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BIODIVERSITY OFFSETS UNDER THE RESOURCE MANAGEMENT ACT 1991

A New Environmental Bottom-Line?

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I Introduction

Biodiversity offsets, a form of environmental compensation, are increasingly being offered by developers and taken into account as part of the process for determining planning permissions in New Zealand. This paper outlines the concept of biodiversity offsets and, with reference to a case study, the role it currently plays under New Zealand's primary planning legislation – the Resource Management Act 1991 (RMA). The paper argues that while the current approach to offsets under the RMA is sub-optimal, recent developments of the law pertaining to national policy statements provide an opportunity to use biodiversity offsets as part of implementing an environmental bottom line for biodiversity and ecosystem function loss.

II Biodiversity

This part describes the concept of biodiversity, sets out reasons why protecting biodiversity is important and summarises some of New Zealand's policy responses to the issue of biodiversity.

Biological diversity (or "biodiversity") is the variability among living organisms and the ecological complexes of which they are part; including diversity within species, between species and of ecosystems.¹ The preamble of the Convention on Biological Diversity, to which New Zealand is a contracting party, notes "the intrinsic value of biological diversity" and "the importance of biological diversity for evolution and for maintaining life sustaining systems of the biosphere"; while affirming "that the conservation of biological diversity is a common concern of humankind".²

New Zealand's biodiversity is particularly distinctive due to a confluence of ecological factors; including the country's geography, location and evolutionary history. A high proportion of New Zealand's remaining biodiversity is endemic — all frogs and reptiles, over 90% of insects, 80% of vascular plants, 50% of fungi and 25% of bird species do not naturally occur anywhere else.³ Biodiversity has intrinsic, economic and ecological value.

In the New Zealand context, an aspect of biodiversity's intrinsic value is also world-view of the country's indigenous Māori population. Writing about the relationship of Māori with the environment, the Waitangi Tribunal identified as "core values" whanaungatanga (or kinship) and kaitiakitanga, which is often translated as guardianship.⁴ Explaining these concepts

¹ Convention on Biological Diversity 1760 UNTS 79 (opened for signature 5 June 1992, entered into force 29 December 1993), art 2.

² Convention on Biological Diversity, above n 1, at preamble.

³ *New Zealand's Fifth National Report to the United Nations Convention on Biological Diversity* (2013) at 5. See also *New Zealand Biodiversity Strategy* (February 2000) at 1–4.

⁴ Waitangi Tribunal *Ko Aotearoa Tenei: Te Taumata Tuatahi – A Report into Claims Concerning New Zealand Law and Policy Affecting Maori Culture and Identity* (Wai 262, 2011) [Wai 262] at 105.

further, the Waitangi Tribunal endorsed the writings of Rev Māori Marsden, which articulated three basic principles that derive from a Māori world view:⁵

- Humankind's contribution is to enhance and maintain the life supporting systems of Papa-tū-ā-nuku;
- People should treat Papa-tū-ā-nuku with love and respect in recognition of her life-supporting function, her role in the creation of the natural world, and her place in our own whakapapa; and
- We do not own Papa-tū-ā-nuku, but are recipients, and therefore stewards, of the natural environment.

Of some relevance to biodiversity offsetting in particular, the same Waitangi Tribunal report observed with respect to the RMA that there has been a lack of guidance from central government. "National policy statements and national environmental standards were supposed to provide leadership for councils to follow; instead, in 20 years very few have been developed".⁶

With respect to the economic and ecological values of biodiversity, ecological systems "provide a broad range of essential goods and services to humanity. They are the life-support systems for all life on Earth"; and, as a consequence, human well-being and prosperity depend upon such "ecosystem services".⁷ The authors of a recent review of biodiversity research published the six "consensus statements", including:⁸

- "There is now unequivocal evidence that biodiversity loss reduces the efficiency by which ecological communities capture biologically essential resources, produce biomass, decompose and recycle biologically essential nutrients."
- "There is mounting evidence that biodiversity increases the stability of ecosystem functions through time."
- "The impact of biodiversity on any single ecosystem process is nonlinear and saturating, such that change accelerates as biodiversity loss increases."
- "Diverse communities are more productive because they contain key species that have a large influence on productivity, and differences in functional traits among organisms increase total resource capture."

Despite the values of biodiversity described above, the species and ecosystems of which biodiversity is a measure are under threat, both globally and in New Zealand. The impact of Polynesian and subsequent European arrival in New Zealand has been catastrophic in terms of habitat and species loss. Approximately 63% (by land area) of New Zealand's natural

⁵ Wai 262, above n 4, at 106 referring to Te Ahukaramū Charles Royal (ed) *The Woven Universe: Selected Writings of Rev. Māori Marsden* (Otaki (NZ), Estate of Rev. Māori Marsden, 2003) at 46.

⁶ Wai 262, above n 4, at 118.

⁷ Jane Lubchenco "Entering the Century of the Environment: A New Social Contract for Science" (1998) 279 *Science* 491 at 492.

⁸ See Bradley J Cardinale and others "Biodiversity loss and its impact on humanity" (2012) 486 *Nature* 59 at 59.

(pre-human) habitats have been destroyed.⁹ While approximately one third of the country is managed for conservation purposes (proportionately large by international standards), much of this land is relatively high-altitude and not representative of the pre-human mix of habitats.¹⁰ New Zealand's remnant natural habitat has also been significantly changed by introduced species (particularly mammals), modifying ecosystem functions and altering the composition of indigenous plant and animal communities. The total number of threatened indigenous species increased by 10% between the 2005 and 2008–2011 assessment cycles of the New Zealand Threat Classification System.¹¹

In the face of this, New Zealand has adopted the following goal:¹²

Maintain and restore a full range of remaining natural habitats and ecosystems to a healthy functioning state, enhance critically scarce habitats, and sustain the more modified ecosystems in production and urban environments; and do what else is necessary to maintain and restore viable populations of all indigenous species and subspecies across their natural range and maintain their genetic diversity.

With respect to maintaining existing habitats, New Zealand's terrestrial biodiversity is managed in two principal ways. The first is through the inclusion of land in the public or private conservation estate (for example, land managed under the Conservation Act 1987, Reserves Act 1977 or Queen Elizabeth the Second National Trust Act 1977). The majority of this land is administered by the Department of Conservation (DoC). The second is through laws regulating land use, with the two most important statutes being the Forests Act 1949 (which, among other things, prohibits the milling of unsustainably harvested indigenous timber¹³) and the RMA. Such land use controls are important in light of the public conservation estate being unrepresentative of the remaining ecosystem types and habitats. The RMA is the principal legislation governing the use of natural resources on private land, and it plays a significant role in safeguarding ecosystem functions generally, as well as providing for the protection of particular threatened habitats – notably lowland forest and wetlands – situated on private land and alongside highly modified environments.

