Genetically Modified Organisms (GMO)

Issues

The purpose of this chapter is to manage the outdoor use of Genetically Modified Organisms (GMOs). The outdoor use of Genetically Modified Organisms can have adverse effects on people, communities, tangata whenua, social and cultural wellbeing, the environment and the economy.

Sources of risk from the outdoor use of Genetically Modified Organisms include:

- Socio-cultural risk - concerns of Māori, such as mauri, whakapapa, tikanga, including the integrity of nature, the mixing of genes from unrelated species, and effects on indigenous flora and fauna.
- Environmental risk - including adverse effects on non-target species (e.g. birds and insects), Genetically Modified (GM) plants becoming invasive and disrupting ecosystems, and altered genes transferring to other organisms.
- Economic risk - the risk that cultivation of Genetically Modified crops will cause economic damage, in particular through accidental or unintentional migrations of Genetically Modified Organisms resulting in Genetically Modified contamination appearing in non-Genetically Modified crops and associated market rejection and loss of income, negative effects on marketing and branding opportunities, and costs associated with environmental damage.

There is a lack of information, including scientific uncertainty, concerning the effects of Genetically Modified Organisms in the environment and risks of irreversible, adverse effects which could be substantial. In order to manage the effects of outdoor use, storage, cultivation, harvesting, processing or transportation of Genetically Modified Organisms, an adaptive precautionary approach to risk management is adopted for the Whangarei District.

The application of a precautionary approach shall mean that the Release of a Genetically Modified Organism is prohibited and that Field Trials of a Genetically Modified Organism (where the proponents of such activities have prior approval from the Environmental Protection Authority (EPA)) shall be a discretionary activity so as to avoid the risks of potential adverse effects. Some activities, such as research within contained facilities, some veterinary vaccines and certain medical applications are permitted activities. The classification is based upon a hierarchy of risks, from negligible for permitted activities to high risk for prohibited activities. Discretionary activities (Field Trials) are subject to development and performance standards, including a requisite for bonds to cover possible environmental or economic damage and monitoring requirements.

The application of an adaptive risk management approach is to avoid foreclosure of potential opportunities associated with a Genetically Modified Organism development that could benefit the district. There is the ability to review a particular Genetically Modified Organism activity if it were to become evident during the field trial stage, or in light of other new information, that the particular Genetically Modified Organism activity would be of net benefit to the district and that potential risks can be managed to the satisfaction of Council. Council or a Genetically Modified Organism developer can initiate a plan change to change the status of an activity.

It is anticipated that the objectives, policies, eligibility rules and general development and performance standards in this chapter will achieve the following results:

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

Objectives	
GMO-O1 – Potential Adverse Effects	The environment, including people and communities and their social, economic and cultural wellbeing and health and safety, is protected from potential adverse effects associated with the outdoor use, storage, cultivation, harvesting, processing or transportation of Genetically Modified Organisms through the adoption of a precautionary approach, including adaptive responses, to manage uncertainty and lack of information.
GMO-O2 – Sustainable Management	The sustainable management of the natural and physical resources of the district with respect to the outdoor use of Genetically Modified Organisms, a significant resource management issue identified by the community.

Policies	
GMO-P1 – Precautionary Principle	To adopt a precautionary approach by prohibiting Release of a Genetically Modified Organism, and by making Field Trials of a Genetically Modified Organism and the use of viable Genetically Modified veterinarian vaccines not supervised by a veterinarian a discretionary activity.
GMO-P2 – Financial Accountability	To ensure that a resource consent granted for the Field Trials of a Genetically Modified Organism is subject to conditions that ensures that the consent holder is financially accountable (to the extent possible) for any adverse effects associated with the activity, including clean-up costs and remediation, including via the use of bonds.
GMO-P3 – Risk Avoidance	To ensure that a resource consent granted for the Field Trials of a Genetically Modified Organism is subject to conditions that serve to avoid, as far as can reasonably be achieved, risk to the environment, the mauri of flora and fauna, and the relationship of mana whenua with flora and fauna from the use, storage, cultivation, harvesting, processing or transportation of a Genetically Modified Organism.

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GMO-P4 – Monitoring Costs	To ensure that a resource consent granted for the Field Trials of a Genetically Modified Organism is subject to a condition requiring that monitoring costs are met by the consent holder.
GMO-P5 – Liability	To require consent holders for a Genetically Modified Organism activity to be liable (to the extent possible) for any adverse effects caused beyond the site for which consent has been granted for the activity.
GMO-P6 – Adaptive Approach	To adopt an adaptive approach to the management of the outdoor use, storage, cultivation, harvesting, processing or transportation of a Genetically Modified Organism in the district through periodic reviews of these plan provisions, particularly if new information on the benefits and/or adverse effects of a Genetically Modified Organism activity becomes available.

Rules

GMO-R1	Permitted Activities
	Where: 1. Research within contained laboratories involving Genetically Modified Organisms. 2. Medical applications involving the manufacture and use of non-viable Genetically Modified products. 3. The use of non-viable genetically modified veterinary vaccines and viable genetically modified veterinary vaccines with a specific delivery dose supervised by a veterinarian. 4. Other Genetically Modified Organism activities not requiring consent as a discretionary activity or listed as a prohibited activity are permitted activities. *Note:* 1. *Permitted activities may require consents and/or permits under other legislation/plans.*

GMO-R2	Discretionary Activities
	Where: 1. The use of viable genetically modified veterinary vaccines not supervised by a veterinarian. 2. Field Trials of Genetically Modified Organisms (where the proponents of such activities have prior approval of the Environmental Protection Authority) *Notification:* *1. All applications for resource consent under GMO-R2 must be publicly notified.* *Note:* *1. Refer to Information Requirement GMO-REQ1.*

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GMO-R3	Prohibited Activities
	1. Food-related and non-food-related Genetically Modified Organism Releases.

