

**BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL**

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** the Queenstown Lakes District Council Proposed  
District Plan

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**STATEMENT OF EVIDENCE OF DR LAURENCE BAREA  
FOR THE DIRECTOR-GENERAL OF CONSERVATION**

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**Biodiversity Offsetting**

**Submitter number 373 / 1080**

**21 April 2016**

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## Summary of Evidence

1. My name is Laurence Peter Barea. I am an employee of the Department of Conservation (the Department) where I hold the role of Technical Advisor Ecology for Biodiversity Offsets in the Science and Policy Group.
2. My evidence relates to provisions for biodiversity offsets in the Proposed Queenstown Lakes District Plan (the Plan), and alignment of those provisions with the New Zealand Government's *Guidance on Good Practice Biodiversity Offsetting in New Zealand* (the Guidance).
3. In summary, I recommend the inclusion in the Plan of:
  - a. a new policy for biodiversity offsets;
  - b. a definition of "biodiversity offset"; and
  - c. a definition of "environmental compensation" if the plan retains provision for suchin accordance with the Guidance, and I have proposed wording for these provisions.
4. Further, I recommend including, by way of a schedule referring to the Guidance (or any central government successor), the ten principles of biodiversity offsetting that are contained within.
5. I consider the amendments proposed in Mr Deavoll's evidence Deavoll, as they relate to biodiversity offsets, to be appropriate and helpful in providing clarity and assistance to offset practitioners in meeting the Plan's objectives.

## Introduction

6. I hold Bachelor of Science (1991) and Master of Science (1st Class honours) (1995) degrees from the University of Waikato and a PhD (2008) in Terrestrial Ecology from Charles Sturt University, NSW, Australia.
7. I took up my current role as Technical Advisor Ecology for Biodiversity Offsets in November 2012. Previously I was a senior environmental consultant with Golder Associates (NZ and Canada) Limited, and prior to that I was an Ecologist and

Biodiversity Technical Support Supervisor for the Waikato Conservancy of the Department from October 2007–February 2010. Between 2001 and 2004 I worked as a consulting wildlife biologist in Boise, Idaho on a range of development projects across the Pacific Northwest of the United States of America before moving to Australia in 2004 to undertake my Doctoral research. Between 1996 and 1998 I worked for the Department as a wetland and threatened species ecologist.

8. I have published nine scientific papers in peer reviewed literature and am a member of the New Zealand Ecological Society.
9. I have been an expert witness on biodiversity offsetting in relation to the Hauāuru mā Raki (HMR) Wind Farm, the Hurunui Water Project, the Auckland Unitary Plan and the Thames Coromandel District Plan.
10. My current role in the Department involves implementation of the Guidance. I provide technical advice on biodiversity offsets and their development and assessment in accordance with the Guidance.
11. I have read the Environment Court's Code of Conduct for Expert Witnesses and I agree to comply with it. My qualifications as an expert are set out above. Other than those matters identified within my evidence as being from other experts, I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

### **Scope of Evidence**

12. I have been asked to provide evidence in relation to provisions in the Plan relating to biodiversity offsetting. Throughout this evidence when I refer to biodiversity offsets, I am referring to indigenous biodiversity. My evidence will cover the following:
  - I. The Business and Biodiversity Offsets Programme
  - II. The BBOP Biodiversity Offset Principles
  - III. Guidance on Good Practice Biodiversity Offsetting in New Zealand

- IV. Biodiversity Offsets Definition
- V. Biodiversity Offsetting and other forms of effects Management
- VI. Compensation v Offsets
- VII. No Net Loss
- VIII. The Mitigation Hierarchy
- IX. Proposed Queenstown Lakes District Plan
- X. Conclusion

