Putting a Price on Freshwater in New Zealand: Can We Afford Not To?

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Intensification of the agricultural sector, increased competition and over-allocation of water resources have led to adverse effects on freshwater quantity and quality in New Zealand. The current freshwater management regime under the Resource Management Act 1991 (RMA) is struggling to adequately manage this important resource. One possible reason for this is that management decisions around freshwater proceed on the basis that water is a "free" resource. A water abstraction charge can be an economic tool used to account for the value of water. However, the proposition of a charging regime has been met with strong resistance, with claims that imposing a charge on freshwater asserts ownership by the Crown, which would result in Treaty of Waitangi claims by iwi. This article considers whether ownership is a necessary requirement for the establishment of a water abstraction charge and examines current royalty regimes for natural resources that are not owned by the Crown. The article determines that the Crown can impose a charging regime on water abstraction, without needing to own freshwater in its natural state, through the exercise of its sovereign rights to manage natural resources. Māori rights in water are currently "unascertained" and determination of these rights may affect the design of a charging regime. If Māori proprietary rights are recognised, a share in the amounts collected from a water charge, or some form of co-management arrangement in regard to the distribution of the funds collected from the charge, may need to be investigated. A charging regime could be implemented by simply amending ss 112(2)

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and 360(1)(c) of the RMA to include water permits issued for the taking of freshwater. A water abstraction charge can be used to raise revenue, which can then be directed into funding water restoration projects. If volumetrically based, a water abstraction charge can also encourage more efficient water use. Thus, a water charging regime can be used alongside other freshwater management approaches under the RMA to better achieve sustainable management of New Zealand's freshwater resources.

1. INTRODUCTION

Water is an important resource for its environmental, economic, recreational and cultural values.[1] New Zealand is fortunate to have an abundant supply of water compared to other countries. However, water is becoming scarce in some areas of New Zealand, particularly in the Otago and Canterbury regions.[2]

In New Zealand, irrigation and hydroelectricity generation are the most substantial users of allocated water, followed by domestic and industrial users.[3] High levels of irrigation is of concern as irrigation has the greatest potential to cause extensive alteration to water flows and levels.[4] Further, increased competition for water, and over-allocation in some areas of New Zealand, has led to rising concerns for the declining quality and quantity of New Zealand's freshwater resources.[5]

Climate change is also of concern, where changes in rainfall, and increases in drought occurrence, will lead to increased unpredictability of water supply in catchments.[6] Another concern is that water is considered to be undervalued.[7]

1 Jacinta Ruru "Indigenous Restitution in Settling Water Claims: The Developing Cultural and Commercial Redress Opportunities in Aotearoa, New Zealand" (2013) 22 Pac Rim L & Pol'y J 311 at 313.

2 Ministry for the Environment *Freshwater reform 2013 and beyond* (March 2013) at 17 [MfE *Freshwater reform*].

3 D Booker, R Henderson and A Whitehead *National water allocation statistics for environmental reporting: Prepared for Ministry for the Environment* (National Institute of Water & Atmospheric Research, June 2016) at 13.

4 At 5.

5 New Zealand Institute of Economic Research *Water management in New Zealand: A road map for understanding water value* (NZIER, Working Paper 2014/01, March 2014) at i [NZIER *Water management*].

6 Peter Gluckman *New Zealand's freshwaters: Values, state, trends and human impacts* (Office of the Prime Minister's Chief Science Advisor, 12 April 2017) at 41–42.

7 Robert A Young and John B Loomis *Determining the economic value of water: concepts and methods* (2nd ed, RFF Press, Oxon, 2014) at 5.

The clearest example of this arises from water-bottling companies exporting water, and making large profits off a "free" resource.[8]

Water has particular qualities that make it a difficult natural resource to manage. First, water is a common-pool resource, where the use of the resource by one results in the detraction of the use of the resource for others.[9] If water access and use is left unregulated, a "tragedy of the commons" situation results, where "freedom in a commons brings ruin to all".[10] Secondly, water is described as a fugitive resource,[11] due to its constant state of diffusion. This makes it difficult to allocate specific "units" of water bodies to individuals.[12] Thirdly, water is a necessity of life, essential to meet basic human needs. Finally, the supply of freshwater available to users varies; some years supply is plentiful and other years the resource is scarcer.[13]

In the 2017 New Zealand general election, the Labour Party's freshwater policy included charging a royalty on freshwater commercial users to help fund clean-up efforts of water bodies.[14] The Opportunities Party and the Green Party also included water policies revolving around water pricing and royalties.[15] These policies sparked controversy. A "rural/urban" divide was highlighted throughout the election campaign, with farmers feeling targeted by the policy.[16] The National Party attacked the royalty, asserting charging implies ownership over freshwater and this would result in Treaty of Waitangi claims by iwi.[17]

8 David Parker "David Parker: Profiteers can pay for privilege" *The New Zealand Herald* (online ed, Auckland, 31 May 2016).

9 Douglas Fisher *The Law and Governance of Water Resources: The Challenge of Sustainability* (Edward Elgar, Cheltenham, 2009) at 60.

10 Garrett Hardin "The Tragedy of the Commons" (1968) 162 Science 1243 at 1244.

11 William Blackstone *Commentaries on the Laws of England* (Clarendon Press, Oxford, 1765–1769) vol 2 at 395, as cited in Michael Taggart *Private Property and Abuse of Rights in Victorian England: The Story of Edward Pickles and the Bradford Water Supply* (Oxford University Press, New York, 2002) at 111.

12 Fisher *The Law and Governance of Water Resources*, above n 9, at 71.

13 Joseph Sax "Our precious water resources: learning from the past, securing the future" [2009] RM Theory & Practice 30 at 30.

14 Issac Davison "Labour leader Jacinda Ardern wants royalty on commercial freshwater use to help clean up rivers" *The New Zealand Herald* (online ed, Auckland, 9 August 2017) and Labour "Clean rivers for future generations" (2017) <www.labour.org.nz/water>.

15 The Opportunities Party "Our Environment" (2017) <www.top.org.nz/top3> and Green Party "Protecting drinking water" (13 September 2017) <www.greens.org.nz/policy/environment-policies/protecting-drinking-water>.

16 Issac Davison "Jacinda Ardern downplays impact of water tax as farmers protest in Morrinsville" *The New Zealand Herald* (online ed, Auckland, 18 September 2017).

17 Pattrick Smellie "Labour's water charging policy 'reckless', says English" *The National Business Review* (New Zealand, 15 August 2017).

The freshwater policies arising from the election campaign indicate a general dissatisfaction with the current freshwater management regime under the Resource Management Act 1991 (RMA). This article argues that a water abstraction charge should be used in freshwater management to ensure the value of water is recognised in management decisions.[18] In part 2 of the article the past and present freshwater management regimes will be examined and problems with freshwater management will be explored. Part 3 will assess the legal basis for the Crown implementing a water abstraction charge. Part 4 will discuss examples of other natural resources where the Crown has not claimed ownership, but which are managed by the use of a charging/royalty regime. Finally, part 5 will explore whether a water abstraction charge will be an effective management tool for freshwater resources in New Zealand.

2. NEW ZEALAND'S FRESHWATER MANAGEMENT REGIME

Canvassing New Zealand's past and present regimes for management of freshwater helps understand the policies that are currently operating, and how this has contributed to the freshwater problems New Zealand now faces.[19]

2.1 Common Law

New Zealand's early management of freshwater resources was governed by the English common law. Under common law, water in its natural state could not be owned as it was considered *publici juris*. It was only capable of being owned once appropriated.[20] This appropriation rule was derived from the ancient Roman "rule of capture" and was the mechanism used to establish private property rights in common-pool, fugitive resources when they had been legitimately "captured".[21]

Common law rules governing freshwater in its natural state were rights relating to access, which were linked to riparian land ownership.[22] Riparian

18 Young and Loomis, above n 7, at 21.
19 NZIER *Water management*, above n 5, at 18.
20 *Laws of New Zealand* Water (online ed) at [39].
21 Michael Blumm and Lucus Ritchie "The Pioneer Spirit and the Public Trust: The American Rule of Capture and State Ownership of Wildlife" (2005) 35 Envtl L 673 at 675.
22 Daniel Minhinnick and James Winchester "Water" in Derek Nolan (ed) *Environmental and Resource Management Law* (6th ed, LexisNexis, Wellington, 2018) 557 at [8.61].

owners owned land adjacent to water bodies, and whilst they had no proprietary interests in the water that flowed past their land, riparian owners were entitled to access, take and use the water. A riparian right allowed one to take water, in any quantities, for domestic purposes; or if water was used for "extraordinary" purposes, such as irrigation, the use had to be reasonable and not cause injury to other riparian owners.[23] Groundwater was treated the same as surface water if it was flowing in known and defined channels. However, if the groundwater was passing through undefined channels then the landowner was entitled to unrestricted take and use of the water, without having to consider the impact of their use on others.[24]

2.2 Water and Soil Conservation Act 1976

The Water and Soil Conservation Act 1967 (WASCA) was the first legislative scheme that introduced water rights to better manage conservation, allocation, use and quality of natural water.[25] This meant common law riparian rights relating to the taking of natural water were no longer applicable.[26] This is because s 21 of the WASCA vested in the Crown the sole right to dam, divert, take, discharge, or use natural water.

Glenmark Homestead Ltd v North Canterbury Catchment Board confirms the extinguishment of common law rights, and for statutory rights under s 21 to take their place where appropriate.[27] However, it was still lawful, without the need to apply for a statutory water right, for any person to take or use water which was required for their domestic needs and the needs of their animals, as long as it was a reasonable level.[28] The taking or use of water for fire-fighting purposes was also lawful under the Act.[29] The vesting of water rights was not a claim of ownership of water in its natural state by the Crown but rather an assertion of the right to control access, taking, or other uses of water. Thus, the common law position in regard to ownership of water was maintained.[30]

23 At [8.61].
24 Trevor Daya-Winterbottom "Water Management" in Peter Salmon and David Grinlinton (eds) *Environmental Law in New Zealand* (Thomson Reuters, Wellington, 2015) 641 at 648.
25 Water and Soil Conservation Act 1967 [WASCA], long title.
26 Kenneth Palmer *Planning and Development Law in New Zealand* (2nd ed, The Law Book Company, Sydney, 1984) at 856.
27 *Glenmark Homestead Ltd v North Canterbury Catchment Board* [1978] 1 NZLR 407 (CA) at 413.
28 WASCA, s 21.
29 Section 21.
30 Palmer, above n 26, at 857.

2.3 Resource Management Act 1991

The WASCA was repealed and replaced by the Resource Management Act 1991, and the RMA now governs freshwater management in New Zealand.[31] Section 5 outlines that the overarching purpose of the RMA is to promote the sustainable management of natural and physical resources.[32] Section 354(1)(b) of the RMA states the Crown's existing rights to natural resources under s 21 of the WASCA are to continue. Therefore, the sole right to take, use, dam, divert, or discharge water is still vested in the Crown. Again, the Crown does not claim ownership to water in its natural state, but rather asserts control of management of water.

