

# NEW ZEALAND *Geographer*

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## ABSTRACTS

DOUGLAS G. PEARCE and GÉRARD RICHEL, Antipodean Contrasts: National Parks in New Zealand and Europe.

*New Zealand Geographer*: 43, 2, 53-59

This paper examines the development and characteristics of national parks in New Zealand and Europe. European national parks were established at a later date and have never attained the relative importance of those in New Zealand in terms of their size and number. Reasons for this include a much longer history of settlement and land use, greater population pressure and different attitudes towards the conservation of nature. Current pressures and patterns of use in national parks in the two areas are also examined in a further effort to develop new perspectives on New Zealand's national parks.

C. J. P. NOLAN, R. R. SHARP, B. S. SOLOMON, M. T. BROWN and D. A. AYRES, Taking Schools to the Parks: Integrated Studies and the Educational Role of New Zealand National Parks.

*New Zealand Geographer*: 43, 2, 95-98

This paper reports on the Freyberg Integrated Studies Project with special reference to the role that National Parks played. Observations of the Project indicate that New Zealand National Parks have a great deal to offer secondary schools and, conversely, that secondary schools have a great deal to offer in support of the parks' conservation and recreation roles. The paper advances the view that National Parks should accord school activities in parks a status equivalent to that traditionally accorded to conservation and recreation. It is also argued that secondary schooling would benefit by making far greater use of National Parks in ways consistent with National Park goals.

EVELYN R. ENTWISTLE, Methods of Economic Evaluation of National Parks with Reference to New Zealand.

*New Zealand Geographer*: 43, 2, 79-83

National parks represent an allocation of the stock of natural environment; hence economic analysis is appropriate. Regional economic impact analysis can be used to measure the spin-off to local communities, whereas cost-benefit analysis gives information on the economic efficiency of resource allocation at the national level. Five studies of existing or proposed national parks in New Zealand are discussed briefly, and some comments offered concerning the direction of future research.

X COLIN MICHAEL HALL, John Muir in New Zealand.

*New Zealand Geographer*: 43, 2, 99-103

John Muir was a founder of the Sierra Club and highly influential in the conservationist movement in the early part of this century, particularly in his impact on American thinking on national park policy and the concept of wilderness. In 1904 he undertook a world tour, which included a traverse through New Zealand. This paper examines what has been a largely unremarked episode in Muir's life, and discusses his travels in New Zealand and their influences on his thinking and through this on later developments in America and New Zealand.

PAUL WILLIAMS, The Significance of Karst in New Zealand National Parks.

*New Zealand Geographer*: 43, 2, 84-94

The background to the increasing awareness of the need to conserve karst landscapes is discussed, and the reasons for the special scientific value of karst are explained. The distribution of karst in relation to National and Forest Parks is reviewed. Several case studies are employed to illustrate the scientific significance of karst. The country is fortunate to contain several karst sites of international significance, notably the Nettlebed Cave system, the Waikoropupu Springs, Honeycomb Hill Cave with its unique subfossil fauna, and a number of glowworm caves of which the most celebrated is at Waitomo although several occur in National Parks. The management problems associated with karst are noted to be simplified when park boundaries coincide with watersheds. One particularly important anomalous boundary is identified in Northwest Nelson Forest Park, on Mt Owen, arguably the finest glaciokarst in the Southern Hemisphere.

DOUGLAS G. PEARCE AND KAY L. BOOTH, New Zealand's National Parks: Use and Users

*New Zealand Geographer*: 43, 2, 66-72

An outline of some of the methodological issues involved in national park user studies is followed by an overview of the nature and extent of national park usage in New Zealand. In particular, an attempt is made to provide a national perspective and to deal with the National Park system as a whole. Use by domestic visitors is compared to that by international tourists, with short visits and passive or semi-active pursuits being common to both groups. The management implications of these patterns are also explored and it is suggested further research is now needed to consolidate and expand the work discussed.

