

The past three-and-a-half decades of neoliberal orthodoxy in New Zealand have been marked by the rapid expansion and intensification of the New Zealand dairy industry. In the years since direct agricultural subsidies and supports were removed in the mid-1980s, the national dairy herd has more than doubled and the area given over to dairying has increased by some 750,000 hectares. This relentless drive to intensify has come at a simply enormous environmental cost: New Zealanders, present and future, are being systematically dispossessed of cherished freshwater ecosystems and endemic biodiversity. In this paper, I argue that this is but the latest episode in a long history of often-violent dispossession that has been crucial to the historical development of capitalist agriculture in New Zealand. In so doing, I draw on Marx's theory of primitive accumulation.

Dairying, Dispossession, Devastation: Primitive Accumulation and the New Zealand Dairy Industry, 1814–2018

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New Zealand has long enjoyed an enviable, if largely undeserved, reputation as being somehow pristine or unspoilt, or, in now-threadbare marketing jargon, ‘clean, green and 100 percent pure’. Such myths have become increasingly difficult to sustain in recent years in light of the rapid expansion and intensification of the dairy sector and the unfolding ecological catastrophe that has followed. This period has also been marked by a groundswell of public concern about the health of New Zealand’s freshwater ecosystems; indeed, a nationwide poll conducted by Colmar Brunton in December 2018 found that freshwater pollution was the principal concern of those surveyed, outstripping concerns over the cost of living, housing, child poverty, the health system, and climate change. Eighty-two percent of survey participants reported being very concerned or extremely concerned about freshwater pollution in New Zealand.¹

These widespread and serious ecological consequences of New Zealand’s recent dairy boom have garnered international attention, with a number of high-profile international media organisations highlighting the rapidly widening gulf between

1 ‘Water pollution is now New Zealander’s Number One Concern,’ *Fish & Game*, accessed 8 May 2019, <https://fishandgame.org.nz/news/water-pollution-is-now-new-zealanders-number-one-concern/>

New Zealand's clean and green reputation and reality.² Among them, a recent article in *The Guardian* highlighted the extent to which many New Zealanders feel that something is 'being lost', that they are rapidly being deprived of the ability, for example, to 'swim, fish and gather food from their rivers, lakes and streams'.³ This is especially so for Māori for whom *awa* and *roto* are at once intimately intertwined with identity and 'an integral part of the spiritual and physical sustenance of the people'.⁴

In this paper, I focus on this sense of loss or, rather, dispossession and argue that the recent dairy boom has involved the systematic despoliation of New Zealand's freshwater ecosystems for the private gain of those with a stake in the dairy industry. Moreover, I argue that this is but the latest chapter in a long history of often-violent dispossession that has been crucial to the historical development of capitalist agriculture in New Zealand. While this sense of loss or dispossession may be discomfortingly novel to many in contemporary New Zealand, it is likely also to be devastatingly familiar to many *iwi*, *hapū*, and *whānau* whose treasured lands and waters

2 See, for example, Charles Anderson, 'New Zealand's Green Tourism Push Clashes With Realities,' *The New York Times*, 17 November 2012, <https://www.nytimes.com/2012/11/17/business/global/new-zealands-green-tourism-push-clashes-with-realities.html>; 'Dairy Farming is polluting New Zealand's water,' *The Economist*, 16 November 2017, <https://www.economist.com/asia/2017/11/16/dairy-farming-is-polluting-new-zealands-water>; Naashon, Zalk, 'Why are New Zealand's waters so polluted?' *Al Jazeera*, 1 September 2017, <https://www.aljazeera.com/blogs/asia/2017/08/zealand-waters-polluted-170831090454283.html>

3 Eleanor Roy, 'Their birthright is being lost: New Zealander's fret over polluted rivers,' *The Guardian*, 4 March 2019, <https://www.theguardian.com/environment/2019/mar/04/their-birthright-is-being-lost-new-zealanders-fret-over-polluted-rivers>

4 Leigh-Marama McLachlan, 'Water Fools? – The river is me,' *Radio New Zealand*, 20 April 2017, <https://www.radionz.co.nz/programmes/water-fools/story/201841025/water-fools-the-river-is-me>. Regarding the intimate bonds between Māori and their *awa* see, for example, *Ruruku Whakatupua Te Mana o te Awa Tupua: The Whanganui River Deed of Settlement*, 5 August 2014, <https://www.govt.nz/treaty-settlement-documents/whanganui-iwi/>; Her Majesty the Queen in right of New Zealand and Waikato-Tainui, *Deed of Settlement in relation to the Waikato River*, 17 December 2009, <https://www.govt.nz/treaty-settlement-documents/co-management-of-waikato-and-waipā-rivers/waikato-tainui-waikato-river/>

have long been captured, enclosed, and systematically degraded by those seeking profits from the land. In making this argument, I draw on Marx's theory of primitive accumulation.

So-called primitive accumulation

In part eight of *Capital* volume one, Marx highlights the violence that characterises the transition to the capitalist mode of production: the myriad forms of predation, thievery, force, fraud, and oppression that establish the preconditions for continuous capital accumulation. For Marx, the routine operation of capitalism requires an initial burst of violence, an 'original', 'previous', or 'primitive' accumulation that is not the result of the capitalist mode of production but, rather, its starting point.⁵ Primitive accumulation describes the processes through which various lands and resources are forcibly torn away from their original owners and inhabitants, privatised, and brought into the cycle of capital accumulation. These processes have the dual effect of creating 'free' proletarians (free, that is, insofar as they do not possess any means of subsistence other than to sell themselves as labour), essential to capitalist social relations on the one hand while simultaneously incorporating the soil and other natural resources into the capitalist system on the other.⁶ Capitalism, Marx concludes, comes into being 'dripping from head to toe, from every pore with blood and dirt'.⁷

For Marx, the violence that characterised the transition to capitalism

5 Karl Marx, *Capital: A Critique of Political Economy*, volume I (London: Penguin Books, 1976), 873; *Grundrisse: Foundations of the Critique of Political Economy* (London: Allan Lane, 1973), 459–460. See also, Massimo De Angelis, 'Marx and Primitive Accumulation: The Continuous Character of Capital's "enclosures,"' *The Commoner* 2 (2001): 5; Sylvia Federici, *Caliban and the Witch: Women, the Body and Primitive Accumulation* (Brooklyn: Autonomedia, 2004), 12; David Harvey, *The New Imperialism* (Oxford: Oxford University Press, 2003), 143.

6 Marx, *Capital*, vol. I, 895. See also, Matthew Wynard, *The Price of Milk: Primitive Accumulation and the New Zealand Dairy Industry, 1814–2014* (PhD thesis, University of Auckland), 2, 9–11, 26–31.

7 Marx, *Capital*, vol. I, 926.

would recede as the system matured; once developed, the very organisation of the capitalist system removes all resistance. ‘The advance of capitalist production develops a working class which by education, tradition and habit looks upon the requirements of that system as self-evident laws. . . . The silent compulsion of economic relations sets the seal on the domination of the capitalist over the worker’.⁸ This is not to suggest that force, fraud, and oppression disappear altogether; rather, as Marx puts it, ‘direct extra-economic force is still of course used, but only in exceptional cases’.⁹

A number of Marxist scholars have argued that the varied mechanisms of primitive accumulation have remained central to capitalism throughout its historical trajectory. Sylvia Federici, among them, argues that Marx was mistaken in his assumption that the ‘blood and fire’ would diminish as capitalism matured: ‘a return of the most violent aspects of primitive accumulation has accompanied every phase of capitalist globalization’, continuous violence, enclosure, expropriation, war, and plunder are ‘necessary conditions for the existence of capitalism at all times’.¹⁰

The past three-and-a-half decades of neoliberal orthodoxy have been marked by the ongoing penetration of market relations into ever more aspects of social and economic life. This era of market triumphalism has also witnessed a renewed interest in the processes through which formerly unowned, communally owned, or state-owned natural resources, lands, things, and ideas are captured, enclosed, and utilised for private profit.¹¹ Many authors have turned to Marx’s theory of primitive accumulation to explain these processes. A flourishing and rapidly expanding literature has developed which draws on Marx’s concept to explain myriad phenomena including the conversion of common, collective, and state property rights into exclusive private property; the suppression of rights to the commons; the escalating degradation of land, air, and water; the colonial, neocolonial,

