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Asset Management Group
Technical Report

ISBN 1-877405-06-X

Biosecurity Section

Regional Phytosanitary Pest Management Strategy

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March 1 2013

HBRC Plan Number 3873

Foreword

The Hawke's Bay region produces around 56% of the national apple and pear crop. The industry brings around $200 million to the Hawke's Bay economy annually employs significant numbers of permanent and seasonal labour units and exports the bulk of its 180,000 Tonnes of apples though the Port of Napier.

Most primary industries are cyclic in nature. Good profitable years are followed by years of poor returns. During downturn years some members of the industry seek to exit. This strategy is designed to ensure those leaving the industry do not impose, inadvertently or otherwise, undue phytosanitary burden on those remaining. This undue burden is likely to be in the form of increased pest and disease pressures from unmanaged production sites. This pressure leads to increased production costs, increased levels of agrichemical input and increased risks to the market acceptability of crop produced under increased pest and disease pressures.

Pipfruit NZ Inc., Hawke's Bay Fruitgrower's Association and Horticulture NZ have worked with the Hawke's Bay Regional Council to develop a mechanism (this strategy) that is fair and equitable to those exiting the industry and those remaining. The cost of the options given in the strategy are greatly outweighed by the benefits bestowed by the strategy implementation. It is hoped with industry education and independent intervention however, that issues of this nature that have occurred in the past can be prevented and recourse to the strategy is a last resort.

Pipfruit NZ Inc. would like to thank both the Hawke's Bay Regional Council and the Hawke's Bay Fruit Growers' Association for their support and involvement in developing the strategy.

Dr Mike Butcher
Technical Manager
Pipfruit New Zealand Inc.

Hawke's Bay Regional Council made this Strategy under Section 77(1) of the Biosecurity Act in 1993 by affixing its Seal to the Strategy on 1 March 2013.

Signed under the Seal of the
Hawke's Bay Regional Council
In the presence of:

.....
Chairman

.....
Chief Executive

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Glossary

Various technical and planning terms used in the Strategy are defined in this Glossary. Terms followed by an asterisk (*) have the meaning provided in the interpretation section of the Biosecurity Act 1993. In the case of any inconsistency arising from amendments to the Act, the statutory definition prevails.

Authorised person* means a person for the time being appointed an authorised person under section 103 of the Act.

Beneficiary means the receiver of benefits accruing from the implementation of a pest management measure or the strategy.

Biological control means the introduction and establishment of living organisms, which will prey on or adversely affect a pest.

Chief Technical Officer* means a person appointed a chief technical officer under section 101 of the Biosecurity Act 1993. The Ministries of Health, Agriculture and Forestry, Fisheries, and the Department of Conservation all have appointed Chief Technical Officers.

Costs and benefits* includes costs and benefits of any kind, whether monetary or non-monetary.

Effect, 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.

Environment* includes—

(a) Ecosystems and their constituent parts, including people and their communities; and
(b) All natural and physical resources; and
(c) Amenity values; and
(d) The aesthetic, cultural, economic, and social conditions that affect or are affected by any manner referred to in paragraphs (a) to (c) of this definition.

Exacerbator means a person who, by their activities or inaction, contributes to the creation, continuance or makes worse a particular pest management problem.

Infestation means where one or more phytosanitary pests occur at levels producing damage above economically viable levels.

Integrated fruit production means the economical production of market quality fruit, giving priority to sustainable methods that maintain consumer confidence and are the safest possible to the environment and human health.

Management agency* means the department, authority, or body corporate specified in a pest management strategy as the agency given the task of implementing the strategy. For the purposes of this strategy Hawke's Bay Regional Council is the management agency.

Occupier*, as defined by the Biosecurity Act means:

(a) In relation to any place physically occupied by any person, means that person; and
(b) In relation to any other place, means the owner of the place; and
(c) In relation to any place, includes any agent, employee, or other person, acting or apparently acting in the general management or control of the place.

This Regional Phytosanitary Pest Management Strategy only imposes obligations on the occupier of an unmanaged pipfruit production site.

Operational plan means a plan prepared by the Management Agency under section 85 of the Biosecurity Act 1993.

Organism*—

(a) Does not include a human being or a genetic structure derived from a human being;
(b) Includes a micro-organism;
(c) Subject to paragraph (a) of this definition, includes a genetic structure that is capable of replicating itself (whether that structure comprises all or only part of an entity, and whether it comprises all or only part of the total genetic structure of an entity);
(d) Includes an entity (other than a human being) declared by the Governor-General by Order in Council to be an organism for the purposes of the Act;
(e) Includes a reproductive cell or developmental stage of an organism.

Pest management strategy* and **strategy*** mean a strategy, made under Part V of the Biosecurity Act 1993, for the management or eradication of a particular pest or pests.

Phytosanitary means plant health. It is derived from two Greek words…phyto meaning plant and sanitary, meaning clean.

"Phytosanitary pest means the organisms listed in Section 5.1 of the Strategy".

Pipfruit is the name given to the fruiting trees that include apple, European pear, Asian pear, quince, and medlar. For the purposes of this Regional Phytosanitary Pest Management Strategy pipfruit means apples and European pears.

"**Pip fruit production site** means a place where pipfruit trees have been planted for commercial production of pipfruit or have been or are being used for commercial production of pipfruit".

Principal officer* means the principal administrative officer of a regional council; and—

(a) In relation to a regional council, means the principal officer of that council; and
(b) In relation to a region, means the principal officer of the region's regional council; and includes an acting principal officer.

Unmanaged pipfruit production site "Unmanaged pipfruit production site means a pipfruit production site at which pests are not managed such that any one of the rules in this Strategy are not adhered to. Note that management of a pipfruit production site in accordance with either the Pipfruit New Zealand Inc. publication Integrated Fruit Production Manual (August 2001), or the J Hughes Et al, Technical Bulletin #004: Organic apple production (September 2002) (New Zealand Pipfruit Limited)" and subsequent amendments to these documents will mean compliance with this strategy.

Unwanted organism* means any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health; and

(a) Includes—

(i) Any new organism, if the Environmental Risk Management Authority has declined approval to import that organism; and
(ii) Any organism specified in the Second Schedule of the Hazardous Substances and New Organisms Act 1996; but

(b) Does not include any organism approved for importation under the Hazardous Substances and New Organisms Act 1996, unless—

(i) The organism is an organism which has escaped from a containment facility; or

(ii) A chief technical officer, after consulting the Environmental Risk Management Authority and taking into account any comments made by the Authority concerning the organism, believes that the organism is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health.

