

**2.49 Genetically modified organisms - section 32 evaluation for the Proposed Auckland Unitary Plan**

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## **1 Overview and Purpose**

This evaluation should be read in conjunction with Part 1 in order to understand the context and approach for the evaluation and consultation undertaken in the development of the Unitary Plan.

### **1.1 Subject Matter of this Section**

This section outlines the mechanisms proposed by the Auckland Council to manage risks associated with the outdoor use of genetically modified organisms (GMOs). Genetic modification (“**GM**”) refers to a set of techniques that alter genetic makeup by adding, deleting or moving genes (within or between species) to produce new and different organisms. GMOs are products of genetic modification. Another term often used to refer to the same technique is genetic engineering (“**GE**”). Potential GMO activities of relevance include GM food crops, trees, grasses, animals and pharma crops, but exclude research within contained laboratories involving GMOs, medical applications involving the manufacture and use of GM products, and food containing GM products that are not viable. Field trials and outdoor releases to the environment are the focus of the Plan Change.

Note that this section is in significant part drawn from the more detailed s32 Analysis for the equivalent provisions as prepared by the Inter-council Working Party on GMO Risk Evaluation and Management Options (the Working Party) in 2003<sup>1</sup> (Appendix 3.49.1). If there is doubt about the interpretation of this section on GMOs, the more detailed ICWP Draft s32 (January 2013) or its successor documentation should be drawn on for interpretation.

### **1.2 Resource Management Issue to be Addressed**

The significant Resource Management Issue to be addressed is as follows:

*The outdoor use of GMOs can adversely affect the environment, economy and social and cultural resources and values, and significant costs can result from the release of a GMO.*

This issue applies to the Auckland Region. A wider unified Northern Peninsula (southern boundary of the Auckland Council to the northern tip of NZ) perspective is acknowledged as being associated with this issue in recognition that the outdoor use of GMOs is not constrained by jurisdictional boundaries.

### **1.3 Significance of this Subject**

The absolute and relative benefits associated with the development and use of GMOs is continually being redefined as this and other forms of applied biotechnology advance. However there remains scientific uncertainty with respect to potential adverse effects of GMOs on natural resources and ecosystems. The risks could be substantial and certain consequences irreversible. Once released into the environment, most GMOs would be very difficult to eradicate even if the funding were available for this, irrespective of the consequences. If the GMO is related to a food product, the “GE Free” food producer status of a district or region would likely be permanently lost, along with any marketing advantages that status confers.

Local regulation can address key gaps that have been identified in the national regulatory regime for the management of GMOs, in particular the absence of liability provisions and the

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<sup>1</sup> The Working Party initially comprised the Far North District Council, Kaipara District Council, Rodney District Council, Whangarei District Council, Waitakere City Council, Northland Regional Council and Auckland Regional Council. Auckland City Council and North Shore City Council were observers on the Working Party. Following the amalgamation of Auckland Regional Council and the seven previous city/district councils in 2010, the new Auckland Council became a representative on the Working Party.

lack of a mandatory precautionary approach. Benefits of local level regulation, in addition to the controls set by the EPA, include:

- Ensuring GM operators are financially accountable in the long-term through bonding and financial fitness provisions for the full costs associated with the GMO activity. This includes accidental or unintentional contamination, clean-up, monitoring and remediation.
- Adoption of a precautionary approach to manage potential risks (economic, environmental, social and cultural) associated with the outdoor use of GMOs.
- Protection of local/regional marketing advantages through reducing risks associated with market rejection and loss of income from GM contamination of non-GM crops, and negative effects on marketing, branding and tourism opportunities.
- Addressing cultural concerns of Maori, particularly given that Maori make up a considerably greater proportion of the population in Northland than is represented nationally.

Given a council's general duties of care for its financial position and that of its constituents, there is a ready justification for the Council to enforce mandatory conditions to provide for both financial accountability and avoidance of economic damage. These controls would act in addition to those that may be set by the EPA under the HSNO Act, and are the focus of this section.

Management of the outdoor use of GMOs within the Auckland Region has significance outside of the Auckland Region. The Auckland Council is part of the Inter-Council Working Party on GMO Risk Evaluation and Management Options (ICWP) which was formed in 2003.

#### **1.4 Auckland Plan**

The Auckland Plan has general provisions only which are relevant in the consideration of risks associated with the management of the outdoor use of GMOs. Economic examples are supporting Auckland's economic performance and productivity, its interdependence with the rest of NZ, major domestic market status and contribution to exports. Environmental priorities include valuing natural heritage and sustainably managing natural resources. Directive 7.1 is: *Acknowledge and account of ecosystem services when making decisions for Auckland*. Rural Auckland Strategic Direction 9 is *Keep rural Auckland productive, protected and environmentally sound*. Priorities are to *Create a sustainable balance between environmental protection, rural production and activities connected to the rural environment*, and; *Support rural settlements, living and communities*. Directive 9.1 is *Ensure the resources and production systems that underpin working rural land are protected, maintained and improved*.

#### **1.5 Current Objectives, Policies, Rules and Methods**

The only legacy plan provision is a provided for in the Operative Auckland City District Plan - Hauraki Gulf Islands Section 1996 prohibited new organisms (including GMO field trials and GMOs in containment) (Appendix 3.49.2). Under the Proposed Auckland City District Plan - Hauraki Gulf Islands Section 2006, the introduction, propagation, distribution or farming of GMOs) is a prohibited activity. This particular rule in the proposed plan is under appeal.

#### **1.6 Information and Analysis**

Local authorities in the Northern Peninsula responded to community concerns about GMO use by forming an Inter-council Working Party on GMO Risk Evaluation and Management

Options (ICWP) in 2003<sup>2</sup>. The focus of the Working Party is to evaluate risks to local bodies and their communities in the Northern Peninsula from the outdoor use of GMOs, together with response options to those risks, including regulation of GMO land and water uses under the RMA.

As part of its investigations, the Working Party commissioned a series of reports to investigate the nature and extent of risks local authorities could expect to face from outdoor activities involving GMOs, and the response options available to address those risks. The reports and results of the Colmar Brunton survey commissioned form part of, and should be read in conjunction with this section 32 report. They are provided in Appendix 3.49.3 to this document and include:

- *Community Management of GMOs: Issues, Options and Partnership with Government*. Simon Terry Associates, March 2004
- *Community Management of GMOs II: Risks and Response Options*. Simon Terry Associates and Mitchell Partnerships, May 2005.
- *Community Management of GMOs III: Recommended Response Options*. Simon Terry Associates and Mitchell Partnerships, September 2010.
- *Colmar Brunton Genetically Modified Organisms Survey*, aggregated results prepared for the Northland Area and Auckland Regional Council.

The first report (Simon Terry Associates, 2004) investigated options for local authority management of GMOs. The second report commissioned (Simon Terry Associates and Mitchell Partnerships, 2005) examined in detail risks to local authorities and communities from outdoor use of GMOs and response options to manage those risks. It also recommended a joint community consultation programme as the next stage in the GMO evaluation process, to ascertain the level of risk the community was prepared to accept in respect to GMO use and whether regulations in respect to the management of GMOs should be set (and in what form) at the local level in addition to national level regulation.

The third report (Simon Terry Associates and Mitchell Partnerships, 2010) extended the earlier research by examining options available to councils under the RMA for managing the outdoor use of GMOs and identified a preferred response option (via a plan change).

The reports commissioned by the Working Party, and the results from the community survey undertaken informed the development of the Working Party Plan Change (Appendix 3.49.4), the provisions of the Unitary Plan and this section 32 evaluation.

### **1.7 Consultation Undertaken**

The provisions have been progressively developed over the last 10 years. During this time community concerns over the potential use of GMOs in the Northern Peninsula have been demonstrated through numerous submissions on annual plans, Long Term Council Community Plans (“**LTCCP**”), Long Term Plans (“**LTPs**”), and district plans.

In addition, tangata whenua have expressed on-going concerns over genetic engineering in iwi/hapu management plans and other forums. A comprehensive Colmar Brunton survey of community attitudes to GMOs commissioned by Northland and Auckland councils in 2009 (Appendix 3.49.3) revealed significant community concern over GMOs in the environment

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<sup>2</sup> The Working Party initially comprised the Far North District Council, Kaipara District Council, Rodney District Council, Whangarei District Council, Waitakere City Council, Northland Regional Council and Auckland Regional Council. Auckland City Council and North Shore City Council were observers on the Working Party. Following the amalgamation of Auckland Regional Council and the seven previous city/district councils in 2010, the new Auckland Council became a representative on the Working Party.

and support for local/regional management of GMOs in Auckland and the wider Northern Peninsula.

As a consequence of on-going community concerns, all councils in Northland and three in the Auckland Region (prior to November 2010 amalgamation) included policy statements in their LTCCPs/LTPs<sup>3</sup> that provided for a precautionary approach to the use of GMOs in the environment.

Since the amalgamation, the Auckland Council continued membership of the Working Party and participated jointly in the preparation of the documentation referred to in section 1.8 below.

