

**BEFORE THE TASMAN DISTRICT COUNCIL  
(COMMISSIONER HEARING)**

<b>In the matter of</b>	Applications for resource consents to establish a Motorsport and Recreation Park (Land Use Consent RM100848; Land Use Consent RM100872; Land Use Stream Bed RM100873; Land Use Consent RM100874; Land Use Consent RM100875; Water Permit RM100876; Water Permit RM100877; Discharge Permit RM100878; and Discharge Permit RM100879)
<b>Applicant</b>	Adcock and Donaldson Properties Limited

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**STATEMENT OF EVIDENCE OF ANDREW KARALUS ON BEHALF OF  
NELSON FORESTS LIMITED  
8 March 2012**

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## Introduction

1. My full name is Andrew Ernest Karalus. I am the Estate Value Manager for Nelson Management Limited. I am a member of the management team of Nelson Management Limited. Nelson Management Limited is the management company for Nelson Forests Limited. I am authorised to give evidence on behalf of Nelson Forests Limited.
2. Nelson Forests Limited owns and manages 78,000 hectares of plantation forest in the Nelson, Tasman and Marlborough regions. The planted production area consists of 63,000 hectares, with the balance consisting of reserves and infrastructure. Nelson Forests Limited is the Licensee of four Crown Forestry Licences, namely Golden Downs East Forest (17,500ha), Golden Downs West Forest (23,500ha), Rai Forest (9,000ha) and Wairau Forest (9,500ha).
3. I hold a Bachelor of Agricultural Engineering (Hons) from Lincoln University. I commenced work in the forestry industry in 1994 and I have worked in the forest management company that manages the land described above for 18 years; I am very familiar with the areas described. I have held roles with Nelson Management Limited and/or its predecessors Weyerhaeuser New Zealand Incorporated, Fletcher Challenge Forests and Tasman Forestry Limited over the past 18 years, including Environmental Forester, Roding Engineer, Harvest Engineer, Supplier Services Manager, Forest Manager and Business Development Manager. I am very familiar and experienced with all aspects of forestry management, in particular as they relate to the Nelson Forests Limited estate.
4. I am a current member of the Waimea Rural Fire Committee (and past Chairman) and a current member of the Marlborough North Rural Fire Committee. I hold NZQA standards spanning Level 1 to Level 5 for fire management and I am experienced in implementing ALL of the 4 R's (reduction, readiness, response and recovery) of fire risk management; I have attended many large wildfires in Nelson Marlborough and am familiar with the potential and actual consequences of wildfires in production forests.
5. The Estate Value Manager role is responsible for the investment performance of the Nelson Forests assets. This involves developing and implementing strategic, tactical and operational plans for all activities associated with the creation and maintenance of estate value. Risk management, including fire risk management, is a critical part of my role.
6. My evidence today will cover the following aspects of Nelson Forests Limited's opposition to the Stanley Brook Motorsport Park applications.

- 6.1 Crown Forestry Licence, obligations and rights of Nelson Forests Limited;
  - 6.2 Fire risk management methods and strategies employed by Nelson Forests Limited;
  - 6.3 The proposed Stanley Brook Motorsport Park and surrounding forestry assets;
  - 6.4 Potential consequences of a production forest fire starting at this location; and
  - 6.5 Mitigation proposed by the Applicant and Tasman District Council Officers.
7. I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses, as contained in the Environment Court's Consolidated Practice Note 2006. This evidence is within my area of expertise, except where I state I am relying on what I have been told by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

**Crown Forestry Licence, obligations and rights of Nelson Forests Limited**

8. Nelson Forests Limited is the Licensee of Golden Downs East Forest Crown Forestry Licence. Under Clause 2.1 of the Licence, the Licensee has the right to use the land for any purpose and the Crown will not unreasonably interfere with the Licensee's use of the Land in accordance with the terms and conditions of the Licence.
9. Section 6 of the Crown Forestry Licence covers protective covenants, public access easements, public entry and Wahi Tapu. There are no protective covenants, public access easements or Wahi Tapu sites recorded that are affected by the Stanley Brook Motorsport Park applications. The issue of public entry is covered by a provision in the Crown Forestry Licence that states:

