

IN THE MATTER OF

the Resource Management Act 1991

AND

IN THE MATTER OF

the proposed Waikato District Plan (Stage
1) – Hearing 21A – Significant Natural Areas

**STATEMENT OF EVIDENCE OF ILSE CORKERY
ON BEHALF OF THE DIRECTOR-GENERAL OF CONSERVATION
DATED 29 October 2020**

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1. INTRODUCTION

Qualifications and Experience

- 1.1 My full name is Ilse Corkery.
- 1.2 I am presenting this evidence for the Director-General of Conservation in relation to provisions for biodiversity offsets in the Proposed Waikato District Plan (**Plan**), and alignment of those provisions with the New Zealand Government's *Guidance on Good Practice Biodiversity Offsetting in New Zealand* (the **Guidance**) and the Local Government's Guide to *Biodiversity offsetting under the Resource Management Act*.
- 1.3 My qualifications are a Bachelor of Science (1st Class honours) degree (2006) from the University of Cork, Ireland and a PhD (2012) in Ecology from Victoria University, Wellington.
- 1.4 I am employed by the Department of Conservation (the **Department**) as Technical Advisor, Terrestrial Science Unit. I have worked for the Department since July 2018. Before that I was Senior Project Scientist on RaptorLife in Ireland. From 2014-2015 I was employed as a researcher for University College Cork in Ireland to investigate the effects of plantation forests on native bird species. From 2012-2014, I was lecturer on the Biodiversity Management Degree at NorthTec, Whangarei and delivered courses including "New Zealand Conservation", "Conservation Management" and "Environmental Management".
- 1.5 My current position is a national role, with a focus on the North Island. I am responsible for providing advice relating to biodiversity offsetting for resource consents, council plans and other statutory process. In addition, I am responsible for reviewing assessments, conservation strategies and management and mitigation techniques for fauna species with regard to statutory and permitting processes and conservation programs.
- 1.6 I am currently providing expert evidence on biodiversity offsetting for the Waste Management New Zealand application for resource consents and a Private Plan Change at Dome Valley.
- 1.7 I am also a member of the New Zealand Ornithological Society and I have published ten scientific papers in peer reviewed literature.

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 Court.
- 2.2 The data, information, facts and assumptions I have considered in forming my opinions are set out in my evidence to follow. The reasons for the opinions expressed are also set out in the evidence to follow.
- 2.3 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 provisions in the Plan relating to biodiversity offsetting and environmental compensation. Throughout this evidence when I refer to biodiversity offsets, I am referring to indigenous biodiversity. My evidence will cover the following:
- a. Definition of Biodiversity Offsetting;
 - b. Principles of Biodiversity Offsetting;
 - c. Mitigation Hierarchy;
 - d. Limits to Offsetting ;
 - e. Environmental Compensation Definition;
 - f. Difference between Biodiversity Offsetting and Environmental Compensation;
 - g. Conclusion.
- 3.2 The New Zealand government's *Guidance on Good Practice Biodiversity Offsetting in New Zealand* (the **Guidance**)¹ and the and the Local Government's *Biodiversity offsetting under the Resource Management Act*² are the two key documents I've used

¹ <https://www.doc.govt.nz/about-us/our-policies-and-plans/guidance-on-biodiversity-offsetting/>

² <https://www.lgnz.co.nz/assets/Uploads/7215efb76d/Biodiversity-offsetting-under-the-resource-management-act-full-document-....pdf>

to help explain the concepts and current good practice around biodiversity offsetting. I have also discussed some of the technical aspects of offsetting with Dr Laurence Barea (colleague in the Department).

4. EXECUTIVE SUMMARY

4.1 My evidence relates to the provision of biodiversity offsets and environmental compensation in the Plan and alignment of policy with the Guidance and the Local Government's Guidance on Biodiversity offsetting under the Resource Management Act 1991 (the **RMA**).