The Council included an issue reference and an objective in its 15 March Draft Auckland Unitary Plan for the purposes of consultation. The issue reference was *The outdoor use of genetically modified organisms could adversely affect our environment, economy and social and cultural resources and values*. Objective 2.6.4.2 was *Genetically modified organisms do not adversely affect the social, cultural, economic and environmental well-being of Aucklanders*.

The GMO topic received a significant amount of feedback, the majority of which came through during the informal feedback period on the March Draft of the Unitary Plan. Other feedback outside of this process has also been received and has been taken into consideration by Auckland Council. This includes feedback from Iwi groups and the Ministry for the Environment.

The majority of feedback opposes the use of GMOs in Auckland and requests Auckland Council to include provisions in the Unitary Plan to prohibit their use. A small amount of feedback supported the management of GMOs in the Unitary Plan provided any adverse effects are avoided.

With regard to engagement and feedback from Mana Whenua, while views varied, they were in general favor of the approach proposed by the ICWP or total prohibition.

### **1.8 Decision-Making**

The Auckland Council and the specified Auckland legacy Councils were full parties to the process leading to the preparation of *Draft Proposed Plan Change to the District/Unitary Plan (January 2013, the Draft Proposed Plan Change to the District / Unitary Plan Section 32 Report (January 2013)* (Appendix 3.49.6) and supporting documentation (Appendices 3.49.1 and 3.49.3), and the *Legal Opinions Managing Risks Associated with Outdoor Use of Genetically Modified Organisms Dr Royden Somerville QC, January 2013*. (Appendix 3.49.5)

On 8 February 2013 the Working Party received the documentation and referred it to the respective member Councils including the Auckland Council for its consideration with a view to the inclusion in the Auckland Unitary Plan (Appendix 3.49.6).

On 12 February 2013 the Auckland Plan Committee agreed to include an issue reference and an objective in its 15 March Draft Auckland Unitary Plan for the purposes of consultation (Appendix 3.49.7).

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<sup>3</sup> The Far North District Council, Whangarei District Council, Kaipara District Council, Northland Regional Council, Rodney District Council, Waitakere City Council (“GE free in field and food”) and Auckland Regional Council.

On 5 September 2013 and subsequent to receiving feedback on the draft Auckland Unitary Plan the Auckland Plan Committee of Council resolved to include provisions in general accordance with the those prepared through the ICWP.

### **1.9 Proposed Provisions**

In response to the Issue identified in section 1.5 – *Sustainably managing our natural resources*, the following explanation is lifted from the Working Party Proposed Provisions Document (January 2013).

*The potential adverse effects on people, the environment and the economy from the outdoor use or release of a GMO is identified as a resource management issue given that this is a risk associated with permitting the use, storage, cultivation, harvesting, processing or transportation of outdoor GMOs.*

*This issue must be addressed in assessing and permitting what outdoor GMO activities will be able to be undertaken within the district or region. To avoid or mitigate adverse effects, the outdoor use of GMOs needs to be managed correctly, designed and located appropriately and have processes, including a liability regime, in place for dealing with any adverse effects, such as unintentional GM contamination.*

*Council has adopted a precautionary approach to managing risks associated with the outdoor use of GMOs to address this resource management issue.*

The provisions provide for Discretionary and Prohibited Activity status as follows:

Not all categories of outdoor GMO use need to be regulated with the same degree of precaution. Different types of GMOs carry different risks, therefore the Unitary Plan groups similar GMOs together which can be expected to have similar types of effects that council may be required to avoid, remedy or mitigate.

The Unitary Plan classifies GMO outdoor uses into the following categories:

- Field Trials - **Discretionary Activity**.
- Food-related GMO Releases - **Prohibited Activity**.
- Non-food-related GMO Releases - **Prohibited Activity**.

Field trials are designed with the objective of ensuring that no altered genetic material leaves the test site and this greatly reduces the risks of harm arising. However breaches of trial conditions that could lead to GMOs escaping the trial site have occurred in New Zealand. Making all field trials a discretionary activity provides greater protection for the community by making the GMO operator financially accountable should adverse effects arise from a breach of conditions.

Given the high levels of potential harm and the uncertainties surrounding the extent of costs and benefits that could be expected from GMO releases, the Plan Change takes a precautionary approach and makes GMO releases a prohibited activity. Adopting an adaptive risk management approach, periodic reviews can be undertaken as to whether particular classes or individual GMOs should be made discretionary activities. Field trials could be considered a limited discretionary or restricted discretionary activity if a specific council determines this is appropriate in the context of their respective plan. Discretion would be limited to the general development and performance standards provided in the Plan Change.

At the point a set of GMOs demonstrates the potential to provide net benefits, a change to the Unitary Plan can then make these subject to discretionary provisions. A requirement is that the EPA has already approved such a release. Council's role is limited to determining whether there are additional conditions that would make release in the district or region permissible, or whether to decline the application.

While the Proposed Auckland Unitary Plan does not include Environmental Results Anticipated, the Working Party Draft Provisions (January 2013) notes as follows:

*It is anticipated that the objectives, policies and methods of [the provisions] will achieve the following results:*

- 1. Manage risk and avoid adverse effects on people, communities, tangata whenua, the economy and the environment associated with the outdoor use of GMOs.*
- 2. Provide the framework for a unified approach to the management of the outdoor use of GMOs in the Northern Peninsula to address cross-boundary effects.*
- 3. Ensure accountability by GMO operators for the full costs related to the monitoring of GMO activities, and any migration of GMOs beyond specified areas, including unintentional GM contamination.*
- 4. Ensure accountability by GMO operators for compensation via performance bonds in the event that the activity under their operation results in adverse effects to third parties or the environment.*

#### **1.10 Reference to other Evaluations**

This section 32 report should be read in conjunction with the following evaluations:

- 2.11 Biodiversity
- 2.18 Maori and natural resources

## **2 Objectives, Policies and Rules**

The provisions of the Proposed Auckland Unitary Plan are consistent with the Objectives, Policies and Rules as recommended by the Working Party. The Working Party draft s32 report and all supporting information and analysis therefore apply directly and are part of this section 32 evaluation.

To respond to the significant Resource Management Issue identified, the Plan provisions acknowledge that the Auckland Council has insufficient information about the outdoor use of GMOs and will therefore apply a precautionary approach. The precautionary approach inserts provisions that prohibit classes of GMO activity that in absence of additional information are identified as "too high risk", and establishes a financial liability regime for those engaging in a GMO activity.

### **2.1 Objective**

The following objectives are proposed:-

#### Regional Policy Statement

- 1. The sustainable management of the natural and physical resources of Auckland with respect to the outdoor use of GMOs.*

#### Auckland wide

- 1. The environment, including people and communities and their social, economic and cultural well being and health and safety, is protected from potential adverse effects associated with the outdoor use, storage, cultivation, harvesting, processing or transportation of GMOs.*

The following text is copied and paraphrased from the Working Party Draft s32 Report (page 32):

These Objectives are the desired end point from the resolution of the significant Resource Management Issue set out in Section 3.1. Section 5 of the Act sets out its purpose as follows:

- (1) The purpose of this Act is to promote the sustainable management of natural and physical resources.*
- (2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –*
  - a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
  - b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
  - c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

Achieving the purpose of the Act also requires addressing the matters set out in s.6 (matters of national importance), s.7 (other matters) and s.8 (Treaty of Waitangi) of the Act.

Inserting provisions into the Unitary Plan to manage the outdoor use of, and potential effects of, GMO activities is considered to be the most appropriate way of achieving the purpose of the Act for this type of activity. The Objectives clearly state the desired outcome of providing for outdoor use of GMOs while ensuring potential adverse environmental effects are avoided, or mitigated. Both the Regional Policy Statement policy and Auckland Wide Policy 1, state that this will be achieved through adopting a precautionary approach.

The Objectives also ensure unacceptable risks to the community from the outdoor release of GMOs are avoided. The Objectives recognises the value of natural and cultural resources in the Auckland Region, and the need to protect these values from the outdoor use of GMOs.

The Objectives will sustain the physical resources of the Auckland Region, now and for future generations, in particular the life supporting capacity of air, water and soil ecosystems, and through the adoption of effective policies, rules and methods, any potential adverse effects on the environment can be avoided.

The Objectives will enable people and communities to provide for their social, economic and cultural well being and for their health and safety by protecting existing primary producers from possible economic harm through GM contamination and loss of markets, protecting marketing and branding advantages and price premiums for primary producers, marketing and branding advantages for the tourism sector, and respecting socio-cultural differences, particularly the cultural values of Māori.

The Objectives will ensure the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga are recognised and provided for.

It is concluded that the above Objectives are the most appropriate way of achieving the purpose of the Act.



Paraphrased excerpt from Working Party Draft s32 Report (page 24):

Councils have jurisdiction under the RMA to set rules for GMOs that act in addition to those that may be set under the HSNO Act or by the EPA<sup>4</sup>, through inserting provisions into the District / Unitary Plan pursuant to sections 66 and 74 of the RMA. There is nothing in the HSNO Act to preclude a local authority imposing greater levels of control in its District / Unitary Plan for RMA purposes than those imposed by the EPA under the HSNO Act. The preparation of a section 32 report is therefore entirely appropriate to evaluate possible local/regional management of outdoor GMOs.

