5. Historical archaeology

5.1 THEMES

The landscape of Taranaki-Wanganui region has been completely transformed over the last 150 years, but this is little reflected in the work of historical archaeologists nor in inventories of sites. Batley (1971) briefly noted the range of historical archaeological sites found in the Upper Rangitikei Valley. This section is not a review of this topic and merely serves to both illustrate the range of sites involved and the limited scope of research that has been done to date. Many historical archaeological sites are well-known locally and some have been the focus of conservation or restoration efforts, but most are not recorded in New Zealand Archaeological Association Site Recording Scheme. Historical archaeological sites make up less than 10% of all recorded sites in the region.

Historical archaeological sites may be placed in a number of broad categories (Prickett 1999):

- Domestic
- · Agricultural
- · Industrial
- Commercial
- Transport
- · Military

Interest is not confined to sites of the 19th century. Prickett (1990) has pointed out that economic change over recent decades has already closed the many small creameries that once dotted the countryside, and is continuing to change the local infrastructure of many rural areas. General stores, garages and schools have closed or are closing and district halls are falling into disrepair. This is only the latest set of changes to re-shape life in the Taranaki-Wanganui region.

Outside the category of military sites, little research with a focus on historical archaeology has been done. Domestic sites have attracted little attention. Agricultural sites have had some limited interest, but generally the archaeology of early farms and farming has been neglected, in spite of Smart's (1966) important early work on the ditch-and-bank fence. Cassels & Walton (1992) discuss historical agricultural features found in one field near Waverley.

Some work has been done on the early colonial settlements of Wanganui and New Plymouth, especially the former. There were two sets of excavations at R22/248 in a part of old Wanganui in 1995.

Major industries in some areas in the past remain little investigated. Arnold (1976) discusses the timber industry in 1870s and 1880s with particular reference to Rangitikei, but it is uncertain what, if anything, remains. Edson (1986) has recorded coal mines along the Mokau River, but remains associated with the mining industry are not a prominent feature of the archaeology of the region. Henson's brickworks near Wanganui operated from 1867 to 1877 and

the remains of a kiln survive and have been roofed (1981) for protection against the weather.

Oliver (1978, 1979) investigated the remains of mid 19th century flour mills in New Plymouth, and three Maori mills in the vicinity of Puniho and Pungarehu are briefly discussed by Day (1995). The re-built Kawana flour mill (1854) on the Whanganui River has been open as a heritage place since 1980.

Homesteads, roads, and landings have been recorded in the Whanganui River Valley (Hellen & Olsen 1984). The Mangapurua farm settlement was opened up to returned servicemen after World War I, but the area was difficult of access and was abandoned in 1942. A large concrete bridge (the Mangapurua bridge or Bridge to Nowhere) was completed in 1936 and has become a major attraction for tourists on the Whanganui River.

Up to 1975 over 100 shipwrecks had occurred in the Taranaki-Wanganui region (Ingram 1977). Some wrecks were salvaged or otherwise broken up and so have left no remains in situ, but only 13 shipwreck sites (about 12%) have been recorded in the New Zealand Archaeological Association Site Recording Scheme. Shipwreck occurred most frequently around Wanganui (28), New Plymouth (25), and Patea (15) (Ingram 1977).

Military sites have long attracted attention from archaeologists (Smith 1990) and this has been the major area of historical archaeological research undertaken in Taranaki-Wanganui to date. Military sites make up nearly 45% of recorded historical archaeological sites in the region. An example of a common form of earthwork fortification is Woodall's redoubt near Kai Iwi (Fig. 12).

5.2 NEW ZEALAND WARS

A useful narrative of the New Zealand Wars is Cowan (1983, first published in 1922). Belich (1986) provides a more analytical narrative. In the early 1960s, Maxwell and Colin Smart compiled historical information about redoubts near Wanganui, took oblique aerial photographs and visited selected sites, and entered records in the New Zealand Archaeological Site Recording Scheme. Their analysis of 43 sites in the Wanganui-South Taranaki area showed that by 1963 only 40% of known sites still retained good surface form. Buist (1968) described the remains of Thacker's Redoubt (Q21/153) at the mouth of the Manawapou River in South Taranaki, and photographed sites from the air (Buist 1976: plate 6). Coverage of fortifications in the Rangitikei area in particular remains incomplete: only two of the ten redoubts recorded by Lundy (1995) in the Rangitikei area, for example, have been recorded in the Site Recording Scheme.

In a series of publications, Prickett (1978a, 1978b, 1978c, 1981a, 1984, 1994a, 1994b, 1996) has provided a detailed examination of many aspects of the archaeology of the Taranaki Wars. Prickett's fieldwork included extensive excavations at Omata Stockade (P19/35) and Warea Redoubt (P20/17) in 1977 and 1978 respectively. Fyfe (1988a) has conducted exploratory investigations on part of Marsland Hill in New Plymouth. A military historian (Pugsley 1995a, 1995b, 1995c, 1996) has recently produced a series of articles on different

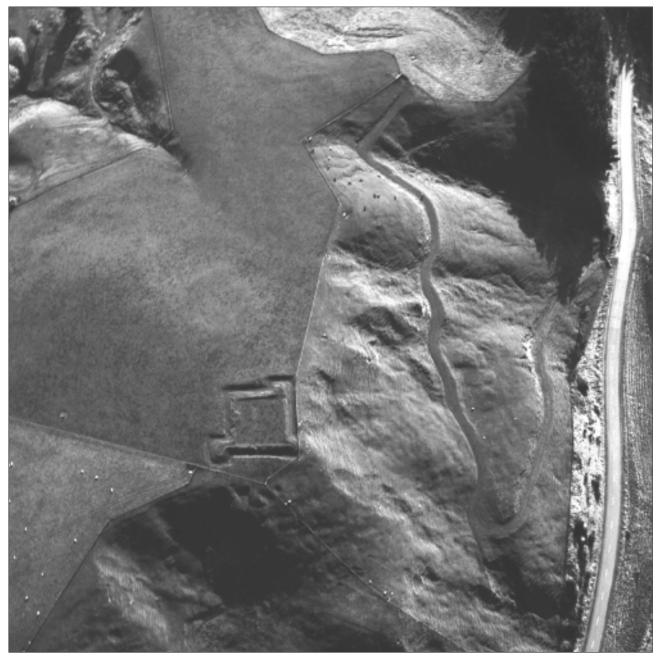


Figure 12. Woodall's redoubt (R22/147) at Kai Iwi, 1995. Photographer: K. Jones (Department of Conservation).

aspects of the campaign. Walton & Jones (1996) discuss the history and archaeology of Te Arei battlefield of the First and Second Taranaki Wars in their review of the history and archaeology of Pukerangiora.

Few Maori sites of this period have been investigated, but Jonas lists the type of artefacts ploughed up from a village of late the 1860s near Urenui and Walton (1987) has detailed the history of Maraekowhai on the upper Whanganui River.

6. Conclusions

6.1 SUMMARY

Knowledge of the prehistory of the Wanganui-Taranaki region is limited. Few sites have been investigated scientifically or systematically.

Evidence of 'moa-hunter' occupation has been investigated since last century but the information recovered has been limited by the techniques available at the time, and by the focus on particular aspects of the occupation. The concentration on the often-abundant faunal remains of 'moa-hunter' sites has been to the exclusion of other aspects of early subsistence and settlement patterns. The evidence from these sites suggests a relatively small population exploiting a wide range of wild foods in a relatively untouched environment. The presence of a horticultural component to the local economy at this time is probable, but not proven.

Remains identifiably belonging to the early period of prehistory are sparse and largely confined to the 'moa-hunter' site type. Unless moa bone is present, a site will not be recognised as early and so it is uncertain what other types of sites are characteristic of this early period.