8 Marx, *Capital*, vol. I, 899. See also, Federici, *Caliban*, 12; Wynyard, *The Price of Milk*, 29.

9 Marx, *Capital*, vol. I, 899.

10 Federici, *Caliban*, 12–13.

11 Derek Hall, ‘Rethinking Primitive Accumulation: Theoretical Tensions and Rural South East Asian Complexities,’ *Antipode* 44, no. 4 (2012): 1188–1208.

and imperial accumulation of natural resources; and the suppression of alternatives to capitalist production and consumption.¹²

The dispossession of Māori land and the origins of capitalist agriculture

Primitive accumulation has long been crucial in establishing and re-establishing the conditions necessary to profitable agriculture in New Zealand. The first requirement was, of course, land and the wholesale and systematic dispossession of Māori land in the 19th and 20th centuries was essential to the establishment and ongoing development of capitalist agriculture in New Zealand. The first dairy cattle were brought to New Zealand by Samuel Marsden in 1814 and, soon after, the pressure on Māori land began to grow. The dispossession of Māori land began with large-scale land grabbing in Te Waipounamu, where millions of acres of communally owned Māori land were swallowed up into enormous estates by a rapacious few. In Te Ika-a-Māui, where Māori were better placed to oppose the greed of settlers and the Crown, a far greater degree of force, fraud, and oppression was required to separate iwi, hapū, and whānau from their ancestral rohe. The dispossession of Māori land in Te Ika-a-Māui involved war, raupatu, the forced conversion of communal title to individual private property,¹³ and myriad other grubby practices, including the forced sale of land to defray survey costs, excessive Crown purchasing, the compulsory acquisition of ‘uneconomic’ interests (that is, the forced purchase of small holdings in order to create parcels of land adequate to

12 Wynyard, *The Price of Milk*, 19; Hall, ‘Rethinking Primitive Accumulation,’ 1188–1208; Harvey, *The New Imperialism*, 145; Michael Webber, ‘Primitive Accumulation in Modern China,’ *Dialectical Geography* 32, no. 4 (2008): 299–320.

13 Wynyard, *The Price of Milk*, 58–86; ‘Plunder in the Promised Land,’ in *A Land of Milk and Honey: Making Sense of New Zealand*, eds. Avril Bell, Vivienne Elizabeth, Tracey McIntosh, and Matthew Wynyard (Auckland: Auckland University Press, 2017), 23–36.

capitalist agriculture), and the taking of land for public works.¹⁴

This systematic and wholesale dispossession of Māori land was absolutely central to the development of capitalist agriculture in New Zealand. Quite simply, without land for pasture there could be no pastoral farming. With regard to the development of the dairy industry, land in the fertile, flat, and high-rainfall areas of Taranaki and Waikato were crucial—and there the dispossession of Māori land was achieved with the crudest simplicity. In Waikato 1,202,172 acres of the most fertile land were confiscated; in Taranaki 1,275,000 acres were taken.¹⁵ The ostensible justification for raupatu may have been ‘rebellion’ by Māori but the desire for land was palpable in the language used by the lawmakers referring to ‘vast tracts of land, lying unoccupied, useless and unproductive’.¹⁶

From the early 1880s onwards, with millions of acres of fertile land newly available to settlers and with the advent of refrigeration allowing for the development of an export market, there was a massive proliferation of dairy farms and factories in Waikato and Taranaki. Formerly the bastions of Māori independence, these regions have remained the major North Island dairying centres for much of the history of the industry in New Zealand, at least until the systematic dispossession and degradation of the

14 For a full catalogue of Crown complicity in the wholesale dispossession of Māori land see the various deeds of settlement signed between iwi (or, in Crown terms, Large Natural Groupings) and the Crown: <https://www.govt.nz/treaty-settlement-documents/>. See, for example, Tūhoe Me Te Uru Taumatua Rāua Ko Te Kauraua, *Te Whakatauna o Nā Tohe Raupatu Tawhito: Deed of Settlement of Historical Claims*, 4 June 2013, <https://www.govt.nz/treaty-settlement-documents/ngai-tuhoe/>; Her Majesty the Queen in right of New Zealand and Waikato-Tainui, *Deed of Settlement*, 22 May 1995, <https://www.govt.nz/dmsdocument/3778-waikato-tainui-deed-of-settlement-22-may-1995/>; Te Ātiawa and the Crown, *Deed of Settlement of Historical Claims*, 9 August 2014, <https://www.govt.nz/dmsdocument/5839-te-atiawa-taranaki-deed-of-settlement-9-aug-2014/>

15 ‘Confiscated Native Lands and other Greivances. Royal Commission to Inquire into Confiscations of Native Lands and other Grievances alleged by Natives (Report of),’ *Appendix to the Journal of the House of Representatives* (1928 Session 1. G. – 07).

16 ‘New Zealand Settlements Act, 1863,’ *The Press*, volume III, issue 327, 17 November 1863, 3, [https://paperspast.natlib.govt.nz/newspapers/CHP18631117.2.10](https://paperspast.natlib.govt.nz/newspapers/CHP18631117.2.10;); see also, Wynyard, ‘Plunder in the Promised Land,’ 19.

freshwater commons allowed for the expansion of the industry into the arid Canterbury Plains.¹⁷

Massey's ghosts

Of course, farming requires more than just land and, at various moments in the historical development of capitalist agriculture in New Zealand, various forms of 'force, fraud and oppression' have been central in overcoming obstacles to profitability. Two examples from the early 20th century illustrate the diversity of mechanisms available; both involve a remarkable level of violence (social and ecological, respectively), and both involve William F Massey, dairy farmer, sectarian bigot, and prime minister of New Zealand from 1912 to 1925.¹⁸ The first such obstacle to profitability was the 1913 watersiders' strike; the second, declining soil fertility. The solution to the first lay in the violent suppression of workers' rights; the solution to the second involved a grubby colonial resource grab and the utter devastation of the natural environment of Nauru, once, but never again, known as Pleasant Island.

Given his politics generally and his open antagonism towards organised labour more specifically, Massey's response to the 1913 watersiders' strike was always going to be robust. The strike began on 13 October 1913, when Wellington shipwrights struck against a wage cut; Wellington watersiders held a stopwork meeting to discuss support for the shipwrights and upon returning to work they found themselves locked out. The United Federation of Labour called for a general strike and urged the watersiders to occupy the wharves. On 24 October, the Union Steam Ship Company attempted to break the strike and process ships at the wharves with 'scab' labour; the striking workers broke through the gates and occupied the wharves and

17 Wynyard, *The Price of Milk*, 264–268, 278–286.

18 W. J. Gardner, 'The Rise of W. F. Massey, 1891–1912,' *Political Science* 13, no. 1 (1961): 3–30; *William Massey* (Wellington: A. H. & A. W. Reed, 1969); James Watson and Lachy Patterson (eds.), *A Great New Zealand Prime Minister? Reappraising William Fergusson Massey* (Dunedin: Otago University Press, 2011), 15.

sympathetic strikes followed in all ports.¹⁹

The impact of the strike on the dairy industry was far-reaching and immediate. There was a rapid accumulation of butter and cheese in the available storage facilities across the country, which caused a shortage and then a glut on the British market, impacting on the returns for New Zealand dairy farmers.²⁰ Perhaps unsurprisingly, many responded with enthusiasm when Massey approached the New Zealand Farmers' Union (the forerunner to Federated Farmers) about the availability of men to work the wharves and to act as special constables to suppress striking workers. Massey had wanted to use the military, but was convinced otherwise by Colonel Edward Heard, who suggested the government raise a force of 'special mounted constables' from among Massey's farming constituents instead.²¹

In the days and weeks that followed, large numbers of dairy farmers from Taranaki and Waikato were recruited to work the wharves or to act as 'special constables' (or 'Massey's Cossacks', as they came to be known). Many armed themselves with stockwhips, clubs, and batons and rode to the main centres to put down the strike and steady the flow of butter and cheese out of the country. There were a number of confrontations, melees, baton charges, riots, and small-gun battles, throughout which the strikers fared poorly.²² The combined use of 'scab' labour and armed 'specials' was enough to break the strike. In the 'ordinary run of things', Marx contends, labour accepts the demands of capital and primitive accumulation is not required. Class struggle, such as the watersiders strike, represents a refusal

19 Tony Simpson, *The Road to Erewhon* (Auckland: Beaux Arts, 1976), 39; M. Fairburn, 'The Farmers Take Over,' in *The Oxford Illustrated History of New Zealand*, ed. K. Sinclair (Auckland: Oxford University Press, 1990), 198; W. B. Sutch, *Poverty and Progress in New Zealand: A Re-Assessment* (Wellington: A.H. & A.W. Reed, 1969), 155; Wynyard, *The Price of Milk*, 127.