Part One

1 Introduction

1.1 Title of the strategy

This Strategy is to be known as the *"Hawke's Bay Regional Phytosanitary Pest Management Strategy".* Pipfruit New Zealand in accordance with the Biosecurity Act 1993 has prepared this Strategy. This Regional Phytosanitary Pest Management Strategy has effect over Hawke's Bay (see Figure 1).

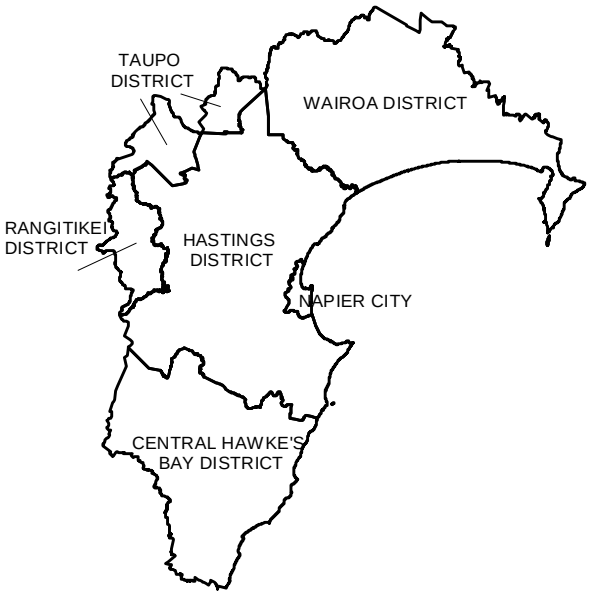

Figure 1: Hawke's Bay region

This Regional Phytosanitary Pest Management Strategy will be effective for a period of five years from the date it is adopted by Hawke's Bay Regional Council, unless a review establishes that it should be amended at an earlier date. Under section 88(6) of the Biosecurity Act, the Regional Council must proceed to review a Pest Management Strategy where the strategy has been in force for more than five years and where it has been more than five years since the strategy was reviewed. Following the review the Regional Council may decide to amend, revoke or leave the strategy unchanged.

While the term of this Strategy is five years, the goals listed for each of the phytosanitary pests are long term ones to indicate Pipfruit New Zealand's long-term intentions for the continuing control of these pests.

1.2 Rationale for developing the Phytosanitary Pest Management Strategy

Hawkes Bay currently has around 5,500 planted hectares of pipfruit orchards (54% of the national production area) and 56% of the national production at 180,800 Tonnes. The pipfruit industry is worth around $200 million to the Hawke's Bay economy annually. Most orchards in Hawke's Bay have a combination of pipfruit varieties and are run by owner-operators. However, there is an increasing trend towards corporate ownership.

The average Hawkes Bay pipfruit orchard is approximately 28.0 hectares. Of this, 15.0 hectares are owned another 7.0 hectares leased. Corporate run orchards are typically 30-40 hectares, while the traditional family orchard is 4-5 hectares. It is mostly these orchards which are now leased out.

A survey by Pipfruit New Zealand showed a 112% reduction in the area of pipfruit planted in Hawkes Bay between 2002 and 2011 as growers removed uneconomic blocks of mainly Braeburn and Royal Gala. Although many pipfruit trees have been removed, this has had no direct bearing on the average size of an economic block in the region.

Ministry of Agriculture and Forestry in its Farm Monitoring Report for 2010 noted that the status of Hawkes Bay orchards can be summed up in the following points.

- . High crop levels in recent year have increased production expenses but poor consumer demand coupled with an appreciating exchange rate for the NZ dollar have seen many varieties sold at a loss or only just breaking even. Most growers have increased their debt levels to fund these losses and this combined with falling orchard values has reduced equity positions to worrying levels.
- The 2010 Hawkes Bay pipfruit crop was an increase on the previous year but high sunshine created sun-burn issues in some varieties that reduced export availability
- Measures being taken by growers to remain profitable in the short to medium term include changing variety mix, redeveloping to intensive planting systems on dwarf rootstocks and developing closer relations and strategic partnerships with exporters and packers.
- Pipfruit growers in the region, particularly small- to medium-sized owner-operators, are pessimistic about the future of the industry. Many are weighing up strategies to leave the industry before equity positions become more seriously eroded.

With people choosing or considering whether to leave the pipfruit production section, Pipfruit New Zealand wishes to ensure that the occupiers of all pipfruit production sites, continue to manage and control all the phytosanitary pests on their properties in accordance with industry best practise to ensure that pipfruit production levels remain high, access to international markets is maintained, and that costs for all growers are kept as low as possible.

Therefore to ensure the continued success of the pipfruit industry in Hawke's Bay, this Regional Phytosanitary Pest Management Strategy is proposing methods to ensure that occupiers of unmanaged pipfruit production sites, ensure that they control the phytosanitary pests on their land. A range of methods of control is proposed.

1.3 Purpose of Regional Phytosanitary Pest Management Strategy

The purpose of this Regional Phytosanitary Pest Management Strategy is to provide for the effective management of phytosanitary pests in Hawke's Bay, in order to minimise the adverse and unintended effects of these pests from unmanaged pipfruit production sites.

1.4 Objective of the strategy

"To reduce the adverse effects from unmanaged pipfruit production sites of the pests listed in this Regional Phytosanitary Pest Management Strategy in Hawke's Bay".

1.5 Strategy structure

Section 76 of the Biosecurity Act sets out the required contents of a Proposed Regional Pest Management Strategy. This Proposed Strategy follows that format.

The Proposed Strategy is therefore, a transparent and accountable document that clearly sets out the workings and logic behind Pipfruit New Zealand's actions in the development of the Proposed Strategy.

Part I

Provides an introduction to the Proposed Regional Phytosanitary Pest Management Strategy. It contains a summary of the legislative framework, and the roles and responsibilities of the various parties involved in pest management. It also explains the criteria used to determine which organisms are pests.

Part II

Lists the phytosanitary pests proposed to be managed under the Proposed Regional Phytosanitary Pest Management Strategy. The management regime for controlling these pests is set out. This includes a description of each pest: the Strategy Objective(s) to be achieved; the benefit costs analysis, and the tactics required to achieve the Strategy Objective(s), including any rules for controlling each phytosanitary pest.

Part III

Sets out the procedures for enforcing, funding, and monitoring the Proposed Regional Phytosanitary Pest Management Strategy.

