



BAY OF PLENTY
REGIONAL COUNCIL

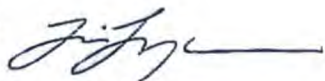
FINAL REPORT

A photograph of a hazy, rolling landscape with green hills and a body of water in the distance, serving as a background for the title text.

Review of the Bay of Plenty
Regional Air Plan Open Burning Rules

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Review of Air Plan Open Burning Rules
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EXECUTIVE SUMMARY

This document provides an assessment of the provisions in the Bay of Plenty Regional Air Plan ("Air Plan") relating to open burning activities. These rules allow open burning to be carried out as a permitted activity subject to a number of criteria being met.

The Bay of Plenty Regional Council ("BOPRC" or "Regional Council") receives a large number of complaints each year in relation to open burning activities and this together with anecdotal reports from BOPRC staff indicates that the rules may not currently be working as intended.

The project involved undertaking a detailed review of the open burning complaints received by BOPRC and obtaining feedback on the current Air Plan rules from a wide variety of parties, including Regional Council staff, farmers, orchardists, businesses, rural lifestyle and residential residents. Other regional council approaches were considered to assist in identifying potential options to address the issues.

More than three-quarters of the complaints received by BOPRC relate to open burning within urban areas. The highest numbers of complaints per capita are from within the Tauranga City and Western Bay of Plenty Districts. The available information indicates that a quarter of complaints relate to prohibited materials being burnt, with the large majority primarily driven by complaints experiencing adverse effects from smoke and/or ash discharges.

There are indications that the general level of awareness and understanding of the open burning rules is low. The overlap in functions between district and regional council's can lead to confusion regarding the requirements when carrying out open burning.

Within urban areas the main issue is that the small property sizes and proximity of neighbours means it is very difficult to avoid causing a smoke nuisance to surrounding properties. In rural areas problems are generally caused by poor fire management practices, particularly vegetation not being allowed to dry properly before burning. These issues are more prevalent in areas where there is a mix of rural lifestyle properties and rural production land uses.

The high number of complaints, limited resourcing and short duration of effects makes it difficult to effectively enforce the current open burning rules.

Other regional councils around the country employ a range of measures to control open burning activities. These range from complete bans on burning in urban areas, property size and boundary setback criteria, seasonal restrictions and various other measures.

A number of potential options have been considered to address the identified issues. They involve regulatory and non regulatory measures to improve the control of open burning in urban and rural areas. The most significant changes recommended involve further restrictions on burning within urban areas. An increased effort in raising awareness of the requirements is proposed. Suggestions have also been put forward to improve the way BOPRC responds to complaints.

1.0 INTRODUCTION

1.1 PURPOSE

The disposal of waste by open burning is an activity carried out by rural and urban residents, commercial and industrial premises, forestry operators, horticulturalists and farmers throughout the region.

The Regional Council manages the practice of open burning through the objectives, policies and rules of the Air Plan. District Councils also control open burning activities through local bylaws.

The main rule within the Air Plan that controls open burning is Rule 5, which provides for open burning as a permitted activity as long as the activity meets conditions ensuring that there are no significant adverse effects on neighbouring properties and that certain materials are not burnt.

In practice, however it can be difficult to carry out open burning in a way that does not have an adverse effect on neighbouring properties. This can be due to the proximity of neighbours, changeable wind directions, topography or other factors. There may also be a lack of awareness about what can and cannot be burnt and good fire management practices to help avoid causing adverse effects on neighbouring properties.

The Regional Council has engaged Harrison Grierson to assess the open burning rules in the Air Plan to determine whether they are working effectively and achieving their intended purpose.

1.2 ISSUES

The very high number of complaints received by BOPRC in relation to open burning activities together with feedback from Regional Council staff indicates that the rules are not working effectively.

The Regional Council has identified the following potential issues:

1. There may be a lack of awareness and understanding of the open burning rules. This could be resulting in people burning materials contrary to the rules and/or complaining about compliant burning.
2. There may be difficulties in effectively enforcing the rules leading to ongoing non-compliant activities or reduced reporting due to a perceived lack of action.
3. The difficulty with preventing smoke affecting neighbours in urban areas may be causing a high number of complaints. It may not be practical to meet the permitted activity conditions in these areas.
4. Neighbour disputes may be contributing to complaint numbers.

1.3 TASK

In order to determine whether the above issues are valid and sufficiently widespread to require action, a research project has been undertaken to address the following questions:

1. Are the identified issues real and are there other issues not identified.
2. Are the issues significant enough to warrant action.
3. What is the cause of the issues e.g. rule wording, implementation, public awareness, or a combination of factors.

1.4 METHODOLOGY

The research project comprises of two main components.

Phase 1 – Problem definition

Phase 2 – Assessment and recommendations

The first phase focuses on accurately defining the issues and involves the following tasks:

- Reviewing the Air Plan provisions and relevant background information.
- Analysing the open burning related complaints received by the Regional Council using data contained in the complaints database.
- Obtaining feedback on the rules from Regional Council staff, industry groups, complainants, offenders and the general public using questionnaires and interviews. Collectively these parties are referred to as the Evaluation Group.
- Using the findings of the complaints database analysis and Evaluation Group feedback to define the nature and scale of the issues.

The second phase of the project looks at options for addressing the identified issues. This involves:

- Reviewing the approaches taken by other regional councils to control open burning activities.
- The development of options to address the identified issues, including consideration of the benefits and costs of each option.
- Recommendations.

2.0 THE OPEN BURNING RULES

The Regional Air Plan controls the discharge of contaminants to air throughout the Bay of Plenty region, including the coastal marine area.

The Air Plan contains issues, objectives and policies and a range of implementation methods that are relevant to the practice of open burning.

2.1 ISSUES

Issue 3 in the Air Plan is directly relevant to open burning. This issue states:

The discharge of the products of combustion into air may adversely affect the environment, human health, amenity values, cultural values, the mauri of natural and physical resources, and the global environment.

There are a number of other issues identified in the plan that are of some relevance to open burning activities.

2.2 OBJECTIVES

The Air Plan contains four objectives. All of these objectives will assist in addressing the matters raised in Issue 3.

These objectives seek to manage the discharge of contaminants into air, to protect the region's ambient air quality from adverse effects and to enable people to provide for their well-being. The objectives are set out in full in Appendix 1.

2.3 POLICIES

The policies that relate to open burning activities aim to:

- Avoid and where unavoidable, remedy or mitigate the adverse effects of the discharge of contaminants to air (Policy 1(a) and 1(b)).
- Avoid the discharge of contaminants where the effects are unknown or not adequately understood. Where the discharge is unavoidable the effects should be monitored (Policy 2).
- The storage and disposal of waste should be undertaken in a way that avoids, remedies or mitigates adverse effects on air quality (Policy 6).
- Encourage other organizations to meet their management responsibilities (Policy 7).

The above policies are implemented using a variety of methods, which are discussed below.

2.4 RULES

The rules relevant to open burning are set out in full in Appendix 2.

Rule 5 of the Air Plan provides for open burning as a permitted activity provided a number of conditions are complied with. These conditions cover the following matters:

- No objectionable or offensive deposition, smoke or odour, or harmful concentration of gases beyond the boundary (Rule 5(a)).
- Good management practices are employed when burning to minimise discharges (Rule 5(b)).
- Fires must not be lit when there is a likelihood of an inversion layer (Rule 5(c)).
- A list of specified materials must not be burnt (Rule 5(d)).

Rule 8 provides for the emergency disposal of dead diseased livestock and marine mammals by burning as a permitted activity. This is provided that the activity is carried out under the direction of either the Ministry of Agriculture and Forestry (livestock) or the Minister of Conservation (marine mammals) and that BOPRC is notified.

Where open burning cannot comply with the conditions listed in Rule 5 subsections (a) – (c) or Rule 8 the activity requires resource consent as a discretionary activity under Rule 19(z).

The burning of materials specified in Rule 5(d) is a prohibited activity under Rule 20.

Schedule 1 of the plan contains a 1 page document titled “Good Management Practices to Prevent or Minimise the Discharges from Open Burning”.

2.5 OTHER METHODS

In addition to rules, the Air Plan identifies a number of other methods to assist in achieving the objectives and policies relevant to open burning. These methods include:

Education

Method 3 – Produce guidelines on measures to achieve efficient open burning (also refers to Schedule 1).

Advocacy

Method 22 - Actively promote the development of industry codes of practice in order to avoid, remedy or mitigate adverse effects on air quality from their operations.

Method 23 – Support the development of industry codes of practice which seek to avoid, remedy or mitigate adverse effects on air quality.

Method 25 – Encourage other organisations to meet their air quality targets.

Land Use Planning

Method 28 - Negotiate with district councils to transfer to them under section 33 of the Resource Management Act 1991 the management of discharges from waste disposal by burning on residential properties.

2.6 RESOURCE CONSENTS

Resource consent as a discretionary activity is required for open burning activities that do not comply with the permitted activity conditions of Rule 5.

3.0 ASSESSMENT OF THE OPEN BURNING RULES

As outlined in section 1 above, the first phase of the project involved identifying the issues associated with the current controls on open burning within the region. To do this, a sample of the complaints recorded by BOPRC in relation to open burning activities was analysed. Feedback was also obtained on the current rules from a variety of organisations and people using questionnaires and interviews.

