

# Community Management of GMOs

*Issues, Options and Partnership with Government*



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Prepared for

**Whangarei District Council**

In association with

**Far North District Council,**

**Kaipara District Council,**

**Rodney District Council, and**

**Local Government New Zealand**

by

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## **Executive Summary**

1. This report investigates options for local authority management of genetically modified organisms (GMOs), and follows the preparation of an interim opinion by Dr Royden Somerville QC.
2. The use of GMOs is controlled at the national level by the Hazardous Substances and New Organisms Act (HSNO). It was Government's intention at the time this act was developed that HSNO would define national minimum standards and local authorities would be free to set stricter standards to apply within their territories. This option remains open to local government through use of the Resource Management Act (RMA).
3. Such action would be part of a partnership between local authorities and central government with respect to GM activities. Rather than either having exclusive responsibility, management of GMOs would be shared - as first envisaged.

### ***Sources of Risk***

4. The activities of principal concern to local governments are those involving the outdoor use of GM organisms.
5. A leading economic risk is the difficulty in preventing GM production from causing trace contamination in non-GM crops. High levels of consumer resistance to GM foods in Europe and the wealthier Asian nations have led to market rejection of conventional foods due to trace GM contamination.
6. Key environmental risks include: effects on non-target species, invasiveness and reduced biodiversity. There is also uncertainty with respect to the effect of GMOs on soil ecosystems and effects arising from the use of plants to produce pharmaceuticals and other materials.

### ***Uncertainty of Outcomes from ERMA Process***

7. HSNO establishes the legal framework for assessments by the national regulator, the Environmental Risk Management Authority (ERMA). This provides for minimum national standards to be set for GM activities.
8. The act invests a great deal of discretionary authority in ERMA and sets remarkably few limitations on the outcomes it can deliver. From a local authority perspective, this results in uncertainty on two levels:
  - Whether ERMA will agree with and act on certain concerns held by local governments; and
  - Whether ERMA will exercise the same degree of caution as would local governments in managing those risks it agrees need to be addressed.

9. One area of concern is that HSNO makes the exercise of precaution a matter for ERMA's discretion. Precaution is an option, not a requirement. ERMA states that it would be acting legally if it did not exercise caution.
10. A further area of concern is financial liability in the event of harm being caused. If an agent making use of GMOs has inadequate financial resources to cover environmental damage resulting from its activities, the burden will tend to fall on local government.
11. Under HSNO, an agent using GMOs is not liable for harm caused as long as it obtains and abides by an ERMA consent. Nor does HSNO require ERMA to ensure that an applicant is financially fit and so able to pay compensation should harm result.

### ***Setting Controls Under the RMA***

12. Should a local authority determine that particular risks were of concern to its community and that it wished to ensure certain outcomes as a result of this, then it can take action using other statutes. 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. The relevant RMA provisions are not in conflict with those of HSNO and the two statutes can operate side by side.
13. The RMA provides a firm foundation for district councils to apply a precautionary approach in regulating the outdoor use of GMOs. The courts have ruled that a precautionary approach is inherent in the act. The RMA also provides a mechanism to address liability and compensation concerns. A community can put in place a liability regime requiring those engaging in a GM release to pay compensation for harm caused by an approved release.
14. Under the RMA, the appropriate scope for evaluation of GM concerns is the outdoor use of GMOs, and in particular field trials and releases, expressly including: genetically modified food crops, trees, animals, and pharma crops.
15. Not all categories of GMO use need be regulated with the same degree of precaution. This may result in two or more different sets of rules in order to group and match similar categories of risk with the appropriate controls
16. Such rules can be argued to be efficient and effective in terms of RMA section 32 on at least two grounds:
  - ERMA can not be relied on to provision against particular risks.
  - Local authorities may reasonably wish to set higher standards for controls than ERMA sets. There is no legal barrier to councils setting higher standards than those specified by ERMA under HSNO.
17. Advice from Government questioning the likelihood of meeting the section 32 test did not adequately investigate these grounds.

18. Through its statements, Government has given the impression that HSNO and the ERMA process are extremely stringent – a "gold-standard" of regulation. However, at the same time, it has explicitly declined to set enforceable principles and standards that would provide surety that stringency would be the outcome of the regulatory regime. The result is a significant gap between expectations and the legal requirements. The setting of rules by local government such that selected community determined outcomes are assured can be an efficient and effective response.

### ***HSNO Reform***

19. The broad alternative to use of the RMA is for local government to press for the amendment of HSNO. The rationale for this is to provide a simpler means for local government to achieve the same regulatory effect as is currently available to it under the RMA. Reform should be made on two levels and provide for:
- The ability for local authorities to issue policy statements on GM activities under an amended HSNO, such that ERMA would be required to accommodate these policy statements in its decisions;
  - The option to examine individual applications in tandem with ERMA assessments and, if required, to set stricter controls to apply within a local authority's district.
20. The proposal is for local authorities to have the opportunity, but not the obligation, to work in tandem with ERMA. Such reforms would provide a more direct means of achieving the desired outcomes set by a community, while also giving an explicit statutory route and greater certainty to ERMA applicants. LGNZ is the party best placed to investigate amending HSNO and advancing proposals to Government.

### ***Next Steps***

21. A next stage of work will involve local authorities studying the risks to the region and at the same time drafting control options if the analysis suggests these are required. This process does not commit a council to implement such controls but it is the next step towards such an outcome. It would bring before a council information on the scope and severity of the risks at the same time as detailing the options for their control and the factors relevant in deciding between the options. Such work is required irrespective of whether the statute that would be used is the RMA or an amended HSNO Act.
22. A key part of this process would involve examining the outcomes a council wishes to see and determining which can be expected to be delivered by ERMA and which it wishes to ensure are delivered through its own initiatives. Ideally, this work would be done as part of a joint project between Northland local authorities. The analysis would provide a common resource base for councils to work from and assist the evolution of a uniform region-wide approach.

## **1. Introduction**

Whangarei District Council (WDC) and other Northland councils wish to better understand their options for responding to risks arising from the use of genetically modified organisms (GMOs). On behalf of Northland councils and Local Government New Zealand,<sup>1</sup> WDC has asked Simon Terry Associates Ltd (STA), to prepare a report, following the preparation of an interim opinion by Dr Royden Somerville QC for WDC's solicitors, exploring two response options:

1. How local government could best protect the communities interests under existing statutes, including options for utilising instruments under the RMA or LGA;
2. What changes should ideally be made to governing law and how this could be progressed.

The report limits its consideration to the outdoor use of living GMOs and in particular field trials and releases. Expressly included are genetically modified food crops, trees, animals, and pharma crops.<sup>2</sup> Although much of this report is relevant to regional councils, it focuses on the response options open to district councils.

While the report and Dr Somerville's opinion are separate documents, the report draws extensively on his interim opinion which is attached as Appendix 1.

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<sup>1</sup> The sponsors of this research are: Whangarei District Council, Far North District Council, Kaipara District Council, Rodney District Council, and Local Government New Zealand.

<sup>2</sup> Research within contained laboratories involving GMOs, medical applications involving the manufacture and use of non-viable GM products, and food containing GM products that are not viable are excluded.



## **2. Principles at Issue**

### **2.1 Background**

In October 2001, Government announced a two year programme targeted at revising the regime for regulating genetically modified (GM) organisms. This was in response to the report of the Royal Commission on Genetic Modification. An existing voluntary moratorium was formally extended for two years to enable this work to be undertaken. Government chose to implement many of the Commission's recommendations and also devised other measures of its own.

A key part of this programme was amending the Hazardous Substances and New Organisms Act 1996 (HSNO). The reforming legislation – the New Organisms and Other Matters (NOOM) Bill - was the subject of considerable attention by local government before it was passed in October 2003. Local Government New Zealand (LGNZ) and a number of local authorities presented submissions to Parliament arguing that, at very least, there was a lack of clarity as to the roles and responsibilities of local government with respect to GM regulation. In particular, it was argued by LGNZ that the responsibilities placed on local government were not matched by provisions to allow local government to exercise influence in support of them with respect to GM use.

Parliament's Education and Science Select Committee reviewed these submissions and determined that no material change was required to the bill. This, however, was based on a split opinion. Government members declared that the regulatory regime was clear and they did not see a role for local government.<sup>3</sup> In contrast, during Parliamentary debates on the NOOM Bill, representatives from National, New Zealand First and the Greens repeatedly voiced concerns about the interrelationship between HSNO and the RMA, and the position in which they saw local government being left as a result.<sup>4</sup>

The following analysis picks up this first principles debate.

### **2.2 Exceeding National Minimum Standards**

The HSNO Act came into existence as an offshoot from development of the RMA. Originally, hazardous substances and new organisms were to have been assessed under the RMA. HSNO instead established a dedicated central regulator, the

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<sup>3</sup> Report of the Education and Science Committee on the NOOM Bill, September 2003, p. 5.

<sup>4</sup> During the committee stage of the Bill (September 10 2003), National MP Simon Power referred to the NOOM Bill as the "Local Government Caught Down the Creek Without a Paddle Bill", while NZ First MP Brian Donnelly, who chaired the Education and Science Select Committee, observed that the Bill might also be called the " 'Leaving Local Government in the Lurch Bill' and that is because it just purely and simply ignores them." In the Second Reading of the NOOM Bill (September 19 2003), the Progressive Coalition and New Zealand First voted in support of an amendment proposed by the Green Party to introduce local government input into decisions about GM release.

Environmental Risk Management Authority (ERMA), to evaluate what are generally higher risk activities. It was nonetheless “intended to be part of the same package of policy reform and springs from the same basis” as the RMA.<sup>5</sup>

Setting up a national regulator had the effect of reducing the burden placed on local government to undertake assessments that require specialist expertise. It was the thinking of government from the outset that HSNO would be a means of setting a floor on national standards, rather than a ceiling. This is clearly expressed in the following from an early Ministry for the Environment discussion paper.

It has been decided that: **additional controls may be set on hazardous substances and new organisms under other legislation where these controls are more stringent or specific** than those under the hazardous substances and new organisms legislation, and are required to meet other outcomes or responsibilities.<sup>6</sup> [Emphasis added]

Accordingly, HSNO section 142 (3) provides that local government can set higher standards for hazardous substances through RMA conditions, as they may deem appropriate. It states:

Nothing in subsection (2) of this section shall prevent any person lawfully imposing more stringent requirements on the storage, use, disposal, or transportation of any hazardous substance than may be required by this Act or regulations made under this Act where such requirements are considered necessary by that person for the purposes of the Resource Management Act 1991.

This provision was set against a background where the select committee considering the proposed HSNO legislation in 1995 was of the clear view that local government not only had a right to intervene locally to set higher standards, but also that primary responsibility would remain with territorial authorities in respect of land use activities.

“One issue relates to clarification and the Resource Management Act, and concerns the matter of making clear the respective roles of regional council and territorial authorities regarding the control of the use of land. The HSNO Bill makes no reference to functions of regional council with regard to hazardous substances management, and some submissions expressed concern at this. We invited comment from the Local Government Association, regional council and unitary authorities, who provided us with mixed responses. **We maintain that the control of the use of land with respect to hazardous substances is most appropriately carried out by territorial authorities.**”<sup>7</sup> [Emphasis added]

A parallel provision to section 142 (3) was not made for new organisms at that stage. This appears to have been the result of the frame of reference through which new organisms were viewed at the time, rather than an intended asymmetry. When HSNO was originally being devised, the framing was oriented more to evaluating the introduction of new species from overseas (which are also classed as new organisms)

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<sup>5</sup> Hazardous Substances and New Organisms: Proposal for Law Reform, Ministry for the Environment, October 1992, p11.

<sup>6</sup> *Hazardous Substances and New Organisms: Proposal for Law Reform*, Ministry for the Environment, October 1992, p 36.

<sup>7</sup> Hazardous Substances and New Organisms Bill: Report of the Committee on the Bill, House of Representatives, 1995, p 13.

rather than GMOs.<sup>8</sup> The thinking at the time essentially excluded the prospect of controlling organisms outside of containment. The report of the select committee that reviewed the proposed HSNO legislation noted:

“New organisms can only be controlled while in containment, which is a location or facility where the organism or substance is confined to prevent escape.”<sup>9</sup>

As a result, until the October 2003 reforms, the only category for release of a new organism was release without conditions – as the assumption had been that such organisms could not be recaptured or meaningfully controlled.<sup>10</sup>

However when Government revised the new organisms component of HSNO through the NOOM Bill (with a view to improving regulation of GM organisms), it did not make similar provision for other statutes to set higher standards in relation to new organisms, so as to take an approach consistent with that for hazardous substances. In particular, once it had determined that controls could be successfully applied to new organisms outside containment (under what is termed “conditional release”), it did not provide for local government to set stricter standards under the RMA.

### **2.3 HSNO and the Role of Local Government**

Government instead offered a quite divergent view: that local authorities do not have a role in GM regulation. The following was stated by Government members of the Parliamentary select committee that reviewed the changes to HSNO proposed in the NOOM Bill:

Such regulation is the role of the Authority [ERMA] under the principal Act. The Authority is a specialist body and responsibility should lie with it and not with local government.<sup>11</sup>

This stance was supported by advice from the Ministry for the Environment (MfE). Its opinion was summarised as follows in a letter to the select committee.

“It is clear in our view that [local authorities] have little, if any, ability to control GMOs under the RMA or the LGA. Nor does the Ministry consider that the New

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<sup>8</sup> This was due to experience with a range of introduced species. The Ministry for the Environment’s submission to the Royal Commission stated (p 18): “There were recent examples of new organism releases which had the potential for damaging consequences, and which pointed to deficiencies in the current controls on new organism imports. Examples which prompted such concerns were the introduction of chinchilla, Channel catfish brought in quarantine as part of an economic development scheme with Maori interests and then destroyed, and marron crayfish for which commercial breeding operations were established and then permission withdrawn requiring the destruction of the stock and a substantial compensation payment.”

<sup>9</sup> Hazardous Substances and New Organisms Bill: Report of the Committee on the Bill, House of Representatives, 1995, p 4.

<sup>10</sup> Drawn from discussions with ERMA CEO Bas Walker.

<sup>11</sup> Report of the Education and Science Committee on the NOOM Bill, September 2003, p. 5.

Organisms and Other Matters Bill should give local authorities the ability to control GMOs.”<sup>12</sup>

However, MfE appears not to have taken account of all pathways open to local government to exercise control. The ministry’s view is scrutinised in section 4.4.

It is the second sentence that is the point of interest at this stage. It summarises the Ministry’s opinion that local authorities should not have the ability to control GMOs. The basis for this was fully set out as follows:

“Most local authorities would not have the level of expertise required to establish the specific controls needed for the management of a particular GMO. It is unlikely, therefore, that any controls placed on a GMO by a local authority would have a sound technical basis. In addition, this would undermine the HSNO regime, which is based on comprehensive scientific, economic and cultural risk assessments. Moreover, giving local authorities the ability to control GMOs would introduce a dual permitting regime with consequent additional costs of compliance and enforcement.”<sup>13</sup>

The following critiques the three arguments contained in the above quotation.

*a) Local Authorities could not set controls that have a “sound technical basis”:*

This argument presents a fallacy of composition – that what is true for one is true for all. While local authorities would find it very difficult to assess certain types of “scientific risk”, this is not true for all such risks and is certainly not true for economic risks which are key risks with respect to GM varieties currently available for outdoor use. If a local authority is considering the release of a GMO within its territories and the economic impact on that area alone, it is at least as well placed to assess such economic risk, having access to similar independent professional advice that Government might draw upon.

*b) Local authority controls “would undermine the HSNO regime”:*

This argument, as presented, has no basis. The purpose of HSNO is protection of the environment and human health. HSNO sets minimum standards that apply nationally so local authorities would not be able to lower standards or reduce controls and thus “undermine” HSNO. On the contrary, as discussed above, local control would simply allow for **higher** standards to be put in place within local territories. The charge of “undermining” makes contextual sense only if there is a prior and unexplained assumption that centralised control is the optimum regulatory structure in all respects.

*c) Local authority controls “would introduce a dual permitting regime”:*

This argument ignores the options of local authorities setting controls well in advance and/or as part of the ERMA approval process and these being incorporated as conditions on any resulting approval. Mechanisms to provide for this are described in section 5. There is no need for two independent approval stages, as MfE presupposes.

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<sup>12</sup> Ministry for the Environment letter of 26 August 2003 from Dave Brash to the Education and Science Select Committee, p 2.

<sup>13</sup> Ministry for the Environment letter of 26 August 2003 to the Education and Science Select Committee, p 2.

It is a matter of concern that none of the arguments MfE advanced to the select committee is sound. Equally concerning is that they run counter to the principles set out at the time the original HSNO legislation was being devised. Further, there is no discussion as to why it is considered necessary to breach the principle of local autonomy with respect to land use matters that was established at that time.

An interdepartmental report to the Education and Science Select Committee delivered two weeks prior to the MfE letter devoted seven pages to issues arising with respect to “HSNO and RMA/LGA Interface”. However it too provided no discussion on this point of principle, focusing instead on explaining the interrelationships between the acts. Its key statement skirted the question by quoting government policy without identifying any basis for it:

“In developing the conditional release category officials considered the issue of additional RMA controls being imposed on a GMO. The decision made by the government was that the HSNO application and approval process, including imposing controls, should manage all the potential adverse effects of GMOs. Therefore, the intention is that the approval process occurs at the national level under HSNO.”<sup>14</sup>

The report did however conclude by stating that:

“It is difficult to define the interface between areas of legislation [with respect to certain aspects] ... If it becomes necessary MfE will consult with councils about the interface issue with a view to introducing an amendment in legislation.”<sup>15</sup>

Perhaps the most important outcome of this process is the missed opportunity to properly examine the concerns GM organisms raise for local government given its responsibilities under existing statutes. The following section takes up analysis of these themes.

