

**BEFORE THE HEARINGS PANEL
FOR THE PROPOSED QUEENSTOWN LAKES DISTRICT PLAN**

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Hearing Stream 14:
Wakatipu Basin hearing and transferred
Stage 1 submissions related to Arrowtown
and Lake Hayes

**STATEMENT OF EVIDENCE OF SIMON HERBERT BEALE ON BEHALF OF
HOGANS GULLY FARM LIMITED**

2 July 2018

1. QUALIFICATIONS AND EXPERIENCE

- 1.1 My full name is Simon Herbert Beale. I am a Director of Beale Consultants Limited, an independent ecology and planning consultancy.
- 1.2 I hold a Bachelor of Science in Zoology from the University of Otago and a Bachelor of Forestry Science from the University of Canterbury. I am a member of the New Zealand Ecological Society and the Environment Institute of Australia and New Zealand and a full member of the New Zealand Planning Institute. I am a Certified Environmental Practitioner.
- 1.3 I was previously employed by MWH New Zealand for 22 years and more recently with Opus International Consultants Limited. Much of my experience has been focussed on ecological assessments for a variety of infrastructure and tourism related projects, ecological monitoring programmes and in the preparation of ecological management plans with a focus on ecological restoration.

2. BACKGROUND

- 2.1 I have a good understanding of the ecology of the Wakatipu Basin and have been actively involved with indigenous planting programmes initiated by the Wakatipu Trails Trust and the Wakatipu Reforestation Trust. I have also been involved in supervising small-scale restoration projects for private landowners in the Basin.
- 2.2 I have been asked by Hogan Gully Farms Limited (HGFL) to present evidence on how the restoration project as proposed by e3 Scientific Limited and Baxter Design for HGFL can be undertaken to ensure it will provide a significant contribution to the ecology of the Hogan Gully Farm (hereinafter referred to as the farm) and the Wakatipu Basin.
- 2.3 I conducted a walk over survey of the farm on 28 June 2018 in the company of an e3 Scientific Limited ecologist to gain a good understanding of the physical and natural environment of the farm and the nature of the proposed restoration project.
- 2.4 In preparing this evidence I have drawn on observations arising from the walk over of the farm, from walk over surveys of two landscape restoration projects in the Wakatipu area undertaken successfully by e3 Scientific and from an ecological

review of the proposed golf and residential development at the farm undertaken by e3 Scientific Limited.

3. CODE OF CONDUCT

3.1 I have read and am familiar with the Code of Conduct for Expert Witnesses in the current Environment Court Practice Note (2014), have complied with it, and will follow the Code when presenting evidence to the Council. I also confirm that the matters addressed in this statement of evidence are within my area of expertise, except when relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

4. SITE ENVIRONMENT AND ECOLOGICAL CONTEXT

4.1 In order to formulate a restoration project of this scale it is important to understand the physical and biological environment of the farm, its history and its ecological context.

4.2 The physical environment of the farm as observed is characterised by climatic extremes and a short growing season while the landform features multiple ridges and gullies and rocky outcrops in places.

4.3 The biological environment as observed is dominated by exotic pasture grasses while the indigenous elements are restricted to remnant areas of shrubland dominated by matagouri and wetlands that are generally in a degraded state as a result of pastoral development.

4.4 The threatened environment classification which indicates the degree of indigenous vegetation remaining today in any given area shows that the farm lies in a chronically threatened environment which is classified as containing less than 20% indigenous vegetation of its original extent.

4.5 In pre-human times the farm like the rest of the Wakatipu Basin would have supported shrubland communities of kowhai, native broom, *Coprosma* spp., tree daisies and matagouri, short tussock grassland and numerous wetlands dominated by sedges, rushes, toetoe and flax.

5. ECOLOGICAL VALUES OF THE PROPERTY

- 5.1 The area of the farm of the greatest ecological value exists within what is referred to by e3 Scientific as the northern gully system. This gully supports a relatively unmodified wetland featuring an area of open water and a large sedgeland dominated by *Carex secta*. The largest and more mature area of shrubland on the property exists upslope of this wetland and occupies the upper slopes and crest of a prominent ridge.
- 5.2 The remaining areas of shrubland and wetlands on the farm are as observed, highly degraded, isolated and small in scale.
- 5.3 Despite the degraded nature of the shrublands and wetlands they provide habitat for native invertebrates and a number of species of native and exotic birds. Some of the birds are important prey species for the eastern falcon, which is likely to utilise the farm for hunting owing to the presence of shrublands and wetlands. The eastern falcon is nationally threatened. Several prominent rocky outcrops occur on the farm which are likely to provide suitable habitat and cover for one or more native gecko and skink species.