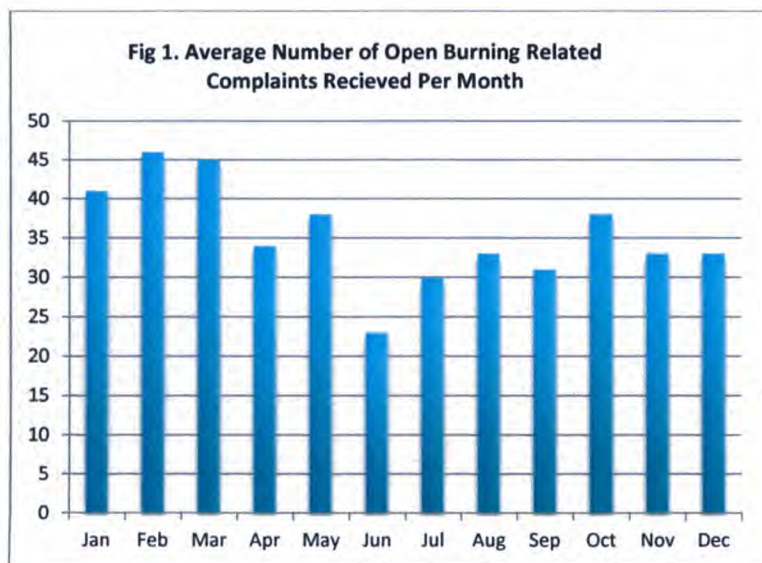
3.1 BOPRC COMPLAINTS DATABASE

BOPRC receives and responds to complaints regarding open burning activities as part of its role in monitoring and ensuring compliance with the Air Plan rules. All complaints are recorded in the complaints database using information provided by the complainant and the investigating officer (usually a member of BOPRC's Pollution Prevention team).

A large number of complaints are received each year relating to open burning activities. In the two year period between 2 November 2009 and 2 November 2011 a total of 876 open burning complaints were received. This represents 26% of the total number of complaints received by BOPRC over this period.

Reviewing the complaints database provides a good overview of the main issues relating to open burning.

Timing of Complaints



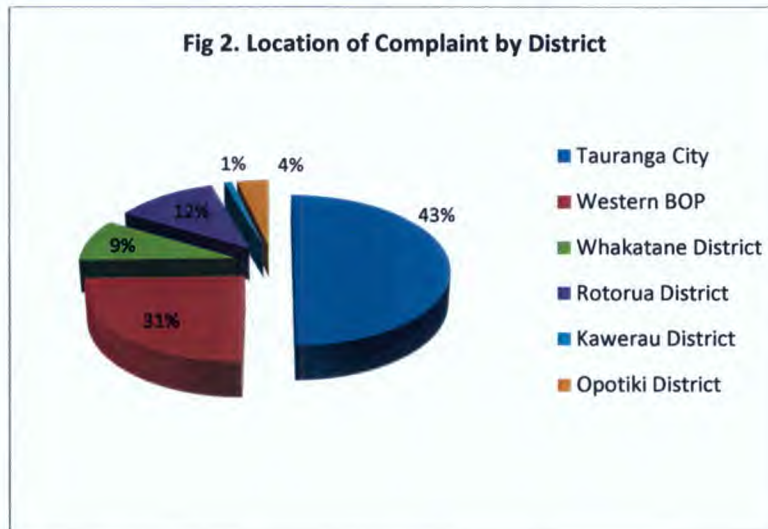
There is a seasonal fluctuation in complaint numbers. This may be due to a number of factors. During the warmer summer months people are more likely to be outdoors or have windows and doors open and therefore more likely to experience adverse effects from open burning.

It is likely that there is more burning of green waste during spring and autumn due to high garden growth rates.

A representative sample of around 125 complaints were selected and analysed in detail. The findings from this analysis are discussed below.

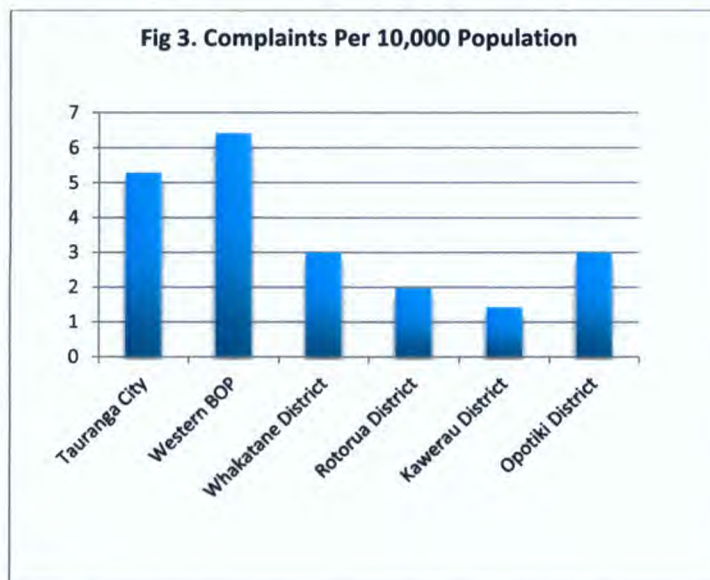
Location of Complaints by District

The sampled complaints were sorted into local authority areas in order to identify any locational trends.



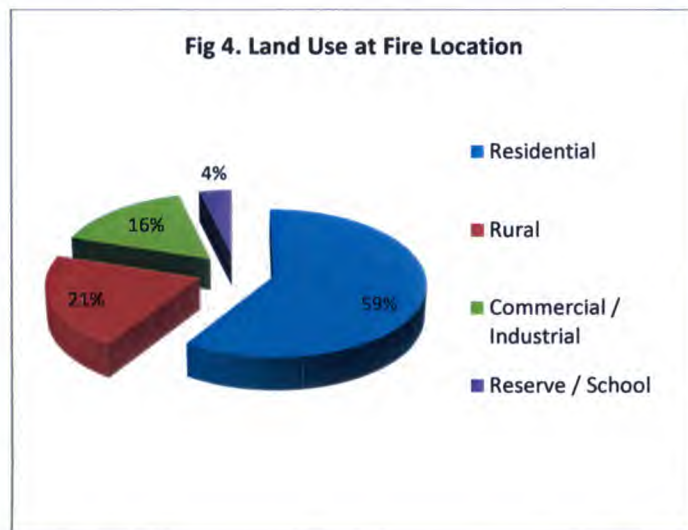
Three-quarters of the complaints were generated from within the Western Bay of Plenty and Tauranga City districts combined. This is not unexpected given the population distribution within the region.

In order to remove the influence of population distribution on the results, the sampled complaints within each district have been assessed on a per capita basis using Statistics NZ population information. The chart below displays the number of complaints received on a per capita basis within each district.



Even once the overall population size within each district has been taken into account, this chart illustrates that the highest number of complaints are received within the Tauranga City and Western Bay of Plenty areas. This may be attributed to the relatively dense urban development within Tauranga resulting in a high number of complaints from burning in residential areas (small property sizes and close proximity of neighbours). The Western Bay of Plenty has a large number of rural residential properties as well as large areas of horticultural land use. These factors may also be influencing complaint numbers. This is evident when the location of complaints is considered by suburb, with spikes in complaint numbers in locations such as Te Puna, Omokoroa and Welcome Bay.

Land Use

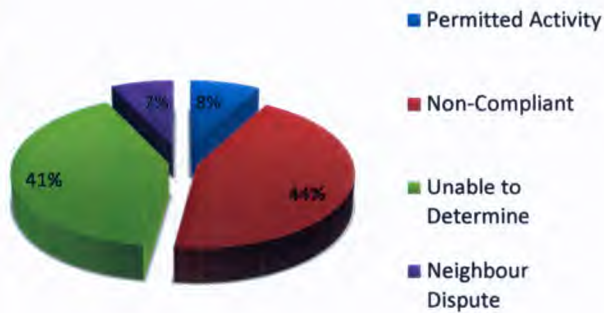


The majority of complaints relate to fires within residential areas where the proximity of neighbours makes it difficult to prevent smoke from crossing the boundary. The problems associated with burning in urban areas is even more pronounced when you consider that burning in rural areas contributes to only around 20% of the complaints, with the remaining 80% relating to urban land uses.

Nature of Complaints

The sampled complaints were assessed to determine how many were genuine complaints relating to non-compliant burning activities and what other factors were involved.

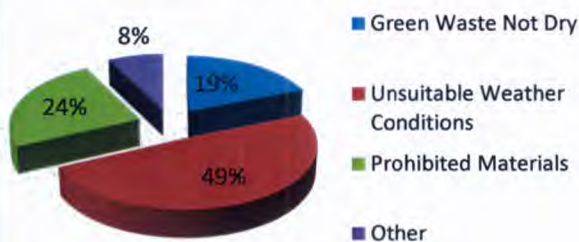
Fig 5. Nature of Complaint



A significant proportion of the complaints were unable to be verified by BOPRC staff as contravening the open burning rules. This highlights one of the main difficulties in effectively monitoring compliance with the open burning rules. Given the travel time required to reach the location of the complaint and the short duration of the effects from most fires, about half of the complaints received are dealt with without staff visiting the site. This issue is discussed in greater detail in the following section.