Provisions relating to water management include s 14, which outlines the restrictions relating to freshwater, stating no person is allowed to take, use, dam, or divert water. Exceptions to this restriction are if the action relating to water has been expressly allowed by a national environmental standard, regional plan (operative or proposed) or a resource consent.[33] There is also a fire-fighting exception,[34] and exceptions if the freshwater is taken for an individual's reasonable domestic needs or the reasonable needs of a person's animals for drinking water, with the qualification that the action will not have an adverse effect on the environment.[35] Under s 15, no person is allowed to discharge contaminants into water unless expressly allowed by a national environmental standard, a regional plan (operative or proposed) or a resource consent.[36]

The RMA provides for an integrated management approach in regulating water resources, with regional councils assigned the responsibility to give effect to ss 14 and 15 of the Act.[37] However, central government influences management through national policy statements (NPSs) and national environmental standards (NESs).[38]

31 *Laws of New Zealand* Water, above n 20, at [40].
32 Resource Management Act [RMA], s 5.
33 Section 14(2) and 14(3).
34 Section 14(3)(e).
35 Section 14(3)(b), 14(3)(c) and 14(3)(d).
36 Section 15 (1)(a) and 15(1)(b).
37 Ali Memon and Peter Skelton "Institutional Arrangements and Planning Practices to Allocate Freshwater Resources in New Zealand: A Way Forward" (2007) 11 NZJEL 241 at 243.
38 David Grinlinton "Sustainability in New Zealand Environmental Law and Policy" in Peter Salmon and David Grinlinton (eds) *Environmental Law in New Zealand* (Thomson Reuters, Wellington, 2015) 105 at 123.

2.3.1 National policy statements

The National Policy Statement for Freshwater Management 2014, as amended in August 2017 (NPS-FM), is an instrument used to guide regional councils on how to carry out their responsibilities under the RMA in relation to water management.[39] It provides a list of matters that regional councils must give effect to in their regional policy statements and plans, as well as matters to consider when deciding resource consent applications.[40] The NPS-FM contains objectives and policies relating to water quality, quantity, improving the integrated management of land, water and associated ecosystems, implementing a national objectives framework, monitoring plans, accounting for freshwater takes and contaminant discharges, and involving tangata whenua roles and interests in water management.[41]

Sustainable management, as well as additional matters to consider under pt 2 of the RMA,[42] guide decisions relating to the regulation of water resources.[43] The leading approach in the interpretation of sustainable management is the "overall broad judgement" approach.[44] This approach involves a balancing of all considerations listed in s 5, including environmental, societal, cultural, and economic matters.[45] However, the relatively wide discretion permitted under the overall broad judgement approach has been constrained by the decision in *Environmental Defence Soc Inc v The New Zealand King Salmon Co Ltd* (*King Salmon*).[46] The Supreme Court held that regional councils are also to give effect to relevant NPSs in their decision-making roles and that these instruments provide the basis of decision-making, given the hierarchal nature of planning documents in the RMA.[47]

39 Ministry for the Environment "National Policy Statement for Freshwater Management 2014: Updated August 2017 to incorporate amendments from the National Policy Statement for Freshwater Amendment Order" (issued by notice in the New Zealand Gazette on 9 August 2017 and taking effect on 7 September 2017) [NPS-FM 2014].

40 Ministry for the Environment *A Guide to the National Policy Statement for Freshwater Management 2014 (as amended 2017)* (December 2017) at 16.

41 NPS-FM 2014.

42 RMA, s 6: "Matters of national importance"; s 7: "Other matters"; and s 8: "Treaty of Waitangi".

43 Daya-Winterbottom "Water Management", above n 24, at 653.

44 Seen in *North Shore City Council v Auckland Regional Council* (1996) 2 ELRNZ 305 at 347 (EnvC).

45 Grinlinton, above n 38, at 115–116.

46 *Environmental Defence Society Inc v The New Zealand King Salmon Co Ltd* [2014] NZSC 38, [2014] 1 NZLR 593 [*King Salmon*].

47 At [151].

King Salmon involved the approval of an application for a plan change to the Marlborough Sounds Resource Management Plan and this was inconsistent with the outstanding natural character and landscape policies under the New Zealand Coastal Policy Statement 2010 (NZCPS).[48] An NZCPS is a type of NPS.[49] Despite the plan change not complying with the NZCPS, it was initially approved under the "overall judgment" approach.[50] The majority in the Supreme Court held that the plan change should have been refused.[51] They held that absent invalidity, incomplete coverage, or uncertainty of meaning within the NZCPS, there is no need for a decision-maker to refer back to pt 2 of the RMA when forming rules in a plan, assessing a plan change, or assessing resource consent applications[52] dealing with matters covered by the NZCPS.[53] Regional councils would be acting in accordance with pt 2 of the RMA by giving effect to the NZCPS or an NPS, as these instruments have already considered pt 2 provisions when it was being formed.[54] The overall broad judgement approach will not trump clear directions given in an NZCPS and NPS.[55] This case confirms that regional councils must give effect to the matters addressed in the NPS-FM.[56]

2.3.2 Regional councils

Section 30 outlines regional councils' functions under the RMA. In relation to water, these include the control of the taking, use, damming, and diversion of water; control of the quantity, level, and flow of water in water bodies; and the control of both contaminant and water discharges into water bodies.[57] Regional councils execute their functions in relation to water management through regional plans and resource consents.[58]

48 Department of Conservation *New Zealand Coastal Policy Statement 2010* (issued by notice in the New Zealand Gazette on 4 November 2010 and taking effect on 3 December 2010).
49 New Zealand Coastal Policy Statement 2010 [NZCPS], Preamble.
50 *King Salmon*, above n 46, at [5].
51 At [175].
52 *RJ Davidson Family Trust v Marlborough District Council* [2017] NZHC 52 at [76] confirms that the reasoning in *King Salmon* is applicable to resource consent applications.
53 *King Salmon*, above n 46, at [90].
54 At [90] and *Friends of Nelson Haven and Tasman Bay Inc v Tasman District Council* [2018] NZEnvC 46 at [34].
55 *King Salmon*, above n 46, at [86].
56 RMA, s 67(3).
57 Section 30(1)(e) and 30(1)(f).
58 Memon and Skelton, above n 37, at 251.

2.3.3 Regional plans

Regional councils can establish rules in regional plans to allocate the taking or use of freshwater.[59] Councils cannot create rules to reallocate water from an existing permit holder to another person within the consented time period.[60] Most regional plans will specify minimum flow levels for water bodies, the priority of water permit holders in times of water shortages, and how water will be allocated among competing types of activities.[61]

2.3.4 Resource consents

Regional councils also grant, monitor, supervise, and enforce resource consents.[62] A water permit is a resource consent that gives permission to do something that would otherwise be prohibited under s 14 of the RMA (restrictions relating to water).[63] Water permit applications are assessed under s 104 and regional councils must have regard to certain criteria, subject to pt 2, including any actual or potential effects on the environment, relevant provisions from NPSs, NESs, regional policy statements, plans, and any other matter the consent authority considers relevant and reasonably necessary to assess the water permit application.[64] Under s 108, regional councils can impose conditions on water permits and these conditions can be reviewed under s 128 to ensure conditions do not become outdated or inadequate.[65] As long as s 128 is not used to terminate consents,[66] the power to amend conditions is wide and flexible.[67]

The maximum duration of a water permit is 35 years.[68] However, consents are usually granted for a shorter time period.[69] The RMA also allows for the transfer of water permits, but only in limited circumstances. Water permits granted for damming or diverting water cannot be transferred outside the site

59 RMA, s 30(1)(fa).
60 Daya-Winterbottom "Water Management", above n 24, at 661.
61 Memon and Skelton, above n 37, at 254.
62 RMA, ss 36(1)(b) and 36(1)(c) and 38.
63 Section 87.
64 Section 104.
65 *Brookers Resource Management* (online looseleaf ed, Thomson Reuters) at [A128.01].
66 *Minister of Conservation v Tasman District Council* HC Nelson CIV-2003-485-1072, 9 December 2003 at [43].
67 *Feltex Carpets v Canterbury Regional Council* (2000) 6 ELRNZ 275 (EnvC) at [20].
68 RMA, s 123(d).
69 Daya-Winterbottom "Water Management", above n 24, at 666.

in respect of which the permit is granted.[70] Water permits granted for a purpose other than for damming or diverting water can be transferred outside the granted site, but the transfer must occur within the same catchment and the regional plan must expressly allow for water transfers to occur, or the transfer must be approved by the relevant regional council.[71]

2.4 Issues with the RMA Freshwater Management Regime

Despite the comprehensive framework to regulate water resources under the RMA, there are concerns that the system is not achieving its purpose of sustainably managing freshwater.

2.4.1 Allocation

Whilst the Government has been looking at water allocation policy since 2009, and has set up a Technical Advisory Group to investigate this issue,[72] there is still continued debate surrounding the design of a more efficient approach to allocate New Zealand's freshwater.[73] The current allocation approach for competing resource consent applications is the "first in, first served" approach and this was established in *Fleetwing Farms v Marlborough District Council* (*Fleetwing*).[74] The Court of Appeal held that decision-makers were required to assess each application on its merits on a first in, first served basis,[75] without regard to any competing resource consent application subsequently received for the same resource.[76] While this case involved competing resource consents for coastal permits to set up mussel farms, this approach has been adopted by the courts for the allocation of freshwater.[77]

Aoraki Water Trust v Meridian Energy Ltd (*Aoraki*) involved Aoraki seeking resource consents to abstract water for irrigation purposes from Lake Tekapo.[78] Meridian already had existing water permits to take and use this water for the

70 RMA, s 136(1).
71 Section 136(2).
72 Land and Water Forum *Better freshwater management: A Land and Water Forum Report to the Minister for the Environment and Minister of Agriculture* (December 2017) at [61] [LAWF *Better freshwater management*].
73 Minhinnick and Winchester, above n 22, at [8.34].
74 *Fleetwing Farms v Marlborough District Council* [1997] 3 NZLR 257 (CA) [*Fleetwing*].
75 At 265.
76 At 264.
77 Daya-Winterbottom "Water Management", above n 24, at 667.
78 *Aoraki Water Trust v Meridian Energy Ltd* [2005] 2 NZLR 268 (HC) [*Aoraki*].

purposes of hydroelectricity generation.[79] The issue was whether a subsequent water permit could be granted when this would have an adverse effect by reducing water flow available to Meridian.[80] Despite this case concerning an existing water permit versus a new resource consent application for the same resource, rather than two competing applications, the court relied on *Fleetwing* to conclude that when there is competition for the same resource, the permit granted first has priority to the use of that resource. This excludes subsequent applicants from taking or using the same water resource.[81] The recent decision of *Hampton v Canterbury Regional Council* (*Hampton*) disagreed with some aspects of the *Aoraki* judgment, however upheld that the "first in, first served" approach justified refusing to grant further water permit applications when the resource is fully allocated.[82]

