



NEW ZEALAND  
ARCHAEOLOGICAL  
ASSOCIATION

## ARCHAEOLOGY IN NEW ZEALAND



This document is made available by The New Zealand  
Archaeological Association under the Creative Commons  
Attribution-NonCommercial-ShareAlike 4.0 International License.

To view a copy of this license, visit  
<http://creativecommons.org/licenses/by-nc-sa/4.0/>.



# ARCHAEOLOGICAL MONITORING OF EARTHWORKS AT MATARANGI, COROMANDEL PENINSULA

Brenda Sewell  
Opito Bay

## Introduction

Archaeological monitoring of earthworks on two blocks of land on the Matarangi sandspit on the east coast of the Coromandel Peninsula took place between 31 May and 25 June 1999 as a condition of the Historic Places Trust Authority to Modify, No. 1998/36. The authority related to sites T10/983 in Area 1, 985, 988, 989, 990 and 991 in Area 2 and 996 in Area 3 (Fig. 1). Consultation took place with Peter Johnston of Ngati Hei before work began and he was present during some of the earthworks.

Between 100 and 150 mm of grass and topsoil was removed by motor scraper and features and areas of midden were recorded. Midden and charcoal samples were taken for analysis. Features were given individual numbers, plotted and described and where possible half-sectioned. No artefactual material was encountered.

The 400 ha of the Matarangi sandspit consists of parallel dune ridges and is fully described by Furey (1998). She carried out an archaeological survey of the sandspit and recorded 12 sites (Furey 1997) and monitored the destruction of two of these sites (T10/993 and 994) in Stage 14 of the development (Furey 1998). In Stage 14 a total of 40 middens, a concentration of fire-cracked rocks, a charcoal filled scoop and a stone-edged hearth of relatively recent origin were recorded. Excavation of part of T10/993 revealed midden, six firescoops and one posthole; three additional firescoops were recorded nearby (Furey 1998).

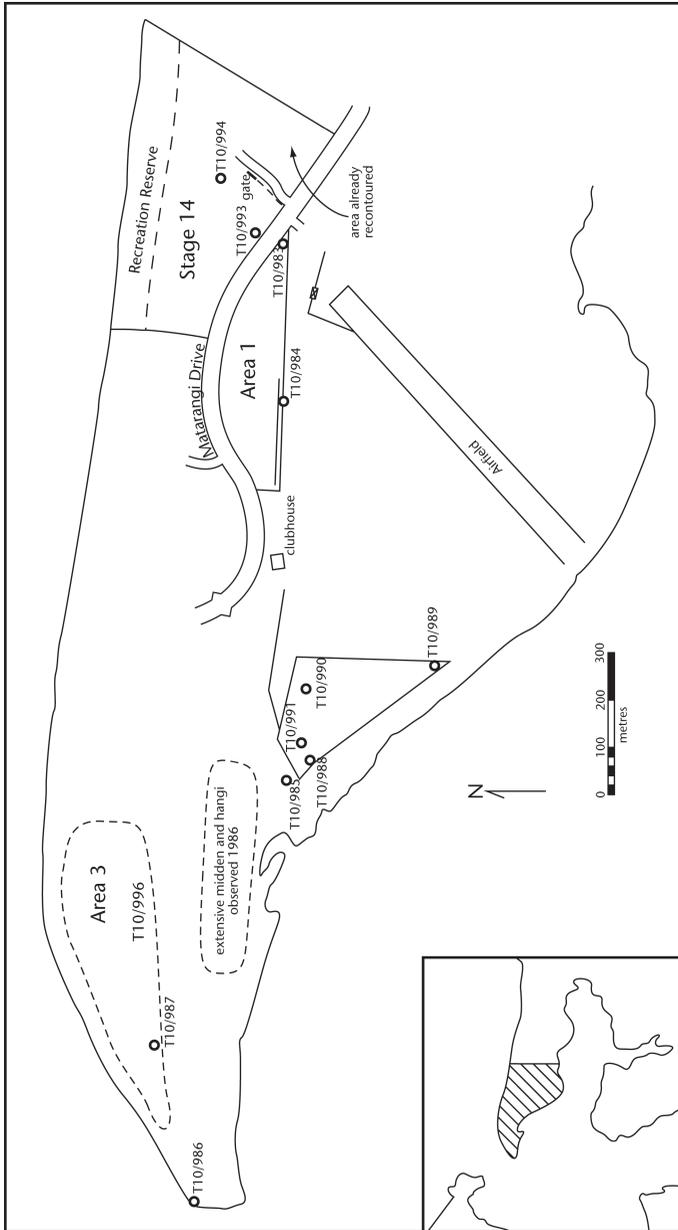


Figure 1. Matarangi, showing location of archaeological sites

## Monitoring of Earthworks in Area 1

Area 1 was approximately 500 m long and consisted of sand dunes running in an east-west direction and rising to 7 m above sea level. The vertical height between dune top and base of the main north-south swale was no more than 2 m. The natural stratigraphy of the dune was similar throughout this area. Beneath the grass and roots there was a layer of grey sand up to 0.15 m deep. Below was the natural dune consisting of yellow-brown sand, grey-brown sand or compact orange brown sand.

