Baseline Report

Wild Fire Risk (NH004)

Robert Love – Strategy and Policy Planner

Contents

1.0 Introduction

The Operative Selwyn District Plan does not contain any provisions to ensure that the risk to life or property from wild fires is appropriately managed. This is particularly topical following the Port Hills Fires of 2017. The operative District Plan does not contain any provisions detailing how this risk is to be managed, and in some circumstances could be a proponent in raising the risk to people and property through inappropriate vegetation screening requirements.

Based on the various risk factors of the land, the Selwyn District primarily has three areas of higher wild fire risk, being the inland high country, the Port Hills, and the Malvern Hills. This is due to the sloping terrain which can assist the spread of fire, and the vegetation densities of these areas providing readily available fuel. Although these areas are not densely populated, the Port and Malvern Hills, and to a lesser extent the high country do have people living and working in these areas. However, in stating this, although these areas are considered to be typical areas of high risk, fires within the inner and outer plains areas are occurring more frequently than fires on sloped land. Given the presence of this risk, the District Plan needs to enable the reduction of this risk through appropriate land management.

Some questions have been raised by the community regarding the potential for conflict between providing a defensible space free of vegetation around dwellings, and District Plan provisions requiring the mitigation of visual effects, often through landscape planting. It is an action of the Selwyn District Council Port Hills Fire Recovery Plan 2017 to consider a package of provisions that specifically address wild fire hazard in high risk areas through the District Plan Review.

The scope of this work is to identify methods available for reducing fire risk to people and property, and consider the appropriateness of including any of these in the proposed District Plan. Consideration will be given to whether the methods would conflict with the amenity mitigation methods in the proposed District Plan and how this conflict can be managed.

Under section 30(1)(b)(i) of the Resource Management Act 1991 (RMA; Act) territorial authorities have the requirement to control the actual or potential effects of the use and development of land including for the purposes of avoidance or mitigation of natural hazards. The Territorial Authority can achieve this through creating rules controlling land use and development within the District Plan. In the proposed District Plan context, this scope of works seeks to achieve this RMA requirement, through identifying defensible space requirements.

Defensible space is considered to be an area around a structure that has been landscaped and maintained in a way to reduce fire danger to the structure. This space improves the chances of people and property surviving a wildfire. This space is also key to the protection of firefighters defending the structure.

This scope of works does not include the specific provision of access for emergency vehicles, water storage, water storage couplings, or the supply of water for firefighting purpose, as this has been covered within the Emergency Services scope of works.

2.0 Selwyn District Plan

As previously stated there are no provisions within the Operative District Plan expressly dealing with the creation of defensible spaces around properties. However, below are the provisions most relevant to this Scope.

Rule 2.1.1 allows for certain types of shelter belts and amenity plantings, however none of the permitted standards restrict the location of the vegetation in relation to its proximity to other properties, other than to avoid tree shading. If an activity fails to meet the permitted standards it may be classified as a restricted discretionary activity, which does have a matter of discretion detailing the approval of a fire management plan (2.1.3.6).

Guidance contained within the Operative District Plan states that to mitigate against the risk and spread of wild fires within plantations, fire management plans are required for large plantations. However, the permitted rule for plantations (Rule 2.2.1) has no requirement for a fire management plan to be prepared. Only if an activity breaches a permitted standard is a fire management plan a matter of discretion (2.2.3.9).

Therefore, given the above two situations there is currently a reliance on an activity breaching a permitted standard before fire risk is considered.

Unfortunately the Plan does not provide any guidance on what a fire management plan should contain.

It may be relevant to note that on sites containing listed protected trees, there is no permissible method of reducing fire hazard other than removing branches less than 50mm in diameter on the lower third of the tree. This may still leave significant fuel for a fire, and any remaining vegetation may act as a ladder for the fire to spread.

Regarding the erection of dwellings and principal buildings, there are no provisions requiring that they be built a certain setback from plantations, or other wild fire risk factors. There is no requirement under the Operative Plan to have a defensible space around the dwelling.

If a building is erected with consent within an ONL or VAL area, then a matter of control or discretion is the landscape planting that will assist in mitigating any adverse visual effects. This matter has been

reserved to provide screening or other visual mitigation of up built structures within areas or particular significance. Part of the screening may require vegetation within the defensible space area, meaning that consent requirements could be increasing the fire risk to the dwelling.

The District Plan does have indigenous vegetation clearance rules which state that some limited amount of clearance subject to particular conditions is permitted (Rule 9.21.1). On review of the permitted standards, the amount of clearance necessary in order to create a defensible space should not breach the standard, although any clearance within 20 metres of a waterbody needs to be less than 100m^2/ha.

3.0 Selwyn District Resource Consents Review

As already highlighted, consent conditions requiring the screening of built structures with vegetation have the potential to increase the wild fire risk to that property. Consent conditions requiring this vegetation, may prevent the land owner from creating a defensible space. Given this, a review of the relevant resource consents within the Port Hills area was conducted to identify if this situation has occurred.

The review found ten properties within the Port Hills area being subject to consent conditions that cause a significant increase in fire risk to the structure, and an additional ten properties with consents that cause a moderate increase in fire risk. This would indicate that historically, when consent applications have been assessed, no fire risk assessment has been made. In the district plan review context, it is important to ensure any proposed screening rules don't increase the fire risk.

On discussions with SDC Consents staff it was determined that additional matters of discretion to allow for the assessment of fire risk could be included in the proposed plan, rather than a drastic change towards actively requiring specific defensible spaces through new district plan rules.

4.0 Port Hills Fire Recovery Plan

4.1 Selwyn District Council Port Hills Recovery Plan

The plan contains a list of objectives to be achieved in order to make the post fire recovery a success. Comments on the relevant objectives to this scope of works are:

a) Residents who live within and close to the Port Hills have a better and more informed understanding of their environment, in particular the risk of fire, and have a greater awareness of how they can protect themselves, their properties and their neighbours.
    - Comment – Knowledge can be given either through formal rules for development and vegetation 'placement', or through advice notes being placed on resource consents

for development in these areas making people aware of the risk and how to reduce it. Informing people of the Firesmart Home Owner's Manual could be a key first step.

b) The special backdrop of the Port Hills is regenerated, and continues to be a great place for recreational and leisure activities.
    - Comment - Conflict may arise here, as the vegetation on the hills regenerates, the fire risk can also increase. There is a question of if greater defensible spaces are allowed, and carried out, then the back drop may change from its historic look.

c) Work with landowners to ensure surface water runoff and sedimentation risks are managed until regeneration of damaged areas is established.
    - Comment - Full regeneration may not occur as a result of needing to provide adequate defensible spaces.

d) Opportunities to enhance the landscapes of the Port Hills during regeneration are identified, well-coordinated, and encourage native planting and the re-population of wildlife.
    - Comment - As previously expressed, some regeneration may not be able to occur in certain areas that needs to act as defensible space. However, where plantings are to be restored, species with a high fire resistance should be used.

e) As part of the future landscape of the Port Hills, opportunities are taken where practical to reduce/ minimise the risks of future extreme fire events.
    - Comment - Part of this will include the review of consent conditions which may increase fire risk, and to change practices to include consideration of fire risk when contemplating screening and vegetation requirements of development.

5.0 Canterbury Regional Council Documents

5.1 Canterbury Regional Policy Statement (RPS)

The most relevant provisions of the RPS have been included as Appendix E. However, in summary they deal with:

a) Appropriate land use and development
b) Protecting ecosystems and indigenous biodiversity
c) Natural hazard identification and management
d) Protection of outstanding natural features and other significant landscapes.

The natural hazards chapter (nine) provides the key policy direction when addressing hazard identification and management. The provisions within this chapter seek to avoid inappropriate development that would increase the risk of a natural hazard, or be particularly exposed to a hazard. For instance in reference to this Scope of Works, this stance be the RPS would support the District

Council limiting the ability for dwellings to establish near plantation forestry and other wild fire risk factors.

The RPS does provide guidance (Policy 11.3.5) on how the council should base its approach when managing natural hazards, with this being achieved through general risk management. Matters to be considered are the likelihood of an event, the potential consequence from an event occurring, and where there is uncertainty a precautionary approach should be adopted. In the context of the District Plan Review, in areas which are considered to have a reasonable likelihood of an event occurring, and where there is a consequence to either life or property, then at risk activities should be avoided, or where they cannot be avoided mitigated against.

In a wild fire risk management situation, avoidance would be to prohibit the construction of properties in areas where wild fires occur. However, in recent history wild fires have occurred through the District not just in traditional high risk areas such as vegetated sloped land. Therefore, it would be unreasonable to attempt to avoid development on hill slopes whilst still allowing development in other areas with comparable risk. The next step is to mitigate against the hazard, and this is primarily achieved through vegetation clearance around structures. However, as the District contains various high value landscapes including outstanding natural landscapes which contain significant portions of biodiversity and high amenity values, vegetation clearance for the purpose of hazard management could come into conflict with RPS policies seeking to protect these landscapes and ecosystems.

Therefore, it becomes a balancing act between ensuring enough of the wild fire risk has been mitigated through appropriate land use and development, but not carrying this out in a way that removes significant indigenous vegetation, affecting the ecosystem, or causes adverse visual amenity and landscape values effects.