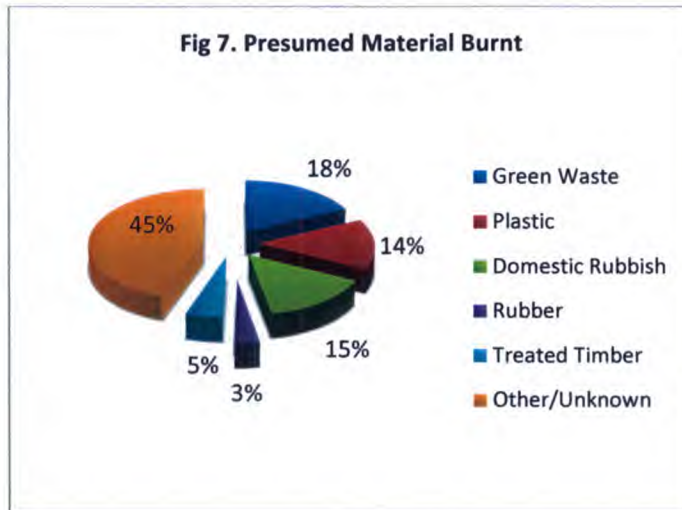
Where it has been determined that open burning has been carried out in a manner contrary to the permitted activity conditions. This is either because smoke or ash is adversely affecting neighbouring properties or it is believed that prohibited materials are being burnt. The reasons why the fire is causing adverse effects can be varied.

Fig 6. Primary Cause of Non-Compliance



In a lot of cases there is a combination of factors involved. For example, unsuitable weather conditions such as a wind direction blowing smoke onto neighbouring properties is usually an underlying factor as is poor fire management.

Due to the problems associated with attending complaints, it is difficult to get an accurate picture of the types of materials being burnt. The information displayed below is based on the information provided by complainants and by BOPRC staff where available.



Most complaints are focused on the adverse effects caused by the activity rather than the type of material being burnt.

Complaint Response

The predominant method of dealing with open burning complaints is to discuss the rules with the person responsible for the fire by telephone, or if possible, by visiting the site and issuing a verbal warning if appropriate. This is followed up with a letter or "smoke sense" leaflet explaining the rules. Repeat offenders are served with infringement notices.

Reviewing the comments in the database indicates that some complainants are frustrated by the inability of BOPRC staff to respond to complaints in person or the time taken to respond.

In nearly half of the complaints sampled the complainant indicated that the burning was not an isolated incident and that it was a regular or ongoing issue.

3.2 EVALUATION GROUP QUESTIONNAIRES AND INTERVIEWS

In order to gain a broader understanding of the issues associated with the open burning rules feedback was sought from various groups and individuals with an interest in open burning activities as well as the general public. These parties collectively form the Evaluation Group. The membership of the Evaluation Group is listed in Appendix 4.

Feedback from the evaluation group was obtained by survey questionnaires and interviews. The questions were tailored to each group, but sought comment about the following matters:

- Awareness and understanding of the open burning rules
- Effectiveness of the rules and suggestions for improvements
- Compliance and enforcement methods
- Burning in residential areas

A summary of the survey and interview responses are included as Appendix 5.

The feedback received provided a variety of perspectives regarding open burning activities, however it was clear that there are difficulties with the current rules. This is discussed in detail in the following section.

4.0 KEY QUESTIONS

4.1 WHAT ARE THE ISSUES?

Awareness and Understanding of the Rules

All members of the Evaluation Group agreed that the general level of awareness of the open burning rules is low. It is difficult, however, to get an accurate understanding of the level of awareness without carrying out a comprehensive survey of the general public across the region. Open burning is widespread and cannot be attributed to specific sectors of the community. The high number of complaints suggests that people may not be aware of the requirements, although without knowing the total number of fires lit in the region it is difficult to use the number of complaints as a measure of awareness.

The Regional Council provides information regarding open burning requirements and good management practices on its website and has produced information booklets detailing the rules and providing advice to minimise the effects of burning. The websites for District Councils in the region also contain information and advice on open burning that is consistent with the Regional Council requirements.

A lack of awareness is a particular issue in relation to following good management practices when undertaking open burning and the requirement to not cause adverse effects on neighbouring properties.

There is some confusion regarding overlapping functions of District and Regional Councils in relation to open burning. There have been instances where people have obtained fire permits from a district council and are unaware that they are also required to comply with the Regional Air Plan provisions. Most of the local bylaws in force within the region impose stricter controls on burning in urban areas, however the regional council deals with most complaints.

Related to a lack of awareness of the rules is the potential for people to not accurately understand the specific requirements of the rules leading to non-compliant burning or complaints regarding permitted burning. Feedback provided by the Evaluation Group indicated that in general the requirements of Rule 5 are clear and easily understood. The problem is that most people are unlikely to access the Regional Air Plan to review the rules when considering whether to light a fire.

The analysis of the complaints database determined that almost all open burning complaints are generated because the complainant is directly affected by smoke and/or ash deposition from fires on neighbouring properties.

Rule 5(a) requires that the fire must not result in *“any objectionable or offensive particulate deposition, smoke or odour, or harmful concentration of gases beyond the boundary”*. A number of members of the Evaluation Group considered that this term can be open to subjective interpretation in assessing the effects of smoke and ash deposition from open burning.

The term objectionable and offensive is commonly used when describing the effects of discharges to air. It is referenced in other rules within the Air Plan and also in the RMA. A detailed interpretation of the term is provided in section 5.6.5 of the Air Plan. This interpretation recognises that determining whether an effect is objectionable or offensive will depend on the specific circumstances of each situation and therefore can only be prescribed in general terms. It is the role of the Council officer responding to the complaint to make an assessment whether the discharge is objectionable or offensive.

In a lot of cases BOPRC officers are not able to attend complaints at the time the nuisance is occurring therefore it cannot be verified that the fire is generating an offensive or objectionable discharge. This problem is discussed in greater detail below.

Complying with the Rules

The practical difficulty in carrying out open burning in a manner that does not cause a smoke nuisance to neighbouring properties was identified as the single largest issue by the Evaluation Group.

Open Burning in Rural Areas

Within rural areas the primary cause of complaints is the burning of vegetation that has not adequately dried and/or poorly managed fires. There are a number of reasons why this may occur. People may not be recognising what is considered to be sufficiently dry. The issue often occurs in areas where there is a mix of rural lifestyle properties and rural production activities such as orchards. Rural contractors carrying out trimming or clearing of vegetation may be tempted to burn green waste material before it has dried adequately to avoid having to return to the site.

Most complaints regarding fires in rural areas are from rural lifestyle property owners. Given that many complaints are not attended by Council staff it is possible that some of the complaints are unsubstantiated and that rural lifestyle property owners have an expectation of the rural environment that includes lower tolerances to smoke nuisance. It may also be the case that rural property owners have traditionally carried out open burning as a normal part of rural production activities without generating complaints and the intensification of land use through the increasing numbers of rural lifestyle properties has created reverse sensitivity issues.

In many rural areas open burning is often the most practical means of disposing of waste, in particular shelterbelts trimmings or orchard prunings.

The burning of prohibited materials on rural properties also occurs. The lack of alternative options for the disposal of inorganic waste on rural properties may be contributing to this, particularly the burning of prohibited materials such as plastic and household rubbish.

Changeable weather conditions has been identified as a contributing factor to non-compliant burning in rural areas. Conditions may be suitable when a fire is lit, but wind speed and direction can change causing smoke to drift onto neighbouring properties.

Open Burning in Urban Areas

A large majority of open burning complaints relate to fires within urban areas. There are a variety of factors that contribute to the high level of non-compliant burning in these areas.

The density of development within urban areas with multiple neighbours and dwellings in close proximity means it is very difficult to carry out burning in a way that does not result in smoke crossing the boundary and affecting neighbouring properties.

Some people have traditionally burnt waste paper, cardboard, vegetation and even general household rubbish in their backyard. Prior to the introduction of kerbside recycling and green waste collection services, backyard burning is likely to have been considered an efficient method of waste disposal. Historically residential development was less intensive with larger average property sizes meaning that open burning was less likely to adversely affect neighbours. For some people being able to burn waste is considered to be a property right. Landfill disposal costs have also been identified as a factor.

In some situations non-compliant burning is associated with general anti-social behaviour and a disregard for neighbours, or as part of a specific neighbourly dispute. Regional Council officers routinely respond to complaints that have obviously been driven by other issues.

Enforcement of the Rules

There are a number of challenges in efficiently and effectively enforcing the open burning rules.

As discussed previously a high number of open burning complaints are received by BOPRC. Limited resources are available to investigate complaints, particularly outside normal working hours. During these times there is usually one officer on-call and they may be up to two hours drive from the source of a complaint. This makes it difficult to provide an effective response as open burning is an activity that often generates adverse effects over a short period of time. It is common for investigating officers to arrive at a property and find that the fire is already out or the amount of smoke being produced has reduced.

The low number of open burning complaints that are attended at the time the adverse effect is occurring and therefore assessed to confirm that the fire contravenes the permitted activity criteria means that the rules are not being effectively enforced.

4.2 HOW BAD IS THE PROBLEM?

In determining if the identified issues are significant and widespread enough to require some form of action, it is necessary to consider whether the current rules are achieving the objectives and policies of the Air Plan.

