

APPLES FOR ORANGES? BIODIVERSITY OFFSETTING IN NEW ZEALAND

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I. INTRODUCTION

The concept of biodiversity offsetting is a relatively recent measure in environmental and resource management law and planning that is enjoying increasing popularity worldwide. It aims to address the long-standing and inherent tension between the desire for development and economic well-being and the need to conserve and protect the ecological health and biological diversity of the environment. While it offers a unique range of benefits, it is not without criticism. Difficulties arise over measurement, assessment and enforcement of offset proposals. Deeper concerns relate to the vulnerability and irreplaceability of biodiversity, and in this respect, critics contend that the practice endeavours to compare apples with oranges. This paper seeks to examine the development and effectiveness of biodiversity offsetting in New Zealand within the country's resource management regime. To date, this appears to have been occurring in an ad hoc and somewhat uncertain manner and arguably requires more robust direction. Guidance will be drawn from international experience and commentary in order to provide recommendations for the future of the concept in New Zealand.

The nature and benefits of biological diversity, or biodiversity as it is most commonly referred to, will first be introduced.¹ The concept of biodiversity offsetting will then be explained, including a discussion of its place within wider environmental compensation measures. Drawing from international experience and guidance, the positives and negatives of the practice will be canvassed. Biodiversity offsetting in New Zealand will then be examined and its various issues and uncertainties outlined. The concept in New Zealand will be considered in the context of applications for resource consent under the Resource Management Act 1991 ("RMA"), as this is arguably where its use is most likely to arise. It is important to keep in mind the broader scope and purpose of sustainable management under the RMA. The paper will then turn to the more "market based" New South Wales "BioBanking" scheme provided for under the Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006 (NSW). The paper will finally attempt

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1 In a strict sense, biodiversity more narrowly refers to species richness based on the total number of species present. For the purposes of this discussion, it will encompass the broader notion outlined below.

to make recommendations for the future of biodiversity offsetting in New Zealand, drawn from reflections on the positives and negatives of the practice and the strengths and weaknesses of the New South Wales regime.

The impetus for this paper is two-fold. The world is currently facing an almost unprecedented biodiversity crisis. While biodiversity varies naturally in cycles, it has been noted that nothing since the extinction of dinosaurs 65 million years ago compares to the rate of decline of indigenous biodiversity in the past century.² In this context, it is important to consider whether the “offsetting” of biodiversity is an appropriate measure in New Zealand and, if so, whether and how it may assist in addressing this decline. In 2010, the Ministry for the Environment prepared a proposed National Policy Statement on Indigenous Biodiversity (“NPS”), which was notified under the RMA in January 2011. The NPS sets out policies and objectives for managing natural and physical resources under the RMA in order to maintain indigenous biodiversity. It specifically addresses the use of biodiversity offsetting in Policy Five and Schedule Two.³ Submissions on the NPS were highly critical, particularly in relation to the biodiversity offsetting principles included in Schedule Two. Therefore, it is important to consider whether the NPS provides appropriate guidance for the future of the practice in New Zealand.

II. BIODIVERSITY

A. What is Biodiversity?

At its simplest, biodiversity describes “the variability among living organisms and the ecological complexes of which they are a part, including diversity within species, between species and of ecosystems”.⁴ Subparts of this broader notion include indigenous biodiversity, which occurs naturally in a particular country; endemic biodiversity, which breeds exclusively in a specific locality; and introduced biodiversity, which has been brought to a particular place by intention or accident.

2 Ministry for the Environment “New Zealand Biodiversity Strategy” (February 2012) Ministry for the Environment <www.mfe.govt.nz/publications/biodiversity/nz-biodiversity-strategy-feb00.html> at 4.

3 Ministry for the Environment “Proposed National Policy Statement on Indigenous Biodiversity” (January 2011) Ministry for the Environment <www.mfe.govt.nz/publications/biodiversity/indigenous-biodiversity/proposed-national-policy-statement/statement.pdf>.

4 Business and Biodiversity Offsets Programme *Glossary – 2nd ed* (Forest Trends, Washington DC, 2012) at 5; Ministry for the Environment, above n 2, at 137; Resource Management Act 1991, s 2.

The benefits obtained from functioning biodiversity are many and varied. Often referred to as ecosystem services, they encompass four broad categories: provisioning, regulating, supporting and social or cultural.⁵ More tangible, direct benefits include the provision of food and resources for domestic and commercial use. Indirect benefits include the regulation of atmospheric carbon levels and temperature, waste decomposition and nutrient recycling, nutrient filtering by riparian and wetland vegetation, water storage, retention of soil by catchment vegetation, provision of habitat for native species and provision of resources for medicinal use. Further benefits are passive, such as both the value of biodiversity for potential future and unknown uses and its continued existence as a bequest to future generations.⁶ The provision of these services illustrates that the human population is dependent on biodiversity and that the protection of biodiversity is a vital aspect of sustainable management.

However, the value of biodiversity and ecosystem services is often overlooked or poorly understood and the benefits derived are consequently often neglected or undervalued in environmental decision making.⁷ The drive to continue to develop economically and corresponding destruction of habitat, and the generally static amount of money available for conservation programmes mean targets set for maintaining biodiversity are not being reached. The world faces one of the biggest extinction crises in history. Madsen, Carroll and Moore Brands believe that a “built infrastructure” is being created at the expense of the earth’s “natural infrastructure”, and that the costs of biodiversity loss will increasingly be felt through climate change, water scarcity, flooding and disease.⁸

B. Biodiversity in New Zealand

New Zealand’s isolated evolution and the diversity of its land and coastlines have created remarkably high levels of endemic, indigenous biodiversity. It has been described as “the closest scientists will get to studying life on another planet”.⁹ Indeed, the country’s mammals, amphibians and reptiles are not found elsewhere in the world.¹⁰ The uniqueness of much of New Zealand’s biodiversity offers a substantial range of benefits. These include the provision of resources for agriculture, horticulture and scientific

5 Business and Biodiversity Offsets Programme *Standard on Biodiversity Offsets* (Forest Trends, Washington DC, 2012) at 15.

6 V Froude “Indigenous Biodiversity” (2012) Quality Planning <www.qualityplanning.org.nz/plan-topics/indigenous-biodiversity.php>.

7 Marketing and Communications Group Biodiversity Offsets Programme (Department of Conservation, January 2010) at 5.

8 B Madsen, N Carroll and K Moore Brands *State of Biodiversity Markets Report: Offset and Compensation Programmes Worldwide* (Ecosystem Marketplace, 2010) at viii, 1.

9 Ministry for the Environment, above n 2, at 1.

10 Conservation International “New Zealand: Overview” (2012) Conservation International <www.conservation.org/where/priority_areas/hotspots/asia-pacific/New-Zealand/Pages/default.aspx>.

research,¹¹ opportunities for recreational activities, the “clean green” brand and “backdrop and essence” of much of the country’s tourism industry, a basis for many national emblems, such as the kiwi, silver fern and koru, general natural character and a sense of place and identity.¹²

However, New Zealand has been identified as one of 34 global terrestrial biodiversity hotspots. Each hotspot faces extreme threats and has already lost 70 per cent of its original vegetation.¹³ In fact, New Zealand has one of the worst records of indigenous biodiversity loss, with both a reduction in the area occupied by biodiversity and a reduced abundance of species in communities and ecosystems.¹⁴ The Ministry for the Environment recognises that this loss will continue unless intervention occurs to protect biodiversity and ecosystems from the many threats they face.¹⁵ In addition to the impact of development on ongoing habitat loss and modification, a major threat in New Zealand is the introduction of invasive species, which have become pests and weeds.¹⁶

C. Protection of Biodiversity in New Zealand

Approximately 30 per cent of New Zealand’s land area is in public ownership and protected for conservation purposes. However, much consists of mountainous and unproductive land. The remaining 70 per cent of private land includes many significant and important areas of indigenous biodiversity.¹⁷ The protection of such biodiversity is challenging. Protection tends to offer “long-term, indirect and diffuse” benefits, which are enjoyed by the wider community while placing heavy costs on landowners in terms

11 See Ministry of Economic Development *Bioprospecting: Harnessing Benefits for New Zealand* (Ministry of Economic Development, 2007).

12 Froude, above n 6.

13 Conservation International “The Biodiversity Hotspots” (2012) Conservation International <www.conservation.org/where/priority_areas/hotspots/Pages/hotspots_main.aspx>; Business and Biodiversity Offsets Programme, above n 4, at 5.

14 Business and Biodiversity Offsets Programme, above n 4, at 6.

15 Ministry for the Environment, above n 3, at 1; Ministry for the Environment, above n 2, at 4.

16 Ministry for the Environment, above n 2, at 6; Conservation International, above n 10.

17 Ministry for the Environment “Questions and Answers for the Proposed National Policy Statement on Indigenous Biodiversity” (December 2011) Ministry for the Environment <www.mfe.govt.nz/publications/biodiversity/indigenous-biodiversity/questions-and-answers.html>; A Memon and P Skelton “The Practice of Environmental Compensation Under the Resource Management Act 1991” (2004) 8 *New Zealand Journal of Environmental Law* 177 at 182-183.

of maintenance, enhancement and foregone economic opportunities. Conversely, the benefits, generally economic, of developments that destroy or degrade biodiversity tend to be “immediate, direct and easily captured”.¹⁸

Biodiversity on private land is currently protected in New Zealand through a range of legislative and other measures. The protection of “areas of significant indigenous vegetation and significant habitats of indigenous fauna” is recognised as a matter of national importance under s 6(c) of the RMA. The weight of importance attached to s 6(c), as against any other matters of national importance listed in s 6, is a matter of discretion for the consent authority or the Environment Court in any given case,¹⁹ and all are subservient to the s 5 purpose of sustainable management.²⁰ Regional councils and territorial authorities are mandated by ss 30 and 31 of the RMA with the specific function of maintaining indigenous biodiversity.²¹ Section 62(1)(i)(iii) of the Act requires any regional policy statement to state the local authority responsible, in the whole or any part of the region, for specifying objectives, policies and methods to control the use of land to maintain indigenous biodiversity. However, again, this responsibility is to be undertaken within the context of Part II of the Act and is subject to the overall purpose of sustainable management.