20 H.G. Philpott, *A History of the New Zealand Dairy Industry* (Wellington: Department of Agriculture, 1937), 141.

21 Richard Hill, *The Iron Hand in the Velvet Glove: The Modernisation of Policing in New Zealand, 1886–1917* (Palmerston North: Dunmore Press, 1995), 305–309.

22 Hill, *The Iron Hand*, 306–316; Simpson, *The Road to Erewhon*, 39–40; Wynyard, *The Price of Milk*, 124–131.

of that acceptance; primitive accumulation resurfaces to reimpose ‘the ordinary run of things’.²³ Direct extra-economic force of the very type that Marx described was used to remove an ‘obstacle’ to the ongoing profitability of the dairy sector in New Zealand and to restore the conditions necessary to capital accumulation.

According to his biographer, Massey’s greatest gift to New Zealand farmers was a share in the phosphate-rich island of Nauru.²⁴ Phosphate, applied as fertiliser to New Zealand pastures, was crucial to ongoing economic prosperity in New Zealand in the post-war era. Nauru was annexed by Germany in 1888 and remained a German ‘possession’ until the First World War; phosphate was discovered on the Island in 1900 and commercial exports began in 1907. Not long after the outbreak of war, Massey was alerted to the abundance of phosphate on the island.²⁵

Throughout the war, Massey lobbied the Imperial Office in London for a share of Nauru’s phosphate. At the Imperial Conference at Versailles at the conclusion of the war, Nauru was carved up between New Zealand, Australia, and the UK, who together signed the Nauru Island agreement in 1919, giving them not only exclusive entitlement to Nauruan phosphate, but also the right to purchase the mineral at cost price, well below the market rate.²⁶ For decades afterwards Nauru was systematically plundered of guano and rock phosphate without regard to the Indigenous people or the Nauruan environment. Here again, ‘force, fraud and oppression’ played a central role in removing an ‘obstacle’, this time declining soil fertility, to the ongoing profitability of capitalist agriculture in New Zealand.

23 Marx, *Capital*, vol. I, 899; de Angelis, ‘Marx and Primitive Accumulation,’ 16.

24 Gardner, *William Massey*, 25.

25 Barrie Macdonald, *Massey’s Imperialism and the Politics of Phosphate* (Palmerston North: Massey University, 1982), 4.

26 MacDonald, *Massey’s Imperialism*, 10; Christopher Weeramantry, *Nauru: Environmental Damage under International Trusteeship* (Melbourne: Oxford University Press, 1992), 11; Nancy Viviani, *Nauru: Phosphate and Political Progress* (Canberra: Australian National University, 1970), 43; John Gowdy and Carl McDaniel, ‘The Physical Destruction of Nauru: An Example of Weak Sustainability,’ *Land Economics* 75, no. 2 (1999): 333–338.

The total cost-value of phosphate mined on Nauru between 1922 and 1966 was approximately £60 million at the time.²⁷ Had Nauruan phosphate been sold on the open market and not at cost price, it might have fetched as much as £167 million; in actual fact, however, Nauru received only £4,196,277 for all of the phosphate mined during the years before its independence in 1968.²⁸

The environmental and social impacts of phosphate mining on Nauru were utterly devastating. The interior of the island was, quite literally, ‘ripped out’.²⁹ The mined-out area, an elevated plateau known colloquially as ‘Topside’ comprising 80 percent of the Nauruan land mass, was left uninhabitable, inaccessible, and completely unusable for agriculture, horticulture, or any other productive use.³⁰ Much of Nauru’s endemic biodiversity is lost, more still is endangered. The climate has changed and there are frequent droughts. Without land on which to produce, Nauruan people were forced to import food; healthy staples such as coconut, pandanus, pawpaw, breadfruit, and beach almond were replaced with cheap, salty and fatty canned foods; even freshwater had to be imported.³¹ Not surprisingly, this had adverse impacts on the health of the Nauruan people, who now have very high rates of diabetes, heart disease, and hypertension and significantly lower life expectancy than other Pacific peoples.³²

Nauruan phosphates were essential to the growth of capitalist agriculture in New Zealand in the post-war period. The steadily increasing application of phosphatic fertiliser to pastures in New Zealand played a

27 Weeramantry, *Nauru*, 367.

28 Viviani, *Nauru*, 186–187; Weeramantry, *Nauru*, 367, 369; Wynyard *The Price of Milk*, 198–203.

29 Mary Nazzal-Batayneh, ‘Nauru: An Environment Destroyed and International Law,’ *lawanddevelopment.org*, accessed 24 June 2019, <http://www.lawanddevelopment.org/docs/nauru.pdf>

30 Gowdy and McDaniel, ‘The Physical Destruction of Nauru,’ 334.

31 Gowdy and McDaniel, ‘The Physical Destruction of Nauru,’ 334; Nazzal-Batayneh, ‘Nauru’; Weeramantry, *Nauru*, 31.

32 Gowdy and McDaniel, ‘The Physical Destruction of Nauru,’ 334; Wynyard, *The Price of Milk*, 198–203.

central role in the post-war boom and delivered to many New Zealanders a standard of living that was the envy of the world. The dairy industry, which is more input intense than most other land uses, is implicated as the major source of demand for Nauruan phosphates. Similarly, the rapid increase in the application of nitrogenous fertiliser has underpinned the current dairy boom, only, this time, surging production has failed to improve the living standards of most New Zealanders and the environmental devastation has occurred much closer to home.³³

Neoliberalism and the New Zealand dairy industry

Like so many of this country's contemporary problems, the origins of New Zealand's freshwater catastrophe lie in the large-scale and global reorganisation of the accumulation process embodied in the shift towards neoliberalism. This shift, under way globally since the mid-1970s, has been characterised by, among other things, the restoration and proliferation of primitive accumulation as a central strategy of accumulation.³⁴ If, as Marx argues, the 'force, fraud and oppression' that characterised the dawn of capitalism recedes to some extent with the maturing of capitalist social relations, then neoliberalism marks a new dawn.³⁵ The following paragraphs chart the resurgence of primitive accumulation as a central strategy of accumulation in contemporary New Zealand. It begins with the election of the fourth Labour government (FLG) on Bastille Day in 1984 and ends with nearly half of our lakes and around 90 percent of our lowland rivers polluted and some 2,788 species threatened with extinction.³⁶

When the FLG swept to power on 14 July 1984, the guillotine fell

33 Wynyard, *The Price of Milk*.

34 Midnight Notes Collective, 'Introduction to the New Enclosures,' *Midnight Notes* 10 (1990): 1–9.

35 Wynyard, *The Price of Milk*, 230.

36 Mike Joy, 'The dying myth of a clean, green Aotearoa,' *New Zealand Herald*, 25 April 2011, https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10721337

not only on the Muldoon-led National government but also on a complex framework of protections that had held in check the worst excesses of capitalist predation for much of the post-war period.³⁷ Agriculture was among the first targets for reform.³⁸ Prior to 1984, New Zealand agriculture was shielded by an array of protections including input subsidies, interest-rate concessions, irrigation and electricity subsidies, production subsidies, development schemes, and state control of key financial and research services.³⁹ All of these were swept away in a deregulatory blitzkrieg that left New Zealand producers totally exposed to the vicissitudes of world markets.⁴⁰

The impacts were felt almost immediately. During the FLG's first term in office, farmers' net incomes declined by as much as a third and many farmers were forced to reduce expenditure on inputs such as fertiliser, which meant reduced carrying capacity, declining productivity, weak cash flow, and an accumulation of debt.⁴¹ When interest rates rose, farmers were forced to further curtail spending and cut stock numbers in order to service debt. Many farmers were left over-exposed and thousands faced the very real prospect of being forced off the land through mortgagee sale.⁴² Exactly how many farmers lost their farms as a direct result of deregulation is not

37 Wynyard, *The Price of Milk*, 232, 235.

38 Jane Kelsey, *The New Zealand Experiment: A World Model for Structural Adjustment* (Auckland: Auckland University Press, 1995), 95; Marcia Russell, *Revolution: New Zealand from Fortress to Free Market* (Auckland: Hodder Moa Beckett, 1996), 101; Wynyard, *The Price of Milk*, 236.