There are some benefits to the "first in, first served" approach. It is administratively simple, and councils are not forced to pick "winners" between competing applications.[83] However, there have been numerous academic criticisms of the approach,[84] and the Supreme Court has stated that re-examining the *Fleetwing* principle is of "public importance".[85] Daya-Winterbottom perceives the Supreme Court granting leave to re-examine the *Fleetwing* principle in *Ngai Tahu Property Ltd v Central Plains Water Trust*[86] as an indication that they consider the substantive approach of this principle unsatisfactory for the sustainable management of water resources.[87] However, this case was settled outside of court, and the Supreme Court has not had another opportunity to reassess the *Fleetwing* principle.[88]

79 Trevor Daya-Winterbottom "New Zealand — Freshwater allocation: Property rights, non-derogation from grant and legitimate expectation" (2015) 25 Water Law 38 at 38.
80 *Aoraki*, above n 78, at [21].
81 At [31].
82 *Hampton v Canterbury Regional Council (Environment Canterbury)* [2015] NZCA 509, (2015) 18 ELRNZ 825 at [108] [*Hampton* (CA)].
83 Olivia Nyce "Water Markets Under the Resource Management Act 1991: Do They Hold Water?" (2008) 14 Canta LR 123 at 130.
84 For example, RM Fisher and S Russell "Water Policy and Regulatory Reform in New Zealand" (2011) 27 International Journal of Water Resources Development 387 at 391; Klaus Bosselmann and Vernon Tava "Introduction: Water in Context" in Klaus Bosselmann and Vernon Tava (eds) *Water Rights and Sustainability* (New Zealand Centre for Environmental Law, Auckland, 2011); and Memon and Skelton, above n 37, at 257.
85 *Hampton v Canterbury Regional Council (Environment Canterbury*) [2016] NZSC 50, [2016] NZRMA 398 at [9] [*Hampton* (SC)].
86 *Ngai Tahu Property Ltd v Central Plains Water Trust* [2008] NZSC 49.
87 Daya-Winterbottom "New Zealand — Freshwater allocation", above n 79, at 40.
88 *Hampton* (SC), above n 85, at [9]. But see the *Central Plains* decision, below n 92.

The current water allocation approach of "first in, first served" is adequate when there is an abundance of water but inappropriate when water becomes scarce and there is no existing water allocation policy or plan.[89] This is because the system does not encourage efficient use. When there is competition for water resources, priority is not given to the highest-value user, but whoever "is first in line".[90] There is no incentive for the "first in line" to minimise the amount of water they apply for, thus potentially preventing other users access to the resource and leading to greater waste.[91] However, where an application is subject to submissions from other potential users, the second principle in the assessment of the application of "priority of merits", may enable the water resource to be allocated on an equitable basis between competing users.[92]

The "first in, first served" approach also makes it difficult for new, potentially high-value, water users to gain access to water resources in a full or over-allocated system.[93] Higher-value use is where the economic return is higher per unit of water used.[94] It can be argued that flexibility in the context of allocation is necessary to ensure the value of water is optimised over time.[95]

With the "first in, first served" approach, regional councils will struggle to give effect to objectives and policies in the NPS-FM around water quantity.[96] While the NPS-FM provides useful statements on what the national government wants regional councils to achieve, it does not assist regional councils on how to improve current tools used for water allocation (for example, water permit transfers), nor does it identify new methods and tools to encourage the efficient use of water and correct over-allocation issues.[97]

2.4.2 Altered flows and levels from over-allocation

The NPS-FM attempts to improve water flows and levels by requiring regional councils to set water quantity limits. This involves setting minimum

89 Memon and Skelton, above n 37, at 257.
90 At 257.
91 Neil Gunningham *Innovative governance and regulatory design: managing water resources* (Landcare Research New Zealand, August 2008) at 19; and Ezekiel Hudspith "Freshwater Management in New Zealand: A Challenge for Ecology, Equity, and Economic Efficiency" (2012) 16 NZJEL 277 at 290.
92 *Central Plains Water Trust v Synlait Ltd* [2009] NZCA 609, [2010] 2 NZLR 363 at [84], [89] and [90].
93 *Hampton* (CA), above n 82, at [109].
94 Ministry for the Environment *Next steps for freshwater: Consultation document* (February 2016) at 22 [MfE *Next steps for freshwater*].
95 Kevin Guerin *Principles for Royalties on Non-Mineral Natural Resources in New Zealand* (New Zealand Treasury, Policy Perspectives Paper 06/08, November 2006) at 11.
96 NPS-FM 2014, Policies B3, B4, B5 and B6.
97 Daya-Winterbottom "Water Management", above n 24, at 656–657.

environmental flows or levels in water bodies and the allocation limit available for water permits.[98] These minimum water flows and levels are required to ensure the integrity of freshwater ecosystems is maintained and to provide for recreation and cultural values.[99]

Unfortunately, the flow and level of some water catchments have declined, particularly in lowland areas on the eastern side of both islands, over recent decades.[100] One of the reasons for decreased flow and levels is over-allocation of water in catchments.[101] Decreases in flow regimes and water levels reduces suitable habitats for different freshwater organisms, and can lead to a loss of connectivity of habitats for migratory species.[102] The adverse effects of flow alterations can be seen in the Waitaki River where hydroelectric development has caused increases in vegetation encroachment on the riverbed and changes in freshwater habitats.[103]

2.4.3 Water quality and over-allocation

Water volume and water quality are linked.[104] Decreases in water flow and levels due to water takes may affect a water body's "assimilative capacity" to dilute nutrients and other harmful discharges, causing detriment to freshwater quality.[105] This in turn can have impacts on the ability of the water body to support ecosystems.[106] A serious water quality issue for New Zealand is non-point source discharges, where water bodies receive multiple discharges of contaminants from different sources which are not easily identifiable.[107] A common example of this is surface run-off from farms into water bodies.[108] Non-point source discharges are difficult to manage and ensuring there

98 NPS-FM, Policy B1 and interpretation section.
99 Gluckman, above n 6, at 31.
100 At 22.
101 MfE *Next steps for freshwater*, above n 94, at 25.
102 Gluckman, above n 6, at 30.
103 Maurice Duncan and Ross Woods "Water Regulation" in JR Dymond (ed) *Ecosystem Services in New Zealand — Conditions and Trends* (Manaaki Whenua Press, Lincoln, 2013) at 469.
104 Ministry for the Environment and Stats NZ *New Zealand's Environmental Reporting Series: Our fresh water 2017* (April 2017) at 59 [MfE and Stats NZ *Our fresh water 2017*].
105 Minhinnick and Winchester, above n 22, at [8.34].
106 Nyce, above n 83, at 132.
107 Connie Bollen "Managing the Adverse Effects of Intensive Farming on Waterways in New Zealand — Regional Approaches to the Management of Non-point Source Pollution" (2015) 19 NZJEL 207 at 210.
108 At 212.

is enough water in a catchment to tolerate these discharges is important in protecting freshwater resources.[109]

2.5 Conclusion

The "first in, first served" approach, without reference to the value of water or the value of the water-using enterprise, means water is used inefficiently and not being allocated to the highest-value user. A water abstraction charge is seen as a possible tool in mitigating the negative effects created under that approach by deterring low-value water use and encouraging water permit holders to minimise water use.[110]

To preserve water quality and the health of freshwater ecosystems, the freshwater management regime also needs to develop methods to manage over-allocation. The main tool used to manage this will be environmental flow limits set by regional councils in regional plans. However, a water abstraction charge can also be a tool to help reduce over-allocation in stressed water catchments, which in turn can improve water quality problems that have resulted because of this over-allocation. A charge can also help fund water restoration projects. A proactive approach to water restoration is desirable to safeguard freshwater ecosystems from reaching "tipping points", at which point a "stable ecosystem" may suffer sudden degradation, and efforts to remedy that freshwater ecosystem may be very difficult or not possible at all.[111]

3. LEGAL BASIS FOR A WATER ABSTRACTION CHARGING REGIME

This part of the article explores whether the Crown could impose a charge on freshwater in its natural state and what the legal basis for this charge would be. Doctrines of sovereignty and property are often the foundations for freshwater governance to control access and use of water worldwide.[112] The National Party's view follows the common law position that "no one owns water".[113] Former Treaty Negotiations Minister Chris Finlayson stated that the

109 At 209.

110 Organisation for Economic Co-operation and Development *Water Resources Allocation: Sharing Risks and Opportunities* (OECD, Paris, 2015) at 88 [OECD *Water Resources Allocation*].

111 Gluckman, above n 6, at 45.

112 Fisher *The Law and Governance of Water Resources*, above n 9, at 61.

113 Office of Treaty Settlements *Settlement Redress* at 111 in *New Zealand Maori Council v Attorney-General* [2013] NZSC 6, [2013] 3 NZLR 31 at [99] [*New Zealand Maori Council* (SC)].

government applying some form of tax on water was an assertion of Crown ownership.[114] The National Party's view seems to assume that you can only legally charge for something that you own.

In New Zealand, the statutory freshwater regime under the RMA has replaced the role of the common law in managing water resources. It is difficult to ignore concepts like "ownership" and "property" when New Zealand's chosen method of managing water resources is of a proprietary nature. Therefore, the nature of water permits in New Zealand needs to be explored. If the nature of a water permit suggests that the Crown does hold property rights in water, this could be the basis for imposing a charge. Charging for a grant of property is well-recognised under common law. This is seen with profits à prendre,[115] and royalties,[116] both of which can involve receiving payments on the basis of holding property rights in natural resources.

However, it is inappropriate to consider that the nature of a water permit implies the Crown owns water.[117] Instead, a charge on freshwater resources would have its basis in the doctrine of sovereignty. Charging for the use of freshwater can be seen as a management tool that the Government can employ due to the internationally recognised principle of permanent sovereignty over natural resources. Like other management tools used under the RMA, a charging mechanism is just another tool that can be exercised by the Government to ensure sustainable management of freshwater resources.

Therefore, the Government can maintain its long-standing policy of avoiding recognition of property rights in water in its natural state and at the same time employ a water abstraction charge. The final section of this part looks at how potential Māori proprietary rights in freshwater affect the Crown's ability to impose a charging regime.

