hazardous substance is not demonstrated
- The effects of the hazardous substance on the environment and associated values are considered more than minor
- Monitoring provisions are absent from the application
- The severity of the problem is not considered to outweigh the risk
- The benefits of the manufacture or use of the hazardous substance are unknown or unclear.

b) Applications that are less likely to raise significant cultural issues for Te Rūnanga o Ngāi Tahu are those whereby:

- The hazardous substance is classified for explosiveness, flammability, oxidising ability or corrosiveness
- The hazardous substance will be imported, manufactured or used in containment
- Culturally relevant information is provided
- The risks to cultural values are known, understood and realistically communicated
- There is clear evidence of benefit to cultural values (e.g. environmental benefits)
- Monitoring and risk provisions are included in the application
- The severity of the problem is considered to outweigh risk
- Use of the particular hazardous substance is seen as one tool in a suite of methods, as opposed to a universal panacea
- There is evidence of comprehensive testing that provides environmental and cultural safety assurances.

## 3.2 New Organisms

A new organism is a new species introduced or imported to New Zealand for the first time (after 1998 under the HSNO Act). They can be introduced unintentionally (such as fruit flies on imported fruit) or intentionally (such as insects for biological control, nursery plants, exotic zoo animals, new species of fish, or new species for agriculture). New organisms have the potential to affect valued mahinga kai species and habitats where they can compete with, attack, interbreed or otherwise harm existing valued species, particularly endemic and native species.

Under the HSNO Act, new organisms can be imported, developed in containment, field-tested and released (with or without conditions).

This section of the *Te Rūnanga o Ngāi Tahu HSNO Policy Statement 2008* addresses the importation, development, field-testing and release of new organisms in New Zealand, except where that importation, development, field-testing and release involves genetic modification. New organisms developed through genetic modification are addressed in Part 3.3 of the Policy Statement.

### Ngā Take Issues

Significant issues<sup>3</sup> for Te Rūnanga o Ngāi Tahu with respect to the import, development, field-testing and release of new organisms include:

- Difficulties associated with assessing highly technical applications
- Lack of culturally relevant information in applications
- Time and cost burden to Te Rūnanga o Ngāi Tahu and Papatipu Rūnanga of assessing applications, particularly when applications provide insufficient information on issues of cultural importance
- Relationship of new species to native species and the potential of new species to compete with, attack, interbreed or otherwise harm existing species
- Effects on culturally significant sites and places from the testing or release of new organisms
- Potential positive effects on the environment and associated cultural values, from the release of new organisms (e.g. biocontrol of a pest plant species that can reduce the amount of herbicides used or new plants for biofuel production)
- How to measure the success of biological control activities
- Appropriate host specificity testing of new organisms prior to release, to assess potential effects on native species
- Costs and benefits of new organisms that may be difficult to quantify
- Extent of information and understanding about the long-term effects of new organisms on the environment
- Non target impacts of biological control agents
- Risk of escape of new organisms not approved for release (i.e. held in containment)
- How cultural concerns are reflected in ERMA decisions on applications
- Contingency plans and liability.

### Ngā Paetae Policy Objectives

- Applications to import, develop, test and release new organisms appropriately and sufficiently identify cultural risks, and ways to address such risks.
- Avoid cultural impacts as a result of the importation, development, field-testing and release of new organisms into New Zealand.
- The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga is recognised and provided for by HSNO Act applicants and by ERMA.
- Establishment of good working relationships between Te Rūnanga o Ngāi Tahu, ERMA, applicants and other relevant stakeholders.

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3. This is not a comprehensive list, to be used as a guide only.

## Ngā Kaupapa Policy

### Applications

- 3.2.1 To require that applicants provide high quality, culturally relevant information on the potential effects of the new organism(s) they seek to import, develop in containment, field-test or release.
- 'Culturally relevant' refers to the kinds of information provided (e.g. effects on native species), and also how that information is presented (i.e. magnitude and likelihood of impact should be presented in a way that enables assessment of cultural risk, such as the likelihood that an area of broom known to be used by korerū as a feeding area would be eradicated by the introduction of a biological control agent for the weed).*
- 3.2.2 To encourage applicants to provide lay summaries of highly technical information.
- 3.2.3 To encourage pre-application consultation, to identify issues of cultural concern and determine the nature and extent of consultation required to address such issues.
- 3.2.4 To encourage applicants seeking to import, develop, field test or release a new organism that may affect native plant species to use *Ngā Tipu Whakaoranga - People Plants Infobase*<sup>4</sup> to investigate cultural associations with particular native plant species, prior to consultation with Te Rūnanga o Ngāi Tahu.
- 3.2.5 To require that consultation occur with the Papatipu Rūnanga (see Appendix 2 for a list of Papatipu Rūnanga) who are kaitiaki for the area in which research or field-testing of new organisms will occur. This may include arranging a visit to the complex to observe a containment facility, or providing the Papatipu Rūnanga with the location of the field-testing site for future reference.
- 3.2.6 To ensure that the costs of manawhenua participation in HSNO processes are not unreasonably borne by manawhenua and Te Rūnanga o Ngāi Tahu.