5.2 Canterbury Land and Water Regional Plan (LWRP)

Much of the sloped land located within the Selwyn District is considered to be subjected to high erosion risks and as such trigger Rules 5.170-171 of the LWRP. This rule places restrictions on what form of vegetation clearance can occur as a permitted activity. On review of the Rule, any vegetation clearance as required to create a defensible space would be permitted as long as the relevant standards are met which include among other things, to only hand clear, and to have any bare earth stabilised at least six months post the clearance. If this Rule cannot not be met, vegetation clearance becomes a restricted discretionary activity under Rule 5.171. The creation of fire breaks either by hand or machinery is considered to be a permitted activity. Rules have been attached as Appendix D.

6.0 Cross boundary assessment

6.1 Christchurch City Council (CCC)

The CCC District Plan includes rules requiring property access suitable fir fire fighting purposes unless it is physically unable to (Rule 8.8.2), within its subdivision section. The Plan also requires that dwellings provide water to the required firefighting standards, regardless of whether the property is linked with the urban reticulated system, or is on rural supply.

In regard to providing defensible spaces the Plan does have provisions that attempt to provide a defensible space around properties through restricting the location of plantations by requiring them (Rule 17.4.2.8) to be at least 30 metres from existing residential units, building areas, or boundaries with residential zones. The Christchurch District Plan does include setbacks for new dwellings and sensitive activities from plantation sites, with the required setback distance being 30 metres. These rules are limited to separation from plantations and do not require separation from other plantings.

The Christchurch District Plan does not address vegetation clearance as necessary to provide wild fire mitigation, and any potential amenity effect.

The Rural Zone rules include a requirement that dwellings be erected on 'identified building areas' however the assessment matters for this do not require consideration of fire risk.

Relevant provisions have been included as Appendix C.

6.2 Ashburton District Council (ADC)

The ADC has not dealt with managing wild fire risk through the creation of mandatory setbacks between buildings and forestry. The only provisions that deal directly with fire, are provisions requiring adequate water supplies in compliance with New Zealand Standards. Indirectly, some of the site standards for the rural section will aid in mitigating wild fire risk. For instance residential buildings are required to be at least 20 metres from boundaries, this increases to 25 metres for commercial, accommodation, and retail buildings. However, tree planting provisions do not provide any mitigation, with the standards only requiring a separation of 2.5 metres to any internal boundary.

Furthermore, no specific vegetation clearance rules in relation to manging fire risk exist in the plan, only standard rules managing clearance in high value areas.

6.3 Hurunui District Council (HDC)

The proposed Hurunui District Plan does not have any direct rules addressing wild fire risk, but the HDC have included provisions requiring setbacks for new forests. New forestry and wood lots are required to be setback at least 50 metres of a dwelling or principal building on a separate lot, and new dwellings are required to be located at least 50 metres from forestry plantations on a separate lot. Forestry is also required to be setback from any boundary by at least 10 metres.

Under the vegetation clearance rules, there is a permitted standard for vegetation clearance for the purpose of creating a firebreak, and when trees endanger human life, structures or utilities. Although the latter is most likely in regard to immediate risk from falling trees rather than from a potential fire risk aspect.

6.4 Marlborough District Council (MDC)

Commercial forestry is permitted subject to certain standards being met such as planting not occurring within 100 metres of any land zoned urban residential, rural living, or coast living, within 100 metres of a habitable structure or accessory building on any adjacent land under different ownership
(3.2.1.7). Habitable structures or associated buildings within the Rural Zone are required to have a fire safety setback of 100 metres from any existing commercial forestry, woodlot, conservation planting, or carbon sequestration forestry on any adjacent land under different ownership. Furthermore, the standard specifies that any planting should be 30 metres from a formed and sealed public road.
3.3.6 (3.3.6.2) & 3.3.8 (3.3.8.2), & 3.3.10 (3.3.10.1)

Authority	Forest setback from existing dwellings	Dwellings setback from existing forests	Setback from roads	Forest Setback from boundaries
CCC	30 metres	30 metres	Nil	Nil
ADC	Nil	20 metres (to boundary rather than forest)	Nil	2.5 metres
HDC	50 metres	50 metres		
MDC	100 metres	100 metres	30 metres	N/A
NES-PF	40 metres (on same property)	N/A	N/A	10 metres

Table 1: Setback summary table

7.0 Fire and Emergency New Zealand (FENZ) and other guidance

In 2017 the Government merged the urban and rural fire authorities through the Fire and Emergency New Zealand Act 2017, creating Fire and Emergency New Zealand.

This Act has seen any responsibility held by the Territorial Authority under the now repealed Forest and Rural Fire Act 1977 removed. This responsibility extended to promoting and carrying out fire control measures, make by-laws for the purpose of fire control, and keep and maintain a fire plan for the district.

Fire and Emergency New Zealand are required to prepare local fire plans under section 22 of this Act. Unfortunately the local fire plan for the Selwyn region is still in a draft phase and was unable to be incorporated into this report.

It is also relevant to note that FENZ are currently reviewing the Standards addressing water supply for firefighting and access provisions, which when published will need to be incorporated into the Proposed District Plan.

In 2009 the fire service released a revised manual to assist home owners in trying to reduce the risk to their homes from interface fire. The two main subject areas of this manual is guidance on defensible spaces, and on house building materials.

'Interface fires (where industrial, or residential property is located next to vegetation) can do tremendous damage, result in economic losses, and have significant social impact. Even the best-case scenario involved fire-fighting costs, the loss of adjacent vegetation cover, and some level of inconvenience. The worst case scenario may involve community evacuation, as well as the loss of property and life.'

'To reduce the potential of interface fire loss, we must all be more aware of the potential consequences of interface fire and share the responsibility for putting in place practical solutions. Home owners and residents are responsible for providing defensible spaces around their properties.'

Defensible Space guidance

The manual states that the first ten metres around the building is the priority one zone and the most critical area to consider. This area should be a fuel free space to the greatest degree possible which will give firefighters a good chance to save the building. This area should consist of lawns, paths, and drives. Any shrubs, trees, dead braches etc should be removed. Additionally, this area should also be regularly mown and irrigated.

Figure 1: Fire Smart Home Manual 2009

Past the priority one zone, out to at least 30 metres, these areas should not support high amounts of fuel for fires, through thinning and pruning vegetation. Any dead or dying vegetation should be removed as well as any understory litter. The vegetation within these zones should be spaced out by at least three to six metres for at least 30 metres from the structure. Any vegetation within this area should be of a low flammable type.

Past the 30 metre setback in the priority three zone large trees should be well pruned, and all braches less than two metres from the ground should be removed. Litter and potential fire ladders should be removed.

In all areas any vegetation overhanging or within three metres of powerlines should be removed. Any dead or dying tree within a tree length of a power line should be removed. Ideally powerlines should be subterranean.

Defensible space is more important on the downslope from any structure, and greater clearances should be provided for.

The manual also provides guidance on buildings within high hazard areas:

a) Roof materials should not be wood, but steel or tiles.
b) External materials should be brick, tin, or hardiplank.
c) Vents eaves, and window sills should be enclosed to prevent embers entering openings into the house.

d) Windows should be over a smaller pane, and either be double glazed, or tempered.
e) Plastic skylights should be avoided.
f) Structures should ideally be located on flat slopes.

Whilst this report primarily deals with the creation of defensible spaces through the separation of the structure from fuel sources, embers can ignite a structure from around one mile from the actual fire front. This would indicate that 'hardening' the building is just as important as providing defensible spaces.

Guidance is also given on general garden structures and maintenance:

a) Non-flammable materials should be considered for decks, trellises, balconies etc.
b) Firewood should be stored at least 10 metres from the house and not downslope.
c) Roof litter should be regularly removed to prevent ignition from airborne embers.

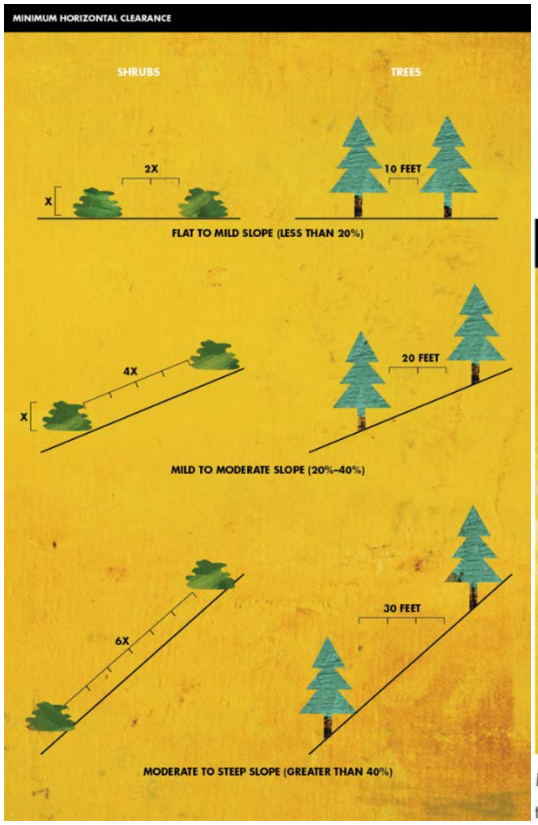
Regarding emergency response, the manual states:

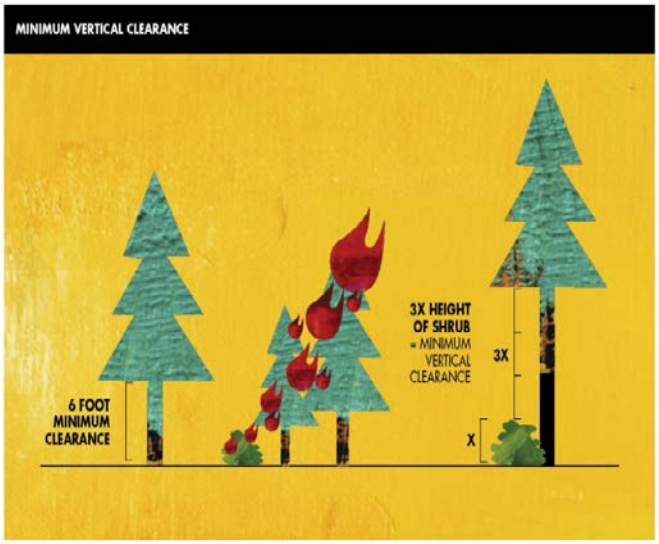
a) Access from the road for large vehicles should be provided, that is clear of overhanging branches. The access should be wide enough for fire engines, and clear four metres either side of the access way.
b) RAPID numbers should be clearly displayed.
c) Properties should have water storage/ ponds/ pools with appropriate couplings, good access, and clear signposting.
d) If possible provide an alternative emergency access point to the property.