Under s 14(h) of the Local Government Act 2002, local authorities are required to take a sustainable management approach to their roles which takes into account the social, economic and cultural well-being of people and communities, the need to maintain and enhance the quality of the environment, and the reasonably foreseeable needs of future generations. The planning processes specified under the Act deliver the non-regulatory components of indigenous biodiversity maintenance, mainly through the allocation of resources to programmes and protection and enhancement initiatives.²² The Conservation Act 1987 promotes the conservation of New Zealand’s natural and historic resources. The Biosecurity Act 1993 provides for the exclusion, eradication and effective management of pests and unwanted organisms. The Forests Act 1949, as amended in 1993, aims to bring an end to unsustainable harvesting and felling of indigenous forests. Further statutes offering protection include the Fisheries Act 1996, National Parks Act 1980, Reserves Act 1977 and Wildlife Act 1953.

18 At 183; A Rajvanshi and V Mathur “Biodiversity conservation and development: challenges for impact assessment” in R Slootweg and others (eds) *Biodiversity in Environmental Assessment: Enhancing Ecosystem Services for Human Well-Being* (Cambridge, Cambridge University Press, 2010) 59 at 65.

19 *Crater Lakes Park Ltd v Rotorua District Council* EnvC Auckland A126/09, 2 December 2009 at [176].

20 *Meridian Energy Ltd v Wellington City Council* EnvC Wellington W031/07, 14 May 2007 at [449].

21 Notably, these are the only functions within the Act that have a specific objective embedded within them.

22 Froude, above n 6.

New Zealand is a party to the Convention on Biological Diversity, which was signed at the United Nations Conference on Environment and Development in 1992 in Rio de Janeiro, Brazil, and ratified on 16 September 1993. The objectives of the Convention include the conservation of biological diversity and the sustainable use of its components.²³ In 2002, the parties committed themselves to achieve a significant reduction in the current rate of biodiversity loss at both the national and global level by 2010.²⁴ These targets were not met and new aims were set for the 2011-2020 period at the tenth meeting of the Convention in Aichi, Japan in 2010.²⁵ At the eleventh meeting in Hyderabad, India in October 2012, the parties agreed to double resources for biodiversity protection by 2015.²⁶

Prepared in February 2000, the New Zealand Biodiversity Strategy reflects New Zealand's commitment to the Convention on Biological Diversity. Its purpose is to establish a strategic framework for action to conserve and sustainably use and manage New Zealand's biodiversity with a bottom line, under Goal Three, of halting the decline in indigenous biodiversity.²⁷ It specifically aims to strengthen the role of the RMA in biodiversity protection. This has been challenging due to tensions between landowners' desires for use and development and the need to protect species and habitats on private land, and due to the fact that ecosystems are not always confined to definable sites.²⁸ The Ministry for the Environment recognises that the Strategy's overall success is "reliant on the goodwill and sympathetic management of the many private landowners on whose properties indigenous species and ecosystems remain".²⁹

In April 2007, Ministers for the Environment and of Conservation, David Benson-Pope and Chris Carter, released the Statement of National Priorities for Protecting Rare and Threatened Indigenous Biodiversity on Private Land ("National Priorities"). There are four priorities, each accompanied by useful classification tools:³⁰

1. To protect indigenous vegetation associated with land environments that have

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

24 A Gillespie *A Missing Piece of the Conservation Puzzle: Biodiversity Offsets* (Department of Conservation, March 2012) at 2.

25 Convention on Biological Diversity "Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets" (2012) Convention on Biological Diversity <www.cbd.int/sp/>.

26 Convention on Biological Diversity "COP 11" (2012) Convention on Biological Diversity <<http://www.cbd.int/cop11/>>.

27 Ministry for the Environment, above n 2, at 1, 17.

28 Ministry for the Environment, above n 3, at 1.

29 At 2.

30 Department of Conservation *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) at 2.

2. twenty per cent or less remaining in indigenous cover;
3. To protect indigenous vegetation associated with sand dunes and wetlands;
4. ecosystem types that have become uncommon due to human activity;
5. To protect indigenous vegetation associated with ‘originally rare’ terrestrial
6. ecosystem types not already covered by priorities 1 and 2;
7. To protect habitats of acutely and chronically threatened indigenous species.

A wider programme of biodiversity action involves a number of public and private entities engaged in funding and managing protection, restoration and recovery programmes, such as, the Biodiversity Advice Service Fund and Biodiversity Condition Fund.³¹ Despite the tensions outlined above, an increasing number of private landowners are also registering Queen Elizabeth the Second National Trust (“QEII National Trust”) “open space covenants” over their land. These mechanisms assist in legally protecting significant natural and cultural features on private land. From June 2011 to June 2012, 149 covenants covering 3,436 hectares were registered and a further 155 covenants covering 8,475 hectares approved for registration.³²

The NPS, prepared by the Ministry for the Environment in 2010, was notified for consultation under the RMA by the Minister for the Environment in January 2011. The process for consulting on and developing the NPS was determined by the Minister under s 46A(1)(b). The NPS’ stated objective is to:³³

... promote the maintenance of indigenous biological diversity by protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna, and to encourage protection and enhancement of biodiversity values more broadly while supporting best practice of local authorities; recognising the positive contributions of landowners as guardians/kaitiaki of their land; and recognising that the economic, social and cultural well-being of people and communities depends on, amongst other things, making reasonable use of land.

In this sense, the NPS recognises the inherent conservation-development tension and seeks to help decision makers appropriately balance the protection of biodiversity with the rights and responsibilities of landowners and broader national interests.³⁴

31 Ministry for the Environment, above n 3, at 1.

32 Queen Elizabeth the Second National Trust *Annual Report 2012* (Queen Elizabeth the Second National Trust, 30 June 2012) at 4.

33 Ministry for the Environment, above n 3, at 5.

34 At 2.

The NPS contains a list of criteria for identifying areas of indigenous vegetation and habitats of indigenous species that have been recognised as rare and/or threatened at a national level, which is based on the National Priorities.³⁵ It seeks to bring more clarity to the role of local authorities in biodiversity management under the RMA than may be apparent on the face of the Act itself and encourage them to introduce a “bottom-line” category of these rare and/or threatened sites and species.³⁶ This is reflected in Policy Three, which provides that “any policy statement notified after the date on which this NPS takes effect, shall... include criteria for the identification of areas of significant vegetation and significant habitats of indigenous fauna”, and Policy Four, which provides that “district plans and any relevant regional plans shall identify, using (where practical) maps and/or schedules, areas of significant indigenous vegetation and significant habitats of indigenous fauna”.³⁷ These must be implemented within five years of the NPS taking effect. Local authorities are required to manage the effects of activities through district and regional plans and resource consent decisions to ensure no net loss of significant indigenous biodiversity, as provided for in Policy Five.

Nevertheless, the NPS explicitly is “not meant to be a substitute for, or prevail over, the RMA’s statutory purpose or statutory tests already in existence”.³⁸ It is intended to be a relevant consideration, along with the various other relevant considerations, in achieving the sustainable management purpose of the Act. There were 426 submissions received on the NPS and the Ministry for the Environment is currently preparing a report and recommendations for the Minister for the Environment. A number of submissions strongly expressed a range of concerns over its wording and sought various amendments. The Government intends to consider the Waitangi Tribunal’s report on Claim 262 before finalising the NPS, as part of this claim relates to rights in respect of indigenous flora and fauna.³⁹

III. BIODIVERSITY OFFSETTING

A. What is Biodiversity Offsetting?

Biodiversity offsetting is conservation action intended to address the unavoidable environmental effects caused by development. It is commonly seen as a last resort measure applying only to significant, residual effects after all reasonable measures have been taken first to avoid and minimise the

35 At 2.

36 At 2.

37 At 6.

38 At 2.

39 At 2.

impact of a development project and then to restore biodiversity on-site.⁴⁰ It endeavours to result in measurable conservation outcomes that are typically required to be “like-for-like”, conserving the same type of biodiversity as that affected by the development, or “like-for-like or better”, conserving biodiversity components of a higher conservation priority.⁴¹ The practice aims to achieve no net loss, and preferably a net gain, of overall biodiversity with respect to species composition, habitat structure and ecosystem function, and people’s use and cultural values associated with biodiversity.⁴²

Biodiversity offsetting can be implemented in a variety of ways which may lead to different conservation outcomes.⁴³ Maron and Hobbs helpfully classify these as “averted loss” offsetting, which includes the protection and maintenance of sites that would otherwise be under threat of clearing or degrading, and “restoration” offsetting, which includes improving the quality or extent of habitat or vegetation through improved management, revegetation or creation of new habitat.⁴⁴ Offsetting can also be seen as direct or indirect, direct being the creation of equal or greater biological diversity than that lost, and indirect being measures such as in situ fees paid by the applicant, research, education and trading or banking offsetting credits.⁴⁵ The concept may be utilised within schemes where there is still a strong, regulatory underpinning or as part of an essentially unregulated, market-led approach.⁴⁶ Nonetheless, biodiversity offsetting is broadly seen as an alternative to state control over the environment, allowing a much greater part to be played by private initiatives or, as in the latter case, the market.⁴⁷

The practice occurs internationally and is arguably one of the fastest growing concepts in conservation policy.⁴⁸ In some countries, “sophisticated and mature systems” have developed, while other countries, such as New Zealand, are in the early stages of investigation and adoption. The various systems are very often dependent on the particular country’s unique economic, political, institutional and cultural conditions.⁴⁹

40 Business and Biodiversity Offsets Programme *Biodiversity Offset Design Handbook – Updated* (Forest Trends, Washington DC, 2012) at 7.

41 Business and Biodiversity Offsets Programme, above n 4, at 27.

42 At 8, 30.

43 A Gordon and others “Assessing the impacts of biodiversity offset policies” (2011) 26 *Environmental Modelling and Software* 1481 at 1482.

44 M Maron and R Hobbs “The Reality of Biodiversity Offsets” (2012) 33(9) *Australasian Science* 46 at 46.

45 J Quintero and A Mathur “Biodiversity Offsets and Infrastructure” (2011) 25(6) *Conservation Biology* 1121 at 1121-1122.

46 C Reid “The Privatisation of Biodiversity? Possible New Approaches to Nature Conservation Law in the UK” (2011) 23(2) *Journal of Environmental Law* 203 at 205.