1.6 Statutory framework

The Biosecurity Act 1993

The Biosecurity Act deals with the exclusion, eradication, and effective management of pests and unwanted organisms. The Biosecurity Act places no requirement on regional councils to conduct pest control. Rather it sets out the manner in which a Pest Management Strategy must be conducted, should a regional council choose to develop one.

To develop a Pest Management Strategy the Council must consider that doing so is the most effective and efficient course of action.

Other Legislation

Section 76(4) of the Biosecurity Act states that:

"A proposal for a regional pest management strategy shall not be inconsistent with—

(a) Any national or regional pest management strategy (whether relating to the same region or any other region or regions), concerning the same organism; or

(b) Any regulation; or

(c) Any regional policy statement or regional plan prepared under the Resource Management Act 1991."

At the time of writing this Proposed Regional Phytosanitary Pest Management Strategy, there is no national pest management strategy dealing with any phytosanitary pests. There are only three national pest management strategies, these are:

- National American Foulbrood Pest Management Strategy;
- National Bovine Tuberculosis Pest Management Strategy; and

This Proposed Regional Phytosanitary Pest Management Strategy has taken into account the pest management strategies of neighbouring regional councils, and the policy statements and plans prepared under the Resource Management Act by Hawke's Bay Regional Council.

Under section 7 of the Biosecurity Act, nothing in this Strategy can be interpreted so as to override the provisions of other relevant legislation.

2 Obligations and responsibilities

This section outlines those parties, who have specific obligations and responsibilities under this Proposed Strategy.

2.1 Pipfruit New Zealand Incorporated

Pipfruit New Zealand is the proposer of this Regional Phytosanitary Pest Management Strategy. It will assist Hawke's Bay Regional Council in assessing the effectiveness of this Regional Phytosanitary Pest Management Strategy during any review of the Regional Phytosanitary Pest Management Strategy.

The purpose of Pipfruit NZ is:

- To provide New Zealand pipfruit growers with technical, economic and marketing information resources to enable them to be the world's best possible pipfruit producers.
- To represent New Zealand growers nationally and internationally in a manner, which ensures New Zealand growers have a competitive advantage in the international market.

2.2 Hawke's Bay Fruit Growers Association

The Hawke's Bay Fruit Growers Association is a voluntary organisation set up in 1899 to promote, foster and protect the fruit industry and to establish a closer bond of unity and co-operation amongst growers particularly those within Hawke's Bay.

Hawke's Bay Fruit Growers Association has agreed to act as an independent third party to assess the claims of affected pipfruit growers regarding the exacerbation effects that a neighbouring unmanaged pipfruit production site is causing.

2.3 Hawke's Bay Regional Council

Hawke's Bay Regional Council will be the management agency responsible for enforcing this Regional Phytosanitary Pest Management Strategy. This involves enforcing the management regime being proposed, when advised from Hawke's Bay Fruit Growers Association of an exacerbation problem, and also in conjunction Pipfruit New Zealand monitoring the outcomes of this Regional Phytosanitary Pest Management Strategy.

Section 84(3) of the Biosecurity Act sets out considerations for determining who should be the management agency for a pest management strategy. Hawke's Bay Regional Council, in determining that it will be the management agency, is satisfied that it meets the following requirements:

- Hawke's Bay Regional Council is accountable to those persons who will provide the funds to implement this Strategy, through the representation, annual and long term planning, and reporting requirements of the Local Government Act 2002;
- Hawke's Bay Regional Council is acceptable to those persons who will provide funds, and those who will be subject to management provisions under this Strategy; and
- Hawke's Bay Regional Council has the capacity, competency and expertise to manage this Regional Phytosanitary Pest Management Strategy. The Council has a history of pest management, as recorded in its Annual Reports, and has specialist staff and resources for:
  - Managing pests;
  - Employment expertise and resources where necessary to undertake its functions;
  - Taking enforcement action as necessary;
  - Ongoing training of staff and keeping abreast of developments in pest management;
  - Making and levying rates;

Enabling a region-wide overview, including consultation with the people of Hawke's Bay, and linkages with other organisations.

2.4 Occupiers

Occupier as defined by the Biosecurity Act includes any person physically occupying land; any owner of unoccupied land; or any agent, employee or other person acting in the general management or control of the land.

For the purposes of this Regional Phytosanitary Pest Management Strategy, the land an occupier is responsible for is an unmanaged pipfruit production site.

For these phytosanitary pests the occupiers of unmanaged pipfruit production sites are the principal exacerbators of phytosanitary pest problems. Accordingly, this Strategy contains rules that place an onus upon such occupiers to control phytosanitary pests on their pipfruit production sites in accordance with the management regime set out in this Regional Phytosanitary Pest Management Strategy.

Maori

Maori individuals and whanau trusts who may own land under individual or multiple ownership titles are significant land occupiers in fruit growing areas.

This Regional Phytosanitary Pest Management Strategy proposes equitable treatment of all pipfruit production sites, and emphasises the responsibilities and obligations of all land occupiers.

2.5 Crown land occupiers

There are three principal occupiers of non-rateable Crown land in Hawke's Bay. These are Transit New Zealand, Toll New Zealand, and Department of Conservation. Other Crown land occupiers who may have responsibilities for Crown lands within Hawke's Bay are Land Information New Zealand and Office of Treaty Settlements.

Transit New Zealand

Transit New Zealand is responsible for land associated with the National State Highway network. It is unlikely that they will be affected by this Strategy.

KiwiRail

KiwiRail is the occupier of land which forms the railway corridor in Hawke's Bay. The Crown and KiwiRail are exempt from liability under the Biosecurity Act.

Council will negotiate an annual programme of work with KiwiRail to control pests on the rail corridors.

Department of Conservation

Department of Conservation is responsible for 237,120 hectares of land within Hawke's Bay. It is unlikely that they will be affected by this Strategy.

Land Information New Zealand

Land Information New Zealand at present is responsible for approximately 24,000 hectares of land in Hawke's Bay. It is unlikely that they will be affected by this Strategy.

Office of Treaty Settlements

Office of Treaty Settlements at present may be responsible for some land in Hawke's Bay.

Pipfruit New Zealand and Hawke's Bay Regional Council are not aware of any pipfruit production sites on any land owned or managed by these agencies, and therefore does not believe that these Crown land occupiers will have any responsibilities under this Proposed Regional Phytosanitary Pest Management Strategy.