KAY L. BOOTH, The Public's View of National Parks.

*New Zealand Geographer*: 43, 2, 60-65

This paper addresses the question of public attitudes to, and knowledge of the National Park system in New Zealand. It reports the result of a survey conducted in Christchurch on both the levels of public awareness of the National Park system, and on attitudes to what functions the Parks should provide. In general the research reveals a high congruence between policy priorities and expressed public expectations. However some significant gaps in public knowledge are revealed.

EVAN DAVIES, Planning in the New Zealand National Park

*New Zealand Geographer*: 43, 2, 73-78

The central issue of this paper is the dichotomy between preservation and public use inherent in most attempts at planning for national parks. In discussing this dichotomy the history of legislation surrounding the New Zealand National Park system is reviewed. Problems in resolving the two planning priorities are outlined and an argument made for resources to be made available to allow more effective management planning, possibly within amended institutional structures.

# John Muir in New Zealand

COLIN MICHAEL HALL

John Muir (1838-1914), botanist, geologist, conservationist, philosopher and writer was one of the most highly-regarded Americans of his time. Described by one of his contemporaries as, 'the grandest character in national park history' (Mills, 1916, 25), Muir was the founding father of the American national park system. He also inspired the creation of the national park movement in Japan and influenced the nature and direction of the conservation movement throughout the world (Fox, 1981; Nash, 1982; Cohen, 1984). This paper discusses his travels in New Zealand in 1904, a relatively unknown part of Muir's life which is of interest not only in relation to the 100th anniversary of National Parks in New Zealand but also to the celebration of the 150th anniversary of his birth in 1838.

Although born in Dunbar, Scotland, Muir spent the majority of his life in America. His family migrated to Wisconsin in 1849 when Muir was eleven and his early years were spent on the family farm. From his early twenties Muir showed a great natural intelligence, especially in mechanics, which eventually led to his attendance at the University of Wisconsin. However, while at the University Muir discovered the delights of natural history and it was in this area that his considerable talents came to be directed.

Muir travelled constantly throughout his life often following in the footsteps of explorer-geographers such as Humboldt. However, his favourite landscapes were the glaciated coasts of Alaska and the western Rockies of the United States, especially the Sierra Nevada of California. In 1880 Muir married Louisa Strentzel and came to live at her family property in the Alhambra Valley, near Martinez, California, and it was here that Muir came to be buried following his death on Christmas eve, 1914.

John Muir was a notable amateur botanist and natural historian. In 1877 Muir guided the famous English naturalist, Sir Joseph Dalton Hooker, in the mountains of California in search of *Linnaea*. Muir was a close friend of several members of the highly influential Harvard Department of Botany including Charles S. Sargent, John Tyndall, James Forbes and Asa Gray. Throughout his life Muir continually 'botanised', to use his own description, and he supplied the Harvard School of Natural History with many specimens (Wolfe, 1946).

John Muir's connections with Harvard also extended to a close relationship with the notable 19th Century geologist Louis Agaziz. Muir and Agaziz continually debated the relative importance of glaciers and a 'universal ice sheet' in shaping the natural landscape. It was partly through Muir's writings and explorations that the significance of glaciation as a geomorphological agent came to be recognised. Ever keen to find evidence to support his theories, Muir became the first European to discover a 'living glacier' in the Sierra Nevada of California. Indeed, throughout his travels he was always aware of the influence of glaciation in shaping the landscape (Cohen, 1984). However, despite the

significance of Muir's scientific work, it is his philosophy and popular writing for which he will be most remembered.

John Muir was an exceedingly prolific writer, producing 12 major works and hundreds of newspaper and journal articles (Kimes and Kimes, 1977; Lynch, 1979). Much of Muir's material was based upon his extensive writing in his journals which number over 60 volumes (Limbaugh and Lewis, 1986). Muir's writing was a result of his direct contact with nature, according to Muir, 'the clearest way into the Universe is through a forest wilderness' (Teale, 1976, 312).