### **The Business and Biodiversity Offsets Programme**

13. The Business and Biodiversity Offsets Programme (BBOP; <http://bbop.forest-trends.org/>) is an international collaboration of more than 80 organizations and individuals including companies, financial institutions, government agencies and civil society organizations. New Zealand has been a key contributor to the programme with members from the Department of Conservation, extractive industry and legal profession contributing to the work. The members have produced guidance on biodiversity offsetting to achieve no net loss or a net gain in biodiversity.
14. The BBOP's vision and expectation is that biodiversity offsets will become a standard part of business practice for those companies undertaking activities with a significant residual effect on biodiversity after avoiding, remedying, and minimising effects; and that the routine mainstreaming of biodiversity offsets into development practice will result in long-term and globally significant conservation outcomes.
15. The BBOP has established key definitions and a principles-based approach to biodiversity offsetting (BBOP 2012a). These principles underpin the concept of biodiversity offsetting, support its definition and form the standard to inform the design, implementation and assessment of a biodiversity offset.
16. International organisations are increasingly incorporating BBOP principles and guidance into their sustainable business policies to manage reputational, social and environmental risk. Examples include the International Finance Corporation arm of

the World Bank, 83 international banking institutions in 36 countries adopting the Equator Principles, the International Union for the Conservation of Nature (IUCN), and the European Union No Net Loss Initiative, amongst others. This broad international accord, in my opinion, supports a conclusion that the BBOP standard, guidance and principles are biodiversity offsetting best practice.

### **The BBOP Biodiversity Offset Principles**

17. The BBOP has developed ten principles that are expected to be met for a project to be considered a biodiversity offset. The principles underpin offset design and implementation and provide a foundation for expected outcomes from a biodiversity offset. They recognise both ecological equivalence and social interest in biodiversity, and acknowledge that societal wellbeing is eroded when biodiversity is lost and have been incorporated into the Guidance (Exhibit A. page 4).

18. These principles are:<sup>1</sup>

1. Adherence to the mitigation hierarchy: A biodiversity offset is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance, minimization and on-site rehabilitation measures have been taken according to the mitigation hierarchy.
2. Limits to what can be offset: There are situations where residual impacts cannot be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected.
3. Landscape context: A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach.
4. No net loss: A biodiversity offset should be designed and implemented to achieve in situ, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.
5. Additional conservation outcomes: A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if

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<sup>1</sup> Business and Biodiversity Offsets Programme (BBOP). 2012. Standard on Biodiversity Offsets. BBOP, Washington, D.C.

the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity to other locations.

6. Stakeholder participation: In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design, implementation and monitoring.
  7. Equity: A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognised rights of indigenous peoples and local communities.
  8. Long-term outcomes: The design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing outcomes that last at least as long as the project's impacts and preferably in perpetuity.
  9. Transparency: The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner.
  10. Science and traditional knowledge: The design and implementation of a biodiversity offset should be a documented process informed by sound science, including an appropriate consideration of traditional knowledge.
19. In my opinion these principles have an important place in statutory plans because they underpin the biodiversity offsetting concept, support its definition and provide the foundation for expected outcomes. As such, they provide for improved ecological solutions to development projects.

### **Guidance on Good Practice Biodiversity Offsetting in New Zealand**

20. In response to an increasing number of proposals involving offsets, where consistency of approach and a standard were lacking, the Department led an initiative to develop the Guidance between 2009 and 2014. The intention was to ensure that solutions addressing residual effects are ecologically sound and demonstrably result in no net loss or a net gain. The Guidance is contextually related to Goal 3 of the New Zealand Biodiversity Strategy (2000), which is to halt the decline in New Zealand's indigenous biodiversity.

21. The Guidance is New Zealand's implementation of BBOP's international work. It was developed under the auspices of the Department's Biodiversity Offsetting Programme, with participation of the Ministry for Business, Innovation and Employment, Ministry for the Environment, Land Information New Zealand and the Ministry for Primary Industries.
22. The New Zealand Programme has drawn from the work of the BBOP, including adoption of the ten principles, to the extent that the Guidance is essentially the New Zealand embodiment of that work.
23. The Guidance was formally launched by the Minister of Conservation on 7 August 2014. Although the guidance is not a statutory document it is a valuable tool for the design and assessment of ecologically sound management of affects and reflects the relevant government department's view on biodiversity offsetting. It is supported by additional resources that provide more detail on the design, implementation and assessment of biodiversity offsets (see Exhibit A).