39 Paul Cloke, 'State Deregulation and New Zealand's Agricultural Sector,' *Sociologia Ruralis* 29, no. 1 (1989): 36; Paul Cloke and Richard Le Heron, 'Agricultural Deregulation: The Case of New Zealand,' in *Regulating Agriculture*, eds. Terry Marsden, Philip Lowe, and Sarah Whatmore (London: David Fulton Publishers, 1994), 112; Wynyard, *The Price of Milk*, 236.

40 Cloke, 'State Deregulation,' 38; Cloke and Le Heron, 'Agricultural Deregulation,' 113; Kelsey, *The New Zealand Experiment*, 95.

41 Cloke, 'State Deregulation,' 41–42.

42 N. Taylor, M. Abrahamson, and T. Williams, *Rural Change: Issues for Social Research, Social Assessment and Integrated Rural Policy* (Christchurch: Centre for Resource Management, University of Canterbury and Lincoln College, 1987), 6; Cloke, 'State Deregulation,' 43.

known.⁴³ Federated Farmers estimates that 800 farmers were ‘forced’ from the land;⁴⁴ many others were, however, ‘assisted’ or ‘encouraged’ from the land by the banks.⁴⁵

The removal of subsidies, coupled with declining real wool prices, hit sheep farmers particularly hard. Large areas of hill country became uneconomical to farm. Between 1983 and 1993, the number of sheep farms fell by nearly 35 percent and the land used for sheep farming fell by 32 percent. Large numbers of farmers made the switch from sheep to dairy.⁴⁶ The number of dairy farms increased by 6.2 percent between 1983 and 1993, the area used for dairying increased by 21 percent, and the national dairy herd increased from 3.1 million cows and heifers to 3.6 million.⁴⁷ Stocking rates and herd sizes also increased, and, crucially, the industry expanded most quickly in low-rainfall, irrigation-dependent areas long thought unsuitable for dairying, including Canterbury, Otago, and Hawke’s Bay.⁴⁸

The main reason behind the switch to dairying was its much greater profitability when compared with meat and wool. Dairying also provides regular cash flow: cows are milked daily while with meat and wool the returns are much slower in coming. This was particularly important in the context of deregulation when interest rates were high and budgeting difficult.⁴⁹ Conversions continued at great pace throughout the mid-1990s: 299 farms made the switch from meat and wool to dairy in 1994/1995 and a further 226 followed in 1995/1996. Many of these conversions were on marginal, hilly, and dry land not typically associated with dairying. North

43 Neal Wallace, ‘Rude awakening,’ *Otago Daily Times*, 24 May 2014, <http://www.odt.co.nz/lifestyle/magazine/303362/rude-awakening>

44 Federated Farmers, *Life After Subsidies: The New Zealand Farming Experience 20 Years Later* (Wellington: Federated Farmers of New Zealand, 2005), 3.

45 Wallace, ‘Rude awakening.’

46 Richard Willis, ‘Farming,’ *Asia Pacific Viewpoint* 42, no. 1 (2001): 55–65.

47 Willis, ‘Farming,’ 56–58.

48 Willis, ‘Farming,’ 58.

49 Willis, ‘Farming,’ 58; ‘Enlargement, Concentration and Centralisation in the New Zealand Dairy Industry,’ *Geography* 89, no. 1 (2004): 83–88.

Island farmers sold their small but expensive farms in order to finance new dairying ventures in the South Island where land was much cheaper, but where water was scarce.⁵⁰

The conversion of sheep to dairy and the rapid expansion of the industry more generally following the removal of subsidies and other supports for agriculture has had two distinct and devastating sets of consequences for the freshwater commons in New Zealand. On the one hand, increasingly intensive dairy farming has had the catastrophic environmental impact detailed briefly above and to which we will return below. On the other hand, the expansion of the industry into low-rainfall and irrigation-dependent regions such as Canterbury, Otago, and Hawke's Bay has involved the capture and enclosure of the freshwater commons for the private gain of those with a stake in the dairy industry. In keeping with the neoliberal backdrop of these shifts and changes, while the profits accrue privately, the costs, the simply enormous social and environmental costs, accrue to us collectively.

Fonterra and the race to the bottom

The New Zealand dairy industry has been completely dominated by Fonterra since its formation in October 2001 through the merger of the New Zealand Dairy Group, Kiwi Co-operative Dairies, and the New Zealand Dairy Board.⁵¹ At that time, Fonterra comprised 13,000 farmer

50 Willis, 'Farming,' 58.

51 Fonterra emerged after a long period of consolidation in the New Zealand dairy Industry. Improvements in transportation and advances in large-scale processing technologies drove a long trend toward consolidation. In 1935 there were over 400 dairy cooperatives in New Zealand; by 1960 there were 180. Mergers and acquisitions continued as industry interests sought 'economies of scale'. Fonterra was created through the merger of Kiwi Co-operative Dairies, New Zealand Dairy Group, and the New Zealand Dairy Board in 2001. The new company was better placed to do business in a global industry dominated by large-scale agri-capitalist firms. See Wynyard, *The Price of Milk*, 255–261.

shareholders producing 96 percent of New Zealand's raw milk.⁵² Fonterra's dominance has subsided somewhat since its formation, yet it remains New Zealand's largest dairy producer, retaining an 82 percent market share as of 2017.⁵³ In 2018, Fonterra became the world's fifth-largest dairy company, with annual turnover of \$US14.7 billion.⁵⁴ Fonterra is the world's largest exporter of dairy products with an estimated one billion daily customers in 140 countries worldwide.⁵⁵ It is, quite simply, a juggernaut of global agricapitalism.

Fonterra has long striven to be 'the lowest cost supplier of commodity dairy products'.⁵⁶ Low-cost production is essential to Fonterra given the lower-value markets that it targets in South, East, and South-East Asia, the Middle East, North Africa, and Latin America. Targeting these markets instead of the more valuable, but heavily tariffed, dairy markets of Europe, Japan, and North America has dramatically impacted on the shape, scale, and intensity of the dairy industry in New Zealand. More than 75 percent of New Zealand dairy produce is exported as bulk commodities such as milk powder to developing countries in Asia, the Middle East, Latin America,

52 Wynyard, *The Price of Milk*, 258, 260; Camilla Ohlsson, *New Zealand Dairy Cooperatives: Strategies, Structures, and Deregulation* (MA thesis, Swedish University of Agricultural Sciences, 2004); Lewis Evans, *Structural Reform: The Dairy Industry in New Zealand* (Tokyo: APEC High Level Conference on Structural Reform, 2004).

53 'New Zealand Dairy Companies Review,' *TDB Advisory* (April 2018), 6, <https://www.tdb.co.nz/wp-content/uploads/2018/05/TDB-Dairy-Companies-Review-2018-1.pdf>

54 Peter Coppes, Saskia van Battum, and Mary Ledman, *Global Dairy Top 20: A Shuffling of the Deck Chairs* (Raboresearch, 2018).

