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New Zealand Environmental History: A Question of Attitudes

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ABSTRACT

As a land to which not only Europeans, but also humans of any kind, came late, New Zealand is a fascinating case study in environmental history. The author's own research into the early years of European settlement plots an evolving cultural engagement with the indigenous environment, and in particular with forest or 'bush', which ran parallel with its extensive replacement by agroecosystems. Research of this character must now be closely compared with work done overseas – perhaps initially with Australian studies. Only by drawing out the unique features of each case will the respective roles of environment and culture in the history of New Zealand, and of other countries, be fairly determined.

KEYWORDS

Sources, environment, conservation, attitudes, co-operation

Over the course of 1999–2002 I have received Otago Research Grant funding to analyse attitudes to the New Zealand environment in the period 1865–1914. This work, supervised by Associate Professor Tom Brooking of Otago University's history department, has also involved consideration of New Zealand environmental history as a whole – of its subject matter, its achievements and direction. The current article is intended both as a description of research undertaken by myself, and as comment on the field in general.

EVOLVING STRUCTURES

Work has been done on environmental history for at least a century. Indeed, a New Zealand publication – *Tutira: The Story of a New Zealand Sheep Station* (1921) by Herbert Guthrie-Smith – is promoted by William Cronon and others as an early classic. It is also accepted that geographers have been pursuing this kind of research for decades, though with a different emphasis to historians and under a different name (historical geography).¹ Here again, one of the classics is a New Zealand case study – *The Invasion of New Zealand by People, Plants and Animals* (1949) by the North American geographer A. H. Clark. But only since the pioneering work (1970s onwards) of Donald Worster and other historians in the United States has ‘environmental history’ per se emerged. Some practitioners have been prepared to extend beyond American case studies, Alfred Crosby making excellent use of New Zealand material in his *Ecological Imperialism* (1986).² The history of this once almost wholly forested land of 27 million hectares, with its populations of about 4 million people and 50 million sheep, is clearly viewed with considerable interest by many scholars overseas.

The last decade has witnessed the building of an *international* community of environmental historians. The American contribution is punctuated by annual conferences of the American Society, the quarterly publication of their journal, *Environmental History*, and by daily comment to the H-Environment discussion site on the net. No articles by New Zealand environmental historians have appeared in the journal, but New Zealanders have attended ASEH conferences. Since 2000, there has been the additional attraction of a European Society of Environmental Historians, whose first conference was held at St Andrews in Scotland in 2001, and whose work is published in *Environment and History*. The current issue of this British-based journal indicates their receptiveness to New Zealand material.

But, being part of neither America nor Europe, New Zealand is a rather exotic presence in these forums. The continuing interest of Richard Grove and others in imperial links has resulted in a conference on ‘forest and environmental history of the British Empire and Commonwealth’ at the University of Sussex in 2003, an opportunity for the presentation of New Zealand material in a less marginal context. There is, however, a tension in this for New Zealand historians, since they are often encouraged to focus either on indigenous factors or on national identity. These foci do not sit easily with the continuing British-based study of an imperialism that certainly damaged the indigenous and arguably also retarded New Zealand’s development as a nation.³

A further forum is available through more direct association with researchers in countries with comparable indigenous and colonial pasts. The most promising link is with Australian environmental historians. Their national situation is the closest to ours, even allowing for great differences in flora, fauna, geology and indigenous peoples. As the Australian anthropologist Tim Flannery demon-

strated in *The Future Eaters* (1994), it can be very stimulating to view New Zealand's ecological development in tandem with that of Australia. A New Zealand archaeologist, Atholl Anderson, who has played a major part in the debate on the environmental impact of Maori on New Zealand prior to European contact, is now based at Australian National University studying the wider aspects of Polynesian impact in the Pacific. This indicates a further context for comparative research from which New Zealand environmental history can benefit.⁴

The Centre for Resource and Environmental Studies at ANU has become a co-ordinator of environmental history research in Australia, and through its website access is also gained to the Australian Forest History Society. While narrower in focus than ASEH or ESEH, this organisation is the nearest Australia has to a society of environmental historians. AFHS has held five conferences in different Australian states since 1988, and the resulting proceedings (*Australia's Ever-Changing Forests*, edited by John Dargavel and others) demonstrate an interest in more than forests and a geographical coverage greater than Australia. A handful of the contributions come from New Zealand environmental historians. At their most recent conference, in Hobart in 2002, a name-change to the Australian – perhaps even Australasian? – Environmental History Society was considered.

