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# EXCAVATION OF TWO COASTAL CAMPSITES, KATIKI BEACH, NORTH OTAGO

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## Introduction

During road realignment work on State Highway 1 at Katiki Beach in coastal North Otago (Figures 1 and 2), archaeological material was exposed in dune sand. A small rescue excavation investigated the site on 25 and 26 September 1999 (HPT authority 1998/111). The site consisted of two components: a late prehistoric or early historic period campsite sitting on a buried A-horizon underneath the dune; and a later historic occupation encapsulated within the dune.

## Background

Katiki Beach runs between Shag Point in the south and Moeraki in the north (Figure 1). This stretch of coastline has served as a main north-south route in both the prehistoric and historic periods, and the main trunk railway and State Highway 1 still follow the coast there. Archaeological sites are common along this stretch of coast, and the University of Otago Anthropology Department's field school programme examined the prehistoric occupation site at Shag Point in the late 1990s (Weisler 1998).

State Highway 1 follows the coast closely along Katiki Beach, with some stretches of the formation having by necessity been moved back away from the eroding beach scarp. The current excavation was carried out at the north end of the beach, where the road was moved towards the sea slightly in order to ease several curves in the approach to the Katiki rail overbridge.

The strip of land between the sea and the road formation at this point consisted of rolling dunes vegetated with marram grass, with a drop of about two metres to the beach. At the time of the investigation the dunes appeared to be slowly eroding, as the beach terrace face was fresh, although this was only a short term observation based on two visits about a year apart.

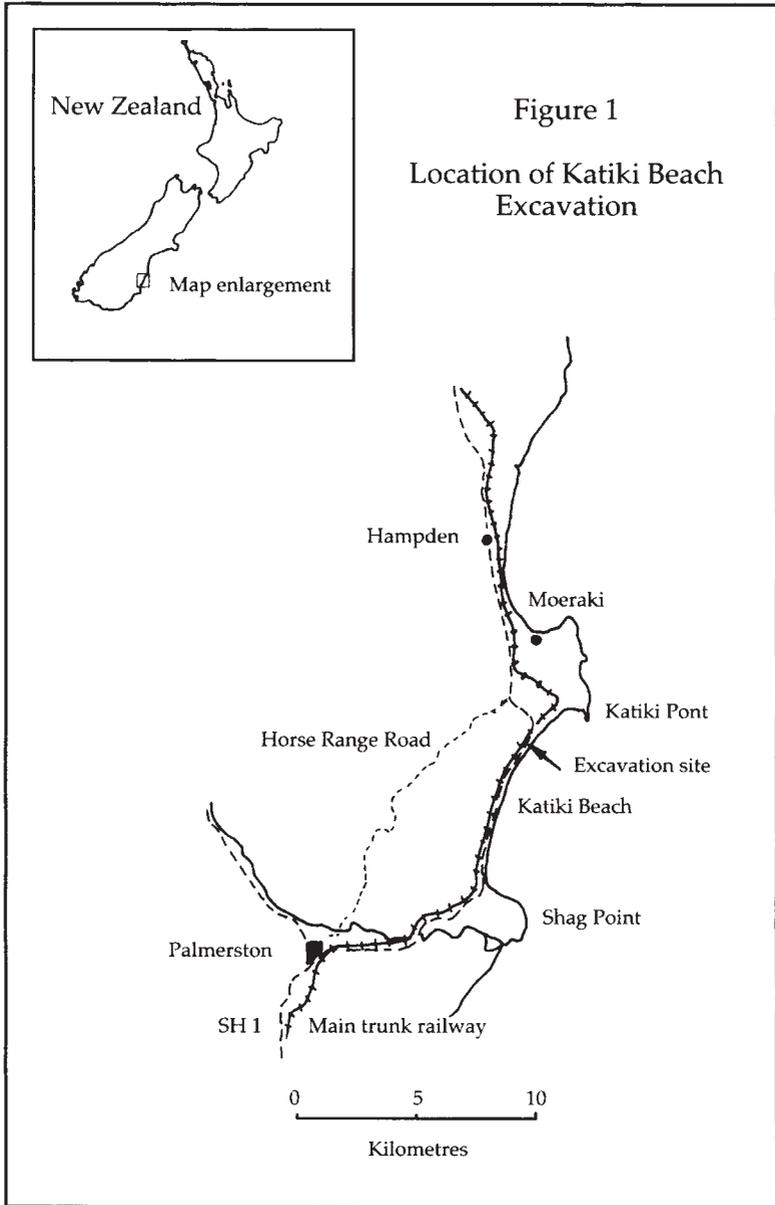


Figure 1. General location of Katiki Beach, Otago.