55 'Our Markets,' *Fonterra: Dairy for Life*, accessed 24 June 2019, <https://www.fonterra.com/nz/en/about/our-markets.html>

56 Ohlsson, *New Zealand Dairy Cooperatives*, 26; Mairi Jay, 'The Political Economy of a Productivist Agriculture: New Zealand Dairy Discourses,' *Food Policy* 32, no. 2 (2007): 266–279; Wynyard, *The Price of Milk*, 261.

and, increasingly, Africa.⁵⁷ New Zealand farmers, totally exposed to the vagaries of world markets and in competition with subsidised producers elsewhere, have had little choice but to farm more and more intensively.

The total number of dairy cattle in New Zealand in 1985/1986, when subsidies were removed, was 2,321,012. Approximately 1,008,142 hectares were used for dairying and the average size of a dairy herd was 147 cows. In 2001, when Fonterra was formed, the national dairy herd comprised 3,692,073 cows grazing on 1,404,930 hectares and the size of the average herd had nearly doubled to 271 cows. In 2017/2018, the most recent year for which statistics are available, the national dairy herd numbered 4,992,914 cows, 1,755,418 hectares are given over to dairy production, and the average herd size has increased to 431 cows.⁵⁸ That same season, New Zealand farmers produced 20.7 billion litres of milk containing 1.84 billion kilograms of milk solids.⁵⁹

Dairy farms use significantly more fertiliser than any other land-use type. The rapid expansion and intensification of the New Zealand dairy industry has also involved a massive surge in the use of synthetic nitrogenous fertilisers based on fossil fuels. As with phosphate, the application of nitrogenous fertiliser to dairy pastures allows for increased productivity and greater profitability. Nitrogenous fertilisers provide for faster rates of grass growth providing extra feed for dairy cattle year-round, which means that farmers can increase stocking rates, calve earlier, and make more high-quality silage, thereby extending the period of lactation.⁶⁰

In the years between 1990 and 2004, the application of nitrogenous

57 Mairi Jay and Munir Morad, 'Crying Over Spilt Milk: A Critical Assessment of the Ecological Modernization of New Zealand's Dairy Industry,' *Society and Natural Resources* 20, no. 5 (2007): 473; 'Making a difference in Africa,' *Fonterra: Dairy for Life*, accessed 24 June 2019, <https://www.fonterra.com/nz/en/what-we-stand-for/global-reach/making-a-difference-in-africa.html>

58 *New Zealand Dairy Statistics 2017/2018* (Hamilton: LIC Dairy New Zealand, 2018), 7.

59 *New Zealand Dairy Statistics 2017/2018*, 5.

60 *Growing for Good: Intensive Farming, Sustainability and New Zealand's Environment*, (Wellington: Parliamentary Commissioner for the Environment/Te Kaitiaki Taiao a Te Whare Pāremata, 2004), 92.

fertiliser on New Zealand farms increased by some 770 percent. Most of the nitrogenous fertiliser used on New Zealand dairy farms is synthesised from Taranaki natural gas and much of it ends up in the country's lakes, rivers, streams, and in the sea.⁶¹ This massive surge in the use of nitrogenous fertiliser on New Zealand farms, and the rapid expansion and intensification of the dairy sector more broadly, has had devastating impacts on the environment and on biodiversity in New Zealand. The ecological impacts of intensive dairy farming are many, varied, and catastrophic and include the pollution of surface water and ground water from effluent and the runoff of excess fertiliser, significant biodiversity loss, soil erosion, soil contamination, the draining of wetlands and the removal of lowland forests for the ongoing expansion of the industry, damage to the structure of soils, and significant greenhouse gas emissions.⁶² Indeed, agriculture contributes as much as 54 percent of all New Zealand's greenhouse gas emissions, 43 percent as methane, largely from ruminant flatulence, and 11 percent as nitrous oxide, caused when animal urine interacts with microbes in the soil.⁶³

The widespread and serious degradation of New Zealand's land, air, and water is a clear, contemporary example of primitive accumulation. The peoples of New Zealand, now and in the future, are being systematically dispossessed of irreplaceable natural resources, resources that are absolutely crucial to the ongoing well-being of the country as a whole.⁶⁴

Intensive dairying and the destruction of land and water

The relentless prioritisation of European-style pastoral farming, including dairying, over all other land uses has long been implicated in the devastation

61 Joy, 'The dying myth.'

62 Jay and Morad, 'Crying Over Spilt Milk,' 472; Wynyard, *The Price of Milk; The State of New Zealand's Environment 1997* (Wellington: Ministry for the Environment/Manatū Mō Te Taiao and GP Publications, 1997).

63 *Water Quality in New Zealand: Land Use and Nutrient Pollution* (Wellington: Parliamentary Commissioner for the Environment/Te Kaitiaki Taiao a Te Whare Pāremata, 2013).

64 Wynyard, *The Price of Milk*, 268.

of the land in New Zealand, which has undergone an almost total loss of endemic, land-based biodiversity.⁶⁵ Between 1840 and 2000, eight million hectares of mostly lowland conifer and broadleaf forest were cleared to make way for pasture.⁶⁶ In Waikato, home to 22.7 percent of the national dairy herd, lowland native forest has been reduced to just 18 percent of its former extent since the onset of colonisation.⁶⁷ Indeed, Mike Joy notes that today one can drive for an hour in any direction from cities such as Ōtautahi (Christchurch) and Te Papa-i-Oea (Palmerston North) and not see a single, naturally occurring plant or animal.⁶⁸ In recent decades, the relentless prioritisation of the dairy industry over other land uses has also been responsible for the wide-ranging and rapid devastation of New Zealand's freshwater ecosystems. The ongoing and systematic degradation of the freshwater commons dispossesses New Zealanders of cherished natural resources; waterways so affected can no longer provide food, nor a place for play, wonder, or reflection. This destruction of awa and roto has taken place against a backdrop of increased public and scientific awareness of environmental matters more broadly and, indeed, the intensification and expansion of the dairy industry has not slowed with the growing knowledge of its ecological consequences; rather, it has accelerated.

The impact of intensive dairying on freshwater ecosystems has been known since before the removal of subsidies in the mid-1980s.⁶⁹ In 1993, when the national dairy herd was slightly over half its current size, the then Ministry of Agriculture and Fisheries (MAF) and the Ministry for

65 Jay, 'The Political Economy of a Productivist Agriculture,' 267.

66 John Dawson, 'Loss of Conifer–Broadleaf Forests,' in *Te Ara – The Encyclopaedia of New Zealand*, accessed 24 June 2019, <https://teara.govt.nz/en/interactive/11674/deforestation-of-new-zealand>

67 Jay, 'The Political Economy of a Productivist Agriculture,' 267.

68 Joy, 'The dying myth'; *New Zealand's 100% Pure, Clean-Green Myth* (Wellington: Forest and Bird, 2011).

69 E. White, 'Eutrophication in New Zealand Lakes,' *Water in New Zealand's future: Proceedings of the Fourth National Water Conference* (Auckland: Institute of Professional Engineers New Zealand Technical Group on Water, 1982); R. Wilcock, 'Agricultural Runoff: A Source of Water Pollution in New Zealand,' *New Zealand Agricultural Science* 20 (1986): 98–103.

the Environment (MfE) jointly commissioned the first comprehensive study of New Zealand's freshwater resources in relation to agricultural production.⁷⁰ It found many lowland rivers in a perilous condition with high concentrations of nitrogen and phosphate leading to eutrophication, low levels of dissolved oxygen, and high counts of faecal coliform, a potentially harmful bacterium. Many lowland rivers and streams were found to be increasingly unsuitable for use in water supply, irrigation, or industry; the aesthetic value of waterways was being diminished and many waterways, even in 1993, were found to be unsuitable for contact recreation.⁷¹ The authors of the 1993 report go on to urge a fundamental re-evaluation of farming systems and farm practices.

Further reports followed in 1997 and 1999, both charting the steadily deteriorating condition of New Zealand's lowland streams and rivers due, in large part, to increased pollution from intensive dairy farming.⁷² MfE's 1999 report expresses serious concern over the effect of dairy-farm effluent, including faeces, urine, wash-down water, spilled milk, and various chemicals, pathogens, and toxins on surface water and ground water.