2.6 Control of Road-side Phytosanitary Pests

Prior to the 1997 amendment of the Biosecurity Act, section 6 of the Act provided that "land" included adjoining roads. However, the default under the amended Act is that adjoining roads are not included unless the pest management strategy states that is the case.

This Proposed Regional Phytosanitary Pest Management Strategy treats roads as separate from adjoining land and requires all land occupiers of pipfruit production sites to control pests on the land they are responsible for.

2.7 Territorial authorities

Six territorial authorities are wholly or partly contained within the Hawke's Bay region. They are: Wairoa, Hastings, Taupo, Rangitikei and Central Hawke's Bay District Councils, and Napier City Council.

Each territorial authority will be bound by the rules in this Strategy in respect of any land they manage as a pipfruit production site. Each territorial authority will be responsible for meeting the costs of complying with this Strategy.

Hawke's Bay Regional Council is not seeking any contributions towards the administration of this Strategy from the territorial authorities.

Each territorial authority and Hawke's Bay Regional Council, is required to control pests on the land it owns or manages as a pipfruit production site pursuant to the rules set out in Part II of this Strategy.

3 Effects of implementation of the Strategy

This section sets out the likely effects of implementation of this Proposed Regional Phytosanitary Pest Management Strategy.

3.1 Effects on Maori

The phytosanitary pests identified in this Proposed Phytosanitary Strategy are all introduced pests to New Zealand, which have an economic impact on introduced pipfruit species. The controls imposed by this Regional Phytosanitary Pest Management Strategy only apply to occupiers of unmanaged pipfruit production sites. Therefore the implementation of this strategy is not likely to impact on the relationship of Maori and their culture and traditions with their ancestral lands, waters, sites, waahi tapu, or taonga.

3.2 Effects on the environment

The successful implementation of this Regional Phytosanitary Pest Management Strategy will prevent any significant increase in adverse effects on the environment from the phytosanitary pests specified.

Pipfruit New Zealand and Hawke's Bay Regional Council supports the use of a range of methods for phytosanitary pest control, and recognises the need for further advances in this area. The safe and efficient use of toxins is of particular importance. The statutory processes required for the registration and use of toxins should ensure that they are used safely.

3.3 Effects on overseas marketing and international obligations

The control of phytosanitary pests from unmanaged pipfruit production sites will have a positive effect on production from the pipfruit sector in Hawke's Bay. The effective implementation of this Regional Phytosanitary Pest Management Strategy is expected to mitigate the need for increased phytosanitary management in adjacent properties therefore strengthening the international market acceptability of pipfruit products from Hawke's Bay, and thereby enhancing the economy of the region.

3.4 Effects on long term management

The successful implementation of this Regional Phytosanitary Pest Management Strategy will contribute to the long-term management of phytosanitary pests by reducing the spread and incidence of these pests.

4 General tactics and methods

The management options to address phytosanitary risk from unmanaged pipfruit production sites available to Pipfruit New Zealand and Hawke's Bay Regional Council, and considered by the Council when developing the management regime under section 5 of this Regional Phytosanitary Pest Management Strategy, are as follows:

4.1 Education

Education can raise people's awareness and sense of responsibility about pests, and help them address pest problems. Significant benefits can be gained from well-informed land occupiers, in terms of a good understanding of the need and methods for pest control. There is a wide range of methods Pipfruit New Zealand and the Regional Council can use including targeted education programmes about specific pests, field days, publication of leaflets, and media articles.

In addition to the broad education services noted above (which target groups of people), Pipfruit New Zealand will provide information and advice on a one-to-one basis when undertaking inspections in response to enquiries.

Information on all the phytosanitary pests contained in this Regional Phytosanitary Pest Management Strategy are on the members' site at www.pipfruitnz.co.nz.

4.2 Inspections

Hawke's Bay Fruit Growers Association will undertake property inspections in response to complaints of an unmanaged pipfruit production site to establish whether the occupiers are meeting their obligations under this Regional Phytosanitary Pest Management Strategy, as specified in 5.7 Management regime for control of phytosanitary pests, (page 14).

Hawke's Bay Regional Council will consider a detailed report prepared by Hawke's Bay Fruit Growers Association establishing that an unmanaged pipfruit production site is an exacerbator before issuing a section 122 notice to the owner of the site to control phytosanitary pests on their property.

4.3 Monitoring for phytosanitary pests

Monitoring unmanaged pipfruit production sites for phytosanitary pest infestations is an integral part of this pest management programme, and fundamental for enabling pest management to be well targeted and cost-effective. This involves the occupiers of the pipfruit production sites adjacent to unmanaged pipfruit production sites determining pest numbers, densities and locations, and their change over time. From the results of this monitoring programme Pipfruit New Zealand and Hawke's Bay Regional Council will be able to measure whether or not the unmanaged pipfruit production site is negatively impacting adjacent production properties.

4.4 Offences and rules

Sections 52 and 53 of the Biosecurity Act impose restrictions on the sale, breeding, propagation, distribution or release of all pests specified in a Pest Management Strategy. A breach of any of the provisions of these sections in respect of any of the pests specified in this Regional Phytosanitary Pest Management Strategy is therefore an offence under the Biosecurity Act. The penalties for a breach of section 52 & 53, for an individual person is a fine of up to $100,000 or up to five years in jail or both, or for a corporation a fine of up to $200,000. Hawke's Bay Regional Council will enforce these restrictions.

Section 122 of the Biosecurity Act provides the power to Hawke's Bay Regional Council to direct an occupier to destroy any pest or to take steps to prevent the spread of any pest, or to comply with a rule in a Pest Management Strategy. Anyone who fails to comply with these directions, without a reasonable excuse, is liable for a fine of up to $50,000 or up to three months in jail or both. For a corporation the fine is up to $100,000.

Rules

The Biosecurity Act allows for rules in pest management strategies. These rules generally cover actions that people need to take to implement the Pest Management Strategy.

Rules can also specify that a breach of the rule creates an offence under section 154 of the Biosecurity Act. Where a rule specifies this, a breach can result in a fine of up to $5,000 for individuals and up to $15,000 for corporations.

Pipfruit New Zealand has developed rules for the control and management of all the phytosanitary pests included in this Strategy.

4.5 Compensation

No compensation will be paid to any occupier who suffers any loss as a result of the implementation of this Regional Phytosanitary Pest Management Strategy.