Archaeological remains from the later period of prehistory are more easily observed. Pa are often highly visible features of the landscape and can be mapped and measured to provide some basic information but there are a number of issues relating to form, function, and chronology of pa which need to be explored. The promising work undertaken in Taranaki in the early 1960s with excavations at Kumara-kaiamo and Tarata has not been followed up. Most work on pa subsequently has been rescue work and has involved investigating relatively small areas, with valuable but correspondingly restricted gains in information. For the most part, only large-scale excavation of pa and other settlement sites will ensure progress. Large-scale excavation alone can provide the range and depth of evidence required.

To understand the significance of archaeological remains within Wanganui-Taranaki region requires the use of models developed from evidence across the country. Application of these models in a regional context must, of necessity, use a broad-brush approach. It is important to avoid over-rigid periodisation. The probable sustained population growth during the 15th and 16th centuries would have had as its concomitants:

- The widespread clearance of bush in lowland areas
- Increased reliance on local resources
- Increasing numbers of settlements more closely spaced across the landscape
- · Expansion into less favourable areas
- · Increased levels of warfare
- The emergence of a different social order

Even in this later period, however, the relatively small size of communities and the low population density meant that the landscape was still relatively empty and that 'wild places' were almost always close at hand.

6.2 TOWARDS A RESEARCH AGENDA

The first steps towards site protection were taken nearly 100 years ago with the passing of the Scenery Preservation Act of 1903 (Leach 1991). Numbers of Taranaki sites were recommended for reservation and numbers of sites were purchased. Overall, very few sites had any formal protection until the passing of the Historic Places Amendment Act of 1975. Since the late 1950s and early 1960s there had been growing concern at the rate of destruction and loss of sites, particularly pa. A Taranaki study used Best's work earlier in the century as a baseline to highlight deterioration in the condition of sites (Robinson 1961). A more systematic approach, using condition as shown on early aerial photographs as a baseline, is Prickett (1985). This study indicated that in a rural landscape 28 out of 95 pa sites were substantially damaged in the period from 1950 to 1981. Common causes of damage included bulldozing for access and fencing, exotic forest plantations, cultivation, stock trampling, roading, and quarrying. Pa sites in other settings have fared even less well. Many pa close to New Plymouth were swallowed up in the urban sprawl from the 1960s onwards. Examples include P19/154 that was destroyed in a subdivision in about 1970, P19/158 that was destroyed in a subdivision in 1976; and P19/1 that was destroyed in a subdivision in about 1978. Studies of the vegetation cover of historic reserves and management options (Jones & Simpson 1995) and the historical significance of cabbage trees on archaeological sites (Simpson 1994) have been published.

Other types of site have suffered as well. Many pit sites have been ploughed flat and are now only known from early aerial photographs. The redoubt on Sentry Hill, a historic reserve, has been entirely quarried away (Prickett 1977). A particularly notable loss amongst New Zealand Wars sites is the Bell Block Stockade (Q19/159) destroyed in 1970, without having been mapped or excavated.

Where it is not possible to physically protect remains in situ, preservation by record is an appropriate response. This involves recording and excavation those archaeological sites that can not be preserved.

The following are some suggestions for research directions arising from this review. They only deal with prehistoric archaeology and are not exhaustive. Specific programmes of site recording are required that are focused on historical and industrial sites.

- Priority should be given to re-assessing the present condition of known early sites and their potential to provide further, and better information, on the more remote past of some 600 years ago.
- Systematic field surveys need to continue, including survey of selected, less well researched, areas in the interior.

- Models need to be developed of environment which will predict the nature of the archaeological sites which are likely to be encountered in any particular area.
- Representative sites need to be excavated to develop a better understanding of the range of activities undertaken at them. Sites should be selected across a range of different environments and locations.
- A programme of excavation of fortified sites is required, including excavation of a ring ditch pa and large scale excavation of interiors of pa to establish the date and character of the occupation and the defences.
- A tighter control of chronology is required and more radiocarbon, or other, dates need to be obtained.
- Faunal assemblages from all periods need to be located, excavated, and analysed to provide a more secure knowledge of subsistence patterns.
- Basic descriptive studies of the various types of artefacts held in museum collections are needed.

Current arrangements for managing archaeological resources are a maze of different interests and responsibilities and it is not suggested that any one agency can independently pursue these research objectives. Overseas, the development of research agendas has been intended to help the various agencies involved to work co-operatively to assign priorities and so avoid piecemeal responses to development threats (Newman 1996). In an area plagued by a lack of resources, there is little doubt of the pressing need for a co-operative approach by the various players: public and private, professional and amateur, government and iwi. The suggestions above offer a starting point for developing an agenda.

7. Acknowledgements

Thanks to Robyn Burgess, Kelvin Day, Kevin Jones, and Elizabeth Pishief for reading draft versions of this paper, and to Chris Edkins for drawing the maps. This report originated from work carried out under Department of Conservation investigation no. 1791.

8. References

- Adds, P. 1984. Archaeological Resource Management in North Taranaki. Unpublished MA Thesis, University of Auckland.
- Allen, H. 1996. Horde and hapu: the reification of kinship and residence in prehistoric Aboriginal and Maori settlement organisation. Pp. 657-674 in Davidson, J. et al. (Eds) Oceanic Culture History: Essays in honour of Roger Green. New Zealand Journal of Archaeology. Special Publication
- Allen, M.W. 1994. Warfare and economic power in simple chiefdoms: The development of fortified villages in mid-Hawke's Bay, New Zealand. Unpublished PhD Thesis, University of California at Los Angeles.
- Alloway, B.V.; Fyfe, R.; Neall, V.E. 1990. Further evidence of early Maori occupation on the flanks of Egmont Volcano. *Archaeology in New Zealand 33(1)*: 40–48.
- Anderson, A. 1989. Prodigious birds: Moa and moa-hunting in prehistoric New Zealand. Cambridge University Press, Cambridge.
- Anderson, A. 1991. The chronology of colonisation in New Zealand. Antiquity 65: 767-795.
- Anderson, A. 1997. Prehistoric Polynesian impact on the New Zealand environment: Te Whenua Hou. Pp. 271-283 in Kirch, P.; Hunt, T. (Eds) Historical ecology in the Pacific Islands: Prehistoric environmental change. Yale University Press, New Haven.
- Anderson, A.; McGlone, M. 1991. Living on the edge—prehistoric land and people in New Zealand. Pp.199-241 in Dodson, J. (Ed.) The naïve lands: Prehistory and environmental change in Australia and the South-west Pacific. Longman Cheshire, Melbourne.
- Arnold, J.H. 2000. History: A very short introduction. Oxford University Press, Oxford.
- Arnold, R. 1976. The virgin forest harvest and the development of colonial New Zealand. *New Zealand Geographer 32*: 105-126.
- Bagnall, A.G.; Petersen, G.C. 1948. William Colenso. Printer, missionary, botanist, explorer, politician. A.H. & A.W. Reed, Wellington.
- Ballara, A. 1976. The role of warfare in Maori society in the Early Contact Period. *Journal of the Polynesian Society 85(4)*: 487–506.
- Barber, I. 1996. Loss, change, and monumental landscaping: Towards a new interpretation of the "Classic" Maaori emergence. *Current Anthropology* 37(5): 868–880.
- Bartlett, R. 1994. Europe: Conquest, colonization and cultural change 950-1350. Penguin, London.
- $Batley, R.A.L.\ 1960.\ Inland\ Patea.\ New\ Zealand\ Archaeological\ Association\ Newsletter\ 3(4):14-16.$
- Batley, R.A.L. 1961. Otaihape field group. New Zealand Archaeological Association Newsletter 4(4): 3-4.
- Batley, R.A.L. 1971. Historical archaeology in Inland Patea: an introduction. *New Zealand Archaeological Association Newsletter* 14(3): 72-3.
- Belich, J. 1986. The New Zealand Wars and the Victorian interpretation of racial conflict. Auckland University Press, Auckland.
- Belich, J. 1996. Making peoples: A history of the New Zealanders from Polynesian settlement to the end of the nineteenth century. Allen Lane/The Penguin Press, Auckland.
- Best, E. 1918. Shell-middens of the Porirua District. *New Zealand Journal of Science & Technology* 1: 212-217.
- Best, E. 1922. The Operiki pa, Koriniti, Whanganui River. New Zealand Journal of Science & Technology 4: 303-305.
- Best, E. 1927. Notes on inscribed stones of the Taranaki district. *Journal of the Polynesian Society* 36: 137-140.