Muir was heavily influenced by the romantic and transcendentalist movements. According to Ralph Waldo Emerson, who placed Muir on his list of great men he had known, 'no . . . forest had so fine a preacher or so well-dressed and devout a congregation' (Wolfe, 1946, 81). The son of a Scottish Minister, Muir was the first great public figurehead of the conservation movement. The spiritual overtones of Muir's attempts at preserving wilderness are evidenced in his statement that, 'the battle for conservation will go on endlessly it is part of the universal battle between right and wrong' (Wolfe, 1946, 344). Muir's works represent some of the best natural history writing of their time and proved very influential in creating present-day perceptions of wilderness and national parks as 'storehouses of nature's treasure'. Muir's romantic ecology was well expressed when he wrote:

when we try to pick anything out by itself, we find it hitched to everything else in the universe . . . The whole wilderness in unity and interrelation is alive and familiar . . . the very stones seem talkative, sympathetic, brotherly . . . No particle is ever wasted or worn out but eternally flowing from use to use (Bade, 1946, 123-124).

John Muir has left a lasting impression on how nature and wilderness is interpreted and preserved. As an author and as a founder of the Sierra Club Muir helped chart the future direction of conservation in both America and overseas and helped to shape our understanding of the nature of national parks (Jones, 1965; Nash, 1982).

Muir's private journals and personal correspondence have, until the last decade, been closed to scholarly research by the executors of the Muir estate (Limbaugh and Lewis, 1986, 1-2). The opening of Muir's papers to students of conservation history has led to renewed interest in Muir's life and his significant contribution to the development of the national park concept (Fox, 1981; Cohen, 1984). However, both recent and earlier writings on John Muir have neglected his extensive overseas travels. For instance, the 'official' biography of Muir by Wolfe (1946) only spent one page on Muir's four months in Australia and New Zealand and paid little attention to the period's possible significance for Muir's ideas on conservation. Similarly, Bade's (1924) study of *The Life and Letters of John Muir* and Wolfe's (1938) selection from Muir's unpublished journals pay only cursory attention to Muir's Australasian excursions.

The 100th anniversary of the founding of national parks in New Zealand provides an apt opportunity to examine Muir's own impressions of the New Zealand landscape. Muir visited New Zealand as part of an extensive world tour in 1903/1904. Muir's tour took him through Europe, Russia, Manchuria via the Trans-Siberian Railway, Shanghai, Calcutta, Darjeeling, Egypt, Sri Lanka and Australia before reaching New Zealand. Muir returned to San Francisco via Australia, Timor, the Philippines, Canton, Japan and Hawaii. Such a grand tour would be remarkable in this day and age. That a rigorous trip by steamer, railroad and stagecoach, was undertaken by a sixty-five year-old bears full testimony to Muir's commitment to see 'God's glorious wildernesses' (Muir, letter to William Keith, 28/3/1904).

Muir visited New Zealand at a relatively late stage in his life and career. Nevertheless, his travels are critically situated in relation to important conservation events. Muir had delayed his long-awaited world trip in order to meet and camp with President Theodore Roosevelt. According to Muir, 'he stuffed him pretty well regarding the timber thieves and the destructive work of the lumberman, and other spoilers of the forests' (Wolfe, 1946, 291). The meeting had a great effect on Roosevelt's attitude towards conservation and assisted greatly the President's resolve to support the progressive conservation movement (Nash, 1982). Muir's 'deep solicitude over the destruction of [America's] great forests and scenery' had made a strong impression on Roosevelt's mind (Bade, 1924, 411). 'Roosevelt had shown himself to be a great friend of the forests before this camping trip with Muir, but he came away with a greatly quickened conviction that vigorous action must be taken speedily, or it should be too late' (Bade, 1924, 411).