The RMA makes no mention of biodiversity, although s 6(c) recognises the "protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna" as a matter of "national importance"; with this having been accepted as a means for addressing the loss of biodiversity.¹⁴ Further, s 7(d) provides that, in achieving the purpose of the RMA, persons exercising powers under it "shall have particular regard to" the "intrinsic values of ecosystems". Given the recognised importance of biodiversity, adverse effects on

⁹ *New Zealand Biodiversity Strategy*, above n 3, at 34. See also *Protecting Our Places: Information about the Statement of National Priorities for Protecting Rare and Threatened Biodiversity on Private Land* (Ministry for the Environment, April 2007).

¹⁰ *New Zealand Biodiversity Strategy*, above n 3, at 6.

¹¹ Rod Hitchmough *Summary of changes to the conservation status of taxa in the 2008–11 New Zealand Threat Classification System listing cycle* (Department of Conservation, June 2013) at 8.

¹² *New Zealand Biodiversity Strategy*, above n 3.

¹³ Forests Act 1949, s 67D.

¹⁴ *Royal Forest and Bird Protection Society Inc v Central Otago District Council* EnvC Auckland A128/2004, 23 September 2004.

it are also relevant to the RMA's purpose set out in s 5 "to promote the sustainable management of natural and physical resources".

III Biodiversity Offsetting

This part explains biodiversity offsetting and reviews some of the support for and criticisms of the concept in the literature. It also identifies some of the generally accepted principles underpinning biodiversity offsetting. The significant role that biodiversity offsetting is already playing in New Zealand is described, and it is concluded that the concept should be better engaged with so that its implementation can be improved.

New Zealand's indigenous biodiversity can be expected to face continuing threats from introduced plant and animal species, increasing population,¹⁵ climate change,¹⁶ economic growth and changing land use.¹⁷ Biodiversity offsets provide a tool for responding to these threats and, among other things, helping to achieve the New Zealand Biodiversity Strategy.

Environmental compensation, or 'offset', was first formally used in the United States of America during the 1970s for mitigating the development and destruction of wetlands.¹⁸ Legislation mandating compensatory biodiversity mechanisms, including offsets, now exists in approximately 45 countries.¹⁹

A modern New Zealand definition of biodiversity offset is provided by the Proposed National Policy Statement on Indigenous Biodiversity (PNPSIB):²⁰

Biodiversity offset means measurable conservation outcomes resulting from actions which are designed to compensate for more than minor residual adverse effects on biodiversity, where those effects arise from an activity 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 with respect to species composition, habitat structure and ecosystem function.

This is very similar to, and modelled on,²¹ the definition adopted by the Business and Biodiversity Offsets Programme (BBOP),²² which is commonly referred to as best practice

¹⁵ Geoff Bascand *National Population Projections: 2011(base)–2061* (Statistics New Zealand, 19 July 2012).

¹⁶ Ministry for the Environment *Climate change effects and impacts assessment: A Guidance Manual for Local Government* (May 2008).

¹⁷ Ministry for the Environment *Land: Land Use* (Environmental Snapshot, January 2010); and Ministry for the Environment *Environment New Zealand 2007* (December 2007) at 363.

¹⁸ Shelley Burgin "BioBanking: An environmental scientist's view of the role of biodiversity banking offsets in conservation" (2008) 17 *Biodivers Conserv* 807 at 808. See also James Salzman and JB Ruhl "Currencies and the Commodification of Environmental Law" (2000) 53 *Stan L Rev* 607 at 611.

¹⁹ Joseph W Bull and others "Biodiversity offsets in theory and practice" (2013) 47 *Oryx* 369 at 369 citing Madsen and others *State of Biodiversity Markets Report: Offset and Compensation Programs Worldwide* (Forest Trends, 2011).

²⁰ Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity* (2011) at 3.

internationally. Put more simply, offsets are biodiversity-positive actions intended to counterbalance biodiversity-negative development.

Views on biodiversity offsets are wide-ranging. They include advocates, such as the BBOP and International Council on Mining and Metals;²³ contributors to the science, such as New Zealand academics who have recently published work on calculating "net present biodiversity value" and the design of biodiversity offsets;²⁴ as well as critics.

There is a significant community of thought that accepts biodiversity offsetting as a tool and has relatively settled agreement on matters of principle (although some theoretical problems and methodological challenges are acknowledged). A key concept is the goal of using biodiversity offsetting to achieve no net loss of biodiversity on the ground with respect to species composition, habitat structure and ecosystem function. Research commissioned by the DoC that has been cited internationally identified the following three "conditions" for achieving the objective of "no net loss" of biodiversity:²⁵

- Losses and gains of biodiversity are comparable in type and amount;
- Biodiversity gains are additional; and
- Risks are minimised to ensure lasting biodiversity gains.

The above conditions are part of a framework for understanding the key ingredients of biodiversity offsets (and no net loss) that the same research summarises diagrammatically; a copy of which is reproduced as an appendix to this paper. These conditions are also consistent with the principles of biodiversity offsets promoted by the BBOP.²⁶

Despite the extent of agreement, however, the concept of biodiversity offsetting is not entirely without controversy. Three New Zealand critics have recently argued, on the basis of biodiversity's complexity and non-interchangeability, that:²⁷

Viable biodiversity barter and meaningful biodiversity protection seem mutually exclusive. We can achieve one or the other, but not both. Although compensation and no net loss are laudable ideals, ecological and political

²¹ Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity: Evaluation under section 32 of the Resource Management Act 1991* (2011) at 66.

²² Business and Biodiversity Offsets Programme <<http://bbop.forest-trends.org>>.

²³ The Biodiversity Consultancy *Independent report on biodiversity offsets* (The International Council on Mining and Metals and the International Union for Conservation of Nature, 2012).

²⁴ Jacob Overton, RTT Stephens and Simon Ferrier "Net Present Biodiversity Value and the Design of Biodiversity Offsets" (2013) 42 *AMBIO* 100.

²⁵ Toby Gardner and Amrei von Hase *Key Ingredients for Biodiversity Offsets to Achieve No Net Loss* (Department of Conservation, 12 June 2012). For example, this paper is referred to in the Business and Biodiversity Offsets Programme Publications Library <<http://bbop.forest-trends.org/documents/>>.

²⁶ Gardner and von Hase, above n 25, at 4.

²⁷ Susan Walker and others "Why bartering biodiversity fails" (2009) 2 *Conservation Letters* 149 at 155.

problems appear intractable, and mean that bartering is likely to accomplish more harm than good for biodiversity.

More generally, a former Environment Court judge has written that "the practice of environmental compensation in New Zealand is unsatisfactory in a number of respects" and recommended "a cautious approach".²⁸ The fact that such criticisms are not merely theoretical is demonstrated by a New Zealand study of 110 examples of ecological compensation, which found that, in 97.3% of cases, no scientifically valid objective metric had been applied to determine the required offset (although 10 had used area as an informal metric).²⁹

Despite the debate surrounding biodiversity offsetting, it appears to have general support within New Zealand. A recent survey of 116 New Zealand stakeholders summarised its findings as follows:³⁰

Participants consider the benefits to biodiversity are the chief attraction of ecological compensation (49.2% of all responses), with the disadvantages mainly relating to the difficulties of practical implementation of the concept. Our results also show that 96.5% of participants support the concept fully or to a limited extent and most (83%) participants consider that it contributes to sustainable management, with significant support (87.9%) for a statutory approach.