### **Biodiversity Offsets Definition**

24. Biodiversity offsetting refers to a process that seeks to counter-balance the unavoidable effects of activities on biodiversity by enhancing the state of biodiversity at a site other than the affected site. The Guidance draws from the BBOP definition of biodiversity offsetting to define a biodiversity offset as:<sup>2</sup>

Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve *no net loss and preferably a net gain* of biodiversity on the ground.

25. Thus, biodiversity offsets are differentiated from other forms of effects management, including environmental compensation, by requiring three essential components:
  - I. Explicit measurement and balancing of biodiversity predicted to be lost and gained;

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<sup>2</sup> Good Practice Biodiversity Offsetting in New Zealand, page 3

- II. A mitigation hierarchy to be followed, i.e. offsetting significant residual effects after appropriate avoidance, minimisation/mitigation and on-site rehabilitation activities have taken place; and
- III. A goal of no net loss and, preferably, a net gain of biodiversity to be reasonably demonstrated and then achieved on the ground.

26. I am of the opinion that in order for biodiversity offsets to be sound, the definition of biodiversity offsetting should be incorporated into the Plan so that it provides a clear understanding of the expectation and assessment of proposed biodiversity offsets.

**27. Biodiversity Offsetting and other forms of Effects Management**

28. In any activity there is usually a range of measures presented by the applicant to address adverse effects on the environment. It is usual that a mixture of solutions will be tabled: from avoiding, remedying and mitigating certain adverse effects through to actions addressing the loss of residual ecological values which cannot be avoided, remedied and mitigated.

29. The range of management options for these residual effects might be seen as existing along a continuum representing increasing confidence that no net loss or a net gain can be demonstrated in support of its practical achievement on the ground. This is illustrated conceptually in Figure 1.

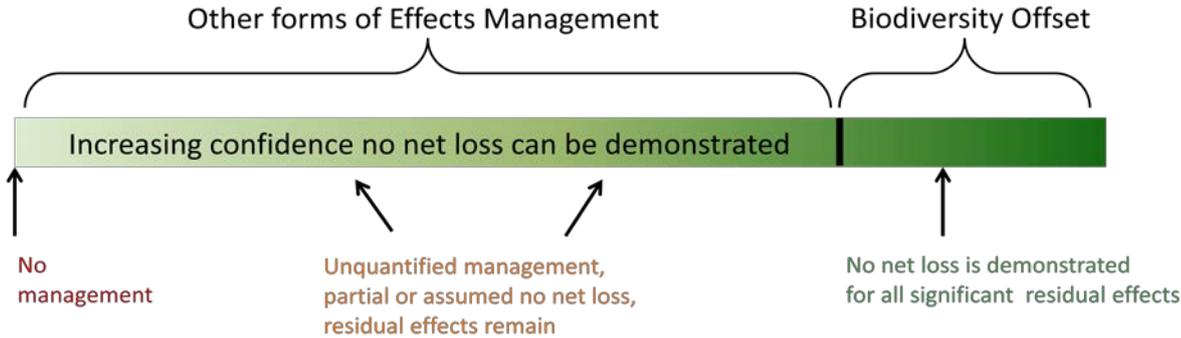


Figure 1. Impact management spectrum (after BBOP 2012a)

30. At the extreme left of the figure, and under little or no investment in effects management, there is low confidence that no net loss can be demonstrated. With increased investment in identifying adverse effects and management options,

outcomes improve, but biodiversity losses and gains may remain un-quantified (how much has been lost and gained?), different types of biodiversity are exchanged for those lost (e.g., rat control for vegetation loss), and residual effects often remain.