After stripping off the grass and topsoil 77 features or groups of features were found (Fig. 2). There were 29 firescoops, the remains of 35 surface fires, 10 areas containing groups of fires close together and three postholes. The firescoops contained blackened sand and charcoal and sometimes cooking stones or shell. The surface fires consisted of blackened sand and charcoal but there was no evidence of any related depression in which a fire was lit. A description of all features is set out in Sewell (2000: Appendix 1). In summary, Features 20, 31 and 69 represent the postholes, 1, 2, 4, 6, 7, 8, 9, 10, 18, 21, 24, 25, 26, 27, 28, 29, 30, 32, 51, 53, 54, 55, 58, 61, 62, 64, 68, 72, and 75 were firescoops while the remaining numbers represent surface fires.

Fig. 2 illustrates that features tended to cluster towards the eastern half of Area 1 and indeed tended to change in character to the west of the major swale where F3, F4 and F5 were located. To the west there were fewer features and almost all evidence consisted of the remains of surface fires with few areas of midden. In contrast, there were a greater number of features to the east of F3, particularly firescoops with ovenstones and charcoal concentrations. The majority of midden scatters occurred on the top of the dune (Fig. 2) and rarely exceeded 50 mm in depth.

Features predominated on the north facing slopes and the top of the dunes. Twelve (16%) were located at the base of the north facing slopes, 32 (42%) on the north facing slopes and 24 (31%) on the top of the dunes while only four (5%) were found on the south facing dunes and five (6%) in the swale between dunes. This suggests that the southern slopes of the dunes were not favoured locations for the making of fires or cooking. The prevailing wind from the south west could possibly have affected the choice although I found that in winter few areas were sheltered from the wind and the southern slopes appeared no colder or more exposed than the rest of the dunes. Frost and ice covered the entire dunes on many early mornings.



Figure 2. Matarangi Area 1, showing location of features.

There were concentrations of features in some parts of the dune and it appeared that a few areas were repeatedly re-used. In particular, the top of the dune in the vicinity of F6–10, 23–33, 49–52, 53–57 and 58–63 presented the appearance of an area re-occupied many times: firescoops were found very close together with shells scattered close by and covering up earlier firescoops. For example F68 consisted of two firescoops separated by a layer of midden.

Most of the firescoops were small and shallow: only nine were greater than 0.5 m across and of these only three exceeded 1 m in diameter. The majority of the larger firescoops were located close to the top of the dune and in the area of greatest activity. Surface fires in this area were usually larger than the firescoops and half exceeded 0.5 m in diameter. The majority of fires were located in areas removed from the midden deposits suggesting that the building of these fires was for warmth rather than cooking whereas the firescoops in the central portion of the dune represent a discrete activity area used for cooking.

Only three postholes were found. It is likely that during occupation there would have been windbreaks or shelters around many of the fires and cooking areas but the nature of the soft dune sand has obliterated signs of any such feature.

A total of 28 samples of midden was collected for analysis. The midden consisted almost entirely of shells. Tiny fish bones were found in eight samples. Where the pieces were identifiable they were all *Trachus sp.*, usually known as horse or jack mackerel, but minimum numbers were not calculated. As discussed by Furey (1998: 14) it is unusual to find only one species of fish present in several discrete middens, a species moreover not usually encountered in analysed midden deposits. However, mackerel are known to congregate in large numbers in sheltered waters and the Whangapoua Harbour could possibly have served the purpose of a live pantry at times when it was too rough to fish beyond the harbour limits. It is interesting that a large number of jack mackerel were reported on excavation of middens on the Omaha Sandspit (Campbell and Clough 2002: 144)—a similar environment to Matarangi with a spit separating the ocean and tidal harbour. Occasionally jack mackerel are known to beach themselves in large numbers around the shores of the Whangapoua Harbour (L. Mangakahia pers. comm.). It is likely that they were collected in the past (as they are today) and the surplus preserved.