*The Licensee acknowledges that so long as Her Majesty the Queen is the licensor hereunder the public shall at all times during the term of the Licence have the right to enter and use the Land for recreational purposes. Such entry shall, unless the Licensee expressly permits otherwise, be limited to access on foot. The Licensee shall have the discretion to control such entry and use only for reasons relating to the safety of the public or of those working on the Land or for the protection of the trees, buildings, plant, equipment and related items.*

10. The Crown Forestry Licence also lists a number of existing rights over the Land such as Rights of Way and water rights, one of the former of which relates to the ROW easement

with Adcock and Donaldson Properties Limited as the Grantee. The Deed granting that ROW is included in Appendix 4 to the Staff report.

11. Nelson Forests Limited as Licensee of the Crown Forestry Licence is in effect the grantor of any access through, over, upon or across the Crown Forestry Licence Land including the ROW easement with Adcock and Donaldson Properties Limited.

#### **Fire risk assessment and management methods and strategies employed by Nelson Forests Limited**

12. The specific fire risk assessment of the Stanley Brook Motorsport Park proposal is described by the Waimea Rural Fire Authorities' Principal Rural Fire Officer Mr Ian Reade. My evidence addresses the considerations of a plantation forestry manager in determining fire risk management strategies for a production forest estate.
13. Fire management can be broadly grouped into reduction (of risk), readiness, response and recovery. Clearly reduction is a preferred strategy, while readiness, response and recovery are strategies employed to manage the residual fire risk exposure. That is to say 'prevention is better than cure'. I will focus on the reduction strategies employed by Nelson Management Limited.
14. Pearce et al (2008)<sup>1</sup> report that most rural fires are caused by people. The principal causes of fires in plantation forests are arson, escaped burns (both permitted and non-permitted), vehicles and campfires. Fires originating outside of forests present considerable risk to production forests, with up to twice as many fires and six times the area burnt reported from fires started outside of forest areas as those started within the forests.
15. The evidence of the Waimea Rural Fire Authorities' Principal Rural Fire Officer Mr Reade confirms that the risk of a fire start is related to the numbers and activities of people. Furthermore using Wildfire Threat Analysis methodology Mr Reade concludes that the impact of the Motorsport Park at this location would result in a risk score changing from a current value of 1 to an increased value of 10. He further provides evidence that the current fire starts in the Waimea Rural Fire Authority zone 1 (Coastal Tasman) close to population is 12 times that of zone 3 (Golden Downs) in remote rural areas.
16. Reduction strategies by their nature are designed to separate the sources of ignition from vegetation / fuels. This is particularly relevant during periods of high fire danger. Strategies employed by Nelson Management Limited include restricting forest access

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<sup>1</sup> H. Grant Pearce, Geoff Cameron, Stuart A.J. Anderson and Murray Dudfield. *An overview of fire management in New Zealand forestry*, NZ JOURNAL OF FORESTRY, November 2008, Vol. 53, No. 3.

over the summer period and closing public entry through the forest in periods of high fire risk, undertaking regular forest security patrols across the estate, roadside vegetation management and implementing Forest Operations controls in line with the Waimea Rural Fire Authority fire plan.

17. Nelson Management Limited manages access to the forest areas through a permit system. Generally access permits are issued for daylight hours on weekends and public holidays through the period 1 April to 30 September each year. The restriction to weekends and daylight hours is made to protect those working on the Land (active forestry operations across the forest during weekdays and evenings). The restricted season (October to March) is for the protection of the trees, buildings, plant, equipment and related items, due to the elevated fire danger during the drier summer months. Nelson Forests Limited retains the right to cancel any permit in writing or verbally by a forest officer, or by public notice, or by advertisement.
18. Nelson Management Limited also issues special permits for activities and/or events deemed to be higher risk. Such access is specifically controlled through a High Risk Users Access Agreement. The Rally of NZ and other local car rallies are examples of events that are covered by the High Risk Users Access Agreement. This Agreement makes it very clear that Nelson Management Limited retains the right to suspend access if in the opinion of Nelson Management Limited there is a state of unacceptable fire risk. Event organisers are aware of these conditions and generally programme their events to occur between 1 April to 30 September. The High Risk Users Access Agreement covers an extensive range of conditions relating to health and safety, protection of Nelson Forests Limited property, Public Liability and Forest and Rural Fires insurance cover, security, patrols, spectator controls and fire risk reduction provisions.
19. The Deed granting easement of right of way between Her Majesty the Queen and Adcock and Donaldson Properties Limited has conditions of use – contained under clause 3. Of significance in the context of the proposed Stanley Brook Motor Sport Park, are subclauses 3.1 (3.1.2 and 3.1.5(i)), 3.5 and 3.7. As follows