Part Two

5 Phytosanitary pests to be controlled

5.1 Introduction

This section lists the phytosanitary pests and sets out the management regime for controlling them. For all pests the following is provided:

- A description of the pest;
- The objective for each pest;
- A cost benefit analysis; and
- The management regime to be used to achieve the objectives, including occupier rules.

The Phytosanitary pests controlled by this Strategy are shown in Table 1 below.

Table 1: Phytosanitary pests listed in this Strategy.

Phytosanitary Pests		**Section of the strategy**
Common name	Species name	
Apple black spot	*Venturia inaequalis*	5.2
Codling moth	*Cydia pomonella*	5.3
European Canker	*Neonectria ditissima syn. N. galligena*	5.4
Fireblight	*Erwinia amylovora*	5.5
Lightbrown Apple Moth (Leafroller)	*Epiphyas postvittana*	5.6

Long-term goal for all phytosanitary pests

To ensure that all pipfruit production sites in Hawke's Bay manage their phytosanitary pests in an effective manner.

5.2 Apple black spot (*Venturia inaequalis)*

Description

Apple Black spot is a fungal disease of apples, often referred to as apple scab outside of New Zealand. Apple black spot is a different fungus to pear black spot, and both are different to black spot on roses.

Apple black spot is found all over the world where ever apples are grown. In New Zealand, black spot is an important problem in all regions.

Apple Black spot is a wet weather disease. Rainy and humid conditions early in the growing season provide ideal conditions for infection. In general, the higher the temperature and the longer it rains, the more severe the infection period will be. Apple black spot is spread mainly through windblown leaves, carry spores of the fungus.

Infection early in the season may cause misshapen fruit. By harvest, spots are dried, cracked, and brown with a black outer edge. Infection just prior to or during harvest causes small black "pepper spotting" on fruit.

Late season infection may lead to symptoms appearing in cool storage even though there may be no signs of the disease at packing.

Even the smallest black spot is unacceptable on an export apple.

Objective for the control of Apple black spot

To stop the spread of Apple black spot from unmanaged pipfruit production sites within Hawke's Bay.

5.3 Codling moth (*Cydia pomonella*)

Description

Codling moth is common throughout New Zealand. It was accidentally introduced to New Zealand early in European settlement and is now found wherever apples are grown and is found extensively throughout the North Island.

Codling Moth is a small speckled, grey moth, hosted by apple, pear and walnut trees. The larvae of Codling moth burrows into fruit leaving a small hole that result in the fruit being rejected for sale. Frass (droppings) indicate the presence of larva.

Codling Moth over-winters as a dormant caterpillar in a cocoon under the bark of the tree or in the soil. In most southern regions throughout New Zealand, Codling moth has one generation per year. In the North Island, Codling moth usually has one and a half to two generations.

The dispersal ability of codling moth has very important implications for management. With high levels of control achieved by insecticides or mating disruption, the resident population of codling moth in most orchards is extremely low. As a result, the immigration of Codling moth adults into orchards is often greater than the resident population, and the removal of outside sources (e.g. neglected apple trees) can make a major contribution to control. 90% of mated females move within 300m of their emergence point and maximum dispersal may be as low as 600m.

Objective for the control of Codling moth

To stop the spread of Codling moth from unmanaged pipfruit production sites within Hawke's Bay.

5.4 European Canker (*Nectria galligena)*

Description

European canker occurs in warm humid areas generally with rainfall in excess of 1000mm pa. It is widespread in Waikato and found in Nelson during very wet seasons. European Canker does not often manifest itself in Hawke's Bay due to the relatively dry climate. Rain splash and wind spread the spores and fruiting bodies of European canker. European canker can also be spread through the movement of affected plants or plant parts. Spores can remain dormant for long periods until the right climatic conditions occur, and then the disease can spread quite rapidly. Apples are more affected than pears.

Initial symptoms of European canker are a small sunken area around a bud, leaf scar, or at the base of a small dead shoot or open wound. Concentric rings of canker growth then appear. The sunken area increases in size. The centre of infection becomes flaky. Eventually cankers girdle the stem, and shoots above the canker die.

Pipfruit NZ Inc. has issued a European Canker Management strategy to all growers.

Objective for the control of European canker

To stop the spread of European canker from unmanaged pipfruit production sites within Hawke's Bay.

5.5 Fireblight (*Erwinia amylovora)*

Description

Fireblight is a bacterial disease. World-wide, Fireblight is found throughout North America and Canada and much of Europe.

Isolated outbreaks of fireblight occur throughout New Zealand. Pink Lady™, Gala, Royal Gala, Golden Delicious, and all pears are particularly susceptible. Other plants that can be affected by Fireblight are quince and ornamental plants of the Roseaceae family including cotoneaster, hawthorn and pyracantha. Trees are most prone during October when temperatures exceed 16˚C, humidity is high and blossom is present. If unchecked, blossom infection can result in "shepherds crook" of the shoot. Blossoms appear water soaked then turn brown and finally black. Young fruit if infected turn brown, then black, wilt and drop off. Severe infections are rare on mature trees in New Zealand. The main issue is that Fireblight is used as a quarantine barrier by Fireblight-free countries such as Japan and Australia.

Objective for the control of Fireblight

To stop the spread of Fireblight from unmanaged pipfruit production sites within Hawke's Bay.

5.6 Lightbrown Apple Moth (*Epiphyas postvittana)*

Description

The light brown apple moth (Epiphyas postvittana) is native to Australia and the larvae feed on a wide range of plants including fruit crops, broad-leaved weeds, some vegetables and ornamentals.

Lightbrown apple moth adults are variable in colour and may be confused with other leafroller moths. Typical males have a forewing length of 6-10 mm with a light brown area at the base distinguishable from a much darker, redbrown area at the tip. The latter may be absent, the moth appearing uniformly light brown, as in the females, with only slightly darker oblique markings distinguishing the area at the tip of the wing. Females have a forewing length of 7-13 mm. Colour varies from a uniform light brown, with almost no distinguishing markings.

Larvae [caterpillars] are not easily distinguished from the larvae of other leafrollers. The first larval instar [stage] has a dark brown head; all other instars have a light fawn head and prothoracic plate [plate behind the head]. Overwintering larvae are darker. First instar larvae are approximately 1.6 mm long, and final instar larvae range from 10 to 18 mm in length. The body of a mature larva is medium green with a darker green central stripe and two side stripes.

Pupae are at first green, but become medium brown after rapidly hardening.