There is no comparable body in New Zealand. Up until recently, environmental history research here consisted of a few isolated scholars pursuing their own paths, but links are strengthening. With the example before them of *Australian Environmental History*, edited by Stephen Dovers (1994), Tom Brooking and Eric Pawson (a geographer at the University of Canterbury) decided to assemble a volume of essays on New Zealand environmental history. The result is the ground-breaking *Environmental Histories of New Zealand* (2002).⁵ While this is the tangible end to a long process of research and reflection by twenty-one scholars, it is even more the *beginning* of work that must surely follow. As the notes to the chapters show, in some areas there has been little previous research done from an environmental history viewpoint.

SOME SOURCES

There are, nevertheless, a variety of secondary sources of information, scattered through the publications of many disciplines or in local histories or in non-academic works. I have compiled an initial list of three hundred such items, which has been available on the net. We may hope presently for something more comprehensive, similar in purpose to the bibliographies in the H-Environment Historiography Series.

There is also no shortage of documentary and primary evidence for analysis. Indeed, an attraction of the case study of *European* impact on New Zealand is that

it came not only late but also swiftly and consciously. There is therefore a powerful written record, together with a visual and ecological record of change for those who – like Geoff Park in *Nga Uruora* (1995) – are prepared to read the evidence of landscape as keenly as the documentary evidence.⁶ A major part of my own research – which is specifically into the attitudes of *European* settlers to the New Zealand environment – has involved finding out what primary written material exists from the late nineteenth century, noting and commenting on it for the benefit of future research.

As with every delver into the first century of European settlement, I have made substantial use of the parliamentary record in *New Zealand Parliamentary Debates*. Of even more importance, the *Appendices to the Journals of the House of Representatives* are remarkably rich in maps and photographs, in addition to spoken and written evidence. When considering the environment, the opinions expressed there may be constructively matched against those in the scientific literature of the time – the *Transactions of the New Zealand Institute* (from 1869) and G. M. Thomson's short-lived *New Zealand Journal of Science*. Giving my work a southern flavour, while checking for differences or parallels with the local situation, I have also read sample years of South Island newspapers, especially the *Otago Witness*. Although a time-consuming process, this becomes more profitable than the pursuit of many individual archives of unpublished material. I am convinced that, in a context like nineteenth-century New Zealand settler society, our best bet for thorough understanding is in trawling old newspapers.⁷

SOME FINDINGS

I have found plenty of concern for the indigenous environment even in the 1860s, but the nature of such concern had changed character by the 1900s. Early arguments for conservation focused on economic worth. By the later period the indigenous was no longer considered to have sustainable economic value, but a remnant was preserved out of sentiment and pride. New scientific arguments, based on ecology, also developed. A continuing series of published articles is gradually painting in some of the detail in this picture.⁸

My first, rather alarming, find was the *absence* of an overall concept of the environment in nineteenth-century New Zealand despite an early awareness of river pollution and soil erosion. There was some sense of a 'balance of nature', and New Zealanders undoubtedly became more conscious of this in the 1880s as introduced birds and mammals overturned the balance in supposedly 'pristine' forest. But it was only after the advent of ecology that westerners began to conceptualise how plants and animals – and humans – interacted in ecosystems. By chance, New Zealand was home to Leonard Cockayne, who became one of the world's foremost ecologists. Not only does his 1899 publication of an

'oecological plant geography' provide the first local use of this terminology, but his lengthy involvement in environmental issues had a generational effect on how New Zealanders saw their land.⁹ In a small country, one person – whether a scientist like Cockayne, or a prime minister (like Julius Vogel) unusually keen on forest – can have considerable impact at least on the *timing* of a particular awareness.