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<sup>14</sup> Departmental Report on New Organisms and Other Matters Bill, 12 August 2003, p173.

<sup>15</sup> Departmental Report on New Organisms and Other Matters Bill, 12 August 2003, p175.



### 3. Issues of Concern for Local Government

#### 3.1 Sources of Risk

##### 3.1.1 Economic

A leading source of concern is that cultivation of GM crops will cause trace contamination in non-GM crops. The Royal Commission on Genetic Modification recommended that Government “proceed with caution” on the basis that GM and non-GM crops could be successfully kept apart. However, the Commission did not identify exactly how this would be achieved and methods for preventing GM crops from contaminating other like crops in commercial production have yet to be demonstrated.

A series of more recent studies have revealed that harvesting, transport and processing pose much greater contamination problems than expected. Investigations by the European Commission resulted in the conclusion that even the ability to keep below a 1% level of contamination of other foods could not be assured – a level that would trigger EU labelling requirements.<sup>16</sup> Given the high levels of consumer resistance to eating GM foods in Europe and the wealthier Asian nations in particular, trace contamination has become a significant issue.

Specific risks capable of causing economic damage include:

*Market rejection of an individual company's crop due to trace GM contamination.* The Gisborne-based company SunriseCoast experienced this market response in August 2003 when corn it grew for processing into a product for the Japanese market was rejected. Routine testing by the Japanese pizza maker that was to purchase the product showed trace contamination of 0.05%. This resulted in rejection of the entire line and the company estimates its losses were close to \$500,000.<sup>17</sup> The incident is likely to have arisen from trace contamination of seed stock.

*Market rejection of one type of crop from a region or country due to trace contamination from a different type of crop.* The Australian Wheat Board does not support the farming of GM canola in Australia on the grounds that at least 50% of its sales would be lost if GM content of any form and at any level was present in its shipments.<sup>18</sup> The Australian Barley Board objected to GM canola being released on similar grounds. The concern is that even though the canola would not cross-pollinate, the inability to reliably segregate the various grains through harvesting, transport, storage and shipment would result in contamination.

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<sup>16</sup> *Scenarios for co-existence of genetically modified, conventional and organic crops in European agriculture*, EC Joint Research Centre, May 2002, p vi.

<sup>17</sup> Sunrise Coast, personal communication, November 2003.

<sup>18</sup> South Australian Parliament Select Committee on Genetically Modified Organisms, Final Report, July 2003, p. 58.

*Market rejection of one type of crop from a region or country due to concern about inability to separate GM and non-GM crops.* Although less than half the corn grown in the US is GM, US corn exports to Europe have plummeted to less than 5% of the previous level due to an absence of, or lack of confidence in, systems to segregate the two products. The National Corn Growers Association, which represents the majority of US corn growers, estimated that loss of this market had cost around \$1 billion in exports by 2001 (or some \$300 million a year).<sup>19</sup>

*Market rejection due to perceptions that a GM crop has caused contamination.* Perceptions of contamination can be as damaging as contamination itself. This form of market rejection need not be based on doubt about the adequacy of segregation systems. It may be made by market gatekeepers (wholesale buyers) who simply perceive damage to a country image (Brand New Zealand) or a particular exporter's brand. It may equally be as a result of end use consumers making such a judgement. The report of an inquiry by Western Australian Parliament noted that: "The commercialisation of a single GM grain crop may tarnish WA's overall reputation of being a 'clean and green non-GM producer and thus have implications for the marketability of other WA agricultural products.'" <sup>20</sup>

### 3.1.2 Environmental

Research on the environmental effects of GM plants is still at an early stage. This is in part because such studies are generally long-term while GM crops are still relatively new. It is also due to less emphasis having been given to this area of research than could have been expected thus far.

Risks capable of causing environmental damage include:<sup>21</sup>

*Effects on Non-target Species:* GM crops may have adverse effects on non-target species in the receiving environment. This might occur directly or indirectly, via the reduction of food resources the organisms depend on. For example, the recently completed UK farm scale trials reported that two out of three GM crops tested had resulted in reduced populations of birds and insects relative to conventional varieties of the same crops.<sup>22</sup>

*Invasiveness:* Increased persistence, invasiveness and competitiveness with existing native or exotic plant species which could alter population dynamics and ecological balances. A particular concern in this regard are impacts on biodiversity.

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<sup>19</sup> USDA (29/11/01) International Agricultural Trade Report, and US National Corn Growers Association Letter to President Bush, January 23 2003.

<sup>20</sup> Western Australian Parliamentary Select Committee Report, July 2003

<sup>21</sup> For further detail, see *Who Bears the Risk*, Chen Palmer & Partners and Simon Terry Associates, October 2001, p 11-24.

<sup>22</sup> *GM Crops Fail Key Trials Amid Environment Fear*, October 2, 2003, The Guardian

*Rare Events:* An incident that introduces consequences or effects of a disastrous magnitude in circumstances where little was known about the risk in advance. Though the emergence of BSE in UK cattle was more a health and economic threat, it is an example of this type of incident. At the time it first emerged in UK cattle, it was not considered possible for the disease to transfer to humans through consumption of meat products.

In addition to well recognised sources of risk, there are areas of more general uncertainty surrounding GMOs and their potential effects on receiving environments.

Little research has been done internationally on soil ecosystems. The Royal Commission noted the absence of research and understanding of the implications of GMO release for New Zealand soil ecosystems. It stated that “there is a need for research specific to the New Zealand environment”.<sup>23</sup> Research into one aspect of concern – the asexual transfer of genetic material from one organism to another (or “horizontal gene transfer”) is now the subject of a research programme by Environmental Services Research, which notes that:

“It will be very difficult for regulators to develop a risk framework that takes account of HGT without data applicable to New Zealand conditions.”<sup>24</sup>

Uncertainty is likely to increase with new generations of GMOs that radically alter the properties and functions of existing crops. This includes the use of food crops for the production of substances not intended for human food uses, ranging from the production of pharmaceuticals to fuels. In its review of the environmental effects of transgenic plants, the US National Science Council concluded that such GMOs pose a challenge for environmental risk assessment:

“The introduction of such transgenes poses the potential for environmentally associated risks of a wholly different order than those associated with existing transgenic crops. If such a transgene moves into a wild relative, there could be widespread environmental dissemination of the pharmaceutical substance or other nonfood substances that could have impacts on wildlife as well as microbial populations.”<sup>25</sup>

### 3.1.3 Other Sources

Both the RMA and HSNO require cultural effects to be taken into consideration.<sup>26</sup> Testimony before the Waitangi Tribunal regarding the claim to indigenous flora and fauna (WAI 262) outlines one source of concern with respect to cultural effects.<sup>27</sup> Research would be required to describe potential cultural effects as a part of subsequent investigations into local authority response options.

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<sup>23</sup> Royal Commission Report, p. 133.

<sup>24</sup> *Horizontal Gene Transfer in the NZ Environment*, Abstract for FRST programme C03X0202, 1 October 2002.

<sup>25</sup> *The Environmental Effects of Transgenic Plants*, US National Science Council, 2002, p 246.

<sup>26</sup> RMA section 3 and HSNO sections 5 and 68(1) in particular.

<sup>27</sup> See for example the brief of Evidence of Mason Durie to Waitangi Tribunal in respect of WAI 262, January 2002.

Health risks arising from outdoor release are taken here to be one way in which GM contamination would impact - as distinct from intentional consumption, something that is not dependent on outdoor release.

### 3.2 Local Government Responsibility

Local government has overarching responsibilities that are relevant to any proposed outdoor release of GM organisms. These derive principally from the “Local Government Act 2002” (LGA) and RMA, and are outlined in detail in sections 3.1 to 3.3 of Dr Somerville’s opinion. The following offers an overview only.

The LGA provides for local authorities “to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future” (S10(b)). It also provides (in Section 14), “principles relating to local authorities”. These principles provide for a sustainable development approach to be taken by councils in performing their roles.

Local Government New Zealand offered the following comments with respect to the ability of the current HSNO legislation to provide for communities to exercise these responsibilities.

Local authorities are to work with local communities towards achieving sustainable development. This means councils will be facilitating the development of Long Term Council Community Plans, in which outcomes for an area are described and the role of council in delivering or enabling the achievement of those outcomes are identified. **We do not believe that the responsibilities given to local government under the LGA have been fully recognised in [HSNO].** [Emphasis added]

Local authorities have been clear about their desire to have a strong “voice” in the making of decisions about the release/non release of GMOs ...<sup>28</sup>

The field trialling, conditional and full release of GM organisms are land uses, and the RMA deals more specifically with regulation of such activities. Section 5(2) of the RMA states:

- (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.

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<sup>28</sup> LGNZ Submission to Parliament with respect to the New Organisms and Other Matters Bill, June 2003, p 5 and 7.

Dr Somerville noted in this respect that:

The people of the district may perceive that to sustain the principal uses of rural land in the district depends on avoiding or managing environmental risks associated with GMO-related activities. This may be considered in order to promote a number of values within the purpose provisions of the statutes, ranging from socio-economic, cultural, health and safety values to concerns about the biophysical environment, for example, biological diversity.<sup>29</sup>

The idea that districts would be established as areas free of certain categories of GM organisms was supported by the Royal Commission on Genetic Modification. Recommendation 13.1, which was not actioned by the Government, states:

That the methodology for implementing section 6(e) of the Hazardous Substances and New Organisms Act 1996 be made more specific to ... allow for specified categories of genetically modified crops to be excluded from districts where their presence would be a significant threat to an established non-genetically modified crop use.

The concept of exclusion zones has gained support internationally. Australia has set in place legal provisions for this which are detailed in section 5.3.2. In Europe, ten regions are jointly pressing for the right to set zones that exclude GMOs. These are Tuscany Aquitaine, Upper Austria, Basque Country, Limousin, Marche, Salzburg, Schleswig-Holstein, Thrace-Rodopi, and Wales.<sup>30</sup>

LGNZ offers the following comment on exclusion zones and HSNO:

It is not apparent how the management framework outlined within [HSNO] will allow communities to preserve the opportunities they have identified, and agreed to pursue, as part of their own strategic goals. For example, a district (or a grower association) may wish to brand and market its grapes, wine, oranges, apples, lamb, milk, cut flowers or other crop or produce as GE Free.<sup>31</sup>

At the highest level, the key problem for local government can be viewed as a lack of surety of outcome. The uncertainty is on two levels:

- a) Whether ERMA will agree with and act at all on certain concerns that may be held by local governments;
- b) Whether ERMA will manage risks it concurs need addressing such that it exercises the same degree of caution as would local governments.

HSNO provides wide scope for ERMA to assess applications for release such that the outcomes it delivers depend a great deal on the individuals making the assessments. There is the potential to manage more cautiously or less cautiously within the legal framework of the act. While the act is highly prescriptive in respect of procedural

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<sup>29</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 10.

<sup>30</sup> On November 4 2003, they declared themselves 'the network of GMO free regions' under a document signed by the agriculture ministers of each region.

<sup>31</sup> *LGNZ Submission to Parliament with respect to the New Organisms and Other Matters Bill*, June 2003, p 8.

matters, there are remarkably few constraints with respect to how assessments are to be conducted.

The act and the ERMA methodology that derives from it make many important features discretionary. The methodology does not actually set up any precise method or process by which analysis must take place. It has more the form of a checklist of considerations. Those sections that focus on the actual evaluation generally demand of ERMA only that it “take into account” and “consider” a variety of matters.<sup>32</sup> There are thus remarkably few limitations on the outcomes ERMA can deliver.<sup>33</sup>

The wide discretion given to ERMA also results in an absence of meaningful accountability. This problem is made more acute by the lack of a right to appeal an ERMA decision, other than on points of law.

HSNO suggests ERMA notify local government of applications for GM activities that it considers might be of interest.<sup>34</sup> However, ERMA is under no greater duty to take into account submissions of district and regional councils in its decision-making than those of any other submitter.

The absence of provisions that would compel ERMA to accommodate the positions of communities thus leaves local government unable to give surety to their communities that HSNO decisions will not override outcomes they have determined they wish to see. Further, there are at least two matters on which local government would tend to seek outcomes that it is far from clear ERMA would deliver under current policy settings. Here there is not simply uncertainty that ERMA will concur with local government, but grounds for serious doubt that it would support certain positions. These are addressed in the following two subsections.

### 3.3 Precaution

Traditional risk assessment seeks to estimate the probability that certain defined risk events will come to pass and then make an assessment of the harm that is likely to result. This framework is heavily dependent on two factors.

1. That enough is known about the identified risk events to reliably predict the nature of adverse affects and the probability of these occurring.
2. That the scope of important risk events can be defined in advance.

Risk assessment is a powerful tool when there are known impacts and known probabilities. It is not suitable however for use in circumstances characterised by

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<sup>32</sup> The notable exception is section 36. This requires that if a release would be “likely” to cause “significant” harm to the environment or human health, it may not be made. As it is difficult to imagine responsible decision-makers approving a release which they thought at the time was likely to cause significant harm, it is also difficult to view this as a strong bottom line.

<sup>33</sup> See: *Submission in Respect of Revisions to the ERMA Methodology*, Sustainability Council, October 2003.

<sup>34</sup> Section 53(4).

important unknowns. As many of the targets of environmental regulation have become more complex and less well understood, the limitations of this approach have increased. The precautionary principle is in essence the evolutionary answer to the need for an approach that better allows for the limitations of knowledge that regulators are increasingly confronted with.

The precautionary principle was devised essentially as a response to analysis of the long-run effects of certain substances and organisms that had demonstrated alarming adverse effects that were unforeseen when first approved.<sup>35</sup> Past surprises have included the effects from asbestos, X-rays, DDT and chlorofluorocarbons (CFCs).<sup>36</sup> A seminal work by the European Environment Agency (EEA) recently reviewed 14 of these unpleasant surprises. *The Precautionary Principle in the 20<sup>th</sup> Century* draws lessons for regulators from these case studies in support of adoption of the precautionary approach.<sup>37</sup> It describes the principle in the following terms.

“The precautionary principle is an overarching framework of thinking that governs the use of foresight in situations characterised by uncertainty and ignorance and where there are potentially large costs to both regulatory action and inaction”.

“A central lesson ... concerns the importance of recognising and fully understanding the nature and limitations of our knowledge. What is often referred to as ‘uncertainty’ actually hides important technical distinctions.”<sup>38</sup>

A key distinction the EEA offers is between risk, uncertainty and ignorance:<sup>39</sup>

**Risk:** Known impacts, known probabilities

**Uncertainty:** Known impacts, unknown probability

**Ignorance:** Unknown impacts and therefore unknown probabilities.

HSNO governs only substances deemed to be potentially hazardous or which are new organisms - where new organisms as a class have shown the potential to be hazardous.<sup>40</sup> These classes of risk were specifically removed from coverage of more

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<sup>35</sup> See: *Key Lessons from the Long History of Science and Technology: Knowns and Unknowns, Breakthroughs and Cautions*, Parliamentary Commissioner for the Environment, March 2001, and *Our Stolen Future*, Theo Colborn, Dianne Dumanoski, and John Peterson Myers, Penguin Books, 1996.

<sup>36</sup> The latter is a class of propellant formerly used in aerosol cans that came into widespread use in the 1950s with no recognition that these chemicals might cause damage to the ozone layer. This was in spite of a relatively good understanding at the time of the ozone layer and its function in shielding the earth from excessive UV radiation. Only in the 1970s did research first clearly show the link between the use of CFCs and the destruction of ozone in the upper atmosphere.

<sup>37</sup> *The Precautionary Principle in the 20<sup>th</sup> Century*, European Environment Agency, March 2002, p 216.

<sup>38</sup> Ibid, p 187.

<sup>39</sup> Ibid, p 217.

<sup>40</sup> The Ministry for the Environment’s extensive submission to the Royal Commission on genetic Modification documented the long gestation of the HSNO Act and the numerous practical

general environmental regulation under the RMA and set under special purpose legislation that makes use forbidden until individual assessment is completed and approval is forthcoming.

The nature of these classes of risk also means that assessments will more often involve areas characterised by uncertainty or ignorance. Thus, prima facie, one would expect precaution to be a fundamental guiding principle of HSNO.

The wording that has been the basis for most of the international agreements incorporating the precautionary principle in law is that established at the Rio Earth Summit in June 1992. Principle 15 of the Rio Declaration on Environment and Development, to which New Zealand is a signatory, sets out the following:

“Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

Of particular interest is its application under the Cartagena Protocol on Biosafety 2000. The protocol regulates the transboundary movements of modified organisms that are live, and thus capable of reproduction. It came into effect on September 11 2003. New Zealand is a signatory to the protocol but has yet to ratify.<sup>41</sup> Article 1 of the protocol builds directly on the Rio Declaration definition and interprets the precautionary principle in Article 11.8:

“Lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of that living modified organism intended for direct use as food or feed, or for processing, in order to avoid or minimize such potential adverse effects.”

However, HSNO does not embrace the precautionary principle, nor does it mandate that ERMA be precautionary. Instead, section 7 of the act specifies simply the following:

“All persons exercising functions, powers, and duties under this Act, ... shall **take into account the need for caution** in managing adverse effects where there is scientific and technical uncertainty about those effects.” [Emphasis added]

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instances of damage resulting from the introduction of new organisms through importation that led to new organisms in general being viewed as a special category of risk. “There were recent examples of new organism releases which had the potential for damaging consequences, and which pointed to deficiencies in the current controls on new organism imports. Examples which prompted such concerns were the introduction of chinchilla, Channel catfish brought in quarantine as part of an economic development scheme with Maori interests and then destroyed, and marron crayfish for which commercial breeding operations were established and then permission withdrawn requiring the destruction of the stock and a substantial compensation payment.” Ministry for the Environment submission, p. 18.