*3.1 The Grantee and the Secondary Users shall when passing or repassing over the Grantor's land:*

*3.1.2 Not use or cause to be used any tracked or heavy vehicle which has been prohibited by the Grantor.*

*3.1.5 take all full and proper precautions for guarding against danger (including but without limitation, fire, physical damage or disease) either on the Grantor's Land, or any surrounding or adjoining land,*

*forest or water, or to any forest produce on the Grantor's land, and in particular shall (but without limiting the general obligation to take full and proper precautions pursuant to this Clause 3.1.5):*

*(i) comply strictly with all conditions that may be imposed from time to time by the Grantor or other lawful authority.*

*(ii) not operate any vehicle or machinery unless it is provided with safe and sufficient means of preventing the escape of sparks or flames*

*3.5 The Grantee will, and will ensure that the Secondary Users will at all times in the exercise of the rights set out in this Deed not obstruct or hamper the Grantor or its agents, employees and contractors in its or their normal or reasonable use of the Grantor's land:*

*3.7 The Grantee shall not, and shall ensure that the Secondary Users do not at any time, except with the prior written approval of the Grantor, carry out earthworks or cut down, pull out, dig up, use, burn, remove or otherwise dispose of any forest produce on the Grantor's Land nor shall the Grantee or the Secondary Users authorise such cutting down, pulling out, digging up, use burning or removal or other disposal of any forest produce without the prior written approval of the Grantor:*

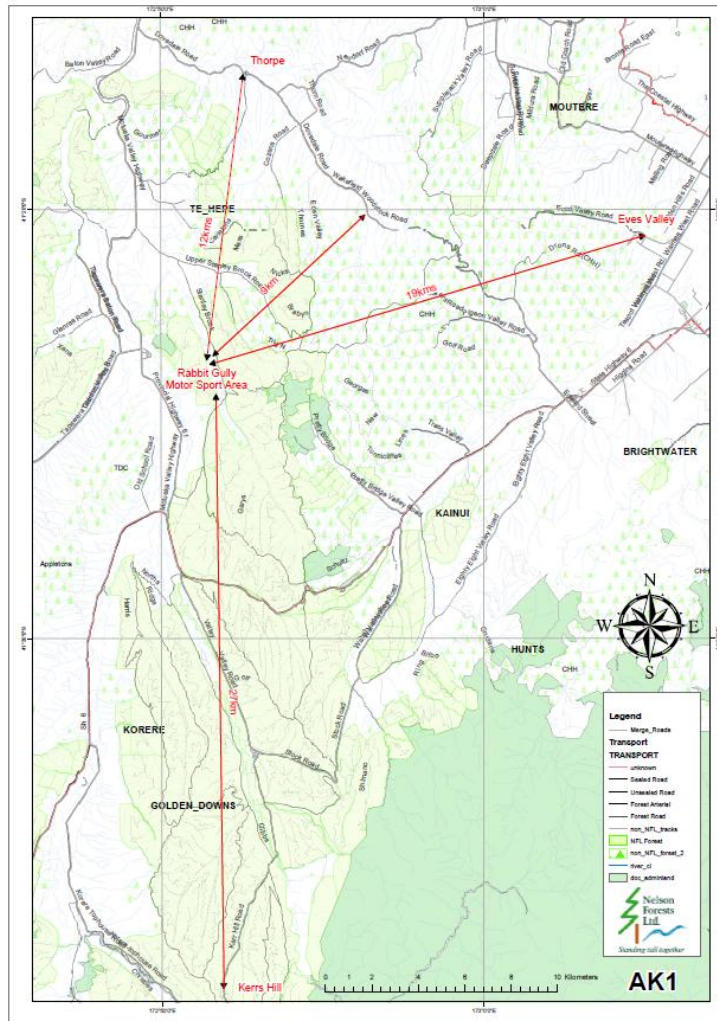
20. I wish to point out that clause 3.7 is a prohibition on the Grantee ie: Adcock and Donaldson Properties Limited. If the Applicant wishes to undertake works such as road widening, as it proposes to do, it will need to obtain from Nelson Forests Limited a written exemption from this prohibition.
21. Finally it is worth recognising that the Waimea Rural Fire Committee's Fire Management Plan contains precautionary measures that are to be implemented as a minimum according to the fire danger levels. A copy of the relevant portion of this Fire Plan is attached to Mr Reade's evidence. A measure of fire danger used by the Waimea Rural Fire Authority is the build-up index (BUI). When the build-up index reaches 80 the Waimea Rural Fire District Fire Plan prescribes the following: *'Cancel all public access and permits to production forests'*; at BUI 100 the precautionary measures include consideration of closing Maitai Valley, Marsden Valley and Rabbit Island, such is the concern for preventing ignition during high fire danger.
22. The build-up index recorded near the Applicant's site has exceeded both 80 and 100 in past years and there is every reason to expect it to do so again. I have appended the

