

# Archaeology of the Wellington Conservancy: Wairarapa

A study in tectonic archaeology

Bruce McFadgen

Published by  
Department of Conservation  
P.O. Box 10-420  
Wellington, New Zealand

To the memory of Len Bruce,  
1920-1999,  
A tireless fieldworker and a valued critic.

*Cover photograph shows a view looking north along the Wairarapa coastline at Te Awaiti.  
(Photograph by Lloyd Homer, © Institute of Geological and Nuclear Sciences.)*

This report was prepared for publication by DOC Science Publishing, Science & Research Unit; editing by Helen O'Leary and layout by Ruth Munro. Publication was approved by the Manager, Science & Research Unit, Science Technology and Information Services, Department of Conservation, Wellington. All DOC Science publications are listed in the catalogue which can be found on the departmental website <http://www.doc.govt.nz>

© May 2003, New Zealand Department of Conservation

ISBN 0-478-22401-X

**National Library of New Zealand Cataloguing-in-Publication Data**

McFadgen, B. G.  
Archaeology of the Wellington Conservancy : Wairarapa : a study  
in tectonic archaeology / Bruce McFadgen.  
Includes bibliographical references.  
ISBN 0-478-22401-X  
1. Archaeological surveying—New Zealand—Wairarapa.  
2. Maori (New Zealand people)—New Zealand—Wairarapa—  
Antiquities. 3. Wairarapa (N.Z.)—Antiquities. I. New Zealand.  
Dept. of Conservation. II. Title.  
993.6601—dc 21

# Contents

|  |    |
|--|----|
| Abstract   | 1  |
| 1. Introduction  | 3  |
| 2. Geology and geomorphology   | 6  |
| 3. Sources of information  | 8  |
| 4. Correlation and dating  | 9  |
| 5. Off-site stratigraphy in the coastal environment                  | 11 |
| 5.1 Sand dunes   | 12 |
| 5.2 Stream alluvium and colluvial fan deposits                       | 13 |
| 5.3 Uplifted shorelines  | 14 |
| 5.4 Tsunami deposits   | 15 |
| 5.5 Coastal lagoon deposits  | 15 |
| 5.6 Correlation of off-site stratigraphy and adopted ages for events | 16 |
| 6. Vegetation  | 17 |
| 7. Natural faunal remains, moa and moa hunting                       | 20 |
| 8. Archaeological sites  | 21 |
| 9. Archaeology   | 27 |
| 9.1 Akitio to Mataikona  | 28 |
| 9.2 Mataikona to Whareama  | 29 |
| 9.3 Whareama to Flat Point   | 31 |
| 9.4 Flat Point to Cape Palliser                                      | 32 |
| 9.5 Cape Palliser to Lake Onoke                                      | 36 |
| 9.6 Wairarapa Valley to Masterton Basin                              | 39 |
| 9.7 Wairarapa Valley to Pahiatua Basin                               | 41 |
| 9.8 Tararua Ranges   | 43 |
| 10. Chronology of archaeological occupation                          | 44 |
| 10.1 Early period  | 44 |
| 10.2 Late period   | 48 |
| 11. Future research  | 51 |
| 12. Conclusions  | 54 |
| 13. Acknowledgements   | 55 |
| 14. References   | 56 |

|   |    |
|---|----|
| <b>Appendix 1</b>   |    |
| Sources of information for sites not recorded in the<br>NZ Archaeological Association site recording scheme           | 64 |
| <b>Appendix 2</b>   |    |
| Radiocarbon dating and the date of first settlement of Palliser Bay   | 76 |
| <b>Appendix 3</b>   |    |
| Dating earthquake uplift  | 79 |
| Dates for coastal uplift between Flat Point and the Whareama River  | 84 |
| Date for coastal uplift between Palliser Bay and Flat Point   | 84 |
| <b>Appendix 4</b>   |    |
| Insect and land snail remains from a peat deposit at<br>Te Kaukau Point lagoon section                                | 89 |
| <b>Appendix 5</b>   |    |
| Animal species identified from natural coastal deposits   | 90 |
| <b>Appendix 6</b>   |    |
| Animal species identified from a midden deposit on Tamatean<br>buried soil in Te Unu Unu Stream section at Flat Point | 92 |
| <b>Appendix 7</b>   |    |
| Determining variation of archaeological site components<br>within and between sub-regions                             | 93 |

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Conservation Sciences Centre, Department of Conservation  
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## ABSTRACT

The Wairarapa region is a tectonic landscape at the southeastern corner of the North Island of New Zealand. Seismic events are an important key to its natural and cultural character. Archaeological sites and environmental events are dated by their stratigraphic relationship to earthquake-uplifted shorelines, and with dune-building phases and alluvial deposition episodes thought to be triggered by earthquakes.