3.1 Property

Investigating whether natural resources are under ownership requires consideration of the concept of property. Property is a description of the legal relationship with the subject matter, rather than the subject matter itself. It recognises the concentration of power permissibly exercised over the subject matter.[118] Attributes of property can include exclusivity, definition,

114 Audrey Young "Treaty warning over Labour's water tax" *The New Zealand Herald* (online ed, Auckland, 14 August 2017).
115 *Harper v Minister for Sea Fisheries* (1989) 168 CLR 314 (HCA) at 335 [*Harper*].
116 *Yanner v Eaton* [1999] HCA 53, (1999) 201 CLR 351 at [27] [*Yanner*].
117 *Hampton* (CA), above n 82, at [103].
118 Kevin Gray "Property in Thin Air" (1991) 50 CLJ 252 at 299.

identification, assumption, permanence, stability, transferability, value, and protection.[119]

3.1.1 Statutory vesting and "ownership"

Section 354(1)(b) of the RMA continues the regime under s 21 of the WASCA, where the sole right to dam, divert, take, discharge, or use natural water is vested in the Crown. This is subject to the provisos that any person could take or use natural water reasonably required for his or her domestic needs and the needs of their animals for drinking purposes, or for fire-fighting purposes.[120] What needs to be explored is if this vesting of water rights in the Crown is creating private property rights and thus a claim of ownership in natural water by the Crown.[121]

Vesting rights to control access and use of water in the Crown are property-like rights.[122] These rights are exercised by regional councils, who issue water permits to those whose activity in relation to water would otherwise contravene s 14 of the RMA (restrictions relating to water).[123] Roscoe Pound notes that governments' modern way of regulating these natural resources through property-like rights is incidental to the historical importance of and familiarity with property law.[124] Whilst some attributes of statutory rights seen in a resource management context may look proprietary in nature — for example, the ability to transfer water permits in certain circumstances and the economic value that may be attached to these water permits[125] — it is inappropriate to bring them into the realm of property when there are significant differences between legislative jurisdiction and proprietary rights.[126] This is especially so when the RMA explicitly states that a resource consent (a water permit is a type of resource consent) is not real or personal property.[127]

119 Douglas Fisher "Rights of property in water: confusion or clarity" (2004) 21 EPLJ 200 at 211.
120 RMA, s 14(3).
121 Laura Fraser "Property Rights in Environmental Management: The Nature of Resource Consents in the Resource Management Act 1991" (2008) 12 NZJEL 145 at 157.
122 Fisher "Rights of property in water", above n 119, at 208.
123 RMA, s 87(d).
124 Roscoe Pound *An Introduction to the Philosophy of Law* (rev ed, Yale University Press, New Haven, 1954) at 111 in *Yanner*, above n 116, at [29].
125 David Grinlinton "The nature of property rights in resource consents" (2007) 7 BRMB 37 at 37.
126 *Harper*, above n 115, at 330 per Brennan J.
127 RMA, s 122.

3.1.2 Nature of permits

The High Court in *Aoraki Water Trust v Meridian Energy Ltd* endorsed the Australian approach in *Harper v Minister for Sea Fisheries* by determining that the nature of a water permit resembles a profit à prendre.[128] A profit à prendre confers a right on someone to take for their own use a part of the property from another's land that is capable of ownership — for example, soil or timber.[129] The conclusion on the resemblance of a water permit to a profit à prendre was reached because the permit had a fixed term, allowed the holder to remove property for its own purposes, of the use of the word "grant" (which indicates the water permit is a right created by the Crown), and that a permit is transferable.[130] Notwithstanding that the RMA states resource consents are not real or personal property, it was held that a water permit is a grant to take and use "property".[131] The Court applied property law principles, like non-derogation from grant, to hold that the regional council could not derogate from the water permit holder's entitlement.[132]

The recent case of *Hampton v Canterbury Regional Council* (*Hampton*) is critical of the *Aoraki* decision in regard to its conclusions surrounding water permits and property law.[133] In this case, Simon Hampton held a resource consent to take and use groundwater for irrigation, and there was a condition stating that a specific volume of that water could only be used to irrigate Simon's cousin's (Robert's) land.[134] After a disagreement between the cousins, Robert applied for a separate resource consent to take and use that water that could not be used by Simon. As the resource consent applied to a groundwater body that was fully allocated, the water that was under Simon's consent had to be reallocated to Robert.[135] Simon challenged the Canterbury Regional Council's decision to grant the resource consent to Robert, arguing that the grant of the resource consent interfered with, and derogated from, his water permit.[136]

128 *Aoraki*, above n 78, at [29].
129 *Laws of New Zealand* Easements, Profits and Covenants (Reissue 1) (online ed) at [5].
130 *Aoraki*, above n 78, at [34].
131 Barry Barton "The Nature of Resource Consents: Statutory Permits or Property Rights?" (paper presented to New Zealand Law Society Seminar, New Zealand Law School, Wellington, 2009) at 4.
132 *Aoraki*, above n 78, at [36].
133 Barry Barton "Different kinds of argument for applying property law to resource consents" (April 2016) Resource Management Journal 1 at 1.
134 *Hampton* (CA), above n 82, at [2].
135 At [3].
136 Barton "Different kinds of argument for applying property law to resource consents", above n 133, at 2.

The Court of Appeal dismissed Simon's arguments, and found that the grant of Robert's resource consent did not cause Simon any detriment as Simon's water under his resource consent could only be applied to Robert's land.[137] The Court held that whilst they agreed with the outcome in *Aoraki*, "the analogy the Court drew to profits à prendre and its reliance on non-derogation from grant are problematic".[138] The Court in *Hampton* takes the view that what is granted to a water permit holder is merely the right to carry out the activity under the RMA and does not create a property right.[139] Simon's resource consent did not grant him a right to take and use "property".[140]

It was unnecessary for the Court in *Aoraki* to delve into property law and the case could have been decided using statutory interpretation, guided by administrative law, to conclude that the discretion exercised in issuing a subsequent permit should not be done in a way that will undermine previously granted rights.[141] Whilst some of the rights attached to water permits have "property-like" characteristics, the purpose of s 122 of the RMA is to prevent courts reading other property rights into resource consents — like unqualified liberty of use, and the right to exclude others.[142] The "property-like" rights found in water permits are subject to the limitations found in the RMA.[143] These water permits are creatures of statute, and *Hampton* emphasises the importance of focusing on what the RMA says to determine the nature of a permit.[144]

Further, the Court in *Hampton* held that the vesting of rights in water in the Crown does not equate to the Crown holding property rights in water.[145] The Court concludes that it was incorrect for the court in *Aoraki*[146] to draw an analogy with profits à prendre on the basis that a water permit "allows the holder to remove property, in this case water … even though the resource is owned by the Crown".[147]

The Court of Appeal's statements on the nature of water permits affirms the view that the Crown does not own freshwater resources in New Zealand.[148] Property law should only be relied on when the RMA is silent on how to resolve

137 *Hampton* (CA), above n 82, at [89].
138 At [99].
139 At [99].
140 *Hampton* (SC), above n 85, at [6].
141 Barton "The Nature of Resource Consents: Statutory Permits or Property Rights?", above n 131, at 25; and *Hampton* (CA), above n 82, at [108].
142 *Hampton* (CA), above n 82, at [105].
143 At [105].
144 Barton "Different kinds of argument for applying property law to resource consents", above n 133, at 3.
145 *Hampton* (CA), above n 82, at [103].
146 *Aoraki*, above n 78, at [34].
147 *Hampton* (CA), above n 82, at [103].
148 At [103].

issues that may arise in legal disputes between private parties.[149] However, property law concepts should not be utilised to expand the rights of permit holders further than what the legislature has granted.[150]

Therefore, the rights of water vested in the Crown are not claims of ownership of water in its natural state and the nature of a water permit does not mean the Crown holds property rights in water.[151] This means that the Crown cannot rely on having a "property right" in water as the basis for a charge on the abstraction of freshwater.

3.1.3 Statutory vesting and royalties: the Australian experience

Royalty regimes are applied to natural resources, such as fisheries and wild fauna, in Australia. The Australian approach draws parallels between profits à prendre and statutory licences for use of public natural resources. However, the High Court in *Harper v Minister for Sea Fisheries* does not draw comparisons with a profit à prendre based on Crown ownership. The Court determined that fisheries were public property because it was a limited natural resource which is otherwise available for exploitation by the public. Therefore, they drew parallels to profits à prendre on the basis that the right to commercially exploit a public resource (fisheries) for personal profit is a privilege confined to those who hold commercial licences.[152] A fee can be payable for this right and it does not matter whether or not the Crown has title to the resource.[153]

The Court did recognise that while it may be useful to draw similarities with profits à prendre, these licences are entitlements of a new kind created by statute for the purpose of preserving a limited public natural resource.[154] Similar reasoning was seen in *Yanner v Eaton*, which looked at s 7(1) of the Fauna Conservation Act 1974 (Qld) (Fauna Act) that stated fauna "… is the property of the Crown and under the control of the Fauna Authority".[155] The Court notes that early drafters of the Fauna Act may have seen it as necessary to vest property in fauna in the Crown in order to implement a royalty regime under the Fauna Act.[156]

Even though the statute used the word "property", the Court concluded that the statutory vesting of "property" can be seen as a "fiction expressive in legal

149 Barton "Different kinds of argument for applying property law to resource consents", above n 133, at 3.
150 Barton "The Nature of Resource Consents: Statutory Permits or Property Rights?", above n 131, at 25.
151 *Hampton* (CA), above n 82, at [103].
152 *Harper*, above n 115, at 325 per Mason CJ, Deane and Gaudron JJ.
153 At 335 per Brennan J.
154 At 325.
155 *Yanner*, above n 116, at [8].
156 At [27].

shorthand of the importance to its people that a State have power to preserve and regulate the exploitation of an important resource".[157] The "property" vested in the Crown under the Fauna Act were merely various rights of control that the legislation created. These rights were to limit what fauna might be taken, how it could be taken, and rights to receive royalties in respect of fauna that was taken.[158] The use of the word "property" could be seen more in line with a public fiduciary duty over the resource, rather than full ownership.[159]

As in New Zealand, these rights under Australian law are not common law property rights, but a "new species of statutory entitlements", and these entitlements are dependent on the legislation that created them.[160] A payment of a royalty was not seen in *Yanner v Eaton* as equating to full, beneficial, or absolute ownership over that resource.[161] It is recognised that the qualities of water make a private property regime inappropriate for the regulation of this resource.[162] Thus, these entitlements created under statute can be seen as a grant of sovereignty, rather than a grant of property.[163]

3.2 Sovereignty

3.2.1 Permanent sovereignty over natural resources

Sovereignty is the foundation for the exercise of political power by a state government to organise the people, resources and affairs within a state's territorial boundaries.[164] One of the most important rights of sovereignty is the right of a state to dispose freely of its natural resources.[165] This right provides for states to freely manage the "prospecting, exploration, development, exploitation, use and marketing of natural resources and to subject such activities to national laws and regulation".[166] This is found in numerous international law documents,[167] including art 1 of the International Covenant

157 *Toomer v Witsell* 334 US 385 (1948) at 402 per Vinson CJ in *Yanner*, above n 116, at [28].
158 At [30].
159 Fisher "Rights of property in water: confusion or clarity", above n 119, at 209.
160 Matthew Storey "Not of this Earth: The Extraterrestrial Nature of Statutory Property in the 21st Century" (2006) 25 Australian Resources & Energy Law Journal 51 at 55.
161 *Yanner*, above n 116, at [30].
162 Sax, above n 13, at 30.
163 Sandford Clark and AJ Myers "Vesting and Divesting: The Victorian Groundwater Act 1969" (1969) 7 MULR 237 at 244.
164 Fisher *The Law and Governance of Water Resources*, above n 9, at 61.
165 Nico Schrijver *Sovereignty Over Natural Resources* (Cambridge University Press, Cambridge, UK, 1997) at 260.
166 At 264.
167 At 264.

on Civil and Political Rights 1966,[168] and United Nations General Assembly Resolutions 626,[169] 1803,[170] 2158[171] and 3171.[172] Treaties are binding on the state parties who signed them and resolutions provide evidence of state practice and the international community's opinion on the subject.[173] These international documents arose as a way for developing nations to regain control of their natural resources from foreign powers in an attempt to end political and economic colonialism.[174]