Further, biodiversity offsets are already a part of New Zealand's regulatory landscape. Of the 12 projects and roads of "national significance" referred to Boards of Inquiry, and for which final or draft decisions exist, 10 took into account proposed biodiversity measures described by the applicant as an "offset". Biodiversity offsets are thus already a part of New Zealand's regulatory landscape.

The legitimacy of consent authorities taking biodiversity offsets into account has also been confirmed by the High Court in *Royal Forest and Bird Protection Society of New Zealand Inc v Buller District Council (Buller Coal)*;³¹ concerning an appeal from the Environment Court in relation to the "Escarpment Mine Project".

The PNPSIB was also released for consultation in 2011. While it has not been finalised or promulgated yet, the PNPSIB includes as a policy:³²

In addition to the inclusion in plans of any other provisions that the plan has or is required to have relating to section 6(c) of the Act, local authorities must manage the effects of activities through district and relevant regional plans (or be satisfied that the effects are managed by methods outside of district or regional plans) to ensure 'no net loss' of biodiversity of areas of significant indigenous vegetation and significant habitats of indigenous fauna by:

²⁸ Ali Memon and Peter Skelton "The Practice of Environmental Compensation Under the Resource Management Act 1991" (2004) 8 NZJ Env'tl L 177 at 178.

²⁹ Marie A Brown and others "Compensating for ecological harm: The state of play in New Zealand" (2014) 38 New Zealand Journal of Ecology 139 at 144.

³⁰ MA Brown and others "Implementing ecological compensation in New Zealand: Stakeholder perspectives and a way forward" (2014) 44 Journal of the Royal Society of New Zealand 34 at 34.

³¹ *Royal Forest and Bird Protection Society of New Zealand Inc v Buller District Council* [2013] NZHC 1346, [2013] NZRMA 293.

³² *Proposed National Policy Statement on Indigenous Biodiversity*, above n 20, at 6.

- a. avoiding adverse effects
- b. where adverse effects cannot be avoided, ensuring remediation
- c. where adverse effects cannot be remedied, ensuring mitigation
- d. where adverse effects cannot be adequately mitigated, ensuring any residual adverse effects that are more than minor, are offset in accordance with the principles set out in Schedule 2.

For the avoidance of doubt, in accordance with the principles of Schedule 2, there are limits to what can be offset because some vegetation or habitat and associated ecosystems, is vulnerable or irreplaceable. In such circumstances off-setting will not be possible and local authorities will need to take full account of residual adverse effects in decision-making processes.

Local authorities are also incorporating concepts of biodiversity offsetting into planning instruments under the RMA. Following an appeal to the Environment Court,³³ the Manawatu-Wanganui Regional Council's "One Plan" includes a policy that makes offsets potentially relevant to consent applications for resource use activities in "rare", "threatened" and "at-risk" habitats.³⁴ Wellington Regional Council's Regional Freshwater Plan for the Wellington Region explains that remedying or mitigating the adverse effects of developing Transmission Gully "can include the concept of offsetting".³⁵

The DoC has also been investigating biodiversity offsetting, which suggests future support for the concept. In 2009 the DoC was funded by the Cross-Departmental Research Pool to investigate the feasibility of biodiversity offsetting in New Zealand, and it has prepared draft Guidance on Best Practice Biodiversity Offsetting in New Zealand.³⁶

Putting aside the arguments of those who reject the utility of biodiversity offsetting altogether, the key issues emerging from the literature are:³⁷

- Timing: there can be a temporal gap between development impacts occurring and the benefits associated with the offset scheme accruing. This results in significant uncertainty and may fail to account for factors such as the population dynamics of threatened species.³⁸
- Security: further uncertainty results from potential non-compliance with offset requirements. The scientific validity of offsets is dependent upon a robust regulatory framework that is able to secure promised actions.

³³ *Day v Manawatu-Wanganui Regional Council* [2012] NZEnvC 182.

³⁴ Proposed Manawatu-Wanganui Regional One Plan, policy 12-5.

³⁵ Wellington Regional Freshwater Plan, policy 4.2.33A.

³⁶ Department of Conservation *Biodiversity Offsets Programme update* (August 2012).

³⁷ See for example Bull and others, above n 19, and Martine Maron and others "Faustian bargains? Restoration realities in the context of biodiversity offset policies" (2012) 155 *Biological Conservation* 141.

³⁸ See also Sarah A Bekessy and others "The biodiversity bank cannot be a lending bank" (2010) 3 *Conservation letters* 151.

- Measurability (or "currency"): there "exists no single metric that objectively captures the full extent of biodiversity, which itself has no universal, unambiguous definition. Any measure of biodiversity is therefore a proxy. However, offsets ostensibly rely upon the accurate quantification of losses and gains, and therefore require robust metrics."³⁹ The concept of poor measurability and the technical difficulty of assessing ecological outcomes also encompasses problems around equivalency (the comparative biodiversity value of the proposed offset), additionality (confidence that the offset is not simply displacing other conservation effort) and assessing whether the planned outcomes of a particular offset have been achieved.
- Thresholds: while it is generally accepted the offsetting is not an appropriate response in every circumstance, articulating thresholds beyond which offsetting will not be acceptable is challenging.

If it is accepted that those aspects of the environment of which biodiversity is a measure will remain under pressure from development, and that simple preservation is not practically or politically achievable, then it is suggested that biodiversity offsetting (despite its current imperfections) is a useful tool for working towards the goal of no net biodiversity loss. At the very least, biodiversity offsetting provides a forum for engaging with the question of what should be done in response to proposed habitat destruction.

IV The Role of Biodiversity Offsetting Under the RMA

Part III concluded that biodiversity offsets are already part of New Zealand's regulatory landscape. This section examines the role that biodiversity offsetting currently plays under the RMA to provide context for the case study in part V. While *Buller Coal* has clarified the statutory basis for taking biodiversity offsets into account as part of RMA decision-making processes, it is suggested that the degree to which such measures should and do influence outcomes remains uncertain.

A development that will have significant adverse effects on biodiversity is likely to require consent under the RMA before it can proceed, although ultimately this will depend on the relevant regional and district rules promulgated by regional councils and territorial authorities, respectively.⁴⁰ For activities categorised as either "discretionary" or "non-complying", a consent authority has discretion to either refuse or grant an application for consent (and, if granted, to impose conditions under s 108).⁴¹ The key decision-making provision is s 104.⁴²

104 Consideration of applications

- (1) When considering an application for a resource consent and any submissions received, the consent authority must, *subject to Part 2*, have regard to—

³⁹ Bull and others, above n 19, at 371 (citations omitted).

⁴⁰ Resource Management Act 1991, s 9.

⁴¹ Resource Management Act 1991, s 104B.

⁴² (Emphasis added.)