- Best, E. 1975. The pa Maori. Government Printer, Wellington. (First published in 1927.)
- Bristow, P. 1988a. A brief note on some pits in sandstone. *Archaeology in New Zealand 31 (3)*: 189–192.
- Bristow, P. 1988b. Waverley archaeology—No 1. An archaeological site survey of selected areas of the Waverley-Whenuakura region March 1988-June 1988. Unpublished report, Wanganui Regional Museum, Wanganui.
- Buist, A. 1960a. Preliminary report of the Ohawe Beach midden area. *Journal of the Polynesian Society* 69(2): 78.
- Buist, A. 1960b. A further report on the Ohawe site. New Zealand Archaeological Association Newsletter 3(4): 9.
- Buist, A. 1960c. South Taranaki. New Zealand Archaeological Association Newsletter 3(4): 17-21.
- Buist, A. 1961. Taranaki archaic artefacts. New Zealand Archaeological Association Newsletter 4(4): 17-18.
- Buist, A. 1962a. Excavation of a house-floor at Waimate pa. New Zealand Archaeological Association Newsletter 5(3): 184-187.
- Buist, A. 1962b. Archaeological evidence of the archaic phase of occupation in South Taranaki. *New Zealand Archaeological Association Newsletter* 5(4): 233–237.
- Buist, A. 1963. Kaupokonui midden, South Taranaki N128/3: preliminary report. New Zealand Archaeological Association Newsletter 6(4): 175–183.
- Buist, A. 1964. Archaeology in North Taranaki. New Zealand Archaeological Association Monograph 3.
- Buist, A. 1968. Thacker's redoubt, Manawapou, South Taranaki. New Zealand Archaeological Association Newsletter 11(4): 165–171.
- Buist, A. 1976. The Maori. In Thomson, K.W. (Ed.) The legacy of Turi: An historical geography of Patea County. Dunmore Press, Palmerston North.
- Buist, A. 1993. South Taranaki quarry sites. Archaeology In New Zealand 36(2): 66-74.
- Buist, A.G.; Yaldwyn, J.C. 1960. An articulated moa leg from an oven excavated at Waingongoro, South Taranaki. *Journal of the Polynesian Society 69(2)*: 76–79.
- Bussell, M.R. 1988. Mid and late Holocene pollen diagrams and Polynesian deforestation, Wanganui district, New Zealand. *New Zealand Journal of Botany* 26: 432-451.
- Butts, D. 1981. The archaeology of a Wanganui River tributary the upper Retaruke River. *New Zealand Archaeological Association Newsletter 24(1)*: 10–24.
- Butts, D. 1982. Preliminary observations relating to the coastal shell middens of Manawatu. *New Zealand Archaeological Association Newsletter* 25(4): 268–276.
- Canavan, T.C. 1960. Preliminary report on excavations at the Te Rangatapu site (Waingongoro River). New Zealand Archaeological Association Newsletter 3(4): 9-12.
- Canavan, T.C. 1962. Te Rangatapu site (Waingororo River). New Zealand Archaeological Association Newsletter 5(3): 188.
- Cassels, R. 1979. Early prehistoric wooden artefacts from the Waitore site (N136/16) near Patea, Taranaki. *New Zealand Journal of Archaeology 1*: 85–108.
- Cassels, R. n.d. Kaupokonui N128/3B; a moa butchery and cooking site. A preliminary report on 1974 rescue excavations. Unpublished report.
- Cassels, R.J.S.; Jones, K.; Walton, A.; Worthy, T.H. 1988. Late prehistoric subsistence practices at Parewanui, Lower Rangitikei River, New Zealand. *New Zealand Journal of Archaeology 10*: 109–128.
- Cassels, R.; Walton, A. 1991. Excavation of a small settlement site (Q22/21) near Waverley, South Taranaki. *Archaeology in New Zealand 34(4)*: 186–201.

- Cassels, R.; Walton, A. 1992. Some historical agricultural features near Waverley, South Taranaki. Archaeology In New Zealand 34(2): 101-108.
- Cater, R. 1982. The Taranaki panels a case study in the recovery of cultural heritage. *AGMANZ News* 13(4): 16-19.
- Chapman, J. 1999. The origins of warfare in the prehistory of Central and Eastern Europe. Pp. 101–142 in Carman, J.; Harding, A. (Eds) Prehistoric warfare: Archaeological perspectives. Stroud, Sutton Publishing, London.
- Church, I. 1987. Maori life on the Tangarakau River. Historical Record 18(1): 18-20.
- Church, I. 1991a. Te Matakatea, Wiremu Kingi Moki. Pp. 209–211 in Orange, C. (Ed.) The people of many peaks 1769–1869. Bridget Williams/Department of Internal Affairs, Wellington.
- Church, I. 1991b. Heartland of Aotea: Maori and European in South Taranaki before the Taranaki Wars. Published privately.
- Colless, L.; Snell, A.; Cassels, R. 1985. An archaeological survey of the Lower Rangitikei River, North Island, New Zealand. *Manawatu Museum Fieldwork Report 3*.
- Cowan, J. 1983. The New Zealand Wars. 2nd ed. 2 vols. Government Printer, Wellington. Originally published in 1922.
- Davidson, J.M. 1984. The prehistory of New Zealand. Longman Paul, Auckland.
- Davidson, J.M. 1987. The Pa Maori revisited. *Journal of the Polynesian Society 96(1)*: 7-26.
- Davidson, J.M. 1993. Issues in New Zealand prehistory since 1954. Pp. 239-258 in Spriggs, M.; Yen,
 D.; Ambrose, W.; Jones, R.; Thorne, A.; Andrews, A. (Eds) A community of culture: The people and prehistory of the Pacific. Occasional Papers in Prehistory 21. Australian National University, Canberra.
- Davies, J. 1993. A history of Wales. Penguin Books, Harmondsworth.
- Day, K. 1980. Petroglyphs in coastal Taranaki. *New Zealand Archaeological Association Newsletter* 23(3): 113-117.
- Day, K. 1982a. Preliminary report on a recently discovered carved pataka door from Okato, Taranaki. New Zealand Archaeological Association Newsletter 25(2): 84–85.
- Day, K. 1982b. Taranaki petroglyphs. Unpublished report to New Zealand Historic Places Trust.
- Day, K. 1983a. Four Taranaki stone sculptures. New Zealand Archaeological Association Newsletter 26(3): 152-155.
- Day, K. 1983b. Te Tai Hauauru: Maori tribal carving from the Western District. MA Thesis, University of Auckland.
- Day, K. 1985. Nga Taonga o Ngati Pourua. Archaeological sites in the Waitotara Valley. Unpublished report, Wanganui Regional Museum.
- Day, K. 1995. Iwi flour mills. New Zealand Historic Places 55: 26-28.
- Day, K. 1996a. A Te Atiawa ivory figurine. Archaeology in New Zealand 39(2): 112-115.
- Day, K. 1996b. Two unknown objects from Tapui-nikau swamp, Warea, Taranaki. *Archaeology in New Zealand 39(3)*: 213–217.
- Day, K. 1998. Motumahanga: an archaeological survey. Unpublished report to Department of Conservation, Wellington.
- Day, K.; Adds, P. 1981. Motunui monitoring programme. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Day, K.; Stevenson, M. 1981. Site survey—area between Waitara and Onaero Rivers. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Delph, L.W. 1939. Cave drawings near Tongapurutu, Taranaki. Journal of the Polynesian Society 48:116-121.
- Dieffenbach, E. 1843. Travels in New Zealand. 2 vols. John Murray, London. Capper Facsimile Reprint, 1974.