The objectives of the Air Plan are to manage the discharge of contaminants into air, to protect the region's air quality from adverse effects and to enable people to provide for their well-being. In general terms the relevant policies aim to avoid, remedy or mitigate the adverse effects of discharging contaminants to air.

The open burning rules permit burning to be carried out subject to conditions that ensure the effects will be no more than minor.

Open burning can release harmful pollutants into the air and cause a nuisance to neighbouring properties. The effects on neighbours can involve a temporary but significant reduction in residential amenity as well as more serious health effects.

It is clear from an analysis of the complaints received by BOPRC that open burning is causing adverse effects on people, particularly those living in urban areas. Common effects described by complainants include offensive odours, health issues such as respiratory irritation, smoke entering buildings, soiling of washing and smoke preventing use of outdoor areas.

Whilst a relatively small proportion of complaints are actually verified by Council officers as being non-compliant, complainants generally contact BOPRC when they feel they are being adversely impacted by smoke from open burning.

As discussed previously, establishing that a fire is resulting in an offensive or objectionable discharge is reliant on a Council officer visiting the site and assessing the effect. The fact that it is not often possible for a Council officer to attend the complaint at the time the effect is occurring and assess the effect suggests that the objectionable and offensive criteria is not working on its own. Some form of action is required to address this issue. This may involve changes to the rules, the implementation of the rules, or both. Various options are discussed in section 7 below.

4.3 WHAT IS CAUSING THE PROBLEM?

The discussion of the issues with the open burning rules in the preceding section has identified the main reasons for the issues and the underlying reasons for them. The following provides a summary.

There are inherent problems in controlling the effects of open burning as it is an activity that typically creates significant localised effects for a short period of time and in most cases occurs infrequently. Most people who carry out non-compliant burning are unaware they are causing adverse effects on their neighbours. Prior to lighting a fire there is a degree of uncertainty regarding the amount of smoke that will be produced and how it will disperse, particularly with changeable wind directions. To add to this is peoples varying tolerance levels to smoke nuisance and the difficulty in determining compliance, which has been discussed previously. These factors all contribute to the identified problems.

In rural areas damp vegetation and poor fire management are the main problems. This may be due to a lack of awareness of, or disregard for, good burning practices. Different expectations of the rural environment may also be a factor.

In urban areas, the problem appears to be largely due to the rules providing for burning as a permitted activity, where it is very unlikely that the permitted activity conditions are able to be achieved.

5.0 FINDINGS

The main findings from the investigation of the open burning rules are summarised below:

- A high proportion of open burning complaints relate to fires in urban areas.
- It is difficult to obtain an accurate picture of the overall level of public awareness of the rules due to the widespread nature of the activity
- It is difficult to effectively respond to open burning complaints due to the short duration of the effects, staff resources (particularly outside business hours), and travel times. As a result relatively few complaints are substantiated by Council officers.
- The issues are relatively distinct between urban and rural areas
- Within rural areas the main problems are caused by vegetation not being dried properly before burning and/or other poor fire management practices.
- In urban areas it is difficult to carry out open burning without resulting in smoke crossing the property boundary and affecting neighbouring properties.
- There is a need to provide additional controls within urban areas as the objectionable and offensive threshold is not working on its own.
- There is a need for consistency and co-ordination between regional and district councils in the management of fires within urban areas.
- Stronger enforcement measures are needed to deter non-compliant burning, particularly for repeat offenders
- There should be increased use of education and information distribution as a method of raising the awareness of the requirements when carrying out open burning
- Improvements should be made to the recording of information in the complaints database.

6.0 OTHER APPROACHES

As part of the assessment of the open burning rules, we have considered the approaches taken by other regional councils to manage open burning activities. This review is useful in identifying potential options to address the issues.

Basic information was obtained from all of the regional councils across the country about their regional plan provisions controlling open burning activities. This information is summarised in the table in Appendix 6.

All of the regions identified open burning as an issue affecting air quality within their regions. A range of methods are used to control the effects of open burning. Most councils have fairly generic objectives and policies that seek to maintain and enhance air quality and avoid, remedy or mitigate adverse effects from discharges. Some councils have specific policies relating to controlling open burning activities, particularly those regions with more restrictive controls.

Of the fifteen regions around the country, eight provide for burning within urban areas as a permitted activity, although some specify that burning must be within an incinerator. This does not necessarily mean that people are able to carry out open burning in these areas, as burning may be restricted though local bylaws. Wellington is an example of this, where the regional council rules allow open burning throughout the region and the Wellington City Council has a restricted fire season year-round. This means any fire (including hangis, wood burning barbeques and braziers etc) requires a fire permit.

The remaining regions all have some form of restriction on burning within urban areas. These restrictions include a range of measures including:

- Blanket bans in defined urban areas
- Seasonal restrictions
- Property size restrictions
- Origin restrictions
- Restrictions where rubbish / green waste collection facilities exist

In a lot of cases there are a combination of controls, which effectively prevent open burning being carried out within areas of typical-density urban development.

Within rural areas open burning is generally permitted. In Auckland and Gisborne rural burning must be within an incinerator. Other regions include boundary setback distances, volume limits, or origin of material controls within the permitted activity conditions.

Most regions use the “objectionable or offensive” criteria to assess the acceptability of open burning discharges. All but two regions list specific materials that cannot be burnt. Gisborne and Southland regions provide for the burning of specified materials as a discretionary activity (rather than prohibited as in other regions).

Tasman District Council (Unitary Authority) has developed a protocol explaining how it will respond to complaints, including an explanation of FIDOL factors and consideration of the level of adherence to good management practices in evaluating non-compliance.

Three regional plans were considered in greater detail:

- Regional Air Quality Plan for Northland (‘Northland Air Plan’)
- Regional Air Quality Plan for Taranaki (‘Taranaki Air Plan’)
- Hawkes Bay Regional Resource Management Plan (‘HBRMP’)

A detailed comparison of these plans is provided in Appendix 6. The key points are summarised below.

Objectives and Policies

All three plans contain generic objectives relating to air quality and policies relevant to open burning activities. The Northland Air Plan has three policies that specifically relate to open burning activities.

Open Burning Rules

The Northland Air Plan distinguishes between industrial and trade premises and other sites and also sets out specific rules relating to the Whangarei Airshed. Similarly, the Taranaki Air Plan deals with industrial and trade premises, rural production land and defined urban areas separately. HBRMP takes a straightforward approach with two main rules.

All three regions allow open burning to be carried out as a permitted activity under some circumstances and subject to permitted activity criteria.

Urban Areas

Within the Whangarei airshed in Northland open burning is a restricted discretionary activity unless the property is larger than 1 hectare, a bonfire for a community event, or burning certain materials on an industrial or trade premises using an incinerator. No burning is allowed during the winter months. Open burning in urban areas outside Whangarei is permitted.

The Taranaki Air Plan states that open burning is prohibited on residential properties less than 0.5 hectares in size located within defined urban areas and serviced by a rubbish collection service. The burning of industrial or trade waste is a restricted discretionary activity.

The HBRRMP does not distinguish between urban and rural areas and provides for open burning as a permitted activity, provided certain materials are not burnt.

Rural Burning

All three regions allow open burning on rural properties as a permitted activity. The Taranaki Air Plan specifies that the material must be "generated on production land".

Permitted Activity Criteria

All three plans require that open burning does not result in an offensive or objectionable discharge beyond the boundary, reduce visibility, or adversely affect traffic. All of the plans also refer to certain materials not being burnt.

The Northland Air Plan requires alternative methods of disposal to be considered. The Taranaki Air Plan requires that the best practicable option be adopted to prevent or minimise adverse effects.

The Taranaki Air Plan also has a maximum combustion rate criteria of 1000kg per hour.

Prohibited Materials

All three regions list materials that it is a prohibited activity to burn.

Good Practice Guidelines

Only the Taranaki Air Plan incorporates good management practices to minimise the effects of open burning.

Other Methods / Implementation

All three regions recognise the importance of raising public awareness of the open burning rules. The Northland Air Plan was the only one to include methods other than rules that specifically related to open burning.

Northland and Hawkes Bay regions provided a good level of information on their websites including a detailed description of the open burning requirements, good management practices and the implications of non-compliance. District Council responsibilities were also set out.

7.0 OPTIONS AND RECOMMENDATIONS

7.1 OPTIONS

The assessment of open burning complaints and feedback provided by the Evaluation Group has identified a number of issues with the current rules, which are described in section 6 of this report.

A number of potential options have been identified to address these issues. This has been assisted by a review of other regions approaches. These options are set out in the table attached as Appendix 7 along with a discussion on the benefits and costs of each option.

Open burning within urban areas is the single biggest problem and is largely caused by the fact that it is very difficult to avoid smoke crossing the boundary of the property and affecting neighbours. Most of the potential options to deal with this issue involve introducing additional rules into the plan to restrict burning in urban areas. The nature of the restrictions range from minor changes such as imposing a minimum boundary set back through to a complete ban on burning in defined urban areas. It is likely that a combination of controls would be needed to cover the various circumstances across the region. It is important to ensure that any additional controls introduced are able to be easily and effectively enforced.