That matrix of forces which is the environment of course *existed* in nineteenth century New Zealand whether or not settlers identified it, but the absence of any overall concept hindered their infrequent efforts both to understand and care for it. In turn, researchers are left to piece together fragments of 'environmental attitudes' cut without awareness of the greater picture. The evidence refers, and must refer, mostly to the key *features* of the indigenous environment – to birds and to trees.

The limited but still collective notion of 'forest' has been around much longer than the generic concept of 'ecosystem', and remains highly relevant. Even late in the twentieth century it was native forest, far more than any other ecosystem, that the New Zealand environmental lobby seemed most concerned to save. Very recently, tussock, wetland and marine ecosystems have received a greater share



FIGURE 1. An Otago landscape in the late nineteenth century, with transformation from 'gloomy forest' to 'smiling farm' well underway. Reproduced with the permission of the Hocken Library, Uare Taoka O Hakena, University of Otago.

of attention, which may in future lead to a national identity less rooted in ideas of forest. But it is forest, and its removal, which dominates the historical picture. On the one hand, there was a country still 50 per cent forest in 1840, when European settlement began in earnest; on the other hand: a people whose civilisation and agriculture depended on unforested land, who reduced the indigenous forest cover to about 25 per cent of New Zealand by 1900.¹⁰

The creation of an intricate forest vocabulary specific to New Zealand signalled the importance of native forest to European settlers, though here the key word is in fact not 'forest' at all, but 'bush'. In England this refers exclusively to a shrub, a small thing, but in New Zealand 'bush' refers to the forest. Apart from the sea and mountains, the bush was the biggest thing a New Zealander could experience. Harry Orsman devotes forty-six columns to the word 'bush' and its derivatives, making it the largest group of New Zealand usages in his *Dictionary of New Zealand English*.¹¹

I have found that in general early settlers did not hate the bush. There is little evidence of the 'fear and loathing' which one historian maintained they had for it¹² – but undoubtedly they were ignorant about native forest and often indifferent to it, and their purpose was to change the land so that they could prosper. They burnt forest and they grazed cattle and sheep. They identified with Britain and maintained an emotional attachment to the flora and fauna familiar from their youth. Once they had established those domestic animal species that brought them an income, their attention turned to other British species. Many had little or no economic worth, but all had recreational or sentimental value. Evidence of this sort of response is strongest between 1860 and 1880, when those in New Zealand wanted to reinforce their British identity in whatever way possible.

A second response overlapped the first, and was perhaps strongest between 1870 and 1900. This involved (for many) a loosening of emotional ties with Britain, a recognition that what was good for Britain was not necessarily good for New Zealand, and a gathering awareness of those aspects of the natural environment which were being transformed. Some conservation resulted – of native birds for sport and of native forest for its economic value. In the 1860s, settlers had occasionally considered native birds as potentially remunerative, but no significant industries emerged. By 1880 there was no argument for the protection of native birds for this reason, nor – except for the pigeon, to which I will return – did British settlers value them as food. They gained worth in subtler ways, as settlers began to identify with indigenous more than exotic species. A third response may certainly be remarked by 1910, when native birds were being protected quite specifically *because* they were native. Their protection related to the feeling of people of European descent in New Zealand that their own identity was linked to the land in which they lived and to the environment that rendered it unique. The major incentive for native bird protection had become sentiment, and this was already being bolstered by an incipient nationalism.

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The evidence of native forest protection and scenery preservation points in a similar direction, though here the story is harder to unravel. In 1910 nearly two thirds of the country was officially 'in occupation', answering the needs of Western agriculture or pastoralism. Correspondingly, settlers had reduced considerably the area of native forest. Its increasing scarcity must remain a factor in any explanation of why, against the foreground of what one geographer has called the 'urge to clear the bush', there also grew an urge to save it.¹³ Some reservation of New Zealand's forest took place even in the early days of European settlement, but mostly with a view to its later exploitation. Vogel promoted his Forests Act in 1874 because he thought native forest, properly managed, would help, and continue to help, the colony's development. It was a resource requiring control, not a factor in national identity. Even after the turn of the century, this desire to conserve resources for future use remained the strongest argument for protection.