47 At 205.

48 Maron and Hobbs, above n 46, at 46.

49 Madsen, Carroll and Moore Brands, above n 8, at vii.

B. Biodiversity Offsetting and Environmental Compensation

The terms “biodiversity offsetting” and “environmental compensation” are frequently used interchangeably, or the former described as a subset of the latter.⁵⁰ In Europe, for example, biodiversity offsetting is described as compensation, while in North America, it is referred to as mitigation.⁵¹ Such intermingling of terminology can make the concept and its proper application confusing.

The Business and Biodiversity Offsets Programme (“BBOP”), an international collaboration of companies, financial institutions, government agencies and civil society organisations, and from which much guidance is drawn worldwide, specifically distinguishes the two terms. BBOP purports that a biodiversity offset achieves no net loss, or a net gain, conservation outcome, while compensation can involve reparation that falls short of achieving no net loss, for a variety of reasons.⁵²

Various authors reinforce this distinction, albeit with slightly different reasoning. In the recent RMA Principles Technical Advisory Group Report, Dormer and others state that offsetting must relate directly to the values affected by an activity, while any measure without this connection can more properly be described as environmental compensation.⁵³ Similarly, Christensen sees offsets as addressing the residual effects of a proposal. He believes they are a form of mitigation because they reduce the overall effects of a proposal, and so can be considered under the “avoid, remedy or mitigate” formula in s 5(2)(c) of the RMA and as an “actual or potential effect” on the environment under s 104(1)(a).⁵⁴ Conversely, he believes environmental compensation is not a form of mitigation that reduces adverse effects, rather it is a method to counter-balance adverse effects, and as such can validly be considered as an “other matter” under s 104(1)(c).⁵⁵ These distinctions in the New Zealand context will be further discussed below.

C. Positives or Benefits of Biodiversity Offsetting

The benefits of biodiversity offsetting are numerous and widely recognised. Advantages are received by biodiversity itself, business and developers, government and local authorities, and the wider public.

50 M Christensen “Biodiversity Offsets” (presentation to Straterra Seminar, Wellington, March 2011) at 2.

51 D Norton “Biodiversity Offsets: Two New Zealand Case Studies and an Assessment Framework” (2008) 43 *Environmental Management* 698 at 698.

52 Business and Biodiversity Offsets Programme, above n 4, at 10.

53 A Dormer and others *Report of the Minister for the Environment’s Resource Management Act 1991 Principles Technical Advisory Group* (Ministry for the Environment, Ref. CR 125, February 2012) at 87-88.

54 M Christensen *Biodiversity Offsets – A Further Update on the Law* (Anderson Lloyd Lawyers, November 2012) at 16.

55 At 16.

The starting point is that biodiversity offsetting places a clear value on biodiversity and its associated ecosystem services. It is imperative that the value of natural infrastructure and ecosystem services is no longer ignored. The price of biodiversity is simply not zero.⁵⁶ If positive and negative impacts on biodiversity are measured and represented as credits and debits, they can more easily be integrated as benefits or costs in economic decision-making.⁵⁷ Giving such value to biodiversity reflects the reality of the economic basis upon which modern society operates. Bringing biodiversity considerations into the economic rubric of society is a means by which biodiversity can be “embraced and effectively nurtured”.⁵⁸

On a broader level, biodiversity offsets have the potential to advance overall, long-term conservation goals by bringing national or regional conservation priorities into environmental regulation and planning.⁵⁹ Offsets place an emphasis on the way in which a choice should be made, providing the chance to obtain greater benefits than would otherwise be achievable.⁶⁰ Indeed, if well designed and implemented, more conservation, or conservation supplementary to existing attempts, may well be achieved with offsets than without them, which is a “win-win for both development and long-term conservation”.⁶¹ The opportunity to meet the challenge of retaining biodiversity, which is proving increasingly difficult, should not be taken lightly.⁶²

Furthermore, biodiversity offsets allow such environmental goals and priorities to be recognised without necessarily requiring absolute constraints on development.⁶³ They offer developers and businesses a more certain, cost-efficient means of managing the residual effects of their projects. This allows them to manage risks more comprehensively and demonstrate good practice amongst local and wider communities.⁶⁴ They inevitably become more engaged in achieving long-term and sustainable biodiversity outcomes.⁶⁵ Allowing a greater part to be played by private initiative and the market encourages a “stewardship approach” and “shared responsibility towards the natural

56 Madsen, Carroll and Moore Brands, above n 8, at 1; J Williams “Balancing Act” *Forest and Bird* (Wellington, 17 May 2012).

57 Madsen, Carroll and Moore Brands, above n 8, at 1.

58 Reid, above n 48, at 229.

59 Gillespie, above n 24, at 33; M Christensen “Biodiversity Offsets – A Suggested Way Forward” (paper presented to Resource Management Law Association Conference, Dunedin, September 2008) at 3.

60 Gillespie, above n 24, at 33.

61 At 2, 9.

62 Christensen, above n 52, at 2.

63 R Cowell “Stretching the Limits: Environmental Compensation, Habitat Creation and Sustainable Development” (1997) 22(3) *Transactions of the Institute of British Geographers* 292 at 297.

64 Christensen, above n 61, at 2.

65 At 2.

environment”.⁶⁶ This links to the idea of the polluter pays principle, albeit taking it one step further in requiring practical maintenance or restoration of biodiversity rather than simply financial compensation.⁶⁷

For governments and local authorities, the biodiversity offsetting process offers an improved understanding of existing biodiversity before project development.⁶⁸ Additionally, it is attractive at a time of reductions in public expenditure and where government funding appears to be “insufficient to stem the loss of biodiversity”.⁶⁹ Quintero and Mathur note that “even a fraction of the revenues generated by large development projects may greatly exceed the current annual operating budget for conservation in most countries”.⁷⁰ It can be viewed as a strategic use of scarce money, and the opportunity to pool funding offers the potential for protection or restoration of more “contiguous” areas of conservation.⁷¹

An ideal world would not be confronted with the current challenge of reconciling the desire for economic expansion with the need to maintain and protect biodiversity. For the environment’s sake, biodiversity offsets present pragmatic options in a “less than ideal world”.⁷² In fundamental terms, biodiversity values are in sharp decline and the use of biodiversity offsetting in reconciling this tension may in fact stem this negative trend and produce more desirable environmental outcomes. Its ability to avoid “lose-lose” situations for both biodiversity and economic values is a critical positive factor of biodiversity offsetting.⁷³

D. Negatives and Difficulties of Biodiversity Offsetting

The concept of biodiversity offsetting is certainly not without its challenges. While proponents of the concept see it as necessary to place a measurable value on biodiversity, others see its quantification as an impossible task. Measurement is generally a process of finding a suitable metric or currency, although there is little agreement on exactly which components, functions or values of biodiversity this encompasses.⁷⁴ There is no simple, linear accounting process, it is rather an inherently subjective exercise based

66 Reid, above n 65, at 205.

67 Gillespie, above n 24, at 2.

68 Williams, above n 58.

69 Christensen, above n 61, at 2; Reid, above n 48, at 205.

70 Quintero and Mathur, above n 47, at 1122.

71 M Brown “Making it work: challenges and opportunities in the implementation of biodiversity offsetting” (presentation to Forest and Bird National Conference, Wellington, June 2012) at 12-13.

72 Gillespie, above n 24, at 33.

73 D Norton “Using biodiversity offsets to obtain “win-win” outcomes for biodiversity conservation and economic production” [2007] *New Zealand Journal of Forestry* 36 at 39.

74 R Cowell “Environmental Compensation and the Mediation of Environmental Change: Making Capital out of Cardiff Bay” (2000) 43(5) *Journal of Environmental Planning and Management* 689 at 691.

on competing views and interests.⁷⁵ This uncertainty is compounded by incomplete knowledge of biodiversity and ecosystem functions and services. Ecological processes and habitat areas are constantly naturally changing and evolving and many species are yet to be discovered. In addition, there may be cumulative impacts from other developments on affected biodiversity.⁷⁶

Critics contend it is “over-simplistic” to apply the concept of offsetting to biodiversity because it is impossible to guarantee equity in the exchange of biodiversity losses and gains.⁷⁷ No two sites are genuinely identical in biodiversity terms and biodiversity condition is typically generated by system-wide and long-term ecological dynamics. Many species are specifically adapted to the spatiotemporal heterogeneity of their habitat, and some species and habitats may be especially vulnerable or truly irreplaceable.⁷⁸ Opponents of the concept see biodiversity offsetting as offering only poor or incomplete replacement for biodiversity loss, particularly as there is a great deal of guesswork involved.⁷⁹ McGillivray contends that developers are favoured as impacts are generally underestimated and positive effects of offset measures overestimated.⁸⁰

Aside from the quantification issues, it is arguably inappropriate to commodify something that has so far been viewed as “common heritage”. The elevation of economic efficiency over communal, long-term aesthetic and spiritual values is seen as an impediment to “holistic human development” and achieving a truly sustainable future.⁸¹ Cowell describes this as “enclosing nature by instrumental, commercial rationalities”,⁸² which risks promoting

75 L Hinchey and A Hogg “Environmental compensation under the RMA: An appropriate tool to ‘avoid, remedy or mitigate’ adverse effects on the environment” (2009) 8 *Butterworths Resource Management Bulletin* 45 at 47; S Shmelev *Ecological Economics: Sustainability in Practice* (Dordrecht, Springer, 2012) at 155.

76 F Bosselman “Swamp Swaps: The “Second Nature” of Wetlands” (2009) 39 *Environmental Law* 577 at 581; F Putz and others *Biodiversity Conservation in the Context of Tropical Forest Management* (The World Bank, Biodiversity Series Paper No. 75, September 2000) at 3; A Rajvanshi and V Mathur “Reconciling conservation and development: the role of biodiversity offsets” in R Sloorweg and others (eds) *Biodiversity in Environmental Assessment: Enhancing Ecosystem Services for Human Well-Being* (Cambridge, Cambridge University Press, 2010) 255 at 255.

77 A Von Hase and T Gardner *Key Ingredients for Biodiversity Offsets to Achieve No Net Loss* (Forest Trends, Washington DC, June 2012) at 2.