Given a council's general duty of care for its financial position and that of its constituents, there is a ready justification for the Council to set mandatory conditions to provide for both financial accountability (through bonds and insurance requirements) and avoidance of economic damage. The RMA also provides communities with the ability to set rules that embody community determined outcomes, including the level of risk it is willing to accept with respect to activities such as the management of GMOs. Further, Council under section 35 of the RMA has a duty to undertake monitoring and may set conditions to provide for monitoring at the cost of the applicant.

Establishing controls on GMOs under the RMA requires a plan change or plan review<sup>5</sup>. The Environment Court is able to consider whether the objective, policies and methods in a plan change are valid pursuant to the relevant provisions of the RMA.

The functions of the EPA under the HSNO Act are different from those of local authorities under sections 30 and 31 of the RMA.

Overall, it is concluded that the relevant RMA provisions are not in conflict with those of the HSNO Act and the two statutes can operate side by side.

### **2.1.1 Policies**

1. Adopt a precautionary approach by prohibiting the general release of a GMO, and by making outdoor field trialling of a GMO a discretionary activity
2. Adopt an adaptive approach to the management of the outdoor use, storage, cultivation, harvesting, processing or transportation of a GMO through periodic reviews of these plan provisions, particularly if new information on the benefits and/or adverse effects of a GMO activity becomes available.
3. Require the holder of a resource consent granted for the outdoor field trialling of a GMO is financially accountable for any adverse effects associated with the activity, including clean-up costs and remediation, including via the use of bonds.
4. Ensure the outdoor use of GMOs does not result in migration of GMOs beyond the area designated by:
  - a. Adequate site design, construction and management techniques
  - b. Preventing the escape of GMOs from transporting vehicles or vessels
  - c. Ensuring all heritable material is removed upon the conclusion of the activity.
  - d. Ensuring any financial liability is the responsibility of the operator carrying out the activity.
5. Enable the use of GMOs within laboratories for medical and veterinary applications including non-viable GMO products.
6. Require where appropriate, more stringent measures than those required under the provisions of the HSNO Act to manage potential risks.

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<sup>4</sup> For further discussion, see Simon Terry Associates, *Community Management of GMOs: Issues, Options and Partnership with Government*, 2004.

<sup>5</sup> Sections 65, 73, 79 and 80.

7. Require outdoor field trialling of GMOs to avoid, as far as can reasonably be achieved, risk to the environment from the use, storage, cultivation, harvesting, processing or transportation of a GMO.
8. Require all monitoring costs to be met by the consent holder.

Paraphrased excerpt from Working Party Draft s32 Report (page 24):

The policies and rules and methods are an appropriate response to community aspirations for a process whereby councils can determine acceptable levels of risk and cost exposure with respect to outdoor GMO activities within a council's jurisdiction.

The Northern Councils have repeatedly sought amendments to the HSNO Act to provide such a process within the national regulatory regime, but central government has ruled this out on a number of occasions. Additional controls at the local level are an alternative means of allowing councils to perform duties imposed on them under the LGA and the RMA.

The RMA is an effective option, and the most appropriate of those available. Further, there is not just an absence of conflict with the HSNO Act, supplementary regulation under the RMA is fully consistent with the intended interaction between the two statutes. At the time the HSNO Act was developed by central government, the intention was that additional controls could be set "under other legislation where these controls are more stringent or specific... and are required to meet other outcomes or responsibilities".<sup>6</sup> Accordingly, section 142 (3) of the HSNO Act provides that local government can set higher standards for hazardous substances through RMA conditions, and while a similar provision is not specified for new organisms, a parallel use of the Act would be similarly consistent.

A key purpose of the provisions is to "meet other outcomes or responsibilities", especially those under the LGA and RMA, and the outcome sought is controls that overall will be "more stringent".<sup>7</sup> Thus rather than duplication, supplementation is the mechanism being used to achieve increased protection for the community.

The controls are supplementary as they are precisely targeted to:

- **Fill gaps in the national regulatory regime** such as the lack of robust liability provisions for activities that do not breach EPA consents; and
- **Set standards to ensure community determined outcomes are achieved.** Relative to an uncertain and / or indeterminate standard for exercising precaution in particular, the plan change sets specific performance standards that are high in themselves and can reasonably be judged as providing higher standards than indeterminacy.

To the extent that field trials will be subject to discretionary controls and this involves additional analysis, as the controls require an EPA approval before an application can be made, further analysis (such as impacts on the local economy) will again be supplementary, as will information requirements on applicants.

As the RMA controls are supplementary and not duplicative, they are the most efficient option for a council to address the significant Resource Management Issue.

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<sup>6</sup> Simon Terry Associates, *Community Management of GMOs: Issues, Options and Partnership with Government*, 2004, p 4.

<sup>7</sup> The outcomes will in all cases be stricter in respect of financial accountability measures, and will tend to be more stringent or at least as stringent in other respects.

The provisions are also consistent with the recently revised purpose statement of the LGA.<sup>8</sup>

*“to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses”.*

In order for a regulatory function to be “good quality”, it must be efficient, effective, and appropriate to present and anticipated future circumstances.<sup>9</sup> As the foregoing has set out, the Plan Change is effective and appropriate, and it is also the most efficient option available to a council.

With specific reference to adopting a precautionary approach as provided for by the RPS policy and Auckland-wide GMO policy 1. the essence of the precautionary principle involves assessing and responding to potential risks or effects before they eventuate. There are uncertainties about the scope and scale of risks arising from the use of GMOs. Where the risks are high or difficult to assess or quantify by conventional risk analysis, or the potential effects are significant or uncertain, caution should be exercised before permitting and/or undertaking the activity in question, until more is known about the risks and potential effects. The adoption of a precautionary approach, as set out in the both the RPS and Auckland-wide GMO policies, to manage the outdoor use of GMOs to minimise the risk to the environment, economy and socio-cultural resources and values, is inherent in the Act. The policy also reflects community preferences for a precautionary approach to address the issue of outdoor uses of GMOs.

### **2.1.2 Rules and other methods**

The proposed provisions are summarised in 1.9 above.

Rules supporting the Objectives and Policies are achievable as outlined in the Working Party draft section 32 Report (January 2013) (Appendix 3.49.1), and as indicated by the supporting text to the policies in 2.1.1 above.

A detailed table referring to each Policy, Rule and Method is provided in the Working Party draft section 32 Report (January 2013) (Appendix 3.49.1). *Table 2: Assessment of the proposed policies, rules and other methods under sections 32(3)(b) and 32(4)(a) of the Act.* The table should be viewed in full.

As selected excerpts from that table the activity rules are referred to here as follows:

#### **Permitted Activity Rule for GMO activities no specifically provided for or prohibited.**

##### Benefits

The permitted activity rule would apply, but not be limited to research within contained laboratories involving GMOs and medical applications involving the manufacture and use of non-viable GM products. There are no costs identified with this rule.

##### Efficiency and Effectiveness

This rule is considered to be efficient as the absence of a permitted activity rule would mean all GMO activities would require a consent. This rule is efficient and effective as it permits medical applications involving the manufacture and use of non-viable GM products, and vaccines that tend not to persist in the environment, appear to be low risk and are difficult to monitor. This rule is efficient and effective in achieving the Objectives.

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<sup>8</sup> Local Government Act 2002 Amendment Bill, 2012.

<sup>9</sup> Section 10, as revised in 2012.

## **Discretionary Activity Rule GMO field trials**

### Benefits

Providing for field trials as a discretionary activity allows Council to decide on what GMO activities are suitable for the district or region, presents a low level of risk to the community, and provides Council the opportunity to decline high risk or information poor applications. As an application requirement is that the EPA has already approved the activity, Council's role is limited to determining whether there are additional conditions required to make the activity acceptable, or whether to decline the application.

Assessment criteria under the HSNO Act does not include liability provisions, therefore the discretionary activity status enables councils to address liability through requirement for a bond.

Activities can be undertaken subject to conditions designed to avoid more than minor effects on the environment.

### Costs

No certainty for GMO operators who may wish to undertake an activity in the area, even though they have EPA approval. This may result in an unwillingness to seek a consent and foreclosure of potential opportunities that could benefit the district or region.

Resources and costs required by Council to implement and administer the rules.

### Efficiency and effectiveness

The discretionary rule is effective as conditions can be tailored to uniquely fit each activity. It is also efficient as it is supported by a range of compliance and enforcement powers under the RMA.

## **Prohibited Activity Rule for outdoor GMO release**

### Benefits

Costs to Council associated with administering this rule are limited as the activity is prohibited. No costs can arise from legal challenges to individual decisions that could be made under a discretionary regime.

The potential adverse effects of GMO releases on the environment, economy and socio-cultural values have been identified by the community as key concerns. The prohibited activity status is consistent with a precautionary approach and provides certainty to the community that no GMO releases can be undertaken without specific further consideration and subsequent plan change. Prohibited activity status avoids entirely the high levels of potential harm and uncertainties about costs associated with an unforeseen event. The matter of provision of compensation and its adequacy, particularly in terms of opportunity costs is avoided.