- (a) any actual and potential effects on the environment of allowing the activity; and
- (b) any relevant provisions of—
 - (i) a national environmental standard;
 - (ii) other regulations;
 - (iii) a national policy statement;
 - (iv) a New Zealand coastal policy statement;
 - (v) a regional policy statement or proposed regional policy statement;
 - (vi) a plan or proposed plan; and
- (c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

Part 2 of the RMA sets out its purpose and principles, including the "lodestar" of s 5:⁴³

5 Purpose

- (1) The purpose of this Act is to promote the sustainable management of natural and physical resources.
- (2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while—
 - (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
 - (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
 - (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

When applying the above statutory framework, *Buller Coal* reviewed the precedents for taking environmental compensation and biodiversity offsets into account, before finding that:⁴⁴

... offsets do not directly mitigate any adverse effects of the activities coming with the resource consents on the environment. ... Rather, they offer a positive new effect, one which did not exist there before.

While this could be criticised as dwelling on semantics, it is consistent with the BBOP mitigation hierarchy principle, which provides that a biodiversity offset "is a commitment to compensate for significant residual adverse impacts on biodiversity identified *after* appropriate avoidance, minimisation and on-site rehabilitation measures have been taken".⁴⁵

⁴³ *Lee v Auckland City Council* [1995] NZRMA 241 at 13.

⁴⁴ *Royal Forest and Bird Protection Society of New Zealand Inc v Buller District Council*, above n 31, at [72].

⁴⁵ Business and Biodiversity Offsets Programme *To No Net Loss and Beyond: An Overview of the Business and Biodiversity Offsets Programme* (2013) at 6 (emphasis added).

In other words, biodiversity offsets should not absolve a development from the duty to directly mitigate its effects to the extent possible.

The High Court then accepted that the biodiversity offsets proposed by the applicant were "relevant considerations to be weighed in favour of the application by reason of s 104(1)(a) and (c), and s 5(2)".⁴⁶ In other words, offsets must be taken into account when evaluating the overall effects on the environment of allowing the activity and whether it promotes the statutory purpose of sustainable management. (Whether the proposed measures in *Buller Coal* ought to have been treated as biodiversity offsets in the true sense of being consistent with the generally accepted principles is a separate issue.) *Buller Coal* has since been followed by the Board of Inquiry in relation to the Tukituki Catchment Proposal.⁴⁷

Despite an increasing body of science and policy work on biodiversity offsets, there is, however, no robust or consistent framework for how they should be taken into account and what weight they should be given in a RMA context. The available jurisprudence is also limited. While a number of decisions discuss competing evidence on the value of proposed biodiversity offsets, the bases of the decision-makers' findings and the roles played by proposed offsets in reaching substantive decisions are less clear.

V Case Study – the Escarpment Mine Project

A Background

Buller Coal concerned an application for consent under the RMA to establish and operate an open-cast coal mine on 157 hectares on the Denniston Plateau – land predominantly held by the DoC. The proposed activities were assessed as discretionary for the purpose of s 104B.

The applicant conceded that it would be impossible to completely avoid, remedy or mitigate the adverse effects of mining; but offered an "offset mitigation and compensation package" that it contended would more than offset the residual adverse effects of the proposal.⁴⁸

With respect to the ecological values of the site, the Environment Court concluded that, overall:⁴⁹

... there can be no doubt of the high level of significance of the Denniston Plateau for its vegetation and as habitat for native fauna in a variety of forms and for the diversity of the plateau as an ecological assemblage.

This included findings of rare ecosystems,⁵⁰ various threatened and at-risk species of plants and animals⁵¹ (including one plant possibly endemic to the plateau),⁵² as well as significant scientific uncertainty.⁵³

⁴⁶ *Royal Forest and Bird Protection Society of New Zealand Inc v Buller District Council*, above n 31, at [78].

⁴⁷ Board of Inquiry into the Tukituki Catchment Proposal *Draft Report and Decisions* (April 2014) at [1083]–[1086].

⁴⁸ *West Coast Environmental Network Inc v West Coast Regional Council* [2013] NZEnvC 47 at [22].

⁴⁹ *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [87].

⁵⁰ *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [51].

⁵¹ *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [52]–[80].

While the applicant proposed rehabilitating the site following mining, "in addition to the biodiversity loss that would remain evident when the site appears to be fully rehabilitated", the "temporary" effects would, in some respects, extend for centuries.⁵⁴

The biodiversity offsets offered by the applicant were:

- A 35 year weed and animal pest control programme covering 10,000 hectares (plus a buffer zone) of land within the Kahurangi National Park associated with the Heaphy River; with the principal method being the aerial application of 1080 poison;⁵⁵
- A 50 year weed and animal pest control programme covering 4,500 hectares of the Denniston Plateau and surrounding land; and
- Providing permanent legal protection from open cast mining for 745 hectares of the Denniston Plateau.

The Environment Court assessed these offsets in the conventional way by applying *JF Investments Ltd v Queenstown Lakes District Council*.⁵⁶ At the heart of the Environment Court's decision are findings that, "on the balance of probabilities", the proposed offsets would "largely mitigate the adverse effects of the proposal on fauna on the mine site",⁵⁷ and that:⁵⁸

Overall this case [was] quite finely balanced ... So finely balanced indeed that while [the Environment Court's] present inclination [was] to grant consent, much [would] ultimately turn on whether appropriate conditions [could] be worked out and whether some others [could] be offered by the applicant on an *Augier* (volunteered) basis ...

The Environment Court's factual finding that the proposed offsets would mitigate the adverse effects on fauna can be criticised, particularly given the fine balance it was presented with. Indeed, the Environment Court explicitly rejected the parties' attempts to move from qualitative and subjective assessment to a quantitative approach based on the internationally recognised BBOP.⁵⁹ The degree to which the offsets were factored into the "overall broad judgement of whether [the] proposal [would] promote the sustainable management of natural and physical resources",⁶⁰ despite its impact on significant

⁵² *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [54].

⁵³ For example, *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [72].

⁵⁴ *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [152].

⁵⁵ Sodium fluoroacetate.

⁵⁶ *JF Investments Ltd v Queenstown Lakes District Council* EnvC Christchurch C48/06, 27 April 2006 at [42].

⁵⁷ *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [325].

⁵⁸ *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [335].

⁵⁹ Business and Biodiversity Offsets Programme, above n 22.

⁶⁰ *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [333], referring to *New Zealand Rail Ltd v Marlborough District Council* [1994] NZRMA 70.

indigenous vegetation, is also unclear from the reasons for the Environment Court's decision.