78 K Johst and others “Biodiversity conservation in dynamic landscapes: trade-offs between number, connectivity and turnover of habitat patches” (2011) 48 *Journal of Applied Ecology* 1227 at 1228; Reid, above n 48, at 218.

79 F Quétiér and S Lavorel “Assessing ecological equivalence in biodiversity offset schemes: Key issues and solutions” (2011) 144 *Biological Conservation* 2991 at 2991; Hinchey and Hogg, above n 77, at 47.

80 D McGillivray “Compensating Biodiversity Loss: The EU Commission’s Approach to Compensation under Article 6 of the Habitats Directive” (2012) 24(3) *Journal of Environmental Law* 417 at 428.

81 Reid, above n 48, at 229.

82 Cowell, above n 65, at 297.

the view that all natural assets are tradable.⁸³ There are concerns that commodification may influence the value that society places on nature and biodiversity by obscuring the sense of “loss” and imposing a “calculative rationality” on the evaluation of natural systems.⁸⁴

Von Hase and Gardner note the potential for offsets to undermine the importance of prior impact avoidance, minimisation and restoration measures.⁸⁵ There are ostensibly incentives for developers to downplay or ignore these important requirements under the “false impression” that any, not only residual, effects can be addressed through offsetting.⁸⁶ In this sense, there is a danger that offsets may become more than a measure of last resort.⁸⁷ In a similar vein, harsher critics see biodiversity offsetting as a means of “buying” a resource consent or “green washing”, making it easier for developments with significant impacts on biodiversity to proceed that in many cases would be seen as inappropriate.⁸⁸ They see the concept as inherently favouring developers in the consent process and are concerned that the maintenance of environmental standards may become open to “bargain”. Put directly, offsets should not be seen as a way to resolve contentious land use conflicts.⁸⁹

Additionally, there are various uncertainties in the implementation of offsets. Environmental restoration and creation is a “young science” and yet to be verified other than in the short term. There is considerable scepticism in the scientific community, and little evidence to disprove it, that the practice of restoration is advanced enough to ensure the delivery of sufficient biodiversity gains in most circumstances.⁹⁰ There are instead strong possibilities that offsetting activities will underperform or fail, either because of design or management failure, or due to an external threat, such as further development, weeds and pests or climate change.⁹¹ This is compounded by the issue of time delays in offset recovery, which may lead to “ecological bottlenecks that threaten long-term biodiversity persistence”.⁹²

Offsets are long-term commitments, which often do not fit well with the finite time frames, budgets and planning of consent-requiring activities such as mining or oil drilling. There are difficulties for both developers and local authorities establishing management and legal frameworks for long-

83 Memon and Skelton, above n 17, at 181.

84 Cowell, above n 76, at 690.

85 Von Hase and Gardner, above n 79, at 2.

86 Quétier and Lavorel, above n 81, at 2991.

87 Gillespie, above n 24, at 28.

88 Christensen, above n 61, at 3.

89 Cowell, above n 65, at 293; Memon and Skelton, above n 17, at 178; S Turner “Coastal Management and the Environmental Compensation Challenge” (2000) 4 *New Zealand Journal of Environmental Law* 181 at 192.

90 Memon and Skelton, above n 17, at 197; Maron and Hobbs, above n 46, at 46; Von Hase and Gardner, above n 79, at 5.

91 Von Hase and Gardner, above n 79, at 6.

92 At 6.

term implementation.⁹³ “Completion” is an ambiguous term when applied to constantly evolving restoration projects, and it is arguable that since the loss or degradation of the environment is often likely to be permanent, offsetting measures should operate in perpetuity.⁹⁴ However, this in itself is not straight forward given constraints on the fairness and reasonableness of consent conditions and the fact the companies carrying out such activities may cease to operate for various reasons.⁹⁵

Compliance rates are reportedly low worldwide and many approved offset programmes fail to meet their objectives.⁹⁶ Multiple studies of biodiversity offsetting in relation to North American wetlands have revealed that long-term results and “success” are questionable. Williams cites evidence of a study that found 40 per cent of proposed offset projects did not even exist, and only a third of those that did actually protected the agreed values.⁹⁷ McGillivray notes that such findings could arguably be worse for habitats and ecosystems more complex than wetlands.⁹⁸

Offsetting practice requires robust monitoring and enforcement, which in turn entails resources and expertise. Applicants and local authority assessors may not have specific skills in the emerging and detailed scientific and technical aspects of biodiversity offset design and implementation. They may well not have the time to undertake detailed research as to whether the selection of a particular approach or methodology is appropriate, and whether it is being correctly and adequately implemented.⁹⁹ Even if non-compliance is identified, research has shown that non-compliance is often not pursued, largely because enforcement can be expensive and time consuming.¹⁰⁰

IV. BIODIVERSITY OFFSETTING IN NEW ZEALAND

Biodiversity offsetting has been evident in New Zealand as a voluntary measure by landowners and developers for some time. In 2007, for example, Solid Energy New Zealand Limited established a BBOP pilot project to address “significant habitat degradation” following mining activities from 1939 to 2003 at the Greymouth Coalfields.¹⁰¹ However, biodiversity offsetting proposals arise most often in the context of applications for resource consent under the RMA.

93 Christensen, above n 61, at 3.

94 Cowell, above n 76, at 704.

95 Hinchey and Hogg, above n 77, at 47.

96 Brown, above n 73, at 17; Quintero and Mathur, above n 47, at 1122.

97 Williams, above n 58.

98 McGillivray, above n 82, at 427.

99 Business and Biodiversity Offsets Programme, above n 5, at 12-13.

100 Brown, above n 73, at 18.

101 Business and Biodiversity Offsets Programme, above n 42, at 2; Roy, G “Solid Energy New Zealand and the Business and Biodiversity Offsets Programme” (2009) Environment Institute of Australia and New Zealand <<http://ecology.eianz.org/2002/11/solid-energy-new-zealand-and-business.html>>.

A. Resource Management Act 1991

Coming into force on 1 October 1991, the RMA brought together nine existing statutes dealing with town and country planning, water rights and regulation, clean air control, mining licences, noise control and geothermal energy utilisation. Extensive reform established an integrated system of resource management encompassing “legislation, administrative responsibilities and operational management to reflect the complexity and inter-relatedness of the many elements of the biosphere”.¹⁰² Provided for in s 5(1), the overarching purpose of the Act is sustainable management, a concept drawn largely from the 1987 Brundtland Report.¹⁰³ A key theme of the Act is the control of adverse effects of activities on the environment and to this end it provides for a resource management regime markedly different to that which existed previously. The Act moved “towards a more permissive system of management of resources, focused on control of the adverse effects of land use activities on the environment”.¹⁰⁴

Section 5(2) outlines the concept of sustainable management:

[M]anaging 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 well-being and for their health and safety, while –

- a. sustaining the potential of natural and physical resources (excluding minerals)
- b. to meet the reasonably foreseeable needs of future generations; and safeguarding the life-supporting capacity of air, water, soil and ecosystems; and avoiding, remedying, or mitigating any adverse effects of activities on the environment.

While subsections 5(2)(a), (b) and (c) are sometimes viewed as “environmental bottom lines”, the application of s 5 ultimately involves an overall broad judgment as to whether a proposal will promote the sustainable management of natural and physical resources.¹⁰⁵ Section 6 lists eight matters of national importance to be recognised and provided for by all persons exercising functions and powers under the Act, although these are subject to the overall purpose of sustainable management.¹⁰⁶ Section 7 lists further matters to be taken into account in the decision making process that are

102 K Palmer “Resource Management Act 1991” in D Nolan (ed) *Environmental and Resource Management Law* (4th ed, Wellington, LexisNexis New Zealand Limited, 2011) 93 at 93, 96.

103 World Commission on Environment and Development *Our Common Future* (Oxford University Press, 1987).

104 Palmer, above n 104, at 103.

105 *New Zealand Rail v Marlborough District Council* [1994] NZRMA 70 (HC) at 86.

106 At 85.

similarly subject to s 5, and s 8 recognises that the principles of the Treaty of Waitangi are to be taken into account as an integral part of achieving the statutory purpose.¹⁰⁷

B. Resource Consent Process

A resource consent is required when an activity breaches either the Act itself or a rule in a regional or district plan.¹⁰⁸ Under s 77A(2), activities may be classified as permitted, for which resource consent is not required; controlled, restricted discretionary, discretionary and non-complying, for which resource consent is needed; and prohibited, for which consent is impossible. Applications must be made in the prescribed form and manner and include, in accordance with Schedule Four, an assessment of environmental effects (“AEE”) in such detail as corresponds with the scale and significance of effects the activity may have on the environment.¹⁰⁹

When making its decision on an application, a consent authority must, subject to s 5, have regard to:¹¹⁰

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

These are recognised as some of the most important provisions in the RMA.¹¹¹ In particular, consent for non-complying activities may only be granted if the consent authority is satisfied that the adverse effects on the environment will be minor, or that granting the consent will not be contrary to the objectives and policies of the relevant plan or proposed plan.¹¹²

107 Palmer, above n 104, at 147.

108 Resource Management Act 1991, ss 9, 11-15.

109 Section 88(2).

110 Section 104(1).

111 D Kirkpatrick “Land Use and Subdivision” in D Nolan (ed) *Environmental and Resource Management Law* (4th ed, Wellington, LexisNexis New Zealand Limited, 2011) 241 at 294.

112 Resource Management Act 1991, s 104D.

Consent may be granted subject to conditions, which are not limited by the Act, but must essentially be fair and reasonable.¹¹³ Conditions may require the making of financial contributions, although such conditions may only be imposed in accordance with purposes specified in a plan or proposed plan, which may include “the purpose of ensuring positive effects on the environment to offset any adverse effect”.¹¹⁴ Conditions may also require the provision of “services or works”, although such conditions are not subject to the requirements of s 108(10)(a).¹¹⁵ Bonds may be required under s 108(2)(b), in accordance with s 108A, to secure compliance with certain conditions. These may continue after the expiry of the consent to secure the ongoing performance of conditions relating to long-term effects and include, in particular, a condition relating to “remedial, restoration or maintenance work”.¹¹⁶

Section 35(2)(d) requires councils to monitor resource consents that have effect in their regions or districts, and take action in accordance with the RMA to resolve non-compliance where necessary. The type and frequency of monitoring depends on the scale and intensity of the activity and potential environmental impacts. If specifically provided for, consent holders may undertake self-monitoring or retain the services of specialists, or councils may use in-house staff or external consultants and charge consent holders for such services.¹¹⁷ The Act provides for enforcement action to be taken against consent holders who breach conditions of consent. This comprises written warnings, infringement notices and fines, abatement notices and court action, including prosecution and enforcement orders.