Prohibited activity status would not be subject to the option, as under a discretionary approach, that the EPA could call in an application or it could be referred directly to the Environment Court. Therefore the Council and the community it represents would retain the capacity to determine its own policy in terms of outdoor release of GMOs.

Application of the prohibited rule throughout the Northern Peninsula will provide for consistency in the approach to GMO releases and will largely eliminate cross-boundary controls (apart from the southern boundary).

### Costs

By prohibiting certain activities from establishing, new developments/technologies face uncertainty and delay in seeking approval by way of a plan change. This could result in foreclosure of potential opportunities associated with a GMO development that could benefit the Northern Peninsula. This cost is remedied through the ability to reverse a prohibited activity in a plan. A council or a GMO developer can initiate a plan change to make it subject to discretionary provisions, if it were to become evident during the field trial stage and in light of new information that a particular GMO activity would be of net benefit to the Northern Peninsula. The lead time involved in gaining an EPA approval would not be dissimilar from that required to achieve a plan change. The change would however be specific to a particular class or GMO variety.

The District/Unitary Plan will need to be amended if a prohibited activity demonstrates it would be of benefit.

Time and monetary costs associated with the plan change process for the Council, GMO developer and community.

#### Efficiency and effectiveness

The rule will achieve the Objectives, as it will ensure that potential adverse effects from general releases of GMOs will be avoided.

The rule also provides clarity to the Council and the community about what GMO activities can and cannot be undertaken.

The policy is effective in addressing cross-boundary effects and associated risks, such as perception, opportunity costs and transportation risk, through a consistent application of the rule throughout the Northern Peninsula.

Periodic review can consider whether clear benefits of GMO technology can be identified and risks managed, and whether specific classes of GMO releases could be made a discretionary activity. The prohibited activity status places the onus on the GMO proponent to provide sufficient information on the level of risk in resource management terms when proposing a plan change.

The rule is specific to GMO releases, which makes it efficient in achieving the Objectives and addressing the significant Resource Management Issue. It recognises the potential risk associated with GMO releases and the lack of provisions for strict liability in the District/Unitary Plan. This rule is particularly effective in achieving the Objectives.

### **2.1.3 Costs and Benefits of Proposed Policies and Rules**

The following text is copied and paraphrased from the Working Party Draft s32 Report (pages 34-35) (Appendix 3.49.1):

#### Costs

The greatest potential cost is the value of any opportunities lost as a result of the inability to release GMOs. The EPA specifies that the counterfactual for determining the benefit of a proposed GMO activity is the gains to New Zealand it would provide over and above that which could have been expected to result in any case.<sup>10</sup> This means that for foregone benefits to count there must be benefits in addition to that which could have been expected if the GMO activity had not gone ahead.

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<sup>10</sup> EPA, *Assessment of Economic Risks, Costs and Benefits: Consideration of impacts on the market economy*, November 2011, pp 6 and 7.

The key area of interest is agricultural GMO applications, given the predominant land uses in the Northern Peninsula. Traditional breeding has delivered consistent incremental gains in agricultural productivity, so that the baseline is far from static. Discoveries in gene science in recent decades have led to new productivity enhancement techniques, and GM is one of a number of such applied technologies. In consequence, there are a number of routes to enhanced agricultural productivity, even when limiting consideration to the genetic makeup of the inputs.

A recent comparison of corn yields in the US (where GM maize dominates over non-GM varieties) and European countries growing essentially no GM maize demonstrated Europe's equal or in many cases superior yields over a quarter of a century. This clearly illustrates that gains can be quite independent of access to any particular biotechnology, including GM products. Maize is the second most widely planted GM crop in the world and the comparison shows that since the introduction of GM crop varieties in the mid 1990s, gains in European corn yields have at least kept pace with those in the US on a per hectare basis.<sup>11</sup>

For some time, GM developers have been anticipating step change gains that would separate food GMOs from such patterns but these have yet to be demonstrated in production. What has become clearer in recent years is that at least one other technique is equally capable of achieving step change gains. Marker Assisted Selection ("**MAS**"), also known as precision breeding, makes use of gene science to better understand the traits that are sought to be transferred from one plant to another, but the process of creating the new organism is based on traditional non-GM techniques - such that the result is not a GMO. MAS is generally capable of delivering the same scope of new varieties as GM.<sup>12</sup>

Therefore, as GM is almost never a unique route to a particular productivity enhancement, and non-GM techniques can generally achieve similar outcomes, in principle there need not be any foregone benefits arising from prohibiting the release of GMOs. Actual costs will be scenario dependent, and in particular could depend on whether a New Zealand-based company has devoted its research effort to use of a GM route (versus a non-GM route) and whether competing non-GM options have been pursued locally or not.

Forecasting outcomes is further complicated at this point due to the potential for circularity in the analysis. If councils do not have controls to manage GMO activities in place, then developers are less likely to avoid GM routes to productivity enhancement, whereas if a number of councils have adopted such rules, local developers will tend to choose non-GM routes. In the long run, because of the availability of non-GM routes, the cost of prohibiting GMO release activities will tend to zero.

The overall analysis is however simplified by the ability to alter a plan so as to make a particular GMO or class of GMOs a discretionary activity as new information becomes available. As described in Section 4.3, where a GMO is considered to provide net benefits to the jurisdiction, a plan can be changed in a manner that minimizes the potential for delay in securing those benefits. The existence of this option to reverse the constraint effectively caps the potential value of any lost opportunities arising from a GMO release at the cost of making a further plan change.

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<sup>11</sup> Professor Jack Heinemann, Presentation to Hastings District Council, 24 October 2012.

<sup>12</sup> GM does not enjoy a timing advantage either. Dr Robert Reiter, a molecular biologist and VP Biotechnology at Monsanto recently stated that: "Conventional crop breeding requires a 7 – 8 year cycle, compared to 10 – 15 years from inception to development for genetically modified crops..."  
<http://www.sciencemediacentre.co.nz/2012/09/04/gm-biotech-players-outline-their-science-roadmaps/>

With respect to field trials, many of the controls set by the provisions are common to those required under the HSNO Act for a field trial – for example the prohibition on altered genetic material moving beyond the boundary of the test site. The financial accountability provisions are additional costs to the developer but as they are intended to internalise any costs otherwise externalised, there is no net cost to the community. A further overall feature of field trials is that these can generally be conducted in another part of New Zealand without affecting the prospects for later use of the GMO in question within a council’s jurisdiction. There would nonetheless be additional transaction costs to the GMO proponent involved in making a separate application to a council as well as the EPA if a field trial were sought to be conducted in the council’s area, but these costs will be minor. It is not unusual for consent applications to be made under different statutory codes in respect of a particular land use.

### Benefits

The principal benefit of the provisions is the ability to set community determined levels of risk and cost exposure with respect to GMO activities within a council’s jurisdiction. Establishing appropriate standards of protection will have benefits that are financial and non-financial.

Financial benefits arise from avoiding the risk of lost income due to GM contamination of non-GM crops, avoiding the need to curb or eradicate a GMO in the environment that proves to be unwanted, and potentially from price premiums delivered by branding that is in part reliant on a GM Free status for an area.

Pastoral farming, horticulture and forestry constitute the predominant land uses in the Northland Region and are also important land uses in the Auckland Region, though these are considerably less significant to its overall economy. GM varieties relevant to each of these sectors are either commercially available today or under active development. Both regions are also home to ecologically sensitive areas.

The main relevant land-based industries in Northland and Auckland are:

- Pastoral agriculture accounts for over half of land use in Northland,<sup>13</sup> and carries 6% of the nation’s dairy stock and 10% of its beef stock, while Auckland carries 2% of the nation’s dairy stock and 3% of its beef stock.<sup>14</sup> Potential uses of live GMOs in pastoral farming include GM feed and pasture grasses and GM livestock.
- Auckland accounts for 12% of national horticultural production and Northland 5%.<sup>15</sup> Many of the principal fruit and vegetable crops grown in these regions are the subject of GM research and development.
- Northland accounts for 9% of the nation’s planted production forest area, and Auckland 2%.<sup>16</sup> Scion (a Crown Research Institute) is currently conducting field trials of GM pine and other species in Rotorua.

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<sup>13</sup> <http://www.nrc.govt.nz/special/soe.2002/regional.profile/2-3-index.shtml>

<sup>14</sup> Statistics New Zealand, 2011 data from table builder for agriculture at:  
[http://www.statistics.govt.nz/tools\\_and\\_services/tools/TableBuilder/agriculture-statistics.aspx](http://www.statistics.govt.nz/tools_and_services/tools/TableBuilder/agriculture-statistics.aspx)

<sup>15</sup> Statistics New Zealand, 2011 data from table builder for agriculture.