<sup>41</sup> New Zealand signed on 24 May 2000. MFAT is currently leading a review as to whether New Zealand should ratify.

In *Bleakley v Environmental Risk Management Authority*, the High Court considered whether the Act and the ERMA Methodology provide any requirement on the part of ERMA to observe the precautionary principle. The Court did not accept submissions of the appellants that section 7 embraced the precautionary principle, partly as a result of the Court's reading of the parliamentary debates prior to HSNO's enactment.<sup>42</sup>

As the regulator responsible for interpreting and implementing HSNO, ERMA itself has stated that:

“The wording in the Act is very permissive, such that **the Authority would be acting lawfully in deciding that caution was not warranted**, provided it explained why. In practice, the Authority has generally exercised caution.”<sup>43</sup> [Emphasis added]

The important point of distinction here is not that ERMA is precluded from implementing the precautionary principle. HSNO grants ERMA relatively wide powers under section 38 1(b) to decline an application such that it is within the scope of the act for ERMA to deliver precautionary outcomes, were it of a mind to do so. The key point is that rather than precaution being mandatory, HSNO makes it a matter for ERMA's discretion – something simply to be “taken into account”. Precaution is an option, not a requirement.

When considering the RMA, the courts have ruled that a precautionary approach is inherent in the act. An extensive review of the requirements of the act with respect to precaution is provided in *Shirley Primary School v Telecom Mobile* and the following is stated by the Environment Court.<sup>44</sup>

- “The Resource Management Act was precautionary and thus justified a precautionary approach. Such an approach was inherent in the Act – in particular in s 3(f).”
- Section 3(f) is considered to be “precisely what the precautionary approach is about”. Section 3(f) states that the term “effect” includes: “Any potential effect of low probability which has a high potential impact.”
- The precautionary principle “should be recognised as a restatement of s 3(f) and the precautionary approach”. It is not considered separately in making rulings for this reason.
- “We consider the effect of s 3, especially 3(f), is that the court is required to evaluate beyond the balance of probabilities (ie 50-50) where the risk (even if low) is of high potential impact.”<sup>45</sup>

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<sup>42</sup> *Bleakley v Environmental Risk Management Authority*, 2001 3 NZLR 213 (HC), p 250; paras 160 - 164, McGechan J.

<sup>43</sup> *Approach to Risk*, ERMA, December 2002, p 3.

<sup>44</sup> *Shirley Primary School v Telecom Mobile Communications Ltd*, NZRMZ, 1999, paras 10, 221, 222 and 130 respectively. These interpretations were confirmed in *Clifford Bay Marine Farms Ltd v Marlborough District Council*.

<sup>45</sup> By way of comparison, note that HSNO section 36 that sets minimum standards requires that an application not be “likely” to cause “significant” harm with respect to a range of environmental and human health concerns.

As Dr Somerville notes, in *Golden Bay Marine Farmers v Tasman District Council*, the Environment Court ruled that a precautionary approach may be applied:

- (a) through the application of and analysis of the factual evidence under the provisions of s.3 RMA, particularly s.3(f) – that regard be had “to potential effects of low probability but high potential impact”;
- (b) after findings of fact are made, a precautionary approach may be inbuilt into the various relative provisions of the plan – objectives, policies, rules, methods, etc;<sup>46</sup>

In summary, if a community undertakes investigations and analysis that leads it to conclude that a precautionary approach is warranted, it has the ability to deliver this outcome itself through use of the RMA. If the community instead depends on ERMA, there is no requirement for ERMA to be precautionary.

Detailed submissions have been made to both the Government and ERMA, pointing out the changed circumstances since the passage of HSNO in 1996, especially the wider adoption of the precautionary principle (internationally and in New Zealand Government policy), and the need to revise HSNO accordingly.<sup>47</sup> However, neither has recommended doing so. These positions also need to be taken into account when assessing the likelihood of ERMA adopting a precautionary approach and the degree to which it is likely to require precaution from applicants.

A final factor is the inability to appeal an ERMA decision, other than on points of law. Parliament noted when first passing HSNO that public policy generally dictates there should be one right of appeal from the decision of a quasi-judicial body, but elected not to allow this on the grounds that this would not provide for “a better decision” second time around.<sup>48</sup> Absence of the right to appeal HSNO decisions to the Environment Court (as is available for RMA decisions), significantly limits the ability to ensure a consistent approach with respect to the application of precaution. For local government, it underscores the inability to rely on the HSNO process to deliver outcomes set by the community.

### 3.4 Liability and Compensation

In August 2002, the Government recommitted to the following principles first adopted when New Zealand became a signatory to the Rio Declaration in 1992:

“13. States shall develop national laws regarding liability and compensation for the victims of pollution and other environmental damage. ...”

“16. National authorities should endeavor to promote the internalisation of environmental cost and the use of economic instruments, taking into account the approach that **the polluter should, in principle, bear the cost of pollution ...**”<sup>49</sup>

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<sup>46</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 26, citing Environment Court W42/01, 27 April 2001, p 76.

<sup>47</sup> *Departmental Report on New Organisms and Other Matters Bill*, 12 August 2003, p182 to 185

<sup>48</sup> Hon Simon Upton, Hansard, 16 April 1996, at pp 11901-11902

<sup>49</sup> Rio Declaration on Environment and Development (the Rio Declaration). June 1992.

In other words, the polluter should pay, and be compelled to do so through effective liability laws. This however is not the case with respect to activities regulated under HSNO.

Those who make or use GMOs are not liable under HSNO for any damage arising as a result of an activity carried out in accordance with an ERMA approval. That is, there is no strict liability – no obligation to pay for damage that is shown to be a direct result of the GM release.

Those suffering damage to property have the option of pursuing a civil action via tort law. However, this involves relying on law ill-suited for this purpose, and which makes daunting demands in terms of evidence, time and financial resources. Only if an operator releases without a permit or breaks conditions of an ERMA approval is it strictly liable for damages.

When Government consulted the Law Commission on the question of how to apportion liability, it referred the matter back to ministers on the basis that this was a policy decision, not a legal question. After observing that GM organisms have the potential to cause “catastrophic” levels of harm and irreversible damage, it concluded that: “Government will have to decide how responsibility for any risks of new technology is to be apportioned among the industry, individuals and the state”. Government has yet to properly address this question.<sup>50</sup>

An effective liability regime relies not only on clearly apportioning liability, but also on there being measures to ensure that liable parties have the means to pay. However, HSNO similarly sets no requirement for financial fitness on the part of the applicant. No demands are made on ERMA to conduct any form of scrutiny as to the ability of the applicant to meet claims for damages arising from the activity.

HSNO instead places a heavy reliance on controls and penalties for breaching these. The problem with this approach is that the regulator must accurately foresee all the circumstances in which something could go wrong, and be able to prescribe for these in advance. However, an important source of risk now recognised in respect of GMOs is unexpected adverse effects. A liability regime based on “perfect” foresight is therefore not suited to these risks.

Local governments may well take the view that for GM release, a liability regime is required that makes those responsible for any release strictly liable for any damage and also ensures they are financially fit. In the first instance, this would be to protect the community in a general sense - by putting in place financial incentives for GM

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<sup>50</sup> Official commentary to date surrounding government decisions has focussed only on the perceived problems of allocating liability to those responsible for the activities. Government has rejected this approach on the grounds that “opportunities” would be lost. A cabinet paper of February 2003 stated: “Imposing the more stringent standard of strict (or absolute) liability may deter activities that are socially beneficial and, consequently, stifle innovation and economic growth contrary to government policy.” Such thinking miscasts what is truly “socially beneficial”. If an economic activity can not itself sustain the full costs which it imposes on society, including the risk that it will impose damages, then it will have a negative impact overall.

developers to be precautionary. Such a regime would also be designed to protect a Council itself from exposures that directly affect it.

Crown Law considers that local government is unlikely to be exposed to liability claims arising from the circumstances that have already resulted in large damages suits overseas – those relating to GM contamination of non-GM produce. It states “If the crop was ERMA approved and the person complied with all the conditions imposed by ERMA then it is unlikely that a claim in negligence would succeed”.<sup>51</sup> However losses arising from legal actions against a local authority (legal liability) are just one form of exposure. The wider issue is loss arising from an inability to obtain compensation from those causing damage (financial liability).

A clear source of risk for local government in this regard is environmental damage. Local government is exposed to the absence of a requirement for GM developers to be financially fit. As the Royal Commission noted, “The defendant may be a shell company without substantial assets, or may be insolvent.”<sup>52</sup> The key risk here is that if the operator has inadequate financial resources to cover environmental damage resulting from its activities, the burden tends to fall on local government.

Local government has already encountered examples of operators leaving clean up costs in their wake for which no party can be held fully liable. A well known example is so called “Orphan Contaminated Sites”. Abandoned sites contaminated with hazardous chemicals are all too frequent in New Zealand. The total cost for clean up of these sites has yet to be fully estimated. In certain cases, government has contributed funds towards studies examining how clean up would be undertaken. However, to date it is local government that has been left with the responsibility in most cases. Significant Crown contributions to the clean up of the Mapuia site have been the exception in recent years.<sup>53</sup>

Environmental damage clearly represents a cost to a local authority’s territory, whether or not any financial loss is recorded in the Council’s accounts. This cost may take the form of reduced future potentials or direct financial costs involving clean up or mitigation.

As discussed above, a GM developer or operator is not liable for harm caused as long as it obtains and abides by an ERMA consent. Nor does HSNO require ERMA to ensure that an applicant has the means to pay compensation. If an application is made under HSNO section 34 for unconditional release,<sup>54</sup> ERMA has no legal means of imposing a bond or any other financial assurance requirement. Only if the application is made under HSNO section 38(A) for conditional release can ERMA impose financial assurance requirements (under section 38(D)).

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<sup>51</sup> Crown Law opinion of 8 August 2003, provided to Ministry for the Environment, p 7.

<sup>52</sup> Royal Commission Report, p 319.

<sup>53</sup> Treasury Estimates 2000, p508 B.5 Vol. I.

<sup>54</sup> And this is approved under section 38(1).

Ideally, such financial assurance requirements would include a bond, topped up by insurance cover.<sup>55</sup> However, Government accepted officials' recommendations that ERMA not be required to consider whether to take a bond from an applicant.

“Requiring the Environmental Risk Management Authority (ERMA) to consider imposing insurance or bond requirements, as a condition of approving release of a new organism to address liability concerns is not supported. Assessing when and how to use such discretion and the amount of any insurance or bond would, generally, be a highly speculative exercise. It would involve consideration of a range of difficult issues that ERMA may not be well placed to undertake. There is a risk that socially beneficial activities might be deterred and capital would be tied up when it could be put to more productive uses.”<sup>56</sup>

When ERMA was asked by Environment Bay of Plenty whether it would be likely to require bonds of applicants, EMRA commented that:

It is understood that ERMA New Zealand may be able to require a bond as a condition on approval, however this is not explicitly stated in the legislation and to date exercise of such a power has not been tested.<sup>57</sup>

Given the stance taken by Government, ERMA's outlook, and the absence of any requirement for an applicant to declare its financial fitness,<sup>58</sup> there is little basis for expecting that ERMA will set meaningful financial assurance requirements.

Local government does however have the means to establish such requirements under the RMA. Section 108A affords wide powers in this respect and provides in particular that a bond may:

- Be set to cover any “conditions the consent authority considers appropriate” (108A(1))
- “continue after the expiry of the resource consent to secure the ongoing performance of conditions relating to long-term effects” (108A(1))
- “provide that the liability of the holder of the resource consent be not limited to the amount of the bond” (108A(2)(c))
- “require the holder of the resource consent to provide such security as the consent authority thinks fit for the performance of any condition of the bond” (108A(2)(e))
- “require the holder of the resource consent to provide a guarantor” (108A(2)(f))

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<sup>55</sup> For further discussion, see *Who Bears the Risk*, Chen Palmer & Partners and Simon Terry Associates, October 2001.

<sup>56</sup> Government Response to the Royal Commission on Genetic Modification: Legislative changes for New Organisms – Paper 5: Liability Issues for GM, Cabinet paper, February 2003, p 5.

<sup>57</sup> Letter from ERMA to Environment Bay of Plenty, 26 January 2004, p2.

<sup>58</sup> *Policy Guidelines for the Consideration of Conditional Release Approvals*, ERMA, October 2003.

Section 108A(3) also recognises that environmental effects may only become apparent long after the activity has ceased.

If a consent authority considers that an adverse effect may continue or arise at any time after the expiration of a resource consent granted by it, the consent authority may require that a bond continue for a specified period that the consent authority thinks fit.

These powers address well the long timeframes<sup>59</sup> and wide range of conditions that would be required to provision against potential harm resulting from GM release. On their own, they could be used to provide a significant level of protection. Section 4.3.2 identifies examples of other mechanisms that could also be used to set liability and financial assurance rules.

Thus if a community believes a liability regime should be in place to require those engaging in a GM release to pay compensation for harm caused by an approved release, then acting independently of ERMA can provide for this when it is not provided for under HSNO. Local government can also provide surety that the agent has the means to compensate in line with financial assurance requirements it sets.

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<sup>59</sup> The Royal Commission notes that: “The effects of genetic modification are expected to be likely to manifest only in the long term” (p.311).

## 4. Response Options Under Existing Statutes

### 4.1 Introduction

The preceding chapter detailed why HSNO does not provide surety in respect of key concerns local authorities are likely to focus on should they adopt policies on the outdoor use of GM organisms. If communities seek surety of outcome, there are two broad response options.

The first is for local authorities to seek the amendment of HSNO. Submissions to date by local bodies have not resulted in Government support for such a change. This nonetheless remains an important course of action and is explored in the following section 5.

In absence of a commitment by Government to such an amendment of HSNO, communities have other options to advance policies on the outdoor use of GM organisms. This section examines those options, and how they could be utilised.

### 4.2 Assessment of Other Existing Statutes

Should a community seek to utilise other existing statutes to advance its policy objectives, rather than rely on the HSNO process, the following are the central options:

- a) Enact a bylaw under section 145(b) of the LGA;
- b) Vary a long-term council community plan (LTCCP) set under section 93(1) of the LGA;
- (c) Vary the district plan pursuant to section 74 of the RMA.

An important selection criterion is the durability of any reform. Dr Somerville confirms that a bylaw is a tool available for the purposes discussed in this report, but concludes that it would be exposed to legal challenge.

I am of the opinion that because the purpose of the HSNO Act is to “protect the environment and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms” (s4), a bylaw purporting to have an identical purpose, means it would be open to the High Court to declare it unreasonable if it is promulgated without an in-depth risk assessment of the sort undertaken by ERMA.<sup>60</sup>

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<sup>60</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 35. Crown Law is of a similar opinion stating that “As bylaws have to be made in accordance with the primary Act it is likely that they would be *ultra vires*.” P 4.

In contrast, Dr Somerville believes the other two options have the capacity to be durable.

A preliminary report by Kaipara District Council suggested further investigation of the bylaw option in preference to use of the RMA, primarily due to concerns about the ability of the RMA to cover all GM applications of interest. However it noted that a prerequisite for such action would be confirmation that such a bylaw would be reasonable under the act.<sup>61</sup>

While it is conceivable that enactment of a bylaw would be attractive in circumstances where very little time was available to respond to a proposed GM release, concern about the ability of the instrument to remain in place for long enough to achieve its purpose would tend to exclude use of bylaws in most circumstances.

When comparing the remaining options of regulating via a long-term community plan under the LGA versus a district plan under the RMA, the following distinctions are important.

- While a district plan is binding, as Dr Somerville notes, a long-term community plan is not binding:

As a statement of intention only, the plan is non-binding in the sense that once it is adopted a local authority may ... make decisions inconsistent with its plan under section 96(3). No person is entitled to require a local authority to implement a plan's provisions under section 96(4).<sup>62</sup>

- The ability to set precisely targeted rules under a district plan allows specific concerns to be addressed in a manner that better ensures the outcomes sought without compromising other activities that are not intended to be regulated through such an initiative.
- If the focus of concern with respect to GM organisms is their outdoor use, then this is a land use question and a district plan is the principal statutory instrument designed to regulate land use.

The RMA thus emerges as the best of the three options, *prima facie*, for making use of existing statutory provisions to manage the outdoor use of GM organisms. While a LTCCP will also be useful in setting strategic direction, and can be used to specify a council's stance on precaution, the RMA provides the key tools required.

An important consideration at this point is whether HSNO, having been passed subsequent to the RMA and focused directly on GM organisms, does not extinguish the RMA provisions and that these remain open for local authorities to use. Dr

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<sup>61</sup> "If the basis of the bylaw legislation can be confirmed as appropriate in this instance then it would allow the use of a bylaw under the Local Government Act. However, it would need to be demonstrated that the bylaw would be 'reasonable' under the law." *Genetic Engineering - Issues and Options of Limiting the Release of Genetically Engineered Organisms*, Kaipara District Council, 20 August 2003, p 7.

<sup>62</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 15.

Somerville considers this question in detail in his opinion and argues that the two statutes are not in conflict and that they can operate side by side.

The functions of each authority need not produce inconsistent controls and as such it should be presumed that the HSNO Act was not intended to limit the general provisions of the RMA ... . A contextual interpretation of the HSNO Act and the RMA suggests that the application of the decision-making process by ERMA under the HSNO Act and the WDC under the RMA need not be incompatible with the legislative regimes in each statute.

[...]

I am of the opinion that the provisions of the HSNO Act do not preclude the WDC from exercising its jurisdiction to control GMO-related land uses within its district plan pursuant to the RMA.<sup>63</sup>

A remaining issue is how the actions of an individual territorial local authority (TLA) advanced under the RMA would relate to the relevant regional council.<sup>64</sup> In particular, if the TLAs' concerns are shared by the regional council, is it best that action is taken at the regional level?