C. Environmental Compensation and Biodiversity Offsetting under the RMA

The RMA does not explicitly provide for either environmental compensation or biodiversity offsetting. It is interesting to note that the Review Group on the Resource Management Bill recommended that the concept be included in amendments to clause 93 of the Bill, enabling consent authorities to impose conditions to be attached to resource consents permitting environmental compensation, although there was no direct link with the requirement of avoiding, remedying or mitigating environmental effects. However, the Supplementary Order Paper introduced on 7 May 1991 contained no reference to this. Similarly, in 1994, the “Environment 2010 Strategy” prepared by the Ministry for the Environment included environmental compensation as one of the 12 principles underlying the

113 *Newbury District Council v Secretary of State for the Environment* [1980] 1 All ER 731 (HL); *Housing NZ Limited v Waitakere District Council* [2001] NZRMA 202 (CA).

114 Resource Management Act 1991, s 108(2)(a) and (10)(a)

115 Section 108(2)(c).

116 Section 108A(1)(b).

117 Section 36(1)(c).

Government's approach to integrating the environment and the economy. This was the only principle removed from the Strategy, which was adopted in 1995 after an extensive process of public consultation.¹¹⁸

Proposals for measures of environmental compensation and biodiversity offsetting by applicants have been assessed on a case-by-case basis and as a result have been accepted by local decision making authorities and the Environment Court through a number of channels. In *Whangamata Maori Committee v Waikato Regional Council*,¹¹⁹ off-site offsetting was accepted as fitting within the wider definition of avoiding, remedying or mitigating the adverse effects of development under s 5(2)(c). In *J F Investments Ltd v Queenstown Lakes District Council*,¹²⁰ the Court accepted an offset proposal as legally relevant under the "enabling and efficiency provisions of Part Two" and "relevant and reasonably necessary under [the now] s 104(1)(c)". It established "desiderata" to assist in determining the value and relevance of an offset: the kind and scale of the work, proximity to the site, effectiveness or certainty, public consultation or participation in the process, and assessment under a transparent, standard methodology, preferably through a planning instrument such as a regional or district plan or other public document. These were applied in *Director-General of Conservation v Wairoa District Council*,¹²¹ where the Court noted the potential for a better environmental outcome with the offset proposal than that which would result if the application were declined.¹²²

In *Royal Forest and Bird Protection Society v Gisborne District Council*,¹²³ building on the *J F Investments Ltd v Queenstown Lakes District Council* "desiderata", the Court accepted six principles of biodiversity offsets: the proposal should first seek to avoid and minimise impacts arising from the activity, a guarantee must be provided, certain ecosystems will never be appropriate for biodiversity offsets on the grounds of rarity or the presence of particular species, offsetting will often, but not always, involve the creation of new habitat rather than the protection of existing habitat, a "currency" is required to quantify the loss and gain of values to ensure ecological equivalency, and the uncertainty of achieving the desired offset and the time lag required must be considered in determining whether an offset is appropriate.

118 Turner, above n 91, at 188-190.

119 *Whangamata Maori Committee v Waikato Regional Council* NZEnvC Auckland A173/05, 26 October 2005 at [56].

120 *J F Investments Ltd v Queenstown Lakes District Council* EnvC Christchurch C48/06, 27 April 2006, at [42]. It should be noted that the desiderata were articulated in a context of landscape and amenity considerations, and the issue in that context has been viewed broadly as one of environmental compensation and is not specifically biodiversity related.

121 *Director-General of Conservation v Wairoa District Council* NZEnvC Wellington W81/07, 19 September 2007.

122 Norton, above n 75, at 39.

123 *Royal Forest and Bird Protection Society v Gisborne District Council* NZEnvC Wellington W026/2009, 7 April 2009 (interim decision).

The *Transmission Gully* decision similarly recognised offsetting measures as constituting “mitigation”, as per s 5(2)(c) of adverse effects.¹²⁴ However, the categorisation of offsetting measures was recently addressed as a central aspect of the High Court appeal in *Royal Forest and Bird Society of New Zealand Inc v Buller District Council*,¹²⁵ with the appellants calling for a narrower conception of mitigation, as was taken in *Day v Manawatu-Wanganui Regional Council*,¹²⁶ where the Court expressly declined to follow *Transmission Gully*. Fogarty J in *Royal Forest and Bird Society of New Zealand Inc v Buller District Council* agreed with counsel for the appellants. He saw the term “offset” as carrying with it the assumption that what is being offset remains, whereas to “mitigate” is to alleviate, abate or moderate the severity of something, and agreed, in this case, that the proposed offset was not mitigation as per s 5(2)(c). There was no reason to go beyond the normal meaning of mitigation.¹²⁷ While the decision certainly goes a way to providing guidance in terms of categorising offset measures, and indicates a tendency towards the view that offsets will not constitute mitigation under s 5(2)(c),¹²⁸ it is clear this remains very dependent on the specific proposal and the specific policy and plan framework. There is arguably a need for objective, national direction on the appropriateness, scope and application of biodiversity offsets, including greater guidance on the weighting of measures under the RMA.¹²⁹

D. Non-legislative Measures

In terms of non-legislative measures, the Department of Conservation secured Cross Departmental Research Pool funding to investigate the concept of biodiversity offsetting in New Zealand through its “Biodiversity Offsets Programme”.¹³⁰ The objective of this research was primarily to devise objective measures for comparing biodiversity at impact and offset sites. The Programme sought to identify places where biodiversity could be restored to achieve a net gain, through re-creation or enhancement processes, and define biodiversity trade and exchange equity issues across time, location and ecological similarity. More practically, it aimed to understand the utility of different offset measures by testing their ability to achieve equity across a range

124 Final decision of the Board of Inquiry into the New Zealand Transport Agency’s Transmission Gully Plan Change Request (5 October 2011, EPA 0072). See also *Mainpower NZ Ltd v Hurunui District Council* [2011] NZEnvC 384.

125 *Royal Forest and Bird Society of New Zealand Inc v Buller District Council* [2013] NZHC 1346.

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

127 *Royal Forest and Bird Society of New Zealand Inc v Buller District Council* [2013] NZHC 1346 at [54]-[72].

128 The important implication for non-complying activities should be considered here. If offsets do not constitute mitigation, they cannot be brought to bear on the assessment of the level of adverse effects under the “threshold test” for jurisdiction in s 104D: *Royal Forest and Bird Society of New Zealand Inc v West Coast Regional Council* [2013] 178 at [8].

129 V Rive, “Update on Case Law” (paper presented to New Zealand Law Society: Environmental Law Intensive, April 2014) 1 at 31.

130 Marketing and Communications Group, above n 7, at 1.

of contrasting scenarios.¹³¹ It ultimately intended to provide more structure and transparency in relation to biodiversity offsetting in the resource consent process, and consider whether there was a role for markets in the context.¹³² In August 2012, the Programme drew to a close and the Department will soon release a report entitled *Guidance on Best Practice Biodiversity Offsetting in New Zealand*.¹³³ The Programme aligned with and drew much guidance from BBOP.¹³⁴

The NPS similarly addresses biodiversity offsetting in its objective of promoting the “maintenance of indigenous biological diversity”. Maintenance is described as “no net loss as achieved by the protection of existing areas and habitats and/or the restoration and enhancement of areas and habitats as may be required through biodiversity offsets or other initiatives”.¹³⁵ Policy Five elaborates on “no net loss” by setting out a hierarchy which provides for: avoiding adverse effects; where adverse effects cannot be avoided, ensuring remediation; where adverse effects cannot be remedied, ensuring mitigation; 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 Two.¹³⁶ As a safeguard, the NPS explicitly provides for “limits to what can be offset because some vegetation or habitat and associated ecosystems is vulnerable or irreplaceable” to the extent that “in such circumstances offsetting will not be possible and local authorities will need to take full account of residual adverse effects in decision-making processes”.¹³⁷ Schedule Two comprises the BBOP principles: no net loss; additional conservation outcomes; adherence to a mitigation hierarchy, although slightly different in that it requires avoidance, minimisation, rehabilitation or restoration, as far as is practically feasible, then offsetting; limits to what can be offset; a landscape context; long-term outcomes and transparency.¹³⁸

131 At 4.

132 At 4-5.

133 *Department of Conservation Biodiversity Offsets Programme Update – August 2012* (Department of Conservation, August 2012) at 1.

134 At 3.

135 Ministry for the Environment, above n 3, at 4.

136 At 6.

137 Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity: Evaluation under section 32 of the Resource Management Act 1991* (Ministry for the Environment, January 2011) at 65.

138 Ministry for the Environment, above n 3, at 11-13; Business and Biodiversity Offsets Programme, above n 42, at 10.

E. Uncertainties and Difficulties to be Addressed

The uncertainties of biodiversity offsetting in New Zealand revolve mainly around the varying approaches taken in the case law and a lack of structured national guidance. Submissions on the NPS recognised the need for regulation of a tool that is already in use.¹³⁹

At the outset, some argue that offsetting is inappropriate in New Zealand given its rich biodiversity and near pristine habitats, compared with other countries where almost every habitat has been modified at some point in the past.¹⁴⁰ This is further compounded by a lack of information about overall trends and conditions in natural habitats and ecosystems, making decisions about managing biodiversity uncertain.¹⁴¹ Information, namely through an AEE, is generally tailored for wider RMA purposes and does not necessarily consider biodiversity in depth. Without specific, consistent assessment of adverse impacts on ecosystems, ecosystem processes and services and wider interconnections, it is often difficult to ensure biodiversity is adequately quantified in offsetting proposals.¹⁴²

More confusion results from the fact that the case law leaves the issue of where biodiversity offsetting fits within the RMA structure undetermined. As indicated, a number of earlier cases classify it as a subset of remedying or mitigating adverse effects.¹⁴³ More recently, it has been classified as falling outside s 5(2)(c) and some view it as a subset of wider environmental compensation. The NPS imports a clear hierarchy under which offsetting is introduced as a fourth effects-management option following adequate avoidance, remediation and mitigation. The wording of the BBOP hierarchy in Policy Five has been altered to match s 5(2)(c) of the RMA. While this aligns with recent case law, it should be noted that the s 5(2)(c) formula has not been interpreted as requiring a sequential test and debate is ongoing as to whether it is indeed a hierarchy or a set of optional approaches.¹⁴⁴ A number of submitters on the NPS raised concerns over the Policy Five hierarchy, contending that it lends too much towards the use of offsetting.¹⁴⁵

139 Ministry for the Environment *Proposed National Policy Statement on Indigenous Biodiversity: Summary of submissions* (Ministry for the Environment, December 2011) at 61.