Following the world tour, Muir campaigned actively for the preservation of Hetch-Hetchy valley in Yosemite National Park from a dam scheme. Although a national park since 1890, the boundaries and management of the park were continually under threat from utilitarian interests. The efforts of preservationists, over a 10-year period, to prevent the construction of the dam stands as the first example of a nationwide wilderness preservation campaign anywhere in the world. The public awareness of national parks and wilderness that the campaign generated, acted as the catalyst for the creation of the United States National Park Service (Jones, 1965). The establishment of the Parks Service was a significant step in the protection of large expanses of wild nature in a systematic manner and in the management of such regions for non-utilitarian values.

The record of Muir's six weeks in New Zealand is contained in his journal for the trip, a *Collins Paragon Diary for 1904, Australian Edition*. Muir recorded his activities and impressions on a daily basis and it is his diary which provides the main record of Muir's response to the New Zealand environment. However, he also wrote several letters to family and friends during his stay which offer some valuable insights into Muir's thoughts.

#### JOHN MUIR IN NEW ZEALAND

John Muir had wanted to travel since his childhood in Dunbar, Scotland. As he recorded in an autobiography of his youth, 'Burrowing like moles we visited France, India, America, Australia, New Zealand, and all the places we had ever heard of; our travels never ending until we fell asleep' (Muir, 1913, 22-23). However, it was not

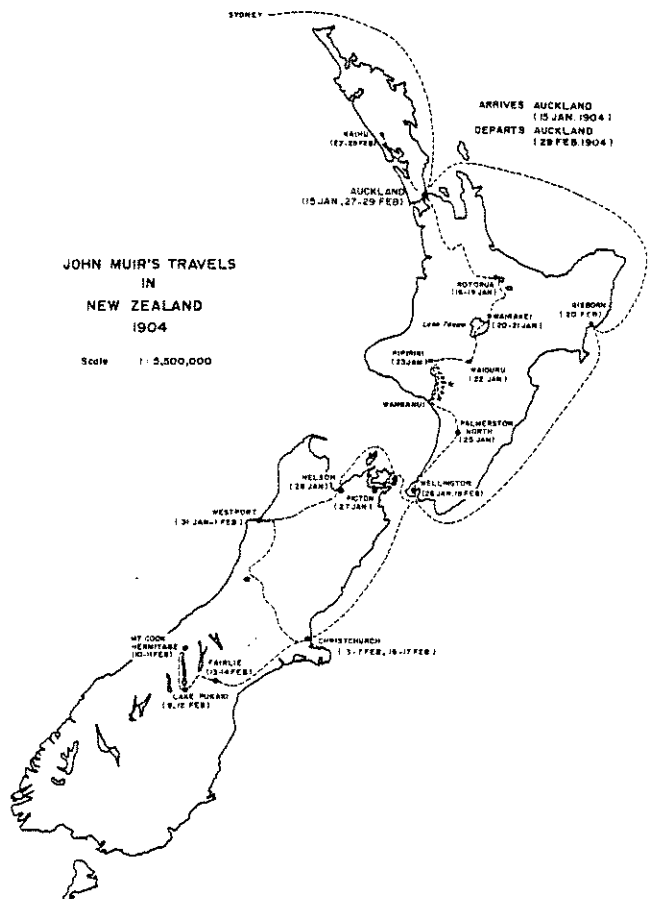


Fig. 1. John Muir's Travels in New Zealand 1904.

until 15 January, 1904, that Muir arrived in New Zealand on the *Ventura* from Sydney (Figure 1). Muir travelled to Rotorua the following day and spent several days in the region visiting hot springs, geysers and the local forests. Muir collected plant specimens and had a special interest in the local thermal activity having visited the geysers of Yellowstone National Park. Muir found that the noise of the geysers could be compared to those of Yellowstone and that 'they are remarkable for [the] beauty of [the] vegetation about them' (Muir Diary, 20 January 1904). However, in a letter to his wife he commented that apart from the Waimangi cauldron the hot springs were not of the spectacular nature as those of Yellowstone (John Muir, letter to Louise Muir, 27 January, 1904).