31. A biodiversity offset is indicated at the point along the spectrum where no net loss or a net gain is demonstrated to be achievable on the ground.

### **Compensation v Offsets**

32. It is not uncommon for developers to offer environmental compensation, sometimes presented as mitigation, as a means of addressing the adverse effects of their proposal. Environmental compensation often comprises a range of offerings, from financial payments to specific management actions aimed at improving habitats or species populations, or both. A critical difference between environmental compensation and biodiversity offsets is that compensation is not designed to demonstrate, *a priori*, that no net loss or a net gain in biodiversity is achievable on the ground. Thus, the outcomes of compensation differ from those of biodiversity offsetting and it is important for decision makers to understand this difference.

33. Biodiversity offsets and environmental compensation, or just compensation, are sometimes used interchangeably or additionally in plans or resource consent applications when describing approaches to environmental redress. Because the approaches are fundamentally different it is useful to define compensation to avoid confusion with offsets when both are provided for in a plan. In my opinion a useful definition for environmental compensation is as follows;

Actions offered as a means to address residual adverse effects on the environment arising from project development that are not intended to result in no net loss or a net gain of biodiversity on the ground.

34. The DOC submission requested that compensation be deleted from the plan's policies and this appears to have been done in the proposed amendments contained in Appendix 1 of the Officers report. In the event that the Council's decision is to retain compensation as well as biodiversity offsetting, then in the interests of clarity I recommend that the Plan includes the above definition for compensation.

## No Net Loss

35. No net loss is the essence of biodiversity offsets. It is the goal of an offset. In its absence, management of effects becomes simply a collection of actions lacking an explicit outcome. No net loss refers to the point at which biodiversity gains from targeted biodiversity management activities match the losses of biodiversity due to the effects of a specific activity, and essentially means no overall reduction in indigenous biodiversity, as measured by type, amount and condition. A net gain means that biodiversity gains exceed a specific set of losses associated with an activity.
36. Under the BBOP and the Guidance, a biodiversity offset should be designed and implemented to reasonably demonstrate that no net loss and, preferably, a net gain of biodiversity can be achieved. Demonstrating no net loss involves explicit identification and quantification of biodiversity losses and gains and their balancing in an accounting system. Biodiversity is complex and it is not possible to measure everything. Accordingly, demonstrating no net loss requires biodiversity to be simplified into units that can be measured, compared and subsequently balanced at affected and offset sites. For these reasons, biodiversity offsetting will always be an exchange of biodiversity between affected and offset sites, and no net loss can only ever be reasonably demonstrated. The preference for a net gain over no net loss reflects the risk to biodiversity associated with its certain loss for uncertain gain, and reduces some of the uncertainty around accurate quantification of biodiversity and its future management.
37. In order to balance losses and gains, biodiversity must be translated into a currency. This provides the basis for exchange and describes 'how much of what' is being lost and gained and essentially defines the meaning of no net loss on a case by case basis. The mathematical balancing of the currency across affected and offset site demonstrates the point of no net loss. A simplified example of the outcome of this concept is provided in Figure 2.