GMO-R4	General Development and Performance Standards
	1. Without limiting the discretion reserved to Council on any application for consent, discretionary activities are to comply with the following minimum controls in order to establish in the district. The general development and performance standards are in addition to any controls/conditions that are imposed and monitored by the Environmental Protection Authority under the Hazardous Substances and New Organisms (HSNO) Act. a. Bond: Council requires the applicant for the resource consent to provide a performance bond, with an approved trading bank guarantee, in respect of the performance of any one or more conditions of the consent, including conditions relating to monitoring required of the Genetically Modified Organism activity (prior to, during and after the activity). This bond is to be available for payment to redress any adverse environmental effects and any other adverse effects to third parties (including economic effects) that become apparent during or after the expiry of the consent. The form of, time and manner of implementing and discharging the bond shall be decided by, and be executed to the satisfaction of Council. b. Monitoring Costs: All costs associated with monitoring required for discretionary activities will be borne by the consent holder. This includes any monitoring that is required to be undertaken beyond the consent duration, as required by a resource consent condition. c. Assessment of Applications and Conditions: Where necessary, more stringent measures than those required under the provisions of the Hazardous Substances and New Organisms Act may be imposed to manage potential risks. A review clause (pursuant to Section 128 Resource Management Act) may be included in the conditions, where deemed necessary, to address any future changes in technology, and the scope of environmental, economic and cultural effects. An application for a discretionary activity may be granted with or without conditions, or be declined by the Council having regard to the relevance of the following matters: d. Site Design, Construction and Management: Site design conditions should ensure Genetically Modified Organism sites are designed and managed in a manner that avoids or minimises risks of adverse effects from activities carried out on the site. This shall include provisions to prevent the migration of Genetically Modified Organisms beyond the area designated for the activity. e. Transport: Ensure the transportation of Genetically Modified Organisms is carried out in a manner that minimises the risk of adverse effects by preventing the escape of Genetically Modified Organisms from the

	transporting vehicles. Appropriate procedures must be in place to ensure that any vehicle visiting the site is thoroughly cleaned and checked prior to leaving the site to avoid unintentional Genetically Modified Organism distribution. f. Monitoring: A Genetically Modified Organism discretionary activity may require monitoring during, and beyond the duration of consent. Monitoring is to be carried out by either the Council or consent holder with appropriate reporting procedures to the relevant regulatory authority. g. Reporting: Reporting requirements by the consent holder will be stipulated in the consent conditions.

GMO-R5	Particular Matters
	1. Matters that will be considered when determining the amount of bond required are: a. What adverse effects could occur and the potential significance, scale and nature of those effects, notwithstanding any measures taken to avoid those effects. b. The degree to which the operator of the activity has sought to avoid those adverse effects, and the certainty associated with whether the measures taken will avoid those effects. c. The level of risk associated with any unexpected adverse effects from the activity. d. The likely scale of costs associated with remediating any adverse effects that may occur. e. The timescale over which effects are likely to occur or arise. f. The extent of monitoring that may be required in order to establish whether an adverse effect has occurred or whether any adverse effect has been appropriately remedied. 2. A monitoring strategy for a Genetically Modified Organism discretionary activity can include the following matters: a. Inspection schedules for the site, storage areas and equipment (daily, weekly, monthly, events based). b. Testing of procedures (e.g. accidental release response). c. Training programmes for new staff, updates for existing staff. d. Audits of sites and site management systems. e. Sample testing of plants, soils and water in neighbouring properties or localities for the presence of migrated Genetically Modified Organisms.

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GMO-REQ1	Information Requirement
	1. Applications for Genetically Modified Organism Field Trials are to provide: a. Evidence of approval from the Environmental Protection Agency for the specific Genetically Modified Organism for which consent is sought. The duration of any consent granted will be aligned with Environmental Protection Authority approval terms. b. Details of proposed containment measures for the commencement, duration and completion of the proposed activity. c. Details of the species, its characteristics and lifecycle, to which the Genetically Modified Organism activities will relate. d. Research on adverse effects to the environment, cultural values and economy associated with the activity should Genetically Modified Organisms escape from the activity area, and measures that will be taken to avoid, remedy or mitigate such effects. e. Evidence of research undertaken that characterises and tests the Genetically Modified Organism, and the certainty associated with the accuracy of that information. f. A management plan outlining on-going research and how monitoring will be undertaken during, and potentially beyond, the duration of consent. g. Details of areas in which the activity is to be confined. h. Description of contingency and risk management plans and measures.

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Revision and Sign-off Sheet

Editor	Paragraph	Change Reference	Operative Date	Council Decision Date	Approved By
AM	New Chapter	Plan Change 131 – addition of new chapter to the District Plan	12 July 2018	4 July 2018	MM
AKM	Whole Chapter	National Planning Standards 2019	8 June 2022	19 May 2021	DK

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