From the hot springs region, Muir crossed Lake Taupo for the south of the North Island. He travelled by stagecoach from Tokaanu to Pipiriki on the Wanganui River via Waiouru. This section of the trip had a deep impact on Muir as he saw the volcanic peaks of mountains Tongariro, Ngauruhoe and Ruapehu. The mountains reminded him of Mount Shasta in the Cascade Range of northern California (Muir Diary, 23 January 1904). Such peaks 'were isolated temples and seemed to have singular sacred significance' to Muir. 'Each mountain was not just significant in itself, but in the relationship it bore to the land surrounding it. Each could possibly be a centre of the world' (Cohen, 1984, 66). According to Muir, Ngauruhoe 'showed gloriously against the sky for (hours) pouring forth immense volume of steam wh[ic]h immediately circled into glorious (cumulus) visibly rising and rolling away in the wind to enrich the other old furniture of the sky' (Muir Diary, 23 January, 1904). Muir

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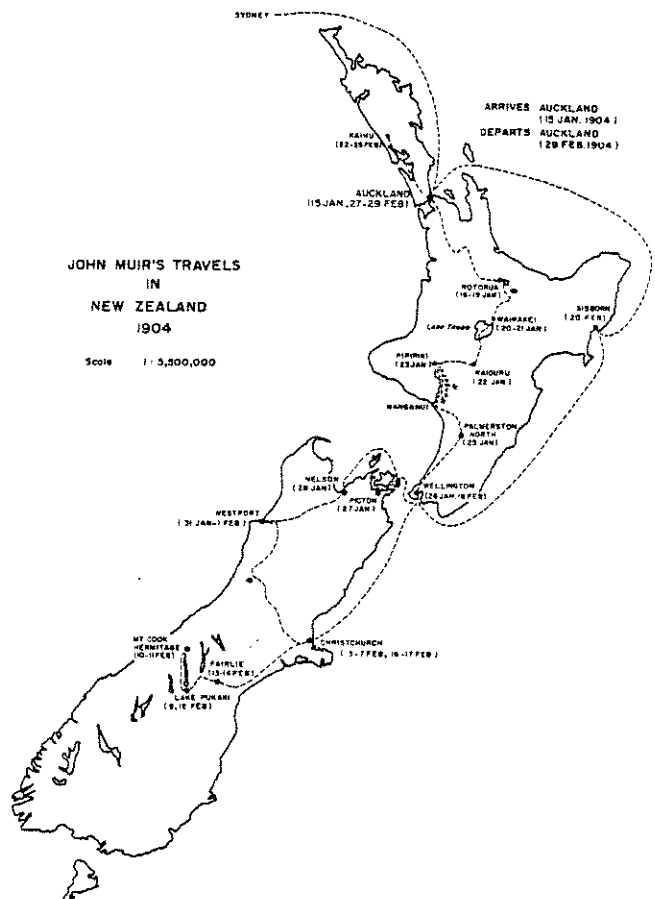


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passed through the then recently established Tongariro National Park, and commented that he would never forget the 'brown plain, . . . with grass in magnific[icent] tussocks which shine in wind' (Muir Diary, 23 January, 1904). Despite Muir's enthusiasm for the landscape he did not mention that a national park existed in the region. This somewhat curious omission may perhaps be explained by a lack of publicity for the national park in contemporary travel guides available to Muir.

