Tabled @ Hearing 20/09/201

BEFORE THE ENVIRONMENT CANTERBURY COMMISSIONERS LAND AND WATER REGIONAL PLAN HEARINGS PANEL

IN THE MATTER of Plan Change 5 of the Canterbury Land and Water Regional Plan

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STATEMENT OF EVIDENCE OF MARCUS ROSS GIRVAN ON BEHALF OF PUKAKI TOURISM HOLDINGS LP

Plan Change 5 of the Canterbury Land and Water Regional Plan

Dated the 19 September 2016

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1. INTRODUCTION

1.1 My name is Marcus Ross Girvan. I hold the position of Biosecurity Consultant with the environmental consultancy firm Boffa Miskell Limited, based in the firm's Christchurch office. I have been employed by Boffa Miskell since 2009.

1.2 This is the first formal statement of evidence I have presented to the Hearings Panel, however I issued a letter of support to Pukaki Tourism Holdings LP dated 21 July 2016, which was submitted as evidence to the Hearings Panel. My experience and qualifications are set out in paragraphs 1.3 and 1.4 of this statement of evidence.

1.3 Of particular relevance to this evidence is my involvement in wilding tree management in the Mackenzie Basin, acting on behalf of Land Information New Zealand (LINZ) to control *Pinus contorta* on the Lake Pukaki western shoreline, adjoining Pukaki Downs Station over the past 7 years. More recently I have managed *P. contorta* control on adjoining Ferintosh Station on behalf of LINZ. I also act as Programme Manager for the Mid Dome Wilding Trees Charitable Trust, managing wilding trees (mostly *P. contorta*) over the c.68,000 hectare Mid Dome operational area. This is a position I have held for 2 years.

1.4 I have 10 years' experience in the field of biosecurity and have been managing wilding trees for 7 years. I hold a Bachelor of Science (Hons) degree in Geography and am an accredited Project Management Professional (PMP). I have professional affiliations with the New Zealand Biosecurity Institute, Project Management Institute of New Zealand and am a member of the New Zealand Wilding Conifer Management Group.

2. CODE OF CONDUCT

2.1 I confirm that I have read the code of conduct for expert witnesses as contained in the Environment Court's Practice Note 2014. I have complied with the practice note when preparing my written statement of evidence, and will do so when I give oral evidence before the Hearings Panel.

2.2 Unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

3. SCOPE

3.1 I have been asked to provide evidence in relation to Pukaki Tourism Holdings' submission seeking lawful exceedance of the Nitrogen baseline to occur after 13 February 2016 for the purpose of controlling invasive pest species such as wilding conifers.

3.2 In preparing my evidence, I have carefully reviewed the documents listed in **Appendix 1** to my evidence.

3.3 In this evidence I address;

(a) the wilding tree issue in New Zealand;

(b) wilding tree control options on Pukaki Downs Station; and

(c) Pasture management and grazing as a preferred option to minimise *P. contorta* establishment

4. EXECUTIVE SUMMARY

4.1 Pukaki Tourism Holdings LP's submission on Plan Change 5 is to seek the lawful exceedence of the Nitrogen baseline to manage wilding trees on Pukaki Downs Station. Through land intensification, pasture management and grazing, land susceptible to invasion can be maintained free of wilding trees, and land that has been mechanically cleared of wilding trees can be reinstated as viable farmland. Pukaki Tourism Holdings is seeking the continuation of these practices to manage wilding trees.

5. WILDING TREE ISSUES IN NEW ZEALAND

5.1 Wilding conifers are now affecting approximately 1.7 million hectares of New Zealand and are expanding at a rate of 5-6% per year. At these levels, approximately 90,000 hectares per year are becoming infected with wilding conifers. The Ministry for Primary Industries is the agency leading the national direction for wilding tree control, and has coordinated the development of the New Zealand Wilding Conifer Management Strategy 2015-2030. In May 2016 the New Zealand Government committed $16 million over 4 years to control wilding conifers across the country. It is likely that a significant portion of this funding will be allocated to the Mackenzie Basin to manage wilding tree spread.

5.2 *Pinus contorta* is considered to be the most prolific wilding conifer species in New Zealand. *P. contorta* has very light, winged seeds, which are wind dispersed. Seed has been known to spread several kilometres in strong winds. This species is quick to mature, and within 5 years of germination has been known to form cones and set seed. A mature *P. contorta* is estimated to produce approximately 12,000 seeds per annum and can form dense monocultures, outcompeting all other species. Dense wilding tree stands can also reduce water yields, impact on aesthetic and cultural values, and increase the risk of wild fires.

5.3 The Mackenzie Wilding Conifer Trust has recently been established, and a management strategy for wilding tree control within the Mackenzie Basin has been developed. This plan highlights the immediate need to control wilding trees, delimits the extent and outlines the priorities for control within the Basin.

6. WILDING TREE CONTROL OPTIONS FOR PUKAKI DOWNS

6.1 The Mackenzie Basin has a significant wilding tree issue, the worst of which can be found to the west of Lake Pukaki on Pukaki Downs and Ferintosh Stations. *P. contorta* is the dominant species. There are a number of control methods, which are considered best practice in New Zealand, however a number of these control methods would not be appropriate given the extent of mature *P. contorta,* on Pukaki Downs and adjoining land, seeding onto Pukaki Downs. Aerial foliar spraying and mechanical clearance are considered viable control options, and pasture management and grazing the best option for managing seedling establishment.

6.2 Aerial foliar spraying is a method widely used in New Zealand to control dense, closed-canopy conifers. The herbicide is generally applied from a helicopter boom onto the trees, and within 2 years a kill rate of up to 90% can be expected. Although a high percentage of trees will be killed, over time the trees will break down allowing light to reach the ground, resulting in the germination of *P. contorta* seeds which exist in the soil. If there is a continual seed source then further control will be required in perpetuity. The cost of aerial foliar spraying is approximately $2,000 per hectare.

6.3 Mechanical removal of trees is a method that is currently being employed on Pukaki Downs Station. This involves mechanically removing trees, allowing the land to be cultivated and planted in grass or crops. The

advantage to this method is that the land can be restored to a state where it can be utilised for farming production, and if managed correctly can significantly reduce or eliminate wilding tree establishment.

7. PASTURE MANAGEMENT AND GRAZING AS THE PREFERED OPTION TO MINIMISE P. CONTORTA ESTABLISHMENT

7.1 Vigorous pasture or crop species can outcompete wilding conifers if managed correctly. This alone can inhibit the germination and establishment of wilding conifers. Through stocking the pasture or crop at an appropriate level, stock can browse the young, palatable *P. contorta* seedlings resulting in their mortality. This type of farm management has proven to be an effective way of managing the establishment of wilding trees, whilst maintaining land in a productive state.

Marcus Ross Girvan

19 September 2016

APPENDIX 1: REVIEWED DOCUMENTS

(a) New Zealand Wilding Conifer Management Strategy 2015-2030

(b) Mackenzie Wilding Conifer Management Strategy

(c) Plan Change 5, section 15B

(d) Pukaki Tourism Holdings Plan Change 5 submission documents