The Lightbrown apple moth larvae cause damage to foliage and fruit. Early instars feed on tissue beneath the upper epidermis [surface layer] of leaves, while protected under self-constructed silken webs on the under surface of leaves. Larger larvae migrate from these positions to construct feeding niches between adjacent leaves, between a leaf and a fruit, in the developing bud, or on a single leaf, where the "topical" leaf roll develops. The late stage larvae feed on all leaf tissue except main veins.

Superficial fruit damage is common in apple varieties which form compact fruit clusters. Leaves are webbed to the fruit and feeding injury takes place under the protection of the leaf; or larvae spin up between fruits of a cluster. Internal damage to apple, pear, and citrus fruits is less common, but a young larva may enter the interior of an apple or pear fruit through the calyx or beneath the stem of a citrus fruit. Excreta are usually ejected on to the outside of the fruit; this does not happen with the codling moth. The issue with Lightbrown Apple Moth is the potential increased phytosanitary risk posed to key markets such as the US.

Objective for the control of Lightbrown apple moth

To stop the spread of Lightbrown apple moth from unmanaged pipfruit production sites within Hawke's Bay.

5.7 Management regime for control of phytosanitary pests

This Regional Phytosanitary Pest Management Strategy proposes three management options for the control of phytosanitary pests. These are:

1. The occupier of pipfruit production sites manage, at their cost the phytosanitary pests on their land in accordance with either the Pipfruit New Zealand Integrated Pest Management Protocol, or the Organic Pipfruit Technical Bulletin Protocol.
2. The occupier of an unmanaged pipfruit production site allows an affected adjacent pipfruit production site to manage their land in a manner that reduces the level of risk. Costs of control could be agreed between the two sites.

3. The occupier of an unmanaged pipfruit production site, at no cost to adjacent managed pipfruit sites, removes their pip-fruit trees.

Enforcement

All occupiers of pipfruit production sites are expected to undertake monitoring for the presence of phytosanitary pests over their properties. "Where monitoring shows the presence of Phytosanitary pests along a boundary of a pipfruit production site above the thresholds stated in the rules of this Strategy and the affected property is being managed in accordance with industry best practice, as indicated by adherence to the rules in this Strategy, then the affected occupier will contact the occupier of the adjacent unmanaged pipfruit production site to seek agreement that they will control phytosanitary pests on their land in accordance with the Regional Phytosanitary Pest Management Strategy management regime for the control of phytosanitary pests.

Note that more specific details of industry best practice for the management of a fruit production site are set out in either the Technical Bulletin #004: Organic apple production, (September 2002), or the New Zealand Pipfruit Integrated Fruit Production Manual, (August 2001)", and any subsequent amendments. These documents are available to the managers of pipfruit production sites in Hawke's Bay through Pipfruit New Zealand.

Where the adjacent pipfruit production site occupier does not agree to control phytosanitary pests, then the affected occupier may contact Hawke's Bay Fruit Growers Association advising them of the problem. Hawke's Bay Fruit Growers Association will act as an independent third party and investigate the issue and try to seek agreement for the control of phytosanitary pests.

Hawke's Bay Fruit Growers Association will advise the occupier of the unmanaged pipfruit production site that a complaint has been received regarding their in-action to control phytosanitary pests on their land, and that Hawke's Bay Fruit Growers Association is now investigating the issue.

If pest monitoring on the affected managed pipfruit production site over a reasonable time period confirms that:

- there is a clear difference in the management inputs required to control phytosanitary pests compared to the previous three years; and
- monitoring results indicated that the phytosanitary pest outbreak is more severe along the boundary with the adjacent unmanaged pipfruit production site;

then Hawke's Bay Fruit Growers Association will advise the occupier of the unmanaged pipfruit production site(s), that they are deemed to be an exacerbator of phytosanitary pests. Hawke's Bay Fruit Growers Association will be entitled to give the occupier of the unmanaged pipfruit production site(s) 14 days to reach an agreement with the affected owner regarding the control measures for the phytosanitary pests, and to undertake the necessary control measures. If agreement cannot be reached and/or control is not undertaken within that time, Hawke's Bay Fruit Growers Association will advise Hawke's Bay Regional Council of the situation and seek a direction to control phytosanitary pests on the unmanaged pipfruit production site.

On receiving advice regarding the situation, Hawke's Bay Regional Council will initiate appropriate enforcement procedures under the Biosecurity Act for the control of the phytosanitary pests.

Hawke's Bay Regional Council powers to require control of phytosanitary pests

Where a land occupier does not adhere to the requirements of this Regional Phytosanitary Pest Management Strategy, an authorised person may issue directions for the control of phytosanitary pests under section 122 of the Biosecurity Act.

On default, Hawke's Bay Regional Council may arrange for work to be carried out and recover the costs from the land occupier under sections 128 and 129 of the Biosecurity Act.

The Biosecurity Act 1993 may be found on www.legislation.govt.nz.

Rule for the control of Codling moth (Cydia pomonella)

Every occupier of an unmanaged pipfruit production site in Hawke's Bay is required to control Codling moth (*Cydia pomonella*) on their land if five (5) or more Codling moths are caught in any one Codling moth pheromone trap during any calendar week on their land.

A breach of this rule is an offence under section 154 of the Biosecurity Act 1993.

Rule for the control of Lightbrown Apple Moth (Leafroller) (*Epiphyas postvittana)*

Every occupier of an unmanaged pipfruit production site in Hawke's Bay is required to control Lightbrown Apple Moth (Leafroller) (*Epiphyas postvittana)* on their land once thirty (30) Lightbrown apple moths are caught in any one Lightbrown apple moth pheromone trap on their land from the 15th December until fruit harvest.

A breach of this rule is an offence under section 154 of the Biosecurity Act 1993.

Rule for the control of Apple black spot (*Venturia inaequalis)*

Every occupier of an unmanaged pipfruit production site in Hawke's Bay is required to control Apple black spot (*Venturia inaequalis)* on their land from the presence of green tips until fruit harvest by applying Apple black spot fungicides on a calendar basis as per the fungicide label instructions.

A breach of this rule is an offence under section 154 of the Biosecurity Act 1993.

Rule for the control of Fireblight *(Erwinia amylovora)*

Every occupier of an unmanaged pipfruit production site in Hawke's Bay is required to control Fireblight (*Erwinia amylovora*) on their land during the pipfruit bloom period (from pink to petal fall) by applying Fireblight bactericides as per the bactericide label instructions.