<sup>16</sup> MAF, 2007 data, “Agricultural Areas in Hectares by Usage and Region”,  
[http://www.stats.govt.nz/browse\\_for\\_stats/industry\\_sectors/agriculture-horticulture-forestry/2007-agricultural-census-tables/land-use-farm-counts.aspx](http://www.stats.govt.nz/browse_for_stats/industry_sectors/agriculture-horticulture-forestry/2007-agricultural-census-tables/land-use-farm-counts.aspx)

There are a number of different risk pathways capable of triggering market or environmental damage that could result in significant financial consequences. The value of avoiding any one of these is scenario dependent. Experience with GM contamination events indicates that losses from a single event can amount to millions or tens of millions of dollars.<sup>17</sup> Similarly, experience with unwanted new organisms has shown that the costs of eradicating one of these can amount to tens of millions of dollars, and attempts to even limit the rate of spread can require millions of dollars.<sup>18</sup> The level of cost that could be expected within a particular jurisdiction depends on the type of GMO and the nature of the problem, but exposures to constituents in the millions of dollars per incident are reasonable to assume.

While the government is obliged to remove any GMO that is illegally present, it has complete discretion over whether it assists financially with the removal of a GMO that was approved for release by the EPA but later is seen as an unwanted new organism. Losses arising from GM contamination will tend to be faced by those in the community (whichever way claims between GM and non-GM growers are settled) and attenuated only to the extent that insurance can be obtained.

A further important benefit is avoiding the foreclosure of opportunities to enhance the value of a jurisdiction's production through branding and marketing. The Northern Peninsula (north of the Auckland Isthmus) is geographically distinct and this provides a demonstrable physical separation from other areas. If the area were to be marketed as having distinct food production characteristics, including being GM Free, such a geographic separation could be pointed to in order to underscore the distinction.

Even within Europe, where GMO cultivation is very rare and constitutes 0.01% of global acreage, a number of regions have branded themselves GM Free. This includes 21 regions in France and 16 in Italy – many that evoke premium food attributes such as Tuscany, Salzburg, Burgundy and Provence.

In Australia, the South Australian Government legislated for the Eyre Peninsula to be provided with separate and stronger powers to exclude GM cultivation from an area in which quite strong restrictions already apply.<sup>19</sup> Tasmania has gone further and adopted a policy of state-wide exclusion of GMOs and a branding strategy emphasising the region's pristine character.<sup>20</sup>

New Zealand currently enjoys *de facto* recognition as a GM free growing area and this has allowed maize producers as a group to secure higher returns than would otherwise be the case. As the spread of GM contamination makes it harder for producers in a number of countries to be GM free, and at the same time many high value consumer markets remain resistant to GM content in food, premiums for GM free production can be expected to remain if not expand.

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<sup>17</sup> Simon Terry Associates and Mitchell Partnerships, *Community Management of GMOs II: Risks and Response Options*, 2005, Section 2.3. In well-defined markets, the cost of a particular risk can be revealed by insurance contracts but the issue at hand is not suitable for this.

<sup>18</sup> Simon Terry Associates and Mitchell Partnerships, *Community Management of GMOs II: Risks and Response Options*, 2005, Section 6.2.2.

<sup>19</sup> Parliament of South Australia, House of Assembly Select Committee on Genetically Modified Organisms (2003) *Final Report*.

<sup>20</sup> See: [www.brandtasmania.com](http://www.brandtasmania.com)



A plan change that excludes GMO releases would provide the underpinning for individual companies and potentially for regional bodies to further develop and promote a brand capable of adding value to existing production as part of a wider promotion of local attributes.<sup>21</sup>

Other non-financial benefits of the provisions include:

- Avoidance of adverse effects on Māori cultural values;
- Reduced risk to biodiversity; and
- Reduced scope for tension between neighbours arising from any GM plantings.

Overall, the largest potential benefit is the avoidance of the risk of incurring costs that are measured in the millions to tens of millions of dollars per serious incident, whereas the cost of these provisions and any contingent costs (including subsequent plan amendment) together would be considerably less than the cost of even one of the minor GM contamination events that have occurred in New Zealand to date.<sup>22</sup> The administrative costs involved in establishing the provisions are in effect the cost of avoiding these risks. While the prospect of any particular event occurring would be difficult to attach a probability to, the differential between the risks and the remedy is so large that the cost can be viewed as an insurance policy premium.

#### **2.1.4 Adequacy of Information and Risk of Not Acting**

It is considered that there sufficient information on which to base the proposed objectives, policies, rules and methods.

Referring to the risk of not acting, the following text is copied and paraphrased from the Working Party Draft s32 Report (pages 29-31) (Appendix 3.49.1):

Having demonstrated that a precautionary approach is available under the RMA and that a Plan Change is required to provide this, the following sets out why such action is reasonable and proportionate relative to not acting.

There are costs associated with establishing the Plan Change provisions. While there will be some transaction and opportunity costs for a GMO proponent having to undertake two processes (EPA approval and Plan Change process), there is unlikely to be any significant opportunity cost, such as lost economic benefit from a GMO activity that would be prohibited. This is because of the ability to further amend the plan should a particular GMO or class of GMOs be shown to have clear net benefits for a jurisdiction. The transaction and opportunity costs to a GMO proponent would be small in relative terms and there need not be a delay in the benefits being available to a jurisdiction as such a change could proceed after field trial data had been obtained and while the EPA was hearing an application at the national level for a release to be made. Overall, in regard to the costs or the loss of potential benefits, the risk of acting is limited. Future options are not foreclosed.

In contrast, the risks and potential costs of not acting are substantially higher. As outlined in Table 1, the “do nothing” approach will not protect the environmental, economic or cultural

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<sup>21</sup> Northland’s current branding initiative, led by Enterprise Northland, is called “Northland Naturally”, “rich in natural beauty and resource”.

<sup>22</sup> At least three GM contamination events have occurred in New Zealand that have involved financial consequences, with each resulting in losses of \$0.5 to \$1 million. One of these is detailed in: Simon Terry Associates and Mitchell Partnerships, *Community Management of GMOs II: Risks and Response Options*, 2005, p13.

resources of the Northern Peninsula, or reflect the level of control desired by the community (including Māori) to manage GMO activities. Risks of not acting include:

- Adverse environmental effects including weediness and invasiveness, and effects on non-target species.
- Councils exposed to clean-up costs associated with any GMO activities as the Ministry of Primary Industries is only obliged to clean up illegal releases. Clean-up costs are potentially substantial.
- Constituents exposed to economic losses from GM contamination. This includes opportunity costs associated with the foreclosure of options for branding an area as GM Free. Councils owe a duty of care to constituents.
- Adverse socio-cultural effects including effects on tangata whenua cultural values and economic well-being.
- Monitoring, both during and after consent duration, may be required by the Council, and this can be expensive.

Another way of considering this question is to examine the extent to which a council can in practice “do nothing”, and yet remain unencumbered financially.

A first issue for a council whose community has become concerned about GMO activities is whether it will need to arrange monitoring. If monitoring has not been required by the EPA, or is not in the form constituents seek, then a council can face a call from constituents to undertake this as a part of its duties under sections 35(2)(d) and (e) of the RMA. Such a call would become mandatory if a constituent succeeds in obtaining an enforcement order through the Environment Court.

The EPA can require monitoring where it is relevant to assess environmental risk. However, it is economic risks that are often a particular source of concern, and information from monitoring could be needed to underpin claims for compensation due to GM contamination. Therefore, in the event of a GM activity being undertaken within a council’s jurisdiction, the prospect that the council will be required to monitor (for economic effects in particular) is quite high.

Monitoring can be expensive but a council can require the GMO operator to meet the costs under either the RMA or the LGA. The LGA is the simpler option as it does not involve a plan change – otherwise required under the RMA route.

However, those concerned about harm caused by any GMO contamination will require more than just monitoring provisions are in place. They will be particularly concerned to have mechanisms in place to promote financial accountability and clarify liability, and the LGA cannot deliver this effectively. While the HSNO Act<sup>23</sup> includes a range of assessment criteria that the EPA is to consider for field tests, (i.e., taking into account adverse effects on human health and safety and the environment) and controls required for all field tests, there is no requirement to address liability issues. Councils owe a duty of care to their constituents and they may launch a legal challenge against the council if such measures were not in place.

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<sup>23</sup> Sections 44A and 45A.

Thus, under a “do nothing” response, a council could still expect to face significant pressure to complete a plan change under the RMA that would at least make GMO activities subject to minimum provisions concerning monitoring and financial accountability. This would be directed by having a council incorporate conditions or performance standards that would seek to ensure altered genetic material did not migrate beyond the site at which it was being used. There would be very little difference in cost between a plan change directed at a minimum response and that targeting a fuller response.

Another scenario is that a private plan change could be introduced and Council would become the respondent if it decided not to adopt it and did not have statutory grounds to reject the plan change.

In summary, the information behind the policies and methods promoted in these provisions is based on international and national evidence and there is little risk associated with the provisions going ahead. They are consistent with a precautionary approach that prohibits activities in the face of uncertainty, particularly where the potential costs are high and may be irreversible. The risk of not acting (not pursuing this Plan Change) is that the significant Resource Management Issue remains unresolved and the resources of the Northern Peninsula are not managed sustainably.