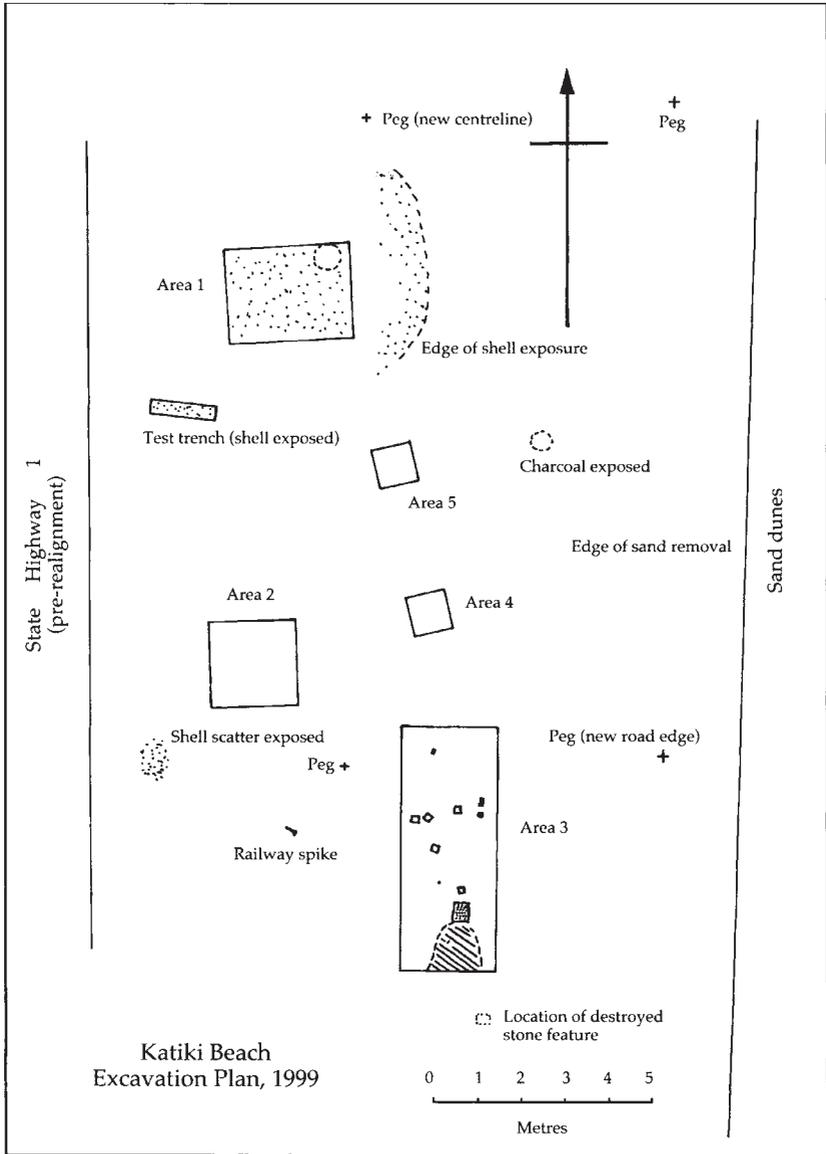


Figure 2. Plan of archaeological investigations at Katiki Beach during road realignment in 1999.

The closest recorded archaeological site, J42/52 (S146/41), was recorded in 1966 in sand dunes about 200 metres from the 1999 excavation. This was a contact period site observed in a track cut, with artefactual material including a barbed bone fish hook, copper sheeting and glass and ceramic fragments. Efforts by Anderson et al. (1978) and myself have not relocated this site.

### **The 1999 Excavation**

An initial site inspection (including a series of test pits) found no exposed cultural material, but bulk removal of sand from the site during the initial road earthworks exposed several archaeological features. These consisted of a small square stone structure (destroyed by exposure), some historic artefactual items and a scatter of mussel shells. A rusted tin matchbox that had been exposed by the digger was identified as probably being an Anson type 9, dating to between ca 1875 and ca 1910 (Anson 1983: 121). This suggested that the site was not modern, and was likely to fall under the provisions of the Historic Places Act (1993). Accordingly, a small rescue excavation was organised.