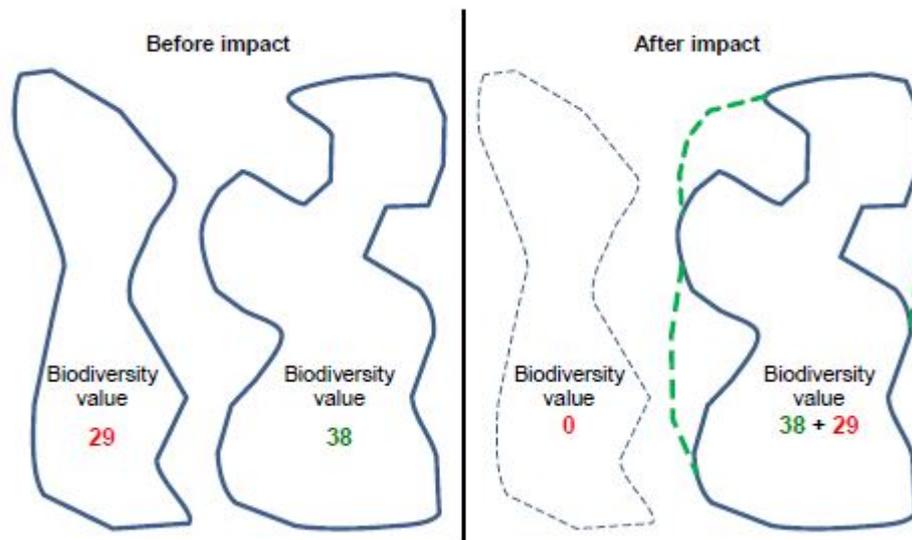


Figure 2. Simplified illustration of the goal of no net loss of biodiversity values. Values are lost due to the effects of the development and gained through management actions to improve the area and condition of the offset site (New Zealand Guidance; Exhibit A).

38. The concept of like for like is inseparably linked to no net loss. This is because as the degree of dissimilarity between the biodiversity being lost and gained increases, the more difficult it becomes to replace all the components lost because they may not exist at the offset site. As such, demonstrating and then achieving no net loss requires like for like biodiversity exchanges.
39. The only exception to like for like exchanges is when the biodiversity being lost is of relatively low value, both to stakeholders, and from an ecological or conservation perspective. This might be because the biodiversity is very common, widespread and in poor condition. In these circumstances there may be greater benefit from managing biodiversity of demonstrably higher conservation value (trading up) at an offset site and a like for like exchange may not be the preferred way of addressing adverse effects.
40. In such cases an overall net gain, and therefore an offset, might be deemed to have been achieved if the biodiversity being lost is of low value and the biodiversity being gained is clearly of a much higher value, and the amount gained is reasonably of the same or greater magnitude, given the biodiversity offsetting principles described above have been met.

41. This ‘trading up’ approach is not appropriate for adverse effects to high biodiversity values because implicit in its adoption is acceptance of net loss of the affected biodiversity. It would therefore be inconsistent with a policy providing for the maintenance or protection of biodiversity.

### **The Mitigation Hierarchy**

42. The BBOP mitigation hierarchy is an integral part of biodiversity offsetting. It consists first of avoidance, then minimisation (analogous to mitigation), then on-site rehabilitation, then, as a final step, offsetting. Under the RMA, section 5(2)(c) requires adverse effects to be avoided, remedied or mitigated. My understanding is that there is no hierarchy in those terms. However, policy statements and plans are able to express a hierarchy similar to the BBOP hierarchy; for example a hierarchy was considered appropriate in the Horizons One Plan and, in the same vein, consent conditions may require adverse effects on particular identified features to be avoided, and other effects mitigated or remedied.

43. In my opinion use of the mitigation hierarchy prior to offsetting residual effects is a critical part of achieving no net loss and that all components of the hierarchy should be addressed. To that effect I support the inclusion of the mitigation hierarchy, i.e., avoiding, remedying and mitigating prior to offsetting as proposed by Mr Deavoll in new policy XX Biodiversity Offsets.

44. Additionally, the High Court has held that under the RMA, offsets are not mitigation (in the sense of the usual meaning of mitigation being to alleviate, or to abate, or to moderate the severity of something) and do not address effects at the point of impact; rather, they are better viewed as a positive environmental effect and are able to be taken into account under section 104(1)(a) and section 5(2)<sup>3</sup> My understanding is that this is consistent with supporting the mitigation hierarchy and that offsets are not mitigation or a subset of that. Therefore, specific and explicit provision for offsets is required by the Plan if they are to be consistently applied.

45. In my opinion it is important that the Plan acknowledges that there are limits to offsets. This is reflected by the BBOP Principle 2 which recognises that, in cases

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<sup>3</sup> *Royal Forest & Bird Protection Society of New Zealand Incorporated v Buller District Council & West Coast Regional Council & Ors* [2013] NZHC 1346

where affected biodiversity is irreplaceable or vulnerable, residual effects may not be able to be fully addressed by an offset. In such cases, adverse effects lead to net loss and need to be taken into account by decision makers.