A breach of this rule is an offence under section 154 of the Biosecurity Act 1993.

Rule for the control of European Canker (*Neonectria distissima syn. N. galligena)*

Every occupier of an unmanaged pipfruit production site in Hawke's Bay is required to control European Canker (*Neonectria ditissima syn. N. galligena)* by inspecting all pipfruit trees on their land at least four times from Harvest through to fruit set, applying post-harvest sprays if canker is found and removing and burning all infected pipfruit tree parts showing any presence of European canker.

A breach of this rule is an offence under section 154 of the Biosecurity Act 1993.

Part Three

6 Regulatory management

6.1 Powers for strategy implementation

To achieve the objectives of this Regional Phytosanitary Pest Management Strategy, and give effect to its management, Hawke's Bay Regional Council will use the statutory powers listed in Table 2.

Pursuant to section 103 of the Biosecurity Act, the Chief Executive (as the Principal Officer) of Hawke's Bay Regional Council has appointed authorised persons and may delegate powers to any authorised person subject to section 105 of the Biosecurity Act. An authorised person may exercise the powers on behalf of Hawke's Bay Regional Council.

Table 2: Powers to be conferred for implementation of this Strategy.

Administrative power	**Reference in the Biosecurity Act**	*Level of delegation*
Power to act on default Liens Declaration of controlled area Duration of place and area declarations Options for cost recovery Failure to pay	Section 128 section 129 section 131 section 133 section 135 section 136	Hawke's Bay Regional Council (as Management Agency)
The appointment of authorised and accredited persons Authorised persons to comply with instructions. Delegation to authorised persons Application of articles or substances from aircraft Power to act on default Liens	section 103 section 104 section 105 section 114a section 128 section 129	Principal officer of Hawke's Bay Regional Council
Power to require assistance Power of inspection Entry in respect of offences Duties on exercising power of entry Power to record information General powers Use of dogs and devices Power to seize evidence Power to seize abandoned goods Power to intercept baggage, etc. Power to examine organisms Power to apply article of substance to place Power to give directions Power to vaccinate, etc. Declaration of restricted place Enforcement of control areas	section 106 section 109 section 111 section 112 section 113 section 114 section 115 section 118 section 119 section 120 section 121 section 121a section 122 section 123 section 130 section 134	Authorised person

6.2 Enforcement procedures

The means, by which Hawke's Bay Regional Council will direct and enforce the provisions of this Regional Phytosanitary Pest Management Strategy, when necessary, are presented below.

Issue of direction

In the event that an occupier fails to meet any of the obligations specified in Part II of this Regional Phytosanitary Pest Management Strategy, a person authorised by Hawke's Bay Regional Council may issue a direction to the occupier under section 122 of the Biosecurity Act. The direction will specify the following matters:

1. A legal description of the land on which works or measures are to be undertaken;
2. The phytosanitary pest for which the works or measures are required;
3. The works or measures to be undertaken to meet the occupier's obligations;
4. The time within which the works or measures are to be undertaken;
5. Action that may be undertaken by Hawke's Bay Regional Council if the occupier fails to comply with any part of the direction;
6. The name of the authorised person issuing the direction; and
7. The contact address, telephone and facsimile numbers of the issuer.

Extension or variation of direction

Where, upon the written request of an occupier issued with a direction, an authorised person is satisfied that:

1. Reasonable steps have been taken to comply with the direction; or
2. The occupier has been prevented by reasonable cause from completing the required works or measures within the specified time;

Then the authorised person may extend the time specified for a further period or vary the requirements of the direction, as he or she considers appropriate.

Cancellation of direction

Where an authorised person is satisfied that:

1. Measures have been undertaken to adequately meet the occupier's obligations under a direction; or
2. For some other reason it is no longer appropriate to enforce the direction;

Then the authorised person will cancel the direction.

Failure to comply

Council does works

Where a direction has been given to an occupier requiring that occupier to carry out specific works or measures and the occupier has not complied with the requirements of the direction within the specified time, then Hawke's Bay Regional Council may cause such works or measures to be carried out or action to be taken as is reasonably necessary and appropriate for achieving the purpose of the direction.

Recovery of costs incurred

On the default of an occupier to comply with a direction, Hawke's Bay Regional Council may recover the costs and expenses reasonably incurred by it in carrying out works or measures or other action as is reasonably necessary and appropriate for achieving the purpose of the direction, as a debt due from the occupier to whom the direction was given.

Offences

In the event of continued non-compliance, Hawke's Bay Regional Council may bring prosecutions against persons who do not act on directions issued by authorised persons to give effect to this Regional Phytosanitary Pest Management Strategy. Anyone who fails to comply with these directions, without a reasonable excuse, is liable for a fine of up to $50,000 or up to three months in jail or both. For a corporation the fine is $100,000.

6.3 Exemption provisions

Hawke's Bay Regional Council may, under section 80D of the Biosecurity Act, exempt the requirements of any rules set under this Regional Phytosanitary Pest Management Strategy prescribed in Part II where, upon written request from a land occupier, the Council's Principal Officer, on the advice of an authorised person, is satisfied that:

(a) The requirement has been substantially complied with and that further compliance is unnecessary; or

(b) The action taken or provision made in respect of the matter to which the requirement relates is as effective or more effective than actual compliance with the requirement; or

(c) The prescribed requirements are clearly unreasonable or inappropriate in the particular case; or

(d) Events have occurred that makes the prescribed requirements unnecessary or inappropriate in the particular case;

and that the granting of the exemption will not significantly prejudice the attainment of the objectives of this Regional Phytosanitary Pest Management Strategy.

On receipt of any written request, Hawke's Bay Regional Council will advise the land occupier within 10 working days of its decision of whether or not to waive the occupier's obligations. Any waiver may be subject to conditions set for the purpose of ensuring that:

1. Measures are taken to minimise any adverse effects of the pest; or
2. Any beneficial effects of the pest are safeguarded.

A written request for a waiver serves as a stay on the occupier's obligations, until the occupier is notified of Hawke's Bay Regional Council's decision.

Hawke's Bay Regional Council will maintain a register to record the number and nature of exemptions granted and the register will be available for public inspection during the normal office hours.

7 Funding of the Strategy

7.1 Strategy costs

There are two types of cost associated with this Regional Phytosanitary Pest Management Strategy. They are:

1. ***Direct costs of phytosanitary pest control*** - As set out in Part II of this Regional Phytosanitary Pest Management Strategy, occupiers of pipfruit production sites are required to control the phytosanitary pests on their land, and will bear the costs of this control.