Fire Weather details for both Dovedale and Western Boundary for the 2001 year as evidence that extreme fire conditions are not unprecedented.

23. As a general rule of thumb the BUI will increase by 2 to 3 points for every day there is no rain over the summer months. Mr Hewitt's evidence states that in 1973 the area in question had a period of 49 consecutive days between 26 December 1972 and 26 April 1993 without rain. In such circumstances the BUI would have easily exceeded 100 and quite possibly exceeded 150, at which point total forest closure would be considered if wind speeds exceeded 20Km/hr under the Waimea Rural Fire Committee's Fire Management Plan.
24. In summary while Nelson Management Limited accepts and provides for the safe enjoyment of recreational activities in the forest we consistently take steps to minimise the risks to the safety of the public, the risks to people working in the forest, fire risk and the disruption to our normal operations in all cases of public access and rights of way.

#### **The proposed Stanley Brook Motorsport Park and surrounding forestry assets**

25. The proposed Motorsport Park is in the heart of the region's exotic forests, as can be seen on the map below. There is continuous forest for over 9 kilometres to the northeast, over 19 kilometres east northeast to Eves Valley Sawmill and up to 27 kilometres south of the site.



26. The proposed Motorsport Park will increase fire risk in the following ways:
- 26.1 An increase in people accessing the forest area as a result of the Motorsport Park, including potential for people taking unauthorised short cuts through Golden Downs Forest;
  - 26.2 Vehicles driving through production forest to gain access to the site;
  - 26.3 On site activities, competition vehicles, storage of fuels, accommodation structures, barbecue facilities and campers are all potential sources of ignition;
  - 26.4 Freedom campers attracted to the location and camping in surrounding forest areas prior to and following large events;
  - 26.5 An increased number of smokers accessing the site; and
  - 26.6 Overhead power lines servicing the site.



27. With respect to the last point I draw attention to the NZFS ICAD Incident Report Summary of vegetation fires involving power lines between September 2000 and July 2009, which **attached** to my evidence as **Appendix 1**. There are 287 entries involving power lines. Clearly power lines are commonly associated with the start of vegetation fires. Power lines do not exist on or around the site at the moment. They would be an entirely new risk to Nelson Forests Limited at this location as there are no power lines into the Applicant's site at present. This is a risk that cannot be mitigated by any proposed condition.
28. The proposal also includes the intention to operate for at least 200 days per year. Given the scale of events proposed it seems improbable that the schedule would allow the avoidance of the summer period when high fire risk weather conditions are likely to be present, and closing of the Park at short notice may be considered impractical by the operators. If there is a seasonal element associated with motorsport activities, such as the Labour Weekend to Queens Birthday season that there is for Speedway, then this emphasises the concerns I have regarding the likelihood of motorsport events coinciding with the high fire risk season.
29. The Tasman District Council Officers' report suggests on page 28 "*that developing the ROW access and portions of the legal road from Olivers Road through to the subject property so that the ROW carriageway is upgraded and widened to 8m with 30kph minimum standard and with a 30m uphill and 20 m downhill firebreak should enable safe evacuation to occur while at the same time providing accessibility for inbound vehicles*". Clearly that officer has had no experience with wild fires in production forests. I can assure you that if a fire were to start in the forest below the ROW there would be thick smoke and heat uphill of the fire that would render the ROW impassable. I illustrate this by the following photograph (A) which shows the potential of a forest fire. Furthermore if a fire were to start in the forest within the valley system upwind (south) of the complex in strong wind conditions the complex itself would be overrun with smoke and potentially embers, causing an extreme safety hazard for people.