### **The Proposed Queenstown Lakes District Plan**

46. I support the intention of the Plan to provide for biodiversity offsetting in its policies. In my preceding paragraphs I have outlined some of the key elements of biodiversity offsetting and why they are critical to achieving its goal. In this section of my evidence I will provide my opinion on parts of the Plan as they relate to biodiversity offsets and make recommendations as to how they can be strengthened.

47. Objective 33.2.1 seeks to protect, maintain and enhance indigenous biodiversity in the District. This is supported by Policy 33.2.1.8 with the consideration of any proposed compensation or biodiversity offset. In my opinion it is important that a policy for biodiversity offsets provides for their consistent application in order for the Plan's objective to be met. While I support biodiversity offsetting in the Plan, I am of the view that the policy as currently worded does not provide the strength, clarity or detail required. The alternative text below is my recommended replacement for proposed policy 33.2.1.8:

Manage the effects of activities on significant indigenous vegetation or indigenous fauna by:

- a) avoiding as far as practicable and, where total avoidance is not practicable, minimising adverse effects
- b) requiring remediation where adverse effects cannot be avoided
- c) requiring mitigation where adverse effects on the areas identified above cannot be avoided or remediated
- d) requiring any residual adverse effects on significant indigenous vegetation or indigenous fauna to be offset through protection, restoration and enhancement actions that achieve no net loss and preferably a net gain in indigenous biodiversity values having particular regard to;
  - i. limits to biodiversity offsetting due the affected biodiversity being irreplaceable or vulnerable;
  - ii. the ability of a proposed offset to demonstrate it can achieve no net loss or preferably a net gain;

iii. Schedule xx on Biodiversity Offsets

- e) enabling any residual adverse effects on other indigenous vegetation or indigenous fauna to be offset through protection, restoration and enhancement actions that achieve no net loss and preferably a net gain in indigenous biodiversity values having particular regard to;
  - i. the ability of a proposed offset to demonstrate it can achieve no net loss or preferably a net gain;
  - ii. Schedule xx on Biodiversity Offsets

48. The proposed Plan does not include definitions of *biodiversity offset*, *compensation* or *no net loss*. In my opinion distinguishing compensation and biodiversity offsets is important as the two terms are often used interchangeably despite meaning different things and leading to different outcomes. The proposed plan does not distinguish between those terms despite providing for both in Policy 33.2.1.8. Compensation may include, but not be limited to, restoration of types of biodiversity other than that affected, or pest control, financial payments, supporting research or ecological and social programmes.

49. In my opinion including a definition for biodiversity offsets in the Plan will provide clarity on what a biodiversity offset actually is, its intended outcome, and will ensure consistency with national and international practice. Accordingly I recommend the following definition which is consistent with the BBOP and the relevant government departments' view on biodiversity offsetting is included in the plan. I note that is not incongruent with the proposed new wording for Policy 33.2.1.8 of Appendix 1 of the Officers Report.

Biodiversity Offsets: Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate avoidance, minimisation, remediation and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground.

50. In the event that Council retains provision for Environmental Compensation in the Plan, then to assist applicant and decision makers in differentiating compensation from biodiversity offsets, I recommend that the following definition for environmental compensation be adopted by the Plan.

Environmental Compensation: Actions offered as a means to address residual adverse effects to the environment arising from project development that are not intended to result in no net loss or a net gain of biodiversity on the ground.

51. In support of the new policy provided in Mr Deavoll's evidence, and to promote consistent design of offsets and their analysis, I recommend including a framework for the use and evaluation of biodiversity offsets which should be read in conjunction with the Guidance and propose that framework as Exhibit B.