### **3 Alternatives**

The proposed preferred alternative is discussed in 2.0 above. The status quo alternative is outlined in 1.5 above.

Alternatives are:

1. Status quo (do nothing)
2. Central Government Amendment to the HSNO Act
3. Auckland Council Regulation through the RMA (recommended)

A more detailed assessment of these alternatives is provided in section 4.2 pages 22-26 of the Working Party Draft s32 Report (January 2013) (Appendix 3.49.1). Excerpts from this text and Table 1 page 25 of that report are reformatted and paraphrased into the table below:

	<b>Status Quo (do nothing) Alternative</b>	<b>Alternative 1: Central Government Amendment to the HSNO Act</b>	<b>Alternative 2: Auckland Council Regulation through the RMA (recommended)</b>
Appropriateness	The “do nothing” approach does not address the significant Resource Management Issue and does not protect the natural, cultural and economic resources of the Auckland Region. Further, doing nothing does not address concerns raised by the community, including concerns raised by Māori. This option is not considered appropriate.	Central Government amendment to the HSNO Act to address gaps in the regulatory regime could address the concerns of local authorities and their communities in Northland/Auckland. However, the Government has consistently indicated since the formation of the Working Party in 2003 that it has no plans to do so. This option is therefore not considered the most appropriate.	Of the existing statutes available to local government, the RMA offers the most durable, binding and well-targeted instrument for regulating the outdoor use of GMOs. Local authorities have jurisdiction under the RMA to set rules for GMOs that act in addition to those set under the HSNO Act or by the EPA. Given the statutory powers available to local government, the RMA is considered the most appropriate mechanism to resolve the significant Resource Management Issue.
Effectiveness	Doing nothing is not the most appropriate way of achieving the Objectives. The Objectives adopt a precautionary approach to protect the environment from potential adverse effects associated with the outdoor use, storage, cultivation, harvesting, processing or transportation of GMOs. The intent of the Objectives is to reduce environmental, economic and cultural risks, and to establish rules setting financial accountability standards for GMO operators. The current lack of provisions in the District / Unitary Plan with respect to GMO activities does not protect the environmental, economic or socio-cultural resources of the Northern Peninsula, nor does the absence of provisions reflect the level of control desired by the communities (including Māori) to manage GMO activities. The “do nothing” option does not achieve the purpose of the Act as it does not provide for the sustainable management of the resources in the Northern Peninsula. <sup>24</sup>	<p>The preferred method of enabling councils to exercise local control on the use of GMOs would involve central government remedying the identified gaps in the national level regulation, and providing communities with the ability to veto or add local level conditions to any approval for a GMO activity that is granted by the EPA through the HSNO Act process.<sup>25</sup></p> <p>Provides ability for local authorities to add local level conditions to any EPA approved activity in the district or region.</p> <p>Option to examine specific applications with the EPA, and set stricter controls if necessary or prohibit a specific GMO from the district or region.</p>	<p>Councils have jurisdiction under the RMA to set rules for GMOs that act in addition to those that may be set under the HSNO Act or by the EPA<sup>26</sup>, through inserting provisions into the District / Unitary Plan pursuant to sections 66 and 74 of the RMA. There is nothing in the HSNO Act to preclude a local authority imposing greater levels of control in its District / Unitary Plan for RMA purposes than those imposed by the EPA under the HSNO Act.</p> <p>Given a council’s general duty of care for its financial position and that of its constituents, there is a ready justification for councils to set mandatory conditions to provide for both financial accountability (through bonds and insurance requirements) and avoidance of economic damage. The RMA also provides communities with the ability to set rules that embody community determined outcomes, including the level of risk it is willing to accept with respect to activities such as the management of GMOs. Further, Council under section 35 of the RMA has a duty to undertake monitoring and may set conditions to provide for monitoring at the cost of the applicant.</p> <p>Well drafted provisions will provide certainty to the community and the Council in respect to GMO use and the management of potential effects.</p>
Efficiency	The “do-nothing” option will result in no costs to the Council in terms of time and resources required to implement a provisions and similarly, no costs for potential submitters who would otherwise become involved in the provision development process, and no costs for council to administer the new rules. No constraint on GM operators who have EPA approval and are considering undertaking activities in the area. However, Council is potentially financially and legally exposed.	<p>An amendment to the HSNO Act to remedy the deficiencies from a local government perspective would be an efficient response to address the significant Resource Management Issue. In particular, amendments to the HSNO Act could be made to provide councils with the ability to ensure that their policies in relation to GMO activities are binding on the scope of EPA decision-making and approvals issued. This would provide a simpler means for local government to achieve the same regulatory outcomes as are currently able to be put in place under the RMA.</p> <p>Opportunity to work in tandem with the EPA.</p>	<p>The functions of the EPA under the HSNO Act are different from those of local authorities under sections 30 and 31 of the RMA.</p> <p>Overall, it is concluded that the relevant RMA provisions are not in conflict with those of the HSNO Act and the two statutes can operate side by side.</p>
Costs	<ul style="list-style-type: none"> <li>Retaining status quo does not protect environmental, economic or cultural resources or reflect the level of control desired by the community to manage GMO activities.</li> </ul>	<p>Requires Government to address the issue. There has been no indication from Government that this will happen.</p> <p>Uncertainty on when, and if this will eventuate, and whether the</p>	<p>Costs associated with implementing the provisions and resource consent applications for GMO activities.</p> <p>Transaction costs (monetary) and opportunity costs (time delays)</p>

<sup>24</sup> Simon Terry Associates and Mitchell Partnerships, *Community Management of GMOs III Recommended Response Option*, 2010, pg. 6 – 8.

<sup>25</sup> Simon Terry Associates, *Community Management of GMOs: Issues, Options and Partnership with Government*, 2004, p 33.

<sup>26</sup> For further discussion, see Simon Terry Associates, *Community Management of GMOs: Issues, Options and Partnership with Government*, 2004.

	<ul style="list-style-type: none"> <li>• Does not provide a Northern Peninsula-wide approach to addressing the issue and does not address future resource management issues in respect to the use of GMOs in the area.</li> <li>• Does not address community concerns regarding outdoor GMO use.</li> <li>• Does not address the concerns of tangata whenua regarding outdoor GMO use.</li> <li>• Potential to lose “GM free” status and thus any marketing advantage this confers.</li> <li>• Under the HNSO Act there are no requirements to provide liability against unanticipated events, therefore constituents are exposed to economic losses from GM contamination.</li> <li>• Reliance on EPA conditions in respect to monitoring required for the activity. Costs of monitoring, and any costs required for clean-up, should a GMO activity cause an unexpected effect, could fall on the Council.</li> </ul>	<p>appropriate amendments will be made to address community and local government concerns.</p>	<p>associated with a GM proposal having to go through both the HSNO Act and resource consent and / or Plan Change process.</p> <p>There are no National Policy Statements or Environmental Standards to give effect to in respect to GMOs under the RMA.</p>
Benefits	<ul style="list-style-type: none"> <li>• No further work is required in processing a Plan Change. No costs for the Council in terms of time and resources to process the Plan Change and no cost for potential submitters who may become involved in the process.</li> <li>• No constraint on GM operators who have EPA approval and are considering undertaking activities in the area.</li> <li>• Potential economic benefit from GMO operations.</li> </ul>	<p>Reform to the HSNO Act could provide for:</p> <ul style="list-style-type: none"> <li>• The ability for local authorities to issue policy statements on GMO activities so that the EPA would be required to accommodate these policy statements in its decisions;</li> <li>• The option to examine individual applications in tandem with EPA assessments, and, if required, to set stricter controls to apply within a local authority's jurisdiction; and</li> <li>• A strict liability regime, along with financial fitness requirements, that ensures the developers and users of GMOs are responsible for all environmental and economic harm that may result from outdoor uses of GMOs.</li> </ul>	<ul style="list-style-type: none"> <li>• Addresses key gaps in the HSNO Act in respect to liability provisions.</li> <li>• Can address risks of adverse effects on the environment, economy, and socio-cultural values.</li> <li>• Community determined outcomes can be set based upon a preferred level of risk determined by the community.</li> <li>• Provides a prescriptive set of rules to ensure only the specified GMO activities can occur, and so specific concerns are addressed without compromising other activities.</li> <li>• Council can enforce higher standards for control through consent conditions, including bond requirements, monitoring requirements and compliance with performance standards.</li> <li>• Integrity of Unitary Plan maintained.</li> <li>• Allows for full public participation.</li> </ul>
Risks	<p>The “do nothing” approach will not protect the environmental, economic or cultural resources of the Auckland Region, or reflect the level of control desired by the community (including Māori) to manage GMO activities. Risks of not acting include:</p> <ul style="list-style-type: none"> <li>• Adverse environmental effects including weediness and invasiveness, and effects on non-target species.</li> <li>• Councils exposed to clean-up costs associated with any GMO activities as the Ministry of Primary Industries is only obliged to clean up illegal releases. Clean-up costs are potentially substantial.</li> <li>• Constituents exposed to economic losses from GM contamination. This includes opportunity costs associated with the foreclosure of options for branding</li> </ul>	<p>Requires Government to address the issue. There has been no indication from Government that this will happen.</p> <p>Uncertainty on when, and if this will eventuate, and whether the appropriate amendments will be made to address community and local government concerns.</p>	<p>The Environment Court may determine that the significant Resource Management Issue defined in the Plan Change can be addressed by the EPA pursuant to the HSNO Act.</p> <p>The provisions are prescriptive. Any changes would require a new plan change.</p> <p>Reduces certainty of being allowed to operate for GMO developers considering undertaking their activity in the area.</p>

	<ul style="list-style-type: none"><li>• Adverse socio-cultural effects including effects on tangata whenua cultural values and economic well-being.</li><li>• Monitoring, both during and after consent duration, may be required by the Council, and this can be expensive.</li></ul>		
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#### **4 Conclusion**

While there may be a range of benefits associated with the outdoor use of GMOs, there are also environmental, economic and socio-cultural risks that could be substantial, and irreversible. A wide range of GMO products are being researched and developed, including ones that GMO developers/operators may consider introducing to the Northern Peninsula. The current lack of provisions to manage GMOs in Auckland, with the exception of the Hauraki Gulf Islands, does not protect the environmental, economic or socio-cultural resources of the Auckland or the wider Northern Peninsula, nor does the absence of provisions reflect the level of control desired by the communities (including Māori) to manage GMO activities.