Two cultural periods are recognised: early and late. Early period sites are older than or contemporary with a period of seismic activity dated to about the late 15th Century AD. The inferred early settlement pattern was coastal. At the time of Maori settlement the coast was largely forested with extensive lagoons between uplifted beach ridges, and it had been stable for at least 800 years. Economic pursuits, in particular gardening, were related to the geological nature of the coast. Gardening was common where a hard rock platform and coastal sediments of greywacke or limestone resistant to wave erosion occurred in front of the coastal hills. It was virtually absent from parts of the coast where the coastal hills were easily eroded mudstones fronted by soft rocks and coastal sediments poorly resistant to wave erosion. Parts of the coast were abandoned following uplift of the coast that drained lagoons, silted up streams, and reactivated building of stream fans on the coastal platform. I suggest that tsunami inundation killed off the coastal forest that remained following Maori clearance by fire.

During the late period the focus of occupation moved to the main Wairarapa Valley. Gardening was practised in the southern part of the valley and settlement sites tended to be concentrated on the eastern side of the valley. Forest clearance, however, seems to have focused for some reason on the extensive gravelly soils of the Waiohine fans that were deposited from the mountain ranges on the western side of the valley at the end of the last glaciation.

Future research is proposed with the intention of clarifying aspects of the natural and cultural history of the region and their interrelationship. Of particular importance are: the direct dating of two earthquakes that have uplifted the coast between Flat Point and Cape Palliser twice since human settlement; and the field identification of at least two tsunamis that have struck the coast since human settlement. Both types of events would have had severe consequences for the human communities living on the coast that should be detectable in the archaeological record.

# 1. Introduction

This report describes the pre-European Maori archaeology of the Wairarapa region of the Wellington Conservancy. An earlier report (McFadgen 1997) focused on the Kapiti-Horowhenua region. The Wairarapa region lies east of the Tararua and Rimutaka ranges. The region extends from the Manawatu Gorge in the north across to Akitio on the east coast, a distance of about 65 km, and south some 150 km to Palliser Bay (Department of Conservation 1994) (Fig. 1). Compared with the more northern parts of the North Island, the evidence for human habitation in the Wairarapa region is sparse.