In rural areas the potential options are intended to better manage the effects from open burning of vegetation. This is the main source of problems, particularly where you have a mix of rural production and rural residential land uses. Options to deal with this involve additional rules controlling the method, scale and distance from dwellings for open burning activities.

Other options to improve the efficiency and effectiveness of the rules include amending the Good Practice Guidelines in Schedule 1 of the plan and providing for fire service training activities.

A number of options have been put forward to assist in the implementation of the rules, which has also been identified as a significant problem.

Opportunities to increase the use of existing methods within the Regional Plan are also highlighted. Raising public awareness and understanding of the rules is identified as an important means of reducing the level of non-compliant burning. Better co-ordination with District Councils and other agencies will help to ensure the public receives a clear and consistent message about the requirements when undertaking open burning and considering alternative waste disposal options.

Another method currently included in the plan that may not have been fully explored is negotiating with District Councils the transfer of the responsibility for managing open burning on residential properties through local bylaws. This will resolve the current overlap of functions between district and regional councils.

7.2 RECOMMENDATIONS

Based on the assessment of potential options to address the issues with the current plan provisions, a number of recommendations have been developed. These recommendations are set out below.

Open Burning in Urban Areas

Open burning within urban areas is the greatest source of problems with the rules. It is widely accepted that it is very difficult to carry out compliant open burning within most urban areas. Greater controls are required to ensure the objectives and policies of the plan can be met. It is therefore proposed that BOPRC consider the following amendments to the rules:

- Define the extent of urban areas for cities and towns within the region and introduce a rule that restricts burning within these areas to recreational fires only.
- Investigate the feasibility of including a minimum property size provision into the above rule to provide for any exceptionally large properties located in urban areas.
- If rules allow for open burning to be carried out in urban areas, the permitted activity conditions should specify a minimum distance that fires must be set back from the boundary.
- Investigate the feasibility of only allowing industrial / trade premises to burn certain materials and using an incinerator.

Open Burning Outside Defined Urban Areas

The issues with open burning in rural areas are often to do with large-scale fires or the burning of vegetation that has not dried sufficiently. It is not considered practical or necessary to prevent open burning from being carried out in rural areas as it can be a practical disposal method in some situations and carried out without causing significant adverse effects. Ensuring a high level of public awareness and understanding of the rules will be more suitable than imposing significant additional restrictions on open burning in rural areas. Rural residential areas where the density of houses can be significantly higher than typical rural land uses can lead to problems. In this case it may be appropriate to add additional controls. In this regard it is recommended that consideration be given to introducing a permitted activity condition requiring fires within defined rural residential areas be a minimum distance from dwellings on properties other than the subject site. Further work is necessary to determine an appropriate distance, however 50m has been used by other regions.

Good Practice Guidelines

It is recommended that the good practice guidelines be reviewed and updated to provide more detailed advice to assist in ensuring burning of vegetation results in minimal effects. Specifically, a better description of what is considered to be sufficiently dry would be useful.

Other Methods

Increase the use of education and advocacy to raise the general level of public awareness and understanding of the rules. There needs to be a more coordinated approach between District and Regional Councils to ensure a consistent message is being conveyed to the public about their responsibilities and expectations for smoke nuisance. District Council bylaws should be reviewed to ensure consistency with Regional Council requirements. Further investigation should be given to the potential to transfer responsibilities for fires on residential premises to District Councils to avoid duplication with local bylaw requirements.

Implementation

Consideration needs to be given to more efficient means of responding to open burning complaints received outside normal business hours. The feasibility of using local security agents should be evaluated.

The use of verbal warnings and letters to offenders does not appear to be providing sufficient deterrent. Providing officers with the ability to issue instant fines should be considered. Developing a structured approach that consistently escalates the level of enforcement action for repeat offenders is also recommended.

It is recommended that consideration be given to reviewing the type of information recorded in the complaints database. For example, including details about weather conditions at the time of the complaint, location of the fire relative to the property boundary and whether it is a repeat occurrence would be helpful in monitoring the effectiveness of the rules. Encouraging complainants to take photos of the incident may assist in determining whether a fire is non-compliant.

A number of these recommendations will require further detailed analysis before being implemented.

APPENDIX 1

Air Plan Objectives and Policies

APPENDIX 2

Air Plan Open Burning Rules

Excerpt from the Bay of Plenty Regional Air Plan – Open Burning Rules

Rule 5 Permitted Activity – Open Burning

The discharge of contaminants into air from combustion in the open air is a permitted activity provided the following conditions are complied with:

- (a) The discharge must not result in any objectionable or offensive particulate deposition, smoke or odour, or any harmful concentrations of gases beyond the boundary of the subject property or into water (refer to section 5.6.5(a)).
- (b) All reasonable measures must be taken to ensure good management practice when burning. Schedule 1 contains information on good management practices to prevent or minimise the discharges from open burning).
- (c) Fires must not be lit when there is a likelihood of an inversion layer i.e. in cool (less than 5 degrees Celsius) and calm (wind speed below 1 knot/1.85 km per hour) conditions.
- (d) The following materials must not be burnt in the open air:
 - (i) chlorinated organic chemicals including but not limited to dioxins, furans, polychlorinated biphenyls (PCB);
 - (ii) contaminated material from contaminated sites and buildings;
 - (iii) elemental materials that can produce toxic gases, including but not limited to boron, halides, phosphorus, sulphur,
 - (iv) food waste;
 - (v) heavy metals including but not limited to lead, zinc, arsenic, chromium, cadmium, copper, mercury, thorium;
 - (vi) material associated with the recovery of metal from insulated electrical cables;
 - (vii) materials or metals used in motor vehicles;
 - (viii) mineral fibres including but not limited to asbestos;
 - (ix) paint and other surface protective coatings;
 - (x) pathological waste excluding animal carcasses on production land;
 - (xi) pesticides, pesticide waste (excluding cardboard pesticide containers);
 - (xii) plastic including but not limited to polyvinylchloride (PVC), polystyrene, nylon, styrofoam;
 - (xiii) tyres and other rubber;
 - (xiv) treated timber or timber treatment chemicals;
 - (xv) waste oil or other waste petroleum products.

- Note:**
- 1 The Operative Bay of Plenty Regional Land Management Plan may require an application for a land use consent to burn vegetation.
 - 2 The burning of vegetation may be subject to the provisions of the Forest and Rural Fires Act 1977 and a fire permit may be required from:
 - The Department of Conservation (when burning occurs within 1 kilometre of any land administered by the Department);
 - A district or city council acting as a rural fire authority;
 - A forestry company that is a rural fire authority.
 - 3 Vegetation burning on Crown land requires consent under the Land Act 1948 from the Commissioner of Crown lands.

Rule 8 Permitted Activity – Emergency Disposal of Animal Carcasses

The discharge of contaminants into air from the emergency burning in the open of dead diseased marine mammals and dead diseased livestock is a permitted activity provided the following conditions are complied with:

- (a) Disposal must be carried out under the direction of either the Ministry of Agriculture and Forestry for dead diseased livestock or the Department of Conservation for dead diseased marine mammals.
- (b) Environment Bay of Plenty must be notified a minimum of 1 hour before burning begins.

Rule 20 Prohibited Activity – Open Burning of Specified Material

The discharge of contaminants into air from the combustion in the open air of the following materials is prohibited:

- (i) chlorinated organic chemicals including but not limited to dioxins, furans, polychlorinated biphenyls (PCB);
- (ii) contaminated material from contaminated sites and buildings;
- (iii) elemental materials some of which can produce toxic gases, including but not limited to boron, halides, phosphorus, sulphur;
- (iv) commercial food waste;
- (v) heavy metals including but not limited to lead, zinc, arsenic, chromium, cadmium, copper, mercury, thorium;
- (vi) material associated with the recovery of metal from insulated electrical cables or the burning of wire coated with any material;
- (vii) materials or metals used in motor vehicles;
- (viii) mineral fibres including but not limited to asbestos;
- (ix) paint and other surface protective coatings;
- (x) pathological waste excluding animal carcasses on production land;
- (xi) pesticides, pesticide waste (excluding cardboard pesticide containers);
- (xii) plastic including but not limited to polyvinylchloride (PVC), polystyrene, nylon, styrofoam;
- (xiii) tyres and other rubber;

- (xiv) treated timber or timber treatment chemicals;
- (xv) oil, waste oil or other waste petroleum products.;
- (xvi) lighting fires and burning of waste at landfills;
- (xvii) burning of bitumen on a road.

Advisory Note:

NESAQ regulations state that for the following activities burning in the open air is prohibited as at 6 September 2004:

- Lighting of fires and burning of waste at landfill (Clause 6);
- Burning of tyres (Clause 7);
- Burning of bitumen (Clause 8);
- Burning of coated wire (Clause 9);
- Burning of oil (Clause 10).

However there are some exemptions for these as follows:

Rule 20 (xiii): NESAQ has qualified that it is not intended to prohibit 'burnouts', car racing or speedway events.

Rule 20 (xv): NESAQ has qualified that frost protection by the burning of clean oil within "smokefree" frost pots (with stacks, chimneys or exhaust pipes) for heat generation is not a prohibited activity.

Rule 20 (xv): NESAQ has qualified that burning of oil in the open for creating special smoke and fire effects for the purpose of producing films; or for the purpose of training people to put out fires is not a prohibited activity. Resource consent may be required.