B Discussion

It is suggested that the Escarpment Mine Project biodiversity offsets would have failed to meet the principles developed by the BBOP, had they been applied. In other words, the proposed measures would not have qualified as biodiversity offsets. Two examples are:

- Indicator 3-2-1:⁶¹ "Evidence is provided that any reasonably foreseeable future developments that might affect the offset, including developments by third parties, have been considered in the offset design." Parts of the land benefitting from the Denniston Plateau pest control programme may be mined in the future; and
- Criterion 5-1:⁶² "The conservation outcomes of the biodiversity offset shall be 'additional' in that they are due to the offset activities and would not have occurred without them." There is a risk that the pest control programmes will merely substitute for the DoC's expenditure on estate protection. Further, it was argued that the area set aside for permanent protection was not at credible risk from mining because the coal beneath it was not economically recoverable.⁶³

Other criticisms of the Escarpment Mine Project offsets include:⁶⁴

- Poor measurability of the values to be offset. It is clear that there were significant information gaps about the Denniston Plateau habitat that would be destroyed or damaged by the proposed development;
- Uncertainty in restoration outcomes. While animal pest control programmes are relatively well studied in New Zealand, the existing impact of animal pests on the Denniston Plateau and the outcomes of post-mining restoration were highly uncertain; and
- Time lags. In ecological terms, offsets should account for time-lags as equivalency cannot be achieved by compensating immediate loss by hypothetical equal gains in the future. Again, the Escarpment Mine Project example is vulnerable to this criticism.

A policy question arising from these criticisms is: how might the framework of the RMA be adapted to respond better and more predictably to proposed consent conditions described as biodiversity offsets? It is suggested that, not only is the status quo sub-optimal (this is discussed further in part VI), but integrating biodiversity offsetting into the framework of the RMA in a principled way may encourage investment in the science and a gradual improvement of the available methodologies for adhering to those principles.

⁶¹ *To No Net Loss and Beyond: An Overview of the Business and Biodiversity Offsets Programme*, above n 45, at 15.

⁶² *To No Net Loss and Beyond: An Overview of the Business and Biodiversity Offsets Programme*, above n 45, at 16.

⁶³ *Royal Forest and Bird Protection Society of New Zealand Inc v Buller District Council*, above n 31, at [79]–[89].

⁶⁴ Refer to Maron and others, above n 37.

VI Critique of the Status Quo

This part sets out arguments in support of conclusions that the ways in which measures described as biodiversity offsets are currently taken into account under the RMA are inconsistent with generally accepted frameworks such as the BBOP, and allow offsets to be used as advocacy rather than objective tools to achieve no net loss.

As noted in part IV, the RMA requires consent authorities to take measures described as biodiversity offsets into account as relevant considerations to be weighed in favour of applications by reason of s 104(1)(a) and (c), and s 5(2). All discretionary and non-complying activities are, in particular, ultimately measured against s 5. With respect to that task, the Environment Court has held:⁶⁵

The method of applying s 5 then involves an overall broad judgement of whether a proposal would promote the sustainable management of natural and physical resources. That recognises that the [RMA] has a single purpose. Such a judgment allows for comparison of conflicting considerations and the scale or degree of them, and their relative significance or proportion in the final outcome.

Unlike the character of decision-making envisaged by frameworks like the BBOP (all residual adverse impacts on biodiversity being identified, measured and offset in accordance with detailed criteria), s 5 is inherently subjective. The significant academic commentary on Part 2 of the RMA and the principle of sustainable management includes criticism of the "baffling complexity of s 5", including "the loosely guided discretion left with rule-makers and decision-makers, and the problem of weighing diverse competing interests where it is difficult to attribute to them comparative worth on a common value scale".⁶⁶ An extensive review in 1997 of cases decided under the RMA concluded that:⁶⁷

The dominant feature of the cases considering s 5 is the inconsistency of reasoning. The non-specific language of s 5 provides an opportunity for flexibility in decision making, but the danger is that the complexity of the language will result in inconsistent and uncertain decisions.

That conclusion was cited by I H Williams in support of his scathing view that the effect of the "broad overall judgement" approach to s 5 "is to render the concept of sustainable management virtually meaningless outside the facts, circumstances and nuances of a particular case. ... The legislature might almost as well have said that sustainable management means sugar and spice and all things nice."⁶⁸ I H Williams' view was itself referred to by the Supreme Court in *Environmental Defence Society Inc v The New Zealand King Salmon Company Ltd (King Salmon)*.⁶⁹ I H Williams goes on to say in the same

⁶⁵ *North Shore City Council v Auckland Regional Council* (1996) 2 ELRNZ 305 (EnvC) at 345–347.

⁶⁶ BV Harris "Sustainable Management as an Express Purpose of Environmental Legislation: The New Zealand Attempt" (1993) 8 Otago L Rev 51 at 52 and 73–76.

⁶⁷ Gordon Smith "The Resource Management Act 1991: 'A Biophysical Bottom Line' vs 'A More Liberal Regime'; A Dichotomy?" (1997) 6 Canterbury L Rev 499 at 521.

⁶⁸ I H Williams "The Resource Management Act 1991: Well Meant But Hardly Done" (1997) 9 Otago L Rev 673 at 682.

⁶⁹ *Environmental Defence Society Inc v New Zealand King Salmon Company Ltd* [2014] NZSC 38 at [41].

article that within the statutory elements of the RMA "practically any decision on a resource consent application will be defensible", and that applications are decided though "a mixture of art, science, justice and democracy".⁷⁰

It is suggested that the critique outlined above is, more or less, valid. Thus, the shifting sands of s 5 are a poor foundation upon which to build a principled framework for biodiversity offsets. While it is accepted that offsets currently offered under the RMA will start conversations about environmental compensation and are likely to enrich the engagement between applicants, consent authorities and submitters, they provide no certainty of substantive outcomes for the environment and risk becoming a way for applicants to better advocate in the context of s 5. Similarly, while New Zealand may be better off in environmental terms with offsets than without them, the current approach is unlikely to achieve the goal of no net loss. Continuing to treat biodiversity offsets as a consideration relevant to an "overall broad judgement" will do nothing to reduce (and may exacerbate) the uncertainties that are already inherent in the RMA.

VII The Future of Biodiversity Offsetting

This part considers how the existing treatment of biodiversity offsets under the RMA could be improved by the promulgation of a national policy statement. First, the law pertaining to such statements is examined with reference to the Supreme Court decision in *King Salmon*.

A King Salmon

King Salmon, being one of four Supreme Court judgments following the High Court decision in *Environmental Defence Society Inc v The New Zealand King Salmon Co Ltd*,⁷¹ concerned an application for changes to the Marlborough Sounds Resource Management Plan.⁷² The applicant sought to change salmon farming from a prohibited to a discretionary activity in eight locations. A Board of Inquiry granted that application in relation to four of the proposed sites. *King Salmon* was an appeal against the Board of Inquiry's decision in relation to one of the four sites – Papatua at Port Gore.

Under s 67(3)(b) of the RMA, regional plans must give effect to any New Zealand coastal policy statement. The appellant in *King Salmon* argued that, as a matter of law, the plan changes made by the Board of Inquiry did not comply with s 67 because they failed to give effect to particular policies of the New Zealand Coastal Policy Statement (NZCPS).⁷³

Policy 13 of the NZCPS provided that, to "preserve the natural character of the coastal environment and to protect it from inappropriate ... use, and development", local authorities should "avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character". Policy 15 made similar provision for outstanding natural landscapes.