- Donovan, L.J. 1976. Mangaweka Railway deviation. Archaeological survey. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Downes, T.W. 1909. Early history of Rangitikei, and notes on the Ngati Apa tribe. *Transactions of the New Zealand Institute 42*: 74-114.
- Downes, T.W. 1915. Old Whanganui. W.A. Parkinson & Co., Hawera.
- Downes, T.W. 1925. Note on incised designs seen in a cave near Waverley. *Journal of the Polynesian Society 34*: 252–258.
- Downes, T.W. 1932a. Old native stone-cut artifacts from Waverley. *Journal of the Polynesian Society* 41: 50-58.
- Downes, T.W. 1932b. Additional stone-cut artifacts from Waverley. *Journal of the Polynesian Society* 41: 312–316.
- Duff, R. 1961. The Waitara swamp search. Records of the Canterbury Museum 7(4): 303-326.
- Dunbar, R. 1995. The trouble with science. Faber & Faber, London.
- Edson, S. 1986. Mangatoi archaeological site survey: Mokau coalfield study. Unpublished report to State Coal Mines of New Zealand.
- Ellison, E. 1987. Sacred stone links Taranaki and Otago. Historic Places in New Zealand 19: 7-11.
- Fleming, C.A. 1953. The geology of the Wanganui Subdivision. *New Zealand Geological Survey Bulletin* 52.
- Fletcher, R. 1998. The conversion of Europe from Paganism to Christianity 371-1386 AD. Fontana Press, London.
- Field, H.C. 1877. Notes on some ancient aboriginal caches near Wanganui. *Transactions of New Zealand Institute 9*: 220–229.
- Foley, D. 1980. Analysis of faunal remains from the Kaupokonui site (N136/16B). MA Thesis, University of Auckland.
- Forbes, S. 1997. Archaeological survey upper Manawatu River. Unpublished report to Te Kaunihera Kaumatua o Rangitane ki Manawatu and Palmerston North City Council.
- Ford, J.B. 1979. Warea carving 1976. Journal of the Polynesian Society 88(4): 433-459.
- Fyfe, R. 1980. Report on archaeological sites in the Waipapa/Karaka Road area. Unpublished report, Taranaki Museum.
- Fyfe, R. 1981. Archaeological survey, Waitara by-pass State Highway 3. Unpublished report, Taranaki Museum.
- Fyfe, R. 1988a. Test excavations, Marsland Hill, New Plymouth: an historical and archaeological assessment. Archaeology In New Zealand 31(4): 200-214.
- Fyfe, R. 1988b. The Opua moahunter midden, Cape Egmont, Taranaki. *Archaeology in New Zealand* 31(4): 228-232.
- Fyfe, R. 1989a. An unusual carving in North Taranaki style. *Archaeology in New Zealand 32(1)*: 43-46
- Fyfe, R. 1989b. Two unrecorded epa from Waitara, North Taranaki. Archaeology in New Zealand 32(1): 47–50.
- Fyfe, R. 1989c. Another petroglyph at Omata, Taranaki. Archaeology in New Zealand 32(4): 182–192.
- George, M. 1990. Ohakune, opening to a new world. Kapai Enterprises, Wanganui.
- Gibb, J.G. 1978. Rates of coastal erosion and accretion in New Zealand. New Zealand Journal of Marine and Freshwater Research 12(4): 429-456.
- Glazebrook, J. (Ed.) 1997. Research and archaeology: A framework for the eastern counties, 1. Resource assessment. *East Anglian Archaeology, Occasional Paper No. 3*.

- Gorbey, K. 1968. Report on sites N91/3 and N91/4. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Gorbey, K. 1969. The Kapuni pipeline salvage archaeology survey. *New Zealand Archaeological Association Newsletter* 12(4): 218–223.
- Gorbey, K. 1970. Pa distribution in New Zealand. MA Thesis, University of Auckland.
- Groube, L.M. 1964. Settlement pattern in prehistoric New Zealand. MA Thesis, University of Auckland.
- Groube, L.M. 1970. The origin and development of earthwork fortification in the Pacific. Pp. 133–164 in Green, R.C.; Kelly, M. (Eds) Studies in oceanic culture history. vol. 1. *Pacific Anthropological Records 11*. Bernice P. Bishop Museum, Honolulu.
- Groube, L.M. 1977. The hazards of anthropology. Pp. 69–90 in Spriggs, M. (Ed.) Archaeology and anthropology. *BAR Supplementary Series 19*.
- Gumbley, W. 1997. Archaeological mapping of pa in four Taranaki historic reserves. *Science for conservation* 60. Department of Conservation, Wellington.
- Gumbley, W. 2000. Archaeological mapping of Awa-te-Take Pa and Ngangana Pa, Taranaki. *Science for conservation* 149. Department of Conservation, Wellington.
- Harvey, C.F.; Gill, G.P.; Crossman, C.; Fraser, L.G. 1997. Assessing relationships of kumara cultivars by RAPD analysis. *New Zealand Journal of Botany* 35: 479-485.
- Hellen, J.; Olsen, C. 1984. Archaeological survey proposed Wanganui River National Park. Unpublished report, Department of Lands and Survey.
- Higham, T.F.G.; Hogg, A.G. 1997. Evidence for late Polynesian colonisation of New Zealand: University of Waikato radiocarbon measurements. *Radiocarbon* 39(2): 149–192
- Holdaway, R. 1996. Arrival of rats in New Zealand. Nature 384: 225-226.
- Hooker, R. 1971. Field research in the inland Taranaki region. *New Zealand Archaeological Association Newsletter* 14(4): 142–156.
- Horrocks, M.; Ogden, J. 1998. Fine resolution palynology of Erua Swamp, Tongariro, New Zealand, since the Taupo Tephra eruption of c. 1718 B.P. *New Zealand Journal of Botany 36*: 285–293.
- Houghton, P. 1996. People of the Great Ocean: Aspects of human biology of the early Pacific. Cambridge University Press, Cambridge.
- Houston, J. 1937. Tokaora Swamp recoveries. Journal of the Polynesian Society 46: 238-239.
- Houston, J. 1939. A West Coast tauihu. Journal of the Polynesian Society 48: 104-107.
- Houston, J. 1948. Taranaki Maori carvings. Journal of the Polynesian Society 57: 301-304.
- Houston, J. 1958a. A Taranaki epa. Journal of the Polynesian Society 67: 166.
- Houston, J. 1958b. The Rahotu prow. Journal of the Polynesian Society 67: 351.
- Houston, J. 1959a. Another Taranaki epa. Journal of the Polynesian Society 67: 141-142.
- Houston, J. 1959b. A Taranaki lintel. Journal of the Polynesian Society 68: 239-240.
- Houston, J. 1960. Still another Taranaki epa. Journal of the Polynesian Society 69: 283-284.
- Houston, J. 1961. A small Taranaki lintel. Journal of the Polynesian Society 70: 471.
- Houston, J. 1965. Maori life in old Taranaki. A.H. & A.W. Reed, Wellington.
- Ingram, C.W.N. 1977. New Zealand shipwrecks 1795-1975. (5th ed.) A.H. & A.W. Reed, Wellington.
- Jonas, D.P. 1963. Maruwehi village, Urenui, North Taranaki. New Zealand Archaeological Association Newsletter 6(4): 191.
- Jones, K.L. 1994. Nga tohuwhenua mai te rangi: A New Zealand archaeology in aerial photographs. Victoria University Press, Wellington.