There are key gaps in the national regulation of GMOs, namely the absence of adequate liability provisions and applicant financial fitness requirements, the absence of a mandatory precautionary approach, and a lack of surety of outcome for local government and communities. Changes to the national level regulatory regime to address these gaps have not been forthcoming, despite substantial on-going local government pressure for such change. Where a local authority has determined that a precautionary approach to GMO risks is warranted, and that higher standards than those set by the EPA are warranted, or that the EPA cannot be relied on to undertake the level of monitoring or financial accountability sought, it has jurisdiction under the LGA and RMA to manage land and water uses involving GMOs. This interpretation is based on legal advice provided to the Working Party, and is consistent with Crown Law and Ministry for the Environment advice.

The Proposed Auckland Unitary Plan applies a precautionary approach to manage the outdoor use of GMOs to minimise the risk to the environment, economy and socio-cultural resources and values. The provisions of the Unitary Plan are established such that, in alignment with other Northern Councils, supplementary, not duplicative, regulation is employed. Local government is determining to impose stricter provisions to ensure community determined outcomes can be achieved and that it can fulfil its duty of care to its constituents.

The Proposed Auckland Unitary Plan includes a significant Resource Management Issue, Objectives, Policies and Methods (including definitions). The purpose of this is to ensure that the outdoor use of GMOs, including in the CMA, is managed in accordance with the purpose of the RMA. Local or regional level regulation of the outdoor use of GMOs is supported by the Northern Peninsula communities, including Māori. Issues raised during consultation have been addressed through the commissioning of technical assessments, the refinement of the Plan provisions, and this section 32 evaluation. The issues raised were also reflected in feedback on the draft Auckland Unitary Plan.

An assessment of the proposed provisions under section 32 of the Act has determined that the Objectives are appropriate to achieve the purpose of the Act, and that the proposed policies, rules and other methods are the most appropriate way to achieve the Objectives. The provisions are an appropriate response to community aspirations to manage risks associated with GMO activities, and are consistent with the precautionary approach provided for under the RMA, where activities may be prohibited if there is uncertain or insufficient information. The assessment has also determined that the risk (and cost) arising from acting is low, but that the risks and potential costs arising from not acting are high.

Targeted consultation and discussion with key interest groups and the community is required to assist the Northern Councils to further refine the significant Resource Management Issue and determine the appropriateness, costs and benefits of the Plan Change.

The various provisions detailed within this report are considered to be the most appropriate way to address the significant Resource Management Issue. Based on the assessment provided in this report, it is appropriate for the Northern Councils to proceed with the Plan Change.

## **5 Record of Development of Provisions**

### **5.1 Information and Analysis**

- *Extracts from Auckland District Plan Hauraki Gulf Islands Sections (Appendix 3.49.2)*
- *Unitary Plan Political Working Party – minutes – 8 February 2013 (Appendix 3.49.6)*
- *Auckland Plan Committee – Open Minutes – 12 February 2013 (Appendix 3.49.7)*
- *Auckland Council, Far North District Council, Kaipara District Council and Whangarei District Council Draft Proposed Plan Change to the District / Unitary Plan Managing Risks Associated with Outdoor Use of Genetically Modified Organisms Supporting Documentation to the Section 32 Report Volume 2, January 2013 (Appendix 3.49.3). Includes:*
  - *Community Management of GMOs: Issues, Options and Partnership with Government. Simon Terry Associates, March 2004*
  - *Community Management of GMOs II: Risks and Response Options. Simon Terry Associates and Mitchell Partnerships, May 2005*
  - *Community Management of GMOs III: Recommended Response Option. Simon Terry Associates and Mitchell Partnerships, September 2010*
  - *Colmar Brunton Genetically Modified Organisms Survey. Results for Aggregated Northland Region, November 2009*
  - *Colmar Brunton Genetically Modified Organisms Survey. Results prepared for Auckland Regional Council, November 2009*
  - *Letter from Working Party to Minister for the Environment, December 2006*
  - *Response from Minister for the Environment to the Working Party, March 2007*
  - *Letter from Working Party to Minister for the Environment, June 2010*
  - *Response from Minister for the Environment to the Working Party, August 2010*
- *Managing Risks Associated with the Outdoor Use of Genetically Modified Organisms. Proposed Plan Change, Section 32 Report, and Legal Opinion. Cover Note by Dr Kerry Grundy Convener of the Inter-council Working Party on GMO Risk Evaluation and Management Options, January 2013 (Appendix 3.49.8).*
- *Auckland Council, Far North District Council, Kaipara District Council and Whangarei District Council Draft Proposed Plan Change to the District/Unitary Plan Managing Risks Associated with the Outdoor Use of Genetically Modified Organisms, January 2013 (Appendix 3.49.4).*
- *Auckland Council, Far North District Council, Kaipara District Council and Whangarei District Council Draft Proposed Plan Change to the District / Unitary Plan Managing Risks Associated with Outdoor Use of Genetically Modified Organisms Draft Section 32 Report Volume 1, January 2013 (Appendix 3.49.1).*
- *Legal Opinions Managing Risks Associated with Outdoor Use of Genetically Modified Organisms Dr Royden Somerville QC, January 2013 (Appendix 3.49.5):*
  1. *Interim Opinion on Land Use Controls and GMOs 2004*
  2. *Opinion on Land Use Controls and GMOs 2005*



### 3. Outdoor Use of Genetically Modified Organisms (GMOs) 2013

- *Environment and Sustainability Forum – open minutes – 19 Feb 2013 (Appendix 3.49.9)*
- *Environment and Sustainability Forum – open minutes – 22 July 2013 (Appendix 3.49.10)*
- *Auckland Plan Committee Workshop – 11 July 2013 (Appendix 3.49.11)*
- *Auckland Plan Committee – Open Minutes - 25 July 2013 (Appendix 3.49.12)*
- *Auckland Plan Committee – Open Minutes - 13 Aug 2013 (Appendix 3.49.13)*

Added material for background information for stakeholders (iwi and local boards) and decision makers (governing body) was extracted from

- *Review of the Forty-Nine Recommendations of the Royal Commission on Genetic Modification, 2008 (McGuinness et al.) (Appendix 3.49.14) and*
- *The History of Genetic Modification in New Zealand 1973 – 2013 (McGuinness Institute) (Appendix 3.49.15).*

The governing body were also provided with

Report 16 – Project 2058 – An Overview of Genetic Modification in New Zealand 1973 – 2013 – The first forty years – (McGuinness Institute) (Appendix 3.49.16).

## 5.2 Consultation Undertaken

### **Kaitiaki Hui – March 2013**

Feedback from the Unitary Plan Regional Kaitiaki Forum expressed concern about whakapapa, noting eel migration may not occur, flax properties could be weakened and medicinal uses of plants could be damaged by contamination with GMOs. One representative stated it is abhorrent to whakapapa and that there should be a blanket policy of no release or development within the Council boundary. The status of the Wai 262 claim was raised. Some expressed concern over the loss to future generations.

### **Mana Whenua North Workshop – April 2013,**

Representatives at the Unitary Plan Mana Whenua workshop at Orewa expressed concern at the unapproved new organisms that were becoming evident. They believe it gives clear evidence that any satisfactory control and clean up was too onerous for government or council to cope with. Strong objections were made to the number of breaches and the lack of any involvement by council in dealing with monitoring and preventing breaches.

### **Mana Whenua South Workshop - April 2013**

Representatives at the Unitary Plan Mana Whenua workshop at Manukau were equally concerned at the mismanagement and breaches of research and trials in the past and commented on historic issues with accidental introductions of new organisms. The representatives agreed there are ethical and sociocultural concerns around the introduction of GMOs along with issues regarding what goes into the body and any adverse effects. There are fears that modification will affect the essence of their tupuna (ancestors). The representatives insisted they are not in favour of GMO use, want an option with real teeth and, while supporting the ICWP recommendations, prefer stronger options. There was a call for urgency, requesting there be work on seeking stronger options while the Unitary Plan is being tested.