### Release of New Organisms

- 3.2.7 To prevent the release of any new organism into the environment when the effects of that organism on native ecosystems are insufficiently known.
- 3.2.8 To require that consultation occur with the Papatipu Rūnanga (see Appendix 2 for a list of Papatipu Rūnanga) who are kaitiaki for the area in which research or field-tests for release of new organisms will occur. This may include arranging a visit to the complex to observe a containment facility, or providing the Papatipu Rūnanga with the location of the release site for future reference.

### Risk of Escape of New Organisms

- 3.2.9 To require that applications to import new organisms into containment for research, ornamental, commercial or breeding purposes fully address the risks of escape of the organisms and the potential for non-target effects (e.g. hybridisation with native species).
- 3.2.10 To require that applications to import new organisms into containment ensure that containment strategies are appropriate for avoiding escape (e.g. structural security of containment facilities).
- 3.2.11 To require that applications to import new organisms into containment, or to release a new organism into the environment, have a contingency plan in place with clear identification of liability in the case of escape of new organisms and adverse effects on the environment.

### Biological Control

- 3.2.12 To support the use of biological control where such measures can be demonstrated to avoid risk to non-target species and have a good chance of success. Success is defined as:
- (a) Establishment of the biocontrol agent
  - (b) Effective control and/or eradication of target species
  - (c) Clear benefit to the environment and other cultural values.

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4. <http://peopleplants.landcareresearch.co.nz/webforms/default.aspx>

- 3.2.13 To require that host specificity testing for proposed biological control agents includes both *choice* (i.e. agents given the choice of both target and non-target plants) and *no-choice* (i.e. agents only given non-target plant, therefore must either feed or starve to death) scenarios, and an appropriate range, diversity and number of related and unrelated species. Species tested should be sourced from areas where the proposed biological control agent will be released.
- 3.2.14 Determinations of appropriate species for host specificity testing should recognise and provide for a range of variables (e.g. physiological status of test species) and perspectives (e.g. cultural considerations).
- 3.2.15 To encourage applicants to provide opportunities for iwi input into host specificity plant selection as part of pre-application consultation.
- 3.2.16 To require that applications to import or release new organisms for the purposes of biological control include a contingency plan with clear identification of liability in the case of non-target impacts on the environment.
- 3.2.17 To require that applications to introduce new organisms for the purposes of biological control include appropriate monitoring provisions. Monitoring should have a long-term focus, and include:
- (a) Population build up and dispersal (how well the biocontrol agent has established)
  - (b) The effectiveness of the biocontrol agent
  - (c) Actual or potential non-target impacts, including those identified by tangata whenua.
- 3.2.18 Where feasible, monitoring should seek to include opportunities for local manawhenua involvement.

### **Cultural Impact Assessments**

- 3.2.19 To advocate for the use of Cultural Impact Assessment Reports, where appropriate, to provide a forum for a risk assessment, evaluation and decision-making framework based on Ngāi Tahu cultural values and principles. Such assessments should be at the cost of the applicant and/or ERMA, and may be necessary when:
- (a) The release of a new organism may have significant effects on species or place of particular cultural importance
  - (b) The issue will generate significant discussion and debate within Ngāi Tahu Whānui.

### **Costs and Benefits**

- 3.2.20 To require that cost benefit analyses for applications to import or release new organisms include costs and benefits that may be qualitative or difficult to measure (e.g. effects on kererū as a consequence of biological control of broom).

### **Monitoring**

- 3.2.21 To require that applications to introduce new organisms include provisions for monitoring and reviewing the new organism and its behaviour in the environment over time.

### **Notification**

- 3.2.22 To support ERMA in requiring that applications to import any new organism for release or to release any new organism be publicly notified.

### **Incorporating Cultural Perspectives into ERMA Decision-Making**

- 3.2.23 To advocate that ERMA take a broad approach to weighing and balancing the perceived risks and benefits associated with new organisms, including what constitutes evidence, and what reliability might be placed upon spiritual or intangible concerns compared to physical, empirically based evidence.

## **Te Kupu Whakamāhukihuki** *Explanation and Reasons*

The primary concerns of Te Rūnanga o Ngāi Tahu with respect to the importation, development in containment, field-testing and release of new organisms are:

- (a) the potential effect the new organism may have on native ecosystems
- (b) how well risks are understood
- (c) what happens if something goes wrong.

In order to avoid impacts on the relationship of Māori with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga, applications involving new organisms must demonstrate that the new organism will not establish as a weed or pest species in New Zealand, will not displace or reduce a native or valued species, or have an adverse effect on the productivity and life sustaining quantity and quality of native ecosystems.

How well risks are understood, and communicated, is important to assessing potential cultural impacts. How much certainty is needed to determine that a new organism will not adversely affect native ecosystems? How do we best communicate the extent of knowledge about risk? In some instances, it may be sufficient to say that the risks posed by the release of a new organism are 'unlikely to be significant'. However, in other instances Te Rūnanga o Ngāi Tahu may seek a greater degree of certainty.

The potential effect of a new organism on native species can be determined for biological agents using host specificity testing. Host specificity testing exposes a new organism, such as a proposed biological control agent, to a number of plant species in containment, to determine if and how many non-target plant species the new organism (e.g. insect, pathogenic fungi) will attack. The number and kinds of species tested (e.g. how many species in the same family) in host specificity tests are significant factors with respect to enabling cultural risk assessment, as is the importance of conducting both *choice* and *no-choice* tests. It is important that iwi are provided with opportunities to contribute to the design of host specificity testing.