140 Williams, above n 58.

141 Ministry for the Environment, above n 2, at 7.

142 A Rajvanshi, V Mathur and R Sloomweg "Biodiversity in environmental impact assessment" in R Sloomweg and others (eds) *Biodiversity in Environmental Assessment: Enhancing Ecosystem Services for Human Well-Being* (Cambridge, Cambridge University Press, 2010) 154 at 156-158.

143 Christensen, above n 56, at 16.

144 Memon and Skelton, above n 17, at 188; Tonkin and Taylor Limited *The Role of Monitoring and Compliance in Securing Better Biodiversity Outcomes through Offsetting Arrangements* (Department of Conservation, February 2012) at 21-26.

145 Ministry for the Environment, above n 139, at 59-60.

It must also be remembered that the purpose of sustainable management under the RMA is paramount. The flexible means of protection offered by biodiversity offsetting may allow s 6(c), which recognises the protection of “areas of significant indigenous vegetation and significant habitats of indigenous fauna” as a matter of national importance, to be better reconciled with s 5. When it is pursued “relentlessly and inflexibly” s 6(c) may foreclose development and consequently “well-being”.¹⁴⁶ However, the RMA is not a “no effects” statute and the test of no net loss must not be elevated above the sustainable management purpose.¹⁴⁷ The BBOP principles have been developed in an international context for the purposes of providing guidance to businesses, often in situations where there is no such applicable environmental legislation.¹⁴⁸ Conversely, it is well recognised that the RMA does not require that activities have no adverse effects on the environment. The Act allows the environment to be adversely affected so long as effects are remedied or mitigated or the activity is not contradictory to the purpose and principles of the Act.¹⁴⁹

Further guidance is needed as to the safeguards or limits of biodiversity offsetting. There are indications that certain habitats and species are significant, irreplaceable and vulnerable, and thus the limits of biodiversity offsetting should be determined solely on the basis of the “importance” of particular affected biodiversity. This is a strict approach and does not take account of the extent and nature of the disturbance on the receiving environment. The question should not be how rare the biodiversity is, but how much the project will impact it.¹⁵⁰ In the *Transmission Gully* decision, the Board rejected a “no go up front” approach.¹⁵¹ Christensen succinctly summarises the issue: “one has to consider the merits of a proposed offset before it is possible to decide whether an offset is available or not, it is not an “a priori” decision based on the biodiversity values themselves”. This leads to the issue of how to determine what measures are appropriate offsets and how to take account of risk and uncertainty in the outcome of proposals. A wide range of submitters on the NPS requested additional guidance on procedures of assessing and attaching values to different environmental features, the necessary degree or level of offsetting, and the design and implementation of offsets.¹⁵² Without such guidance, the area remains subject to local interpretation and inconsistencies across regions will continue. This means uncertainty for both applicants and, more importantly, for biodiversity.¹⁵³ Christensen, in particular, notes the

146 Ministry for the Environment, above n 137, at 65.

147 Kirkpatrick, above n 113, at 304; Christensen, above n 56, at 17.

148 Christensen, above n 56, at 19.

149 *Trio Holdings v Marlborough District Council* [1997] NZRMA 97 at 116; Turner, above n 91, at 186.

150 Christensen, above n 56, at 8.

151 At 8.

152 Ministry for the Environment, above n 139, at 62.

153 At 6.

importance of ensuring that there is no scope for local authorities to devise their own methodologies for assessing offsets that are contrary to Schedule Two of the NPS, as this would compound the uncertainties that already exist.¹⁵⁴

Perhaps the biggest area of concern is the successful implementation, monitoring and enforcement of offset proposals. Local authorities govern an enormous range of activities and as such do not necessarily possess the time, expertise and resources to ensure these concerns are addressed.¹⁵⁵ Various studies have revealed that, despite the requirements and tools provided for in the RMA to support an “effective and efficient consent monitoring and compliance process”, in the biodiversity context, local authorities generally fail to meet statutory requirements or use the available RMA machinery.¹⁵⁶ A Tonkin and Taylor report found that consent monitoring in the area is afforded low priority, local authorities lack staff, resources and expertise, there are no national guidelines or standards, little training, a lack of general information about ecological contexts, inadequate reporting, a need for flexibility to account for changes in design details post-application, a need for scalability to manage cumulative effects, and various enforcement inconsistencies.¹⁵⁷ Ultimately, there seems to be disparate regard for biodiversity values despite the ambitions of the New Zealand Biodiversity Strategy, the National Priorities and the NPS. Consequently, a large proportion of offsets proposals are not adequately monitored and non-compliant, and enforcement of non-compliance is generally low. Many proposed offsets have not in fact been carried out at all.¹⁵⁸ This highlights an urgent need for formal requirements to improve the system.¹⁵⁹

The issue is compounded by the long-term nature of adverse environmental effects and the need to somehow secure long-term benefits through offsetting. Resource consents are generally finite and offsetting proposals continue only until the activity for which consent was granted comes to an end.¹⁶⁰ For example, in *Royal Forest and Bird Protection Society v Gisborne District Council*, the Court identified that, while the adverse effects would remain, the offset proposal and corresponding benefits would cease as soon as the activity did. It commented that it *hoped* by this stage that the pest problems the offset proposal sought to address would be under control and that the landowner would have an incentive to keep it that way, although it did not see fit to impose an ongoing requirement. This is indicative of an unsatisfactory position that needs to be addressed.

154 Christensen, above n 52, at 26.

155 B Richardson “Economic Instruments and Sustainable Management in New Zealand” (1998) 10(1) *Journal of Environmental Law* 21 at 23.

156 Tonkin and Taylor Limited, above n 144, at 3.

157 At 3.

158 J Williams “Unfair trade in nature” *Forest and Bird* (Wellington, 16 August 2012).

159 Rajvanshi, Mathur and Sloorweg, above n 142, at 157.

160 Hinchey and Hogg, above n 77, at 45.

V. NEW SOUTH WALES – BIOBANKING

The New South Wales “BioBanking” scheme is a good illustration of a market based approach, established after specific recognition that biodiversity offsets were being negotiated on a case-by-case basis, which was leading to considerable uncertainty.¹⁶¹

In 2006, the New South Wales Department of Environment and Climate Change established a biodiversity offset and land banking scheme through the Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006 (NSW). As outlined, the Act provides a market based approach to balancing the need for development with the longer-term aim of conserving areas of high biodiversity value.¹⁶² Essentially, landowners may generate credits by undertaking to improve or maintain biodiversity on their land, by positive management and/or rehabilitation actions, through an agreement with the Minister for the Environment. This places a statutory covenant on the land title to ensure an “in perpetuity” improvement on the site.

A specified “Assessment Methodology” is used as a basis for calculating the number and class of credits. The Methodology consists of a formula based on a before and after comparison of three values: regional (an overall limitation on the potential for cumulative loss within a vegetation type), landscape (fragmentation, connectivity and adjacency of native vegetation) and site (structural and floristic condition).¹⁶³ Calculation of credits is based on the extent of improvement expected to occur following the management actions. There is greater capacity to improve moderate condition biodiversity. Improvement of sites in poor condition is limited due to the long ecological timeframes required to improve the values. Improvement of sites in high condition is obviously also more limited. However there is a ten per cent bonus of site value score to reward vegetation that has been kept in good condition in the past.¹⁶⁴ Credits may be created in respect of past, current and future management actions. The scheme is weighted towards restoring biodiversity rather than, for example, planting new vegetation.

Developers may propose offsets works to minimise biodiversity loss, establish their own biobank sites to generate credits, or purchase credits from a central register and use them to offset the negative impacts of development on biodiversity. In such a case, a biobanking statement may be issued for development and activities. The Assessment Methodology again applies, which

161 Christensen, above n 61, at 5.

162 L Dean “DAs that seek nature’s approval” (2008) 28(6) *Government News* 20 at 20.

163 D Farrier, A Kelly and A Langdon “Biodiversity offset and native vegetation clearance in New South Wales: The rural/urban divide in the pursuit of ecologically sustainable development” (2007) 24 *Environment and Planning Law Journal* 427 at 431.

164 Department of Environment and Climate Change New South Wales *Public Exhibition of BioBanking Regulation, Assessment Methodology and Compliance Assurance Strategy: Issues raised and proposed changes* (Department of Environment and Climate Change New South Wales, May 2008) at 16.

means the offset rules are primarily based on ecological criteria. Offsets may take place in locations geographically removed from the development project and are not subject to arbitrary regional boundaries.¹⁶⁵ The Act specifically recognises that biodiversity loss should be avoided and/or minimised before the use of offset credits is considered. A biobanking statement may be refused if the developer has not demonstrated that all cost-effective on-site measures to minimise the impact of development have or will be carried out.

The threshold for a biobanking statement is that the development will “improve or maintain” biodiversity values. Interestingly, if such a statement is issued, the development is taken to not significantly affect threatened species, populations or ecological communities or their habitats, and an assessment of the development’s effects on biodiversity is not required in a general consent application. In this sense, the scheme streamlines and provides an alternative, albeit similar, approach to assessment under the Environmental Planning and Assessment Act 1979 (NSW). There must still be an assessment of the site and a decision about whether the development meets the “improve or maintain” test. However, the process is intended to make it easier for councils in their role of assessing developments.