Yet more was involved than mere pragmatism. A sizeable 1.2 million hectares of 'permanent reserve' had been created by 1909, in the shape of climate reserves, national parks, scenic reserves and island sanctuaries. This was partly because bush is beautiful. Many European settlers had always felt as much, though its beauty was only acknowledged as an argument for conservation as the area in forest diminished. There was also a new scientific rationale for forest protection (in addition to the established significance of forest to climate and erosion control). 'Each region', claimed Cockayne, 'has its own peculiarities, these depending not on the contour of mountain or valley, but upon the plant covering of the place in question'.¹⁴ This argument supported the extension of national park into forested areas at lower altitude, and fitted well with the *feeling* that the bush, not the mountains, made New Zealand special. Pakeha – New Zealanders of European origin – only developed this line as they became less European.

The First World War has taken attention away from developments in environmental thought and protection in earlier years. While the experience of war may have accentuated nationalism in New Zealand, it also cut across an existing recognition of uniqueness expressed through concern for native birds and trees. Native birds were already protected for their own sake. Similarly, argument from about 1913 focused less on how the bush might be made productive, and more on how much should be saved in its 'virgin' state and how much sacrificed to clear-felling, prior to alternative land use or to afforestation with exotics.

In the twentieth century, New Zealand pursued a path that separated off many (but never all) indigenous environments, isolating them from the main thrust of society towards land transformation for agricultural production. Unable to easily integrate the indigenous flora and fauna into any western model of sustainable production and consumption, a remnant was preserved instead, and its preserva-

tion became part and parcel of New Zealanders' identity. There is a degree of speculation in these last remarks, which relate to changes beyond my prescribed period of research. But they do indicate the importance of analysis of attitudes a century or more ago to the understanding of present environmental attitudes in New Zealand.



FIGURE 2. With time, some settlers described 'more sacred treasures than its goldmines or its wool' in New Zealand's unmodified landscapes. Photo in *Otago Witness* 7 June 1911, 47.

Evidence on the integration of the indigenous into the settlers' world in the nineteenth century has a particular relevance now that New Zealand strives self-consciously towards a 'bicultural' – or even 'multicultural' – future. Both the extent and the intent of integration that was occurring around 1900 is the subject of debate. The detail I have assembled leads me to disagree with those scholars who downplay the genuine interest of settlers in the cultivation of native flora in their gardens, or who explain the increasing fascination with Maori lore and the native environment principally in terms of 'cultural appropriation'. Much of this activity is, I believe, better seen as the straightforward search for new forms of expression in a new world.

Even had they wished to, the European population could not have adopted a Maori approach to the indigenous environment once their numbers increased. There were already a quarter of a million settlers in New Zealand by 1870 – more

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numerous than Maori had ever been – and the population topped a million around 1910. This many could never have gained sustenance exclusively from the fruits of the forest or from gardens at the edge of the bush. In reality, settlers arrived anyway with very different cultural methods and goals to those held by indigenous people. But, as with the Maori before them, while Europeans sought to transform the environment they were themselves transformed. This interaction between land and people is, of course, the very substance of what fascinates us all.

LOOKING FORWARD

Looking to the future, I see three ways forward with the particular kind of research I have undertaken. First, one must disseminate information gathered. At a basic level, this gives our research some *point* by providing the opportunity for it to affect the thinking of others, but it is also from the response we receive that we ourselves gain fresh insight. There is, therefore, an obligation not only to publish, but also to make unpublished research available for other scholars.¹⁵ The website of New Zealand environmental history, which I launched in August 2002, should provide some impetus.