The third area of concern for Te Rūnanga o Ngāi Tahu with regard to the importation or release of new organisms into New Zealand is liability. Once an organism has been approved for full (unconditional) release into the environment, it is no longer covered by the HSNO Act, or monitored by ERMA. It is important that the end users carry responsibility or assume liability where an organism proves to be harmful.

*Biological control:* Many HSNO applications received by Te Rūnanga o Ngāi Tahu for the importation or release of new organisms relate to biological control. Te Rūnanga o Ngāi Tahu is generally supportive of weed control via biological agents, particularly in comparison to alternatives that involve genetic modification or the use of toxic residual herbicides. The fact that many weeds have no natural predation is a concern to Te Rūnanga o Ngāi Tahu, and the concept of introducing a weed's natural enemies to control its spread makes sense. Te Rūnanga o Ngāi Tahu recognises that biological control using insects or pathogenic fungi can be an effective means of addressing the spread of plant pest species, reducing herbicide use and restoring the balance of mauri in the environment.

However, biological control methods involving introducing new organisms to New Zealand are not free from risk to the many cultural values associated with our native ecosystems. How the new organisms will behave in a new environment and the potential effects on native species are key concerns. For Te Rūnanga o Ngāi Tahu the benefits of biocontrol are inconsequential if there is a significant risk that a new organism may adversely affect a native species, directly (e.g. attacking the leaves of a native plant), or indirectly (e.g. attacking a food source of a native species). It is the uncertainty associated with how the new organism will behave in a new environment that necessitates a precautionary approach to biological control proposals.

Early consultation with good quality information on the potential effects of a new organism can save time and money at later stages in ERMA application processes. Pre-application consultation ensures that Te Rūnanga o Ngāi Tahu and Papatipu Rūnanga have a good understanding of the proposal early on, and thus can identify (and resolve) issues of cultural importance prior to lodging the final application. Good quality information is information that is culturally relevant and easily understood.

The potential impact of a new plant species (e.g. for biofuel) on both native ecosystems and existing agricultural crops must be assessed. In particular, the potential for the spread of propagules of the new species and possible hybridisation with and displacement of existing species and crops must be assessed using appropriate protocols.

### Significance

The points below are to be used as a guide only. They are intended to provide a general understanding of those matters that may or not trigger cultural issues, and should not be taken as a comprehensive nor authoritative statement of how Te Rūnanga o Ngāi Tahu may respond to an application.

(a) Applications that are likely to raise significant cultural issues to Te Rūnanga o Ngāi Tahu are those whereby:

- The effects of the new organism on the environment or native species is unknown or unclear
- The effects of the new organism on the environment and associated values are considered more than minor
- There are native species of cultural importance that are related to the new organism or the target species
- There is a cultural association with the target species or a species that may be indirectly targeted
- There is a lack of culturally relevant information
- There is insufficient testing to provide environmental or cultural safety assurances
- Monitoring provisions are absent from the application
- The severity of the problem is not considered to outweigh the risk
- The information in the application is highly technical, and little effort has been made to make information accessible and understandable
- The benefits of testing or introducing the new organism are unknown or unclear.

(b) Applications that are less likely to raise significant cultural issues for Te Rūnanga o Ngāi Tahu are those whereby:

- The new organism will remain in containment
- There are clear benefits associated with the import, development or release of the new organism, particularly cultural benefits
- Culturally relevant, easily understandable information is provided
- There is evidence of comprehensive testing that provides environmental and cultural safety assurances
- Monitoring and reviewing provisions are included in the application
- The import, development or release of the new organism is considered the best available option to address a particular issue
- The import, development or release of the new organism is to be one tool in a suite of methods to address a problem (e.g. biological control of weeds), as opposed to a universal panacea.



### 3.3 Genetic Modification

New organisms can also be developed through the genetic manipulation of a plant, animal or micro-organism. A genetically modified organism (GMO) is any organism in which the genes or other genetic material have been modified by using in vitro (recombinant DNA) techniques.

Genetically modified organisms (GMOs) may be created through the manipulation of genes within a species, or by the transfer of genes between different species.

The cultural issues associated with genetically modified organisms are diverse and often not well understood. Thus, Te Rūnanga o Ngāi Tahu has adopted a policy approach for GMOs that facilitates a case-by-case analysis of applications. Such an approach provides the flexibility to support research and knowledge accumulation, whilst maintaining the integrity of traditional values.

Under the HSNO Act, applications can be made to import or develop GMOs in containment (includes low-risk development applications), field-test GMOs in containment, or to release GMOs.

The 'rapid assessment' provisions of the HSNO Act gives ERMA the power to delegate decision-making for low-risk GMOs to institutions such as universities and crown research institutes. These institutions have Institutional Biological Safety Committees (IBSCs) for the purpose of considering low-risk GMO import and development applications. Low-risk applications occur in laboratory and research settings within contained facilities, and meet a series of criteria for low risk as per the HSNO (Low-Risk Genetic Modification) Regulations 2003. Te Rūnanga o Ngāi Tahu has mandated representation on IBSCs within its tribal takiwā.