Under any scheme for local authority involvement, regional councils are likely to play an important role through the issuing of policy statements and plans. However, a number of important issues remain to be clarified before it is known to what extent a regional council could manage the outdoor use of GMOs. These include whether a GMO would be a "contaminant" in terms of section 2 of the act. Crown Law considers that whether it meets the definition would be case dependent.<sup>65</sup>

Dr Somerville has indicated that a separate opinion would be needed to research the extent to which regional councils have authority to act. However, he notes that "whether or not a regional response could be achieved, for there to be efficient and effective regulatory land use controls, the territorial authority would need to be involved".<sup>66</sup> In particular, unless controls were put in place at the regional level that provided for a region-wide prohibition and covered all GMO activities of concern, then TLAs would still need to implement land use controls to issue permits under a managed regime.

### 4.3 Approaching a District Plan Change

Establishing controls on GM organisms under the RMA will ultimately require a district plan change. Pursuant to section 31 (a), this requires the "the establishment,

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<sup>63</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 20 and 22.

<sup>64</sup> The related question of the relationship to proximate TLAs is discussed in section 6.

<sup>65</sup> "It will depend on the GMO and what the effects of the GMO are when they are discharged to air, land or water." Crown Law opinion of 8 August 2003, provided to Ministry for the Environment, p 6.

<sup>66</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 7.

implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use” to be regulated.

While the process of developing a district plan change will necessarily flow from the setting of objectives, to establishing policies and then methods and rules, the complexity of questions surrounding the use of GMOs suggests that this will be an iterative process. There are also a series of variables to be considered in framing rules including: the degree of caution to be applied, the resources required of councils to implement and administer rules, and their expected robustness to challenge. Some of these factors will be tradeoffs.

The following provides an overview of the issues and explores potential paths through.

### 4.3.1 Objectives and Policies

Objectives that are both outcome-oriented and process-oriented will be relevant. Setting outcome-oriented objectives will involve defining the scope of GMOs to be controlled. As noted in section 1, we have limited consideration in this report to those applications involving the outdoor use of GMOs, and in particular field trials and releases. Food crops, trees, animals, and pharma crops that have been genetically modified are the focus. GM activities that are not considered in this report are research within contained laboratories involving GMOs, medical applications involving the manufacture and use of non-viable GM products, and food containing GM products that are not viable.<sup>67</sup>

Those considered here are land uses, and so may be subject controls under a district plan. These categories also embrace the GMOs we consider likely to pose risks of a form that TLAs will wish to ensure are addressed.<sup>68</sup>

We are not aware of any Northland TLA having identified a scope of GMO categories it would wish to consider. Kaipara District Council has however set the following policy which is covered by the scope of this report.

“That Council adopt the direction of a precautionary approach and limit the release of genetically engineered organisms by District Plan Change, bylaw, requiring notification or a combination of these.<sup>69</sup>

Process-oriented objectives will overlap with more general policies, particularly those focusing on taking a precautionary approach to land use. As discussed by Dr Somerville, the RMA provides a firm foundation for TLAs to adopt precautionary policies and practices.

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<sup>67</sup> The focus is on living modified organisms (LMOs) that are capable of reproducing themselves, and are thus “viable”.

<sup>68</sup> Illustrative of potential exceptions that will need to be considered, GM fish present a special case insofar as their commercial breeding involves both a land use and a potential discharge to water, or a release to the open sea.

<sup>69</sup> Kaipara District Council resolution of June 2003. *Genetic Engineering - Issues and Options of Limiting the Release of Genetically Engineered Organisms*, Kaipara District Council, 20 August 2003

Section 31 (b) sets a base for this by providing for “the control of any actual or **potential effects** of the use, development, or protection of land” [emphasis added]. Sections 3(e) and (f) further contribute to the ability to regulate for potential harm, with the definition of effects including:

- (e) Any potential effect of high probability; and
- (f) Any potential effect of low probability which has a high potential impact.

Section 32 4(b) provides a key additional precautionary element by specifying that an evaluation of any proposed change of plan must take into account the following:

- (b) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules, or other methods.

As Dr Somerville notes:

The reference to “risk” in section 32(4)(b) in the context of uncertain or insufficient information would suggest a need to consider management steps which anticipate future adverse effects which cannot be quantified by a probabilistic risk analysis.<sup>70</sup> A precautionary risk management approach involves taking anticipatory measures and considering alternatives in light of potential significant or irreversible harm that could result from proceeding on the basis of uncertain and/or inadequate information.<sup>71</sup>

He states that a precautionary approach may be used as the root rationale for acting to regulate GM activities within a TLA’s district and recommends that any decision to apply a precautionary approach be included in the objectives and policies of the district plan.<sup>72</sup>

Kaipara District Council has decided to adopt a precautionary approach specifically in respect of GM release (see above resolution). We are not aware of other similar specific policies although other Northland councils have adopted a precautionary approach with respect to other matters.<sup>73</sup>

#### 4.3.2 Rules and Standards

A key issue when designing rules and standards for regulating GMOs will be whether the analysis supports rules that result in prohibition or some form of management of the risks. Dr Somerville notes:

A strong precautionary risk management approach available to the WDC is to implement a policy of establishing GMO-exclusion areas within which GMO-related land uses are prohibited.

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<sup>70</sup> Section 32(4)(b) is wider than the wording in section 7 of the HSNO Act which refers to scientific matters when taking a precautionary approach.

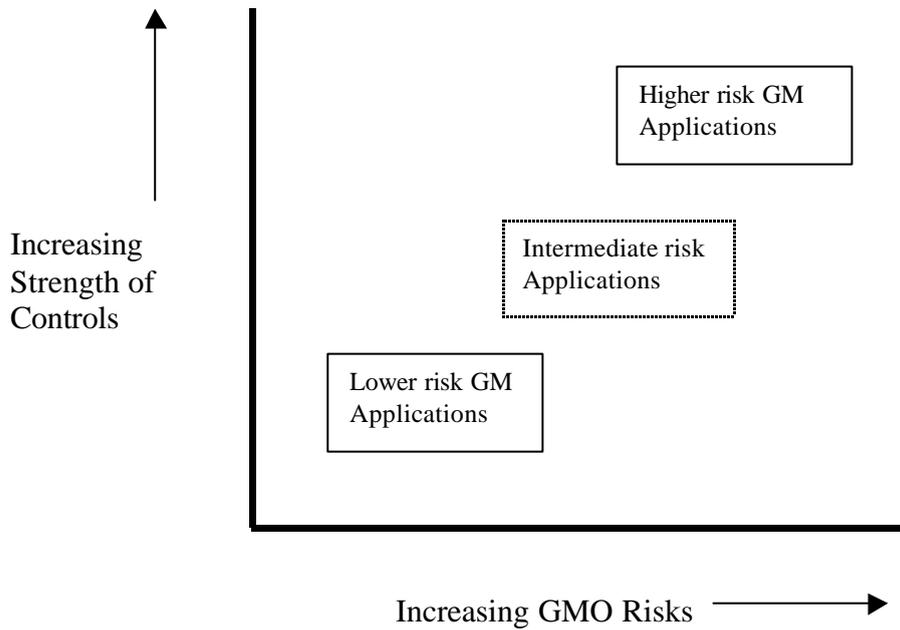
<sup>71</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 13.

<sup>72</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 27.

<sup>73</sup> The Northland Regional Council’s regional policy statement refers to a precautionary approach to resource management. See also Whangarei District Council’s proposed district plan in respect of sea level rise, which provides for a “precautionary approach”, p 156.

An alternative precautionary risk management approach which involves a policy of establishing a GMO-management area or areas within which GMO-related land uses are controlled by risk management methods including rules, while GMO-related land uses outside the management areas are prohibited, is also available to the WDC.<sup>74</sup>

An important point to note in this respect is that not all categories of GMO use need be regulated with the same degree of precaution. Indeed, the analysis may well show different levels of precaution being warranted across the spectrum of categories under consideration. This may result in two or more different sets of rules in order to group and match similar categories of risk with the appropriate controls (as depicted below). By way of illustration, field trials may be subject to liability requirements while commercial production of GM food crops may be prohibited.



There is a clear ascending order of controls TLAs may use under district plans, and this is tabulated below.

Type of Control
Prohibited
Non-complying
Discretionary
Restricted Discretionary
Controlled

<sup>74</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 27.

A similar hierarchy of GMO categories is much harder to construct as the risk profile of a particular GMO within a category can vary widely.<sup>75</sup> Such an ordering also depends on the relative importance ascribed to different types of risk (environmental, economic, social, etc). It may also depend on whether the application was for: a field trial, conditional release, or unconditional release. However, for the purposes of illustration, a further table below also shows GMO categories in an ascending order of risk.

GMO Category
Pharma crop production
Food crop production
Forestry production
Livestock farming
Field trials of all forms

Determining whether each category of GM organism should be prohibited or managed (and the controls to apply if managed), is a substantial task and beyond the scope of this report. Ideally, the analysis would be undertaken on at least a region-wide basis so that parallel provisions were in place across proximate districts. Should the analysis determine that certain categories be prohibited, then clearly no controls are required. Should the analysis determine that certain categories be controlled, then the following provides examples of types of controls that would be important to consider.

**Financial Assurance Requirements:**

Even the lowest risk applications for the outdoor use of GMOs could impose costs on other parties. The following mechanisms are among those that can be used to assist injured parties obtain compensation:

- requirement to report on net financial assets available to meet claims, and/or to hold certain minimum assets;
- requirement to pay a bond;
- requirement to hold insurance cover.

**Liability Provisions:**

GM developers are not strictly liable for damage arising from a GM release that is conducted in line with an ERMA approval. While a civil action may be taken using tort law, this is an inappropriate and onerous means of seeking compensation. An alternative is that a district plan can itself set a liability regime, providing far more specific obligations. This would be expected to greatly reduce the burden of proof required to obtain compensation as well as the time and costs involved.

**Geographic Area and Time Limits:**

As with many other activities, controls may take the form of restrictions on the areas in which the GMOs may be utilised, and/or the time of year and the total

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<sup>75</sup> Examples of factors that can significantly alter risks within a category include: whether a plant pollinates, whether an animal is easily contained and recaptured, and whether a pharma variety is a modified food crop.

duration of use. ERMA is very likely to consider such restrictions so this is an example of controls that TLAs may use to set to a higher standard than that ERMA prescribes.

**Containment Specifications:**

A significant concern for conventional farmers is dispersal of GM material, particularly pollen or seed, such that trace GM contamination is detected in their crops. One means of addressing this concern is to limit the area in which GM materials may be used such that dispersal beyond that area is a breach of the rule.

Finding an optimal mix of controls will depend on integrated analysis of such factors as:

- The scale of the risk associated with the activity;
- The degree of uncertainty surrounding the scale and probability of the risk;
- The effectiveness of the measure in addressing the risk, as compared to alternatives;
- The expected cost of implementing and administering the rule;
- The expected robustness of the rule to legal challenge

#### **4.4 Section 32 Evaluation**

Section 32 of the RMA makes the answering of many of the above questions a formal requirement when a TLA is considering a district plan change. It prescribes that:

- (3) An evaluation must examine-
  - (a) the extent to which each objective is the most appropriate way to achieve the purpose of this Act; and
  - (b) whether, having regard to their efficiency and effectiveness, the policies, rules, or other methods are the most appropriate for achieving the objectives.
- (4) For the purposes of this examination, an evaluation must take into account-
  - (a) the benefits and costs of policies, rules, or other methods; and
  - (b) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules, or other methods.

This test of the reasonableness of any regulations focuses on both the objectives that are set and the methods (or rules) being the “most appropriate”. The analysis must therefore be thorough in scoping the issues of concern and the available means of addressing the identified concerns in order to ensure that the resulting regulations are durable. As noted previously, this analysis is obliged under 32 4(b) to take into account the risk of acting or not acting if there is uncertain or insufficient information, which provides a firm precautionary basis for the conduct of this analysis.

Much of the doubt that has been cast on the ability of any TLA to provide a robust section 32 evaluation has been on the basis that ERMA (acting under HSNO) provides a better means to address any reasonable concern. However, these contentions are not well founded as the analysis has not been advanced sufficiently.

An information sheet produced by the Ministry for the Environment in June 2002 offered the following comment:

A council would also have to demonstrate in what way there were any environmental risks from use of GMOs in the region or district outstanding, i.e., which had not already been dealt with through the ERMA process and which needed to be addressed through plan provisions under the RMA. It *may* be difficult for councils to establish this given that ERMA is the specialist body established by Parliament to deal specifically with risk assessment and the approval of genetic modification applications.<sup>76</sup> [Emphasis added]

This statement relies on its use of the word “may”. It casts doubt without providing substantiating analysis.

A year later, the issue became a focal point for discussion by the Education and Science Select Committee when it heard submissions in respect of proposed changes to HSNO. A number of members of the committee echoed the concerns local authorities had submitted and requested departmental advisors “help clarify” issues related to the HSNO/RMA interface. The Ministry for the Environment in turn sought a Crown Law opinion that stated:

The real difficulty [with a section 32 evaluation] will be showing that it is efficient and effective to prohibit GMOs when ERMA, under the HSNO legislation, has agreed to their field testing or release. Given that the Government has set up a specialised body under the HSNO Act **it is likely to be difficult to show that there is a real risk of adverse effects as opposed to a perceived risk or fear.**<sup>77</sup> [Emphasis added]

Having opened up a legitimate legal distinction between risks for which there is evidence and risks which are perceived,<sup>78</sup> Crown Law devotes the remainder of the discussion to dealing only with perceived risk. The Environment Court has been clear in its requirement for “evidence of adverse effects or risk to the environment, rather than mere suspicion or innuendo”.<sup>79</sup> However, Crown Law leaves completely uninvestigated two prospects that are central to the question of whether it would be “effective and efficient” for TLAs to regulate GMOs.

1. That ERMA can not be relied upon to provision against certain areas of risk for which there is evidence; and
2. That TLAs may reasonably wish to set higher standards for controls than ERMA has or could be expected to.

The first of these was extensively discussed in sections 3.3 and 3.4 which concluded that:

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<sup>76</sup> *Genetic Modification and the Resource Management Act*, Ministry for the Environment Information Sheet, June 2002, p 2

<sup>77</sup> Crown Law opinion of 8 August 2003, provided to Ministry for the Environment, p 3.

<sup>78</sup> See in particular *Shirley Primary School v Telecom Mobile Communications Ltd*, NZRMZ, 1999.

<sup>79</sup> See *Land Air Water Association v Waikato Regional Council*, as cited by Dr Somerville, p 27.

- If a community undertakes investigations and analysis that leads it to conclude that a precautionary approach is warranted, it has the ability to deliver this outcome itself through use of the RMA. If it instead depends on ERMA, there is no requirement for ERMA to exercise caution.
- If a community believes a liability regime should be in place to require those engaging in a GM release to pay compensation for harm caused by an approved release, then acting independently of ERMA can provide for this when it is not provided for under HSNO. Local government can also provide surety that the agent has the means to compensate in line with financial assurance requirements it sets. The Government determined not to require ERMA to consider financial assurance requirements as a condition of application approval.

Further, a community is entitled to take a precautionary approach under section 32 4(b) if the information required to make an assessment is uncertain or insufficient.

The second prospect is that TLAs may reasonably wish to set higher standards for controls than ERMA has or could be expected to. As discussed in section 2.2, it was government's thinking at the outset that HSNO would be a means of setting a floor on national standards, rather than a ceiling, and this was explicitly provided for in HSNO with respect to hazardous substances. Dr Somerville observes that:

There is nothing in the HSNO Act to preclude [a TLA] imposing greater levels of control in its district plan for RMA purposes than those imposed by ERMA under the HSNO Act even though the controls relate to GMO-related land uses.<sup>80</sup>

Crown Law's failure to investigate either of these rationales undermines its conclusion that TLAs would be likely to face difficulties meeting the section 32 test. In turn, it undermines the Ministry for the Environment view:

The Ministry considers that the thrust of Crown Law's advice, is that although local authorities may attempt to control GMOs through the RMA or the LGA, it is most unlikely that their actions will withstand scrutiny by the Environment Court.<sup>81</sup>

Government has consistently worded its statements to give the impression that HSNO and the ERMA process are extremely stringent – a "gold-standard" of regulation.<sup>82</sup> However, at the same time, it has explicitly declined to set enforceable principles and standards that would provide surety that stringency would be the outcome of the regulatory regime. The result is a significant gap between expectations and the law as delivered.

Thus there are "real" risks beyond those it can be assured ERMA will provision against. The setting of rules under the RMA such that certain outcomes are assured can be both an efficient and effective response.

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<sup>80</sup> *Opinion on Land Use Controls and GMOs*, Dr R J Somerville QC, February 2004, p 21.

<sup>81</sup> Ministry for the Environment letter of 26 August 2003 from Dave Brash to the Education and Science Select Committee, p 1 and 2.

<sup>82</sup> *Middle Ground on Biotechnology Satisfies No One*, NZ Herald, 26.05.2003

## 5. Proposed HSNO Reform

### 5.1 Introduction

The previous section described how TLAs could change their district plans in order to regulate GMOs under the RMA. The broad alternative is to amend HSNO to provide for local government to also regulate under that act.

The rationale for this is to provide a simpler means for local government to achieve the same regulatory effect as is currently available to it under the RMA. Such a change would provide a more direct means of achieving the desired outcomes set by a community, while also giving an explicit statutory route and greater certainty to ERMA applicants.

Reform would be needed at two levels:

1. The ability for local authorities to issue policy statements on GM activities under an amended HSNO, such that ERMA would be required to accommodate these policy statements in its decisions;
2. The option to examine individual applications in tandem with ERMA assessments and, if required, set stricter controls to apply within a TLA district.