- Jones, K.L. 1996. The development of aerial photography in New Zealand archaeology. Aerial Archaeology Research Group News 13: 7-13.
- Jones, K.L. 1997. The development of aerial photography in New Zealand archaeology. *Aerial Archaeology Research Group News* 14: 13–22.
- Jones, K.L. 1999. Small format vertical aerial photography for mapping standing earthworks. Aerial Archaeology Research Group News 18: 8-14.
- Jones, K.L.; G. Law 1987. Prehistoric population estimates for the Tolaga Bay vicinity, East Coast, North Island, New Zealand. New Zealand Journal of Archaeology 9: 81-114.
- Jones, K.L.; Simpson, P.G. 1995. Archaeological site stabilisation and vegetation management. Case studies I: Coromandel, Bay of Plenty and Hawkes Bay, Central Volcanic Plateau and Taranaki. *Science and Research Series 84.* Department of Conservation, Wellington.
- Keeley, L. 1996. War before civilisation: The myth of the peaceful savage. Oxford University Press, New York.
- Keyes, I. 1971a. Use of inland Taranaki rock sources for artifacts. *New Zealand Archaeological Association Newsletter* 14(4): 157–160.
- Keyes, I. 1971b. Composite adze hafts in New Zealand prehistory. Dominion Museum Records in Ethnology 2(8): 83-96.
- Keyes, I. 1973. Ornamented composite adze hafts from the Taranaki district, with a discussion of adze haft styles in New Zealand. *Dominion Museum Records in Ethnology 2(11)*: 113–132.
- Keyes, I. 1981. A Wanganui record of a composite adze haft. New Zealand Archaeological Association Newsletter 24(1): 25-29.
- Law, R.G. 1969. Some petroglyph sites in the North Island. New Zealand Archaeological Association Newsletter 12(4): 191-198.
- Lawlor, I. 1979. Stylistic affinities of the Waitore site (N136/16) assemblage. New Zealand Journal of Archaeology 1: 109-114.
- Lawrence, J.; Prickett, N. 1984. Excavations at Pukearuhe (N99/49), North Taranaki, 1968. *Records of Auckland Institute & Museum 21*: 1-32.
- Leach, B.F.; A.S. Boocock 1993. Prehistoric fish catches in New Zealand. BAR International Series 584. Oxford.
- Leach, H. 1976. Horticulture in Prehistoric New Zealand. Unpublished PhD Thesis, University of Otago.
- Leach, H. 1991. Early attempts at historic site protection in New Zealand. *Archaeology in New Zealand* 34(2): 83-90.
- Lundy, J. 1995. The Rangitikei redoubts. *Historical Record 26(2)*: 3-39.
- Marshall, W.B 1836. A personal narrative of two visits to New Zealand in His Majesty's Ship Alligator, AD 1834. James Nisbet & Co, London.
- Matissoo-Smith, E.; Roberts, R.M.; Irwin, G.J.; Allen, J.S.; Penny, D.; Lambert, D.M. 1998. Patterns of prehistoric human mobility in Polynesia indicated by mtDNA from the Pacific rat. *Proceedings of the National Academy of Sciences USA 95*: 15145–15150.
- Maxwell, E. 1933. Maru pa. Journal of the Polynesian Society 42: 97-101.
- McEwen, J.M. 1986. Rangitane: A tribal history. Reed Methuen, Auckland.
- McFadgen, B. 1970a. The salvage excavation of a pa at Mokau, North Taranaki, New Zealand. *New Zealand Archaeological Association Newsletter* 13(2): 64-75.
- McFadgen, B. 1970b. The archaeological survey of the Kapuni pipeline. *New Zealand Archaeological Association Newsletter* 13(3): 113–119.
- McFadgen, B. 1972. Palaeoenvironmental studies in the Manawatu sand plain, with particular reference to Foxton. Unpublished MA Thesis, University of Otago, Dunedin.

- McFadgen, B. 1978. Environment and archaeology in New Zealand. Unpublished PhD Thesis, Victoria University of Wellington.
- McFadgen, B. 1997. Archaeology of the Wellington Conservancy: Kapiti-Horowhenua. A prehistoric and palaeoenvironmental study. Department of Conservation, Wellington.
- McFadgen, B.; Knox, F.B.; Cole, T.R.L 1994. Radiocarbon calibration curve variations and their implications for the interpretation of New Zealand prehistory. *Radiocarbon* 36(2): 221– 236.
- McGlone, M.S.; Neall, V.E.; Clarkson, B.D. 1988. The effect of recent volcanic events and climatic changes on the vegetation of Mt Egmont (Mt Taranaki), New Zealand. *New Zealand Journal of Botany 26*: 123–144.
- McGlone, M.; Anderson, A.; Holdaway, R. 1994. An ecological approach to the Polynesian settlement of New Zealand. Pp. 139–163 in Sutton, D. (Ed.) The origins of the first New Zealanders. Auckland University Press, Auckland.
- McKinlay, J.R. 1974. An archaic adze from inland North Island. New Zealand Archaeological Association Newsletter 17(4): 171-174.
- Mead, A.D. 1966. Richard Taylor missionary tramper. A.H. & A.W. Reed, Wellington.
- Morley, N. 1999. Writing ancient history. Duckworth, London.
- Moore, P. 1977. The definition, distribution and sourcing of chert in New Zealand. *New Zealand Archaeological Association Newsletter* 13(2): 77–93.
- Neall, V.E. 1972. Tephrochronology and tephrostratigraphy of western Taranaki (N108-109). *New Zealand Journal of Geology and Geophysics 15*: 507-557.
- Neall, V.E. 1979. Sheets P19, P20, P21 New Plymouth, Egmont, and Manaia. *Geological Map of New Zealand 1:50 000*. DSIR, Wellington.
- Neich, R. 1996. Carved entrances of Maori semi-subterranean storehouses. *Records of Auckland Institute & Museum* 33: 79-109.
- Nevin, D.C.; Nevin, G.E. 1979. Archaeological Site Survey: Te Wera State Forest 116. Unpublished report to New Zealand Forest Service.
- Newman, M. 1988. Archaeological investigations in the vicinity of Lake Rotoaira and the Lower Tongariro River 1966-1971. *New Zealand Historic Places Trust Publication 21*.
- Newman, R. 1996. The archaeology of Lancashire: Present state and future priorities. Lancaster University Archaeological Unit, Lancaster.
- Newnham, R.M.; Lowe, D.J.; McGlone, M.S.; Wilmshurst, J.M.; Higham, T.F.G. 1998. The Kaharoa Tephra as a critical datum for earliest human impact in Northern New Zealand. *Journal of Archaeological Science* 25: 533–544.
- Oliver, R. 1978. The flour mills of Taranaki, New Zealand 1844–1935—A small forgotten industry. Unpublished MA Thesis, University of Sydney.
- Oliver, R. 1979. The historical archaeology of New Plymouth flour mills. *New Zealand Archaeological Association Newsletter 22(4)*: 175-187.
- Oliver, W.R.B. 1931. An ancient Maori oven on Mount Egmont. *Journal of the Polynesian Society* 40: 73-79.
- Oppenheim, R.S. 1973. Maori death customs. A.H. & A.W. Reed, Wellington.
- Palmer, R.W.P.; Neall, V.E.; Pollock, J.A. 1981. Soils of Egmont and part Taranaki Counties, North Island, New Zealand. *New Zealand Soil Survey Report 64*. Government Printer, Wellington.
- Parker, R.H. 1962. Aspect and phase on Skipper's Ridge (Opito) and Kumara-kaiamo (Urenui). *New Zealand Archaeological Association Newsletter* 5(4): 222-232.
- Parker, R.H.; Buist, A.G. 1961. Urenui excavation—preliminary report. New Zealand Archaeological Association Newsletter 4(4): 11-14.
- Pearce, P. 1977. Simulated aspects of prehistoric attacks on One Tree Hill. New Zealand Archaeological Association Newsletter 20(1): 18–24.