2. ***Strategy costs*** – Three organisations will incur costs associated with the implementation of this Regional Phytosanitary Pest Management Strategy. They are:

Pipfruit New Zealand who in association with Hawke's Bay Regional Council will assess the effectiveness of this Regional Phytosanitary Pest Management Strategy, and undertake reviews of the strategy from time to time. The costs of these activities will be met be Pipfruit New Zealand.

Hawke's Bay Fruit Growers Association who will investigate a complaint that an unmanaged pipfruit production site has become an exacerbator. The costs associated with these activities will be met by Hawke's Bay Fruit Growers Association.

Hawke's Bay Regional Council who may be required to issue section 122 notices to the occupier of an unmanaged pipfruit production site requiring the control the phytosanitary pests on their land, and any further follow up work that may be required to ensure compliance with the direction notice. The costs of these activities will be met from the existing Plant Pest Biosecurity budget.

Costs to the Hawke's Bay Regional Council are expected to be small relative to its overall plant pest budget and, therefore, no specific provision for meeting those costs is considered necessary in this strategy.

7.2 Funding rationale

The Biosecurity Act states that regional pest management strategies can be funded by a variety of means, including rates, direct charges, and contributions. In determining how the costs of this Regional Phytosanitary Pest Management Strategy are to be funded, section 77 of the Biosecurity Act requires a strategy to specify:

1. ***Beneficiaries*** - The extent to which the beneficiaries of a strategy are identifiable.
2. ***Exacerbators*** - The extent (if any) to which any persons by their activities or inaction contribute to the creation, continuance, or exacerbation of the problems proposed to be resolved by a strategy.

As noted above general rates, direct charges, and contributions will fund this Regional Phytosanitary Pest Management Strategy. The Regional Phytosanitary Pest Management Strategy sets out a process for identifying exacerbators, and requires them to meet the direct costs of controlling phytosanitary pests on their land.

The occupiers of pipfruit production sites will benefit from this strategy and contribute to its costs through the funding levies of Hawke's Bay Fruit Growers Association and Pipfruit New

Zealand. All ratepayers in Hawke's Bay derive benefit from having a successful pipfruit industry here and contribute through the general funding provisions for plant pest control.

3. CROWN LAND OCCUPIERS

No contribution for phytosanitary pest control from Crown land occupiers is being sought.

8 Co-ordination issues

Cross-boundary issues may occur whereby the environmental effects of one resource use are felt in another part of the environment (for example, water quality may be affected by the discharge of herbicides). Cross-boundary issues may also exist in relation to movement or transport of phytosanitary pests from one region to another.

Integrated pest management aims to minimise the effects of cross-boundary issues and give effect to the objectives of this Strategy. Hawke's Bay Regional Council will use the following procedures in relation to integrated pest management and cross-boundary issues:

1. Having regard to any national or regional pest management strategy, any regulation, or any regional policy statement or regional plan prepared under the Resource Management Act 1991;
2. Liaising with the Ministry of Agriculture and Forestry over pest management issues which are best dealt with or co-ordinated at a national level;
4. Liaising with other regional councils on cross-boundary issues pertaining to pest management, and on matters which are relevant to more than one region;
5. Encouraging other authorities to adopt policies and practices which will avoid, remedy or mitigate adverse effects associated with pests, and co-ordinating education initiatives with other agencies;
6. Making submissions on documents prepared by other authorities; and
7. Ensuring that any other regional pest management strategies proposed by Hawke's Bay Regional Council are not inconsistent with this Strategy.

Co-ordination with other pest management strategies will be achieved through a process based on discussion between Hawke's Bay Regional Council and other persons or organisations proposing strategies, and the preparation of submissions as appropriate.

9 Monitoring and review of the Strategy

9.1 Monitoring progress

Hawke's Bay Regional Council and Pipfruit New Zealand will monitor the implementation of this Regional Phytosanitary Pest Management Strategy to ensure that the objectives can be achieved. This will be done by:

1. Establishing and maintaining a complaints and enquiries register;
2. Monitoring the extent and effect of pest infestations in complainant production sites; and
3. Undertaking inspections of unmanaged and adjacent pipfruit production sites to determine whether occupiers are meeting their obligations under this Strategy, and recording the overall level of compliance.

9.2 Performance of the Management Agency

Under section 85 of the Biosecurity Act, Hawke's Bay Regional Council, as the management agency, must prepare an annual operational plan and an annual report on the operational plan and its implementation. These will be prepared and considered by Hawke's Bay Regional Council annually in accordance with sections 95 and 98.

These reports will document the performance of Hawke's Bay Regional Council in achieving the objectives of this Regional Phytosanitary Pest Management Strategy, including whether:

- The required pest management programmes and control have been undertaken;
- A complaints and enquiries register has been maintained, and follow up action has been taken as appropriate;
- The cost of implementing this strategy.

9.3 Review of the strategy

The Biosecurity Act requires that this Regional Phytosanitary Pest Management Strategy be reviewed no later than five years from the date upon which it is approved by Hawke's Bay Regional Council. This Strategy will therefore be reviewed in the following circumstances:

1. A review will be started before its review date if Hawke's Bay Regional Council or Pipfruit New Zealand has grounds to believe that this Regional Phytosanitary Pest Management Strategy is failing to achieve its purpose or relevant circumstances have changed to a significant extent since this Regional Phytosanitary Pest Management Strategy commenced.
2. As required by the Biosecurity Act, a full review (within the meaning of section 88 of the Biosecurity Act) will be commenced by notification of a reviewed strategy within 5 years of it being made by Hawke's Bay Regional Council. This will comprise a review of the entire Regional Phytosanitary Pest Management Strategy.

The procedures to be used to review this Strategy will be determined when the review is instigated, but will include:

1. An assessment of the efficiency and effectiveness of the tactics and methods, and performance of Hawke's Bay Regional Council as the management agency, for achieving the objectives of this Strategy;
2. Formal and informal liaison with public authorities and key interest groups regarding the effectiveness of this Strategy; and
3. Analysis and incorporation, as appropriate, of public submissions regarding proposed changes to this Strategy, or re-notification of this Strategy, as required by section 78 of the Biosecurity Act.

It should be noted that, in addition to a Council-initiated review, any person may, by written notice to Hawke's Bay Regional Council, ask the Council to notify a proposal for a regional pest management strategy pursuant to section 74 of the Biosecurity Act.

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