Sovereignty, and the rights associated with the doctrine, are fundamental to the governance of water resources.[175] It is a matter for the state itself as to how it should go about exercising its right of sovereignty to control and manage water resources.[176] China declares ownership of water in its constitution as a technique of control.[177] Other jurisdictions may use statutory regimes to vest control and use in the government, as seen with Australia and New Zealand, but not ownership.[178] France has invoked the doctrine of public domain to govern water resources, where it is a form of public control, but also not ownership.[179]

3.2.2 Limitations to sovereignty

States are allowed to manage their natural resources within their territory as they see fit under the right of sovereignty. However, this may be limited by other international norms. Environmental protection, sustainable development, and a human right to water are international norms which can act to restrict the exercise of permanent sovereignty over natural resources.[180] Principle 2 of the Rio Declaration on Environment and Development is an example of this kind of restriction, where states have a right to exploit their own resources, but there is a responsibility to ensure that these activities do not cause environmental damage to areas beyond their national jurisdiction.[181]

168 International Covenant on Civil and Political Rights 999 UNTS 171 (opened for signature 19 December 1966, entered into force 23 March 1976).
169 *Right to exploit freely natural wealth and resources* GA Res 626, VII (1952).
170 *Permanent sovereignty over natural resources* GA Res 1803, XVII (1962).
171 *Permanent sovereignty over natural resources* GA Res 2158, XXI (1966).
172 *Permanent sovereignty over natural resources* GA Res 3171, XXVIII (1973).
173 Schrijver, above n 165, at 261.
174 Fisher *The Law and Governance of Water Resources*, above n 9, at 75.
175 At 75.
176 At 83.
177 At 78.
178 At 81.
179 At 78.
180 At 75.
181 Rio Declaration on Environment and Development (14 June 1992, UN Doc A/CONF.151/5/Rev.1), reprinted in (1992) 31 ILM 874.

Whilst governments exercise the right of permanent sovereignty to manage water resources, their proper role in doing so is as guardians or trustees, and they are to manage the resource for the benefit of the people within their territory.[182] Section 354(2) of the RMA states that a person can take and use water in which the Crown has an interest without obtaining a resource consent if it does not contravene this Act or any associated regulations.[183] This indicates that water is a common-pool, public resource. Therefore, the role of government in New Zealand is to manage water resources in the public interest.[184]

Thus, putting a price on water does not mean the Government needs to claim ownership of it, as members of the National Party claim. Many OECD countries have some form of water charge, indicating that this is a common policy tool used in the management of this resource.[185] A charging regime is an economic policy instrument that can be used to manage water, and using such tools is an option available to the Government through the use of its sovereign rights to manage natural resources.[186]

3.3 Māori Property Rights in Water

Māori are the indigenous peoples of New Zealand, and the Treaty of Waitangi is the document outlining the Crown and Māori relationship, signed by the British Crown and many Māori chiefs in 1840. There is a Māori-language version and an English-language version and there are some significant differences between the two.[187] In the English version, Māori ceded sovereignty to the Crown but retained full, exclusive, and undisturbed possession of their lands, estates, forests, fisheries and other properties. In the Māori version, Māori gave kāwanatanga (translated as governance) rights to the Crown, but Article 2 states Māori retained tino rangatiratanga (translated as Māori sovereignty) over their lands and treasures (taonga).[188]

In New Zealand, Māori rights cannot be extinguished unless clearly and plainly done so by statute.[189] It has been argued that New Zealand's statutory regime of freshwater management has not extinguished proprietary rights Māori

182 Emeka Duruigbo "Permanent Sovereignty and Peoples' Ownership of Natural Resources in International Law" (2006) 38 Geo Wash Int'l L Rev 33 at 37.
183 RMA, s 354(2).
184 Rögnvaldur Hannesson "Rights based fishing: Use rights versus property rights to fish" (2005) 15 Rev Fish Biol Fish 231 at 235.
185 OECD *Water Resources Allocation*, above n 110, at 84.
186 Joanna Vince and Marcus Howard "New Zealand oceans governance: Calming turbulent waters?" (2009) 33 Marine Policy 412 at 413.
187 Ruru "Indigenous Restitution in Settling Water Claims", above n 1, at 317.
188 At 317.
189 *Ngati Apa v Attorney-General* [2003] 3 NZLR 643 (CA) at 148.

might have in freshwater.[190] The nature of these "property" rights derives from the argument that Māori had full, exclusive, and undisturbed possession of water resources in 1840, and this can be seen as "ownership" of the water resource.[191] Indicators of this possession include the reliance on water resources as a source of food, textiles or other materials, and the use of the water resource for travel, trade and rituals by Māori.[192]

3.3.1 Iwi settlements

Disputes over freshwater resources have led to multiple settlements with iwi, like the Te Arawa Lakes, Waikato River and Waipa River settlements,[193] and recently the novel Whanganui River Settlement, where the Whanganui River was recognised as a legal entity.[194] These settlements focus on Crown apologies, redress, and setting up co-management arrangements for these water bodies, rather than addressing water ownership claims.

In the Te Arawa Lakes Settlement Act 2006, ownership of the lakebeds was vested in Te Arawa, and a co-management system between Te Arawa and the Crown was put in place.[195] However, the Act vests the "space occupied by water and the space occupied by air above each Te Arawa lakebed" in Crown ownership.[196] This makes it seem like the Crown is avoiding discussions around ownership of water, so that the consequences that would arise due to residual Māori proprietary rights in water would not need to be dealt with.[197] In the Waikato-Tainui Ruapatu Claims (Waikato River) Settlement Act 2010, s 64 acknowledges that the Crown and Waikato-Tainui have different views in relation to ownership of the river.[198] The intention of this settlement between the two parties is to set up co-management systems and acknowledge the special relationship of Waikato-Tainui with the river; it was not intended to resolve water ownership differences.[199]

190 Jacinta Ruru "Property Rights and Māori: A Right to Own a River?" in Klaus Bosselmann and Vernon Tava (eds) *Water Rights and Sustainability* (New Zealand Centre for Environmental Law, Auckland, 2011) 51 at 67.
191 Waitangi Tribunal *The Stage 1 Report on the National Freshwater and Geothermal Resources Claim* (Wai 2358, 2012) at 38.
192 At 32.
193 Ruru "Indigenous Restitution in Settling Water Claims", above n 1, at 315.
194 Te Awa Tupua (Whanganui River Claims Settlement) Act 2017, s 14.
195 Ruru "Indigenous Restitution in Settling Water Claims", above n 1, at 330.
196 Te Arawa Lakes Settlement Act 2006, s 11.
197 Ruru "Property Rights and Māori: A Right to Own a River?", above n 190, at 74.
198 Waikato-Tainui Ruapatu Claims (Waikato River) Settlement Act 2010, s 64(1)(a).
199 Section 64(1)(b) and 64(1)(c).

3.3.2 Waitangi Tribunal Stage 1 Report on the National Freshwater and Geothermal Resources Claim

This report investigated Māori proprietary rights in water and geothermal waters, addressing the concerns around the privatisation of up to 49 per cent of four water-reliant state-owned enterprises and resource management reforms where there was considered a lack of recognition and provision for Māori rights and interests in water.[200] The Waitangi Tribunal concluded that the Māori and English treaty versions supported a finding of Māori ownership in water.[201] It also held that tino rangatiratanga meant there needs to be a partnership with the Crown in relation to managing their own affairs, including freshwater resources.[202] It is important to note that Māori were not claiming exclusive ownership of all water in its natural state, recognising the rights of non-Māori to use New Zealand's freshwater resources.[203]

3.3.3 Recent case law

New Zealand Maori Council v Attorney-General followed on from the Waitangi Tribunal claims, concerning the partial privatisation of a state-owned enterprise (Mighty River Power), and whether the Crown was acting inconsistently with the principles of the Treaty of Waitangi by the sale of shares in Mighty River Power.[204] The Supreme Court acknowledged that the Crown has conceded that Māori have interests and rights to particular waters, but this does not manifest into full ownership.[205] This leaves Māori rights and interests in water "unascertained, including as to their nature and extent".[206] The Court held that the partial privatisation of Mighty River Power will not prevent the Crown's ability to address any Treaty breach in respect of Māori interests in water.[207]

The Supreme Court decision of *Paki (No 2) v Attorney-General*[208] has created uncertainty around ownership of riverbeds and some believe that this result may lead to potential challenges as to whether regional councils have jurisdiction to manage freshwater resources.[209] When a colonising power

200 Waitangi Tribunal, above n 191, at 1.
201 At 77.
202 At 76.
203 At 38.
204 *New Zealand Maori Council* (SC), above n 113, at [2].
205 At [101].
206 At [101].
207 At [8].
208 *Paki (No 2) v Attorney-General* [2014] NZSC 118, [2015] 1 NZLR 67.
209 Gerald Lanning, James Winchester and Duncan Laing "Paki (No 2) — The

acquires sovereignty over land which belongs to indigenous peoples, this power is a right to govern resources (imperium) but not necessarily ownership of the resources (dominium).[210] As both the English and Māori versions of the Treaty recognise the right of the Crown to govern, this includes the Crown's right to manage freshwater resources in the best interests of the public and the environment.[211] A charge on water abstraction could be seen as an effective freshwater management tool used by the Crown. Indeed, the Supreme Court in *New Zealand Maori Council v Attorney-General*[212] draws attention to Ronald Young J's statement in the High Court:[213]

> Parliament is free to introduce such changes to the water use regime as it chooses. There would be no unfairness to investors in MOMs [mixed ownership models] or indeed any entity currently using water for free to be faced with a change for the resource.

Ultimately this is a politically charged conversation, with no easy answers. The Waitangi Tribunal is of the view that Māori property rights exist in water and any revenue collected by a water charge will likely have to be shared with Māori.[214] However, the case of *Hampton* reiterates that water in its natural state is not regarded as something that can be owned.[215] The Government's position in *New Zealand Maori Council v Attorney-General* acknowledged that Māori had rights and interests in water, but these did not amount to full ownership, leading the Court to conclude that Māori rights in freshwater are currently "unascertained".[216] Given the direction of recent Treaty settlements in relation to freshwater bodies, and the Government's position in regard to ownership of water, a co-management arrangement between the Crown and Māori on how the revenue collected by a water abstraction charge should be used may be a possible solution.[217]

Supreme Court rules on riverbed ownership" (4 September 2014) Simpson Grierson <www.simpsongrierson.com/articles/2014/paki-no-2-the-supreme-court-rules-on-riverbed-ownership>.

210 Federico Lenzerini "Sovereignty Revisited: International Law and Parallel Sovereignty of Indigenous Peoples" (2006) 42 Tex Int'l LJ 155 at 166.

211 Ruru "Indigenous Restitution in Settling Water Claims", above n 1, at 347.

212 *New Zealand Maori Council* (SC), above n 113, at [129].

213 *New Zealand Maori Council v Attorney-General* [2012] NZHC 3338 at [228].

214 Waitangi Tribunal, above n 191, at 126.

215 *Hampton* (CA), above n 82, at [100].