On-site work commenced with a metal detector sweep to attempt to determine the extent of any historic material. All detector readings were pegged for later investigation. Excavation of five areas was then undertaken (Figures 2 and 3). These were chosen to investigate exposed features, investigate metal detector reading concentrations, and to determine the relationship between various site components:

*Area 1:* A 3 x 2.2 m excavation in the area where shell and charcoal had been exposed by the digger. It revealed a scatter of large blue mussel (*Mytilus edulis*) shell and a stone fireplace/hearth on top of a well-formed A-horizon that had been buried by dune encroachment. This area is discussed in detail below. The metal detector made no readings in this area.

*Area 2:* A 2 x 2 m excavation based on a particular concentration of metal detector readings. However, excavation failed to find any artefactual material of any sort, metal or otherwise. The readings were probably the result of small fragments of corroded iron that were not found during excavation. In common with all areas excavated, a well defined buried A-horizon was exposed beneath dune sand. In Area 2 the surface of this buried topsoil was clean, with no shell or charcoal.

*Area 3:* This area also concentrated on metal detector readings, together with the location of historic material exposed by the digger. Excavation exposed a scatter of historic items lying on an undulating buried dune sand surface. A test pit was dug on the edge of Area 3 down to the buried A-horizon (300 mm below the historic cultural material) in order to determine the



*Figure 3. A view of the site during the archaeological investigation, looking to the north. Nigel Chang is working in Area 1.*

stratigraphic relationship of the Area 3 historic material with the Area 1 hearth material. This area is discussed in detail below.

*Areas 4 and 5:* These were two 1 x 1 m squares excavated between Areas 1 and 3 in order to determine whether there was any relationship between the features exposed in these areas. Both squares produced no cultural material, each exposing the buried A-horizon beneath clean dune sand. The scatter of mussel shell from Area 1 did not extend as far as these squares.

Of these five areas, 1 and 3 were excavated in some detail due to the presence of cultural material.

#### *Area 1, hearth and shell scatter*

The excavation work by the digger exposed several areas of shell over an area of about 15 x 7 m. Initial examination suggested that this was a single layer of shell (mainly mussel) with fragments of charcoal and fire cracked rock. A 2.2 x 3 m area (Area 1 in Figure 2) was opened out around an exposed concentration of charcoal and shell. The sand overlying the cultural material was cleaned back to reveal a scatter of mussel shells sitting on top of a buried A-horizon, surrounding a hearth (Figure 4). A rabbit burrow had disturbed an area in the centre of the excavation (some rabbit bones were found in this disturbed ground).