#### Ngā Take Issues

Significant issues<sup>5</sup> for Te Rūnanga o Ngāi Tahu with respect to the containment, field-testing or release of genetically modified organisms include:

- Iwi involvement in the development of national policies on genetic modification
- Difficulties associated with assessing highly technical applications
- Lack of culturally relevant information in applications
- Time and cost burden to Te Rūnanga o Ngāi Tahu of assessing applications, particularly when applications do not provide culturally relevant information
- Effects of genetic modification on the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga
- Impacts of genetic modification on human health and well-being (spiritual and physical)
- Challenges associated with incorporating and weighting cultural concerns into risk assessments
- Challenges in identifying measurable actual and potential cultural effects associated with genetic modification
- Length of field trials of genetically modified organisms, and the relationship between trial duration and degree of risk
- Extent of information and understanding about the long-term effects of genetic modification on the environment and associated cultural values
- Containment and contamination: security of field-testing sites and containment facilities (e.g. vandalism, natural disasters, extreme weather events)
- Contingency plans and liability.

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5. This is not a comprehensive or exhaustive list; to be used as a guide only.

## Ngā Paetae Policy Objectives

- No genetically modified organism is released as a full (unconditional) release<sup>6</sup> into the environment
- Ngāi Tahu Whānui gain a greater understanding of genetic modification, and the potential effects on whakapapa, kaitiakitanga and rangatiratanga
- The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga is recognised and provided for by ERMA
- A precautionary approach is adopted for assessing the environmental and cultural risks associated with genetic modification
- Establishment of good working relationships between Te Rūnanga o Ngāi Tahu, ERMA, applicants and other relevant stakeholders.

## Ngā Kaupapa Policy

The Te Rūnanga o Ngāi Tahu policy on genetic modification consists of:

- (a) A general overarching policy on genetic modification, supported by -
- (b) Specific policies to allow for a precautionary, case-by-case approach to assessing the cultural risks, costs and benefits of applications involving genetic modification.

### (a) General Policy

3.3.1 Te Rūnanga o Ngāi Tahu opposes the full (unconditional) release of any GMOs into the environment. Te Rūnanga o Ngāi Tahu will consider all other applications on a case-by-case basis, taking into account Ngāi Tahu values and interests informed by whakapapa, kaitiakitanga, and rangatiratanga.

- **Whakapapa** provides guidance to decision-making through providing a framework to assess the cultural acceptability of the degree of genetic modification associated with an activity or proposal.
- **Kaitiakitanga** provides guidance to decision-making through providing a framework to assess the cultural acceptability of the risks and benefits of an activity or proposal.
- **Rangatiratanga** provides guidance to decision-making through providing a framework to assess the cultural acceptability of the purpose or desired outcomes of an activity or proposal.

### (b) Specific Policy

#### National Policy

3.3.2 To require that national policy on genetic modification gives effect to the principles of the Treaty of Waitangi and Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga.

3.3.3 To advocate that ERMA develop clear national policies on liability for applications involving genetically modified organisms, whereby end users of the technology assume the risk associated with the technology.

#### Applications

3.3.4 To require that applicants provide high quality, culturally relevant information on the potential effects of the genetic modification.

*‘Culturally relevant’ refers to the kinds of information provided (e.g. potential effects on native or culturally important species), and also how that information is presented (i.e. plain language summary of risk of escape and hybridisation with native species).*

3.3.5 To encourage applicants to provide lay summaries of highly technical information.

3.3.6 To encourage pre-application consultation to identify issues of cultural concern and determine the nature and extent of consultation required to address such issues.

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6. The word “released” in this context means a full (unconditional) release in which the GMO is allowed to grow freely in the environment anywhere, by anyone, without containment, without controls, without monitoring and without regulations.

- 3.3.7 To encourage applicants applying to import or develop a GMO to use *Ngā Tipu Whakaoranga - People Plants Infobase*<sup>7</sup> to investigate cultural associations with particular native plant species, prior to consultation with Te Rūnanga o Ngāi Tahu.
- 3.3.8 To require that consultation occur with the Papatipu Rūnanga (see Appendix 2 for a list of Papatipu Rūnanga) who are kaitiaki for the area in which research or field-testing of genetically modified organisms will occur. This may include arranging a visit to the complex to observe a containment facility, or providing the Papatipu Rūnanga with the location of the testing site for future reference.
- 3.3.9 To ensure that the costs of manawhenua participation in HSNO processes are not unreasonably borne by manawhenua and Te Rūnanga o Ngāi Tahu.

### Cultural Risk Assessment

- 3.3.10 To assess the *degree of genetic modification* and the *likelihood of escape* associated with a given GMO application, as measures influencing risk to cultural values. The *Cultural Risk Assessment Matrix* (Appendix 3) is a tool used to help facilitate this process.
- 3.3.11 To assess hazard to cultural values of particular GMO applications in terms of concerns related to whakapapa, or the degree of genetic modification. This means assessing the:
- Relatedness of organisms (genetic distance between donor and receiver)
  - Relationships between organisms (relationship between donor and receiver, and direction of the 'donation')
  - Cultural associations with particular organisms.

### Risk of Escape

- 3.3.12 To assess the likelihood of escape of genetically modified material in terms of:
- Pathways and barriers to gene flow
  - Degree of understanding associated with organisms, specific temporal and spatial and external environmental factors.