Certain biodiversity values are “red flagged”, including over-cleared vegetation types in moderate to good condition and threatened species that cannot withstand further loss, for example, those that are rare, vulnerable to threats, beyond management control, or where there are impediments to the recruitment of individuals to that population.¹⁶⁶ In addition, any affected species must be able to sustain any short-term loss resulting from clearing in the time lag before their predicted eventual replacement in the area to be managed as an offset. If this is not the case, then the loss cannot be offset.¹⁶⁷

165 At 32.

166 At 6.

167 Farrier, Kelly and Langdon, above n 164, at 432.

A. Benefits of the Scheme

While the scheme is still in its infancy, it encompasses a range of positive effects. The positives of the scheme lie primarily in the value it gives to biodiversity. From an ecological perspective, it provides an economic incentive for landowners to protect, monitor and pursue species and habitat conservation.¹⁶⁸ It encourages them to view biodiversity as an asset which can be used to gain income in the form of biodiversity credits, and presents conservation as an “economically rational land-use option in areas of high biodiversity value”.¹⁶⁹ Bosselman believes that this fosters “entrepreneurship and imagination” rather than the “mechanical check off of regulatory lists”.¹⁷⁰ It also enables the strategic direction of resources to areas of high environmental quality and can create larger or contiguous protected areas. Nelson and Sharman note that “larger reserves are usually able to fulfil species recovery goals better than smaller patchworks of isolated reserves that may not be able to ensure long-lasting conservation results”.¹⁷¹ From a business perspective, it is cost effective in that it reduces the time for processing consents, it offers certainty to ad hoc offset negotiations, thereby reducing the need for resources, and allows companies to transfer their conservation obligation to third parties, rather than being “saddled with obligations for which they have no expertise”.¹⁷² Administratively, it promotes efficiency, again from the bringing together of financial resources, planning and scientific expertise into one large project, rather than numerous smaller efforts.¹⁷³ It also takes the responsibility for biodiversity assessment away from local authorities, a role for which they have been recognised to have limited time, resources and expertise. Only accredited consultants are able to assess sites.¹⁷⁴

The approach provides a means of overcoming some of the uncertainties of biodiversity offsetting. The existence of a more robust framework means implementation and respective functions are generally performed more reliably, which should lead to greater certainty of desired outcomes. The time lag between the effects on biodiversity and their offset or replacement is also reduced, as the latter is subject to prior agreements and may already be “banked”.¹⁷⁵ Ultimately, there should be greater transparency with offset banking than with one-off offsets.¹⁷⁶

168 Reid, above n 48, at 229.

169 Reid, above n 48, at 219; Marketing and Communications Group, above n 7, at 5.

170 Bosselman, above n 78, at 582.

171 R Nelson and B Sharman “More than tilting at windmills: A bird’s eye view of a bio-offsets scheme under the EPBC Act” (2007) 24 *Environment and Planning Law Journal* 17 at 19-20.

172 Department of Environment and Climate Change New South Wales, above n 165, at 67; Nelson and Sharman, above n 172, at 20.

173 Nelson and Sharman, above n 172, at 21.

174 Department of Environment and Climate Change New South Wales, above n 165, at 29.

175 Bosselman, above n 78, at 584; Norton, above n 53, at 704.

176 Madsen, Carroll and Moore Brands, above n 8, at 5.

The approach also goes some way to addressing the concerns outlined earlier as to enforcement and monitoring. The offset is, in effect, transferred to a secure, independent third party to be managed.¹⁷⁷ However, increased flexibility necessarily requires increased responsibility and enforcement for success of the scheme. The Minister for the Environment holds the power to order a landowner to carry out work at their own cost to rectify any breach of a biobanking agreement, or may obtain damages through proceedings in the Land and Environment Court.¹⁷⁸ The Minister may suspend, cancel or order a landowner to retire credits for a breach, and may issue fines of up to AUD 1.1 million. Where there is a serious risk to biodiversity arising from a breach, the Minister may apply to the Land and Environment Court for an order that the land be transferred to the Minister, with compensation payable as if it were a land acquisition.

The particular scheme in New South Wales provides for a substantial amount of public participation. A Ministerial Reference Group, comprising leaders from key stakeholder groups, such as the New South Wales Farmers' Association and New South Wales Minerals Council, was established to assist in finalising the "Assessment Methodology" and continues to oversee implementation and reviews of the scheme.¹⁷⁹ A quarterly email, aptly named the "BioBanking Banter", provides a regular update on the scheme, including information about new biobanking agreements and statements, expressions of interest, publications and changes to processes.¹⁸⁰ A public list of wanted credits allows prospective purchasers, such as developers or charitable organisations, to inform future and current holders of the type and amount of credits they desire.¹⁸¹ Additionally, the Department of Environment and Climate Change directs information about establishing biobank sites to landowners in areas identified as having high conservation value in regional plans.¹⁸²

What is striking about the scheme is its seeming ability to deliver wider, long-term conservation goals.¹⁸³ It offers an alternative approach where areas of high biodiversity value are involved, which the Department of Environment and Climate Change describes as "complementing natural resource management" in New South Wales.¹⁸⁴ Assigning an economic value to biodiversity and its associated services allows countries to use the "invisible

177 Christensen, above n 61, at 3.

178 Office of Environment and Heritage "The BioBanking Framework" (May 2012) New South Wales Government <www.environment.nsw.gov.au/biobanking/biobankframework.htm>.

179 Office of Environment and Heritage "Scheme development" (May 2011) New South Wales Government <www.environment.nsw.gov.au/biobanking/schemedevelopment.htm>.

180 Office of Environment and Heritage "Information for participants" (September 2012) New South Wales Government <www.environment.nsw.gov.au/biobanking/participants.htm>.

181 Office of Environment and Heritage "List of wanted credits" (March 2012) New South Wales Government <www.environment.nsw.gov.au/biobanking/listwantedcredits.htm>.

182 Department of Environment and Climate Change New South Wales, above n 165, at 74.

183 Bosselman, above n 78, at 584; Madsen, Carroll and Moore Brands, above n 8, at 5.

184 Farrier, Kelly and Langdon, above n 164, at 431.

hand of commerce” to protect biodiversity, habitats and water supplies.¹⁸⁵ The Department’s Manager of Private Land, Louis Momouney, succinctly states: “for some time we have been dealing with the creeping loss of biodiversity and we need a systematic method to build up areas of habitat that will ensure into the future”.¹⁸⁶

B. Negatives of the Scheme

The concerns outlined earlier in this paper relating to the quantification and replaceability of biodiversity apply to the scheme. These concerns have been recognised by various authors in the context of a biodiversity banking approach.¹⁸⁷ Some critics believe making ecosystems tradable commodities may in fact create danger for biodiversity by way of possible perverse incentives to create threats where none existed before.¹⁸⁸ The approach may also indicate underlying governmental and local authority neglect of biodiversity at a time when habitats are under increasing stress and the rapid decline of biodiversity is widely recognised.¹⁸⁹

There are also apprehensions that such schemes act to “lock land up forever”. However, this can be countered with the argument that the offset provided by a biobanking site is supposed to counterbalance permanent effects at the development site. Further, other later land uses may be permitted on the offset site provided they are compatible with the conservation of biodiversity on the site.¹⁹⁰

More specifically for landowners, early experience has shown that significant initial costs may “dampen” speculative offset development on private land.¹⁹¹ For developers, the alternative avenue of dealing with effects of activities on biodiversity does not necessarily ensure the granting of consent. Consent may be refused for reasons unrelated to biodiversity conservation and the decision maker furthermore retains the discretion to consider the likely impact of the proposal on biodiversity and refuse an application on the grounds that the proposed on-site measures combined with the offsets are insufficient, despite the Minister’s determination by way of a biobanking statement.¹⁹² Applied to the New Zealand context, this could be all the more relevant given the number of factors to be weighed under the RMA.

Block recognises a strong need for proper oversight and enforcement if such combinations of markets and conservation efforts are to succeed.¹⁹³ Nelson and Sharman conclude that the dangers are not “insurmountable”,

185 Block “Ecosystem Markets Take Off” (2009) 22(3) *World Watch* 4 at 4.

186 See Dean, above n 163, at 20.

187 Block, above n 186, at 4.

188 Nelson and Sharman, above n 172, at 21.

189 Block, above n 163, at 4.

190 Department of Environment and Climate Change New South Wales, above n 165, at 74.

191 Madsen, Carroll and Moore Brands, above n 8, at 52.

192 Farrier, Kelly and Langdon, above n 164, at 443.

193 Block, above n 186, at 4.

but rather are grounds for a system to include carefully crafted guidance and features,¹⁹⁴ a theme which rings true with the general application of biodiversity offsetting.

VI. RECOMMENDATIONS

With the varying interpretations and implementation of the concept of biodiversity offsetting worldwide, providing concrete recommendations for the future of the practice in New Zealand is a challenging task. It is perhaps best to do so by addressing the respective uncertainties in the current practice in New Zealand, reflecting on the positives and negatives of biodiversity offsetting generally and the strengths and weaknesses of the New South Wales regime. While the New South Wales approach certainly takes a strong economic focus, much can be gained from the certainty of implementation and enforcement that it offers.

Given the uniqueness and importance of New Zealand's indigenous biodiversity, placing a value on biodiversity and bringing it into the economic rubric of modern society is sensible. In light of the acknowledged rapid state of decline in biodiversity, there is potential for the practice of biodiversity offsetting to assist in achieving long-term, wider conservation goals. Significant business involvement and additional funding in biodiversity conservation is not only rational but specifically sought by the New Zealand Biodiversity Strategy.¹⁹⁵ The Strategy also recognises the need for "clearly aligned and coordinated actions".¹⁹⁶ A strong framework with practical guidelines for transparent decision making, against which the merits of individual biodiversity offset proposals may be rigorously assessed, is critical.¹⁹⁷

In establishing such a framework, amending the RMA to clarify the role or function of biodiversity offsetting, could address the existing confusion as to where and how it applies within the resource management structure. To date, options appear to be to either include offsetting as part of the s 5(2)(c) requirements, regard it as "any actual or potential effects on the environment of allowing the activity" under s 104(1)(a), or consider it as "any other matter the consent authority considers relevant and reasonably necessary to determine the application" under s 104(1)(c). If the role and function of biodiversity offsetting was addressed in the RMA itself, this could offer clarification and resolution of issues such as whether offsets can be brought to bear on the assessment of the level of adverse effects under s 104D and their inclusion in AEEs. Without such uniformity, offsets and offset proposals will continue to be assessed differently across the country.