The 'noble' forest scenery and gorges between Waiouru and Pipiriki was extremely attractive to Muir, surpassing all he had seen elsewhere (Muir Diary, 23 January, 1904). Also of great interest to Muir was what he believed to be the 'unmistakable traces of glacial action' he observed while steaming down the Wanganui River and on the railroad to Palmerston North (Muir Diary, 25 January, 1904). Glaciers played a major role in Muir's natural history researches as they symbolised the importance of geomorphological process on the landscape and its relationship to the nature of mountain ecosystems (Cohen, 1984). In addition, it was his spiritual experiences in the glacial landscape of the Sierra Nevada that led Muir to become such a committed spokesperson for the wilderness:

I am hopelessly and forever a mountaineer . . . Civilisation and fever and all the morbidness that has been hooked at me have not dimmed my glacial eye, and I care to live only to entice people to look at nature's loveliness. My own special self is nothing (John Muir, 1874, in Bade, 1924, 28-29).

When Muir wrote the above passage in 1874 he noted that contact with the mountains had helped him 'feel myself again' (Bade, 1924, 29). Given the confessed therapeutic nature of Muir's world tour (Wolfe, 1946) it is possible to surmise that contact with the wild mountain landscape of New Zealand assisted with a renewal of Muir's enthusiasm to protect the wilderness. Indeed, a letter to his wife indicated that this could well be the case. Muir noted that his health and strength were revived and that nature seemed 'to hold [and] drive me to work here as in the old Sierra days' (John Muir, Letter to Louise Muir, 29 February, 1904).

Muir's time in the Sierras undoubtedly came back to him in other ways. On the train to Wellington he noticed the 'melancholy remnants of a once glorious forest slowly being burned out of existence' for grazing land (Muir's Diary, 26 January, 1904), a popular agricultural practice of the period (Trussel, 1982). A scene undoubtedly reminiscent of the impact of grazing and agricultural activities on his beloved forests of the Sierra Nevada. The clearing of native forest for grazing land was noted several times by Muir during his travels in New Zealand (Muir's Diary, entries for 28 January; 1 February; 14 February, 1904) and clearly grieved him, knowing as he did the impact of 'hoofed locusts' (sheep) on the natural environment (Wolfe, 1939, 348).

Throughout his travels in Australasia, Muir spent much time in Botanical Gardens where he not only hunted for plant specimens but also appeared very keen to discuss conservation affairs. The botanical gardens of Wellington, 'a place unworthy of name' (Muir's Diary, 27 January, 1904), and Nelson, 'a good beginning has been made' (Muir's Diary, 29 January, 1904), received only brief visits. However, Muir spent several days at the Canterbury Botanical Gardens where he appeared to develop a strong working friendship with Mr Taylor, the

Director of the Gardens. In Australia Muir met several high ranking government officials in relation to forest reservation concerns. Unfortunately, although Muir did note visiting government offices while in New Zealand he did not keep a complete record of the people he met. One can only surmise at the significance that Muir's conversations may have had in the preservation of New Zealand's fauna and flora.

Prior to visiting Canterbury, Muir had been 'botanising' in the delta of the Buller River, where he 'found White Rata' in great abundance covering stumps, logs, trees dead or alive a charming plant in wealth of bloom [and] glory . . . its influence covering all decay [and] sign of death in (breadth) of life' (Muir's Diary, 31 January, 1904). In the Buller Valley the blooming rata 'made music' to Muir's eye (Muir's Diary, 31 January, 1904), in conditions very different from that Muir had experienced in the valley two days previously. Travelling from Langford to Westpoint Muir had been caught in a wild storm. The event was recounted by Wolfe (1946, 299) in her biography of Muir:

Rain descending in torrents caused most of the stagecoach tourists to huddle inside. But [Muir] paid extra fare to be allowed to sit on top and feel the rain and wind in his face. His joy was increased by the fact that cataracts poured down from overhanging cliffs, and wet trees and bushes thrashed him and the driver almost from off their seats.

According to Wolfe (1946, 299) the stagecoach ride through the Buller Gorge made Muir feel 'wild and elemental once more'. Muir's account of the journey is reminiscent of his love of direct contact with nature which he expressed frequently in his journals and publications. The enjoyment of the ride perhaps provided a foretaste of the happiness that Muir appeared to maintain during his stay on the South Island.