### Contingency Planning

- 3.3.13 To require that applications to import, develop or field-test genetically modified organisms in containment include robust contingency plans that address gene escape via human vandalism, extreme weather events, natural disasters or other occurrence.
- 3.3.14 To require that applications to import, develop or field-test genetically modified organisms identify who will receive the benefits of the importation, development or field-testing, and who will bear the cost (liability) if something goes wrong.

### Monitoring

- 3.3.15 To require that applications involving genetic modification include strict provisions for monitoring and reviewing the new organism and its behaviour over time.

### Cultural Impact Assessments

- 3.3.16 To advocate for the use of Cultural Impact Assessment Reports, where appropriate, to provide a forum for a risk assessment, evaluation and decision-making framework based on Ngāi Tahu cultural values and principles. Such assessments are at the cost of the applicant and/or ERMA and may be necessary when:
- Te Rūnanga o Ngāi Tahu has determined that the risk to cultural values and interests posed by the genetic modification research may be significant
  - The issue will generate significant discussion and debate within Te Rūnanga o Ngāi Tahu.

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7. <http://peopleplants.landcareresearch.co.nz/webforms/default.aspx>

### Notification

- 3.3.17 To support ERMA in requiring that applications to import any GMO for release or to release any new organism (including GMO) be publicly notified.
- 3.3.18 To request that ERMA notify any application to develop a GMO in containment, as per Section 53(2) of the HSNO Act, where that application is deemed by Te Rūnanga o Ngāi Tahu to be of significant interest to iwi and the wider community.

### GMO Research Outside the Rohe of Te Rūnanga o Ngāi Tahu

- 3.3.19 In the instance of a research proposal or field-test occurring in the rohe of another iwi, but with national implications for Māori, Te Rūnanga o Ngāi Tahu may submit on the application.

### Incorporating Cultural Perspectives into ERMA Decision-Making

- 3.3.20 To advocate that ERMA take a broad approach to weighing and balancing the perceived risks and benefits associated with genetic modification, including what constitutes evidence, and what reliability might be placed upon spiritual or intangible concerns compared to physical, empirically-based evidence.

## Te Kupu Whakamāhukihuki Explanation and Reasons

For Te Rūnanga o Ngāi Tahu, the issue of genetic modification is not a simple 'for' or 'against' position. Different scenarios of genetic modification may have varying degrees of cultural acceptability. Cultural risk assessments must therefore consider a range of factors to fully and effectively assess the potential risk and benefit to cultural values. Such factors include:

- (a) The *purpose* of the research (e.g. medical research, crops, conservation)
- (b) The *degree* of containment and thus likelihood of escape or exposure (e.g. laboratory containment, field trial, or released into the environment)
- (c) The *species* involved as donor and recipient and whether they were native or non-native, human or non-human
- (d) The *degree* of genetic modification proposed (e.g. manipulating or removing a gene within a species, gene transfer between different species, family, order or kingdom)
- (e) The proposed *benefits* and *risks* (e.g. to the environment, Māori, New Zealanders generally, and international companies)
- (f) The *liability*: i.e. who assumes the risk/costs if something goes wrong?

The application of traditional values of whakapapa, kaitiakitanga and rangatiratanga in a contemporary context assists us to make sense of new technologies such as genetic modification. For example, whakapapa provides a framework for assessing relationships and relatedness between species, genealogical and otherwise, and thus for making decisions about the appropriateness of degrees of genetic modification. Maintaining whakapapa integrity ensures a sense of cultural safety.

Applying the value of kaitiakitanga refers to the responsibility of Ngāi Tahu to assess the risks and benefits of genetic modification to the environment, Māori, the community, and New Zealand generally. Risks to mauri, as the essential life force and distinctiveness that enables all things to exist as themselves, and mahinga kai, as the customary gathering of food and natural materials, and the places where those resources are produced, are also important considerations with respect to applications involving genetic modification.

Kaitiakitanga is also about recognising the role of Papatipu Rūnanga in their respective takiwā. For example, it is important that Papatipu Rūnanga are provided with information pertaining to locations of field-testing sites for genetically modified crop species. For example, as kaitiaki, the Papatipu Rūnanga needs to know that a particular place was used to grow GMO, as the current use may influence decisions on future land use activities at the site.

Assessing how a GMO proposal will affect rangatiratanga can refer to the quality of the consultation process: the relevance of information provided, the nature of iwi involvement and/or recognition. Expressing rangatiratanga through applying influence on decision-making processes protects and enhances values and resources for the good of the people.

*Cultural Risk Assessment Matrix:* Te Rūnanga o Ngāi Tahu has developed a Cultural Risk Assessment Matrix (Appendix 3) to help assess the cultural acceptability of particular genetic modification applications. The matrix uses the degree of genetic modification and the likelihood of escape to determine the extent of cultural concern and effect.

The *degree of genetic modification*, or the extent of manipulation or gene transfer, is directly related to the degree of hazard to cultural values. At one end of the spectrum, an application may involve manipulating or removing/inserting genes within a species (e.g. altering a specific gene to improve a particular crop). On the other end of the spectrum are applications that seek to combine or transfer genes between different species, families or kingdoms. Generally, the more manipulation that occurs and the farther apart the two organisms (e.g. adding gene from animal to human), the less culturally acceptable the application may be.