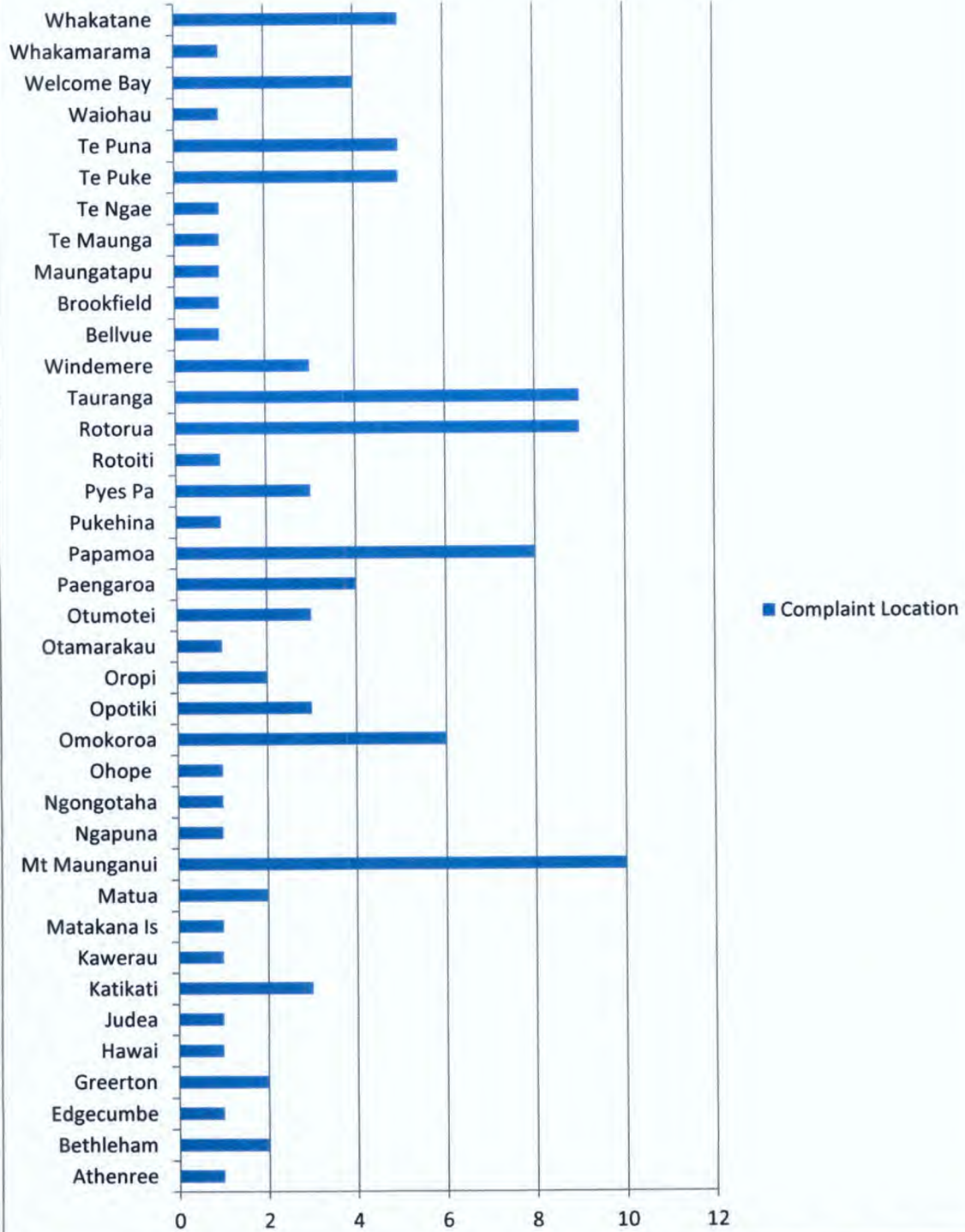
Schedule 1 – Guideline 1: Good Management Practices to Prevent or Minimise the Discharges from Open Burning

- (a) Dry, seasoned material only should be burned. Increased moisture content affects the heat of combustion and increases the likelihood of smoke. Two days' fine weather should be allowed prior to burning.
- (b) Fires should not be lit in wind speeds greater than 10 knots i.e. Beaufort scale 3. This can be judged by leaves and the smallest twigs moving in the wind. The ash produced on the fire is more likely to be blown about and the discharges will travel further in high wind conditions.
- (c) Where possible material to be burned should be stacked to allow plenty of airflow into the base of the fire to aid efficient burning.
- (d) Fires shall not be lit when there is likelihood of an inversion layer i.e. when the air is cool and still such as in the evening or early in the morning. The dispersion of smoke is restricted when inversion conditions exist. The smoke will tend to hang about and not rise.
- (e) The place of combustion should be at least 50 m from any road other than a highway and 100 m from any highway or dwelling house on an adjoining property or National Park boundary.

APPENDIX 3

Additional Analysis of Open Burning Complaints

Complaint Location



APPENDIX 4

Evaluation Group Membership

Evaluation Group Membership

- NZ Avocado Growers Association
- NZ Kiwifruit Growers Inc
- Federated Farmers
- Zespri
- Bay of Plenty Regional Council staff
- NZ Fire Service
- Whakatane District Council Rural Fire Officer
- Western Bay of Plenty Rural Fire Officer
- Opotiki District Council Rural Fire Officer
- Orchardists
- Farmers
- Complainants (from complaints database)
- Offenders (from complaints database)

APPENDIX 5

Summary of Evaluation Group Feedback

Summary of Bay of Plenty Regional Council Responses to Interview Questions

Topic	Comments
Awareness of Regional Air Plan open burning rules	<p>The general perception is that most people who carry out open burning activities are not adequately aware of the requirements of the Regional Air Plan.</p> <p>People who come into contact with BOPRC Pollution Prevention Officers (PPO) generally do so in responding a complaint regarding burning activities. These people are provided with information regarding the open burning rules. Word of mouth and 'smoke sense' leaflets are other common methods of notification. Most BOPRC staff agree that an increased effort to raise awareness will result in some increase in the level of compliance, although it may also raise the number of complaints.</p>
Rule 5 (a) – objectionable or offensive particulate deposition, smoke or odour, or harmful concentrations of gases	<p>"Objectionable and offensive" can be difficult to interpret. There are mixed views on whether it is a suitable mechanism to control open burning activities. It aims to allow open burning as a permitted activity where it does not adversely affect neighbouring properties, which is appropriate, however it is argued that the practical difficulties in achieving this (particularly in residential areas) make the reliance on this control alone ineffective.</p>
Rule 5 (d) burning of prohibited materials	<p>The burning of prohibited materials is a significant problem, particularly treated timber, household rubbish containing plastics, agricultural waste (plastic bale wrap etc) and various materials on industrial sites, however the burning of green waste that has not been adequately dried is an equally large source of complaints.</p>
Good management practices	<p>Awareness of the good management practices and adherence to them is lacking. There are opportunities to update and improve them, however as a guidance document it will always be difficult to enforce.</p>
Enforcement action	<p>Most complaints are dealt with by educating the offender and issuing a verbal or written warning.</p> <p>There are difficulties in responding quickly to complaints due to the short duration of most small fires and the travelling time for the enforcement officer. The potential use of contracted security firms as a first response has been raised. This is an approach commonly used for noise complaints. The potential use of instant fines should be considered.</p>
Open burning in residential areas	<p>It is generally agreed that it is inherently difficult for open burning to be carried out within residential areas in compliance with the rules in the Regional Air Plan.</p>
Overall effectiveness of rules	<p>The high level of non-compliant burning taking place, particularly in urban areas indicates that the current rules are not effectively protecting the rights of neighbouring properties. There are difficulties in complying with the rules and also in enforcing them.</p>

Summary of Bay of Evaluation Group Responses to Interview Questions

Topic	Comments
Awareness of Regional Air Plan open burning rules	<p>The general level of awareness of the rules was thought to be low, although many of the respondents themselves were familiar with the requirements.</p> <p>Most people agree that the rules are easily understood and 'about right' in terms of their restrictiveness. People are unlikely to access the Regional Air Plan to review the rules, so ongoing regular education and information distribution is required.</p>
Rule 5 (a) – objectionable or offensive particulate deposition, smoke or odour, or harmful concentrations of gases	<p>Changeable weather conditions and generally windy climate makes it difficult to prevent smoke from drifting beyond the property boundary. For this reason a practical approach needs to be taken to assessing the effects of open burning. The practical difficulties in preventing smoke crossing the boundary is exacerbated in urban areas by small property sizes and the high density of development.</p> <p>The burning of green waste that has not dried sufficiently is a significant issue.</p>
Rule 5 (d) burning of prohibited materials	<p>A small group of respondents consider that there should be some flexibility with treated timber, for example allowing burning of degraded timber or painted timber from house alterations.</p>
Good management practices	<p>The level of awareness of the good management practices was considered to be variable, as was the level of compliance with them.</p>
Enforcement action	<p>There needs to be a practical approach taken to enforcing the rules. The difficulty in responding to complaints in person and while the nuisance is occurring is an issue.</p>
Open burning in urban areas	<p>Opinion is divided on whether urban burning is appropriate. A number of respondents consider that the high cost of disposing of waste at landfills and inadequate rubbish collection service in some urban areas means that open burning needs to be provided for. Some consider that some burning should be permitted but the controls tightened.</p>
Overall effectiveness of rules	<p>In general the rules are considered to be effective at protecting the rights of neighbouring property owners. One respondent considered that the rules are not restrictive enough in rural residential areas.</p>