⁷⁰ Williams, above n 68, at 692 endorsing in part the remarks of a third party.

⁷¹ *Environmental Defence Society Inc v The New Zealand King Salmon Co Ltd* [2013] NZHC 1992, [2013] NZRMA 371.

⁷² Marlborough District Council *Marlborough Sounds Resource Management Plan* (2003).

⁷³ "New Zealand Coastal Policy Statement 2010" (4 November 2010) 148 *New Zealand Gazette* 3710.

Although the Board of Inquiry had accepted that Papatua was an area of outstanding natural character and an outstanding natural landscape, and that the proposed salmon farm would have significant adverse effects, it did not consider that policies 13 and 15 of the NZCPS required the prohibition of salmon farming at Papatua. In its decision, the Board of Inquiry held that:⁷⁴

We are required to make an overall broad judgment as to whether the Plan Change would promote the single purpose of the RMA – the sustainable management of natural and physical resources. As we have said earlier, Part II is not just the starting point but also the finishing point to be considered in the overall exercise of our discretion.

This thinking was applied directly to the NZCPS, with the Board of Inquiry concluding that the "directions" it contained were ultimately "subservient to the Section 5 purpose of sustainable management".⁷⁵

The Supreme Court overturned the Board of Inquiry's approach. In essence, it held that the NZCPS was clear and must be given effect to. The Supreme Court considered that s 5 of the RMA should not be treated as the primary operative decision-making provision.⁷⁶

Section 5 was not intended to be an operative provision, in the sense that it is not a section under which particular planning decisions are made; rather, it sets out the RMA's overall objective. Reflecting the open-textured nature of pt 2, Parliament has provided for a hierarchy of planning documents the purpose of which is to flesh out the principles in s 5 and the remainder of pt 2 in a manner that is increasingly detailed both as to content and location. It is these documents that provide the basis for decision-making, even though pt 2 remains relevant.

Following the Court of Appeal in *Auckland Regional Council v North Shore City Council*⁷⁷ – a case which considered the imposition of boundaries to limit urban development by way of a regional policy statement – the Supreme Court also accepted that a policy may be "narrow and inflexible"⁷⁸ to the point of having "the effect of what in ordinary speech would be a rule".⁷⁹

It is suggested that *King Salmon* makes it clear that environmental protection is an essential and legitimate element of the concept of sustainable management, and that policy-makers are entitled to impose environmental bottom lines in appropriate circumstances. The notion of environmental bottom lines circles back to the debate canvassed in part VI. The drafters

⁷⁴ Board of Inquiry into the New Zealand King Salmon Proposal *Final Report and Decision* (22 February 2013) at [1227].

⁷⁵ Board of Inquiry into the New Zealand King Salmon Proposal, above n 74, at [1183].

⁷⁶ *Environmental Defence Society Inc v New Zealand King Salmon Company Ltd*, above n 69, at [151].

⁷⁷ *Auckland Regional Council v North Shore City Council* [1995] 3 NZLR 18 (CA).

⁷⁸ *Environmental Defence Society Inc v New Zealand King Salmon Company Ltd*, above n 69, at [182].

⁷⁹ *Environmental Defence Society Inc v New Zealand King Salmon Company Ltd*, above n 69, at [116].

of the RMA did not necessarily intend for planning decisions to turn on a wide range of subjective and value-laden factors, which are "more moral and political than technical or scientific".⁸⁰ Indeed, when introducing the Resource Management Bill for its third reading, Hon Simon Upton said that it should provide a framework for establishing objectives by reference to a "biophysical bottom line" set out in what is now s 5.⁸¹

An opportunity arising from *King Salmon* is that the uncertainty of broad overall judgements under s 5 can be responded to with greater confidence by utilising the hierarchy of planning documents under the RMA to put in place environmental bottom lines (first, national environmental standards, national policy statements and New Zealand coastal policy statements; second, regional policy statements; third, regional plans; and fourth, district plans). While *King Salmon* concerned the NZCPS, s 67(3) of the RMA provides that a regional plan must give effect to *any* national policy statement, which would include the PNPSIB should it be finalised and promulgated.

B PNPSIB

The purpose of national policy statements is to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the RMA.⁸² Local authorities are then, in general terms, required to amend their subordinate planning instruments to achieve consistency with any national policy statement. The PNPSIB provides that the "matter of national significance to which this national policy statement applies is the need to maintain New Zealand's indigenous biological diversity".⁸³ The regulatory impact statement for the PNPSIB acknowledges that the effectiveness of local authority efforts to protect and maintain indigenous biodiversity over the decade from 2000–2010 has been inconsistent and inadequate. This is "despite the clear signal that indigenous biodiversity is a matter of national importance".⁸⁴ It then articulates the following three policy objectives:⁸⁵

1. Ensure that significant indigenous vegetation and habitats outside public conservation lands are identified.
2. Provide baseline criteria for achieving the identification of significant indigenous vegetation and habitats outside public conservation lands.
3. Contribute to addressing the ongoing decline of indigenous biodiversity outside public conservation lands.

It is the third objective that policies 5 and 6 of the PNPSIB respond to. Policy 5, which is set out in full in part III, provides that local authorities "must" manage the effects of

⁸⁰ Stephen Rivers-McCombs "Planning in Wonderland: The RMA, Local Democracy and the Rule of Law" (2011) 9 New Zealand Journal of Public and International Law 43 at 65.

⁸¹ (28 August 1990) 510 NZPD 3950.

⁸² Resource Management Act 1991, s 45.

⁸³ *Proposed National Policy Statement on Indigenous Biodiversity*, above n 20, at 5.

⁸⁴ Ministry for the Environment *Regulatory Impact Statement: Proposed National Policy Statement on Indigenous Biodiversity* (12 November 2010) at 2.

⁸⁵ *Regulatory Impact Statement: Proposed National Policy Statement on Indigenous Biodiversity*, above n 84, at 6.

activities to "ensure 'no net loss' of biodiversity of areas of significant indigenous vegetation and significant habitats of indigenous fauna". This is to be achieved by applying the hierarchy of avoid, remedy and mitigate, with any material residual adverse effects being offset. Schedule 2 to the PNPSIB then sets out principles "to be applied when considering a biodiversity offset". In contrast, policy 6 lists various measures that local authorities should merely "encourage" to "promote" the maintenance of biodiversity outside of identified areas of significant indigenous vegetation and significant habitats of indigenous fauna.

Policy 5 attracted comments from 219 submitters on the PNPSIB.⁸⁶ A primary concern of pro-environment submitters appears to have been a perception that a mitigation hierarchy that includes offsets will cause the RMA to become more permissive; particularly so given that the offsetting of "significant" vegetation and habitats is explicitly contemplated. Pro-development submitters appear to have been particularly wary of "no net loss" and the costs this might impose on the private sector.

The Ministry for the Environment, which is responsible for the PNPSIB, described policy 5 as "perhaps the most critical".⁸⁷ This is true, although policy 5 depends on and its potential effectiveness is made vulnerable by the need to identify "significant" vegetation and habitats. To the extent that a component of indigenous biodiversity is not identified as significant, it will fall under the much lesser protections offered by policy 6.