- Phillipps, W.J. 1927. Note on a carved rock in Taranaki. *Journal of the Polynesian Society 36*: 135–136.
- Phillipps, W.J. 1948. A sacred stone of Namu Pa, Opunake. *Journal of the Polynesian Society* 57: 179–180.
- Phillipps, W.J. 1950. Incised designs, Kohi Gorge shelter, near Waverley. *Journal of the Polynesian Society* 59: 191-196.
- Pool, I. 1977. The Maori population of New Zealand 1769-1971. Auckland University Press, Auckland.
- Pool, I. 1991. Te iwi Maori. A New Zealand population past, present and projected. Auckland University Press, Auckland.
- Prickett, K. 1974. Report of the archaeological survey of the Maui Gas Pipeline—Oaonui Plant to Frankley Road junction section. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Prickett, K. 1975. Maui Gas Pipeline archaeological survey report: Frankley Road to south bank of the Mokau. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Prickett, N. 1977. Report on the archaeological sites of the Taranaki Wars. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Prickett, N. 1978a. Excavations at the Omata Stockade, N108/39, January-February 1977: a preliminary report. New Zealand Archaeological Association Newsletter 21(2): 2-12.
- Prickett, N. 1978b. Excavations at Warea redoubt, N118/6, January-February 1978: a preliminary report. *New Zealand Archaeological Association Newsletter 21(3)*: 85-92.
- Prickett, N. 1978c. Archaeological sites of the New Zealand Wars in the Omata District, Taranaki. Records of the New Zealand Historic Places Trust 2: 14-34.
- Prickett, N. 1980. Maori fortifications of the Omata and Oakura Districts, Taranaki. *Records of Auckland Institute & Museum 17*: 1-48.
- Prickett, N. 1981a. The archaeology of a military frontier: Taranaki, New Zealand, 1860-1881. Unpublished PhD Thesis, University of Auckland.
- Prickett, N. 1981b. A recently discovered petroglyph at Omata, Taranaki. *New Zealand Archaeological Association Newsletter* 24(3): 198–201.
- Prickett, N. 1982. Maori fortifications of the Tataraimaka District, Taranaki. *Records of Auckland Institute & Museum 19*: 1–52.
- Prickett, N. 1983a. Maori fortifications of the Okato District, Taranaki. *Records of Auckland Institute & Museum 20*: 1–39.
- Prickett, N. 1983b. Waitotara ki Parininihi: aspects of the archaeology of the Taranaki region. Pp. 281–329 in Bulmer, S.; Law, R.G.; Sutton, D. (Eds) A lot of spadework to be done. *New Zealand Archaeological Association Monograph 14*.
- Prickett, N. 1984. Puketakauere. *Historic Places In New Zealand 4*: 10-12.
- Prickett, N. 1985. Site damage and destruction in a rural New Zealand landscape. *New Zealand Journal of Archaeology* 7: 61–76.
- Prickett, N. 1990. Historic Taranaki: An archaeological guide. GP Books, Wellington.
- Prickett, N. 1994a. Pakeha and Maori fortifications of the First Taranaki War 1860-61. *Records of Auckland Institute & Museum 31*: 1-87.
- Prickett, N. 1994b. Archaeological excavations at the Omata stockade and Warea redoubt, Taranaki. New Zealand Archaeological Association Monograph 20.
- Prickett, N. 1996. British army and colonial fortifications in north Taranaki, 1863-64. *Records of Auckland Institute & Museum 33*: 1-51.
- Prickett, N. 1999. Historical archaeology. Chapter 6 (pp. 75–92) in Archaeological site recording in New Zealand. *New Zealand Archaeological Association Monograph 23*.

- Pugsley, C. 1995a. Walking the Taranaki Wars: The battle of Waireka, 28 March 1860. *New Zealand Defence Quarterly* 9: 26-31.
- Pugsley, C. 1995b. Walking the Taranaki Wars: The battle of Puketakauere, 27 June 1860. *New Zealand Defence Quarterly 10*: 35-40.
- Pugsley, C. 1995c. Walking the Taranaki Wars: Maori defeat at Mahoetahi, 6 November 1860. *New Zealand Defence Quarterly 11*: 32–36.
- Pugsley, C. 1996. Walking the Taranaki Wars: Pratt's sap at Te Arei. *New Zealand Defence Quarterly* 12: 30-34.
- Robinson, D.W. 1961. Site recording in the Urenui district of North Taranaki. New Zealand Archaeological Association Newsletter 4(4): 7-10.
- Robinson, D.W. 1961. A second archaic site near Hawera? *New Zealand Archaeological Association Newsletter 4(4)*: 15–16.
- Robinson, D.W. 1963. Kaupokonui midden, South Taranaki N128/3: the artifacts. *New Zealand Archaeological Association Newsletter 6(4)*: 183–187.
- Rogers, G.M. 1987. Landscape history of Moawhango Ecological District. Unpublished PhD Thesis, Victoria University of Wellington.
- Royal Society of New Zealand 1990. New Zealand climate report 1990. Royal Society of New Zealand Bulletin Series 28. Wellington.
- Salinger, M.J.; Palmer, J.G.; Jones, P.D.; Briffa, K.R. 1994. Reconstruction of New Zealand climatic indices back to AD 1731 using dendroclimatic techniques: some preliminary results. International Journal of Climatology 14: 1135–1149.
- Salmond, A. 1991. Two worlds: First meetings between Maori and Europeans 1642-1772. Viking, Auckland.
- Saunders, A. 1989. Fortress Britain: Artillery fortification in the British Isles and Ireland. Beaufort Publishing, Liphook.
- Scanlan, A.B. 1961. Egmont: The story of a mountain. A.H. & A.W. Reed, Wellington.
- Scarlett, R.J. 1960. Excavations at Waitara. New Zealand Archaeological Association Newsletter 3(2): 4-7.
- Schmidt, M. 1993. 'Few have been tested by spade': pa excavation and radiocarbon dating in New Zealand archaeology. MA Research Essay, University of Auckland.
- Schmidt, M. 1996. The commencement of pa construction in New Zealand prehistory. *Journal of the Polynesian Society 105*: 441-451.
- Simmons, D. 1971. Anthropomorphic stone pounders in New Zealand. *Records of Auckland Institute & Museum 8*: 47–55.
- Simmons, D. 1976. The great New Zealand myth. A.H. & A.W. Reed, Wellington.
- Simpson, P. 1994. Cabbage trees on pa. Interim report: Taranaki-Wanganui. *Archaeology In New Zealand 37(1)*: 13-22.
- Sissons, J. 1989. Rethinking tribal origins. Journal of the Polynesian Society 98: 199-20.
- Shawcross, K. 1967. Fern-root, and the total scheme of 18th century Maori food production in agricultural areas. *Journal of the Polynesian Society* 76: 330–352.
- Skinner, W.H. 1893. The capture of Rewarewa pa by a taua of the Taranaki tribe. *Journal of the Polynesian Society 2*: 179–185.
- Skinner, W.H. 1911. The ancient fortified pa. Journal of the Polynesian Society 20: 71-77.
- Skinner, W.H. 1946. Reminiscences of a Taranaki surveyor. Thomas Avery & Sons, New Plymouth.
- Smart, C.D. 1960. Wanganui. New Zealand Archaeological Association Newsletter 3(4): 22-23.
- Smart, C.D. 1962. Preliminary report on field work in the Nukumaru-Waitotara area. *New Zealand Archaeological Association Newsletter* 5(3): 160-169.