APPENDIX 6

Analysis of Other Regional Council Approaches

Regional Council Approaches

Region	Urban Areas	Rural Areas	Offensive or Objectionable Criteria	Prohibited Materials Listed
Northland	Not within Whangarei Airshed on properties less than 1ha	Permitted	Yes	Yes
Auckland	Prohibited	Within incinerator and not at night	Yes	Yes
Waikato	Permitted	Permitted	Yes	Yes
Taranaki	Not within defined urban areas where property size is less than 0.5ha and serviced by weekly rubbish collection service	Permitted	Yes	Yes
Horizons (Manawatu-Whanganui)	Permitted	Permitted	Yes	Yes
Gisborne	Permitted in incineration devices.	Volume restriction for vegetation and minimum boundary setback	Yes	Discretionary
Hawkes Bay	Permitted. Industrial and trade premises require incinerator	Permitted	Yes	Yes
Wellington	Permitted	Permitted	Yes	Yes

Region	Urban Areas	Rural Areas	Offensive or Objectionable Criteria	Prohibited Materials Listed
Tasman	Banned in defined urban areas, seasonal restrictions in sensitive urban areas.	Permitted	Yes	Yes
Nelson	Banned except for recreational fires	Permitted if using an incinerator	Yes	Yes
Marlborough	Permitted in incineration devices	Permitted	Yes	Yes
Canterbury	Banned unless within an area where no green waste facility exists	Permitted	Yes	Yes
West Coast	Permitted	Permitted	Yes	Yes
Otago	Specified restricted air zones – 50m from boundaries in residential areas	Permitted	Yes	Yes
Southland	Permitted	Permitted	Yes	Yes

COMPARISON OF THREE REGIONS

	Northland Regional Council	Taranaki Regional Council	Hawke's Bay Regional Council
Plan	Regional Air Quality Plan for Northland (2003)	Regional Air Quality Plan for Taranaki	Hawkes Bay Regional Resource Management Plan
Plan Status	Operative	Proposed – subject to appeals	Operative
Objectives	Generic objectives seeking the sustainable management of the air resource by avoiding, remedying or mitigating adverse effects of discharges.	Generic objectives seeking to maintain the existing high standard of air quality and avoid, remedy or mitigate the adverse effects of discharges.	One objective to maintain a standard of air quality that is not detrimental to human health, amenity values or the life-supporting capacity of air.
Policies	There are three specific policies relating to open burning (section 6.11). These policies seek to avoid or minimise the unnecessary burning of waste, to avoid, remedy or mitigate the adverse effects of burning waste when it does occur and to ensure open burning does not create noxious, dangerous, offensive or objectionable effects or affect general amenity.	The policies are grouped into various categories. Open burning activities are relevant to several of these categories. The policies within these categories are general in nature and aim to avoid, remedy or mitigate significant offsite effects of discharges. The factors taken into account in considering these effects are also described in the policies. Policy 1.3 is of particular relevance and seeks to ensure that discharges do not cause a hazardous, noxious, dangerous, offensive or objectionable effect beyond the property boundary. This includes a significant reduction of visibility or the soiling of property.	Policy 5.3.1 aims to manage the effects of activities affecting air quality in accordance with specified environmental guidelines. The guidelines relevant to open burning activities include ensuring contaminants are not discharged beyond the boundary in concentrations and locations that are likely to cause adverse effects on human health, ecosystems or property. Discharges should not adversely affect traffic safety or reduce the horizontal visibility within 5m of ground level beyond the subject property boundary.

	Northland Regional Council	Taranaki Regional Council	Hawke's Bay Regional Council
Rules	There are a total of 8 rules covering open burning activities. The rules deal with industrial and trade premises separately from other sites and there are also specific rules controlling burning within the Whangarei Urban Airshed.	There are five main rules controlling open burning activities. These rules consider burning on industrial/trade premises, rural production land and defined urban areas separately. Rule 33 covers the burning of waste on rural production properties.	Open burning is controlled by two rules. One specifies what can be burnt as a permitted activity, the other a prohibited activity.
Permitted Activities	Open burning is permitted outside the Whangarei Urban Airshed and within the airshed on properties larger than 1 hectare (Rules 10.1(8) and 10.1(9)). Bonfires associated with a community event are also specifically provided for as a permitted activity (Rule 10.1(10)). On industrial and trade premises the burning of wood, paper and dry vegetation within an incinerator is permitted under Rule 9.1(3).	Open burning of waste material generated on production land is a permitted activity (Rule 33).	The burning of waste generated on the same property or a property under the same ownership as the subject site is a permitted activity (Rule 19).
Permitted Activity Criteria	Permitted activity criteria cover the following All other alternative methods of disposal have been considered (outside the Whangarei Airshed)	The permitted activity criteria for Rule 33 includes: The waste materials are generated on the property only	The permitted activity criteria for Rule 19 includes: Material from industrial or trade premises shall be burnt using fuel burning equipment and the discharge shall be from a chimney or exhaust structure Specified materials are not burnt

	Northland Regional Council	Taranaki Regional Council	Hawke's Bay Regional Council
	<p>No offensive or objectionable discharge beyond the boundary</p> <p>Specified materials are not burnt, except for disease/quarantine control or for fire training</p> <p>Smoke does not affect traffic safety or reduce visibility within flight paths</p> <p>No burning within the Whangarei Airshed during June, July or August (regardless of property size)</p>	<p>Maximum rate of combustion is less than 1000kg waste per hour</p> <p>Materials burnt are limited to untreated wood, non-chlorinated plastics, paper and cardboard</p> <p>No oil or tyres</p> <p>The best practicable option is adopted to prevent or minimise adverse effects</p> <p>The discharge does not result in hazardous, noxious, dangerous, offensive or objectionable effects beyond the boundary</p> <p>The discharge does not reduce visibility on public amenity areas, places of public assembly, national park, or and place area or feature of special significance to tangata whenua.</p> <p>Disruption of traffic movements on land, sea or air</p> <p>The soiling of property.</p>	<p>The discharge does not result in smoke that adversely affects traffic safety or reduces visibility at a height of 5m above ground level or reduces visibility within flight paths</p> <p>The discharge does not result in objectionable deposition of particulate matter, offensive or objectionable odour, or noxious or dangerous levels of gases.</p>
Restricted Discretionary Activities	Burning waste on properties smaller than 1 hectare within the Whangarei Airshed (excluding industrial and trade premises) is a restricted discretionary	The burning of industrial or trade waste generated on the premises using an incinerator is a restricted discretionary activity (Rule 31).	Open burning that does not comply with Rule 19 (but is not prohibited by Rule 20) is a restricted discretionary activity under Rule 30.

	Northland Regional Council	Taranaki Regional Council	Hawke's Bay Regional Council
	activity (Rule 10.3(2).	The burning of industrial or trade waste in a high temperature hazardous waste incinerator is a restricted discretionary activity (Rule 32).	
Discretionary Activities	Open burning that does not comply with the permitted activity criteria is a discretionary activity under catch-all rules 9.3(2) and 10.3(1).	-	-
Prohibited Activities	The open burning of specified materials is a prohibited activity under Rules 9.4(1) and 10.4(1). The open burning of waste at landfills is also a prohibited activity (Rule 9.4(2).	Open burning of material other than paper, cardboard or untreated timber collected from sites other than the subject property and not burned in an incinerator is a prohibited activity (Rule 30). Within defined urban areas where the allotment is less than 0.5 hectares, is used primarily for residential purposes and is serviced by a municipal refuse collection service, open burning is a prohibited activity (Rule 34).	The burning of specified materials in the open is a prohibited activity (Rule 20).
Other methods	Promote waste minimisation, make submissions on District Council Annual Plans relating to refuse collection services and educate the community on the effects of burning waste (Section 6.12).	Provide advice and information to landowners, resource users and the public. Advocate to relevant agencies appropriate policies, strategies or programmes to assist in the implementation of the plan (Section 3.5).	General education and advocacy measures.

	Northland Regional Council	Taranaki Regional Council	Hawke's Bay Regional Council
Good Management Practices	Not included within plan	<p>Included as an Appendix to the plan. The key points include:</p> <p>Consider alternatives to burning</p> <p>Vegetation that is to be burned should be allowed to dry to brown appearance prior to burning.</p> <p>Due regard should be given to direction and strength of wind, and quantity and state of vegetation to be combusted</p> <p>In the case of vegetation previously treated by spray with any agrichemical, any manufacturer's instructions as on the label of any container in respect of the burning of treated vegetation must be observed.</p> <p>Two days' fine weather should be allowed prior to burning.</p> <p>Vegetation should be stacked loosely rather than compacted.</p> <p>A small fire, started with the driest material, with further material continually fed onto it once it is blazing, is preferable to a large stack ignited and left unattended.</p>	Not included within plan
Implementation	Instant fine of up to \$1,000	Not specified.	Not specified.