The impacts of dairy-farm effluent on surface water are many, varied, and severe.⁷³ When dairy farm effluent discharges to surface water, sediment in the effluent can adversely impact on the colour, clarity, and temperature of waterways, smothering water plants and diminishing the capacity of the waterway to support native fish such as inanga, kōkupu, and kōaro. Organic matter in dairy effluent consumes oxygen when it breaks down, oxygen that is essential to the survivability of native plants, animals, and

70 *New Zealand Dairy Statistics 2017/2018*, 7.

71 Christine Smith, *Towards Sustainable Agriculture: Freshwater Quality in New Zealand and the Influence of Agriculture* (Wellington: Ministry of Agriculture and Fisheries, 1993), vii, 1.

72 Ministry for the Environment, *The State of New Zealand's Environment 1997* (Wellington: Ministry for the Environment/Manatū Mō Te Taiao and GP Publications, 1997); *Resource Management Act Practice and Performance: Are Desired Environmental Outcomes Being Achieved* (Wellington: Ministry for the Environment/Manatū Mō Te Taiao, 1999).

73 *Resource Management Act Practice and Performance 3*.

invertebrates. Organic matter in effluent also causes the growth of bacterial and fungal slimes, raising pH levels in waterways to the detriment of native species. Nitrogen in the form of ammonia is highly toxic to aquatic life and micro-organisms in the water make it unsafe for drinking or for recreation.⁷⁴ The discharge of effluent to waterways is also deeply offensive to people, Māori in particular.

When discharged on land, the ecological impacts of dairy-farm effluent are potentially even more severe and can include runoff into surface water and penetration of the surface-soil layer leading to the contamination of groundwater and the deterioration of the soil structure.⁷⁵ As the authors of the 1999 report put it, ‘compared with the certain, immediate and reversible effects of discharges to surface water, groundwater contamination from discharge to land is relatively uncertain, long term, and irreversible. Nitrate leaching from agricultural soils . . . is regarded as the greatest contamination threat to groundwater’.⁷⁶ In the six years separating the 1993 report from MAF and MfE and the 1999 report, the total dairy herd in New Zealand increased in size by more than 530,000 cows and heifers.⁷⁷ In the twenty years since the latter report, New Zealand dairy farmers have added an additional 1.72 million cows to the land.⁷⁸

Just as farmers have continued to intensify, freshwater ecologists, environmental scientists, and others have continued to note the spiralling consequences of this relentless drive for profit. Guy Salmon, for example, argues that the New Zealand dairy industry is bent on expansion and intensification with total disregard to the environmental impact: ‘the bottom line is that this huge industry is exploiting this country, using it as a polluted, low-cost growing platform for its aggressive expansion into

74 *Resource Management Act Practice and Performance 3.*

75 *Resource Management Act Practice and Performance 3.*

76 *Resource Management Act Practice and Performance 3*; see also, Wynyard, *The Price of Milk*, 271.

77 *New Zealand Dairy Statistics 2017/2018*, 7.

78 *New Zealand Dairy Statistics 2017/2018*, 7.

overseas commodity markets'.⁷⁹ Salmon goes on to note the environmental and public-health impacts of increasingly intensive dairy farming in Waikato and Canterbury. These include the high concentrations of microbial pathogens, including cryptosporidium, giardia, salmonella, and campylobacter, in Waikato rivers, the loss of streamside vegetation and wetland habitats, the siltation of streams and the impact on biodiversity, and the growing threat of toxic nitrate contamination of groundwater.⁸⁰

Salmon documents the decline of the Waikākahi Stream in South Canterbury, once pristine, 'cool, clear, spring-fed . . . shaded with tussocks, flax and native shrubs . . . abundant with fish and wildlife'.⁸¹ Spring-fed streams like Waikākahi were highly valued by Kāi Tahu whanui; the catchment of Waikākahi contained significant wetlands which nurtured important taonga species such as tuna (eels) and kākahi (freshwater mussels). Many nohoanga and pā sites were once sustained by the Waikākahi and the taonga species that thrived there.⁸² Over the course of the recent dairy boom, the entire catchment of the Waikākahi was converted to dairy, the impact simply devastating. 'Today it is turbid, heavy with silt, nutrient enriched and thick with faecal coliforms. The streamside vegetation has been replaced with grass and stock trampled mud, the wetlands have been drained'.⁸³

Mike Joy, too, has drawn attention to the spiralling costs of intensive dairy farming. According to Joy, and mentioned above, some 2,788 species—35 percent of all native species—are now listed as threatened. Worse, as science has been critically underfunded in recent decades, many more species, perhaps as many as 4,000, are listed as data deficient. If science was appropriately resourced, Joy contends, it is likely that the number of

79 Guy Salmon, 'New Zealand's Biggest Polluter Gears up for More: Is Dairy Intensification Sustainable,' *Maruia Pacific* (1999): 4–7.

80 Salmon, 'New Zealand's Biggest Polluter,' 4–5.

81 Guy Salmon, 'How Dairying Destroyed the Waikākahi,' *Maruia Pacific* (1999): 1.

82 E. Williams, *The Cultural Health of the Waitaki Catchment* (Canterbury: Tipa and Associates Working with: Te Runanga o Moeraki, Te Runanga o Waihao, Te Runanga o Arowhenua, Te Runanga o Ngai Tahu, 2015), 105.

83 Williams, *The Cultural Health of the Waitaki Catchment*, 105.

species listed as threatened would double.⁸⁴ All of New Zealand's terrestrial mammals and frogs are currently listed as threatened with extinction. More than 50 percent of all bird, freshwater fish, and reptile species are threatened, as are over 80 percent of vascular plants and marine invertebrates. Some 25 percent of all marine fish species and approximately 30 percent of freshwater invertebrates are now classed as threatened. Over 90 percent of the country's wetlands are gone and 68 percent of all identified ecosystems are under threat. Most lowland rivers are no longer suitable for swimming, many with high concentrations of faecal contamination. Almost half the country's lakes are polluted. Between 18,000 and 30,000 people contract waterborne diseases in New Zealand each year.⁸⁵

The widespread, serious, and ongoing degradation of New Zealand's freshwater resources is robbing the peoples of New Zealand of cherished commons, of mahinga kai, of rich repositories of tribal history and knowledge, of spaces of play and contemplation. This is not to blame all farmers but, rather, the system within which they produce. Many farmers were left exposed to the vicissitudes of world markets by the neoliberal reforms of the 1980s and the rush to intensive dairying is nothing other than a strategy of survival. Successive New Zealand governments from the mid-1980s onwards have, to varying degrees, enabled and facilitated the expansion and intensification of the industry. None more so, perhaps, than the fifth National government (FNG), that played a central role in facilitating the accelerated expansion of dairying into low-rainfall, irrigation-dependent regions such as Canterbury, Otago, and Hawke's Bay.

84 Joy, 'The dying myth'; Joy, *New Zealand's 100% Pure*.

85 Joy, 'The dying myth'; Joy, *New Zealand's 100% Pure*; Wynyard, *The Price of Milk*, 278.

The fifth National government and the privatisation of freshwater resources

As mentioned above, the initial expansion of the New Zealand dairy industry was facilitated by the primitive accumulation of Māori land in Taranaki and Waikato. These regions, with high rainfall, high sunshine, and where the topography is flat to rolling, have remained major centres for dairying ever since. Indeed, Waikato and Taranaki retain the greatest concentrations of dairy herds in New Zealand (28.7 percent and 14 percent respectively) and are home to 32.3 percent of all dairy cows (22.7 percent and 9.6 percent respectively).⁸⁶ Much of the recent expansion of the industry has, however, been into Canterbury and Otago, long thought unsuitable for dairying due to comparatively low rainfall. Here too, the mechanisms of primitive accumulation have proven central, this time through the privatisation of formerly unowned or communally owned freshwater resources and the forced removal of regulatory oversight.