216 *New Zealand Maori Council* (SC), above n 113, at [101].

217 Jim Sinner and Jörn Scherzer "The Public Interest in Resource Rent" (2007) 11 NZJEL 279 at 291.

3.4 Conclusion

The RMA has vested the right to control water resources in the Crown but this is not a claim of ownership of water in its natural state. The nature of water permits and the decision of *Hampton* provide further evidence that the Crown does not have property rights in water. However, ownership of a natural resource is not a necessary factor in order for the Crown to impose a charge on dealing with freshwater. Under the doctrine of permanent sovereignty over natural resources, the Crown can use whatever management tools it wishes in managing natural resources within its territorial limits. It can choose to impose a charge on water users if this is found to be the best way to manage water resources. Unsettled Māori proprietary claims in water does not prevent the Government imposing a charge, but Māori's role in the regime will need to be considered in order for the Crown to satisfy its Treaty obligations.

4. ROYALTY REGIMES WITHOUT CROWN OWNERSHIP

This part of the article examines examples of where the Crown has imposed a charge or royalty on natural resources, but has not asserted ownership of the natural resource. The first example is the provision that was present in the Water and Soil Conservation Act 1967 which allowed for the Crown to impose a charge on water exported overseas.[218] The second example is the geothermal resource rent present in s 112(2) of the RMA. And finally, New Zealand's offshore petroleum royalty regime will be examined.

4.1 Water Charge under the Water and Soil Conservation Act 1967

Section 21 of the WASCA established that the sole right to dam, divert, take, discharge, or to use natural water was vested in the Crown. In the Water and Soil Conservation Amendment Act 1983, s 21 was amended by adding two subsections.[219] Section 21(1A) states that notwithstanding anything in the WASCA or in any other rule of law, no person shall take and export from New Zealand any natural water obtained by a right granted under this Act without the prior written consent of the Minister for the Environment. Section 21(1B) went on to say that the consent given under subs (1A) of s 21 may contain such terms and conditions, including payment to the Crown for the water, that the Minister thinks fit to impose after consultation with the Minister of Finance. However, it does not appear that the power to charge under s 21(1B)

218 WASCA, s 21(1B).
219 RMA, s 11.

was ever invoked. While subss (1A) and (1B) were not carried over into the RMA, they established the principal legal position that the Crown can impose a charge on water that is exported overseas. The position established in the WASCA could be extended to include not just water takes exported overseas, but all water takes authorised under water permits. These sections can be seen as an example of the Crown imposing a charge on water, without claiming ownership over that water.

4.2 Geothermal Energy

Geothermal resources are treated as water under the RMA,[220] as the definition of water includes geothermal water.[221] This means geothermal resources are also not owned by the Crown. Thus, the royalties on geothermal resources provide a good case study to analyse whether the same could be applied to water in its natural state.

There are already statutory obligations to pay rent and royalties as deemed conditions of consent for certain activities under the RMA. Section 112(2) states that in every water permit granted to do something that would otherwise contravene s 14(2)(c) (relating to the taking or use of geothermal energy), there shall be implied a condition that the holder pay to the relevant regional council, on behalf of the Crown, any sum of money required to be paid by any regulation made under s 360(1)(c)(iv).

Although the power to charge a royalty on the use of geothermal resources exists, the power has not yet been exercised by the Crown. Possible reasons for this include the role geothermal energy will play in the Government's goal to reach 90 per cent of electricity generated from renewable sources by 2025, and the criticism the Government might face for higher electricity prices if the royalty charge was passed on to consumers.[222]

The Waitangi Tribunal accepted that the Crown has the authority to receive royalties created under statutory power. The Waitangi Tribunal points to the Crown already legislating for a royalty on the use of geothermal water under the RMA as evidence that the Crown can do the same with freshwater.[223] It follows that s 112(2) could be expanded to include water that falls under s 14(2)(a). Thus, water permits granted to do something that would otherwise contravene s 14(2)(a) (taking, using, damming, or diverting water, other than coastal water) could have an implied condition that the permit holder may pay the relevant regional council, on behalf of the Crown, any sum of money to be paid by any

220 Sam Malafeh and Basil Sharp "Role of royalties in sustainable geothermal energy development" (2015) 85 Energy Policy 235 at 237.
221 RMA, s 2.
222 Malafeh and Sharp, above n 220, at 241.
223 Waitangi Tribunal, above n 191, at 127.

regulation under s 360(1)(c). Therefore, ss 112(2) and 360(1)(c) would need to be amended to allow the taking of freshwater in its natural state to come under a charging regime under the RMA.

4.3 Offshore Petroleum Found in New Zealand's Continental Shelf

The Government does not claim it owns the offshore petroleum contained in New Zealand's continental shelf. The continental shelf is defined as the seabed and subsoil of those underwater areas that extend beyond the territorial limits of New Zealand, throughout the natural prolongation of the land territory of New Zealand, to the seaward-side boundaries.[224] Seaward-side boundaries means the continental shelf is the seabed and subsoil of the exclusive economic zone (EEZ),[225] and also includes the continental margin where it extends beyond the EEZ.[226]

Section 3 of the Continental Shelf Act 1964 (CSA) establishes that all rights to explore the continental shelf and exploit those natural resources are vested in the Crown. Section 4 of the CSA specifically refers to mining for petroleum on the continental shelf and states that the provisions of the Crown Minerals Act 1991 (except s 10) and any regulations made under that Act shall apply to petroleum found in the seabed and subsoil of the continental shelf. Section 10 of the Crown Minerals Act 1991 asserts petroleum in its natural state in land is the property of the Crown. This repeats an earlier provision contained in the Petroleum Act 1937, which declared petroleum found within the territorial limits of New Zealand to be property of the Crown.[227] A clear distinction is made between the legal status of the petroleum found in the continental shelf and the status of the petroleum found within New Zealand's territorial limits.

Petroleum found within the continental shelf posed challenges for the international community in determining who had rights to exploit this offshore resource.[228] International law gives various rights to coastal states in regard to the development of their continental shelf.[229] A coastal state is entitled to exercise sovereign rights to explore and exploit all mineral and non-living

224 Continental Shelf Act 1964, s 2.

225 The exclusive economic zone is the area from 12 to 200 nautical miles from the coast of New Zealand.

226 *Laws of New Zealand* Water, above n 20, at [11].

227 Petroleum Act 1937, s 3.

228 Denis Roy "The Legal Continental Shelf: The Surprising Canadian Practice Regarding Oil and Gas Development in the Atlantic Coast Continental Shelf" (2012) 50 Alta L Rev 65 at 69.

229 United Nations Convention on the Law of the Sea 1833 UNTS 397 (opened for signature 10 December 1982, entered into force 16 November 1994) [UNCLOS], art 77.

resources on or under the continental shelf.[230] "Sovereign rights" does not equate to a coastal state owning the continental shelf, or the petroleum found within it.[231] Instead, states' sovereign rights in the continental shelf are the exclusive rights to control access to the continental shelf and the resources on and within them.[232] This is reflected in s 3 of the CSA.

The assignment of sovereign rights to states of offshore petroleum was the necessary prerequisite for states to set up licensing regimes with petroleum companies.[233] The Crown, in giving mining permits, is not granting title to the offshore petroleum. The permit holder does not own the petroleum under the continental shelf, they merely have a right to extract the petroleum.[234] Once they have extracted the petroleum from the seabed or subsoil of the continental shelf, they can then claim ownership of the extracted petroleum under the "rule of capture".[235]

Parallels can be drawn between petroleum and water permits. Both act as a means by which some of the state's sovereign rights (not "ownership") in the resource are transferred to permit holders in order to develop the natural resource.[236] Section 92 of the Crown Minerals Act 1991 states that petroleum permits are not real or personal property and this notion also applies to water permits under s 122 of the RMA. Therefore, the nature of both permits is similar in the sense that permits give permission to the permit holder to do something only the state has the exclusive right to do, but it does not amount to the creation of property rights over the natural resources in question.

However, the offshore petroleum mining permit is remunerated by a royalty. The Crown Minerals (Royalties for Petroleum) Regulations 2013 are applicable to offshore petroleum permits.[237] Mining permit holders have to pay royalties to the Crown based on revenues received from the sale of the petroleum extracted.[238]

4.4 Conclusion

Given the similar circumstances in regard to the ownership status and the statutory form of both types of permits, petroleum and water, adding a charge to a water permit would not be stepping outside the boundaries of what a state

230 Article 77(1).
231 Peter Cameron *Property Rights and Sovereign Rights: The Case of North Sea Oil* (Academic Press, London, 1983) at 48.
232 UNCLOS, art 77(2) and Cameron, above n 231, at 47.
233 Cameron, above n 231, at 47.
234 At 50.
235 At 50.
236 At 50.
237 Continental Shelf Act 1964, s 4.
238 Crown Minerals (Royalties for Petroleum) Regulations 2013, reg 14.

could do when asserting their sovereign rights to govern water resources. The Crown does not own the petroleum in the seabed or subsoil of the continental shelf, so the royalty charge has its basis in sovereignty, rather than property. Similarly, the Crown does not have to own the water to have a royalty or charge attached to a water permit for the abstraction of water. The principle of sovereignty over natural resources allows royalties and charges to be imposed on resources being produced or taken, as seen by the examples examined, and this can similarly be applied to freshwater.

5. SHOULD NEW ZEALAND IMPLEMENT A WATER ABSTRACTION CHARGING REGIME?

There is a range of economic instruments to manage natural resources, and putting a charge on the use of water is one of the tools that can be utilised for natural resources that are managed by central government on behalf of the public.[239] Charging for water abstraction is controversial and has never been resolved by government agencies or policy advisers, such as the Land and Water Forum (LAWF).[240] This part of the article will assess whether imposing a water charge would improve New Zealand's freshwater management regime, and what considerations are required to effectively design a charging regime for water abstraction.

5.1 The Economic Value of Water

It is well recognised that water has an economic value, given the increasing level of competition between users.[241] Treating water as an economic good and putting a price on it signals to water users the scarcity value of the resource.[242] As water use has an economic value, it will be responsive to economic incentives, which can be used to achieve more effective water management.[243]

The concept of a resource rental is often discussed when trying to determine the value that should be assigned to a natural resource. Resource rents are

239 Guerin, above n 95, at 17.

240 Land and Water Forum "About Us" LAWF <www.landandwater.org.nz/Site/About_Us/default.aspx>. The Land and Water Forum was established in 2009 and brings a range of freshwater stakeholders together to collaboratively provide advice to the Government on freshwater management. The LAWF has issued numerous reports, and recommendations made by the forum have been incorporated in the latest NPS-FM.