194 Nelson and Sharman, above n 172, at 22.

195 Ministry for the Environment, above n 2, at 11.

196 At 11.

197 Reid, above n 48, at 217; Brown, above n 73, at 16; Norton, above n 53, at 702.

The NPS includes mitigation hierarchies in Policy Five and Principle Three of Schedule Two. Policy Five requires adverse effects to be avoided, then remedied, then mitigated, then where this is not possible, offset in accordance with the principles set out in Schedule Two. Principle Three of Schedule Two requires all appropriate avoidance, minimisation and rehabilitation actions to be taken to address direct and indirect effects on specific components of biodiversity, then offsetting can be used as a means of addressing residual effects. Given the above discussion of the place of biodiversity offsetting within the RMA structure, it might be best to omit reference to these hierarchies, which confuse clarification of the place of the concept in the New Zealand regime.

There must then be clearer guidelines for the design and implementation of a biodiversity offset. Offset proposals have varied widely in the case law. At present, the NPS introduces seven principles in Schedule Two to be applied when considering a biodiversity offset. However, the principles have been directly imported from BBOP. The BBOP principles have been devised for cases of voluntary biodiversity offsetting worldwide, and have been imported with little “personalisation” for the New Zealand context. While some are certainly essential for successful biodiversity offsets, others need to be better tailored to the New Zealand resource management regime and New Zealand’s unique biodiversity.

Policy Five and Principles One of Schedule Two of the NPS introduce the principle of “no net loss”. However, the RMA aims to control the adverse effects of activities on the environment, not prevent them in their entirety, which requires an overall broad judgment and weighing of a number of considerations. There is a clear mismatch between the international concept and the wording of the NPS, and the approach of the RMA on this issue. There should perhaps be less emphasis on “no net loss”, particularly given the difficulties of completely accurate quantification. In this way, the desirable environmental outcomes that may result from biodiversity offsetting are not precluded, and there can be more emphasis on achieving appropriate offsetting in a particular case.

It follows that there must be greater guidance as to the adequacy of offsetting measures in a given situation. While it is beyond the scope of this paper to establish an extensive methodology, the vague principles comprised in Schedule Two need to be replaced or at least complemented with a more practical methodology similar to that which exists in New South Wales. In an area of such national importance and contention, strong guidelines, with consequences, are needed to ensure consistency and compliance. Matters that should be more adequately addressed include exactly which biodiversity components are to be accounted for, how people’s uses of ecosystem services and cultural values associated with biodiversity are to be accounted for, the appropriate baselines from which to measure effects and offset performance, how external factors such as climate change and other developments are brought into the equation, the extent of the connection required between

the adversely affected biodiversity and the offsetting measures, and exactly how risk, uncertainty and time lags are to be accounted for.¹⁹⁸ The New South Wales “Assessment Methodology” addresses the majority of these matters with the additional benefit that it was formulated and continues to be reviewed by various public stakeholders. This ensures the different values attached to biodiversity components are taken into account.¹⁹⁹ The accredited assessors trained under the scheme also ensure greater certainty and this places less pressure in terms of expertise and resources on both applicants and local authorities.

Principle Two of “additional conservation outcomes”, limitations on what can be offset under Policy Four, and implementation in a “landscape context”, as per Principle Five, are desirable principles. However, again they are vague in application. Strategic biodiversity conservation goals are provided for in New Zealand through the New Zealand Biodiversity Strategy, the National Priorities and the New Zealand Threat Classification System. In addition, significant vegetation and significant habitats of indigenous fauna must be identified in regional policy statements, as per Policy Three of the NPS. However, these are often not referred to in the case law. These strategic goals need to be more easily accessible to and understood by applicants and perhaps even become compulsory considerations in offset proposals. It is well recognised that strategically planned approaches, including a consideration of which species and habitats are most appropriate, effective and desirable for the practice,²⁰⁰ provide much greater outcomes than traditional project-by-project assessment.²⁰¹

Accounting for “long-term outcomes” and the preparation of a “biodiversity offset management plan” in Policy Six of Schedule Two are, again, well intentioned strategies, but given the lack of success in this area worldwide, there should be stricter requirements that are specifically integrated with RMA procedures as conditions for resource consents. It is essential that this phase is not a “paper exercise to secure project approval, but rather a practical exercise to achieve environmental, economic and biodiversity benefits”.²⁰² The lack of success worldwide is often attributed to a lack of resources and

198 F Putz and others *Biodiversity Conservation in the Context of Tropical Forest Management* (The World Bank, Biodiversity Series Paper No. 75, September 2000) at 3; Business and Biodiversity Offsets Programme, above n 42, at 8; Gordon and others, above n 45, at 1486; Quétier and Lavorel, above n 81, at 2995; Memon and Skelton, above n 17, at 179; Norton, above n 53, at 70; C Hepburn “Environmental policy, government, and the market” (2010) 26(2) *Oxford Review of Environmental Policy* 117 at 123.

199 Christensen, above n 61, at 3.

200 Johst and others, above n 80, at 1227, 1234.

201 J Underwood “Combining Landscape-Level Conservation Planning and Biodiversity Offset Programs: A Case Study” (2011) 47 *Environmental Management* 121 at 122; Gordon and others, above n 45, at 1482.

202 Rajvanshi, Mathur and Sloorweg, above n 142, at 196.

technical expertise.²⁰³ This has been identified as an issue in New Zealand.²⁰⁴ A greater emphasis on the provision of such resources, skills and guidance to local authorities, or the use of accredited assessors, as well as measures such as national databases of offset action for monitoring, is essential.²⁰⁵

A final key recommendation is the establishment of a system to better facilitate and encourage offsetting proposals. It is well recognised that many of the shortcomings of the practice are increasingly being addressed, as in New South Wales, through biodiversity banking schemes. In particular, these include the issues of time lag, compliance and enforcement. A full biodiversity banking scheme will likely not be feasible given New Zealand's size and economy and the burden it might place on local authorities or those charged with its administration. However, there are various mechanisms existing in New Zealand to assist in at least a partial scheme. Where land is able to be set aside on a development site, this could be integrated within the framework of the QEII National Trust "open space covenant" regime. The regime aims to help landowners protect significant natural and cultural features on their land through the legal mechanism of an open space covenant. Once a covenant is registered, ongoing management advice and support is offered to landowners and regional representatives make regular visits to monitor the condition of the land, identify and address any threats, and advise the owner on how to meet their covenant objectives.²⁰⁶ QEII National Trust becomes a perpetual trustee to ensure that the values remain protected forever, or land may be gifted to the Trust itself to do so. Where offsetting needs to occur elsewhere, as provided for in the New South Wales scheme, "credits" may need to be purchased and this could be integrated into a fund or scheme administered by the QEII National Trust or Department of Conservation, with the input and assistance of landowners, to address specific concerns such as weed and pest control, which along with development and habitat loss pose severe threats to indigenous biodiversity.

While some would argue that protection and maintenance of indigenous biodiversity on private land is simply a "burden of common citizenship",²⁰⁷ the reality of modern human nature may require more incentives for such action. This aligns with many of the submissions on the NPS. Submitters recognised that the effective protection of biodiversity requires good local knowledge of the environment and active management, and urged for incentives for landowners to protect biodiversity on their land by way of compensation for the considerable time and cost involved.²⁰⁸

203 Memon and Skelton, above n 17, at 182.

204 Tonkin and Taylor Limited, above n 144, at 15; Memon and Skelton, above n 17, at 198.

205 Quétier and Lavorel, above n 81, at 2995.

206 Queen Elizabeth the Second National Trust "About Covenanting" (2011) Queen Elizabeth the Second National Trust <www.openspace.org.nz/Site/About_covenanting/default.aspx>.

207 D Robinson "Strategic planning for biodiversity in New South Wales" (2009) 26 *Environment and Planning Law Journal* 213 at 231.

208 Ministry for the Environment, above n 139, at 7, 89.

VII. CONCLUSION

While it is clear that there are a number of uncertainties, the active interest taken in biodiversity offsetting by the Environment Court and its inclusion in the NPS indicates that it is here to stay in New Zealand. The particular complexities of the concept in the New Zealand context involve establishing its place within the wider resource management regime.

As a first step, biodiversity offsetting could arguably be addressed through an amendment to the RMA. A sufficiently certain methodology for the design and implementation of offset proposals must then be ascertained. The international policy of “no net loss” may not be entirely appropriate for the New Zealand context in this respect, given that the RMA is not a “no effects” statute. There should be more emphasis on considering the amount of offsetting appropriate in a particular situation. The resulting methodology must cover the more practical matters outlined, which will mean it can be more consistently applied. Once successfully implemented, provision for monitoring, enforcement and long-term outcomes must similarly be ensured. This is an area of particular concern at present that should be systematically pursued in the future.

Despite the administrative and other difficulties, the potential biodiversity offsetting offers for better and broader environmental outcomes cannot be disregarded. This is consistent with the overall broad approach taken under the RMA and particularly pertinent given the current declining state of indigenous biodiversity in New Zealand. A system to better facilitate and encourage offsetting proposals is certainly needed. There may be room in the future for a more market based or trading approach, as in New South Wales, in coordination with the QEII National Trust regime and various Department of Conservation funds or initiatives.

In 2000, the scientist James Barone undertook a spectrographic analysis of the properties of ground, desiccated samples of apples and oranges. His study revealed that apples and oranges are scientifically comparable and, in fact, remarkably similar.²⁰⁹ In the environmental context, it is certainly not safe to go so far as to say that biodiversity and habitats are necessarily comparable and similar. However, what Barone’s article may serve to illustrate is that, with strict and strategic design, implementation, monitoring and enforcement - what on its face seems an impossible task - may indeed be achievable. For the benefits biodiversity offsetting may offer at a time of biodiversity crisis, the practice certainly requires further legal and moral attention in New Zealand.

209 J Barone “Comparing apples and oranges: a randomised prospective study” (2000) 321(7276) *British Medical Journal* 1569.