- Smart, C.D. 1966. The ditch-and-bank fence. New Zealand Archaeological Association Newsletter 9(1): 19–28.
- Smart, C.; Smart, M.J.G. 1963. A report of further fieldwork in the Wanganui District. *New Zealand Archaeological Association Newsletter* 6(4): 187–190.
- Smart, M.J.G. 1960. A record of fishing pas on the tidal estuary of the Wanganui River. *New Zealand Archaeological Association Newsletter* 3(4): 29–31.
- Smart, M.J.G. 1961. Operiki pa, Wanganui River. New Zealand Archaeological Association Newsletter 4(4): 19-21.
- Smith, I. 1985. Sea mammal hunting and prehistoric subsistence in New Zealand. PhD Thesis, University of Otago, Dunedin.
- Smith, I. 1989. Maori impact on the marine megafauna: pre-European distributions of New Zealand sea mammals. Pp. 76–108 in Sutton, D.G. (Ed.) Saying so doesn't make it so: Papers in honour of B. Foss Leach. *New Zealand Archaeological Association Monograph 17*.
- Smith, I. 1990. Historical archaeology in New Zealand: a review and bibliography. *New Zealand Journal of Archaeology 12*: 58–119.
- Smith, S.P. 1910. History and traditions of the Maoris of the West Coast North Island of New Zealand. Polynesian Society, New Plymouth.
- Stokes, E. 1988. Mokau: Maori cultural and historical perspectives. University of Waikato, Hamilton.
- Taylor, R. Journals [typescript]. Alexander Turnbull Library, Wellington.
- Taylor, R. 1855. Te Ika a Maui. Wertheim and Macintosh, London. A.H. & A.W. Reed facsimile reprint, 1974.
- Topping, W.W. 1974. A 1480 AD Maori oven from Mount Egmont. *New Zealand Journal of Science* 17: 119–122.
- Urlich, D. 1970. The introduction and diffusion of firearms in New Zealand 1800–1840. Journal of the Polynesian Society 79: 399–410.
- Urlich, D. 1972. Migrations of the North Island Maoris 1800–1840: A systems view of migration. *New Zealand Geographer 28*: 23–35.
- Vansina, J. 1985. Oral tradition as history. University of Wisconsin Press, Madison.
- Vayda, A.P. 1970a. Maori warfare. Polynesian Society Maori Monographs 2.
- Vayda, A.P. 1970b. Maoris and muskets in New Zealand: Disruption of a war system. *Political Science Quarterly* 85: 560-584.
- Wakefield, E.J. 1845. Adventure in New Zealand. 2 vols. John Murray, London. Wilson & Horton Facsimilie reprint.
- Wallace, R.T.; Howard, A.; Van der Sluys, J.; Tawhio, K. 1981. North Taranaki site survey. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Walton, A. 1979. Archaeological sites along the Wanganui River: a provisional listing. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Walton, A. 1982a. Lower Whangaehu River Valley: archaeological site survey. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Walton, A. 1982b. Rescue archaeology at Puketarata pa (N129/46), South Taranaki. New Zealand Archaeological Association Newsletter 25(2): 144-150.
- Walton, A. 1984. Made soils in the Waitara River Valley, Taranaki. New Zealand Archaeological Association Newsletter 27(1): 56-63.
- Walton, A. 1985. Archaeology of the lower Whangaehu River Valley. *New Zealand Archaeological Association Newsletter* 28(1): 19–35.
- Walton, A. 1986a. Piecing together the Whangaehu's past. *Historic Places In New Zealand 15*: 22-26

- Walton, A. 1986b. An archaeological survey of Petrocorp land at Tikorangi, near Waitara. Unpublished report to New Zealand Historic Places Trust, Wellington.
- Walton, A. 1987. Maraekowhai: a mid-nineteenth century settlement on the upper Wanganui River. New Zealand Archaeological Association Newsletter 30(4): 249–262.
- Walton, A. 1988. Archaeological resource management in North Taranaki during the period of the National Development Act. *Archaeology In New Zealand 31(1)*: 39-57.
- Walton, A. 1994. Settlement patterns in the Whanganui River Valley 1839-1864. New Zealand Journal of Archaeology 16: 123-168.
- Walton, A.; Cassels, R. 1992. Borrow pits and made soils near Waverley, South Taranaki. *Archaeology in New Zealand 35(3)*: 160-171.
- Walton, A.; Jones, K. 1996. Pukerangiora Pa Historic Reserve: history and archaeology. *Archaeology in New Zealand* 39(4): 278–290.
- Ward, G.C.; Burns, R; Burns, K. 1994. The Civil War: An illustrated history of the war between the States. Pimlico, London.
- Wells, B. 1878. The history of Taranaki. Edmondson & Avery, New Plymouth. Capper Facsimile Reprint, 1976.
- Wilson, C. 1993. Dating dilemmas. Unpublished MA Research Essay, University of Auckland.
- Worthy, T.H. 1990. An analysis of the distribution and relative abundance of moa species (Aves: Dinornithiformes). *New Zealand Journal of Zoology 17*: 213–241.
- Wright, H.M. 1967. New Zealand, 1769-1840: Early years of western contact. Harvard University Press, Cambridge.
- Young, D. 1998. Woven by water: Histories from the Whanganui River. Huia Publishers, Wellington.

Appendix 1

SITE SURVEYS

SURVEYOR	DATE	LOCALITY REFERENCES	
Adds	1983	Mimi R. Mouth (Q19) Adds 1984	
Best	c.1914	Urenui (Q19) Best 1975	
Bristow	1988	Waverley-Whenuakura (Q21-22, R22) Bristow 1988b	
Buist	1961-3	Urenui (Q18-19) Buist 1964	
Butts	1979	Upper Retaruke R. (S19)	Butts 1981
Colless et al.	1984/85	Lower Rangitikei R. (S23)	Colless et al. 1985
Day	1982	Petroglyph sites, Taranaki	Day 1982b
Day	1984	Upper Waitotara R. (R21)	Day 1985
Day & Stevenson	1980/81	Waitara East(Q19)	Day & Stevenson 1981
Day	1998	Motumahanga, Sugar Loaf Islands	Day 1998
Donovan	1975/76	Mangaweka (T22)	Donovan 1976
Forbes	1997	Manawatu R. (S24, T24)	Forbes 1997
Gorbey	1968	Pipeline Survey (various)	Gorbey 1969, McFadgen 1970b
Fyfe	1980	Waipapa-Karaka Roads, Waitara (Q19)	Fyfe 1980
Fyfe	1981	Waitara by-pass (Q19) Fyfe 1981	
Hellen & Olsen	1983/84	Wanganui R. (various)	Hellen & Olsen 1984
Hooker	1968-70	Makahu/Mangaehu valleys (Q20, R19-20)	Hooker 1971
Nevin & Nevin	1979	Te Wera State Forest (Q20, R20)	Nevin & Nevin 1979
Prickett, K	1974	Pipeline Survey (P19)	Prickett, K 1974
Prickett, K	1975	Pipeline Survey (Q18-19)	Prickett, K 1975
Prickett, N	1979	Omata & Oakura (P19)	Prickett, N 1980
Prickett, N	1980	Tataraimaka (P19)	Prickett, N 1982
Prickett, N	1981	Okato (P19) Prickett, N 1983a	
Smart	1960-63	Waverley-Whangaehu (R22, S22-23)	Smart 1962, Smart & Smart 1963
Wallace & others	1981	New Plymouth to Waitara (P19, Q19)	Wallace et al. 1981
Walton	1978	Wanganui River (various) Walton 1979	
Walton	1980	Matarikoriko, Waitara River (Q19) Walton 1984	
Walton	1981	Lower Whangaehu River (R23, S22-23) Walton 1982a, 1985, 1986a	
Walton	1980	Motunui Walton 1988	
Walton	1986	Tikorangi Walton 1986b	

Appendix 2

EXCAVATIONS

SITE	NAME	DATE	REFERENCES
P19/35	Ngaturi	1977	Prickett 1978a, 1994b
P19/151	Bell Block midden	1988	site record form (Buist)
P20/112	Mt Egmont oven site	1971	Topping 1974
P20/120	Hingaimotu	1982	Smith 1985:492
P21/3	Kaupokonui moa hunter site	1962/3, 1974	Buist 1962b, 1963; Robinson 1963; Cassels n.d.; Foley 198
P21/5	Waimate pa	1962	Buist 1962
Q18/16	Pukearuhe pa	1968	Lawrence & Prickett 1984
Q19/68	Waitara swamp site	1960	Duff 1961
Q19/71	Kumara-kaiamo pa	1961/2	Parker & Buist 1961; Parker 1962; Buist 1964: 91-101; Groube 1964
Q19/79	Houses/rua	1963	site record form (Jonas)
Q21/44	Puketarata pa	1982	Walton 1982
Q21/75	Waingongoro (Ohawe) moa hunter site	1960	Buist & Yaldwyn 1960; Buist 1960a, 1960b
Q21/76	Te Rangatapu moa hunter site	1960	Canavan 1960, 1962
Q21/99	Lake Whitianga moa hunter site	1961	Robinson 1961
Q21/234	Dickie borrow pit	1974	Walton & Cassels 1992
Q22/11		1988	Jacomb pers. comm.
Q22/15	Waitore swamp site	1974	Cassels 1979
Q22/21	Wilson (Kokako) site	1974	Cassels & Walton 1991
Q22/36	Wilson-Train borrow pits	1974	Walton & Cassels 1992
Q22/77	Johnston site	1989	Jacomb pers. comm.
R18/3	pa at Mokau	1968-9	Gorbey 1968; McFadgen 1970a
R22/27	Tarata pa	1960-2	Smart 1962; Groube 1964
R22/42		1988	Jacomb pers. comm.
S23/17	Whangaehu River pit site	1983	Walton 1985
\$23/66	Parewanui channels	1986	Cassels et al. 1988
S23/71	Parewanui midden site	1986	Cassels et al. 1988
S24/3	Foxton site	1963-72	McFadgen 1972, 1978
S24/20	Himatangi midden site	1972	Butts 1982
S24/26	Himatangi midden site	1972	Butts 1982
T20/1	Moawhango Dam Cliff Shelter	1971	Newman 1988
T21/	Six Hundred Sheep Cave	1960	Batley 1961
T21/	Te Manukairakau pit site	1961	Batley 1961