Based on the fire risk scoring chart contained within the manual, there is generally not one thing in particular that will result in a high risk situation, but a combination of factors. Some of the higher risk factors were wooden roofing, dense vegetation near the structure, drought conditions, and unirrigated gardens.

Regarding native vegetation with low flammability characteristics, guidance has been attached to this report as Appendix B.

The ready for wild fire (http://www.readyforwildfire.org/) website provides these helpful diagrams.





Example: A five foot shrub is growing near a tree. 3×5 = 15 feet of clearance needed between the top of the shrub and the lowest tree branch.

8.0 Mahaanui Iwi Management Plan 2013

On review of the relevant provisions of the Iwi Management Plan there may be a conflict between fire risk management and outcomes sought by the Plan. This conflict is predominately around the clearance of vegetation to reduce fire risk, which may result in biodiversity loss, erosion, and sedimentation of water.

To elaborate, the clearance of vegetation, of which some may be native, could see a reduction in the overall native biomass within high fire risk areas. This vegetation clearance may lead to bare earth, or less vegetation protection of the soil, which will then be more susceptible to fluvial erosion. Once erosion occurs, it is likely to infiltrate aquatic environments, causing sedimentation of the wai, adversely affecting its mauri.

When considering the role of the proposed District Plan's provisions when dealing with creating defensible spaces, which lowers the risk to people and property, the desired outcomes of the Plan need to be taken into account. If vegetation is cleared, where possible it should be replaced with native fire resistant species, and in a manner that does not leave papatūānukui bare.

Mahaanui Kurataiao Ltd was approach for comment and responded with the following:

- We confirm that the Mahaanui Iwi Management Plan does not contain any policy specifically on fire risk management however, the report is correct in identifying that there may be conflict between Mahaanui IMP policy and the District Plan.
- The report identifies key issues for mana whenua that may arise from native vegetation clearance, we have no further issues to add to this.
- The report suggests that if vegetation is cleared it should be replaced with native fire resistance species. This method of mitigation to the identified issues would be appropriate. It would be recommended that ngā rūnanga have some involvement in any of these processes, eg clearance of the vegetation or replacement. This could be in the form of engagement or notification of when vegetation will be cleared for fire risk purposes or engagement with rūnanga in regards to re vegetation.
- The report has identified all relevant IMP policies.

For a list of relevant policies see Appendix A.

9.0 Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017

Central government has developed a national environmental standard for managing forest plantations activities. A Standard was issued on the 3rd of August 2017 and commences on the 1st of May 2018. The Standard had the objective to maintain or improve the outcomes associated with plantation forestry activities, and increase the efficiency and certainty of managing plantation forestry activities.

This Standard is particularly relevant to managing wild fire risk, as previous examined, defensible space is required around buildings in order to provide the opportunity to save them when threatened by wildfire. More specifically, the location of forestry plantations, and their proximity to neighbouring properties affects the ability of those land owners to provide a defensible space around their properties.

Unfortunately wild fire risk has not been specifically considered within the Standard as existing plantations are allowed to re-establish within the existing stump line after each rotation, regardless of its proximity to a neighbouring dwelling or building, and any subsequent wild fire risk. Additionally, new forestry plantations have to locate at least ten metres from adjoining property boundaries (s14(1)(a)). There are no provisions requiring new plantations to be separated from dwellings or buildings on adjoining properties by any specific distance. However, there are provisions requiring new plantations to be at least 40 metres from dwellings on the same property (s14(1)(b)(i)).

A District Plan cannot contain rules which are considered to be more stringent than those contained within a National Environmental Standard, unless otherwise specified in that Standard. Section 6(2) notes those exceptions where a District Plan can be more stringent, and in this case it is when

providing for the protection of outstanding natural features and landscapes from inappropriate use and development or for the protection of significant natural areas.

The Standard does not expressly state the exemptions allowed for a District Plan to be more stringent when attempting to reduce wild fire risk to people and property. However, guidance (Appendix F) from the Ministry for Primary Industries has listed the activities or effects that fall outside of the Standard, which are able to be managed by the Territorial Authority. One of these exemptions is fire risk, where it is stated that Councils can manage this on a local scale in conjunction with the Fire and Emergency New Zealand Act 2017.

It should be noted that this Standard only applies to plantation forestry activity, and does not preclude the Council from implementing rules of other forms of wild fire risk such amenity plantings, native vegetation, and shelterbelts.

10.0 Options

Prior to discussing the potential options for the proposed district plan it is relevant to note that there is a balancing act between adequately screening a property to address amenity effects, and giving the land owner the ability to provide a defensible space. Additionally, there is a conflict between requiring a land owner to provide the required defensible space, making the land owner responsible for their own property and ensuring that the Council does not place any restrictions on implementing defensible space. If the Council wished to pursue the more authoritarian option of regulating a requirement for defensible space, how would properties that are unable to comply due to site layout be assessed? Furthermore, there are the issues of habitat loss and increased erosion risk as a result of vegetation clearance that need to be considered.

Option 1: Status Quo

This option would see the very limited existing provisions dealing with wild fire risk remain. This would include the current consent assessment regime that has no ability to consider fire risk, and has resulted in instances where consent conditions have increased the fire risk of properties due to screening requirements. Furthermore, there are no restrictions on the location of plantation forests in relation to sensitive sites. For these reasons this option is not recommended.

Option 2:
This option includes a suite of potential amendments that can be altered (e.g setback distances), and adopted separately from one another.

A point of clarification which needs to be made for the below options is what type of building should these options apply to? Should it only be certain types of buildings such as dwellings, commercial buildings, sensitive activities, or should all buildings be included. It is recommended that only buildings used for sensitive activities, commercial buildings, and dwellings should be incorporated into the setback provisions, with accessory buildings excluded, but recommended to be sited in a way that would not increase the fire risk to the primary structure.

Option 2a: Setbacks from new buildings to existing vegetation

This option has two components, the first being the setback to existing plantation forestry, and the second being the setback to existing significant vegetation.

Setbacks to existing plantation forestry

A rule provision within the district plan would ensure a defensible space from an existing plantation forestry. The size of this setback is open to debate, but 30 metres may be an appropriate distance given the FENZ guidance. However, the NES-PF guidance of 40 metres between forestry and dwellings on the same site could be used as direction from Central Government. Other authorities have setbacks ranging from 20 metres to 100 metres.

The setback distance should be measured from either the stump line or the dripline of the trees.

When considering if either a 30 or 40 metre setback should be adopted, the setback distance of the Christchurch City Council needs to be considered. This is important due to the large shared borders that exist on the Port Hills, and to aid forestry developers who operate within both Districts. Consistency between the two Plans is important to avoid unnecessary confusion. Therefore, a setback distance of 30 metres is recommended which is consistent with the Christchurch District Plan and FENZ guidance. This distance will allow for the creation of a defensible space which is adequate to help prevent the spread of fire from forestry to neighbouring structures.

Setbacks to existing significant vegetation

Whilst a buffer between new buildings and significant stands of existing vegetation would be beneficial in managing the potential wild fire risk, there is a complication as to what constitutes a significant stand of vegetation. This aspect is subjective and open to interpretation. Regardless of this,

this aspect should still be further investigated as a rule controlling this matter in some form is recommended.

Option 2b: Setbacks of new or replanted forestry to buildings and non-rural zones.

As per the above option, a rule provision within the district plan would assist in keeping a suitable distance between plantation forests and existing buildings and non-rural zones. The distance of this setback should be consistent with the value adopted in Option 2a.

For the same reasons as stated in Option 2a this option is recommended.

Option 2c: Setback between buildings and non-road boundaries.

This option goes further than the previous two options in that a rule would require a 30 metre setback from any internal boundary rather than just from a forestry planation. Whilst ensuring adequate distance is provided for a defensible space to be created, it does further restricted the ability of the land owner to place a building on their site.

This option is not recommended as it may unnecessary restrict land development when no heightened fire risk exists. It is favourable to use setbacks described in Option 2a & b, where a tangible risk actually exists.