241 Young and Loomis, above n 7, at 12.

242 At 22.

243 Dave Owen "Water and Taxes" (2017) 50 UCDL Rev 1559 at 1564.

defined as "surplus value, i.e. the difference between the price at which a resource can be sold and its respective extraction or production costs, including normal returns".[244] Other ways of thinking about a resource rental is "super-profits", as a user is earning profits over the normal profits of what one would make if the resource was not "free", or what users are "willing to pay" to make use of the resource.[245]

Despite freshwater being a renewable resource, there is a scarcity value associated with it and this value will vary in different water catchments depending on demand for access to water resources and availability.[246] If there is growing demand in a particular water body, but supply does not increase, the "value" of that resource increases among competing users, and the level of the charge should also increase.[247] Water availability varies between locations as well as at different times throughout the year, and from year to year.[248] This unpredictability with water availability is likely to be heightened in the face of climate change, further adding to water's scarcity value.[249]

The continual stress of human activities on water bodies may potentially have irreversible effects if ecosystems are pushed towards their tipping points.[250] Thus, a water charge can also be designed to capture the cost of negative externalities arising from water abstraction.[251]

5.2 Purpose of a Water Charge in New Zealand

There are two main purposes for the imposition of a charge on water use. The first purpose is to deliver environmental outcomes by encouraging efficiency behaviour in relation to water use.[252] The second is to raise revenue from permit holders who are benefiting from the use of a public resource that is managed by the Crown.[253] Considering these two overarching purposes, possible benefits of an abstraction charge on water include incentivising more efficient use of water, community return, and funding water restoration projects.[254]

244 Sinner and Scherzer, above n 217, at 279.
245 At 282.
246 NZIER *Water management*, above n 5, at 41.
247 Guerin, above n 95, at 8.
248 Sax, above n 13, at 30; and MfE and Stats NZ *Our fresh water 2017*, above n 104, at 68.
249 MfE and Stats NZ *Our fresh water 2017*, above n 104, at 68.
250 Gluckman, above n 6, at 45.
251 Sinner and Scherzer, above n 217, at 292–293.
252 OECD *Environmental Performance Reviews: New Zealand 2017* (OECD, Paris, 2017) at 40.
253 Guerin, above n 95, at 3.
254 Land and Water Forum *Third Report of the Land and Water Forum: Managing Water Quality and Allocating Water* (October 2012) [LAWF *Third Report*].

5.3 Promote Efficiency

The "first in, first served" allocation approach has resulted in inefficient allocation, which causes issues when a water body is fully or over-allocated. Misallocation occurs when the proper value of water is not considered.[255] If there is a charge associated with the use of water, an approximate value of the resource is indicated to the community and it is up to potential users of freshwater to decide if they are willing to pay the value for access to the resource.[256] Charging for water may be useful to ensure water is more likely to be allocated to higher-value users by discouraging new entrants with ventures of marginal commercial value applying at the initial allocation stage.[257]

In some catchments, there are insufficient water resources for a number of growing competing uses, and it is desirable for water to be reallocated to the highest-value users to create the greatest benefit to society.[258] A transfer system is the most effective reallocation strategy to move water to high-value users. If there are transfers occurring within a water body, in theory the value of the allocated water will already be recognised and this would be sufficient to direct water to higher-value users.[259] However, water charges can complement the transfer of water permits already occurring in some catchments.[260] In reality, water users may not be aware of the opportunity cost associated with their allocated water and a charge on water abstraction can draw attention to this opportunity cost.[261]

Water transfers do occur in New Zealand, but the transfer process is relatively restrictive under s 136 of the RMA.[262] The LAWF has recommended that the involvement of regional councils in the transfer process should be minimised to encourage transfers to occur more freely.[263] Given the difficulties of transferring permits, a volumetric-based abstraction charge may incentivise

255 Sinner and Scherzer, above n 217, at 286.
256 At 282.
257 LAWF *Third Report*, above n 254, at [305].
258 Kevin Counsell "Using Price Signals to Better Manage Water Use" (April 2018) Resource Management Journal 12 at 13.
259 LAWF *Third Report*, above n 254, at [302].
260 Jim Sinner, Andrew Fenemor and Simon Anastasiadis "Mixed bag: Simulating market-based instruments for water quality and quantity in the Upper Waikato" (paper presented to the New Zealand Agriculture and Resource Economics Society Annual Conference, Nelson, August 2012) at [9.4].
261 At [9.4].
262 Land and Water Forum *Fourth Report of the Land and Water Forum* (November 2015) at [256].
263 At [255].

users to use water more efficiently and be the most cost-effective approach in reducing water extraction in over-allocated water bodies.[264]

5.3.1 Evidence of abstraction charges increasing efficiency in water use

Baden-Württemberg in Germany introduced water abstraction charges in 1988.[265] The energy sector is the largest water abstractor in Baden-Württemberg and production processes have improved over time to reduce the amount of water required to produce energy.[266] These charges in the region have seen water productivity (value added per cubic metre of water used) increase by 61.3 per cent between 1991 and 2007.[267] Further, there has been a 34 per cent decrease in water abstraction between 1987 and 2007.[268]

Studies considering the impact of water pricing on the irrigation sector have however shown mixed results. Efficiency objectives have not been seen with France's abstraction charges on water for irrigation use, and a much higher price on the charge (up to 20 times) would be needed to change behaviour.[269] Water use for irrigation is seen as relatively inflexible and some studies have found that water consumption behaviour does not meaningfully change with price incentives.[270] Other methods, such as switching to low-consumptive-use crops or to non-irrigated agriculture are seen as more effective changes in reducing water consumption behaviour.[271] However, water pricing on its own would unlikely encourage irrigators to make these changes, and other tools, such as subsidies, would also be required.[272] The impact of water charges on irrigators is likely to be reducing their income due to higher water costs, rather than reducing their water consumptive behaviour.[273]

264 LAWF *Third Report*, above n 254, at [303] and [305].

265 Jenifer Möller-Gulland, Manuel Lago and Gerardo Anzaldua "Water Abstraction Charges and Compensation Payments in Baden-Württemberg (Germany)" in Manuel Lago and others (eds) *Use of Economic Instruments in Water Policy: Insights from International Experience* (Springer International, Switzerland, 2015) 53 at 57.

266 At 61.

267 At 61.

268 At 59.

269 Marielle Montginoul and others "Water Pricing in France: Toward More Incentives to Conserve Water" in Ariel Dinar, Victor Pochat and José Albiac-Murillo (eds) *Water Pricing Experiences and Innovations* (Springer International, Switzerland, 2015) 139 at 157.

270 Susanne Scheierling, Robert Young and Grant Cardon "Determining the Price-Responsiveness of Demands for Irrigation Water Deliveries versus Consumptive Use" (2004) 29 Journal of Agricultural and Resource Economics 328 at 328.

271 At 341.

272 At 340.

273 Montginoul and others, above n 269, at 158.

Studies based on simulations or mathematical models often overestimate the impact of water pricing on incomes or underestimate the water demand elasticity and this may be because these modelling studies tend to focus on short-term responses, rather than intermediate or long-term response.[274] Other studies have shown positive impacts of water pricing on irrigators' behaviour, where water use was found to be more elastic than what previous studies had shown, leading to reduction in irrigators' water use with an increase in marginal water prices.[275] Increases in water price also encouraged the adoption of more efficient irrigation technologies by farmers, indicating that improvements in irrigation technology play an important role in reducing water consumption.[276]

A water charge has the potential to influence some users' behaviour and encourage water use efficiency, as seen in the energy sector in Baden-Württemberg. The impact of water pricing on efficiency behaviour in the irrigation sector has seen mixed results. Molle's examination of different irrigation price schemes worldwide concluded that the main benefit of water pricing was revenue generation rather than efficiency changes in individual water users.[277] Increased efficiency in water use is thus likely to be a collateral advantage in the implementation of a charge, rather than the sole reason for imposing a charge on water abstraction.[278]

5.4 Community Return

A water charge provides a means for the community to see a return of some of the value bestowed on users when they are granted a water permit to use a resource that the community as a whole has an interest in.[279] If there is no charge on the water permit, the water permit holder receives a windfall by using a "free" resource and can take advantage of the economic value attached to the permit.[280] In *Hampton*, Simon contended that he suffered an economic loss between $325,000 and $560,000 by not being able to transfer the water

274 Alberto Garrido and Javier Calatrava *Agricultural Water Pricing: EU and Mexico* (OECD, Paris, 2010) at 9; and Eva Iglesias and María Blanco "New directions in water resources management: The role of water pricing policies" (2008) 44 Water Resources Research W06417 doi:10.1029/ 2006WR005708 at [54].

275 Karina Schoengold, David Sunding and Georgina Moreno "Price elasticity reconsidered: Panel estimation of an agricultural water demand function" (2006) 42 Water Resources Research W09411 doi:10.1029/2005WR004096 at [36].

276 Iglesias and Blanco, above n 274, at [51] and [54].

277 François Molle "Water scarcity, prices and quotas: a review of evidence on irrigation volumetric pricing" (2009) 23 Irrigation and Drainage Systems 43 at 52.

278 Owen, above n 243, at 1605.

279 Memon and Skelton, above n 37, at 270.

280 Sinner and Scherzer, above n 217, at 285.

under his permit to another party.[281] Land which has one or more water permits attached to it can also reach values much higher than similar adjacent land lacking a water permit.[282] These examples show that there can be significant economic value attached to these permits, which the community does not see a return on.

Some disagree with the "community return" argument. They contend that commercial water users generate wealth to the community, either directly through employment opportunities, or indirectly through flow-on effects to the wider economy.[283] Further, they argue that no "economic value" exists in water in its natural state and the wealth in water is created once permit holders decide to use and develop the water resource, sometimes with significant risk and investment involved.[284]

Yet when one considers the extraction of offshore petroleum, similar circumstances exist. Petroleum in the continental shelf has zero economic value, yet once appropriated it is valuable.[285] Extraction of offshore petroleum delivers wealth to the economy, but also carries significant risk, along with large upfront investment in technology, expertise and capital.[286] However, royalties are still attached to petroleum mining permits and similarly water abstraction charges should still apply, despite limited "economic" value of water in its natural state.

5.5 Funding Water Restoration Projects

Water abstraction charges would raise revenue, and this revenue can be directed towards water restoration projects.[287] These projects may include riparian planting, managing surface run-off, preventing direct access of livestock to water, managing eutrophication, and pest species management.[288]

There is an argument that revenue raised should not be earmarked for water-related activities, and should be collected like other taxes by the Treasury. This is because the revenue will be allocated through the general Budget process and can then be directed to what central government considers to be the higher-priority interests for New Zealanders.[289] However, since a water abstraction

281 *Hampton* (CA), above n 82, at [16].
282 Neil Deans "Towards Effective Water Management" (paper presented to "Conflict in Paradise: The Transformation of Rural New Zealand" EDS National Conference, Auckland, 11–12 June 2008) at 3.
283 LAWF *Third Report*, above n 254, at [297].
284 At [307].
285 Cameron, above n 231, at 49.
286 At 49.
287 Owen, above n 243, at 1607.
288 Gluckman, above n 6, at 46–55.
289 Guerin, above n 95, at 16 and 17.

charge is already controversial, earmarking the revenue may be the only way to make it politically acceptable.[290] Providing this linkage makes a water charge more palatable to the community, rather than the revenue collected going straight to central government with no guarantee that the money will go towards helping address the negative environmental issues that prompted the need for a charge in the first place.[291]

5.5.1 "Polluters-pay" or "users-pay"?