Applying *King Salmon*, policy 5 of the PNPSIB does articulate an environmental bottom line in unambiguous language that subordinate planning instruments under the RMA would need to give effect to. It also provides a framework and principles that consent authorities can apply to biodiversity offsetting. In these respects the PNPSIB is, from a pro-environment perspective, a significant step forward. Some weaknesses of the PNPSIB are, however, addressed below with respect to achieving the goal of the New Zealand Biodiversity Strategy and no net loss of biodiversity in a wider sense.

C No Net Loss

The goal of the New Zealand Biodiversity Strategy includes sustaining modified ecosystems in production and urban environments; and doing what is necessary to maintain viable populations of all indigenous species. This is a wider objective than preserving (or offsetting) areas of significant vegetation and habitat. Given this, one of the weaknesses of the PNPSIB is its restricted application. The components of biodiversity that have intrinsic, economic and ecological value are not limited to areas deemed "significant". Similarly, the importance of biodiversity to ecosystem functions is a system-wide phenomenon. It is suggested that formalising and requiring the use of biodiversity offsetting in restricted circumstances may be a missed opportunity.

As drafted, the PNPSIB will (through its implementation in subordinate planning instruments) result in a move away from the destruction of significant components of biodiversity being weighed as part of a broad overall judgement under s 5. Instead, such destruction should be prohibited unless it can be offset in a way that is broadly consistent with international best practice (the principles in sch 2 to the PNPSIB are intended to

⁸⁶ Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity: Summary of Submissions* (2011) at 59.

⁸⁷ *Proposed National Policy Statement on Indigenous Biodiversity: Evaluation under section 32 of the Resource Management Act 1991*, above n 21, at 65.

"replicate" those agreed through the BBOP⁸⁸). In contrast, the conventional approach to s 5 will continue to apply where a discretionary or non-complying consent is required for the destruction of components of biodiversity not identified on a stand-alone basis as being significant; and applicants may continue to offer and have taken into account measures described as biodiversity offsets that ought not to be regarded as such. It is also noteworthy that the PNPSIB states it will not apply to public conservation land (such as the site of the Escarpment Mine Project).

As a consequence, it is suggested that the focus of the PNPSIB will provide only limited support for achieving a goal of no net loss in a wider sense. It risks carving New Zealand up into pockets where development must not result in a backwards step; and the balance in which adverse effects on biodiversity may continue to be externalised.

Despite the limited scope of no net loss under the PNPSIB, pro-development submissions on the PNPSIB included:⁸⁹

[The concept of no net loss] risks overriding the overall RMA purpose of sustainable management of natural and physical resources. The RMA is not a "no effects" statute designed to achieve environmental protection at all costs and, as stated above, the matters of national importance contained in section 6 of the RMA are not "vetoes", but rather matters that must be considered when determining whether a particular application achieves the purpose of the Act (Auckland Airport, 12).

The proposed test of "no net loss" in the Policy is inconsistent with the sustainable management purpose of the RMA ... (New Zealand Transport Agency, 239).

... the draft NPS makes no mention of sustainable management and in doing so, appears to extend the interpretation of the purpose of the Act from managing effects to 'doing no harm' ... (Business NZ, 45).

It is suggested in response that, in an already highly anthropogenic environment like New Zealand where biodiversity and ecosystem functions have been significantly degraded over time, planning laws may (and perhaps should) at some point move to requiring no more harm to be done to elements of the environment that are considered matters of national significance – such as maintaining indigenous biodiversity. Given the enormity of the environmental challenges facing humankind and the inevitability of adverse effects on the environment, consideration should be given to using a national policy statement to set a much more ambitious environmental bottom line with respect to biodiversity and ecosystem functions. Biodiversity offsetting (in the true, rigorous sense) could then be used as a tool for respecting that bottom line without moving from sustainable management to preservation.

VIII Conclusion

Much has been written about biodiversity offsets: the principles underpinning the concept, the science and methodologies essential to its implementation, and in New Zealand, how

⁸⁸ *Proposed National Policy Statement on Indigenous Biodiversity: Evaluation under section 32 of the Resource Management Act 1991*, above n 21, at 66.

⁸⁹ *Proposed National Policy Statement on Indigenous Biodiversity: Summary of Submissions*, above n 86, at 67.

planning laws have taken into account measures described as biodiversity offsets.⁹⁰ This paper has endeavoured to provide a review of the subject, but with a particular focus on how offsets could be used in the future to de-risk decisions made under the RMA and put in place an environmental bottom line in response to what is arguably a current or impending crisis of biodiversity (and relatedly, ecosystem function) loss. It has concluded that the way in which consent authorities currently take offsets into account can be criticised as being somewhat of a 'black box'. While the science behind biodiversity offsets is complex and still imprecise,⁹¹ offsets are a tool that may have an essential part to play in responding to the adverse effects of future use and development of the environment. Relying on the discretion afforded by s 5 of the RMA makes it too easy at a human level to tip the scales in favour of developments that may have positive economic and social effects by using purported offsets to discount adverse effects on the environment.

It is suggested that biodiversity offsets should not simply be left to the courts. As the Environment Court (which considered the Escarpment Mine Project in the first instance) observed, while the hearing had been "used as a forum to settle vigorous technical scientific debates" between ecologists, the court "is neither a peer review panel nor an arbitrator between factions disputing scientific or computer modelling methodology. It is a consent authority whose duties are set by the [RMA]", and include the need to "arrive at an overall broad judgement that serves the purpose of the Act as stated in s 5".⁹² Broad overall judgements are not the stuff of science and environmental bottom lines.

The Supreme Court decision in *King Salmon* provides an opportunity to re-look at the role higher-order planning instruments under the RMA can and should play in shaping the country's future environment. The PNPSIB is a start, but falls short of the holistic response to adverse effects on biodiversity that is arguably required. It should be possible to put in place a framework that both requires local authorities to give effect to a policy of no net loss; and provides biodiversity offsetting as tool by which development and use of the environment can proceed without breaching that environmental bottom line.

[Main body text excluding footnotes is 7,234 words.]

⁹⁰ See for example Mark Christensen and Maree Baker-Galloway "Biodiversity offsets – The latest on the law" (Anderson Lloyd Lawyers, October 2013).

⁹¹ Burgin, above n 18, at 811.

⁹² *West Coast Environmental Network Inc v West Coast Regional Council*, above n 48, at [220].