Second, greater co-operation between New Zealand scholars is needed. I welcome the opportunity for increased dialogue between geographers and historians which environmental history presents. The next stage must include a greater co-ordination of findings from different areas of research. For instance, material on the destruction of native forest has value in itself and may be used (as I have used it) to understand settler attitudes to the indigenous, but the same evidence could be one part of a study into the transformation of particular regions within New Zealand. Here the focus would not be so much on the forest removed, but on the land it was removed *from*, on the European grasses that replaced the forest, on the methods of increasing productive capacity, and on the environmental, social and economic ramifications of these methods. The end result would be a wide-ranging exploration of settler experience of both indigenous and exotic elements, and substantial commentary on New Zealand society from the viewpoint of environmental history.

There are difficulties in analysing environmental history at the national level, given so great a variety of response at the regional level. For instance, in New Zealand, legislation to encourage forest tree planting in Canterbury in the 1870s, or equally enthusiasm for Arbor Day in the 1890s, did not strike a chord with people on the West Coast whose very survival appeared to lie in the suppression of forest. All environmental studies, unlike most historical studies, are more about ecosystem than nation, and the regional study of environmental history can produce valuable insights that a national study might miss. This is particularly the case when the boundary between regions is, like the Southern Alps, physical

as well as political. But an international perspective is also enlightening and, for the fullest understanding, crucial.¹⁶

The third need, therefore, is for co-operation with scholars *outside* New Zealand, and an engagement with parallel overseas data. I have referred to the tension, for New Zealand historians, between their concern with national identity and their awareness of international connections. Looking simply at the New Zealand evidence, it is possible to create a seemingly comprehensive picture of the development of movements that have signified in our environmental history. We can plot the spread of acclimatisation societies throughout New Zealand from the 1860s, for instance – their initial experimentation with a zoo-load of exotic species, their reduction of function by the 1880s, and their eventual emergence in the twentieth century as a quasi-governmental organisation devoted to the conservation of game and the issuing of licences to shoot and fish. Or again, we can describe concern about New Zealand's timber resource precipitating legislation in 1874, leading to the formation of a State Forest Service in 1921 and the momentous decision of 1925 to meet projected demand through exotic pine plantation. Or, as a third example, we can write about Te Heu Heu Tukino IV's gift of Tongariro to all the people of New Zealand, how this became our first national park in 1894, and how the debate about the function and management of a succession of new parks led to a National Parks Authority in 1953.¹⁷

In each of these cases we are dealing with significant factors in the development of a unique society. While European game species have had a dramatic effect on native forest, the freedom to hunt and fish in New Zealand (for those who choose to) has produced the familiar image of the New Zealand male as 'a good keen man'. The development of a timber industry now almost exclusively based on exotics has meant an extraordinarily sharp divide in New Zealand (and, correspondingly, in New Zealanders' minds) between land for production and the conservation estate. National parks (which now extend over 3 million hectares) have become a component in New Zealand's rather shaky 'clean green' image, while both the remnant bush and its avian inhabitants are points of reference in our self-definition as 'kiwi'.

LOOKING OUTWARD

Much of this justifies the study of our environmental history for, given this approach, who could dispute its relevance to an understanding of present-day New Zealand? It can provide indicators for New Zealand's future, too. But the approach, in each of the three examples above, is incomplete. New Zealand is not just a homeland but also a trading nation, both economically and culturally. Movements within the country are more fully explained in terms of the interaction between what is often a western idea in origin and the particular social and

environmental setting. The acclimatisation movement reached New Zealand via France, England and Australia; concern about 'timber famine' and 'forest conservation' was stimulated by the American George Perkins Marsh's *Man and Nature* (1864) and by forestry methods in India and South Australia; and the creation of New Zealand's national parks consciously emulated America's Yellowstone National Park, gazetted in 1872.

New Zealand environmental historians *must* take into account the influence of parallel developments in other societies if they are to present a full picture of developments in New Zealand. To date, very little research here has engaged seriously with evidence from other countries, though reference is made to it at a theoretical level. There have been so few of us, and there has been so much basic spadework to do. We must continue to gather the New Zealand evidence, but the way forward lies equally in comparison with overseas evidence – a daunting but exciting prospect. It is from the *differences* between developments in one country and another, or in the *adaptation* of a common idea in different localities, that we learn what is distinct and special to New Zealand or to any other place.