Option 2d: Setback between new or replanted forestry to boundaries.

A setback of 10 metres from boundaries would be consistent with the NES-PF which already requires the same setback. Given this, any provisions requiring the same would be duplication and would only be in the plan to act as guidance for forestry owners. For this reason I do not recommend the inclusion of a rule such as this within the proposed district plan.

Option 2e: Setback between new dwellings (buildings) and any road boundary.

It is common within the Selwyn District to have shelter belts/ amenity plantings located along the road frontage. Unfortunately these plantings usually consist of highly flammable plant species, and quite often are ignited through various reasons. This option considers if it is appropriate to also place a setback from the building to road boundaries, and should this rule only apply where boundaries have shelter belts/ amenity plantings.

This option is not recommended as these shelter belts/ amenity plants tend to be located on the same property as the dwelling/building in question, and given this any adverse effect arising from an increase in wild fire risk would be the property owner and should be disregarded.

Option 2f: Provisions restricting the placement of amenity plantings and shelter belts within 30 metres of existing buildings (dwellings).

This option addresses the adopting of a reciprocal setback to that suggested in Option 2e. This setback would apply to any new shelter belt or amenity plantings. Any setback distance considered under a provision such as this should be consistent with the other setbacks distances. This option does have another part, in that it would restrict the placement of vegetation near another person's building, as to not increase the wild fire risk on them.

This option is partially recommended. The part that is not recommended is the restriction on the placement of vegetation on a person's own property, and the part that is recommended is the restriction of the placement of vegetation in relation to neighbouring dwellings/ buildings. However, a rule dealing with this issue would be difficult to enforce and could be seen as authoritarian as it is essential telling people where they can place their gardens on their properties. Further guidance as to what would be covered under such a rule would need to be developed.

Option 2g: Restricting the placement of buildings.

This option would see the introduction of provisions that would restrict or prohibit the construction of buildings within areas deemed to be at significant risk to fire either due to geographical or vegetation reasons.

This option is not recommended as it would require an overlay to be created, which comes with its own difficulties in identifying appropriate sites, and then justifying why they can't be built on. Such an overlay would be time consuming, expensive, and contentious.

Option 2h: Additional matters of control and discretion.

This option would see the inclusion to the existing matters of control and discretion for land use consents, the ability to consider wild fire risk. In essence this would allow a Consents Planner when assessing a land use consent for a building to assess the fire risk by examining the layout of the landscaping, and the plants used. Presently, there is no ability to make this assessment.

However, this option does have a potential issue in that once a wild fire risk assessment has been made, how stringent should consent conditions be to address this risk? Essentially, does the council

just want to be able to make sure landscape plantings are positioned in an appropriate location, and uses plants with low flammability, or to more drastically require a land owner to adhere to the FENZ guidance on defensible spaces.

There is an argument that other than looking at the required screening to address amenity issues, all over measures to create defensible space should be left as the responsibility of the land owner given they are the ones ultimately affected by their decisions. Defensible space attributes could then be highlighted to the land owner via an advice note on the consent.

It is recommended that the matters of control and discretion are extended to include the ability to consider wild fire risk, so the proposed location and type of landscape plantings can be assessed. It is not recommended to extend powers to require a land owner to create a defensible space around their property. This option will give Consent Planners more ability to make appropriate assessments in regard to managing wild fire risk.

Option 2i: Provisions controlling the use of certain plants.

This option would see the inclusion of provisions within the district plan restricting the use of certain plants in particular locations around a property, and would only allow fire resistant species to be used. Another form of the option would be to limit the potential provisions to dealing with what species are allowed within site screening.

This option is not recommended as it could be seen as to draconian and impinging on the rights of the land owner. Furthermore, this aspect is more appropriately dealt with as a matter of control and discretion rather than as a rule provision on its own.

11.0 Conclusion

The scope of this work is to identify methods available for reducing fire risk to people and property, and consider the appropriateness of including these in the Proposed District Plan. Consideration will be given to whether the methods would conflict with the amenity mitigation methods in the Proposed District Plan and how this conflict can be managed.

When considering what constitutes an appropriate control, an assessment that balances between providing adequate measures while not being to dictatorial needs to be made. For instance, the requirement to create 30 metre defensible spaces around all dwellings may adequately address the

wild fire risk, but could be seen as to forceful by the Council. A more measured approach may be appropriate where the council controls the location and types of landscape amenity plantings that are required as part of the consent, while giving the land owner the freedom to clear the rest of the land for a defensible space rather than require it.

In summary the recommended options for further development are:

- Option 2A: All new buildings should be setback from existing vegetation stands.
- Option 2B: New or replanted plantation forestry should be setback from existing buildings and non-rural zones.
- Option 2F: Restrict the placement of vegetation near neighbouring buildings.
- Option 2H: Include in the matters of control and discretion the ability for the Consent Planner to assess the wild fire risk of amenity and landscape plantings.

Appendices

Appendix A: Relevant Polices of the Mahaanui Iwi Management Plan

Issue P1: Basic principles of land management, from a Ngāi Tahu perspective.

P1.1
To approach land management in the takiwā based on the following basic principles:
(a)Ki U ta Ki Tai;
(b) M ō tātou, ā, mō kā uri ā muri ake nei; and
(c) The need for land use to recognise and provide for natural resource capacity, capability, availability, and limits, the assimilative capacity of catchments.

Issue P9: The mauri of the soil resources of the takiwā can be compromised by inappropriate land use and development.

P9.1
To sustain and safeguard the life supporting capacity of soils, mō tātou, ā, mō kā uri ā muri ake nei

P9.3
To protect the land from induced soil erosion as a result of unsustainable land use and development.

P9.4
To support the following methods and measures to maintain or improve soil organic matter and soil nutrient balance, and prevent soil erosion and soil contamination:
(a) Matching land use with land capability (i.e. soil type; slope, elevation);

(b) Organic farming and growing methods;
(c) Regular soil and foliage testing on farms, to manage fertiliser and effluent application levels and rates;
(d Stock management that avoids overgrazing and retires sensitive areas;
(e) Restoration and enhancement of riparian areas, to reduce erosion and therefore sedimentation of waterways;
(f) Restoration of indigenous vegetation, including the use of indigenous tree plantations as erosion control and indigenous species in shelter belts; and
(g) Avoiding leaving large areas of land/soil bare during earthworks and construction activities.

Issue P12: Vegetation clearance can contribute to:

(a) Continued fragmentation and loss of remnant native bush and habitat, particularly along streams and gullies;
(b) Soil erosion and increased sedimentation into waterways and coastal waters;
(c) Changes to the water holding capacity of the catchment (i.e. stormwater runs off rather than absorbs);
(d) Loss of opportunities for regeneration;
(e) Loss of nutrients and carbon from the soil; and
(f) Change in landscape and natural character

P12.1
To promote land use and land use management that avoids undue soil disturbance and vegetation clearance.

P12.2
To oppose vegetation clearance in the following areas:
(a) Areas identified as high risk for soil erosion;
(b) Areas identified as significant for protection of indigenous biodiversity; and
(c) Areas identified as culturally significant

P12.4
To oppose the designation of kānuka, mānuka and pātōtara as 'scrub', and therefore the clearance of these culturally and ecologically significant species.

P12.6
To assess consent applications for vegetation burning or clearance with reference to the following criteria:

(a) Location of the activity:

• What is the general sensitivity of the site to the proposed activity?

• What is the slope of the land?
• Is the site at risk of erosion?
• What is the proximity to remnant native bush or restoration sites?
• What waterways, wetlands or waipuna exist on the site?
• What is the value of the site as a habitat?
• What are the dominant species on the site, and what is the percentage of indigenous vs. non indigenous species?
• Are there specific cultural values or cultural landscape features in the area that may be affected?

(b) Land use:

• What is the land use that the clearance is enabling, is it existing or new?
• How well does the proposed activity 'fit' with the existing landscape?
• Is the proposed land use sustainable?

(c) Avoiding and mitigating adverse effects:

• What provisions are in place to address sediment and erosion control, and the protection of waterways?

Issue TM2: The widespread loss of indigenous biodiversity has significant effects on:

(a) The relationship of Ngāi Tahu and their culture and traditions with ancestral lands, water and sites;
(b) Mahinga kai values (see Issue TM1); and
(c) The health of land, water and communities.

TM2.1

To require that local authorities and central government actively recognise and provide for the relationship of Ngāi Tahu with indigenous biodiversity and ecosystems, and interests in biodiversity protection, management and restoration, including but not limited to:

(a) Importance of indigenous biodiversity to tāngata whenua, particularly with regard to mahinga kai, taonga species, customary use and valuable ecosystem services;
(b) Recognition that special features of indigenous biodiversity (specific areas or species) have significant cultural heritage value for Ngāi Tahu;
(c) Connection between the protection and restoration of indigenous biodiversity and cultural well-being;
(d) Role of mātauranga Ngāi Tahu in biodiversity management; and
(e) Role of Ngāi Tahu led projects to restoring indigenous biodiversity (e.g. Mahinga Kai enhancement Fund; Kaupapa Kēreru).

TM2.5

To require that city, district and regional plans include specific policy and rules to protect, enhance and extend existing remnant and restored areas of indigenous biodiversity in the takiwā.