Appendix 3

RADIOCARBON DATES

There are 54 radiocarbon dates for archaeological sites in the Wanganui Conservancy. Ten of these dates are from Foxton (\$24/3) and these are listed but are not discussed further here (see McFadgen 1997).

SITE	LAB NO.	CRA	COMMENTS
P19/24 Te Awahahae Pa, C	NZ6181 Dakura	640±41	Shell, mostly <i>Prototbaca crassicosta</i> , from midden on ring-ditch pa
P19/26 Pa, Oakura	NZ6563	263±28	Identified charcoal from infilling of ditch on pa
P19/56 Pukiekie Pa, Omata	NZ6184	95±60	Shell, <i>Prototbaca crassicosta</i> , from midden on pa
P19/79 Pa, Okato	NZ6185	851±55	Shell, <i>Haliotis iris</i> , from midden on pa
P19/131 Pa, Tataraimaka	NZ6187	796±55	Shell, <i>Haliotis iris</i> , from midden palisade footing on pa
P19/191 Manawapo Pa, Tata	NZ6182 iraimaka	593±52	Shell, <i>Protothaca crassicosta</i> , from midden on pa
P19/194 Pukewaranga Pa, T	NZ6183	731±66	Shell, Melagraphia aethiops, from midden from palisade footing on pa
P19/195 Pa, Tataraimaka	NZ6555	203±32	Identified charcoal from charcoal layer on pa
P19/197 Pa, Tataraimaka	NZ6186	546±54	Shell, <i>Turbo smaragdus</i> , from midden on pa
P19/221 Pa, Tataraimaka	NZ6552	480±33	Identified charcoal from charcoal layer on pa
P20/111 Mt Egmont	NZ0063	431±64	Unidentified charcoal, oven underlying Burrell Ash
P20/111 Mt Egmont	NZ0064	378±64	Unidentified charcoal, oven underlying Burrell Ash
P20/112 Mt Egmont	NZ1561	457±58	Unidentified charcoal, oven underlying Newell Ash (Topping 1974)
P21/3 Kaupokonui	NZ0722	1463±52	Unidentified charcoal from layer above moa bone midden
P21/3 Kaupokonui	NZ3931	568±49	Moa bone, from L4 the moa-hunting occupation
P21/3 Kaupokonui	NZ3932	512±28	Shell, Haliotis tris, L2 oven, minimum age for moa-hunting
P21/3 Kaupokonui	NZ3933	525±32	Shell, Perna canaliculus, L2 oven, minimum age for moa-hunting
P21/3 Kaupokonui	NZ3934	618±57	Moa bone, L4, the moa-hunter level
P21/3 Kaupokonui	NZ3935	325±83	Dog coprolite from immediately above moa-hunting level
Q18/6 Pukearuhe Pa	NZ2645	88±57	Unidentified charcoal, oven on pa (Lawrence & Prickett 1984)
Q18/6 Pukearuhe Pa	NZ2646	253±57	Unidentified charcoal, oven on pa (Lawrence & Prickett 1984)

CITE	TABATO	CD 4	COMMENTE
SITE	LAB NO.	CRA	COMMENTS
Q18/6 Pukearuhe Pa	NZ2647	273±57	Unidentified charcoal, base of terrace fill on pa (Lawrence & Prickett 1984)
Q21/75 Waingongoro	NZ0543	1018±49	Unidentified charcoal, oven associated with moa bones
Q21/75 Waingongoro	NZ0544	752±60	Unidentified charcoal, oven associated with moa bones
Q21/75 Waingongoro	NZ0717	552±45	Unidentified charcoal, oven associated with moa bones
Q21/75 Waingongoro	NZ0718	699±61	Unidentified charcoal, oven associated with moa bones
Q21/76 Te Rangatapu	NZ0545	741±48	Unidentified charcoal, oven associated with moa bones
Q21/76 Te Rangatapu	NZ0723	542±61	Unidentified charcoal, oven associated with moa bones
Q22/15 Waitore	NZ4035	524±40	Peat and soil associated with wooden artefacts (Cassels 1979)
Q22/15 Waitore	NZ4036	508±33	Peat and soil associated with wooden artefacts (Cassels 1979)
Q22/15 Waitore	NZ4037	423±57	Peat and soil associated with wooden artefacts (Cassels 1979)
Q22/77 Johnston	NZ7778	475±46	Charcoal (punga) from fill of pit
Q22/77 Johnston	NZ7779	126±46	Charcoal (bracken fern) from fire scoop in pit fill
Q22/77 Johnston	NZ7780	481±46	Charcoal from fire-scoop
Q22/77 Johnston	NZ7781	154±46	Charcoal from banded ash in pit fill
Q22/77 Johnston	NZ7810	602±130	Charcoal/wood from firescoop
Q22/77 Johnston	NZ7811	299±29	Charcoal from scoop in fill of bin pit
Q22/77 Johnston	NZ7812	1297±33	bracken fern from layer of wood, charcoal, and oven stones
Q22/77 Johnston	NZ7813	538±34	Identified wood from lake edge layer
S23/7 Parewanui	NZ7354	781±55	Shell, <i>Paphies subtriangulata</i> , from midden (Cassels et al. 1988)
S24/3 Foxton	NZ0682	736±48	Unidentified charcoal from G10 layer F
S24/3 Foxton	NZ0683	1095±60	Unidentified shell from G10 layer F
S24/3 Foxton	NZ0684	523±63	Unidentified charcoal from oven, occupation layer 2
S24/3 Foxton	NZ0685	177±113	Unidentified charcoal from above oven, occupation layer 2
S24/3 Foxton	NZ1250	671±68	Shell, <i>Paphies subtriangulata</i> , from shell lens 2, occupation layer 2
S24/3 Foxton	NZ1251	1147±84	Shell, <i>Chione stutchburyi</i> , from shell lens 4, occupation layer 2
\$24/3	NZ1347	1139±47	Shell, <i>Chione stutchburyi</i> , from shell lens 4, occupation layer 2

SITE	LAB NO.	CRA	COMMENTS
S24/3 Foxton	NZ1349	1075±45	Shell, <i>Chione stutchburyi</i> , from shell lens 1, occupation layer 1
S24/3 Foxton	NZ1479	965±58	Shell, <i>Chione stutchburyi</i> , from shell lens 3, occupation layer 1
S24/3 Foxton	NZ1480	936±58	Shell, <i>Paphies subtriangulata</i> , from shell lens 1, occupation layer 1
S24/20 Himatangi	NZ5266	2055±105	Identified charcoal from midden
S24/26 Himatangi	NZ5279	814±33	Shell, Paphies subtriangulata, from midden
S24/26 Himatangi	NZ5280	841±32	Shell, Paphies subtriangulata, from midden
S24/26 Himatangi	NZ6267	456±55	Identified charcoal from midden