Muir's trip from Christchurch to the Mount Cook Hermitage gave Muir another opportunity to see his beloved glacial landscape. However, his admiration of the landscape was tempered by the environmental degradation which he observed. Between Christchurch and Fairlie, Muir noted that, 'when the forests are destroyed most of the bottom lands of the country will be lost in gravel floods' (Muir's Diary, 8 February, 1904). An observation which foreshadowed the soil conservation campaigns of the 1930s (Cumberland, 1981, 202-207). Similarly, Muir was highly critical of the New Zealand Government's forestry practices he witnessed after passing through the tussock grasslands. 'It is interesting to note the efforts of Gov[ernment] to plant forest . . . in this bouldery prairie region while ruthlessly allowing wholesale destruction of native forests where only trees will grow for the sake of sheep pasture'. To Muir's conservation sensibilities such a strategy was equivalent to, 'seiling the country's welfare for a mess of mutton' (Muir's Diary, 14 February, 1904).

Muir enjoyed his brief stay in the Southern Alps and expressed a desire to spend more time in the mountains (Muir's Diary, 12 February, 1904). The nature of the alpine vegetation engaged Muir's botanic curiosity as it was totally unlike anything he had previously experienced. Mueller Glacier also proved attractive to Muir. Despite rain, Muir explored the lower sections of the glacier: 'in jumping on the boulder-clad snout I found that my fet had not lost their cunning' (Wolfe, 1946, 299).

After returning to Christchurch Muir spent more time at the Botanic Gardens 'revelling' in the plants (Muir's Diary, 17 February, 1904). Muir visited the Christchurch gardens eight times, a ready indication of the interest that he felt in New Zealand's botany and in the friendship that he struck up with the curator.

Muir left Christchurch on the 18 February for Auckland and an opportunity to visit the Kauri forest. Arriving in Auckland on the 21 February he departed early the following day for the forest lands around Dargaville and Kaihu. Muir was undoubtedly influenced in his journey by the research of Darwin and Hooker in New Zealand. Muir was a great admirer of Darwin and Darwin's champion in the United States, Asa Gray, may be regarded as Muir's mentor in botany (Fox, 1981, 81-81). Of Darwin, Muir wrote 'This noble character has suffered from silly, ignorant, and unbelieving men who say much about Darwinism without really knowing anything about it. A more devout and indefatigable seeker after truth than Darwin never lived' (Fox, 1981, 82).

Muir recorded in his diary that he was reading Darwin after he left New Zealand (Muir's Diary, 3 March, 1904). So just as Muir had wanted from an early age to follow in Humboldt's footsteps (Fox, 1981, 47, 49), it appears likely that Muir was wanting to see the Kauri for himself. Similarly, Muir also appeared to have had the works of Hooker with him on his travels or at least was wanting to read them, as they are noted on a page of his Journal for 1903 (John Muir papers). Hooker spent three months at the Bay of Islands in 1841 (Huxley, 1918, 124), making it extremely likely that Muir discussed New Zealand with Hooker while in England during the early stages of Muir's world trip (Wolfe, 1946).

Travelling through farmland to Helensville Muir was led to comment on the destruction of the Kauri forest: 'not a tree survives . . . Traces of gum prospectors [and] diggers are to be seen almost everywhere' (Muir's Diary, 22 February, 1904). Muir immersed himself in the Kauri forest around Dargaville and Kaihu. The account of his walks through the Kauri forest reveals that Muir fully appreciated its richness and diversity, although he was clearly saddened by the loss of forest to the ravages of fire and road building: 'The road makers were using most precious material in most extravagant quantities' (Muir's Diary, 23 February, 1904). The 'glorious foliage' of tree ferns and palms proved particularly attractive to Muir (Muir's Diary, 24 February, 1904), as he collected ferns and other plants during his stay in the region to add what must have already been a substantial collection of New Zealand flora.<sup>2</sup>

Upon returning to Auckland Muir used the fine weather to dry and study his plant collection. Muir departed Auckland and New Zealand on the 29 February, 1904, after having spent some six weeks travelling the country. Muir noted that he was happy to have finished his quick visit to New Zealand although he did find it, 'absorbingly interesting especially its fast fading forests'.