The following examines each of these components.

### 5.2 Two Levels of Reform

#### 5.2.1 Policy Statements – Exclusion Zones and Managed Zones

Under the RMA, a policy statement on GM use would be the basis for developing and incorporating new rules under a district plan to regulate GMOs. If a community determines to regulate at least certain categories of GMOs, then rather than changing the district plan, the alternative is to have the policy take effect through HSNO.

A district plan change is a significant undertaking for a TLA. Were a community to determine by processes similar to those required by the RMA<sup>83</sup> that at least certain categories of GMOs would be prohibited or managed, it would be simpler to implement this through HSNO. The act could be amended so that ERMA would be required to observe the TLA determinations when setting conditions on any relevant approval.

Should a community determine to prohibit at least certain categories of GMOs, the effect is that local authorities would have the right to establish exclusion zones for particular areas, including the entire territory. Local authorities that made use of the

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<sup>83</sup> Those used for setting an LTCCP are also relevant.

right to set exclusion zones could also advertise this status for regional brand positioning.

Were a community to instead decide that at least certain categories of GMOs should be managed, this could be achieved in two ways. The simplest would be to set all controls of a form that are predefined and can be incorporated in any ERMA decision, just as an exclusion zone could be. If the controls require case by case consenting (to set particular levels of a control), these could be set as a part of the ERMA consenting process, as discussed in the following subsection.

### **5.2.2 Assessment of Local Effects in Tandem with ERMA**

Under an integrated approach, ERMA would continue to set the national minimum standards. However, each TLA would have the opportunity to set stricter conditions for their district through the ERMA approval process. This is likely to be more efficient for both individual TLAs and applicants to ERMA.

It is important to clarify that the proposal is for local authorities to have the opportunity, but not the obligation, to work in tandem with ERMA. A local authority need not participate if:

- It had already set a policy statement recognised by ERMA that prohibited the relevant application before ERMA;
- It had already set a policy statement recognised by ERMA that predefined minimum conditions for the relevant type of application before ERMA;
- No policy statement had been issued and there were no special local effects of sufficient concern to warrant the local authority being involved in assessing the application.

Only in two cases would a local authority need to devote resources to particular applications to ERMA:

1. It had already issued a policy statement containing minimum conditions that needed to be interpreted on a case by case basis; and
2. There were specific issues of local concern that it had not previously provided for in a policy statement but considered sufficiently important in the case at hand to devote resources to the process.

Integrated assessment should only result in a minor extension in the time required by ERMA to process an application and this is likely to be far less than if an applicant had to separately apply to a local authority. The key steps in the process would be as follows:

**Step 1: Local authority notification**

Once an application for an outdoor GM activity was received by ERMA, local authorities of the areas where the activity was proposed would be notified of the application.

**Step 2: Draft national assessment and recommendations**

A period of national assessment, conducted by ERMA, would follow. In line with its current statutory responsibilities, ERMA would assess the proposed GM activity for its environmental, economic and other effects. If ERMA approved the activity, it would issue a draft decision including the national level controls and conditions it would apply. At this point, the draft decision would be circulated to local authorities that expressed an interest.

**Step 3: Local Authorities respond**

Local authorities would have a defined period to examine the draft decision and determine whether any more stringent conditions would be required for the applicant to be able to operate within that council's territory.

**Step 4: Single permit issued by ERMA**

The result of this process would be a single permit issued by ERMA. It would combine the ERMA conditions with those set by local government to produce a single set of conditions, defined by territories where applicable.

In summary, while centralising specialist assessment skills is efficient, local authorities may seek reports focusing particularly on local impacts, or simply from a different perspective to that ERMA adopts. Local government is arguably at least as well placed to assess influences such as the local economic impact. In principle, a community should have the ability to set conditions for an activity in its area based on local effects, rather than national effects, providing these are more stringent. A central agency can remove the burden of investigation to the benefit of all concerned without stripping local government of its autonomy.

**5.2.3 Operating on Two Tiers at Once**

The reforms proposed above are complementary and together offer a means of minimising the effort required of local authorities to regulate. At the same time, it provides a more efficient and certain process for ERMA applicants.

Local authorities could use the first instrument - the policy statement - to undertake their own assessments of the effects that need to be provided for and then set general conditions in respect of these. These may take the form of exclusion zones for certain categories of GMO use through to predefined minimum conditions for use. Regulations that need to be interpreted on a case by case basis would then be actioned as a part of the ERMA process.

This framing provides flexibility for local government. Neither reform predetermines or restricts the position a local body could take on GMO activities. Each is simply a

mechanism councils could use to respond to two different levels of consideration, so as to minimise the burdens placed on communities.

As discussed in section 4.3, the instruments can be used to tailor responses to different categories of GMOs and different levels of use to deliver the outcomes communities seek without capturing activities not intended to be covered. Illustratively, it would allow a local authority to establish an exclusion zone with respect to the release of any GMO that is a food, while setting just liability and bond requirements for certain field trials.

Would these reforms set any greater level of implied duty for local government and demand resources not otherwise expected to be committed? Given the analysis presented in the previous section, the duty would not be any greater than under current law. Dr Somerville's view is that local government already has the ability to deliver the same regulatory outcomes that are proposed here.

Further, the pressures on local government to be involved in GMO regulation are growing rather than receding. The inability to rely on ERMA to impose appropriate liability and financial assurance requirements is a key example of one set of drivers. The other source of pressure is the change in the level of GM activities likely to come before ERMA. Since the early 1990s, the outdoor use of GMOs in New Zealand has been limited to a handful of field trials. However, future applications to ERMA are expected to move beyond contained experimentation. These influences can be expected to further stimulate strong levels of community interest in Northland. Providing clear routes for community involvement under HSNO is an effective response that minimises demands on local government.

## **5.3 Local Economic Effects**

### **5.3.1 Economic Assessments and Exclusion Zones**

HSNO requires the consideration of a wide range of factors, including ecological, public health, social and economic effects.<sup>84</sup> While there is a good case for national level assessment of each of these, local economic impacts are likely to be of particular interest to local government.

One reason for this is the high degree of sensitivity to GM content exhibited by many of New Zealand's major agricultural export markets. Evidence of trace GM contamination has proved sufficient grounds for the canceling of exports.<sup>85</sup> In absence of any demonstrated procedures for effectively segregating GM crops from conventional production, local authorities will wish to ensure this issue is addressed.

Economic impact assessments can readily be prepared by local government through the use of council staff and/or consulting economists. These can also be prepared to a standard comparable to that ERMA or government would produce.

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<sup>84</sup> See HSNO s5, 6, 7 and 8 as well as s38, 38C, 40 and 45.

<sup>85</sup> Sunrise Coast suffered a loss estimated at over \$400,000 when an export order to Japan was cancelled in August 2003 as a result of trace contamination.

As the RMA takes account of economic effects arising from a land use, it is quite conceivable that a TLA would prohibit the growing of all GM food varieties within its district. This would represent a precautionary approach to expected and potential economic effects of GM contamination.

For some communities, almost irrespective of the economic consequences, there is a desire to have the region recognised as a GM free producer and branded accordingly. This raises the question of whether policy statements to be recognised under HSNO should explicitly provide for communities to set exclusion zones based solely on economic and marketing considerations. An important precedent for this concept is the Australian model.

### 5.3.2 The Australian Model

Australian legislators have developed a model of joint decision-making by federal and state governments with respect to GM release that defines distinct roles for the two levels of government in assessing GMO release applications.

Section 21 of the Australian Gene Technology Act 2000 (GTA) requires the federal Gene Technology Regulator (the equivalent of ERMA) to assess applications for GMO release in terms of their effects on human health and the environment. Its duties are broadly science-based assessment. States, on the other hand, are provided with a right to decline the release of GMOs in their territories on the basis of economic considerations.

#### **“21 Ministerial Council may issue policy principles**

1) The Ministerial Council may issue policy principles in relation to the following:

(a) ethical issues relating to dealings with GMOs;

(aa) recognising areas, if any, designated under State law for the purpose of preserving the identity of one or both of the following:

(i) GM crops;

(ii) non-GM crops;

**for marketing purposes;**

(b) matters relating to dealings with GMOs prescribed by the regulations for the purposes of this paragraph.” [Emphasis added]<sup>86</sup>

This provision has already been invoked by five of the eight states. New South Wales, Western Australia and Tasmania have introduced or are in the process of finalising legislation that would prevent all commercial growing of GM foods in their territories for multi-year periods. Victoria and South Australia invoked s21 to introduce temporary measures to prevent the commercial release of a single GM food variety.<sup>87</sup>

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<sup>86</sup> <http://scaletext.law.gov.au/html/pasteact/3/3428/top.htm>. Note also that 21(3) states “Regulations for the purposes of paragraph (1)(b) may relate to matters other than the health and safety of people or the environment, but must not derogate from the health and safety of people or the environment.”

<sup>87</sup> Premier of NSW, Press Release (4 March 2003) Labour’s Policy on commercial release of GM food crops; Minister of Agriculture, Western Australia, Media Statements 4 April 2003, 25 February 2003 and May 30 2001; Victorian Department of Agriculture (8 May 2003) Press Release; Agriculture Minister Paul Holloway, ABC News, 9 May 2003; Parliament of South Australia, Select Committee on Genetically Modified Organisms, Final Report, 17 July 2003;

At the time, the Australian federal regulator was considering an application for the commercial cultivation of two GM canola varieties, which it subsequently approved. The two states introduced a single-year prohibition on the commercial release of GM canola while market and regional brand implications were considered. Both state legislatures are now considering legislation to complement the federal regulations.

The extent to which Australian states have taken up the option to establish state-wide exclusion zones suggests that establishing a parallel mechanism for New Zealand would be a useful and workable reform.

## 5.4 Implementation

The viability of this alternative route naturally depends on the willingness of Government to support reform of HSNO. The frame in which amendments were discussed when HSNO was last before Parliament was that of a lack of clarity in the interactions between HSNO and the RMA in particular. Analysis presented in this report concludes that local government has the ability to regulate GM activities under the RMA and that HSNO reform could make the process more efficient.

A further bill to amend HSNO is already in preparation and is expected to come before Parliament later this year. Although its focus is to amend the hazardous substances side of the act, there is no barrier to it also carrying amendments covering new organisms.

Interestingly, one of its purposes is to provide for local government to play a stronger role in monitoring and enforcement of HSNO responsibilities. In short, it has been recognised that ERMA is not equipped to undertake the level of monitoring and enforcement required. Local authorities are seen as potential agents for achieving this on ERMA's behalf. Environment Minister Marian Hobbs announced in June 2003 that:

The government has agreed to amend HSNO to:

- Include regional councils in enforcement agencies in recognition of their environmental expertise and to complement their current role under the Resource Management Act (RMA); and
- Clarify and expand the role of territorial authorities under HSNO, for example in the area of emergency response, emergency planning and Hazardous Substances Technical Liaison Committees (HSTLCs).<sup>88</sup>

The above underlines the inevitable close ties between HSNO and the responsibilities of local government. The same need for local government expertise could equally arise with respect to new organisms, further drawing councils into GM regulation.

LGNZ is already involved in consulting with local government on reforms proposed in respect of hazardous substances. As the reforms proposed here would similarly affect all local authorities, LGNZ should be approached to investigate these and advance a case for reform to Government.

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<sup>88</sup> *Strategy to Improve Hazardous Substances Work*, Media statement by Environment Minister Marian Hobbs, 25 June 2003.

## **6. Key Findings and Recommendations**

### **6.1 Key Findings**

This report, in conjunction with Dr Somerville's interim opinion, has focussed on researching the issues relevant to how the district councils of Northland can respond to concerns over the outdoor use of GM organisms. Key findings are:

- a) 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. The relevant RMA provisions are not in conflict with those of HSNO and the two statutes can operate side by side.
- b) The RMA provides a firm foundation for local authorities to apply a precautionary approach in regulating the outdoor use of GMOs. LTCCPs also provide a mechanism for setting out a precautionary approach.
- c) The appropriate scope of activities for evaluation under the RMA is the outdoor use of GMOs, and in particular field trials and releases. This expressly includes food crops, trees, animals, and pharma crops that have been genetically modified.
- d) Should a TLA determine to regulate, not all categories of GMO use would need to be regulated with the same degree of precaution. This may result in two or more different sets of rules in order to group and match similar categories of risk with the appropriate controls.
- e) Such rules can be argued to be efficient and effective in terms of RMA section 32 on at least two grounds:
  1. ERMA can not be relied on to provision against certain risks. There is no requirement for ERMA to adopt a precautionary approach when assessing applications. There is also no requirement for ERMA to require a bond or otherwise ensure an applicant has the financial resources to pay compensation should a GMO cause harm.
  2. TLAs may reasonably wish to set higher standards for controls than ERMA sets. HSNO sets a floor on national standards, rather than a ceiling, and there is no legal barrier to TLAs setting higher standards than those specified by ERMA under HSNO.
- f) Another possible course of action is amendment of HSNO to provide for local government to more efficiently regulate the standards to apply to GM activities in their areas. This would allow local authority conditions to be incorporated as part of the ERMA consent process.

In principle, there is a clear way forward for Northland district councils to regulate the outdoor use of GMOs under existing law. Councils have jurisdiction and a reasonable basis for acting separately to ERMA. At the same time, there is the possibility that Government will amend HSNO to allow local authorities to ensure the outcomes they seek are delivered through the ERMA process. There is no need to choose between these paths at this time as the next stage of work is much the same under either option.

## **6.2 Staged Response**

### **Stage 1**

A first stage of work will involve local authorities studying the risks to the region and at the same time drafting control options if the analysis suggests these are required. This process does not commit a council to implement such controls but it is the next step towards such an outcome. It would bring before a council information on the scope and severity of the risks at the same time as detailing the options for their control and the factors relevant in deciding between the options.

While such analysis is fundamental to developing a proposed district plan change, it is also required should government amend HSNO and thus allow local government to set conditions under the ERMA assessment process. It would require Northland local authorities to:

- Identify the risks GMOs raise at the district level, their form and potential magnitude;
- Develop appropriate objectives and policies;
- Assess whether particular categories of GMOs should be prohibited, managed or left to ERMA; and if controlled locally, what controls would be appropriate.

It should be emphasised that a key part of this process would involve examining the outcomes a council wishes to see and determining which can be expected to be delivered by ERMA and which it wishes to ensure are delivered through its own initiatives. It may well transpire that councils need to address only a few sources of risk. Certainly, a number of the more likely areas of concern can be regulated by comparatively simple controls.

The expected outcome is a partnership between local authorities and central government. Rather than either having exclusive responsibility, management of GMOs will be a shared – as envisaged at the time HSNO was enacted – with local government retaining the right to set standards stricter than the national minimum.

Ideally, these investigations would be carried out as part of a joint project between interested TLAs, especially those with contiguous boundaries in the Northland region. While there is an obvious economy in sharing this work, perhaps the more important motivation is to provide a common resource base for councils to work from and assist the evolution of a uniform region-wide approach.

If there were a region-wide zone that set the same level(s) of precaution with respect to GMOs, this would have distinct advantages. It would eliminate the need to monitor for transboundary movements of GMOs when different districts held different standards. It would also allow the councils to collectively devise solutions to any implementation issues or challenges that arose.

Another step to be taken at this time is to approach LGNZ asking that it investigate amending HSNO to provide a more efficient means for local government to set controls on GM activities should they wish to. The basis for such a proposal has been outlined in section 5.

## **Stage 2**

A further stage of consideration will be required once the analysis outlined in the Stage 1 has been completed. Up until this point, a council will only be investigating options for a district plan change. Stage 2 would involve a decision whether or not to initiate a plan change, including the circulation of a section 32 analysis and community consultation. The decision whether or not to initiate this would then take into account the extent to which progress had been made in obtaining a commitment from Government to amend HSNO.

## **6.3 Recommendations**

1. That Northland local authorities jointly prepare and/or commission analysis of the risks GM activities could pose for the Northland region and recommend the controls that would be appropriate. This work would:
  - Identify the risks GMOs raise at the district and regional level, their form and potential magnitude;
  - Develop appropriate objectives and policies in response;
  - Assess whether particular categories of GMOs should be prohibited, managed or left to ERMA alone to regulate;
  - If categories of GMOs should be controlled locally, identify the options for setting controls and which of those would be most appropriate, taking into account the council resources required to implement and administer them, and the expected robustness of different options.
  - Prepare a draft section 32 analysis to show how the proposed controls would meet the tests it sets.
  
2. That Northland local authorities approach LGNZ requesting that it investigate amending HSNO to provide a more efficient means for local government to set controls on GM activities should they wish to. (The basis for such amendments has been outlined in section 5.)

**CONFIDENTIAL**

TO: Mr G J Mathias  
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WHANGAREI

**INTERIM OPINION**  
**ON LAND USE CONTROLS AND GMOs**

Dr R J Somerville QC  
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## EXECUTIVE SUMMARY

1. Pursuant to the Resource Management Act 1991 (the RMA) the Whangarei District Council (WDC) has jurisdiction to control land use activities involving outdoor field-testing and the release of genetically modified organisms (GMOs) for research or commercial use, to promote the sustainable management of natural and physical resources of the district.
2. The provisions of the Hazardous Substances & New Organisms Act 1996 (HSNO) do not preclude the WDC from exercising its jurisdiction to control GMO-related land uses within its district plan pursuant to the RMA.
3. Any objective to take a precautionary approach to managing risks associated with GMO-related land uses, the development of policies to establish GMO-exclusion areas or GMO-management areas, and methods for implementing such an objective and policies in a district plan, need to accord with the provisions of Part II, sections 31 and 32, and any relevant regulations pursuant to the RMA.
4. A precautionary approach to managing risks involving GMO-related land uses is possible pursuant to section 3(f), section 5(2)(a)(b) and (c), section 7, and section 32(4) of the RMA.
5. A strong precautionary management objective which involves a policy of establishing GMO-exclusion areas within which GMO-related land uses are prohibited, is available to the WDC.
6. An alternative precautionary risk management objective which involves a policy of establishing a GMO-management area or areas within which GMO-related land uses are controlled by risk management methods including rules and standards, while GMO-related land uses outside the management areas are prohibited, is available to the WDC.
7. The Environment Court is able to consider whether the objectives, policies, and methods developed by the WDC are valid pursuant to the relevant provisions of the RMA on a plan reference.
8. The WDC has jurisdiction to develop a long-term council community plan to address sustainable development approaches to manage risks associated with GMO-related land use activities pursuant to the LGA.
9. The WDC has jurisdiction to develop and promulgate bylaws for its district for the purpose of protecting, promoting, and maintaining public health and safety associated with GMOs pursuant to the LGA.