4.2 In summary, I recommend the inclusion in the Plan of:

- a. A definition of "biodiversity offset";
- b. A definition of "environmental compensation"; and
- c. An amendment to Appendix 6 to support (a and b).

5. DEFINITION OF BIODIVERSITY OFFSETTING

5.1 Biodiversity offsetting refers to a system that seeks to counterbalance the unavoidable impacts of development activities on biodiversity by demonstrating both measurable and long-term biodiversity gains can be achieved at another site. The Department led an initiative to develop the Guidance between 2009 and 2014 in order to achieve consistency of approaches and to provide standards for designing and assessing proposals involving offsets. The Guidance incorporates the Business and Biodiversity Offsets Programme (**BBOP**)³ definition of biodiversity offsetting, as follows:

"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"

³ Business and Biodiversity Offsets Programme (BBOP). 2012. Standard on Biodiversity Offsets. BBOP, Washington, D.C.

- 5.2 Since the Director-General's submission, the Local Government Guidance has been developed and in this document biodiversity offsetting is defined as:

"...a measurable conservation outcome resulting from actions designed to compensate for residual adverse biodiversity effects arising from activities after appropriate avoidance, remediation, and mitigation measures have been applied. The goal of a biodiversity offset is to achieve no-net-loss and preferably a net-gain of indigenous biodiversity values. To qualify as a biodiversity offset, the action taken to secure the biodiversity gains must adhere to a set of principles that include limits to offsetting; no-net-loss; equivalence; additionality; and permanence".

- 5.3 **No net loss** refers to the objective for a biodiversity offset to generate sufficient gains in target biodiversity values to balance the losses of target biodiversity values due to the development. This requires that at a specified point in time values of the elements of biodiversity for which a no-net-loss outcome is sought will be returned to the point they would have been if both the impact and the offset had not occurred. Evaluating whether an offset proposal achieves a no-net-loss objective require estimating whether values gained are ecologically equivalent (across type, amount, space, and time) to the values lost, taking into account uncertainty and time-lags between biodiversity losses and gains.
- 5.4 **Net-gain** describes the desired state that at a specified point in time biodiversity values will be returned beyond the point they would have been if the impact had not occurred. Thus, net-gain offsets achieve conservation gains, but only for the proportion of the offset that increases biodiversity values above the point of a no-net-loss offset.
- 5.5 A number of approaches already exist for addressing adverse effects on biodiversity. For example, avoiding and minimising adverse effects or implementing management measures (such as pest or weed control programmes, restoration of degraded areas and fencing-off stock from remnant habitats). Biodiversity offsetting often employs these and other commonly used management techniques that are known to generate biodiversity gain.
- 5.6 What differentiates biodiversity offsetting from other forms of impact management is that it requires:

- a. A mitigation hierarchy to be followed, i.e. any predicted biodiversity impacts must first be avoided, minimised and rehabilitated on-site, before any remaining residual effects are offset;
 - b. Explicit measurement and balancing of biodiversity predicted to be lost and gained; and
 - c. A goal of no net loss and, preferably, a net gain of biodiversity to be reasonably demonstrated and then achieved on the ground.
- 5.7 In my opinion, the second definition (5.2) is the preferred option as it provides for a comprehensive and clear understanding of the parameters within which biodiversity offsetting must be applied.

6. PRINCIPLES OF BIODIVERSITY OFFSETTING

- 6.1 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.
- 6.2 These principles are:
- a. 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;
 - b. 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;
 - c. 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;

- d. 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;
- e. Additional conservation outcomes: A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity to other locations;
- f. 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;
- g. 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;
- h. 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;
- i. 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; and
- j. 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.

7. MITIGATION HIERARCHY

- 7.1 Adherence to the mitigation hierarchy is a BBOP principle (listed as number 1 in 6.2 above). It consists first of avoidance, then minimisation (analogous to mitigation), then on-site rehabilitation, and only then, as a final step, offsetting or environmental compensation if biodiversity offsetting cannot be achieved.