TM2.8
To require the integration of robust biodiversity objectives in urban, rural land use and planning, including but not limited to:
(a) Indigenous species in shelter belts on farms;
(b) Use of indigenous plantings as buffers around activities such as silage pits, effluent ponds, oxidation ponds, and industrial sites;
(c) Use of indigenous species as street trees in residential developments, and in parks and reserves and other open space; and
(d) establishment of planted indigenous riparian margins along waterways.

Issue TM3: Tāngata whenua have a particular interest in the restoration of indigenous biodiversity.

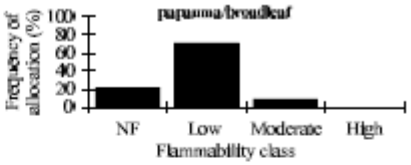
TM3.1
To approach the restoration of indigenous biodiversity in the takiwā based on the following principles:

(a) Restoration of indigenous biodiversity is about restoring original and natural landscapes, and therefore the mauri of the land; and
(b) Restoration of indigenous biodiversity is about restoring the relationship of Ngāi Tahu to important places and resources; including planning for customary use.

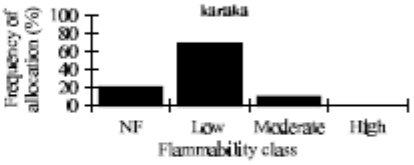
Appendix B: Native Tree and Shrubs Flammability Guidance's

A Flammability guide for Some Common New Zealand Native Tree and Shrub Species, Liam G. Fogarty, 2001.

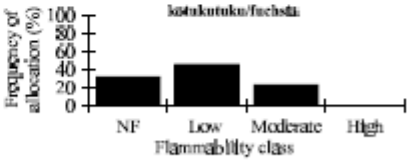
Species Name: *Griselinia littoralis*
Relative ranking: 1
Flammability class: Low
Comments: Broad, succulent leaves do not ignite easily. Flaky bark may burn and provide embers for spot fires under Extreme fire danger conditions.



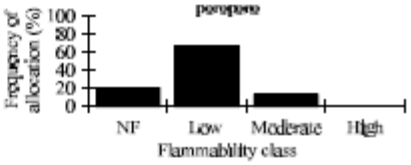
Species Name: *Corynocarpus laevigatus*
Relative ranking: 2
Flammability class: Low
Comments: None received.



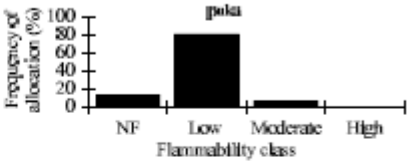
Species Name: *Fuchsia excorticata*
Relative ranking: 3
Flammability class: Low
Comments: Flaky bark is flammable. Deciduous. Litter may need to be removed in spring, but the surface litter is often damp and difficult to ignite on favourable sites.



Species Name: *Solanum aviculare*
Relative ranking: 4
Flammability class: Low
Comments: None received.

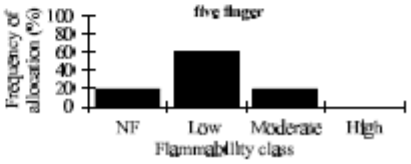


Species Name: *Griselinia lucida*
Relative ranking: 5
Flammability class: Low
Comments: Broad, succulent leaves do not ignite easily. Flaky bark may burn and provide embers for spot fires under Extreme fire danger conditions.

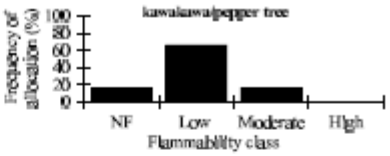


Species Name: *Pseudopanax crassifolius*
Relative ranking: 6
Flammability class: Low
Comments: Will carry a fire if planted on dry infertile sites, or in mixed scrub.

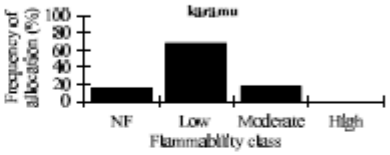
Species Name: *Pseudopanax arboreum*
Relative ranking: 7
Flammability class: Low
Comments: None received.



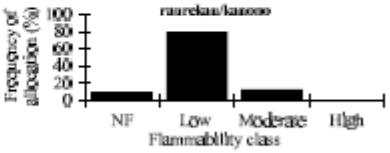
Species Name: *Macropiper excelsum*
Relative ranking: 8
Flammability class: Low
Comments: None received.



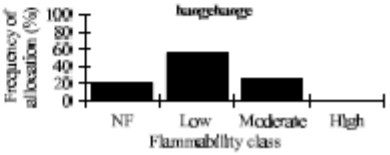
Species Name: *Coprosma robusta*
Relative ranking: 9
Flammability class: Low
Comments: Can produce large amounts of surface litter.



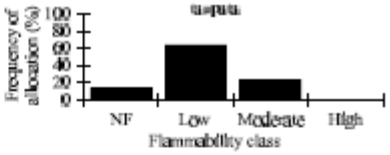
Species Name: *Coprosma grandifolia*
Relative ranking: 10
Flammability class: Low
Comments: None received.



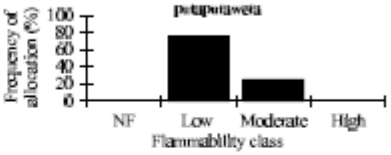
Species Name: *Geniostoma ligustrifolium*
Relative ranking: 11
Flammability class: Low
Comments: None received.



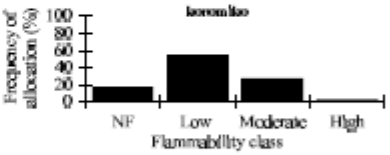
Species Name: *Coprosma repens*
Relative ranking: 12
Flammability class: Low
Comments: None received.



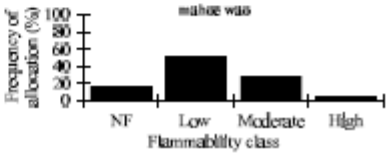
Species Name: *Carpodetus serratus*
Relative ranking: 13
Flammability class: Low
Comments: None received.



Species Name: *Hebe salicifolia* and *H. stricta.*
Relative ranking: 14
Flammability class: Low/Moderate
Comments: Must be planted densely to maintain moisture in surface litter layers. Will burn readily at Moderate to High fire danger conditions on dry sites or when sparsely mixed with more flammable scrub.

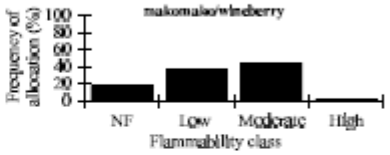


Species Name: *Melicytus lanceolatus*
Relative ranking: 15
Flammability class: Low/Moderate
Comments: None received.

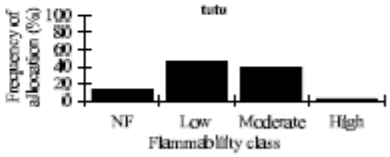


Species Name: *Melicytus ramiflorus*
Relative ranking: 16
Flammability class: Low/Moderate
Comments: Becomes more flammable with age.

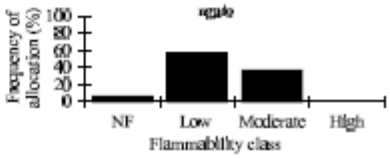
Species Name: *Aristotelia serrata*
Relative ranking: 17
Flammability class: Low/Moderate
Comments: Produces elevated dead material that should be removed annually near homes and structures. Partially deciduous in colder climates. Litter may need to be removed in spring.



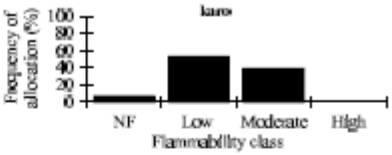
Species Name: *Coriaria arborea*
Relative ranking: 18
Flammability class: Low/Moderate
Comments: Surface litter accumulation can be heavy. Old plants may have Moderate to High flammability.



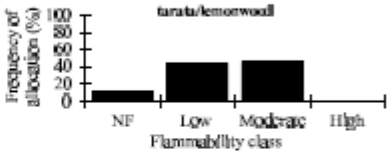
Species Name: *Myoporum laetum*
Relative ranking: 19
Flammability class: Low/Moderate
Comments: None received.



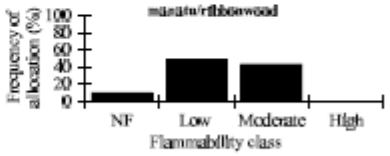
Species Name: *Pittosporum crassifolium*
Relative ranking: 20
Flammability class: Low/Moderate
Comments: None received.



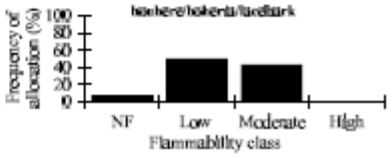
Species Name: *Pittosporum eugenioides*
Relative ranking: 21
Flammability class: Low/Moderate
Comments: Old plants may have Moderate flammability.



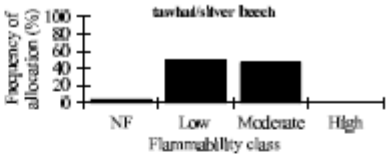
Species Name: *Plagianthus regius*
Relative ranking: 22
Flammability class: Low/Moderate
Comments: Deciduous. Litter may need to be removed in spring.