While water abstraction does not necessarily have a clear negative environmental effect in the same way discharging pollutants into water has,[292] reducing water takes is still a desirable environmental goal.[293] Any change to the flow or level of a water body is going to have some impact on the freshwater ecosystem,[294] and it is the cumulative effects of these water abstractions which can result in the concentration of pollutants in water bodies[295] and damage to freshwater habitats.[296]

Nevertheless, it may be more appropriate to frame this as a "users-pay" argument. France has had a water abstraction charge for more than 50 years,[297] and the revenue collected is spent on surface and groundwater improvement and protection projects. This reflects the "water pays for water" principle.[298] Arguably, those who derive a benefit from using water (either consumptive, like water abstracted for irrigation, or non-consumptive, like hydropower generation)[299] also have a responsibility to contribute to some of the costs of maintaining the health of water bodies and this can justify the charge.[300] Water users have a vested interest in ensuring water quality (as well as quantity) is maintained to secure the continued economic value that the water resource currently holds.[301]

290 At 17.
291 Chris de Freitas and Martin Perry *New Environmentalism: Managing New Zealand's Environmental Diversity* (Springer, Dordrecht, 2012) at 30.
292 Owen, above n 243, at 1590.
293 At 1586.
294 Gluckman, above n 6, at 31–32.
295 Minhinnick and Winchester, above n 22, at [8.34].
296 Gluckman, above n 6, at 30.
297 Montginoul and others, above n 269, at 142.
298 Frans Oosterhuis "Water abstraction charges (Redevances pour prélèvement sur la ressource en eau) in France" (December 2016) Institute for European Policy <ieep.eu/uploads/articles/attachments/f1cc4899-5447-420c-8f53-ea1880d6b28a/FR%20Water%20Abstraction%20Charges%20final.pdf?v=63680923242> at 1.
299 MfE and Stats NZ *Our fresh water 2017*, above n 104, at 12.
300 LAWF *Third Report*, above n 254, at [310].
301 Owen, above n 243, at 1611.

If a charge is put on water abstraction, then it would be appropriate to also put a charge on discharge permits. However, that discussion is outside the scope of this article.

5.6 Cost Recovery Instead of Abstraction Charge

One of the policies considered in the "Next steps for freshwater" consultation document was providing greater scope for regional councils to charge for cost recovery.[302] Section 36(1) of the RMA allows regional councils to impose administrative charges on resource consents. This includes receiving, processing, and granting resource consents,[303] and also administering, monitoring, and supervising the consents.[304] Increasing the scope for cost recovery may be more politically acceptable than a water abstraction charge. However, these administrative costs do not contribute to water restoration projects to avoid, remedy, or mitigate adverse effects that have occurred as a result of water abstraction activities.[305]

In the context of New Zealand fisheries, a royalty regime was abandoned in favour of a cost recovery regime. From 1986 to 1994 the Government imposed resource rental payments on those in the fishing industry, but this was replaced in 1994 by a cost recovery charge.[306] The resource rental was removed due to the complicated charge calculations and some unintended negative incentives to disguise profits and limit non-commercial fishing.[307] It would be important for any water abstraction charging regime to be relatively simple and this should be possible using a volumetric basis for a charging regime.

Ownership disputes with Māori also led to the demise of the fisheries resource rental charge.[308] However, ownership is not a necessary factor for a charging regime to manage natural resources. If this was the case, the basis for other royalty regimes, like geothermal resources and offshore petroleum, would need to be reconsidered.

Cost recovery charges do not take into account the scarcity value of the resource or promote water efficiency.[309] Cost recovery also does not account for negative environmental effects from cumulative water abstraction and it may be

302 MFE *Next steps for fresh water*, above n 94, at 25.
303 RMA, s 36(1)(b).
304 Section 36(1)(c).
305 Andrew Hayward "Freshwater Management: Water Markets and Novel Pricing Regimes" (2006) 10 NZJEL 215 at 237.
306 Chris Batstone and Basil Sharp "New Zealand's quota management system: the first ten years" (1998) 23 Marine Policy 177 at 182.
307 Guerin, above n 95, at 19.
308 Cath Wallace "Environmental Justice and New Zealand's Fisheries Quota Management System" (1999) 3 NZJEL 33 at 56.
309 Hayward, above n 305, at 251.

appropriate for the charge to factor in costs from externalities.[310] This provides further strength to the argument that the revenue from this charge should be earmarked for water-related activities.

5.7 Design Considerations

5.7.1 Right price

A water charge should apply to everyone who abstracts water under a water permit.[311] It should be charged on a volumetric basis, where users are charged for every unit of water taken.[312] Working out the right "price" for the value of water can be a difficult exercise. There is a risk that the charge will not be of sufficient value to encourage efficiency goals initially.[313] However, it is important to make the charge rate conservatively low when it is first implemented because water permit and investment decisions were made without the knowledge of the abstraction charge applying.[314] There would be advantages in allowing the rate to be increased to encourage efficient use, but these increases should be decided well in advance to ensure a level of certainty for business and investment decisions relating to water use.[315] Higher rates could be applied immediately to new applications as the investments have not yet proceeded.

The water abstraction charge rate should also vary in different water catchments, and the rate will be dependent on a water body's allocation status. If water bodies are fully allocated, or over-allocated, then the charge applied to those users should be higher than the charge for a water body which has surplus allocation capacity.[316] This will ensure the charge is accounting for the true scarcity value of water.[317]

Another consideration is whether differential charges should be applied for different activities relating to water use. For example, water-bottling companies could be charged more per unit of water taken than other users, such as irrigation, given the high quality of the water these bottling companies are taking.[318] It is also important to recognise that agriculture contributes

310 Sinner and Scherzer, above n 217, at 293.
311 Montginoul and others, above n 269, at 156.
312 OECD *Water Resources Allocation*, above n 110, at 85.
313 Guerin, above n 95, at 12.
314 LAWF *Third Report*, above n 254, at [317].
315 Guerin, above n 95, at 13.
316 At 7–8.
317 NZIER *Water management*, above n 5, at 41.
318 Davison "Labour leader Jacinda Ardern wants royalty on commercial freshwater use to help clean up rivers", above n 14.

significantly to the New Zealand economy, and is a significant source of income for many local communities.[319] The financial impacts of the water abstraction charge should not render these activities uneconomic.[320] A lower charge or a longer transition time may be appropriate measures for irrigation water users compared to water-bottling users.

Differential charges should not be too administratively difficult, and already some regional councils apply different annual charges based on the activity undertaken in relation to the water permit. For example, the Auckland Council has a functions, powers and duties (FPD) charge, which makes up part of the annual charge a consent holder is required to pay. The FPD charge covers consent holders' contributions to environmental monitoring programmes and educational programmes. The FPD charge imposed for taking freshwater by irrigation users is lower than the FPD charge imposed for taking freshwater by industrial users.[321]

5.7.2 Administrative costs

The charge needs to be administratively feasible to ensure the benefits of collecting the revenue are not outweighed by the costs of managing the system.[322] The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 makes it easier for regional councils to collect information on water takes.[323] It requires water users who hold water permits for water takes at a rate of 5 litres/second or more[324] to monitor and record the actual volume of water taken each day[325] and report this to the relevant regional council annually.[326] Thus, a charge based on a volumetric usage is not too difficult to implement, monitor and enforce because the required information is already being collected.[327]

319 Gluckman, above n 6, at 6–7.
320 Hannah Marks and Georgina Thomas "Time for a Charge?" (November 2017) Resource Management Journal 3 at 5.
321 Auckland Council "Schedule of Regional Resource Consent Annual Charges (2017/2018)" AC <www.aucklandcouncil.govt.nz/building-and-consents/types-resource-consents/docsresourceconsentcharges/schedule-regional-resource-consent-charges.pdf> at 10–11.
322 Guerin, above n 95, at 14.
323 MfE *Next steps for freshwater*, above n 94, at 8.
324 Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, reg 4.
325 Regulation 6(2).
326 Regulation 8.
327 Owen, above n 243, at 1590.

5.7.3 Linked to freshwater management

When the resource rental was applied to the fisheries regime, there was an implication that the revenue would be collected in a Fisheries Fund and would go back into fisheries management and research. This did not occur, and the revenue was collected on a general basis.[328] This caused discontent from those in the fishing industry. Therefore, a water abstraction charge will likely need to be tied to freshwater protection and management activities to be successful.

An appropriate body to receive revenue collected from the charge would be the Freshwater Improvement Fund.[329] The Freshwater Improvement Fund was established in 2016, and its mandate is to assist with projects cleaning up New Zealand's lakes, rivers and aquifers. One hundred million dollars has been put towards it over the next 10 years.[330] Funding for the water clean-up projects could come directly from the abstraction charges.

6. CONCLUSION

Whilst the current government has agreed that water charges would not be introduced in the first term of government, ongoing research into the role of water abstraction charges will be important for future water policy.[331] There are numerous potential benefits in the implementation of a charge on water abstraction, including increasing efficient water use, funding water restoration projects, and the community receiving a return on a public resource. Accounting for the scarcity value of water will be crucial as more water bodies become fully allocated and competition for access to water grows.

Ownership debates often arise when considering the use of a charging regime for natural resources. The New Zealand Government does not own water in its natural state, but due to its permanent sovereignty over natural resources, an abstraction charge is a management tool the government is entitled to use to effectively manage water resources for the benefit of the public. Other royalty and charging regimes support this conclusion, including the water charge under the Water and Soil Conservation Act 1967, the geothermal resource rental royalty, and the royalty applied to offshore petroleum mining permits. Māori

328 Batstone and Sharp, above n 306, at 182.

329 As recommended in Madeleine C Wright and Gary Taylor "Submission on Consultation Document — Next Steps for Freshwater" (22 April 2016) Environmental Defence Society <www.eds.org.nz/assets/Submissions/Submissions2016/EDS%20Fresh%20Water%20Submission%20FINAL.pdf> at [10].

330 Minhinnick and Winchester, above n 22, at [8.35].

331 LAWF *Better freshwater management*, above n 72, at [79].

proprietary-like interests in water are currently unresolved in New Zealand, but if they are found to exist this does not affect the Government imposing a water abstraction charge, as ownership of the natural resources is not a prerequisite for setting up a charging regime. What Māori rights in water will affect if recognised is the design of the charging regime, and may require a share in the amounts collected from a water charge to go to Māori, or the establishment of a co-management arrangement in regard to the Freshwater Improvement Fund.

The purpose of the implementation of a charge on water abstraction is not to replace the current regulatory system. The purpose of economic tools, such as a water abstraction charge, is to complement the systems already in place for water management. Minimum environmental flows for water bodies, directed by the NPS-FM and set under regional plans, would provide for ecological, recreational and cultural values. Once these have been accounted for, a charge on water abstraction could be applied to those with current and future water permits.[332] A royalty/charging regime could be implemented by simply amending ss 112(2) and 360(1)(c) of the RMA to include water permits issued for the taking of freshwater to come within these sections. Thus, both a traditional regulatory approach, and an economic tool which puts a price on water, can be used together to better achieve sustainable management of New Zealand's freshwater resources.

332 Memon and Skelton, above n 37, at 264–265.