## **Conclusion**

52. I support the intent of the Plan to provide for biodiversity offsetting. In my opinion there are some amendments required to provide clarity and a consistent framework for the design and evaluation of proposed offsets, and the amendments proposed in Mr Deavoll's evidence as they relate to biodiversity offsets achieve that clarity and consistency.



April 20, 2016

## **References**

BBOP 2012a. Business and Biodiversity Offsets Programme (BBOP). 2012. Standard on Biodiversity Offsets. BBOP, Washington, D.C. Available from <http://bbop.forest-trends.org/guidelines/Standard.pdf>

BBOP 2012b. Business and Biodiversity Offsets Programme (BBOP). 2012. Resource Paper: No Net Loss and Loss-Gain Calculations in Biodiversity Offsets. BBOP, Washington, D.C. Available from: [http://bbop.forest-trends.org/guidelines/Resource\\_Paper\\_NNL.pdf](http://bbop.forest-trends.org/guidelines/Resource_Paper_NNL.pdf)

**Exhibit A**

**Good Practice Biodiversity Offsetting in New Zealand**

<http://www.doc.govt.nz/Documents/our-work/biodiversity-offsets/the-guidance.pdf>

## **Exhibit B**

### **New Definition and Schedule XX – Biodiversity Offsets**

#### **Biodiversity Offsets**

Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate avoidance, minimisation, remediation and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground.

#### **Appendix XX Biodiversity Offsetting**

The following sets out a framework for the use of biodiversity offsets. It should be read in conjunction with the NZ Government *Guidance on Good Practice Biodiversity Offsetting in New Zealand*. August 2014 (or any successor Central Government guidance and standards):

1. Restoration, enhancement and protection actions will only be considered a biodiversity offset where they are used to offset the anticipated residual effects of activities after appropriate avoidance, minimisation, remediation and mitigation actions have occurred as per new policy XX, i.e. not in situations where they are used to mitigate the adverse effects of activities.
2. A proposed biodiversity offset should contain an explicit loss and gain calculation and should demonstrate the manner in which no net loss or preferably a net gain in biodiversity can be achieved on the ground.
3. A biodiversity offset should recognise the limits to offsets due to irreplaceable and vulnerable biodiversity and its design and implementation should include provisions for addressing sources of uncertainty and risk of failure the delivery of no net loss.
4. Restoration, enhancement and protection actions undertaken as a biodiversity offset are demonstrably additional to what otherwise would occur, including that they are additional to any remediation or mitigation undertaken in relation to the adverse effects of the activity.
5. Offset actions should be undertaken close to the location of development, where this will result in the best ecological outcome.
6. The values to be lost through the activity to which the offset applies are counterbalanced by the proposed offsetting activity which is at least commensurate with the adverse effects on indigenous biodiversity, so that the overall result is no net loss, and preferably a net gain in ecological values.
7. The offset is applied so that the ecological values being achieved through the offset are the same or similar to those being lost.

8. As far as practicable, the positive ecological outcomes of the offset last at least as long as the impact of the activity, and preferably in perpetuity. Adaptive management responses should be incorporated into the design of the offset, as required to ensure that the positive ecological outcomes are maintained over time.
9. The biodiversity offset should be designed and implemented in a landscape context – i.e. with an understanding of both the donor and recipient sites role, or potential role in the ecological context of the area.
10. The consent application identifies the intention to utilise an offset, and includes a biodiversity offset management plan that:
  - i. sets out baseline information on indigenous biodiversity that is potentially impacted by the proposal at both the donor and recipient sites.
  - ii. demonstrates how the requirements set out in this appendix will be addressed.
  - iii. identifies the monitoring approach that will be used to demonstrate how the matters set out in this appendix have been addressed, over an appropriate timeframe.

(While this appendix sets out a framework for the use of biodiversity offsets in the Queenstown Lakes District Plan, many of the concepts are also applicable to other forms of effects management where an overall outcome of no net loss and preferably a net gain in biodiversity values are not intended, but restoration and protection actions will be undertaken).