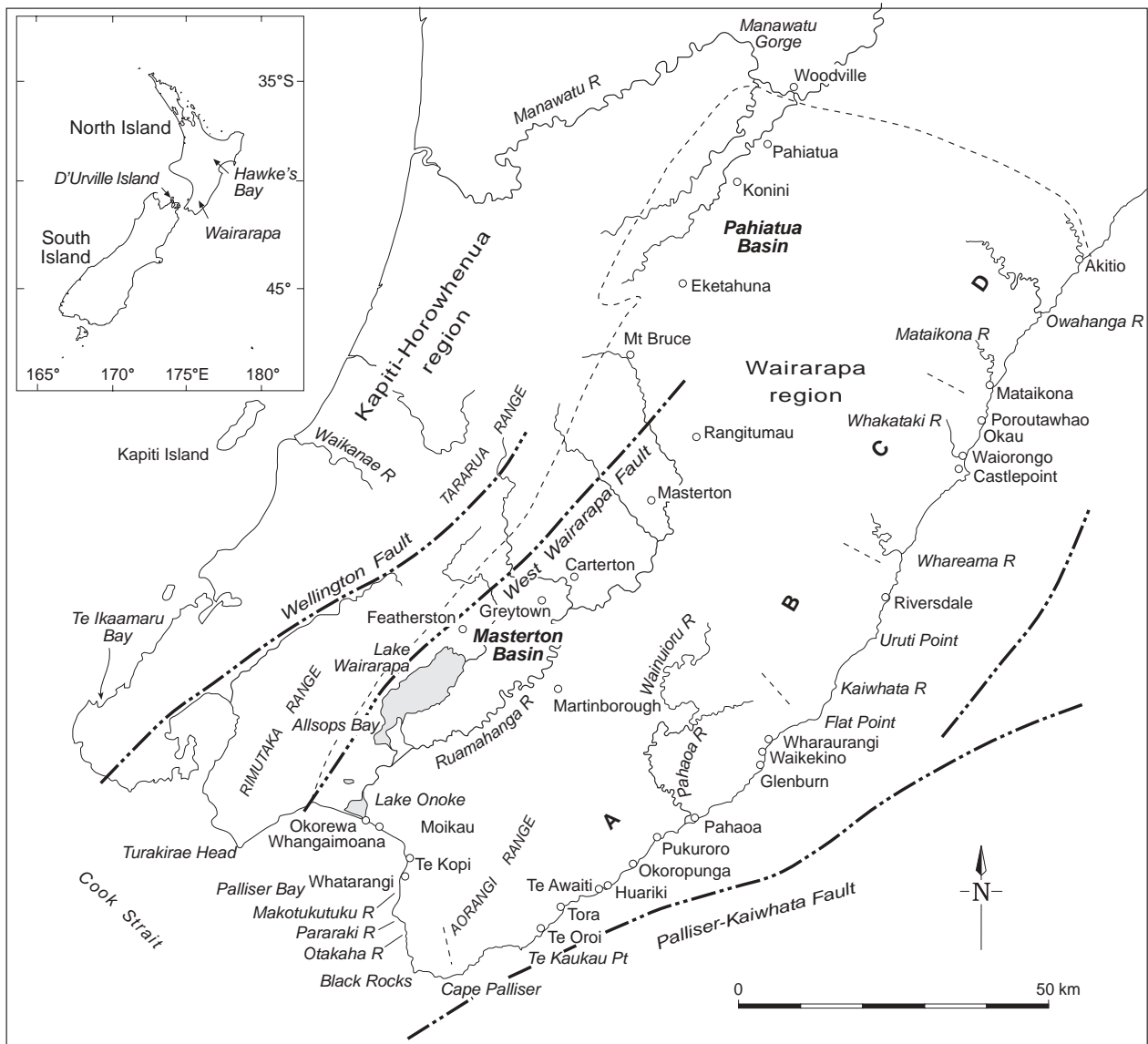


Figure 1. Southern North Island showing Wairarapa region (outlined by dashed line), and places mentioned in the text. Modern settlements and localities shown as open circles. The Wairarapa Valley is approximately the western third of the region. Faults active since human settlement important for Wairarapa archaeology are the Wellington Fault (Van Dissen & Berryman 1996), West Wairarapa Fault (Grapes & Downes 1997), and Palliser-Kaiwhata Fault (Ota et al. 1987; Barnes & Audru 1999). Tectonic sub-regions of Ota et al. (1987) are indicated A, B, C, D and separated by short dashed lines.

Very few of the known archaeological sites in the Wairarapa region are on land for which DOC has a management responsibility. Many sites, however, are on land in which DOC has a statutory interest, especially the coastal region, or a general advocacy interest, such as the protection of wetland habitats. Sites on land managed by the Wellington Conservancy are not representative of the site types across the landscape.

Geologically and environmentally, the region is extraordinarily dynamic. Between the arrival of first Polynesian settlers and of Captain Cook about 450 years later (McFadgen 1997), dramatic environmental changes occurred in response to natural processes such as earthquakes, and to cultural processes such as forest clearance. Polynesian settlers and their descendants burnt the forest to establish their settlements and gardens, and they exploited their environment to meet their needs for food, clothing and shelter. The environmental changes in turn influenced the activities of the prehistoric communities that lived in the region.

The attention given here to the prehistoric environment is more than is usual in archaeological reports. There are two reasons for this. First, when the environment changes, people either move away, adapt to the changes, or die. Understanding the changes that have occurred in the landscape is important for interpreting the cultural history of the region. Second, environmental changes often affect large areas of landscape. If they are short-lived events that leave some sort of recognisable remains, then they may be useful for dating.

Seismic activity has significantly influenced both the landform and the archaeology of the region. The region is severely faulted (Kingma 1967), and active faults have moved during the period of human settlement (e.g. Grapes & Downes 1997) (Fig. 1), causing widespread damage to vegetation, slipping of hillsides, and tsunamis. In 1848, for example, following the Marlborough earthquake, the missionary William Colenso remarked on the erosion of steep cliffs behind the coastal platform and deposition of scree brought down by winter rains from Pahaoa south into Palliser Bay (Bagnall & Petersen 1948). Earthquake uplifts created the coastal strip, and parts of the coastal strip have been subjected to both uplift and tsunami inundation at least twice since human settlement.

Friable soils on parts of the coastal strip were suitable for gardening, and their proximity to marine foods and former coastal forest made the coastal strip, especially at stream and river mouths, favoured places for early habitation. As a result, more than half of the recorded archaeological sites in the region are either located on the coastal strip or are very close to it (Fig. 2). Living on an earthquake-prone coastline close to sea-level exposed communities to the adverse impacts of seismic activity. On parts of the Wairarapa coast these were sometimes severe, and in the worst cases would have resulted in the loss of resources and settlements from uplift and tsunami inundation (Goff & McFadgen 2001). As well as damage and destruction, some of the earthquakes have left a record of uplifted shorelines that is useful for dating. Understanding the earthquake history of the region is, therefore, important for understanding its prehistoric occupation.