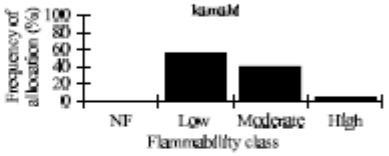
Species Name: *Hoheria* spp.
Relative ranking: 23
Flammability class: Low/Moderate
Comments: None received.



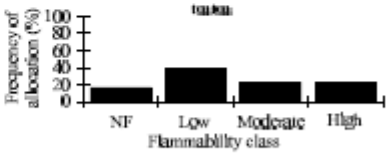
Species Name: *Nothofagus menziesii*
Relative ranking: 24
Flammability class: Low/Moderate
Comments: More flammable when immature. Mature trees often have dead branches that ignite easily and provide embers for spot fires.



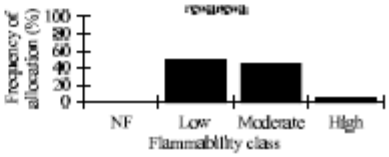
Species Name: *Weinmannia racemosa*
Relative ranking: 25
Flammability class: Low/Moderate
Comments: Mature stands may be less flammable.



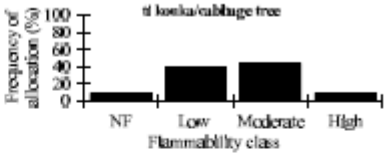
Species Name: *Phyllocladus glaucus*
Relative ranking: 26
Flammability class: Low/Moderate
Comments: None received.



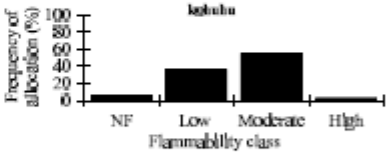
Species Name: *Knightia excelsa*
Relative ranking: 27
Flammability class: Low/Moderate
Comments: Large quantities of litter (leaves and twigs) often accumulate. Near houses or in "green breaks", this material must be removed.



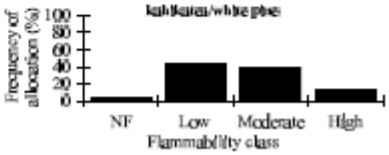
Species Name: *Cordyline australis*
Relative ranking: 28
Flammability class: Low/Moderate
Comments: Flammability increases with age due to elevated dead material. Old trees have High flammability. Near houses or in "green breaks", flammable material must be removed.



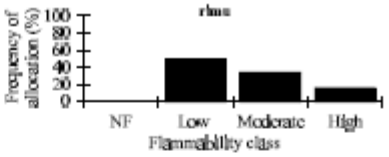
Species Name: *Pittosporum tenuifolium*
Relative ranking: 29
Flammability class: Moderate
Comments: None received.



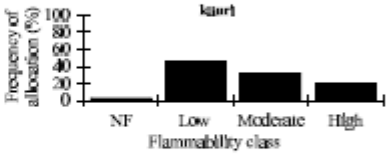
Species Name: *Podocarpus dacrydioides*
Relative ranking: 30
Flammability class: Moderate
Comments: Flammability may decrease with age. Mature trees often have dead branches that ignite easily and provide embers for spot fires.



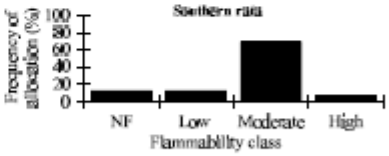
Species Name: *Dacrydium cupressinum*
Relative ranking: 31
Flammability class: Moderate
Comments: Flammability changes with age, and may be Moderate/High when very young; Low/Moderate when mature. Dead stem and branch material in overmature trees is susceptible to ignition from airborne embers.



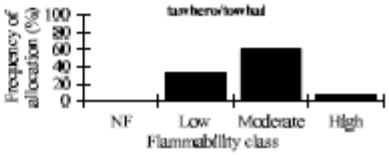
Species Name: *Agathis australis*
Relative ranking: 32
Flammability class: Moderate
Comments: None received.



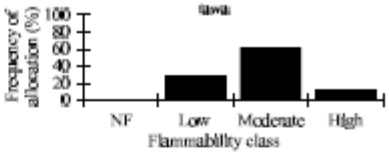
Species Name: *Metrosideros umbellata*
Relative ranking: 33
Flammability class: Moderate
Comments: None received.



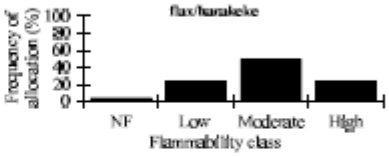
Species Name: *Weinmannia silvicola*
Relative ranking: 34
Flammability class: Moderate
Comments: None received.



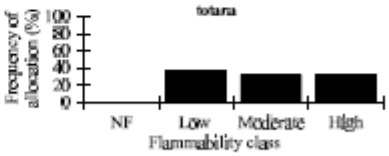
Species Name: *Beilschmiedia tawa*
Relative ranking: 35
Flammability class: Moderate
Comments: Large quantities of litter often accumulate. Near houses or in "green breaks", this material must be removed.



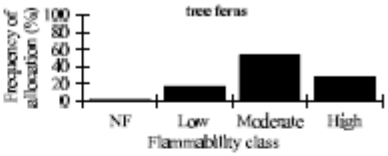
Species Name: *Phormium cookianum* and *P. tenax*
Relative ranking: 36
Flammability class: Moderate/High
Comments: Becomes more flammable with age due to build up of dead material. Has been observed to "explode" when burnt in Very High and Extreme fire danger conditions. Flammability increases in drought conditions.



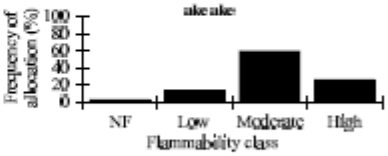
Species Name: *Podocarpus totara*
Relative ranking: 37
Flammability class: Moderate/High
Comments: Flammability changes with age, and may be Moderate/High when young; Low/Moderate when mature. Dead stem and branch material in overmature trees is susceptible to ignition from airborne embers.



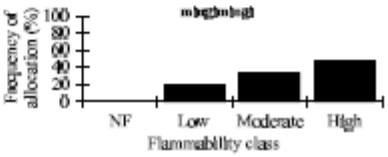
Species Name:	*Cyathea* and *Dicksonia* spp.
Relative ranking:	38
Flammability class:	Moderate/High
Comments:	Carries elevated dead material that assists fire spread, and increases fire intensity.



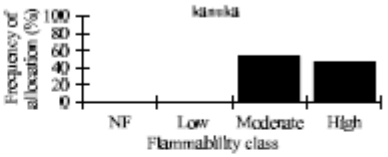
Species Name:	*Dodonea viscosa*
Relative ranking:	39
Flammability class:	Moderate/High
Comments:	Flaky bark and flammable foliage.



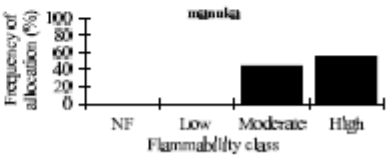
Species Name:	*Cyathodes fasciculata*
Relative ranking:	40
Flammability class:	Moderate/High
Comments:	None received.



Species Name:	*Kunzea ericoides*
Relative ranking:	41
Flammability class:	High
Comments:	Flammability changes from High when young to Moderate when mature. Mature stands with a flammable understorey that can provide a "ladder" for fire spread into the crowns have High flammability.



Species Name:	*Leptospermum scoparium*
Relative ranking:	42
Flammability class:	High
Comments:	Flammability changes from High when young to Moderate when older.



FireSmart Partners in Protection, National Rural Fire Authority, 2004

Flammability class: Low	
Suitable for green breaks or defensible space, but when in the immediate vicinity of structures, leave at least a 3 to 4 metre break between the crowns to reduce fuel continuity.	
Low flammability species	
Fuchsia excorticate	Kotukutuku
Pseudopanax crassifolius	Horoekea/Lancewood
Pseudopanax arboreus	Five finger
Coprosma robusta	Karamu
Coprosma grandifolia	Raurekau/Kanono
Geniostoma ligustrifolium	Hangehange
Coprosma australis	Raurekau
Coprosma repens	Taupata
Carpodetus serratus	Putaputaweta
Corynocarpus laevigatus	Karaka
Griselinia littoralis	Papauma/Broadleaf
Griselinia lucida	Puka
Macropiper excelsum	Kawakawa/Peppertree
Solanum aviculare	Poroporo
Flammability class: Low/moderate	
Not recommended for planting in green breaks. If planted in defensible space, remove elevated dead material and litter regularly, leave greater than 4 metres between tree crowns, and don't plant trees or shrubs in this category within 10 metres of structures.	
Low/moderate flammability species	
Hebe salicifolia and *H. stricta*	Koromiko
Melicytus lanceolatus	Mahoe wao
Melicytus ramiflorus	Mahoe/Whiteywood
Aristotelia serrata	Mako-mako/Wineberry
Coriaria arborea	Tutu
Myoporum laetum	Ngaio
Pittosporum crassifolium	Karo
Pittosporum eugenioides	Tarata/Lemonwood
Hoheria spp.	Hoheria/Lacebark
Knightia excelsa	Rewarewa
Nothofagus menziesii	Tawhai/Silver beech
Phyllocladus glaucus	Toatoa
Plagianthus regius	Manatu/Ribbonwood
Weinmannia racemosa	Kamahi

Flammability class: Moderate	
Most of these species produce heavy accumulations of flammable litter and elevated dead material, and/or have flammable green foliage. Not recommended for green breaks or for planting in defensible space.	
Moderate flammability species	
Beilschmiedia tawa	Tawa
Cordyline australis	Ti kouka/Cabbage tree
Pittosporum tenuifolium	Kohuhu
Dacrydium cupressinum	Rimu
Metrosideros umbellata	Southern rata
Agathis australis	Kauri
Phormium spp.	Flax
Podocarpus dacrydioides	Kahikatea/White pine
Weinmannia silvicola	Tawhero/Towhai
Flammability class: Moderate/high	
Species may have flammable green foliage and/or produce high levels of litter and elevated fuel. Not recommended for green breaks or defensible space.	
Moderate/high flammability species	
Podocarpus totara	Totara
Dodonaea viscose	Ake-ake
Cyathea and Dicksonia spp.	Tree ferns
Cyathodes fasciculata	Mingimingi
Flammability class: High	
Species burn readily at low/moderate forest fire danger conditions.	
High flammability species	
Kunzea ericoides	Kanuka
Leptospermum scoparium	Manuka

Appendix C: Relevant Christchurch District Plan Provisions

Rule 8.8.2 Property Access

a) The location, safety and efficiency of any access, including whether the location, formation and construction is suited to the development it serves, and whether any associated works or upgrades are required.

b) The provision of vehicular access to all properties, including for firefighting purposes, unless topography of the ground prevents such access to any part of the site (including non-contiguous areas of a site).