The likelihood of escape of GMO refers to the risk that genetically modified material will enter the environment and have adverse effects. Risk is lowest when the GMO is held in full containment, and highest with full release. In assessing the likelihood of escape of new organisms, *pathways and barriers* are key considerations (Policy 3.3.12).

Pathways refer to movement of an organism or genetic material. Pathways for escape may also include natural disasters that affect a containment facility, or human vandalism. If we are assessing the likelihood of escape in terms of pathways, then we need to ask:

- (a) What are the likely pathways (e.g. wind dispersal of pollen, human vandalism of a containment facility, natural disaster destroying a field-test)?
- (b) Are those pathways important or likely to occur (e.g. what is the likelihood that the plant will produce pollen or seed)?
- (c) Can those pathways be managed (e.g. ensure that the plant does not produce a seed head, can the crop be harvested before maturity)?

Barriers to gene flow are the ways that we manage pathways - the conditions or methods that prevent escape of organisms or genetic material. For example, the distance between two crops, one GMO and one conventional, can provide a barrier to potential transfer of genetic material from one crop to another (known as isolation distance).

Cultural perspectives regarding pathways and barriers may differ from scientific perspectives. For example, a GMO proposal may be more culturally acceptable if a field-test is fully contained, preventing birds from entering the site. Birds may transfer genetic material to places outside of the field-test site, or birds may need to be protected from consuming genetically modified organisms. Early consultation with iwi can provide opportunities to discuss any issues prior to lodging the application.

The identification of pathways and barriers establishes the risks associated with a particular genetically modified organism and what we can do to manage them. However, it is important to also recognise and provide for the uncertainty of that assessment (Policy 3.3.12 (b)).

We can never be completely certain how a genetically modified organism will behave in the environment. We can set controls to manage the things we know, but we also need to acknowledge those things are 'off the radar', but that may still influence the risk of gene flow (e.g. insect movement or palatability for birds).

### **Significance**

The points below are to be used as a guide only. They are intended to provide a general understanding of those matters that may trigger cultural issues, and should not be taken as a comprehensive nor authoritative statement of how Te Rūnanga o Ngāi Tahu may respond to an application.

(a) Applications that are likely to raise significant cultural issues to Te Rūnanga o Ngāi Tahu are those whereby:

- A genetically modified organism will be released into the environment
- The genetic modification involves a native species or a species that is closely related to a native species, and there is an actual or perceived risk of cross pollination or hybridisation
- There is insufficient testing to provide environmental and cultural safety assurances

- The degree of genetic modification includes combining genes between organisms at the species, and higher, taxonomic levels
- Human genes are involved in the proposed genetic modification
- There is a likelihood of escape (exposure)
- There is a lack of culturally relevant information
- The benefits of testing or introducing the new organism are unknown or unclear
- The benefit derived from the development or testing is primarily to international companies, while the risk is assumed by New Zealand
- The information in the application is highly technical, and little effort has been made to make information accessible and understandable
- Monitoring provisions are absent from the application
- Lack of provisions setting out liability and responsibility.

(b) Applications that are less likely to raise significant cultural issues for Te Rūnanga o Ngāi Tahu are those whereby:

- Research is considered low-risk GMO by rapid assessment, particularly those with clear benefits to cultural values (e.g. research that will produce a better understanding of native species and their role in ecosystem dynamics)
- Laboratory work or field-tests that can demonstrate the most rigorous containment
- There are robust provisions for monitoring and reviewing
- The development or field-testing of the genetically modified organisms does not involve native species, or species that are closely related to native species (i.e. potential for cross pollination, hybridisation)
- The benefit derived from the development or testing is primarily to New Zealand
- Genetic modification is restricted to manipulating or removing/inserting genes within a species, as opposed to between species
- The research will clearly contribute to the development of knowledge and understanding, particularly with regards to cultural issues
- Willingness to accept liability (this is a mitigating factor).

## PART 4: IMPLEMENTATION METHODS

The *Te Rūnanga o Ngāi Tahu HSNO Policy Statement 2008* will be implemented by Te Rūnanga o Ngāi Tahu (relevant staff) and the Te Rūnanga o Ngāi Tahu HSNO Committee, as a tribal policy on behalf of the tribal collective. However, the policy statement does not inhibit the ability of Papatipu Rūnanga or Ngāi Tahu individuals to hold different views or perspectives with regard to their local values which they may voice formally.

The following methods will be used to implement the policies in the Te Rūnanga o Ngāi Tahu HSNO Policy Statement:

### **HSNO Act Processes**

- 4.1 Advocate for the implementation of processes under the HSNO Act that enable the effects on Māori and their cultural and traditions to be 'recognised and provided for', as opposed to 'taken into account'.
- 4.2 Contribute to policy and planning processes under the HSNO Act, including the development of national level policy, guidelines and strategies.

### **Pre-Application Consultation**

- 4.3 Encourage pre-application consultation for HSNO applications with Te Rūnanga o Ngāi Tahu and where appropriate, Papatipu Rūnanga, to allow applicants to identify and address (avoid, remedy and mitigate) issues of cultural concern.
- 4.4 Assist applicants to provide culturally relevant information as part of pre-application consultation information packages to enable informed consultation to occur that reflects the nature and extent of the cultural issues in question.
- 4.5 Encourage HSNO applicants to be proactive in terms of identifying potential cultural issues and concerns prior to consultation with iwi.