6. RESTORATION OPPORTUNITIES

- 6.1 In assessing the restoration opportunities on the farm e3 Scientific refer to the work of ecologist Colin Meurk who was engaged in 1997 by the Wakatipu Environmental Society to investigate the natural heritage of the Wakatipu Basin and provide advice on restoration opportunities. Meurk suggests in his report titled *Rediscovering & Restoring Natural Heritage in the Wakatipu Basin* an approach to recovery of indigenous vegetation that would include enhancement of waterway function, protection of remnant natural habitat, re-establishing large viable populations of indigenous plants and wildlife and establishing improved visual and biological linkages that are integrated within the productive activities in the Basin. I am familiar with the report and consider this to be both informative and practical with respect to ecological restoration in the Wakatipu Basin.
- 6.2 In the ecological review of the farm e3 Scientific also cite the work of Gange et al., 2003 and Hanski, 1998) who advocate habitat restoration via habitat patch networks which can increase biodiversity so long as size, quality and degree of

isolation of habitat patches is addressed. e3 Scientific additionally draw on the work of Colding and Folke 2009 who along with Gange et al. 2003 recognise the potential of golf courses to support increased biodiversity and ecological values by increasing habitat patches via restoration of less intensively managed fairways and non-playing areas.

6.3 On the basis of the landscape ecology principles and restoration measures advocated by Meurk 1997, Gange et al. 2003, Hanski, 1998 and Colding and Folke, 2009s e3 Scientific has identified large scale ecological restoration opportunities on the farm involving enhancement of existing areas of shrubland and wetland and planting of additional areas to connect the existing areas in order to improve biodiversity and wildlife migration. The location and extent of the proposed enhancement and additional area plantings are depicted on the Baxter Design Planting Typology Plan.

6.4 The restoration opportunities on the farm will be further enhanced by the establishment of an irrigation system for the golf course.

7. RESTORATION REQUIREMENTS

7.1 The restoration opportunities as noted are founded on restoration objectives prescribed by e3 Scientific for the farm, which I endorse. These are:

- Enhance the remaining areas of shrubland and wetland of ecological value through infill plantings to increase indigenous plant species diversity and vegetation cover; and
- Establishment of new restoration plantings adjacent to the remaining areas to increase indigenous cover, plant species diversity and provide suitable habitat for invertebrates, lizards and birds.

7.2 As alluded to earlier in my evidence an understanding of the nature of the farm environment is crucial especially understanding the varied nature of the farm's terrain, soils, geology, hydrology and microclimatic conditions which in turn will influence plant species selection and aftercare.

7.3 e3 Scientific recommend the preparation of an ecological management plan for approval by Council. Based on my own experience I consider this an essential

aspect of the project of this scale. In order to realise the restoration objectives, it is important to formalise and guide all elements of the restoration work. These elements will vary depending on the location of the planting sites on the farm and include for example; plant spacing and configuration, irrigation requirements, rabbit and weed control and monitoring.

8. ECOLOGICAL BENEFITS

- 8.1 I am confident, based on the successful outcome of the plantings established by e3 Scientific at Walter Peak and at 438 Malaghans Road as observed, that the restoration project proposed for the farm will yield significant ecological benefits. These benefits will be enhanced habitat quality and connectivity and enhanced ecosystem function and biodiversity across large parts of the farm.
- 8.2 By enlarging the shrublands and wetlands on the farm and affording higher habitat quality, they will provide an ecological benefit on wider landscape scale across parts of the Wakatipu Basin. These areas will assist in the movement of native birds with large home ranges between areas of indigenous vegetation such as the expansive shrublands on the northern slopes of the Remarkables and the beech forest and shrublands in the Bush Creek catchment near Arrowtown.
- 8.3 The degree of connectivity between the restored areas of shrubland and wetlands on the farm and other areas of indigenous vegetation and habitat in the Wakatipu Basin will be further enhanced as other plantings associated with existing restoration projects¹ become self sustaining and as new restoration projects come to fruition.



Simon Beale

2 July 2018

¹ Wakatipu Reforestation Trust, Project Gold, and 438 Malaghans Road, Threepwood, and Hawthorn subdivisions.