APPENDIX 7

Analysis of Options

OPTION ANALYSIS TABLE

Issue: High level of non-compliant burning within urban areas			
Option	Explanation	Discussion of Costs / Benefits	Implementation
Identify specific areas within the region where open burning is restricted.	A rule that restricts open burning within defined areas. This could be limited to areas where poor air quality is an issue, such as the Rotorua Urban Airshed, or applied to all urban areas within the region.	Benefits Would provide a clear and straightforward restriction that avoids the adverse effects associated with burning in urban areas. Relatively simple to enforce.	Additional rule through plan change process
		Costs On its own the rule may be seen as a broad brush approach that does not take into account special circumstances that may exist within some urban areas	
Only allow burning on industrial or trade sites if using an incinerator.	BOPRC receives a significant number of complaints regarding burning carried out on industrial sites. Controlling the method of burning (in conjunction with the existing restrictions on types of materials that can be burnt) will help to avoid adverse effects. This rule recognises that burning of certain materials, such as untreated wood, cardboard and paper may be the most practical disposal method on some sites.	Benefits Improves the standard of discharge from the burning of certain materials on industrial and trade sites.	Additional rule through plan change process
		Costs May encourage burning activities when alternative and more appropriate methods of waste disposal are available. There is also the risk that it may lead to increased burning of prohibited materials. There may be a need to define what is considered an incinerator.	
Restrict burning in urban areas on properties less than 0.5 hectares in size.	A rule that would be applied within defined urban areas and may be appropriate in conjunction with other urban burning controls. The 0.5 hectare property size threshold is an arbitrary figure and a smaller or larger size could be used.	Benefits Provides greater flexibility than a blanket ban within urban areas by allowing burning to be carried out on sites that are large enough to avoid causing adverse effects on neighbouring properties. Relatively easy to determine compliance.	Additional rule through plan change process
		Costs The property size threshold may be challenged and would therefore need to be supported by technical evidence demonstrating its appropriateness. May be difficult to determine compliance by site visit alone.	

Restrict burning in areas where a weekly rubbish and/or green waste collection service is available.	A rule that prevents open burning from being carried out where alternative waste disposal options are available. May be appropriate in conjunction with other urban burning controls.	Benefits Encourages use of alternative disposal methods such as green waste composting and recycling. Recognises that in some urban areas where no collection facility exists, burning is a practical disposal method.	Additional rule through plan change process
		Costs Reliant on co-ordination between district and regional council. Defining the type of collection service that satisfies the rule may be problematic.	
Specify minimum distance from boundaries	The closer a fire is lit to the property boundary, the greater the chance of smoke drifting over the boundary. There are also safety issues. Most District Council bylaws specify minimum boundary setback distances for fires.	Benefits Will help to reduce the potential for adverse effects on neighbouring properties and will provide consistency with District Council bylaws. Easy to determine compliance.	Additional rule through plan change process
		Costs The minimum boundary setback threshold may be challenged and would therefore need to be supported by technical evidence demonstrating its appropriateness.	
Restricting fires in residential areas to recreational fires only.	A rule that would be imposed in conjunction with other urban restrictions, particularly if a general restriction on urban burning was considered.	Benefits Recognises that the adverse effects of small recreational fires such as braziers, bbqs etc are likely to be minimal. Not allowing for these activities is likely to be met with community resistance.	Additional rule through plan change process
		Costs Hangis, fish smoking etc can cause adverse smoke and odour effects. Potential for misuse.	
Controlling the origin of material burnt	A rule allowing open burning of material that has been generated from the site on which the fire is located. There have been circumstances where business operators have burnt waste material at their residential property.	Benefits Controlling the origin of material will generally ensure the amount of material burnt is proportional to the size of the property.	Additional rule through plan change process
		Costs Difficult to investigate and determine compliance.	
Require notification of adjoining neighbours prior to undertaking burning	This could either be incorporated into the good management practices contained in schedule 1 of the plan or included as a rule.	Benefits May help neighbourly relations by providing an opportunity to close windows, bring washing in etc and thereby reduce complaint numbers	Additional rule through plan change process or using education material (non-regulatory)
		Costs People may feel this removes requirement to avoid	

		adverse effects beyond the property boundary. Open burning can cause adverse effects over wider area than the immediately adjoining neighbours.	approach)
Transfer of responsibilities for controlling open burning within urban areas to District Councils	RMA provides for ability to transfer functions between local authorities	Benefits Simplified approach that would remove issues of consistency between regional and district regulations and rely on bylaws and imposition of restricted fire seasons (which could be year round)	Existing method in Air Plan proposes negotiation of transfer of functions.
		Costs Requires agreement from District Councils and provision of resources.	

Issue: Green waste burning in rural areas can cause problems when material is not dry or fire is poorly managed. This is a particular problem in areas where there is a mix of rural and rural residential land uses

Option	Explanation	Discussion of Costs / Benefits	Implementation
Open burning within defined rural residential areas permitted only if using an incinerator	A rule to control the method of burning to improve combustion in rural residential areas where there are problems with burning as part of normal rural production activities.	Benefits Would limit burning activities to combustion methods that have minimal potential for adverse effects and limit the scale of fires. Relatively easy to ascertain compliance,	Additional rule through plan change process
		Costs Would not enable green waste to be burnt other than at a very small scale, which is a practical disposal method in some situations. Difficult to define rural residential areas.	
Limiting the volume of material that can be burnt (e.g. 100m ³ of green waste / 24 hrs)	A rule to control the scale of fires. Large fires can cause adverse effects on neighbouring properties, particularly in areas where there are a significant number of rural residential land uses.	Benefits Would enable large fires to be controlled through a resource process	Additional rule through plan change process
		Costs Would be very difficult to determine compliance.	
No fires to be lit within 50m of dwellings	Requiring a significant buffer distance between fires and neighbouring dwellings will help to avoid adverse effects. Currently the Good Practice Guidelines in Schedule 1 of the plan state that fires should be at least 100m from dwellings and	Benefits Would help to avoid adverse effects on neighbouring dwellings which is one of the main reason for complaints Relatively easy to determine compliance.	Additional rule through plan change process

	50m from roads, however this may not be achievable on rural residential properties.	Costs The specified distance may be challenged and would therefore need to be supported by some technical evidence demonstrating its appropriateness.	
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Issue: Lack of awareness of Regional Council rules			
Option	Explanation	Discussion of Costs / Benefits	Implementation
Education campaign	Develop and implement an education campaign targeting problem areas and during seasonal peaks in burning activities. Develop a smoke sense pamphlet specifically dealing with burning in urban areas. Ensure publications are available widely.	Benefits Increasing public awareness of the rules will improve the level of compliance Costs Will require commitment of resources	Provided for by existing methods in the Air Plan
Increased co-ordination with District Councils	Providing information regarding regional council rules with fire permit documentation issued by district councils. Include recognition in district and regional plans of the responsibilities of both organisations. Ensure consistency between local authorities	Benefits Consistent approach between local authorities to improve public awareness and thereby reduce confusion regarding responsibilities of regional and district councils. Costs Will require commitment from a number of different authorities.	Provided for by existing methods in the Air Plan

Issue: Low level of compliance with Good Burning Practices			
Option	Explanation	Discussion of Costs / Benefits	Implementation
Provide more detailed advice relating to time required for vegetation to dry properly.	Burning of vegetation that has not dried adequately is a significant issue. Including a description of the appearance of dry vegetation (leaves brown and brittle) or a specified time period (4-6 weeks) may help	Benefits Would provide a clearer explanation of what is required and thereby help to minimise smoke discharge Costs May be difficult to apply a 'one size fits all' approach as drying times may vary with different types of vegetation.	Amendment to Schedule 1 through plan change process.

Issue: Difficulties in effectively responding to complaints received regarding open burning			
Option	Explanation	Discussion of Costs / Benefits	Implementation
Use of security agents as first response to complaints	To assist in improving the level of response to complaints outside business hours, security agents could be utilised to respond to complaints for first-time offenders.	Benefits Would enable attendance at a higher proportion of complaints and confirmation whether fire is non-compliant. Would free up Council resources to focus on more significant issues.	
		Costs Would require specialist training to undertake assessment of extent of effects (objectionable or offensive criteria). Financial cost.	
Issuing instant fines	Currently verbal warnings and letters are the primary enforcement approach. Issuing instant fines may provide a more effective disincentive, particularly if advertised widely.	Benefits Likely to provide a more effective deterrent leading to improved level of compliance.	
		Costs Would require attendance at complaints to confirm offense – resourcing issue. Administrative requirements.	
Develop a structured approach to dealing with repeat offenders	Occasional one-off instances of smoke nuisance are more tolerable than regular occurrences, which indicate a disregard for the rules.	Benefits Would target the worst offenders and enable immediate escalation of BOPRC response.	
		Costs Changes to the database may be required to enable repeat occurrences to be easily identified and information provided to responding officer.	

Issue: Fire Service training activities are not specifically permitted by the current rules			
Option	Explanation	Discussion of Costs / Benefits	Implementation
Provide for fire service training activities as a permitted activity	A rule allowing the fire service to carry out training exercises that may involve open burning in a manner that would otherwise not comply with the open burning rules	Benefits Makes specific provision for necessary fire training activities to be carried out without issues associated with regional plan compliance.	Additional rule through plan change process
		Costs Providing an exception to an activity that may generate adverse effects on air quality.	