**Photograph A: Example of smoke and heat funnelling uphill from Forest fire**

30. Using the fire risk management techniques which apply at Rabbit Island as a comparison of the relative fire risk, as the TDC Officers' report on page 26 seeks to do, is inadvisable. Rabbit Island is flat and surrounded by water, providing an endless supply of water for fire fighting. It offers an eight kilometre beach frontage, providing a range of safe refuge opportunities to anyone on the island in the event of a fire. The Stanley Brook location is enclosed within a steeply sided valley in the middle of a vast exotic plantation forest 25 kilometres inland where there are scarce summer surface water resources and all available evacuation routes (legal or otherwise) pass through forested land. The differences are extraordinary.
31. As a good rule of thumb under similar conditions fire will travel uphill up to twice as fast as on the flat for every 10 degrees slope<sup>2</sup>. This is because:

*Slope steepness affects rate of fire spread and, in turn, frontal fire intensity by preheating unburned fuels ahead of the fire. On a slope, the flames are tilted towards uphill fuels (even in the absence of wind), thus enhancing preheating through radiation by reducing the distance between the flame and unburned fuels, and also increasing the chances of convective gases contacting the fuels. In addition, spotting potential is increased by convection currents carrying firebrands upslope. Therefore, fires burn more rapidly and intensely than either downslope or on the level.*

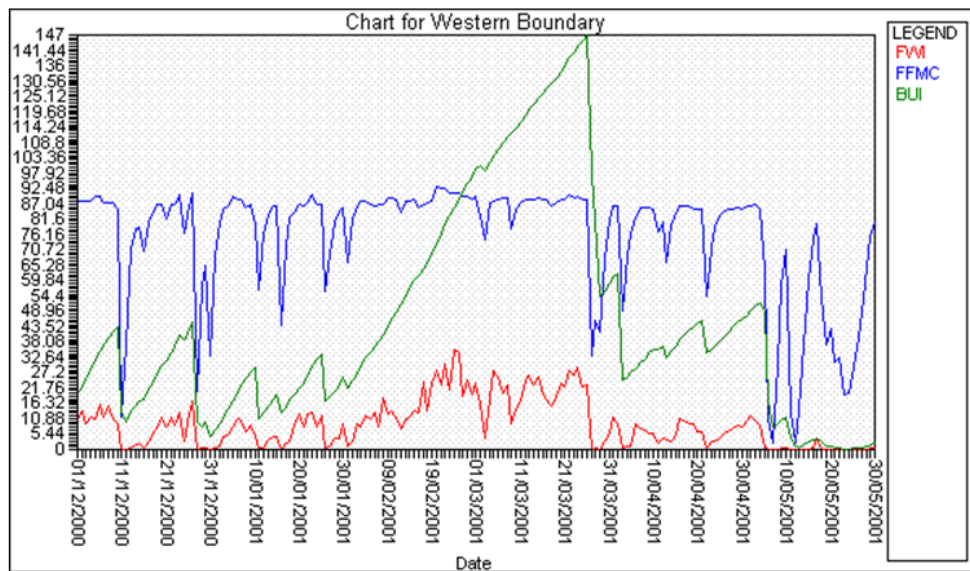
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<sup>2</sup> Pearce, G. 1994: *Applications of rate of spread information to fire suppression planning*, Fire Technology Transfer Note – Number 4, October 1994, NZ Forest Research Institute and National Rural Fire Authority.