10. The High Court is able to judicially review provisions of a long-term council community plan or bylaws promulgated under the LGA to determine whether they are *intra vires* the provisions of the LGA, reasonable, and for a proper purpose.
11. Because of HSNO procedures for addressing environmental risks, there is a greater chance of a successful challenge in the High Court against bylaws addressing the same purpose under the LGA than a long-term council community plan established under the LGA for sustainable development purposes.
12. The Environmental Risk Management Authority (ERMA) is required to take into account provisions of a district plan developed under the RMA, and a long-term council community plan and bylaws developed under the LGA, when considering notified applications for approvals involving the trialling or release of GMOs within the district. However, ERMA is not bound by such instruments.

## **OPINION**

### **1.0 INSTRUCTIONS**

Thank you for your instructions of 28 January 2004.

You have asked for my interim opinion on three matters:

1. Does the Whangarei District Council (the WDC) have jurisdiction to impose land use controls to manage risks involving genetically modified organisms (GMOs)?
2. If so, how does it develop and implement such controls incorporating a precautionary approach?
3. Could such controls be successfully challenged in the Environment Court or High Court?

## 2.0 INTRODUCTION

My opinion focuses on the provisions of the Resource Management Act 1991 (the RMA) and the Local Government Act 2002 (the LGA) when considering whether the WDC as a territorial authority has jurisdiction to impose land use controls in planning instruments to manage risks involving outdoor field-testing and the release of GMOs for the purposes of research or commercial use. I also consider whether the provisions of the Hazardous Substances and New Organisms Act 1996 (HSNO) preclude that in the case of a district plan under the RMA.

In this opinion I use for illustrative purposes two general ways in which precautionary approaches can be incorporated into objectives, policies, and methods for managing environmental risks involving GMO-related land uses. The first is by establishing GMO-exclusion areas over part or all of the district,<sup>1</sup> and the second is by using GMO-management areas.<sup>2</sup> These two approaches are not exhaustive, but demonstrate the legal implications of managing what may be perceived by the people and communities of the district as a significant environmental risk.

The definition of “environment” in the RMA and in the HSNO Act is the same.

**“Environment” includes –**

- (a) Ecosystems and their constituent parties, including people and communities; and
- (b) All natural and physical resources; and
- (c) Amenity values; and
- (d) The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters:

---

<sup>1</sup> Exclusion areas were raised by the Royal Commission on Genetic Modification 2001, 13.1: “that the methodology for implementing HSNO section 6(e) be made more specific to:

...

- allow for specified categories of genetically modified crops to be excluded from districts where their presence would be a significant threat to an established non-genetically modified crop use.”

In Australia, on the 31<sup>st</sup> July 2003, the Ministerial Council responded to concerns about the commercial cultivation of GM crops in jurisdictions, with the issuing of a new policy principle recognising non-GM crop growing areas, declared under state or territory law (Gene Technology Act recognition of designated areas principle 2003) in New South Wales, Victoria, Tasmania, South Australia, Western Australia and Australia Capital Territory. The policy principle binds the gene technology regulator, prohibiting the grant of any GMO licence which is inconsistent with the policy principle.

<sup>2</sup> Cf aquaculture management areas (AMAs) in a proposed regional coastal plan for Tasman District approved by the Environment Court in *Golden Bay Marine Farms Ltd v Tasman District Council* W42/01.

When I address RMA matters, I consider the role of a territorial authority and the contents of a district plan, rather than the role of a regional council and the contents of regional resource management instruments. The matters I address in a district context are not precluded because of statutory requirements involving regional policy or planning instruments.

Much of what I say about developing objectives and policies to address environmental risks concerning GMO-related activities in a district plan will apply to regional instruments. However, a further opinion would be needed to address a regional council's jurisdiction to impose controls on GMO-related land use activities.

If the WDC were to decide to control GMO-related land uses it would be useful if that could be achieved so that regional and district objectives and policies were integrated. However, whether or not a regional response could be achieved, for there to be efficient and effective regulatory land use controls, the territorial authority would need to be involved.

### 3.0 WDC's JURISDICTION TO MANAGE ENVIRONMENTAL RISKS INVOLVING GMO-RELATED LAND USES PURSUANT TO THE RMA AND LGA

#### 3.1 Purposes of RMA and LGA

The objective of establishing a precautionary risk management approach to GMO-related land uses, the development of policies creating GMO-exclusion areas or GMO-management areas over all or part of the WDC's district, and methods for implementing such an objective and policies, need to be for the purposes of promoting the sustainable management of the natural and physical resources of the district pursuant to the RMA (s5(1)), and of promoting the social, economic, environmental, and cultural wellbeing of communities in the present and for the future, pursuant to the LGA (s10(b)).

The objectives of these two statutes contain two concepts: sustainable management (RMA) and sustainable development (LGA). These are interrelated and apposite to judging whether their statutory purpose is being furthered.

Under the RMA, the local government environmental policy-maker and the specialist Environment Court are working towards the same objective, that of sustainable management as defined in section 5(2) of the RMA. The way that is achieved is by a public law process which recognises the two main concepts in the RMA, namely the provision for the development of environmental policies to promote the goal of sustainable management and the use of integrated environmental management to implement that goal.

Section 5 states, inter alia:

##### 5. Purpose –

...

(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.

Section 5(2) contains a multitude of ethical considerations. This means an environmental decision-maker has considerable leeway when making policy and strategic decisions in order to attain the goal of the legislation. The concepts in section 5(2) are flexible which enables the RMA to provide successfully for an over-arching goal, without defeating its specific provisions, which may be more restrictive in purpose.

Under the LGA, the concept of sustainable development is recognised. Section 10(b) states:

**10. Purpose of local government**

The purpose of local government is-

...

- (b) to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future.

Sustainable development encourages social and economic development, but only so long as the biophysical environment is not degraded to a point where future generations of humans would be prejudiced. In promoting sustainable development, the aim is that society and the environment should be ecologically sound, economically viable, and socially just. Ecology and economics should not be treated in a dichotomous way but should be linked for the wellbeing of future generations.<sup>3</sup>

Because of the language in section 5(2) of the RMA and 10(b) of the LGA, the WDC has to make value-judgements about what will promote sustainable management or

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<sup>3</sup> New Zealand has also signified its acceptance of the goal of sustainable development by becoming involved internationally through the 1992 United Nations Conference on Environment and Development (UNCED, or The Earth Summit) which produced inter alia, the Rio Declaration on Environment and Development (the Rio Declaration) and the Environmental Agenda for the 21<sup>st</sup> Century (Agenda 21). The Rio Declaration identifies twenty-seven guiding principles on sustainability. Agenda 21 is a forty chapter plan for use by

sustainable development in its district. It needs to be involved in a transparent and participatory process involving people and communities of the district and identifying the value-choices the community believes should be preferred in the public interest.

The WDC may consider that the way rural land is used in its district is a significant resource management issue. The people of the district may consider that sustaining the principal uses of rural land in the district depends on avoiding or managing environmental risks associated with GMO-related activities. This sustainability objective may be in order to promote a number of values within the purpose provisions of the statutes, ranging from socio-economic, cultural, health and safety values, to concerns about the biophysical environment, for example, biological diversity.

When exercising a statutory power of decision-making involving a value-based choice as to what will promote sustainable management or sustainable development, both the RMA and the LGA provide guiding principles for the decision-maker.

When addressing whether GMO-exclusion areas or GMO-management areas in the district would promote the purpose of the RMA, the principles contained in sections 6, 7 and 8 need to be considered. Section 7 is particularly relevant:

**7. Other matters** – In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to –

(a) Kaitiakitanga:

[(aa)The ethic of stewardship:]

(b) The efficient use and development of natural and physical resources:

...

(d) Intrinsic values of ecosystems:

...

(f) Maintenance and enhancement of the quality of the environment:

(g) Any finite characteristics of natural and physical resources:

Whether land use controls involving GMO-related land uses would promote sustainable development in the district, would require consideration by the WDC of section 14(1)(h) of the LGA.

---

governments, local authorities, and individuals, to implement the principle of sustainable development.

#### **14. Principles relating to local authorities**

(1) In performing its role, a local authority must act in accordance with the following principles:

...

- (h) in taking a sustainable development approach, a local authority should take into account –
  - (i) the social, economic, and cultural well-being of people and communities; and
  - (ii) the need to maintain and enhance the quality of the environment; and
  - (iii) the reasonably foreseeable needs of future generations.

### **3.2 Additional statutory provisions under the RMA for district plans**

The RMA stipulates that each territorial authority prepare a district plan<sup>4</sup> to assist it to carry out its functions in order to achieve the purpose of the Act.<sup>5</sup> For the purpose of carrying out its functions under the RMA and achieving the objectives and policies of its district plan, a territorial authority is empowered to include in its plan rules which prohibit, regulate, or allow activities.<sup>6</sup> In making a rule, the territorial authority is to have regard to the actual or potential effect on the environment of activities, including, in particular, any adverse effect.<sup>7</sup>

Preparing district plan provisions to address GMO-related land uses as a significant resource management issue means the WDC needs to comply with section 74(1) of the RMA.

**74. Matters to be considered by territorial authority** – (1) A territorial authority shall prepare and change its district plan in accordance with its functions under section 31, the provisions of Part II, its duty under section 32, and any regulations.

Section 31 states:

**31. Functions of territorial authorities under this Act** - (1) Every territorial authority shall have the following functions for the purpose of giving effect to this Act in its district:

- (a) The establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district:
- (b) The control of any actual or potential effects of the use, development, or protection of land, including for the purpose of –

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<sup>4</sup> S73(1).

<sup>5</sup> Ibid, s72.

<sup>6</sup> Ibid, s77B.

<sup>7</sup> Ibid, s76(3).

- ...
- (ii) the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances; and
- ...
- (f) any other functions specified in this Act.

The definition of “effects” in section 3 is:

- 3. Meaning of “effect”** – In this Act, unless the context otherwise requires, the term “effect” ... includes-
- (a) Any positive or adverse effect; and
  - (b) Any temporary or permanent effect; and
  - (c) Any past, present, or future effect; and
  - (d) Any cumulative effect which arises over time or in combination with other effects-  
regardless of the scale, intensity, duration, or frequency of the effect, and also includes-
  - (e) Any potential effect of high probability; and
  - (f) Any potential effect of low probability which has a high potential impact.

Section 32 states:

- 32. Consideration of alternatives, benefits, and costs-** (1) In achieving the purpose of this Act, before a proposed plan, proposed policy statement, change, or variation is publicly notified, a national policy statement or New Zealand coastal policy statement is notified under section 48, or a regulation is made, an evaluation must be carried out by-
- ...
- (c) the local authority, for a policy statement or a plan (except for plan changes that have been requested and the request accepted under clause 25(2)(b) of Part 2 of Schedule 1); or
  - (d) the person who made the request, for plan changes that have been requested and the request accepted under clause 25(2)(b) of Part 2 of Schedule 1.
- (2) A further evaluation must also be made by-
- (a) a local authority before making a decision under clause 10 or clause 29(4) of Schedule 1; and
  - (b) the relevant Minister before issuing a national policy statement or New Zealand coastal policy statement.
- (3) An evaluation must examine-
- (a) the extent to which each objective is the most appropriate way to achieve the purpose of this Act; and
  - (b) whether, having regard to their efficiency and effectiveness, the policies, rules, or other methods are the most appropriate for achieving the objectives.
- (4) For the purposes of this examination, an evaluation must take into account-
- (c) the benefits and costs of policies, rules, or other methods; and
  - (d) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules, or other methods.
- (5) The person required to carry out an evaluation under subsection (1) must prepare a report summarising the evaluation and giving reasons for that evaluation.

- (6) The report must be available for public inspection at the same time as the document to which the report relates is publicly notified or the regulation is made.

Because there is a presumption in section 9 of the RMA that land can be used unless there are specific provisions in a plan which prohibit that or require a resource consent, a section 32 analysis needs to show why that presumption should be rebutted and why precautionary objectives, policies, and methods are needed to manage environmental risk as the most appropriate ways to achieve the purpose of the RMA.<sup>8</sup>

The reference to “risk” in section 32(4)(b) in the context of uncertain or insufficient information would suggest a need to consider management steps which anticipate future adverse effects which cannot be quantified by a probabilistic risk analysis.<sup>9</sup>

A precautionary risk management approach involves taking anticipatory measures and considering alternatives in light of potential significant or irreversible harm that could result from proceeding on the basis of uncertain and/or inadequate information.<sup>10</sup>

A precautionary approach to managing environmental risk is recognised in section 3(f), section 5(2)(a)(b) and (c), section 7, and section 32(4) of the RMA.

Any objective to take a precautionary approach to managing environmental risks associated with GMO-related land uses, the development of policies to establish GMO-exclusion areas or GMO-management areas, and methods for implementing such an objective and policies in a district plan, need to accord with the provisions of Part II, sections 31 and 32, and any relevant regulations pursuant to the RMA.

Therefore, I am of the opinion that there is jurisdiction under the RMA for the WDC, and the Environment Court standing in its place, when considering a district plan reference, to control land uses regarding activities which involve GMOs in order to promote the sustainable management of natural and physical resources.

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<sup>8</sup> Cf the position with the coastal marine area, water, and air where there is a reversed presumption and activities involving such resources are prohibited unless a section 32 analysis shows that plan provisions or resource consent procedures will promote the purpose of the RMA.

<sup>9</sup> Section 32(4)(b) is wider than the wording in section 7 of the HSNO Act which refers to scientific matters when taking a precautionary approach.

### 3.3 Statutory provisions under the LGA for long-term council community plans

If the community believes an outcome it wants in the district, in terms of its present and future social, economic, environmental and cultural wellbeing, is to have GMO-related activities excluded or managed in restricted areas, such an outcome could be included in a long-term council community plan.<sup>11</sup>

This is the best strategic instrument in the LGA in which to set out a significant policy statement in order to promote sustainable development which reflects community values concerning GMO-related matters.<sup>12</sup> Section 93(1) of the LGA requires every local authority to have a long-term council community plan at all times.

The processes for adopting a long-term council community plan and its general content are stated in Part 6 of the LGA. The provisions also set out the obligations and special consultative procedures for the determination and adoption of such a plan.

In section 5 of the LGA, “community outcomes” in relation to a district or region, means:

- 5. Community outcomes**, in relation to a district or region, -
- (a) means the outcomes for that district or region that are identified as priorities for the time being through a process under section 91; and
  - (b) includes any additional outcomes subsequently identified through community consultation by the local authority as important to the current or future social, economic, environmental, or cultural well-being of the community.

Under section 91(2) of the LGA, the purposes of the identification of community outcomes include, inter alia:

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<sup>10</sup> The precautionary approach is discussed further in section 4 of my opinion.

<sup>11</sup> A long-term community plan has a much longer focus than the annual plan.

<sup>12</sup> Pursuant to Part 1 of Schedule 10, a long-term community plan should set out a summary of the local authority’s policy on determining significance (as defined in section 5).

**91. Process for identifying community outcomes**

...

- (2) The purposes of the identification of community outcomes are –
- (a) to provide opportunities for communities to discuss their desired outcomes in terms of the present and future social, economic, environmental, and cultural well-being of the community; and
  - (b) to allow communities to discuss the relative importance and priorities of identified outcomes to the present and future social, economic, environmental, and cultural well-being of the community;

A long-term council community plan, once adopted by resolution of a local authority has the effect of providing a formal and public statement of the authority’s intentions in relation to the matters covered in the plan (s96(1)), which could include outcomes involving GMO-related activities within its district. As a statement of intention only, the plan is non-binding in the sense that once it is adopted a local authority may, subject to limitations under sections 80 and 96, make decisions inconsistent with its plan under section 96(3). No person is entitled to require a local authority to implement a plan’s provisions under section 96(4).

Therefore, the WDC has jurisdiction to develop a long-term council community plan to address sustainable development approaches to manage risks associated with GMO-related land use activities pursuant to the LGA.

**3.4 Statutory provisions under the LGA for bylaws**

Section 145(b) of the LGA provides a general bylaw-making power for territorial authorities who may make bylaws for their district for the purpose of “protecting, promoting and maintaining public health and safety”.<sup>13</sup>

Section 155(1) of the LGA provides:

**155. Determination whether bylaw is appropriate**

- (1) A local authority must, before commencing the process for making a bylaw, determine whether a bylaw is the most appropriate way of addressing the perceived problem.

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<sup>13</sup> Pursuant to section 86, the special consultative processes need to be followed.

Therefore, the WDC has jurisdiction to develop and promulgate bylaws for its district addressing perceived health risks associated with GMOs pursuant to the LGA.

### 3.5 The HSNO Act and the RMA

Whether the HSNO Act precludes objectives, policies, and methods for managing risks associated with land uses involving GMOs being included in a district plan needs to be addressed.