The report concludes with recommendations for future research. These focus broadly on the environmental processes and archaeological history of the Wairarapa region. The most pressing needs are for better understanding of the

seismic processes, particularly the earthquake uplifts and tsunami events, that have affected the Wairarapa region, and of the impact of the processes on the prehistoric communities that lived there. Such understanding will both provide insight into the cultural history of the Wairarapa region and beyond, and contribute to better planning for coping with similar events in the future.

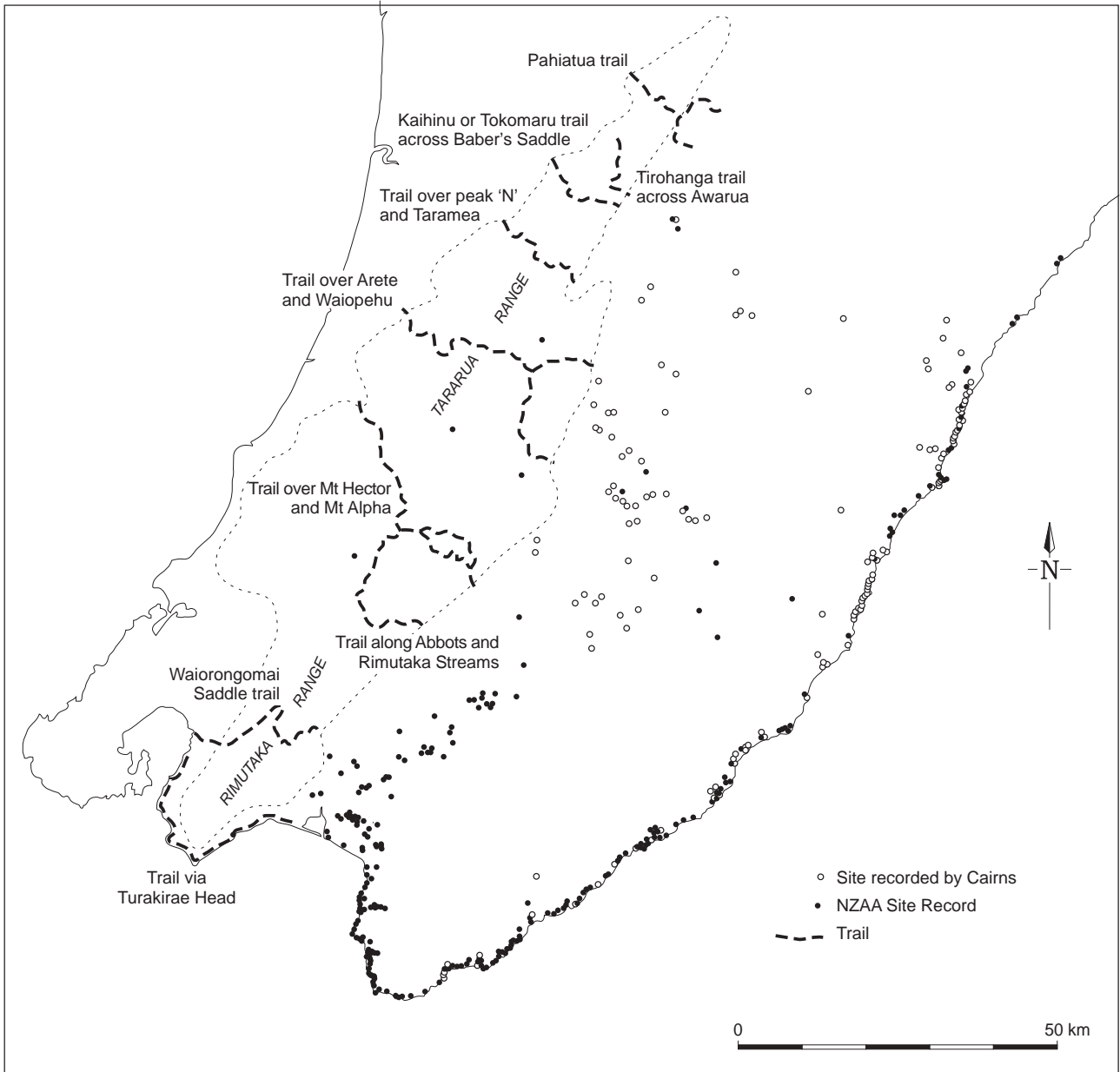


Figure 2. Distribution of archaeological sites in the Wairarapa region, and nine tracks across or around the Tararua Ranges. Track routes based on descriptions by Barton (1959, 1960).