Again referring to my three examples, the key point about acclimatisation societies is not really their appearance in New Zealand but rather their acquisition of a function they failed to find elsewhere. The point about forest conservation in New Zealand is not so much that it occurred but that it transmuted into complete 'preservation', and the important thing about New Zealand national parks (when compared with many Old World counterparts) is their exclusion of all human presence except for recreation. Environmental historians should identify ways, such as these, in which their societies responded *uniquely* to influences that pressed similarly on other societies.

In terms of my own research, I look initially to comparable developments in Australia. For instance, there is a clear correspondence between animal protection legislation in New South Wales and New Zealand, but in the Australian example protection after 1903 centred less on birds and more on mammals.¹⁸ In New Zealand, where there are no indigenous terrestrial mammals, native birds remained the focus and became our national icons. In the area of forest conservation, and partly in response to New Zealand evidence of regional variation, a historical geographer at Monash University has closely studied late-nineteenth-century Victorian newspapers to determine the interaction of state policy and local practice.¹⁹ In this case, simply by consulting on the years (1885, 1890, 1895 and so on) that we choose for 'core sampling' of newspaper evidence, we increase the potential for comparison of Australian and New Zealand material.

Early in 1895, an American girl called Minnie Muir wrote to 'Dot' of Dunedin, who regularly published 'letters from little folk' in the *Otago Witness*. In response to Minnie's description of the birds and flowers around her home in Illinois, dozens of boys and girls in the south of New Zealand wrote about the natural world they inhabited. 'If only you could see a rata in bloom!' wrote one

ten-year old to Minnie. Sarah Houliston of Balclutha went on to describe what she knew and loved, a mix of the indigenous and the introduced, which by 1895 provided the background to most people's lives in New Zealand. She wrote both of 'the wild pigeon, which some people count a delicious dish ... a beautiful bird' and of 'sparrows and goldfinches, which were brought to the country'.²⁰ The letter is of no great moment. What matters is that there are so many pieces of similar evidence. This we must glean, and from this we will be able to analyse, compare and may be even understand our environmental histories.

NOTES

¹ There has been no substantial New Zealand commentary on this, but see J. M. Powell, 'Historical Geography and Environmental History: An Australian Interface', *Journal of Historical Geography* 22 (1996): 253–273. Eric Pawson, Michael Roche and other New Zealanders active in the field of historical geography have published regularly in this British–American journal.

² A.H. Clark, *The Invasion of New Zealand by People, Plants and Animals: the South Island* (New Brunswick: Rutgers University Press, 1949); Alfred W. Crosby, *Ecological Imperialism. The Biological Expansion of Europe, 900–1900* (Cambridge: Cambridge University Press, 1986).

³ However, a recent issue of the main vehicle for New Zealand historical research, *New Zealand Journal of History* includes an article by Peter Gibbons, 'Cultural Colonization and National Identity', 36 (2002): 5–17, promoting study in terms of the former rather than the latter, and an article by Ross Galbreath, 'Displacement, Conservation and Customary Use of Native Lands and Animals in New Zealand', 36–50, which views our conservation record in this light. Until recently this journal has contained little environmental history.

⁴ Tim Flannery, *The Future Eaters. An Ecological History of the Australasian Lands and People* (Sydney: Reed New Holland, 1994). For a summary of Anderson's New Zealand work, see Atholl Anderson, 'A Fragile Plenty: Pre-European Maori and the New Zealand Environment', in *Environmental Histories of New Zealand*, ed. Eric Pawson and Tom Brooking (Melbourne: Oxford University Press, 2002). J. R. McNeill, 'Of Rats and Men: A Synoptic Environmental History of the Island Pacific', *Journal of World History* 5 (1994): 299–349 demonstrates how New Zealand's experience may be placed within a broader Pacific environmental history.

⁵ Stephen Dovers ed. *Australian Environmental History: Essays and Cases* (Melbourne: Oxford University Press, 1994); Pawson and Brooking, *Environmental Histories of New Zealand*.

⁶ Geoff Park, *The Groves of Life. Nga Uruora: Ecology and History in a New Zealand Landscape* (Wellington: Victoria University Press, 1995).