For a useful summary of the scheme of the HSNO Act, see *Mothers against Genetic Engineering Inc v Minister for the Environment*.<sup>14</sup> Since that decision, which sets out the approval procedures to do with new organisms being imported, developed, field-tested or released, the 2003 Amendment to the HSNO Act has been enacted and addresses conditional releases.

The purpose of the HSNO Act as stated in section 4 is to:

protect the environment, and the health and safety of people and communities by preventing or managing the adverse effects of hazardous substances and new organisms.

The purpose of the RMA is stated in section 5:

**5. Purpose** - (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.

While both enactments have provisions in common and refer to the protection of the environment and the health and safety of people and communities, the focus of the HSNO Act is clearly more limited, applying only to hazardous substances and new

---

<sup>14</sup> CIV2003-404-673.

organisms.<sup>15</sup> Although the guiding principles which inform a decision-maker when acting under the RMA and the HSNO Act are couched in similar language they are not the same in every respect and relate to achieving different statutory purposes.<sup>16</sup>

Section 25 of the HSNO Act states:

- 25.** Prohibition of import, manufacture, development, field-testing, or release –
- (1) No –
- (a) hazardous substance shall be imported, or manufactured: and
- (b) new organisms shall be imported, developed, field-tested or released: otherwise than in accordance with an approval issued under this Act or in accordance with Parts XI to XV of this Act.

The principal question, when interpreting the provisions of the HSNO Act and the RMA, is whether the HSNO Act, being later in time, expressly or impliedly precludes the WDC from developing and implementing district plan provisions which are aimed at managing risks associated with GMO-related land uses.

Where two statutes deal with the same subject matter and it is reasonably possible to construe the provisions so as to give effect to both, then that must be done.<sup>17</sup> In such a case the correct approach to interpretation is to first attempt to give each its effect without creating conflict or inconsistency between the two. It is only in cases where statutes are “so inconsistent with, or repugnant to the other that the two are incapable of standing together” that it is necessary to decide which statute is to prevail.<sup>18</sup>

Whether there has been an express or implied repeal of the RMA is addressed by firstly comparing the extent of the overlap of issues in both statutes.

In *Minister of Conservation v Southland District Council*<sup>19</sup> the Environment Court addressed the overlapping provisions of the RMA and the Forests Amendment Act 1993.<sup>20</sup> It considered the purpose of the two statutes, and applying the principles of statutory interpretation concerning overlapping statutes, held:

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<sup>15</sup> For example, the definition of “natural and physical resources” are the same in both statutes. Cf definition of “effects” in the RMA §3(f) which is precautionary and not found in the HSNO Act.

<sup>16</sup> Sections 6, 7 and 8 of the RMA and sections 5, 6, 7 and 8 of the HSNO Act.

<sup>17</sup> See *Stewart v Grey County Council* [1978] 2 NZLR 577, 583.

<sup>18</sup> Ibid. 583.

<sup>19</sup> A039/01, 17.

<sup>20</sup> The Forests Amendment Act 1993 inserted a new Part IIIA in the Forests Act 1949. Part IIIA states:

The stated purpose of each Act refers to sustainable management. The definition of sustainable forest management in Part IIIA shows that it is concerned with the sustainability of the forest. By comparison, the definition of sustainable management in the 1991 Act shows that it is concerned with effects on all natural and physical resources of the environment, particularly effects on resources that are external to those being managed. [para 77]

The purpose of Part IIIA may overlap to an extent with the purpose of the 1991 Act, in that sustainability of an indigenous forest may also be part of sustainability of management of natural and physical resources generally. However, exempting certain SILNA land from the control for the purpose of sustainability of the forest does not conflict with applying to that land the control for the purpose of promoting sustainable management of natural and physical resources generally, particularly in respect of external effects. [para 81]

From that consideration we find that although there is some overlap of issues between the two enactments, they are capable of being construed so that they stand together, each having its effect without creating conflict between them. [para 84]

Where there is overlap between the two statutes and inconsistency is unavoidable, then the specific statute will prevail over the general. In *Stewart v Grey County Council* the Court found the Mining Act 1971 prevailed over the Town and Country Planning Act 1953, as the Mining Act was an exclusive code with regard to the use of land for mining purposes and thus pre-empted the land use control provisions of the Town and Country Planning Act, p584.

In principle, the general provision remains intact but it is inapplicable to the situation covered by the specific legislation and is impliedly repealed.<sup>21</sup> An example is the case of *Ngati Kahu Ki Whangaroa v Northland Regional Council*<sup>22</sup> where the Court found that the effect of the Fisheries Act 1996 was to exclude the functions of the relevant local authorities under the RMA where an overlap existed. There are also specific

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*The purpose of this Part of this Act is to promote the sustainable forest management of indigenous forest land.*

The term “sustainable forest management” is defined as follows-

*‘Sustainable forest management’ means the management of an area of indigenous forest land in a way that maintains the ability of the forest growing on that land to continue to provide a full range of products and amenities in perpetuity while retaining the forest’s natural values.*

The term “indigenous forest land” is defined as follows-

*‘Indigenous forest land’ means land wholly or predominantly under the cover of indigenous flora.*

<sup>21</sup> Burrows, *Statute Law in New Zealand* (2<sup>nd</sup> Ed), 277.

<sup>22</sup> A95/2000, 17.

provisions in the RMA which do that.<sup>23</sup> There are no provisions in the HSNO Act which exclude the functions of a district council under the RMA.<sup>24</sup>

Also, the functions of the Environmental Risk Management Authority (ERMA) under the HSNO Act are different from those of the WDC under section 31 of the RMA.

Section 11 of the HSNO Act states:

- 11. Powers, functions, and duties of Authority** – The Authority may-
- (a) Advise the Minister on any matter relating to the purpose of this Act, including, but not limited to, -
    - (i) The extent to which persons are complying with the provisions of this Act:
    - (ii) Inconsistencies or conflicts between any controls placed on hazardous substances and new organisms under this Act and any controls placed on any hazardous substance and new organisms under any other Act:
    - (iii) The consideration and investigation of the use of environmental user charges in accordance with section 96 of this Act:
  - (b) Monitor and review-
    - (i) The extent to which the Act reduces adverse effects on the environment or people from hazardous substances or new organisms:
    - (ii) The enforcement of this Act including, but not limited to, the exercise of any power under section 103 of this Act by any enforcement officer:
  - (c) Promote awareness of the adverse effects of hazardous substances and new organisms on people or the environment and awareness of the prevention or safe management of those effects:
  - (d) Contribute to and cooperate with international forums and carry out international requirements as directed by the Minister:
  - (e) Enquire into any incident or emergency involving a hazardous substance or a new organism:
  - (f) Keep such registers relating to hazardous substances and new organisms as may be required by this Act or as may be necessary to administer this Act:
  - (g) Carry out any powers, functions, and duties conferred on it by or under this Act or any other enactment.

ERMA is required to consider matters related to the environmental effects concerning a specific GMO rather than establishing integrated policies on a district-wide basis for managing land uses in order to promote the sustainable management of the natural and physical resources of the district.

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<sup>23</sup> See section 30(2) of the RMA: **30. Functions of regional councils under this Act** - ...(2) The functions of the regional council and the Minister of Conservation [under subparagraph (i) or subparagraph (ii) or subparagraph (vii) of subsection (1)(d)] do not apply to the control of the harvesting or enhancement of populations of aquatic organisms, where the purpose of that control is to conserve, [use,... enhance, or develop any fisheries resources controlled under the Fisheries Act 1996].

Therefore, the functions of each authority need not produce inconsistent controls and as such it should be presumed that the HSNO Act was not intended to limit the general provisions of the RMA and the functions of a territorial authority in relation to managing the risk of significant or irreversible adverse environmental effects from the use of land for GMO-related activities to promote the purpose of the RMA.

A contextual interpretation of the HSNO Act and the RMA suggests that the application of the decision-making process by ERMA under the HSNO Act and the WDC under the RMA need not be incompatible with the legislative regimes in each statute.<sup>25</sup>

However, the WDC would need to take into account ERMA's view of site specific matters and, to use the High Court term, "tread carefully".<sup>26</sup>

The High Court in *Bleakley v Environmental Risk Management Authority*<sup>27</sup> recognised that the RMA provisions go beyond the provisions of the HSNO Act.

Given that the authority found there was no such danger of escape, there was no obligation in law – and it certainly was not appropriate – for the authority to venture into more orthodox pollution issues. It is true that the Act has an environmental protection purpose, as does the Resource Management Act, however, that prima facie wide purpose is to be read in the context of its subject-matter and specifics. It is to protect the environment against hazardous substances and organisms, and not on a wider scale. The wider scale is the role of others under general legislation in the RMA. Thus, if spraying milk on pastures were to raise a concern that heritable material might escape, that would be a concern for the authority. If after authority action, there was no risk of escape of heritable material but there remained a risk of another environmental character – eg destruction of aquatic life in streams – that would be a concern to be dealt with under the Resource Management Act. It would not be an authority matter, despite the breadth of the opening sections of the Act. It is a not unfamiliar judicial problem to reconcile legislation relating to specific activities, and a general legislation in the Resource Management field. This ground of appeal cannot succeed.

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<sup>24</sup> The Environment Court has held the RMA is not subject to the Reserves Act 1977 when considering land which involves both statutes. See *Auckland Volcanic Cones Soc Inc v Transit NZ Ltd* A203/2002.

<sup>25</sup> When interpreting the provisions of the statutes, the Interpretation Act 1999 applies.

<sup>26</sup> See *The Director-General of Civil Aviation v the Planning Tribunal* CP128/95, p11.

<sup>27</sup> [2001] 3 NZLR 213, 243.

In *Minister of Conservation v Southland District Council*, when comparing the provisions of the RMA and the Forests Amendment Act, the Environment Court stated:

The intended relationship between Part IIIA and the 1991 Act is indicated by the duty imposed by Part IIIA that any resource consent required under the 1991 Act for cutting or felling any indigenous timber pursuant to a sustainable forest management plan is to be obtained. [para 79]

Section 142(2) of the HSNO Act expressly addresses the Act's relationship to the RMA with regard to the storage, use, disposal, or transportation of any hazardous substance, requiring every person exercising a function under the RMA to comply with the HSNO Act and any regulations made under the HSNO Act in that regard. However, it is recognised in the HSNO Act that greater levels of control can be imposed pursuant to the RMA.

Section 142(3) states that:

nothing in subsection (2) of this section shall prevent any person lawfully imposing more stringent requirements on the storage, use, disposal, or transportation of any hazardous substance than may be required by this Act... where such requirements are considered necessary by that person for the purposes of the Resource Management Act 1991.

There is nothing in the HSNO Act to preclude the WDC imposing greater levels of control in its district plan for RMA purposes than those imposed by ERMA under the HSNO Act even though the controls relate to GMO-related land uses.<sup>28</sup>

In *The Director General of Civil Aviation v The Planning Tribunal*<sup>29</sup> the Tribunal considered the effect of an aircraft accident upon the environment. It found that although an accident may be a low probability, its potential effect is such as to militate against the granting of a resource consent for a heliport in the district. Although the Director-General of Aviation had issued a conditional determination in respect of the proposed heliport, and the Civil Aviation Authority as the statutory body charged with investigating whether the proposed heliport would be safe had

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<sup>28</sup> Often, more than one statute involves a consenting or standards regime for addressing natural and physical resources; for example, the RMA and the Building Act 1991. See *Christchurch International Airport v Christchurch City Council* [1997] 1 NZLR 573.

<sup>29</sup> CP128/95.

approved it, the Planning Tribunal was entitled to take a more particular look at the communities affected.

In this case the Tribunal directed itself precisely to these matters and concluded that an air accident in this area, although of low probability, would have a high potential impact on the social and economic conditions of the local communities dependent on the tourist trade. Plainly air safety must be considered by the Council and the Tribunal. While the essential function of the Director is to set the minimum safety standards that are acceptable, and that must involve some degree of risk, and while in the ordinary situation that would normally satisfy a Council or the Tribunal, nevertheless the Tribunal is entitled to take a more particular look at the communities affected. I think too as a matter of law it is open to the Tribunal to require a higher degree of safety than that required by the Director. A Council and the Tribunal is not necessarily thereby contradicting the Director, as the issues are not identical. Further, the Director's requirements could involve obvious error and it would be contrary to the public interest that prima facie this should bind a Council or the Tribunal(pp8-10)

If the Council imposed a lower standard of safety than ERMA, the ERMA controls would prevail in specific situations. The application of the RMA cannot lower the level of control which is imposed by ERMA under the HSNO Act. If for RMA purposes, which may relate to district-wide socio-economic or cultural matters rather than just health and safety matters or potential impacts on biophysical values of the area, further controls are needed, there is nothing in the HSNO Act to prevent such controls being included in a district plan.

ERMA is obliged to co-operate with a district council where resource consents for land use activities are required under the RMA.

The Hazardous Substances and New Organisms (Methodology) Order 1998 states that ERMA:

2(e) "Must co-operate with other bodies (for example, government departments, Crown entities, and local bodies), in particular, when a hazardous substance or new organism also requires approvals under other enactments."

Therefore, I am of the opinion that the provisions of the HSNO Act do not preclude the WDC from exercising its jurisdiction to control GMO-related land uses within its district plan pursuant to the RMA.

#### **4.0 PRECAUTIONARY APPROACH TO MANAGING ENVIRONMENTAL RISKS IN A DISTRICT PLAN PURSUANT TO THE RMA**

A checklist for establishing district plan provisions is:

To-

- Identify issues.
- Determine environmental results to be achieved.
- Specify objectives.
- Specify policies.
- Specify methods including rules.
- Specify standards, terms and conditions for rules or activities.<sup>30</sup>

If a resource management issue is to manage GMO-related land use risks where there is uncertainty, a lack of information, and complex environmental systems, a district plan's objectives and policies will be largely based on value-judgements about what level of control will promote sustainable management of the natural and physical resources of the district. Methods, such as rules and standards for implementing such risk management objectives and policies, are likely to be more mechanistic.

##### **4.1 Addressing environmental risk management in objectives and policies in a district plan**

Environmental risk decisions involve legal, scientific, cultural, economic, and political questions. Ultimately, environmental risk management is governed by values which in turn determine the choices made by decision-makers and society at large.

Environmental risk is the product of the probability of untoward environmental harm resulting from the activity, and the severity of the consequences of unintended adverse effects (consequence rating), especially those which in the future might result in harm to people or damage to other components of the environment. A number of qualitative terms are used with environmental risk, such as "acceptable," "tolerable," and

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<sup>30</sup> In preparing a plan a territorial authority must have regard to management plans and strategies prepared under other Acts (s66(2)).

“minor.” These terms take on particular significance when one needs to address the risk of serious or irreversible environmental impacts under the RMA.

If risk is seen as a continuum from minor to significant, then a local authority must decide what is so significant for the environment that it is unacceptable, because it would not promote the goal of the RMA and therefore needs to be managed.

Traditionally, the role of the civil courts involves considerations of the onus of proof, causality, party contributions and damages, when adjudicating and deciding common law actions, and the courts are concerned about what has happened in the past, (the law normally following changing social values). Whereas, a local authority and the Environment Court, when dealing with the risk of potentially significant or irreversible adverse environmental effects, have to address worst-case situations, future policy and planning issues, and evidential concepts involving the treatment of scientific uncertainties, by considering risk management techniques such as the precautionary approach. Risk assessment, decision-making, and management need to be ongoing, as environmental risk is changing all the time.

The precautionary principle is a post-modern approach to making decisions about risk management where it is not possible to remove scientific and behavioural uncertainties systematically, and ways need to be found to regulate the use and development of natural and physical resources that take such uncertainties into account.

It helps frame a process for making value-choices in the absence of reliable scientific evidence of the likelihood of some environmental impacts and the seriousness and irreversibility of their consequences.

The precautionary principle is an approach which has been developed in international environmental law.<sup>31</sup> For example, the Rio Declaration, Principle 15 states:

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<sup>31</sup> For example, the Rio Declaration on Environmental Development, Principle 15, Agenda 21, Chapter 17. Agenda 21 states the principle, inter alia, as: “When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if the cause and effect relationships are not fully established scientifically.” The precautionary concept has been included in the preamble to the Convention on Biological Diversity 1992: “where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat”. The 1996 Environment 2010 Strategy, Ministry for the Environment,

In order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to protect environmental degradation.

The application of the precautionary principle is essentially a risk management approach and a values-based policy response to environmental risks rather than a quantitative risk assessment approach.

It is a principle that allows for reflexive management responses to serious environmental risks. It facilitates adaptive approaches to managing these risks so that as information comes to hand management approaches can be reviewed, amended and refined. It allows for emphasis to be placed on a participatory process and the use of various disciplines to determine on behalf of society what an acceptable risk is.

If there is reasonable uncertainty regarding possible environmental damage arising out of a proposed course of action, then risk management becomes an established decision norm by applying the precautionary principle or applying a precautionary approach. Uncertainty and a lack of information lead to a bias towards precaution rather than being neutral in environmental decision-making.

In *Shirley Primary School v Telecom Mobile Communications Ltd*<sup>32</sup> the Environment Court considered that the wording of section 3(f) encapsulates precisely what the precautionary approach is about. (s3(f)). It considered it is unnecessary to rely on international expressions of the precautionary principle.<sup>33</sup> Section 3(f) states:

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states: “the precautionary principle should be applied to resource management practice, where there is limited knowledge or understanding about the potential for adverse environmental effects or the risk of serious or irreversible environmental damage.” See also the most recent Sustainable Development Action Programme (January 2003) that endorses the principle.

<sup>32</sup> [1999] NZRMA 66.

<sup>33</sup> However, there may be occasions where it is still necessary to apply the precautionary principle and the court has not excluded that possibility. See *Ngati Kahu Ki Whangaroa v Northland Regional Council* A95/2000.