### **Assessments of Applications**

- 4.6 Assess applications prepared under the HSNO Act in terms of the risks, costs and benefits to the relationship of Ngāi Tahu to their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga.
- 4.7 Te Rūnanga o Ngāi Tahu will share information and any draft submissions with Papatipu Rūnanga arising from the HSNO committee's assessment of applications.
- 4.8 For those applications that are highly technical or apply to large projects, and thus require a significant amount of time to assess, Te Rūnanga o Ngāi Tahu will:
  - (a) In the first instance, request that the applicant to provide lay information
  - (b) Meet with the applicant to discuss the application
  - (c) Seek guidance from scientists and other experts/specialists, particularly Māori, who have experience with the issue
  - (d) Request that a Cultural Impact Assessment be undertaken at the cost of the applicant or ERMA.

### **Further Information**

- 4.9 Where deemed necessary, request that ERMA 'stall' a particular application to seek further information (as per Section 52 of the HSNO Act), where that application is deemed by Te Rūnanga o Ngāi Tahu as lacking information on cultural effects.

### **Cultural Impact Assessments**

- 4.10 Where needed, use Cultural Impact Assessment as a tool to:
  - (a) Ensure that Ngāi Tahu Whānui gain a good understanding of the a particular issue or application, in order to make informed decisions
  - (b) Actively engage Papatipu Rūnanga and the Te Rūnanga o Ngāi Tahu HSNO Committee in assessing the particular application

- (c) Identify the actual or potential effects (both positive and adverse) of the application on Ngāi Tahu cultural values, and to recommend, where practical, appropriate measures to address any adverse effects
- (d) Provide recommendations, if necessary, for an ongoing relationship between the applicant and Te Rūnanga o Ngāi Tahu in relation to the application
- (e) Provide a concise and professional report to ERMA and the HSNO applicant, communicating a Te Rūnanga o Ngāi Tahu assessment of risks associated with a particular application.

### **Submissions and Hearings**

- 4.11 Prepare targeted submissions and, where necessary, participate in hearings, to ensure that Ngāi Tahu values and concerns are reflected in decisions made by the ERMA decision-making committee.

### **Relationships with Key Agencies**

- 4.12 Maintain good working relationships with Ngā Kaihautū Tikanga Taiao (Ngā Kaihautū), as the statutory committee that advises ERMA on Māori issues, and Kaupapa Kura Taiao, as ERMA's strategic Māori focus group.
- 4.13 Establish Treaty-based relationships with Crown Research Institutions and the private sector with respect to HSNO matters.
- 4.14 Encourage Crown Research Institutions to form internal policy around engaging in consultation with iwi on HSNO applications.

### **Institutional Biological Safety Committees**

- 4.15 Ensure mandated Te Rūnanga o Ngāi Tahu representation on Institutional Biological Safety Committees (IBSCs), to work with institutions engaged in research and development on low-risk genetically modified organisms in containment within the Ngāi Tahu takiwā.

### **Cost Recovery and Funding**

- 4.16 Work with research institutions, funding agencies and others involved in HSNO applications to raise awareness of the need to build the costs of the provision of iwi technical cultural advice into the cost of HSNO applications. The provision of cultural advice enables informed and meaningful consultation to occur.
- 4.17 Apply, where needed, for Iwi Participation Funding from ERMA to assist with participation in HSNO processes, particularly when:
  - (a) An in-office assessment is not feasible due to the nature or scale of the particular issue, and external advice, guidance or assistance is required
  - (b) We need to actively engage Papatipu Rūnanga in a particular HSNO application through regional or local hui
  - (c) The issue is likely to generate significant discussion and debate within Ngāi Tahu Whānui.

### **Research and Knowledge**

- 4.18 Support research initiatives that will contribute to the development of knowledge and understanding of the effects of hazardous substances and new organisms on cultural values such as whakapapa, kaitiakitanga and rangatiratanga.
- 4.19 Raise awareness within Ngāi Tahu Whānui of matters relating to hazardous substances and new organisms.
- 4.20 Support the ERMA Māori National Network, as a forum to meet with other iwi to discuss and work through the range of issues relevant to HSNO decision-making.
- 4.21 Support and participate in ERMA wānanga, held on a regular basis to encourage dialogue among iwi, develop mātauranga Māori as it relates to HSNO issues, and to inform and assist ERMA to take into account Māori perspectives.
- 4.22 Encourage wānanga (see 4.20 and 4.21) to be held within the takiwā of Ngāi Tahu.
- 4.23 Actively work with Ngāi Tahu kaumātua and other individuals, experts/specialists working in area of hazardous substances, new organisms and genetically modified organisms, to further develop Te Rūnanga o Ngāi Tahu HSNO policy.



### ***Incorporating Māori Perspectives in Part V (HSNO Act) Decision-Making***

- 4.24 Work with ERMA to develop tools and processes that enable a broad approach to weighing and balancing the perceived risks and benefits associated with hazardous substances and new organisms; including what constitutes evidence, and what reliability might be placed upon spiritual or intangible concerns compared to physical, empirically based evidence.

### ***Review process of Policy Statement***

- 4.25 Review annually Te Rūnanga o Ngāi Tahu's position on HSNO matters and the policy statement in general with any required amendments to the Policy Statement as an on-going process to maintain an updated Te Rūnanga o Ngāi Tahu HSNO Policy Statement.