17.2.2.9 Policy - Plantation forestry

Ensure new plantation forestry is located and managed to:
avoid fire risk to nearby residential activities and urban areas;

17.7 Rural Port Hills

17.7.2.5 Separation distances

The minimum separation distances for intensive farming and sensitive activities shall be as follows:

	Activity	Standard
i.	Any new sensitive activity	Shall be located a minimum of 200 metres from any building, compound or part of a site used for intensive farming on an adjoining site. Shall be located a minimum of 30 metres from any existing forestry on an adjoining site under different ownership.

17.4.2.8 Separation distances

The minimum separation distances for plantation forestry, intensive farming, residential activity and sensitive activities shall be as follows:

Activity Standard

i. Plantation forestry

Trees shall be located:
30 metres or more from an existing residential unit, approved identified building area or the boundary with a residential zone; and
10 metres or more from an internal boundary of an adjoining site under different ownership

iv. Any new residential unit

Shall be located:
a minimum of 30 metres from any existing forestry on an adjoining site under different ownership;
a minimum of 250 metres from a legally established quarrying activity; and
a minimum of 1,000 metres from Radio New Zealand's facilities on Gebbies Pass Road

Water supply for firefighting

Provision for sufficient water supply and access to water supplies for firefighting shall be made available to all buildings (excluding accessory buildings that are not habitable buildings) via Council's

urban reticulated system (where available) in accordance with the New Zealand fire Service firefighting Water Supplies Code of Practice (SNZ PAS: 4509:2008).
Where a reticulated water supply compliant with SNZ PAS:4509:2008 is not available, or the only supply available is the controlled restricted rural type water supply which is not compliant with SNZ PAS:4509:2008, water supply and access to water supplies for firefighting shall be in accordance with the alternative firefighting water sources provisions of SNZ PAS 4509:2008.
Any application arising from this rule shall not be publicly notified and shall, absent written approval, be limited notified only to the New Zealand fire Service Commission.

Appendix D Relevant Provisions of the Canterbury Land and Water Regional Plan

Rule 5.170

Within the area shown as High Soil Erosion Risk on the Planning Maps and outside any riparian margin, the use of land (excluding any works for which a building consent has been obtained from the relevant local authority) for

(a) Cultivation or spraying of slopes less than 25 degrees; or

(b) Cultivation or spraying on slopes greater than 25 degrees; provided that, the total area sprayed or cultivated is less than 200 m2; or

(c) Vegetation clearance of species (including by spraying) listed in the Biosecurity NZ Register of Unwanted Organisms or the Canterbury Pest Management Strategy; or

(d) Hand clearance and spot spraying of vegetation; or

(e) Silvicultural practices of release cutting, pruning or thinning to waste and harvesting in accordance with the Environmental Code of Practice for Plantation Forestry (ECOP) 2007; or

(f) Earthworks within a production forest undertaken in accordance with NZ Forest Road Engineering Manual (2012); or

(g) Maintenance of existing firebreaks, roads and tracks and, during a fire emergency, construction of new firebreaks and tracks; or

(ga) Construction of fences; or

(h) Construction of walking tracks no more than 1.5 m wide; or

(i) Maintenance of existing transport networks; or

(j) Earthworks and vegetation clearance associated with the establishment, repair or maintenance of pipelines, electricity lines, telecommunication lines and radio communication structures and fences; or

(k) Other earthworks where

(i) the volume is less than 10 m3 per site or per hectare (whichever is the greater);

and

(ii) the maximum depth of cut or fill is 0.5 m;

and any associated discharge of sediment or sediment-laden water in circumstances where sediment may enter surface water is a permitted activity, provided the following conditions are met:

1. Any cleared areas are stabilised and where it is not put to its final use shall be revegetated within 6 months from the date of the commencement of the vegetation clearance or earthworks; and

2. Any cultivation is across the contour of the land; and

3. When firebreaks, roads, or tracks are constructed or maintained the maximum depth of cut or fill is 0.5 m; and

4. the concentration of total suspended solids in the discharge shall not exceed:

(a) 50 g/m3, where the discharge is to any Spring-fed river, Banks Peninsula river, or to a lake except when the background total suspended solids in the waterbody is greater than 50 g/m3 in which case the Schedule 5 visual clarity standards shall apply; or

(b) 100 g/m3 where the discharge is to any other river or to an artificial watercourse except when the background total suspended solids in the waterbody is greater than 100 g/m3 in which case the Schedule 5 visual clarity standards shall apply.

5.171 Within the area shown as High Soil Erosion Risk on the Planning Maps and outside any riparian margin, the use of land for vegetation clearance, cultivation and earthworks that does not comply with the conditions in Rules 5.170, or vegetation clearance, cultivation or earthwork activities not listed in Rule 5.170(a) to (k), is a restricted discretionary activity.

The exercise of discretion is restricted to the following matters:

1. The actual and potential adverse environmental effects on soil quality or slope stability; and
2. The actual and potential adverse environmental effects on the quality of water in rivers, lakes, wetlands or the sea; and
3. The actual and potential adverse environmental effects on areas of natural character, outstanding natural features or landscapes, areas of significant indigenous vegetation and significant habitats of indigenous fauna, mahinga kai areas or sites of importance to Tangata Whenua; and
4. The actual and potential adverse environmental effects on a wetland or the banks or bed of a waterbody or on its flood carrying capacity; and
5. The actual and potential adverse environmental effects on transport networks, neighbouring properties or structures; and
6. In addition, for forest harvesting, the harvesting method, location of haulage and log handling areas, access tracks, and sediment control.

Appendix E : Relevant provisions of the Canterbury Regional Policy Statement

Objective 5.2.1 Location, design and function of development (Entire Region)
2. enables people and communities, including future generations, to provide for their social, economic and cultural well-being and health and safety; and which:
(a) maintains, and where appropriate, enhances the overall quality of the natural environment of the Canterbury region, including its coastal environment, outstanding natural features and landscapes, and natural values;

Policy 5.3.2 Development conditions (Wider Region)

To enable development including regionally significant infrastructure which:
2. avoid or mitigate:
(a) natural and other hazards, or land uses that would likely result in increases in the frequency and/or severity of hazards;

Objective 6.2.1 Recovery framework

Recovery, rebuilding and development are enabled within Greater Christchurch through a land use and infrastructure framework that:
4. protects outstanding natural features and landscapes including those within the Port Hills from inappropriate subdivision, use and development;
5. protects and enhances indigenous biodiversity and public space;
7. maintains the character and amenity of rural areas and settlements;
8. protects people from unacceptable risk from natural hazards and the effects of sea-level rise;

Objective 9.2.1 Halting the decline of Canterbury's ecosystems and indigenous biodiversity

The decline in the quality and quantity of Canterbury's ecosystems and indigenous biodiversity is halted and their life-supporting capacity and mauri safeguarded.

Policy 9.3.4 Promote ecological enhancement and restoration

To promote the enhancement and restoration of Canterbury's ecosystems and indigenous biodiversity, in appropriate locations, where this will improve the functioning and long term sustainability of these ecosystems.

Objective 11.2.1 Avoid new subdivision, use and development of land that increases risks associated with natural hazards

New subdivision, use and development of land which increases the risk of natural hazards to people, property and infrastructure is avoided or, where avoidance is not possible, mitigation measures minimise such risks.

Objective 11.2.1 Avoid new subdivision, use and development of land that increases risks associated with natural hazards

New subdivision, use and development of land which increases the risk of natural hazards to people, property and infrastructure is avoided or, where avoidance is not possible, mitigation measures minimise such risks.