In 2001, when Fonterra was formed, 15 percent of dairy farms and a little over 20 percent of dairy cows were located in Te Waipounamu.⁸⁷ By 2017/2018, that had all but doubled to 27.7 percent of dairy herds and 40.9 percent of all dairy cows.⁸⁸ The number of dairy cows in the arid Canterbury region increased nearly four-fold over the same period, from approximately 254,000 in 2000/2001 to over 950,000 in 2017/2018.⁸⁹ The obstacles to farming in Canterbury, Otago, and other low-rainfall regions have been overcome by large-scale irrigation schemes, with water rights granted by regional authorities. The FNG, formed in 2008 with support from ACT, United Future, and the Māori Party, was instrumental in facilitating the expansion of intensive dairying into the Canterbury plains

86 *New Zealand Dairy Statistics 2017/2018*, 13.

87 *New Zealand Dairy Statistics 2000/2001* (Hamilton: Livestock Improvement Corporation Ltd, 2001), 11–12.

88 *New Zealand Dairy Statistics 2017/2018*, 13.

89 *New Zealand Dairy Statistics 2000/2001*, 12; *2017/2018*, 14.

and beyond; the privatisation of freshwater and the removal of regulatory oversight were crucial.⁹⁰

Central to the FNG's plans for economic growth was a commitment to double the value of food exports by 2025.⁹¹ This was to be achieved by 'unlocking resources': the National-led government was going to examine, and where possible remove, 'regulations that may be preventing natural resources from being used productively'.⁹² Among the resources it was seeking to 'unlock' was freshwater in Canterbury. In his opening statement to parliament in 2010, the then prime minister, John Key, signalled his government's intention to irrigate the Canterbury Plains and so facilitate the expansion of intensive dairying in the region. The government, Key stated, would 'take action to remove particular regulatory roadblocks to water storage and irrigation in Canterbury'.⁹³ Among the roadblocks to which the prime minister was referring were the fourteen democratically elected councillors at Environment Canterbury Regional Council (ECan), the body responsible for environmental management in the Canterbury region, including the processing of resource consents to use Canterbury's vast freshwater resources.⁹⁴

Between 2002 and 2008 the number of consent applications lodged with ECan increased from 2,106 to 3,763 annually, this increase largely driven by the dairy boom and by large-scale irrigation-based development schemes. Tasked with balancing economic development and good environmental outcomes, ECan was unable and, perhaps, unwilling to process the sheer number of consent applications. In 2007/2008, the financial year immediately preceding the election of the National-led government, ECan processed just 29 percent of consents within statutory timeframes established by the

90 Wynyard, *The Price of Milk*, 278–286.

91 James Morrison, *Making Dairy Farming Work for Everyone: Strategy for Sustainable Dairy Farming 2013–2020* (Hamilton: Dairy NZ, 2013), 27.

92 John Key, 'Statement to Parliament,' *New Zealand Parliamentary Debates*, accessed 24 June 2019, https://www.parliament.nz/en/pb/hansard-debates/rhr/document/49HansD_20100209/volume-660-week-33-tuesday-9-february-2010

93 Key, 'Statement to Parliament.'

94 Wynyard, *The Price of Milk*, 280.

Resource Management Act. In 2009, the National-led government launched an investigation into ECan; the investigation was headed by former National party deputy prime minister, Wyatt Creech, himself director of Matamata-based dairy firm, Open Country, which had twice been prosecuted for contaminating Waikato farmland and rivers.⁹⁵

Creech's investigation found that ECan had not been able to process consent applications because the body had adopted a 'laudable' attitude that, as the local environmental regulator, their role was to seek quality environmental outcomes rather than outputs.⁹⁶ However 'laudable', this did not square with the interests of the National-led government that was seeking to 'unlock resources' and enclose the freshwater commons in Canterbury for the private benefit of agricapitalists.⁹⁷ In the interests of national 'well-being', the authors of the resulting report proposed further expansion and intensification of dairying and other agriculture and horticulture in the Canterbury region.⁹⁸ The report's authors note a 'gap' between 'what needs to be done' and 'ECan's capability to do so';⁹⁹ as such, they go on to recommend 'comprehensive and rapid intervention on the part of central government to protect and enhance national well-being'.¹⁰⁰

This ECan board was to be sacked and replaced with a commission for three years until fresh elections could be held in 2013. Trampling democracy to further the interests of large-scale agribusiness may be primitive accumulation *par excellence*; it is also largely unprecedented in New Zealand history and so required some careful discursive framing to

95 Colin Espiner, 'Environment Canterbury faces the axe,' *The Press*, 20 February 2010, <http://www.stuff.co.nz/national/politics/3351860/Environment-Canterbury-faces-the-axe>

96 Wyatt Creech, Martin Jenkins, Greg Hill, and Morrison Low, *Investigation of the Performance of Environment Canterbury under the Resource Management Act and Local Government Act* (Wellington: Ministry for the Environment, 2010), <https://www.mfe.govt.nz/sites/default/files/investigation-performance-environment-canterbury.pdf>

97 Wynyard, *The Price of Milk*, 280.

98 Creech et al., *Investigation of the Performance of Environment Canterbury*, 5.

99 Creech et al., *Investigation of the Performance of Environment Canterbury*, i.

100 Creech et al., *Investigation of the Performance of Environment Canterbury*, i.

sell to the people of the country. Creech himself was ‘very conscious’ of the implications of removing an elected body. Prime Minister Key too noted the gravity of removing an entire council but nevertheless wanted ‘swift action’ to rectify the faults with ECan.¹⁰¹ On 30 March 2010, the ECan board was sacked and replaced with a commission of seven led by, among others, one-time Young Nat, key Rogernome, and minister of trade and industry, of economic development, and, from 1988, of finance in the fourth Labour government, David Caygill. Within a year it had opened the floodgates, approving 92 percent of consent applications to use or degrade freshwater in Canterbury; indeed, such was the turnaround that National backed away from restoring democracy to the people of Canterbury in 2013.¹⁰²

In 2012, National announced that the commissioners would remain in place until at least 2016. New Zealand’s Human Rights Commission found the further suspension of democracy to be a breach of the government’s commitment to democracy.¹⁰³ Prime Minister Key told reporters that, while the government wanted to restore democracy to the people of Canterbury, ‘the job wasn’t done yet’.¹⁰⁴ At the time of the announcement minister for the environment, Amy Adams, and local government minister, David Carter, heaped praise on the commissioners and stressed the importance of freshwater to the Canterbury economy.¹⁰⁵ They would know: both Adams

101 Paul Gorman and Tracy Watkins, ‘ECan councillors sacked,’ *The Press*, 30 March 2010, <http://www.stuff.co.nz/the-press/news/3526047/ECan-councillors-sacked>

102 ‘ECan progress pleases Smith,’ *The Timaru Herald*, 14 September 2011, <http://www.stuff.co.nz/timaru-herald/news/5619589/ECan-progresspleases-Smith>; Wynyard, *The Price of Milk*, 282–283.

103 Rachel Young, ‘Axing ECan elections “undemocratic”,’ *Stuff*, 9 November 2012, <http://www.stuff.co.nz/the-press/news/7926305/Axing-ECan-elections-undemocratic>

104 Rachel Young and Lois Cairns, ‘ECan commissioners staying until 2016,’ *The Press*, 7 September 2012, <http://www.stuff.co.nz/the-press/news/7631962/ECan-commissioners-staying-until-2016>.