## Reference List

Mead, H. 2003. Tikanga Māori: Living by Māori Values. Huia Publishers, Wellington.

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## Glossary

**Hapū** - grouping of related whānau, sub-tribe

**Hui** - gathering, meeting

**Iwi** - tribe, collective of hapū based upon common ancestry

**Ka kai i taona ai e Rehua** – the foods are ripened by Rehua – the summer

**Kai** - food, to eat

**Kaitiaki** - iwi, hapū or whānau group with the responsibilities of kaitiakitanga; guardians

**Kaitiakitanga** - the exercise of guardianship and resource management

**Kaumātua** - elders

**Kaupapa Kura Taiao** - the group within ERMA New Zealand charged with supporting Ngā Kaihautū

**Kererū** – native wood pigeon

**Mahinga kai** - food, and places for obtaining natural foods, methods and cultural activities involved

**Mana** - authority Integrity, status, prestige, power

**Manawhenua** - customary authority; traditional status, rights and responsibilities of hapū in their traditional territories

**Manuhiri** - visitor, guest

**Marae** – traditional and modern Māori open meeting ground

**Mātauranga** - Māori knowledge of things

**Mauri** - spiritual essence, “life force”

**Ngā Kaihautū Tikanga Taiao (Ngā Kaihautū)** - the Māori Advisory Committee charged in Part 4A of the HSNO Act with providing advice to the Environmental Risk Management Authority (ERMA New Zealand) on matters relating to policy, process, and applications from a Māori perspective.

**Ngā kaupapa** - policy

**Ngā paetae** - policy objectives

**Ngā take** - issues

**Ngā tipu whakaoranga** - people plants information base

**Ngāi Tahu Whānui** - collective of individuals who descend from the primary hapū of Waitaha, Ngāti Mamoe and Ngāi Tahu, namely Kāti Kuri, Kāti Irakehu, Kāti Huirapa, Ngāi Tūāhuriri, and Kai Te Ruahikihiki (as defined in Section 9 of the Te Rūnanga o Ngāi Tahu Act 1996)

**Noa** – free of tapu

**Papatipu Rūnanga** - regional collective bodies of Ngāi Tahu Whānui (as referred to in Section 9 of the Te Rūnanga o Ngāi Tahu Act 1996)

**Pōwhiri** – welcoming ceremony

**Rangatiratanga** – chieftainship, the powers and qualities of chiefly leadership, exercise of tribal authority

**Rohe**- tribal area

**Rongoā** – use of native plants for medicinal purposes

**Rūnanga** – Māori council, assembly, local representative groups

**Tāhuhu kōrero** - background

**Takiwā** - tribal area

**Tangata whenua** - people of the land, local people; the iwi or hapū that holds manawhenua over an area

**Taonga** - treasured possessions, both tangible and intangible

**Tapu** – sacredness, restricted

**Te Kupu Whakamāhukihuki** – explanation and reasons

**Tikanga** - meaning, custom, obligations and customs

**Taonga tuku iho** – ancestral items of great antiquity

**Wāhi** - place, locality

**Wānanga** – learning, special knowledge

**Whakanoa** – to free from tapu

**Whakapapa** - genealogy, tribal ancestry

**Whakataukī** – proverbial saying

**Whānau** – family (extended)

## APPENDIX 1

### **Te Rūnanga o Ngāi Tahu HSNO Committee Members.**

The Te Rūnanga o Ngāi Tahu HSNO Policy Statement was written in 2007 and 2008 under the guidance of the Te Rūnanga o Ngāi Tahu HSNO Committee:

Edward Ellison (Chair)

Emma Wyeth

Matapura Ellison (until March 2008)

Oliver Sutherland

Stewart Bull

Tim Rochford

Gerry Coates (from March 2008)

Dyanna Jolly (staff)

APPENDIX 2

Papatipu Rūnanga

Contact details for the Papatipu Rūnanga<sup>8</sup> can be accessed from the website:

<http://www.ngaitahu.iwi.nz/Te Rūnanga o Ngāi Tahu/Te Rūnanga Reps>



8. A number of Papatipu Rūnanga have shared interests in some takiwā. If in doubt as to who to consult with then consult with all or contact Te Rūnanga o Ngāi Tahu.

## APPENDIX 3

### CULTURAL RISK ASSESSMENT MATRIX

Exposure/ Likelihood of escape	Full release	Containment	Degree of genetic modification/ Hazard to cultural values
Quadrant 2: low hazard; higher risk of escape. Likely to have significant cultural effects.	Quadrant 4: high hazard; higher risk of escape. Extremely likely to have significant cultural effects.	Quadrant 1: low hazard; low risk of escape. Less likely to have significant cultural effects.	Gene manipulation within a species.
		Quadrant 3: high hazard; low risk of escape. Very likely to have significant cultural effects.	Gene removal/insertion within a species.
			Introducing genes from different species.
			Introducing genes from different kingdoms.
			GM involving human genes or taonga species.

Note: The Cultural Risk Assessment Matrix is not a stand alone tool for cultural risk assessment. The matrix is to be used alongside considerations of factors such as the purpose of the research and the species involved, and considerations of implications to whakapapa, kaitiakitanga and rangatiratanga.