Heat cracked rocks, many covered in greasy black charcoal stained sand, were present in almost half the midden samples although never in great numbers. Only one firescoop (F10) had its ovenstones intact. The majority of the rocks

were andesite or breccia and none were of suitable flaking quality to make into tools. No chert or obsidian flakes were found.

The shellfish represented in the midden show an overwhelming preference for estuarine and sandy shore species. Analysis of each midden sample is set out in Sewell (2000: Appendix 3). In summary, cockle (*Austrovenus stutchburyi*) was taken in much greater numbers than any other shellfish and was found in every sample but one. However, cockle was not always the dominant shellfish within each sample. There were five samples where tuatua (*Paphies subtriangulata*) were present in far greater numbers and two samples where pipi (*Paphies australis*) predominated. Numbers of scallop (*Pecten novaezelandiae*) appeared low but as the shells fragments easily leaving few countable pieces it is possible that the quantity of scallop meat could have been as great as that represented by the number of pipi. The shellfish taken illustrate a preference for those found in sheltered locations and were all likely to have been taken from the Whangapoua Harbour. Tuatua was the only species from an exposed sandy shore taken in any quantity and was probably collected from the northern side of Matarangi sandspit. It appears that little effort was made to exploit the rocky coastline beyond the harbour.

Furey (1998: 14) suggested that the meat from the shellfish recovered from Stage 14 was dried and preserved for later use and it is possible that the midden, fires and firescoops in Area 1 represent a similar activity. Additionally the sandspit could have been a stopping-off point for groups moving from one part of the Coromandel Peninsula to another and the shells dumped represent the debris from various meals of passing groups.

Charcoal samples were analysed by Dr. R. Wallace of the Anthropology Department, University of Auckland. Kanuka was the dominant species identified and along with manuka and tutu present a similar species composition to that found during excavation of Stage 14 (Furey 1998). Together they suggest regeneration of the sandspit following clearance either deliberately by lighting fires to clear an area for gardens, or accidentally through a fire spreading.

## **Monitoring of Area 2**

Of the five sites in and around this paddock only two (T10/990 and 991) were affected by the present earthworks (see Fig. 1). The natural sand was predominantly reddish-brown sand although there were some areas close to T10/991 where the natural sand was a grey-white in colour.

At T10/991 there was an area of concentrated midden measuring 6 x 5 x 0.2 m sitting on the natural orange brown sand although close by were patches of grey-white natural sand. Furey (1998: 3) recorded similar areas of white leached sand close to T10/993 that were indicative of kauri forest in the distant past. Close to the midden were three small fires.

T10/990 contained an area of midden 6 x 4 m, a small firescoop and, to the north, a further area of midden measuring 5 x 2 x 0.34 m. This midden extended beyond the paddock into the golf course and was not disturbed there. It contained shells in a very black charcoal rich sand although no fire or firescoop was recorded. In the vicinity of this midden the sand profile beneath the topsoil was unlike that in the remainder of Area 2 and indeed was unlike any stratigraphy noted in Area 1. Here there was a very mixed horizon 60–100 mm deep consisting of light grey sand or grey-white sand interspersed with pieces of consolidated reddish brown sand. The mixing of topsoil and subsoil is usually regarded as a sign of disturbance and the two layers mixed when the ground was turned over to plant crops. It is considered likely that this portion of Area 2 was used for kumara gardens and the mixed sands occurred as a result of gardening activities.

### **Radiocarbon dating**

Two samples of shell from Area 1 and one from Area 2 were sent to the Radiocarbon Dating Laboratory at Waikato University for dating. The results give an estimate of age rather than an actual date and the ranges given indicate the statistical probability that occupation fell within that period. The full results are set out in Sewell (2000: Appendix 4). Sample Wk-8066 (1480–1690 AD at 2 sigma) was of cockle shells from the centre of the dunes in Area 1 and indicated that occupation of this area was unlikely to have taken place before about 1480 AD or after 1690 AD. Sample Wk-8067 (1530–1760 AD at 2 sigma) was of tuatua shells from T10/983 and indicated occupation was not prior to 1530 AD and unlikely to be after the latter half of the 1700s. Sample Wk-8065 (1430–1630 AD at 2 sigma), from Area 2, gives a similar age range to the samples from Area 1 of occupation sometime in the late 1500s to 1600s.