#### THE SIGNIFICANCE OF MUIR'S TRAVELS IN NEW ZEALAND

The recuperative nature of the world trip has already been noted, especially the contact with forests and the glacial landscape of New Zealand. However, Muir's travels in Australia and New Zealand also signified a renewal of Muir's enthusiasm for botanical studies. On the ship for Auckland from Sydney, Muir noted that he

was 'beginning botany all over again' (Wolfe, 1946, 299). Further evidence of Muir's appreciation of New Zealand's natural history was contained in a letter to his wife in which he wrote that New Zealand's, 'strange and rich vegetation has compelled me to begin my botanical studies over again' (John Muir, letter to Louise Muir, 27 January, 1904).

The importance of Muir renewing his acquaintance with nature and wilderness cannot be overstated. Throughout his life Muir felt the need to leave either the city or his ranch in Martinez and see wild country again in order to 'recharge' his vision of wilderness and its preservation (Cohen, 1984). His travels through New Zealand may therefore be seen as an essential part of Muir's mental preparation for the efforts required to preserve America's wilderness heritage upon his return to the United States.

Until his death on Christmas Eve, 1914, Muir was continually reviewing his journals in order to provide the material for several books based upon his travels (Wolfe, 1946). It appears that Muir was sufficiently absorbed by his experiences in New Zealand to want to publish material on them and his later notebooks refer several times to the state of the New Zealand forests, especially in comparison with the state of the forests in South America (Mark, *pers. comm.*). However, his leadership of the American conservation movement and the production of books, journals and newspaper articles meant that time was not available to him.

Nothing I have ever seen in books gives anything like an adequate description of these noble woods [and] I begin to think I may have to try to write about them myself though there is so much on my hands . . . (John Muir, letter to Louise Muir, 2 January, 1904).

Despite not being able to publish anything from his time spent in New Zealand, Muir has still left a valuable legacy for the conservation of New Zealand's natural resources. John Muir, more than any other natural historian of his time, has influenced present-day perceptions of the role of national parks and the preservation of wild lands. As Muir (in Wolfe, 1946, 344) stated: 'The battle for conservation will go on endlessly. It is part of the universal warfare between right and wrong.'

The United States National Park system, which has had such a large influence on the management practices within New Zealand National Parks (Wynn, 1979) was created to a large extent through the efforts of John Muir. Similarly, Muir's wilderness vision has influenced the role of national parks throughout the world. In addition to the indigenous desire to conserve the natural environment the national parks of New Zealand may therefore be seen, at least in part, as a testimony to Muir's vision of wilderness preservation. Muir's account of both the glory and the degradation of the New Zealand landscape therefore serves as a timely reminder of the need to both consolidate and extend the gains made in the first hundred years of national parks in New Zealand.

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2. John Muir's journals and letters from his time in New Zealand are held in the John Muir Papers at the Holt-Atherton Center for Western Studies, University of the

Pacific, Stockton, California. Copyright for quotations taken from the John Muir Papers is vested in the Hannah-Muir Trust. The author wishes to acknowledge the invaluable assistance of the Holt-Atherton Center in making this paper possible.

#### FOOTNOTES

1. Muir's 'White Rata' does not appear to exist. Southern Rata (*Metrosideros umbellata*) grows in the area. Salmon notes occurrence of a yellow instead of red flowering variety at Denniston reasonably close to Westport in his trees of New Zealand volume (anonymous referee's comments).
2. On the destruction of the Kauri forest during the 19th Century by fire and the timber industry, see Arnold (1976) and Wynn (1979, 177).

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