Policy 11.3.1 Avoidance of inappropriate development in high hazard areas

To avoid new subdivision, use and development (except as provided for in Policy 11.3.4) of land in high hazard areas, unless the subdivision, use or development:

1. is not likely to result in loss of life or serious injuries in the event of a natural hazard occurrence; and
2. is not likely to suffer significant damage or loss in the event of a natural hazard occurrence; and
3. is not likely to require new or upgraded hazard mitigation works to mitigate or avoid the natural hazard; and
4. is not likely to exacerbate the effects of the natural hazard; or

Policy 11.3.5 General risk management approach

For natural hazards and/or areas not addressed by policies 11.3.1, 11.3.2, and 11.3.3, subdivision, use or development of land shall be avoided if the risk from natural hazards is unacceptable. When determining whether risk is unacceptable, the following matters will be considered:

1. the likelihood of the natural hazard event; and
2. the potential consequence of the natural hazard event for: people and communities, property and infrastructure and the environment, and the emergency response organisations.

Where there is uncertainty in the likelihood or consequences of a natural hazard event, the local authority shall adopt a precautionary approach.

Formal risk management techniques should be used, such as the Risk Management Standard (AS/NZS ISO31000:2009) or the Structural Design Action Standard (AS/NZS 1170.0:2002).

Policy 11.3.7 Physical mitigation works

New physical works to mitigate natural hazards will be acceptable only where:
1. the natural hazard risk cannot reasonably be avoided; and
2. any adverse effects of those works on the natural and built environment and on the cultural values of Ngāi Tahu, are avoided, remedied or mitigated.

Alternatives to physical works, such as the relocation, removal or abandonment of existing structures should be considered. Where physical mitigation works or structures are developed or maintained by local authorities, impediments to accessing those structures for maintenance purposes will be avoided.

Policy 11.3.9 Integrated management of, and preparedness for, natural hazards
To undertake natural hazard management and preparedness for natural hazard events in a coordinated and integrated manner by ensuring that the lead agencies have particular regard to:
1. the investigation and identification of natural hazards;
2. the analysis and mapping of the consequential effects of the natural hazards identified;
4. the setting of standards and guidelines for organisations involved in civil defence and emergency management;
5. the development and communication of strategies to promote and build community resilience; and
6. any other matters necessary to ensure the integrated management of natural hazards in the Canterbury region.

Objective 12.2.1 Identification and protection of outstanding natural features and landscapes

Outstanding natural features and landscapes within the Canterbury region are identified and their values are specifically recognised and protected from inappropriate subdivision, use, and development.

Objective 12.2.2 Identification and management of other landscapes

The identification and management of other important landscapes that are not outstanding natural landscapes. Other important landscapes may include:
1. natural character
2. amenity
3. historic and cultural heritage

Policy 12.3.2 Management methods for outstanding natural features and landscapes

To ensure management methods in relation to subdivision, use or development, seek to achieve protection of outstanding natural features and landscapes from inappropriate subdivision, use and development.

Policy 12.3.3 Identification and management of other important landscapes

Identifying and managing other important landscapes that are not outstanding natural landscapes, for natural character, historic cultural, historic heritage and amenity purposes.

Appendix F : Minitry for Primiary Industries and Minitry for the Environment NES-PF guidance

Ministry for the Environment
Manatu Mo Te Taiao

Ministry for Primary Industries
Manatū Ahu Matua

The National Environmental Standards for Plantation Forestry – where local rules still apply

The National Environmental Standards for Plantation Forestry (NES-PF) apply to most plantation forestry activities and these regulations will generally prevail over regional and district plan rules that apply to forestry. However, there will be circumstances when local rules still apply to forestry activities either because:

1. The NES-PF allows plan rules to be more stringent than the regulations; or
2. The activity or effect is not regulated under the NES-PF.

Plan rules cannot be more lenient than the NES-PF as the NES-PF does not provide for this.

Where plan rules may be more stringent that the NES-PF

In specific circumstances[1], the NES-PF allows more stringent council rules to prevail over the regulations in order to manage nationally and locally significant resource management issues and receiving environments. This reflects the fact that it is not always possible to manage locally significant issues through a nationally consistent rule set. As such, the NES-PF allows plan rules to be more stringent where they:

- give effect to certain national instruments;
- recognise and provide for certain matters of national importance under the Act; and
- manage specific unique and sensitive environments.

Councils will need to be satisfied that existing plan rules can be more stringent than the NES-PF and identify clearly those rules in their plans when implementing the NES for Plantation Forestry[2]. Where councils will include new plan rules that are more stringent than the NES-PF they will undergo a plan change process.

National instruments

The NES-PF is expected to contribute to improved water quality outcomes and the provisions will generally be sufficient to address water quality when compared to directives in the National Policy Statement for Freshwater Management (NPSFM) implemented in plans. However, there may be circumstances when more stringent local plan controls are required to give effect to the NPSFM freshwater objectives set for a particular catchment and the NES-PF allows for more stringent rules in these circumstances.

The NES-PF also allows plan rules to be more stringent where these give effect to New Zealand Coastal Policy Statement policies of particular relevance to forestry (biodiversity, natural character, natural landscapes, and sedimentation).

Matters of national importance

The NES-PF allows more stringent rules to prevail over the regulations where they relate to certain matters of national importance under the RMA. This includes rules that relate to the protection of:

- outstanding natural landscapes and features; and
- significant areas of indigenous vegetation and significant habitats of indigenous fauna.

[1] Regulation 6 of the NES-PF sets out these specific circumstances.

[2] Various options exist for the NES-PF to be incorporated in local plans. Councils may choose to amend their district or regional plan to include reference to the NES for the benefit of users of the plan. Councils can simply amend a district or regional plan to remove duplication or conflict, or to include reference to the NES. Councils do not need to follow the change process for district or regional plans as described in Schedule 1 of the RMA, or undertake consultation. Or (where there is no duplication or conflict with the NES) councils do not need to take direct action; they just need to know the standards and how these apply.

Ministry for the Environment
Manatu Mo Te Taiao

Ministry for Primary Industries
Manatū Ahu Matua

Unique and sensitive environments

The NES-PF also allows more stringent rules to prevail over the regulations where they relate to the management of activities in the following unique and sensitive environments:

- separation point granite soils;
- geothermal areas and karst geology; and
- upstream of drinking water supplies or over aquifers used for human drinking water supply.[3]

Activities and effects that are not regulated under the NES-PF

The definition of plantation forestry

The regulations apply to any planting of a forest species of one hectare or more that has been established specifically for commercial purposes and to be harvested. It does not include trees grown for fruit or nut crops, shelter belts, widely-spaced poplar or willow plantings for soil conservation, nurseries and seed orchards. It also does not include forests in urban areas zoned for residential, industrial and commercial activities. This is because any forestry activities in these zones would require more specific controls to manage the potential effects on surrounding land uses.

Activities not regulated under the NES-PF

The regulations cover eight of the main activities associated with planting, growing and harvesting trees, ancillary activities and general conditions associated with plantation forestry. However, not every activity that may take place in a forest plantation is included. In some cases this is because they are not universally carried out as part of forestry operations and having nationwide rules would not provide any significant benefits.

Milling and timber processing are not included as the effects of these operations are quite distinct from the environmental impacts of growing and harvesting a forest.

In other cases, activities aren't included because they are covered by other legislation or are better managed locally. These include:

Water yields

Afforestation can affect total water yield and result in lower flows in low-to-moderate rainfall areas (less than 1200mm of annual precipitation) than would be the case with pasture cover. The NES-PF leaves it up to regional councils to decide whether or not they need to place controls on forestry planting in water-sensitive catchments.

Electricity infrastructure

The NES-PF doesn't include any rules about afforestation in the vicinity of electricity transmission lines and equipment, leaving decisions on any setbacks required for safety or function of the lines to district and regional councils. This is because there are already a range of regulatory mechanisms including the implementation of the National Policy Statement on Electricity Transmission and the Electricity (Hazards from Trees) Regulations 2003, which specifically deals with trees encroaching on power lines, and that includes plantation forests. Decisions relating to setbacks for trees from electricity infrastructure for safety or functional reasons is left to local planning decisions.

Nuisance issues –off-site effects

While nuisance issues such as vibration, noise and dust arising from activities within a plantation forest are regulated under the NES-PF, it is not the case for off-site effects. When these nuisance issues happen off-

[3] The Resource Management (National Standards for Sources of Human Drinking Water) Regulations 2007 also applies. That NES requires regional councils to ensure that effects of activities on drinking water sources are considered in decisions on resource consents and regional plans.

Selwyn District Council

site (for example, the impact of logging trucks using roads) they are not covered by the NES-PF and councils will regulate these at the local level.

Animal and plant pest spread

The NES-PF includes regulations to prevent the spreading of wilding trees from plantation forests. However, it does not cover any other plant or animal pests since these are managed primarily under the Biosecurity Act 1993.

Fire Risk

Forests are vulnerable to fire because of the amount of "fuel" they contain. That puts not just the plantation at risk of destruction but could also help spread the fire more widely, and put lives at risk. The risk, however, is site-specific, depending on the nature of the surrounding environment. Councils therefore continue to manage this locally in conjunction with the Fire and Emergency New Zealand Act 2017.

Natural hazards

Establishing a plantation forest in an area susceptible to natural hazards such as coastal erosion, sea level rise or earthquakes are a site-specific issue and so are difficult to regulate on a national scale.

Cultural and historic heritage sites

There are no rules in the NES-PF relating to cultural and historic heritage sites, including wāhi tapu and other archaeological sites. Council rules in district and regional plans that relate to the protection and management of these sites will continue to apply. The requirements of the Heritage New Zealand (Pouhere Taonga) Act 2014 still apply to plantation forestry activities.