(page 3, Fire Technology Transfer Note – Number 4 October 1994 NZ Forest Research Institute and National Rural Fire Authority. , **attached** to my evidence as **Appendix 2**)

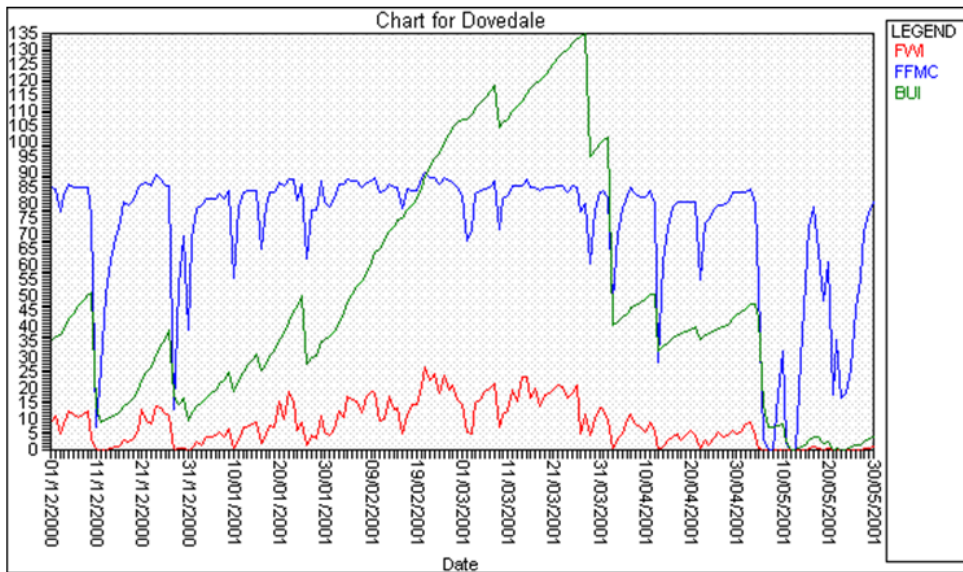
32. Slopes at Stanley Brook exceed 20 degrees and even 30 degrees in places.<sup>3</sup> The rate of fire spread would be expected to travel uphill at Stanley Brook between 3 and 6 times faster than on flat land at Rabbit Island. The difference that slope makes is illustrated in the Fire Technology Transfer Note, using as a general example the time it would take to evacuate the Gondola at the top of Bob’s Peak in Queenstown.
33. By way of specific example the fire weather conditions in 2001 for Dovedale and Western Boundary weather stations, shown below, provide a BUI of 140 and FFMC of 85 during March 2001.

**Fire Weather chart for Dovedale weather station 2000- 2001**



<sup>3</sup> Mr Dakers in his evidence at paragraph 4 records the slopes as being from 10% - 50% (as opposed to degrees).

**Fire Weather chart for Western Boundary weather station 2000- 2001**



34. Assuming a south-westerly wind of 25 km/hr (corresponds to FWI of 29) the corresponding Initial Spread Index (ISI) would be 7 and head fire rate of spread for mature Radiata Pine forest on flat ground would be 155 m/hr, taking over 3 hours to cover 500 m, while on a 30 degree slope the uphill rate of spread would be 930m/hr, taking 32 minutes to travel 500m. In slightly more windy conditions the situation changes dramatically: at wind speeds of 45 km/hr the ISI would be 20 and corresponding rates of spread 998 m/hr (30 minutes to travel 500m) for flat ground and 5988 m/hr uphill for 30 degree slopes (5 minutes to travel 500m). The opportunities to escape are vastly different between Rabbit Island and Stanley Brook.
35. Furthermore in the event of a large forest fire there is a real possibility that the park would become enveloped in smoke and embers, offering no reliable safe refuge for visitors. Hence I agree with Mr Wilks that the proposed Motorsport Park site is a different fire management proposition to that of Rabbit Island. I would describe it in fact as not comparable, to the point where to make such a comparison is dangerous because it is a completely different risk analysis.