105 Young and Cairns, ‘ECan’.

and Carter have significant agricultural interests in the Canterbury region.¹⁰⁶

Not long after National announced the further suspension of democracy in Canterbury, *The Press* reported on the motivation behind the decision: ‘the government suspended democracy and restricted legal action in Canterbury to protect an agricultural boom worth more than \$5 billion’; National and several large-scale irrigation firms aimed to almost double the 450,000 hectares of irrigated land in the Canterbury region.¹⁰⁷ The ability to elect ECan councillors will not be restored to the people of Canterbury until October 2019—the damage, however, is already done.¹⁰⁸ In the years between the sacking of the ECan board and the restoration of democracy, Canterbury farmers added an additional 250,000 cows to pastures in the region.¹⁰⁹

Independent testing of three Canterbury rivers in 2018 indicated the presence of an antibiotic resistant strain of E Coli as well as Shiga-Toxin-producing E Coli, a particularly dangerous bacterium which can cause renal failure, particularly in children.¹¹⁰ Sampling was conducted near large-scale dairy farms on the Ashley, Selwyn, and Rangitata Rivers and the researchers concluded that contamination of the rivers was primarily due to intensive dairying.¹¹¹

Additional research uncovered potentially dangerous levels of nitrates in

106 Register of Pecuniary and Other Specified Interests of Members of Parliament: Summary of Annual Returns as at 31 January 2019, <https://www.parliament.nz/media/5566/summary-report-2019-final.pdf>; see also, James Dann, ‘Special

Investigation: Adams Family Values,’ *Scoop Independent News*, 14 March 2014, <http://www.scoop.co.nz/stories/HL1403/S00114/special-investigation-adams-family-values.htm>

107 Young, ‘Axing.’

108 ‘An update on Environment Canterbury’s governance and return to a fully elected council,’ *Environment Canterbury Regional Council*, 23 May 2018, <https://www.ecan.govt.nz/get-involved/news-and-events/2018/an-update-on-environment-canterburys-governance-and-return-to-a-fully-elected-council/>

109 *New Zealand Dairy Statistics 2017/2018*, 14; *New Zealand Dairy Statistics 2010/2011* (Hamilton: LIC Dairy New Zealand, 2011), 14.

110 Kate Gudsell, ‘Kidney failure-causing pathogen found in Canterbury rivers,’ *Radio New Zealand*, 19 December 2018, <https://www.rnz.co.nz/news/environment/378607/kidney-failure-causing-pathogen-found-in-canterbury-rivers>

111 Gudsell, ‘Kidney failure-causing pathogen.’

Canterbury drinking water, and again researchers concluded that intensive dairy farms are the main source of the contamination. Of 114 sites tested, more than half had nitrate levels in excess of 3.87 milligrams per 1000 millilitres, a level that has been shown to increase the risk of colorectal cancer in humans. Worse, 46 of the sites tested showed nitrate levels above 6 milligrams per 1000 millilitres.¹¹² Increased nitrate levels in the drinking water of pregnant women, or when mixed with infant formula, can also lead to blue-baby syndrome (methaemoglobinaemia), a potentially fatal condition that can starve newborn babies of oxygen.¹¹³ Such is the concern that the South Canterbury District Health Board has warned pregnant women to monitor nitrate levels in their drinking water.¹¹⁴

Pollution of freshwater in parts of Canterbury is set to almost double due to the massive Central Plains Water Scheme which irrigates almost 60,000 hectares between the Rakaia and Waimakariri Rivers. The impact of the scheme on Te Waihora, a once treasured mahinga kai for Kāi Tahu, abundant with pātiki, tuna, and aua, is difficult to fathom. The lake is presently classified as hypertrophic—supersaturated in nitrogen and phosphate. Even without the further intensification made possible by the Central Plains Scheme, ECan estimates the nitrogen load entering

112 'More wells with nitrate levels above safe standard,' *Radio New Zealand*, 13 June 2019, <https://www.rnz.co.nz/news/national/391914/more-wells-with-nitrate-levels-above-safe-standard-forest-and-bird>; 'Canterbury water testing raises health concerns,' *Fish & Game*, accessed 24 June 2019, <https://fishandgame.org.nz/news/canterbury-water-testing-raises-health-concerns/>

113 Conan Young, 'Concerns raised over nitrates' effects on babies,' *Radio New Zealand*, 17 October 2017, <https://www.rnz.co.nz/news/national/341701/concerns-raised-over-nitrates-effects-on-babies>; Elena McPhee, 'South Canterbury DHB urges people to monitor their private wells following report on nitrates, E.Coli,' *Stuff*, 17 October 2017, <https://www.stuff.co.nz/national/health/97994831/south-canterbury-dhb-urges-people-to-monitor-their-private-wells-following-report-on-nitrates-ecoli>

114 McPhee, 'South Canterbury DHB'; 'Cows and Seep: Dairy farming is polluting New Zealand's water,' *The Economist*, 16 November 2017, <https://www.economist.com/asia/2017/11/16/dairy-farming-is-polluting-new-zealands-water>

Te Waihora will increase by 35 percent over the next 10 to 20 years.¹¹⁵

The over-allocation of Canterbury freshwater to large-scale irrigation schemes is also causing some rivers to simply dry up. In recent years, large stretches of the Selwyn River have run dry.¹¹⁶ Many fish and eels, including at-risk long-fin eels, a taonga species for Kāi Tahu, have perished on the dried-out river bed. In early 2017, some 2,500 fish and 500 eels had to be rescued from the Selwyn River by volunteers, the Department of Conservation, and members of Te Rūnanga o Ngāi Tahu.¹¹⁷ According to Fish and Game, 134 percent of the groundwater in Selwyn is allocated to irrigation schemes.¹¹⁸

Conclusion

In the closing pages of *Capital* volume one, Marx details the horrors of the transition to the capitalist mode of production, including the fraudulent alienation of land, the theft of the commons, the usurpation of tribal (clan) property ‘and its transformation into private property under circumstances of ruthless terrorism’, and the use of state violence to back these processes.¹¹⁹ ‘All these things’, Marx concludes, ‘were just so many idyllic methods of primitive accumulation. They conquered the field for capitalist agriculture,

115 Kate Gudsell, ‘Water Fools? – Worry in Waharoa,’ *Radio New Zealand*, 18 April 2017, <https://www.rnz.co.nz/programmes/water-fools/story/201840731/water-fools-worry-in-waihora>

116 Charlie Mitchell, ‘Road or river? Barren Selwyn reaches new low, swimming spot stagnant,’ *Stuff*, 2 December 2016, <https://www.stuff.co.nz/environment/86992441/road-or-river-barren-selwyn-reaches-new-low-swimming-spot-stagnant>; ‘Rivers Run Dry in Christchurch,’ *Fish & Game*, accessed 24 June 2019, <https://fishandgame.org.nz/news/rivers-run-dry-in-christchurch/>

117 Mitchell, ‘Road or river?’; Charlie Mitchell, ‘Dying eels rescued from dry river,’ *The Press*, 1 March 2017: <https://www.pressreader.com/new-zealand/the-press/20170301>

118 Mitchell, ‘Road or river?’

119 Marx, *Capital*, vol. I, 895.

[and] incorporated the soil into capital'.¹²⁰ In reading these last pages of *Capital*, it is difficult not to see the parallels with the historical experience of New Zealand and, indeed, similarly 'ruthless' mechanisms of primitive accumulation have remained essential in establishing and re-establishing the conditions necessary for profitable agriculture in New Zealand.

The alienation of Māori land was essential to the historical development of the New Zealand dairy industry. War and raupatu in Taranaki and Waikato captured the prime dairying land, while elsewhere the usurpation of iwi and hapū land and its transformation into private property involved the indirect violence of the Native Land Court and myriad other coercive practices.

State violence or, at least, state-sanctioned violence has also played a central role in stabilising the conditions for profitable dairy farming in New Zealand. Marx contends that the mechanisms of primitive accumulation resurface periodically to reimpose the 'ordinary run of things' of expanded reproduction. Here, Massey's cossacks played an important role in stabilising the flow of butter and cheese from New Zealand ports. The dispossession of Nauruan phosphates and the systematic degradation of the Nauruan interior also provided stability and prosperity for New Zealanders in the post-war period.

That stability, like so much else, was swept away in the mid-1980s with the 'momentous shift toward greater social inequality and the restoration of economic power to the upper class' embodied in the rise and rise of neoliberalism.¹²¹ In the last three-and-a-half decades, primitive accumulation has resurfaced as a persistent and central strategy of accumulation, one that has driven the massive proliferation and intensification of the New Zealand dairy industry; and so much, so very much, has been lost in the race for profits from the land. The systematic degradation of New Zealand's

120 Marx, *Capital*, vol. I, 895.

121 David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2005), 26.

freshwater commons and the capture and enclosure of previously unowned water resources for the short-term gain of agricapitalists and dairy farmers is but the latest in a long and violent history of primitive accumulation.