⁷ Good examples of what may be achieved by this method, with some relevance to New Zealand's environmental history, are Rollo Arnold's last books, *New Zealand's Burning: The Settlers' World in the Mid 1880s* (Wellington: Victoria University Press, 1994), and *Settler Kaponga, 1881–1914: A Frontier Fragment of the Western World* (Wellington: Victoria University Press, 1997).

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⁸ Relevant articles by Paul Star are 'Plants, Birds and Displacement Theory in New Zealand, 1840–1900', *British Review of New Zealand Studies* 10 (1997): 5–22; 'New Zealand's Changing Natural History: Evidence from Dunedin, 1868–1875', *New Zealand Journal of History* 32 (April, 1998): 59–69; 'Place of Native Forest in New Zealand's Mental Landscape, 1874', in *Australia's Ever-Changing Forests IV*, ed. John Dargavel and Brenda Libbis (Canberra: Centre for Resource and Environmental Studies, Australian National University, 1999): 85–98; 'Native Forest and the Rise of Preservation in New Zealand, 1903–1913', *Environment and History* 8 (2002); 'Native Bird Protection, National Identity, and the Rise of Preservation in New Zealand (to 1914)' *New Zealand Journal of History*, 36 (October, 2002): 123–36.

⁹ Leonard Cockayne, 'A Sketch of the Plant Geography of the Waimakariri River Basin, Considered Chiefly from an Oecological Point of View' *Transactions of the New Zealand Institute* 32 (1899): 95–136.

¹⁰ See Michael Roche, *History of New Zealand Forestry* (Wellington: New Zealand Forestry Corporation and GP Books, 1990): 9; and Michael Williams, 'Ecology, Imperialism and Deforestation', in *Ecology and Empire: Environmental History of Settler Societies*, ed. Tom Griffiths and Libby Robin (Edinburgh: Keele University Press, 1997): 174.

¹¹ H. W. Orsman, ed., *The Dictionary of New Zealand English: A Dictionary of New Zealandisms on Historical Principles* (Auckland: Oxford University Press, 1997): 106–21.

¹² J. O. C. Phillips, 'Fear and Loathing in the New Zealand Landscape', 11–17 in *New Zealand Where Are You? Proceedings of the New Zealand Institute of Landscape Architects 1981 Conference*, ed. Ross Jackson et al. (Wellington, 1981).

¹³ Geoffrey A. Wilson, 'The Urge to Clear the "Bush": A Study of the Nature, Pace and Causes of Native Forest Clearance on Farms in the Catlins District, 1861–1990' (Ph.D. diss., University of Otago, 1991).

¹⁴ *Appendices to the Journals of the House of Representatives* 1908 C-8, 2.

¹⁵ Paul Star, 'Conservation 1865–1914: Working Papers on Early European Attitudes to the New Zealand Environment' (1996–2001), Misc-Ms-1755, Hocken Library, Dunedin.

¹⁶ With regard to Australian attitudes, similar ideas are expressed by Tom Griffiths in *Forests of Ash: An Environmental History* (Melbourne: Cambridge University Press, 2001).

¹⁷ See R. M. McDowall, *Gamekeepers for the Nation: The Story of New Zealand's Acclimatisation Societies, 1861–1990* (Christchurch: Canterbury University Press, 1994); Roche, *History of New Zealand Forestry*; and David Thom, *Heritage: The Parks of the People* (Auckland: Lansdowne Press, 1987).

¹⁸ Brett J. Stubbs, 'From "Useless Brutes" to National Treasures: A Century of Evolving Attitudes Towards Native Fauna in New South Wales, 1860s to 1960s', *Environment and History* 7 (2001): 23–56.

¹⁹ Stephen M. Legg, 'Localism in Victorian Forest Conservation Before 1900', in John Dargavel and Brenda Libbis (eds), *Australia's Ever Changing Forests V* (Canberra: Centre for Resource and Environmental Studies, Australian National University, 2002): 49–69.

²⁰ *Otago Witness* (Dunedin, New Zealand) 25 July 1895, 49.