**Potential consequences of production forest fire starting at this location**

36. Nelson and Marlborough have a history of some of New Zealand’s largest plantation forest fires. A fire start during high fire danger periods at this location could easily produce a fire of similar, if not considerably greater, scale to the historical events of note within the district. To demonstrate the scale of potential consequences of a large plantation fire event I provide a brief history of large plantation fires in Nelson/Marlborough:

Hira fire 5th February 1981 – burnt 1972 ha, BUI at the time 70

Harakeke fire 23 October 1997 – burnt 532 ha

Wither Hills fire (grass) 26 December 2004 – burnt 6,151ha

Ward fire (grass) 26 December 2001 – burnt 545 ha

Irvine's plantation fire 3 December 2004 – burnt 200ha, \$1M suppression cost

Canvastown fire 8 March 2006 – burnt 215ha

Tadmor fire 26 November 2009 – burnt 600ha

37. None of the above fires resulted in the loss of life. Hence I have concentrated upon the loss of production forest. However it should never be forgotten that fires also cost lives. Where there is a Motorsport Park, potentially with up to 5000 visitors in proximity to either fire and/or heavy smoke, the loss of life should not be forgotten as a potential outcome of any fire start that escapes in to the adjacent forest.
38. Potential loss scenario: Taking an average burn area of 500 hectares of near to harvest forest and a fire fighting effort exceeding 2 days before the fire is contained the following consequences could reasonably be expected:
  - 38.1 Suppression costs exceeding NZ\$2 million plus GST.
  - 38.2 Crop volume burnt exceeding 250,000m<sup>3</sup>, rendering the volume unavailable for local logging crews, cartage contractors and processors.
  - 38.3 Reduced log supply impacting jobs in harvesting and trucking work force, and the associated reduction in local processing affecting employment.
  - 38.4 Cost of removal of burnt forest as well as re-establishment costs.
  - 38.5 Potential for a fire to spread and reach Eves Valley Sawmill and cause significant fire damage loss.
39. The combined direct and indirect economic losses of such an event could easily exceed NZ\$20 million plus GST. As can be seen from the Hira fire event the loss of over 1000 hectares of production forest is not unprecedented. The losses associated with such an event would be catastrophic for the district and vastly exceed the loss scenario described above. The losses could extend to significant job losses in the forestry and related local wood processing industry.

40. The suppression cost of a vegetation fire that starts outside a commercial or semi-commercial forest area (section 2, Forest and Rural Fires Act 1977) is eligible for a claim against the National Rural Fire Fighting Fund (NRFFF) administered by the National Rural Fire Authority NRFA. A fire starting on the ROW within the Crown Forest Licence would not be eligible for the NRFFF claim. The increased risk of a fire start on the ROW associated with the Motorsport Park proposal places Nelson Forests Limited at extraordinary risk of being liable for suppression costs associated with all fire starts within the ROW.

### **Conclusion**

41. The fire management methods proposed by the Applicant and the Tasman District Council Officers' recommended conditions do not adequately mitigate the risks of a fire at this location. Despite the mitigation measures proposed the Motorsport Park will increase the risk of a fire starting at the location. The consequences of a fire at this location are potentially catastrophic, including risk of entrapment and danger to visitors at the park, risks to people fighting any fires, risks of substantial fire suppression costs and forest losses due to the location being in the heart of the region's exotic forests, and the associated losses of employment and income for the wider community.
42. Furthermore the mitigation recommended by the Applicant and the Tasman District Council Officers would impose entirely unreasonable obstruction and encumbrance upon Nelson Forests Limited. Under the Deed granting ROW by easement Nelson Forests Limited retains rights to protect its ability to undertake normal operations and protect its forestry assets. Placement of power lines, fences and locked gates on the Grantor's land, clearing of vegetation from the Grantor's land, imposing restrictions on the Grantor's use of the ROW are all unwelcome and unreasonable. Nelson Forests Limited has objected to the proposal from the outset and will not approve the proposed mitigation methods that impact on the ROW and adjoining land.
43. With Adcock and Donaldson Properties Limited having no way of giving effect to the proposed conditions it is unreasonable to grant the consent to create and operate a Motorsport Park at Stanley Brook, because the adverse effects are significant and cannot be mitigated.

Andrew Karalus

Nelson Forests Limited

8 March 2012