**3. Meaning of “effect”** – In this Act, unless the context otherwise requires, the term “effect” ... includes –

...

(f) Any potential effect of low probability which has a high potential impact.<sup>34</sup>

In *Golden Bay Marine Farmers v Tasman District Council*<sup>35</sup> the Environment Court considered the application of a precautionary approach in reference proceedings on a proposed regional coastal plan. It held:

A precautionary approach in reference proceedings on a proposed plan or plan change may be applied in various ways:

- (c) through the application of and analysis of the factual evidence under the provisions of s.3 RMA, particularly s.3(f) – that regard be had “*to potential effects of low probability but high potential impact*”;
- (d) after findings of fact are made, a precautionary approach may be inbuilt into the various relative provisions of the plan – objectives, policies, rules, methods, etc;
- (c) such a precautionary approach may define the classification of the activity – prohibited, discretionary, controlled – depending on the nature of the activity;
- (d) such an approach may be supported by statutory management plans or other methods;
- (e) such an approach may be promoted through the application of review conditions under s.128, and decisions on enforcement orders where the Environment Court has a discretion to make orders in certain circumstances (s.319(2)).<sup>36</sup>

If the WDC wishes to apply a precautionary approach when considering the use, development, and protection of natural and physical resources of the district, then there is a real advantage if it states that in the objectives and policies of the district plan, so that a hearing committee or the Environment Court is directed to act on known ethical concerns for the district, involving future generations.

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<sup>34</sup> In *Clifford Bay Marine Farms Ltd v Marlborough District Council* C131/2003 the Environment Court confirmed its interpretation and application of section 3(f) in the *Shirley Primary School* case.

<sup>35</sup> W42/01 at 76. The New Zealand Coastal Policy Statement (the NZCPS) includes the precautionary approach to activities with unknown but potentially significant adverse effects. This means a regional coastal plan needs to reflect such an approach to environmental risk management. Policy 3.2.10.

<sup>36</sup> The Court also considered on the evidence that several parties were attempting to turn the principle into a standard, whereas it is an approach fully recognised in the provisions of the RMA.

A strong precautionary risk management approach available to the WDC is to implement a policy of establishing GMO-exclusion areas within which GMO-related land uses are prohibited.

An alternative precautionary risk management approach which involves a policy of establishing a GMO-management area or areas within which GMO-related land uses are controlled by risk management methods including rules, while GMO-related land uses outside the management areas are prohibited, is also available to the WDC.

If a local authority and Environment Court were left to address the potential effects of GMO-related land use without guiding precautionary risk management objectives and policies in a district plan, the approaches taken by the Environment Court to environmental risks in *Land Air Water Association v Waikato Regional Council*<sup>37</sup> would apply. These are a consideration of:

- (i) Evidence of adverse effects or risk to the environment, rather than mere suspicion or innuendo;
- (ii) The gravity of the effects, regardless of scientific uncertainty, if they do occur;
- (iii) Uncertainty or ignorance regarding the extent, nature, or scope of potential environmental harm;
- (iv) The effects on the environment – whether they are serious or irreversible;
- (v) Recognition that the Act does not endorse a “no-risk” regime;
- (vi) The impact on otherwise permitted activities.

## **4.2 Methods for incorporating precautionary rules and standards into district plans**

### **4.2.1 Rules**

Section 76(1)(a) and (b) state:

- 76. District rules** – (1) A territorial authority may, for the purpose of –
- (a) Carrying out its functions under this Act; and
  - (b) Achieving the objectives and policies of the plan, - include [rules in a district plan].

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<sup>37</sup> A110/01. For another Environment Court case addressing environmental risks see *Contact Energy Ltd v Waikato Regional Council* A4/00.

Rules can categorise GMO-related land use activities and impose environmental standards.<sup>38</sup>

*Categorisation of activities for GMO-exclusion areas*

A strong precautionary approach is to create a GMO-exclusion area within which GMO-related land uses are categorised as prohibited activities. This means it would require a plan change application and a section 32 analysis to change the activity status or redefine the exclusion area.

*Categorisation of activities for GMO-management areas*

If a GMO-management area were to be established, site-specific approvals may be contingent on a low acceptability level of environmental risk (non-complying activity status). A further method is to approve the activity subject to conditions and environmental standards additional to any controls ERMA may have imposed (restricted discretionary or controlled activity status).

4.2.2 **Environmental Standards for GMO-management areas**

*Environmental standards*

There are three principal types of environmental risk standards:

- environmental technology standards;
- environmental performance standards; and
- environmental process standards.

*Environmental technology standards*

These are prescriptive standards setting out environmental safeguards or methods to be used in specific situations. These standards prescribe the technology to be used to achieve planned environmental outcomes. They are often expressed in numerical or narrative terms. Therefore, when preparing environmental technical standards at the

time of consultation with experts, industry, and those members of the public with a particular interest in the risks being addressed, a range of values is drawn on. These standards rely on science and the local authority's understanding of science to predict the best approach to managing environmental risk. They are sometimes referred to as design or specification standards. The main drawback of using environmental technological standards in statutory plans and resource consent conditions when compliance with a technological standard is all that is required to have legal authority to continue with an activity, can be that because the best science at the time of the implementation applies, there may be no incentive for developers or consent authorities to invest in research and development to find better ways for managing environmental risk.

#### *Environmental performance standards*

Environmental performance standards are usually framed in such a way that environmental policy goals are set out for developers by local authorities. In the future, local authority decision-makers and developers can work together to meet environmental performance standards, and to include in plans and resource consent conditions<sup>39</sup> environmental performance goal outcomes which are designed to place less stress on the environment and mitigate risks. Predictive modelling with conservative risk thresholds is a precautionary approach to setting performance standards. However, uncertainty, a lack of information and complex environmental systems may make it difficult to establish what acceptable environmental performance standards are when addressing significant GMO-related environmental risk.

#### *Environmental process standards*

Applying the precautionary approach as a part of any regulatory regime, requires a format which includes not only formal rules prescribing what action should be taken (formalistic), but also goals to guide actions (contextual). The formalistic approach to

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<sup>38</sup> S77B.

<sup>39</sup> Common law principles for planning conditions require that the conditions (i) be imposed for a planning purpose and not an ulterior purpose, (ii) they must fairly and reasonably relate to the development proposed, and (iii) they must not be so unreasonable that no reasonable planning authority could have imposed them; see *Newbury District Council v Secretary of*

regulatory regimes has the advantage of consistency for environmental decision-makers. But it often needs to be developed using a scientific basis so that “numerical”, environmental, technological, and environmental performance standards can be set, whereas, using the contextual approach in a regulatory regime involves providing the tools to select the best options for addressing uncertainties surrounding environmental risks.

The inclusion of a precautionary approach in a regulatory regime involves placing risk management in a process context for deciding what value to place on the environment (when determining what is acceptable risk in the long term), and for setting the management goals and the ways of achieving them. Environmental standards which allow this to happen are sometimes referred to as environmental process standards.

Process-based standards address procedures and parameters for achieving a desired result, in particular, the process to be followed in managing identified risks of serious or irreversible environmental adverse effects. These are useful standards when addressing environmental risks that are difficult to measure because of uncertainty and changing information. They are adaptive management-orientated standards which identify processes to be followed to achieve sustainable management.

### **4.3 Adaptive risk management methods for GMO-management areas<sup>40</sup>**

Another precautionary risk management approach is to use adaptive risk management methods.

Adaptive risk management techniques are derived from new scientific and ecological insights that interpret the natural world as dynamically changing, full of uncertainty, and

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*State for the Environment* [1981] AC 578, [1980] All ER 731, and applied in *Housing New Zealand v Waitakere City Council*, CA158/00.

<sup>40</sup> The Environment Court has accepted such methods as appropriate precautionary risk management approaches when addressing aquaculture development and sustainability of the marine ecosystem in *Kuku Mara Partnership (Forsyth Bay) v Marlborough District Council* W25/2002, *Golden Bay Marine Farmers v Tasman District Council* W19/2003, and *Clifford Bay Marine Farms Ltd v Marlborough District Council* 131/2003.

continually surprising.<sup>41</sup> Management actions and monitoring programmes are carefully designed to generate reliable reporting and to clarify the reasons underlying outcomes, actions and objectives, and are then adjusted, on the basis of this feedback and improved understanding. In addition, decisions, actions and outcomes are carefully documented and communicated to others so that knowledge gained through experience is passed on.<sup>42</sup>

If precaution is placed at the forefront of managing risk then existing RMA methods are useful tools. Appropriate adaptive precautionary risk management techniques involving plan provisions, and resource consent conditions, include the use of conditions subsequent which incorporate procedures and environmental controls. These allow for risk management procedures to be used after a proposal is under way to allow for the management of the proposal to adapt to new and changing risk information.

Methods which allow the management of environmental risks where there is a lack of information and uncertain science, include staging, monitoring, management plans, best practicable option (BPO), co-regulation, reviews, limited resource consent terms, financial contributions, performance bonds and financial assurance requirements.<sup>43</sup>

A district plan can set out formulae for calculating financial instruments, funding research, and monitoring requirements as effective precautionary measures. If damage were to occur by way of environmental contamination from approved sites within a managed area, then financial instruments can be used requiring the land user to pay for clean-up costs and effective mitigatory steps.<sup>44</sup>

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<sup>41</sup> A T Iles "Adaptive Management: Making Environmental Law and Policy More Dynamic, Experimentalist and Learning" (1996) *Envtl. & Pl LJ* 288.

<sup>42</sup> See CS Holling (ed) *Adaptive Environmental Assessment and Management*, John Wiley & Sons, Chichester, 1978, 286. Examples of adaptive management approaches are seen in LH Gunderson, CS Holling, S Light (eds), *Barriers and Bridges of the Renewal of Ecosystems and Institutions*, Columbia University Press, New York, 1995; KN Lee, *Compass and Gyroscope: Integrating Science and Politics for the Environment*, Island Press, Washington DC, 1993; DS Slocombe, "Implementing Ecosystem-based Management" (1993) 43 *Bioscience* 612; and LH Gunderson, S Light, CS Holling, "Lessons from the Everglades: Learning in a Turbulent System" (1995) *Bioscience* Supplement S-66.

<sup>43</sup> The High Court has confirmed the ability to change the rate and way a development proceeds, through the use of a review condition specified in a resource consent in *Minister of Conservation and others v Tasman DC HC*, Nelson C1V2003-485-1072, 9.12.03

<sup>44</sup> See section 108, RMA for the ability to impose financial contributions by way of resource consent conditions.

These methods allow for environmental administrators and decision-makers to work through the tensions that might occur with the conflicting interests and values of applicants to use land for GMO-related activities, local authorities, members of the community, iwi and others. The whole process is designed to be transparent.

A further opinion would be required, accompanied by expert economic and planning advice, before decisions could be made as to the appropriate categorisation of GMO-related land use activities and the most effective and efficient controls for inclusion in a GMO-management area.

## **5.0 THE ABILITY TO CHALLENGE PROVISIONS IN A DISTRICT PLAN, COMMUNITY PLAN AND BYLAWS IN THE ENVIRONMENT COURT OR HIGH COURT**

### **5.1 Environment Court and RMA**

The Environment Court is able to consider whether objectives, policies, and methods developed by the WDC for inclusion in its district plan, are valid pursuant to the relevant provisions of the RMA on a plan reference.

The court has held that value-judgements are normally not justiciable, but the beliefs and the information upon which the values are developed, are able to be examined by the court. See *Ngati Hokopu Ki Hokowhitu v Whakatane District Council*.<sup>45</sup>

Therefore, the evaluation carried out under section 32 by the WDC when developing any objective, policy or method, to promote the purpose of the RMA needs to be robust. It needs to show why the resource management issues involved with GMO-related land uses cannot be addressed by leaving any risk assessment and management decisions to ERMA pursuant to the HSNO Act.

Considerable multi-disciplinary work would be required to carry out such an evaluation.

### **5.2 High Court and long-term council community plans under LGA**

Because it is promulgated pursuant to statutory powers, a long-term council community plan developed under the LGA as a strategic statement of what is considered will promote sustainable development in a district can be reviewed in the High Court. However, the High Court is unlikely to set aside the provisions of a statutory instrument that contains policy statements based on community values. This is because, as one author has noted:

By contrast, courts tend to consider that except in extreme cases, they should not interfere with decisions of policy made by governmental bodies. This is partly

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<sup>45</sup> C168/2002.

because judges are not elected by or directly answerable to the people; and partly because court procedures are not seen as the most appropriate way of making policy decisions.<sup>46</sup>

The reason for that approach is stated by Richardson P in *Wellington City Council v Woolworths NZ Ltd (No.2)*.<sup>47</sup>

There are constitutional and democratic constraints on judicial involvement in wide public policy issues. There comes a point where public policies are so significant and appropriate for weighing by those elected by the community for that purpose that the Courts should defer to their decision except in clear and extreme cases. The larger the policy content and the more the decision making is within the customary sphere of those entrusted with the decision, the less well equipped the Courts are to reweigh considerations involved and the less inclined they must be to intervene.

However, the procedures followed by the WDC in establishing the long-term community plan could be challenged in the High Court. Such challenges can be based on the fact that the procedures were not followed according to law, that a breach of natural justice was involved, that the local authority acted unreasonably, unlawfully or irrationally, or that the long-term community plan is ultra vires the LGA because it addresses matters which it has no jurisdiction to address pursuant to the LGA.<sup>48</sup>

### 5.3 High Court and bylaws under LGA

In order for a bylaw to be invalidated by the courts, it must be deemed so unreasonable that no reasonable body of persons could in good faith have passed it.<sup>49</sup> However, a court is slow to hold void a bylaw that has been validly made by a local authority, on the grounds of unreasonableness, and it is presumed that the local authority will not act unreasonably.<sup>50</sup> The superior courts will often defer to local authorities with regard to their bylaw-making powers.<sup>51</sup>

<sup>46</sup> P Cane, *An Introduction to Administrative Law* (3<sup>rd</sup> ed), Clarendon Press, Oxford, 1996, 112.

<sup>47</sup> [1996] 2 NZLR 537 (CA).

<sup>48</sup> See *Takapuna City Council v Auckland Regional Council* [1972] NZLR 705, p711; “The law on this topic is already well settled, though its application may sometimes be difficult. The powers of a corporation created by statute are limited and circumscribed by the statutes which regulate it, and extend no further than is expressly stated therein, or is necessarily and properly required for carrying into effect the purposes of its incorporation, or may be fairly regarded as incidental to, or consequential upon those things which the legislature has authorised. What the statute does not expressly or impliedly authorise is to be taken to be prohibited.” (9 *Halsbury’s Laws of England*, 3<sup>rd</sup> ed, 62 para 129).

<sup>49</sup> See *McCarthy v Madden* [1914] 33 NZLR 1251, 1259.

<sup>50</sup> See *Everton v Levin Borough Council* [1953] NZLR 134, 136.

<sup>51</sup> In *McCarthy v Madden* [1914] 33 NZLR 1251, 1268.

However, a bylaw may be declared invalid where it unnecessarily interferes with a primary right of the public without producing a corresponding benefit to the inhabitants of the locality.<sup>52</sup> A bylaw that is partial and unequal in its operation may also be declared invalid on the grounds of unreasonableness.<sup>53</sup>

In this case a bylaw passed by a local authority that would prohibit GMO-related activities would not extinguish an existing right. Indeed, section 25 of the HSNO Act prohibits the field-testing or release of any GMOs without approval under the Act. As such, no right under the general law is being abridged. Furthermore, section 145 of the LGA gives a local authority the power to make bylaws to protect, promote, and maintain public health and safety, which allows for the regulation of private activities in accordance with the empowering statute and for the prohibition of certain activities on these grounds. Such a bylaw may not be unreasonable in principle merely because it prohibits the release of GMOs considered to be of significant risk to public health and safety by a local authority.

Section 14 of the Bylaws Act 1910 states that no bylaw shall be invalid merely because it deals with a matter already dealt with by the laws of NZ, unless it is repugnant to the provisions of those laws. While the HSNO Act also deals with the assessment and management of risk for the purpose of the health and safety of people and their communities, this does not prevent a local authority from passing a bylaw prohibiting persons from trialling or releasing GMOs in the interest of public health and safety.

However, I am of the opinion that because the purpose of the HSNO Act is to “protect the environment and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms” (s4), a bylaw purporting to have an identical purpose, means it would be open to the High Court to declare it unreasonable if it were promulgated without an in-depth risk assessment of the sort undertaken by ERMA.

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<sup>52</sup> See *Martin v Smith* [1933] NZLR 636, 642.

<sup>53</sup> See *Hanna v Auckland City Corporation* [1945] NZLR 622, 631.

## **6.0 CONCLUSION**

I am of the opinion that there is jurisdiction under the RMA for the WDC and the Environment Court to control land uses regarding activities which involve outdoor field-testing or the release of GMOs for research or commercial use, in order to promote the sustainable management of natural and physical resources.

There is nothing in the HSNO Act or the Hazardous Substances and New Organisms Amendment Act 2003 to preclude land use controls being included in district plans pursuant to the RMA. Providing the WDC changes its district plan in accordance with its functions under section 31, the provisions of Part II, its duty under section 32, and any regulations, then it has jurisdiction to impose land use controls for GMO-related activities.

I am also of the opinion that precautionary objectives, policies, and methods could be lawfully included in the WDC's district plan to manage risks involving GMO-related land uses.

I have considered the provisions of the LGA and am of the view that the sustainable development of the district could include the management of GMO-related risks. There could be strategic benefits from developing a sustainable development policy under the LGA for inclusion in a long-term council community plan. However, I am less confident that a bylaw prohibiting GMO-related activities for health and safety purposes, established under the LGA, could resist a legal challenge by judicial review in the High Court.

Dr R J Somerville QC  
23 February 2004