IX Bibliography

A Cases

- Auckland Regional Council v North Shore City Council* [1995] 3 NZLR 18 (CA).
- Day v Manawatu-Wanganui Regional Council* [2012] NZEnvC 182.
- Environmental Defence Society Inc v The New Zealand King Salmon Co Ltd* [2013] NZHC 1992, [2013] NZRMA 371.
- Environmental Defence Society Inc v New Zealand King Salmon Company Ltd* [2014] NZSC 38.
- JF Investments Ltd v Queenstown Lakes District Council* EnvC Christchurch C48/06, 27 April 2006.
- Lee v Auckland City Council* [1995] NZRMA 241.
- New Zealand Rail Ltd v Marlborough District Council* [1994] NZRMA 70.
- North Shore City Council v Auckland Regional Council* (1996) 2 ELRNZ 305 (EnvC).
- Royal Forest and Bird Protection Society of New Zealand Inc v Buller District Council* [2013] NZHC 1346, [2013] NZRMA 293.
- Royal Forest and Bird Protection Society Inc v Central Otago District Council* EnvC Auckland A128/2004, 23 September 2004.
- West Coast Environmental Network Inc v West Coast Regional Council* [2013] NZEnvC 47.

B Legislation

1 Statutes

- Conservation Act 1987.
- Forests Act 1949.
- Queen Elizabeth the Second National Trust Act 1977.
- Reserves Act 1977.
- Resource Management Act 1991.

2 Subordinate legislation

- Marlborough District Council *Marlborough Sounds Resource Management Plan* (2003).
- Proposed Manawatu-Wanganui Regional One Plan.
- Wellington Regional Freshwater Plan.

C Treaties

- Convention on Biological Diversity 1760 UNTS 79 (opened for signature 5 June 1992, entered into force 29 December 1993).

D Journal Articles

- Sarah A Bekessy and others “The biodiversity bank cannot be a lending bank” (2010) 3 Conservation letters 151.

Marie A Brown and others "Compensating for ecological harm: The state of play in New Zealand" (2014) 38 New Zealand Journal of Ecology 139.

MA Brown and others "Implementing ecological compensation in New Zealand: Stakeholder perspectives and a way forward" (2014) 44 Journal of the Royal Society of New Zealand 34.

Joseph W Bull and others "Biodiversity offsets in theory and practice" (2013) 47 Oryx 369.

Shelley Burgin "BioBanking: An environmental scientist's view of the role of biodiversity banking offsets in conservation" (2008) 17 Biodivers Conserv 807.

Bradley J Cardinale and others "Biodiversity loss and its impact on humanity" (2012) 486 Nature 59.

BV Harris "Sustainable Management as an Express Purpose of Environmental Legislation: The New Zealand Attempt" (1993) 8 Otago L Rev 51.

Jane Lubchenco "Entering the Century of the Environment: A New Social Contract for Science" (1998) 279 Science 491.

Martine Maron and others "Faustian bargains? Restoration realities in the context of biodiversity offset policies" (2012) 155 Biological Conservation 141.

Ali Memon and Peter Skelton "The Practice of Environmental Compensation Under the Resource Management Act 1991" (2004) 8 NZJ Env'tl L 177.

Jacob Overton, RTT Stephens and Simon Ferrier "Net Present Biodiversity Value and the Design of Biodiversity Offsets" (2013) 42 AMBIO 100.

Stephen Rivers-McCombs "Planning in Wonderland: The RMA, Local Democracy and the Rule of Law" (2011) 9 New Zealand Journal of Public and International Law 43.

James Salzman and JB Ruhl "Currencies and the Commodification of Environmental Law" (2000) 53 Stan L Rev 607.

Gordon Smith "The Resource Management Act 1991: 'A Biophysical Bottom Line' vs 'A More Liberal Regime'; A Dichotomy?" (1997) 6 Canterbury L Rev 499.

Susan Walker and others "Why bartering biodiversity fails" (2009) 2 Conservation Letters 149.

IH Williams "The Resource Management Act 1991: Well Meant But Hardly Done" (1997) 9 Otago L Rev 673.

E Parliamentary and Government Materials

Department of Conservation *Biodiversity Offsets Programme update* (August 2012).

Rod Hitchmough *Summary of changes to the conservation status of taxa in the 2008–11 New Zealand Threat Classification System listing cycle* (Department of Conservation, June 2013).

Ministry for the Environment *Climate change effects and impacts assessment: A Guidance Manual for Local Government* (May 2008).

Ministry for the Environment *Environment New Zealand 2007* (December 2007).

Ministry for the Environment *Land: Land Use* (Environmental Snapshot, January 2010).

Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity* (2011).

Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity: Evaluation under section 32 of the Resource Management Act 1991* (2011).

Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity: Summary of Submissions* (2011).

Ministry for the Environment *Regulatory Impact Statement: Proposed National Policy Statement on Indigenous Biodiversity* (12 November 2010).

New Zealand Biodiversity Strategy (February 2000).

"New Zealand Coastal Policy Statement 2010" (4 November 2010) 148 *New Zealand Gazette* 3710.

New Zealand's Fifth National Report to the United Nations Convention on Biological Diversity (2013).

F Reports

Board of Inquiry into the Christchurch Southern Motorway Proposal *Final Report and Decision* (8 November 2013).

Board of Inquiry into the Hauāuru mā raki Wind Farm Proposal *Final Report and Decision* (May 2011).

Board of Inquiry into the MacKays to Peka Peka Expressway Project *Final Report and Decision* (12 April 2013).

Board of Inquiry into the Men's Prison at Wiri Proposal *Final Report and Decision* (September 2011).

Board of Inquiry into the New Zealand King Salmon Proposal *Final Report and Decision* (22 February 2013).

Board of Inquiry into the Peka Peka to North Ōtaki Expressway *Final Report and Decision* (February 2014).

Board of Inquiry into the Tauhara II Geothermal Development Project *Final Report and Decision* (December 2010).

Board of Inquiry into the Transmission Gully Plan Change Request *Final Decision and Report* (October 2011).

Board of Inquiry into the Transmission Gully Proposal *Final Report and Decision* (June 2012).

Board of Inquiry into the Tukituki Catchment Proposal *Draft Report and Decisions* (April 2014).

Board of Inquiry into the Turitea Wind Farm Proposal *Final Report and Decision* (September 2011).

Board of Inquiry into the Waterview Connection Proposal *Final Report and Decision* (June 2011).

Waitangi Tribunal *Ko Aotearoa Tenei: Te Taumata Tuatahi – A Report into Claims Concerning New Zealand Law and Policy Affecting Maori Culture and Identity* (Wai 262, 2011).

G Internet Resources

Business and Biodiversity Offsets Programme <<http://bbop.forest-trends.org>>.

H Other Resources

Geoff Bascand *National Population Projections: 2011(base)–2061* (Statistics New Zealand, 19 July 2012).

Mark Christensen and Maree Baker-Galloway "Biodiversity offsets – The latest on the law" (Anderson Lloyd Lawyers, October 2013).

Toby Gardner and Amrei von Hase *Key Ingredients for Biodiversity Offsets to Achieve No Net Loss* (Department of Conservation, 12 June 2012).

The Biodiversity Consultancy *Independent report on biodiversity offsets* (The International Council on Mining and Metals and the International Union for Conservation of Nature, 2012).

Business and Biodiversity Offsets Programme *To No Net Loss and Beyond: An Overview of the Business and Biodiversity Offsets Programme* (2013).

X Appendix