### **Discussion**

There is no evidence to suggest that the dunes on the Matarangi sandspit were occupied other than on a very temporary basis and there was no permanent settlement in the area monitored. It is possible, however, that there were several small gardens, such as that at T10/990, designed to provide food for travellers or temporary occupants and used while the Whangapoua Harbour was exploited for its shellfish or fish. It is probable that this garden contained kumara and harvested during the late summer months suggesting that the dunes were

occupied at that time. Traditionally this time of year was the shark fishing season. Sharks were caught and dried during the summer in the Upper Waitemata and Manukau Harbours and the Tamaki River (Sullivan 1981: 19) and no doubt similar shark fish expeditions took place in many similar harbours, including Whangapoua.

The midden consisted almost entirely of shellfish. Very few fish remains were found. All identifiable bones were of jack mackerel—not usually thought of as a favoured fish. However, Captain Cook was given mackerel in Mercury Bay ‘more than we well know’d what to do with’ (Beaglehole 1955: 195). They usually shoal in harbours and are taken by a running net across the mouth of a creek or tied to stakes driven into the sand of a beach at low water (Best 1977: 53). Thus it is possible that the small fires and middens are the visible remains of fishing groups exploiting the Whangapoua Harbour for mackerel to preserve in addition to shellfish, and possibly also shark.

Although less than 300 m apart the monitoring of the earthworks of Stage 14 by Furey (1998) and the present monitoring produced very different results. During monitoring of Stage 14 three firescoops were uncovered and an additional nine were found during excavation of T10/993. In Area 1 of the present monitoring 29 firescoops and 26 fires were recorded, many in close proximity to each other suggesting repeated use of the area by small groups of people. Furey (1998: 19) recorded a total of 43 small middens in Stage 14 that she interpreted as each representing a single event where shellfish was dried for later use by small parties that camped on the sandspit. Although the area covered by midden in Area 1 of this report was much larger than the areas of midden in Stage 14 both show an overwhelming preference for soft shore shellfish and it is considered that a similar activity was taking place in both areas, that is the drying of shellfish for later use. Area 1 of this report does differ from Furey’s Stage 14 in the large number of open fires found with no associated midden, suggesting some activity other than the cooking or drying of shellfish. These fires could have been lit merely for warmth or could represent a time during the late summer when the dune was occupied by a group involved in the drying of shark and mackerel.

Although archaeological interest has in the past tended to concentrate on highly visible Archaic middens, particularly on the east coast of the Coromandel Peninsula, as discussed by Furey (1998: 16), with the less spectacular shell middens largely ignored, more recent research has begun to focus on the latter. Furey (1998: 18) discussed the similarities between the Matarangi Sandspit

middens and those recorded at Papamoa in the Eastern Bay of Plenty and at Matakana Island. Although some presented a greater range of activities than Matarangi many consisted of small shell heaps and were regarded as temporary camps where shellfish was collected and preserved for winter consumption. Furey considered that the prime purpose of those occupying the sites at Matarangi was the collection and preservation of shellfish and it is likely that the features and midden in Area 1 represent a similar function. Ongoing research by Campbell (Campbell and Clough 2002) on the Omaha Sandspit revealed 157 previously unrecorded archaeological features, the overwhelming majority of which were middens. Isolated oven scoops made up the remainder of features. Some middens were large and complex and may reflect large gatherings of short duration. Further work on this sandspit can only add to our knowledge of this site type.

In summary, occupation of the Matarangi Sandspit was fleeting, the only archaeological features present were the firescoops and fires and the large areas of midden. There was no waste stone or evidence of adze manufacture or maintenance. The presence of the small garden at T10/990 adds a further dimension to the multiple function of the sandspit and it is suggested that shellfish and fish were preserved on the dunes as part of a regional and normal pattern of exploitation where all available economic resources were utilised on a regular and perhaps seasonal basis.

## References

- Beaglehole, J., 1955. *The Journals of Captain James Cook on His Voyages of Discovery: Vol. 1. The Voyage of the Endeavour 1768–1771*. Cambridge University Press, for the Hakluyt Society, Cambridge.
- Best, E., 1977 [1929]. *Fishing Methods and Devices of the Maori*. Dominion Museum Bulletin No. 12., Wellington.
- Campbell, M. and R. Clough, 2002. Omaha Beach, Stage 1: Preliminary Archaeological Report. *Archaeology in New Zealand* 45: 128–152.
- Furey, L., 1997. Archaeological Inspection of Proposed Development Areas, Matarangi Beach. Unpublished report for Matarangi Beach Estates.
- Furey, L., 1998. Archaeological Excavation of T10/993 Matarangi, Coromandel Peninsula. Unpublished report for Matarangi Beach Estates.
- Sewell, B., 2000. Archaeological Monitoring of Earthworks at Matarangi Beach. Unpublished report for Matarangi Beach Estates.