- 7.2 I note that the terms used by BBOP do not follow the same terminology as in the RMA. For example, the mitigation hierarchy uses “avoidance, minimization and on-site rehabilitation measures”, the equivalent in the RMA would be “avoid, remedy, mitigate”.
- 7.3 I use the term mitigation as clarified by Case Law in the Escarpment Mine⁴ which is consistent with the RMA. The High Court in the *Escarpment Mine* decision decided that:

“mitigation must address effects “at the point of impact”

“biodiversity offsets do not alleviate, abate, or moderate the severity of something and therefore they are not mitigation”

- 7.4 The Court provided an example that if open cast mining will destroy the habitat of an important species of snail (an adverse effect) - it cannot be said logically that enhancing the habitat of snails elsewhere in the environment mitigates that adverse effect.
- 7.5 Avoiding and/or minimising adverse effects provides greater certainty that biodiversity values will persist despite project development, because it is easier and more certain to retain biodiversity than to attempt to recreate biodiversity values elsewhere through an offset. Biodiversity offsetting and/or environmental compensation are therefore the final steps in the mitigation hierarchy.

8. LIMITS TO OFFSETTING

- 8.1 As stated in Principle 2 above, 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.
- 8.2 Sometimes a biodiversity offset will not be appropriate or possible due to the important biodiversity values present at the site and an unacceptably high risk of permanent and irreplaceable loss of those values if an offset is not successful. In such cases, where no net loss cannot be confidently predicted or demonstrated, a biodiversity offset will not be an appropriate mechanism to address a project’s adverse effects.

⁴ *Escarpment Mine Project* [2012] EnvCt..

- 8.3 The applicant would then have a choice of:
- a. Redesigning the project to avoid impacts on high-value biodiversity that cannot be offset (in order to still achieve a biodiversity offset); or
 - b. Proceeding with the development proposal and offering a package of measures to compensate for residual adverse effects that cannot be avoided, remedied or mitigated (but would not be a biodiversity offset).
- 8.4 Appendix 6 presents a framework that can be used to assess whether biodiversity offsetting is appropriate, or when a high level of proof is required to demonstrate that a successful offset is likely. This framework involves:
- a. Establishing biodiversity values, including assessing their vulnerability and irreplaceability;
 - b. Assessing the likelihood of success of an offset; and
 - c. Combining biodiversity value and likelihood of success to determine an appropriate level of proof that a successful offset outcome is likely.
- 8.5 In my opinion it is important that the Plan acknowledges that there are limits to offsets, for example, when the biodiversity present is either too vulnerable or irreplaceable or where offsetting cannot be adequately quantified. In such cases, where adverse effects will lead to net loss, environmental compensation may be appropriate.

9. ENVIRONMENTAL COMPENSATION

- 9.1 Since the Director-General's submission, the Local Government Guidance has been developed and, in this document, environmental compensation is defined using the

Local Governments Guidance Document definition as:

"...positive actions (excluding biodiversity offsets) to compensate for residual adverse biodiversity effects arising from activities after all appropriate avoidance, remediation, mitigation and biodiversity offset measures have been applied."

- 9.2 In my opinion, the above definition (9.1) is the preferred option as it provides for a comprehensive and clear understanding of the parameters within which compensation must be applied.