### **Local Boards**

All Boards received background material and the ICWP reports. Twelve Boards have stated support for Council managing GMOs, requiring statements of precautionary approach and/or have declared their area “GE Free”.

## Community Feedback

In total (as 4<sup>th</sup> September 2013) 349 pieces of feedback had been received on the topic of GMOs. There were 201 pieces of feedback received during the informal feedback period on the March Draft of the Unitary Plan.

The majority of feedback opposes the use of GMOs in Auckland and requests Auckland Council to include provisions in the Unitary Plan to prohibit their use. A small amount of feedback supported the management of GMOs in the Unitary Plan provided any adverse effects are avoided.

The following outlines some statistics on the feedback received from the local and international community and stakeholders:

- 146 (41%) were from overseas, made up of expats and “GMO free” food seekers – 66% USA, 11% Canada, the rest from Australia, Japan, UK, France, Europe, and Abu Dhabi
- 283 (81%) seek an outright ban on GMOs (primarily overseas submissions)
- 92 (26%) requested adoption of the ICWP provisions – the majority of this was NZ feedback
- 254 (72%) warned of the economic impact of market loss in losing GMO Free reputation
- Multiple iwi groups also provided feedback on this topic with the majority supporting the inclusion of a policy approach for GMOs (based on the ICWP recommendations) whether it prohibition or management
- Federated Farmers and the Minister for the Environment were the only feedback providers to oppose Auckland Council having any involvement in the management of GMOs. The reason for this is because New Zealand’s Environmental Protection Agency, as directed by Central Government, has direct responsibility for GMOs and is therefore not a resource management issue for local authorities to manage.

The Council presented on this issue to Mana Whenua iwi authorities within an introductory presentation to the Regional Kaitiaki Forum on 26 March 2013. Views expressed included:

- GMOs are an important issue to Mana Whenua;
- GM was referred to as an abhorrence to whakapapa;
- The need for prohibition as well as contingency plans in the event of GMO release affecting Auckland.

GMOs were identified for further discussion at technical workshops with Mana Whenua iwi authorities on 16 and 18 April 2013. Mana Whenua feedback within these workshops is summarised below;

Support ICWP recommendations.

- Concern that we are giving a serious issue a ‘five-minute makeover’. It needs to be looked at carefully but with a level of urgency.
- There are politics behind this issue that are wider than Auckland. Concern that this issue may be catering to particular interests.
- Concerns around the mis-management or ‘accidents’ in the past whereby GMOs have accidentally been introduced into our environment.
- There ethical concerns and socio-cultural issues.
- The example of insulin is problematic in terms of mauri - what goes into our body and the adverse effects. This fits under the broad umbrella of kaitiakitanga.
- No two organisms should ever be mixed up. An organism has the essence of our tupuna and mana.
- Particular reference was made to the protection of our manu in this context.

- There is a preference for an option that has teeth and a preference was expressed for the ICWP option.

Feedback on the March draft was received by 19 iwi authorities. Some iwi authorities chose to provide feedback on GMOs. Feedback included the following points;

- Engagement with Mana Whenua be required when considering the release of GMOs;
- Seek to be involved in further development of GMO provisions;
- Genetic modification to indigenous plants and animals is unacceptable as it effects their whakapapa and natural spiritual state;
- Oppose GM on a risk-averse basis and expect the Unitary Plan to reflect this;
- Support for ICWP recommendations;

Reinforcing feedback provided in technical workshops.

### 5.3 Decision-Making

On 12 February 2013 the Auckland Plan Committee made a resolution (APC/2013/5) to insert an Objective relating to outdoor use of GMOs into the Draft Unitary Plan (Appendix 3.49.4). The Objective stated that “*Genetically modified organisms do not adversely affect the social, cultural, economic and environmental well-being of people in the Auckland region.*” The objective was inserted in Part 2.6.4, with an accompanying Issue in Part 2.1.5 that stated that “*The outdoor use of genetically modified organisms could adversely affect our environment, economy and social and cultural resources and values.*”

On 19 February 2013 the Environment and Sustainability Forum made a number of recommendations (Resolution number ES/2013/4) as a result of the work commissioned by the ICWP, which included a Proposed Draft Plan Change to the District/Unitary Plan on potential management of GMOs under the RMA (Appendix 3.49.18). The Environment and Sustainability Forum requested that “*officers, in collaboration with the ICWP, provide a report back to the Forum on the management of the outdoor use of genetically modified organisms and Auckland Council’s possible roles, including the following matters: (i) the findings and recommendations of the report of the ICWP on GMO risk Evaluation and Management; (ii) Auckland Council’s role in the context of the national regime for management of genetically modified organisms; (iii) a review of the existing legal opinions on the management of genetically modified organisms; (iv) risk and liability issues, including the implications of doing nothing and having a formal policy.*”

The report for the ESF was written for the May meeting but then withdrawn from the agenda. It was then prepared for the June meeting but presented in modified form (APC content removed) 22 July 2013 (Appendix 3.49.19).

The 22 July report to the ESF included positions of other local authorities on the GMO issue, and the activities of the ICWP since the report had been released in January. This was specifically around the ICWP response to the announcement of further changes to the RMA to prevent Local Authorities managing GMOs.

The report was received with no further action to be taken

On 11 July a presentation was made to a APC workshop (Appendix 3.49.20) which detailed engagement with iwi, local boards and the community and summaries of the outcomes of that engagement, positions of other local authorities on the GMO issue, a summary of the feedback from the draft Unitary Plan and what options to consider.

On 25 July 2013 the Auckland Plan Committee (Appendix 349.21) received a report for information purposes titled Unitary Plan Update and Workshop Issues at a closed internal workshop which included details of a presentation at the UP workshop dated 11 July 2013 “The following issues have been identified in the feedback to date:

- Feedback received – 338 total
  - 337 support stronger management of GMO use
  - 103 supported the issue and objective in the draft Auckland Unitary Plan although commented on dissatisfaction with wording
  - 90 requested the Inter-council Working Party provisions be adopted
  - 93 called for a precautionary statement
  - 149 international support no genetically modified organism use – main feedback, prohibit GMO use
  - 188 local/NZ support stronger management – main feedback, prohibit GMO use
  - 1 opposes local authority management – Minister for the Environment
- Officers presented the following options in response to the feedback on GMOs:
  - Auckland Unitary Plan silent on GMOs
  - Draft Auckland Unitary Plan status quo and include a reference to the Environmental Protection Agency process
  - Non-RMA policy
  - Auckland Unitary Plan using the Inter Council Working Party’s suggested approach.
- A consensus was not reached at the workshop on the approach that should be taken to GMOs in the Auckland Unitary Plan.”

On 13 August 2013 the Auckland Plan Committee (Appendix 3.49.22) received a report for information purposes titled Unitary Plan Update which included details of a further discussion at the UP workshop dated 25 July 2013

1. “At the previous committee meeting on 25 July, more detailed information was requested on GMOs that reflected the information and discussion at the workshop earlier in July. Attachment 2 to this report provides this further detail to assist the committee at the decision making meetings at the end of August.
2. The key matters for consideration are summarised below:
  - Local authorities have jurisdiction under the Resource Management Act to control GMOs.
  - Under the Hazardous Substances and New Organisms Act 1996 (HSNO), the Environmental Protection Agency (EPA) has been set up to assess and regulate the management of new organisms throughout the country, including GMOs. The Minister for the Environment considers that councils should not have a role in managing GMOs under the Resource Management Act 1991 (RMA).
  - The Inter Council Working Party (ICWP) has prepared a plan change and Section 32 report to control field trials (discretionary activity) and general release (prohibited activity) of GMOs under the RMA. Auckland Council is a member of the ICWP.
  - The overwhelming feedback on the draft AUP was supportive of provisions to manage GMOs in the AUP.
  - There is legal uncertainty that AUP provisions would be upheld by the Environment Court because it would be difficult to argue that controls under the RMA would be an effective and or efficient method, since an application would have already been assessed by the EPA under HSNO.
  - Legal advice is that there is no risk that local authorities will be left liable for claim of negligence or nuisance as a result of not including provisions in their RMA plans.
  - Legal advice is that there is little risk that local authorities will be left liable for claim of negligence or nuisance as a result of including provisions in their RMA plans.

3. In addition, the following four options were presented for discussion at the Auckland Plan Committee Unitary Plan workshop:
  - the draft AUP would be silent on GMOs;
  - retain the issue and objective in the Regional Policy Statement of the draft AUP;
  - adopt a non-RMA related policy position on the management of GMO within the region; or
  - insert the ICWP suggested approach into the AUP.
4. Members of the committee will need to consider Attachment 2 to this report in order to inform their decisions at the end of August 2013”.

On 5 September 2013 the Auckland Plan Committee resolved to include provisions in the Auckland Unitary Plan in general accordance with the provisions prepared by the ICWP.