- 9.3 Environmental compensation carries the greatest risk for biodiversity outcomes. Accepting environmental compensation is accepting that biodiversity losses will not be accounted for. Therefore, environmental compensation must be clearly defined as the final option in the mitigation hierarchy. It should only be applied to a residual effect as a 'last resort' after all avenues to avoid, remedy, or mitigate have been exhausted and offsetting has been demonstrated to be either not possible or not appropriate.
- 9.4 Even though this should always be a last resort, the Plan should nonetheless recognise that, failing all other options, environmental compensation can provide an opportunity for a 'better than nothing' outcome. The endpoint of environmental compensation can be a socially acceptable positive outcome and have significant biodiversity benefits. However, 'short-cuts' directly to environmental compensation should not be allowed.
- 9.5 Environmental compensation is not quantified or balanced with losses and may involve subjective decision-making subject to socio-political influences. There is currently no accepted system by which the benefits generated by environmental compensation can be objectively measured against losses. Therefore, the level of certainty that the benefits will be adequate to compensate for the losses is much lower compared with an offset. Where possible, compensation proposals should seek to align with as many of the offsetting principles as possible. It is also good practice to quantify the benefits anticipated to be delivered as a result of the compensation.
- 9.6 Similar to with biodiversity offsets there are also limits to biodiversity compensation. These include irreplaceability and vulnerability of the biodiversity involved, social acceptability for the losses involved and existing levels of technical feasibility and scientific knowledge and capability.
- 9.7 **Monetary or financial contribution** refers to a monetary payment made to compensate for residual biodiversity losses. The draft National Policy Statement for Indigenous Biodiversity⁵ provides a framework of principles for biodiversity compensation. This states that financial contributions must only be considered when there is no effective option available for delivering indigenous biodiversity gains on the ground. These contributions must be related to the indigenous biodiversity

⁵ Draft National Policy Statement for Indigenous Biodiversity. Nov 2019.

impact. When proposed, financial contributions must be directly linked to an intended indigenous biodiversity gain or benefit.

- 9.8 In my opinion, including the above definition in the Plan will give clarity to applicants and practitioners assessing proposals as to the different expectations and outcomes of environmental compensation. It is crucial that decision makers understand that biodiversity offsetting is always preferable to environmental compensation, which has the highest risk to biodiversity and the least certainty of outcomes.

10. DIFFERENCE BETWEEN BIODIVERSITY OFFSETTING AND ENVIRONMENTAL COMPENSATION

- 10.1 Environmental compensation is designed to compensate for losses but is not designed to demonstrate a no-net-loss outcome, and therefore does not have to fully account for and balance losses and gains. It is typically a more subjective process than biodiversity offsetting.
- 10.2 Biodiversity offsetting is based on a series of widely accepted principles that illustrate the level of rigour required that differentiates offsetting from environmental compensation. It is this rigorous process and the objective, quantified evaluation associated with biodiversity offsetting which make it a preferable option to environmental compensation.
- 10.3 It is common for a resource consent application to include a mix of mitigation, compensation, and offset actions. It is critical to the decision-making process that these are acknowledged as very different things and it is transparent what is being offset, what is being mitigated, and what is only being compensated for.
- 10.4 In my opinion, it is very important to differentiate between biodiversity offsetting and environmental compensation so that the decision maker and everyone involved is clearly aware of a) the nature and consequence of the residual effects and b) which of these residual effects have been neutralised (offset) and which are being compensated for, but need to be tallied as losses.

11. CONCLUSION

- 11.1 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 the goal of net loss of biodiversity.

- 11.2 It is also crucial that the plan acknowledges that there are limits to biodiversity offsets. There are situations where residual effects cannot be adequately catered for by offsets and in such cases, adverse effects lead to net loss and this needs to be considered by decision makers.
- 11.3 I believe that the proposal to include the below definitions of biodiversity offsetting and environmental compensation will lead to a better understanding and implementation of the mitigation hierarchy and ultimately better outcomes for biodiversity.

“biodiversity offset is a measurable conservation outcome resulting from actions designed to compensate for residual adverse biodiversity effects arising from activities after appropriate avoidance, remediation, and mitigation measures have been applied. The goal of a biodiversity offset is to achieve no-net-loss and preferably a net-gain of indigenous biodiversity values. To qualify as a biodiversity offset, the action taken to secure the biodiversity gains must adhere to a set of principles that include limits to offsetting; no-net-loss; equivalence; additionality; and permanence.”

“environmental compensation means positive actions (excluding biodiversity offsets) to compensate for residual adverse biodiversity effects arising from activities after all appropriate avoidance, remediation, mitigation and biodiversity offset measures have been applied.”

Dated 29 October 2020



Ilse Corkery