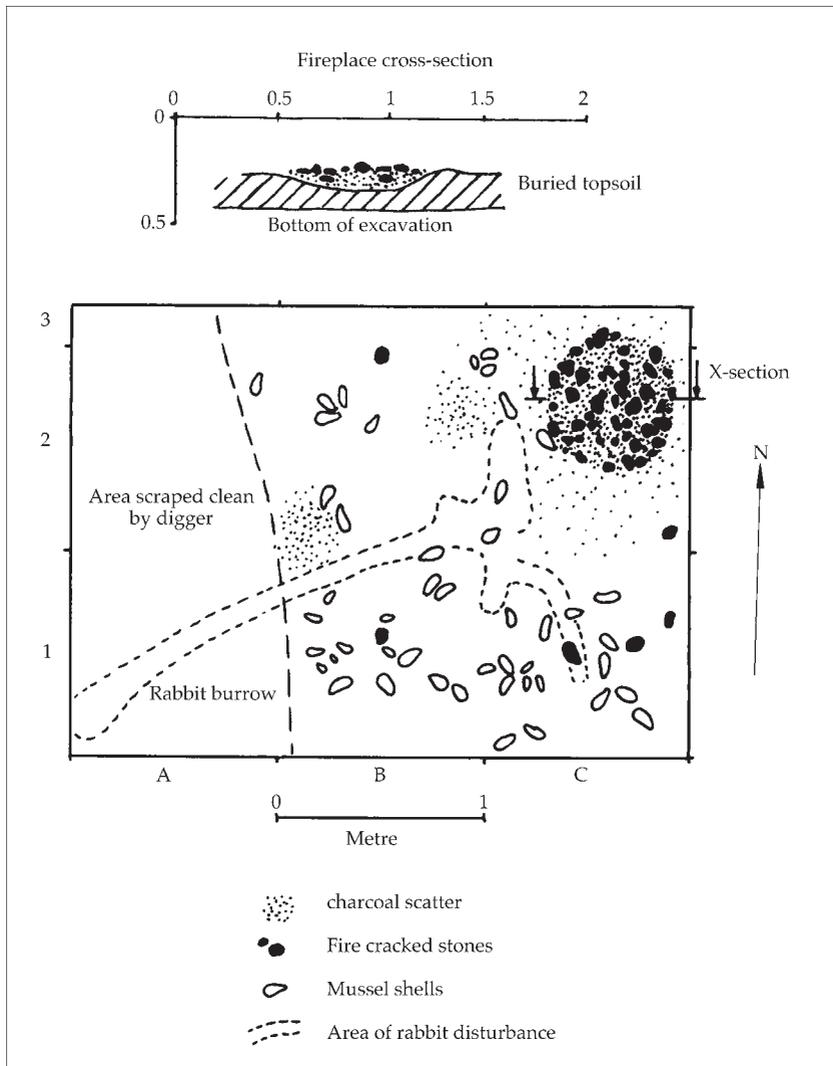


Figure 4. Plan of Area 1.

The hearth (sq. C2 in Figure 4) was well defined, consisting of a shallow scoop in the A-horizon filled with charcoal and fire-cracked rocks. Charcoal was scattered throughout the excavated area. No artefactual material was found.

The faunal material consisted almost entirely of blue mussel (*Mytilus edulis*), with a size range of 18–150 mm long, with a typical size being 120 mm. Some small oyster and limpet shells were also present, although there was clear evidence that these had been adhering to mussel shells.

A sample of the blue mussel marine shell was sent to the Waikato Radiocarbon Dating Laboratory for dating (Wk 7889). The age estimate was calibrated using the programme OxCal v3.2, using the marine curve of Stuiver, Reimer and Braziunas (1998) with  $\Delta R$  set at  $-25 \pm 15$  years to account for regional oceanic variation in  $^{14}\text{C}$  (Higham and Hogg 1995). The single shell (blue mussel) determination gave a CRA of  $540 \pm 45$  and a calibrated age of AD 1680–1820 at  $1\sigma$ . Occupation was more likely at the more recent end of this range (Dr. F. Petchey, pers. comm). This suggests a late prehistoric or early contact period date for the site.

### *Area 3, historic artefact scatter*

Area 3 was defined by a combination of historic material and features exposed by the digger and metal detector readings. All of the features were found within dune sand, above the buried A-horizon on which the Area 1 features were located. The main structural feature, a stone construction, was unfortunately destroyed. However, excavation of the area to the north of this feature was of interest.

Using the metal detector, a number of metal artefacts were located (Figure 5). These consisted mainly of a metal matchbox (in addition to the one already recovered), five square tin lids (probably from kerosene tins), each  $9\frac{1}{2}$  inches (240 mm) square, and a section of perforated iron sheet. Excavation revealed that these items were sitting on an undulating surface, and several were slightly curved as if they had been trodden into the soft sand. The cultural surface was visible as a slight discolouration by flecks of charcoal of the otherwise clean dune sand. Two fragments of large mammal bone (possibly cattle vertebra) showing clear saw marks were also sitting on this surface.

A patch of darkened sandy soil was located at the southern end of Area 3, and contained charcoal fragments, some faunal material and nails. The faunal material consisted of two sections of sawn sheep vertebra, a fragment of lamb vertebra and a mid-shaft fragment of sheep rib.

Dating of the site was based on three artefacts. The tin matchbox collected prior to excavation (i.e., in the sand approximately 50 mm above the cultural surface) appeared to be an Anson type 9 (Bedford type 8a). This type was in use from approximately the mid-1870s until 1910 (Anson 1983: 121). The matchbox recovered during excavation bore the embossed legend “Bryant & May, Wax Vestas, London”, and appeared to be a Bedford type 11c,

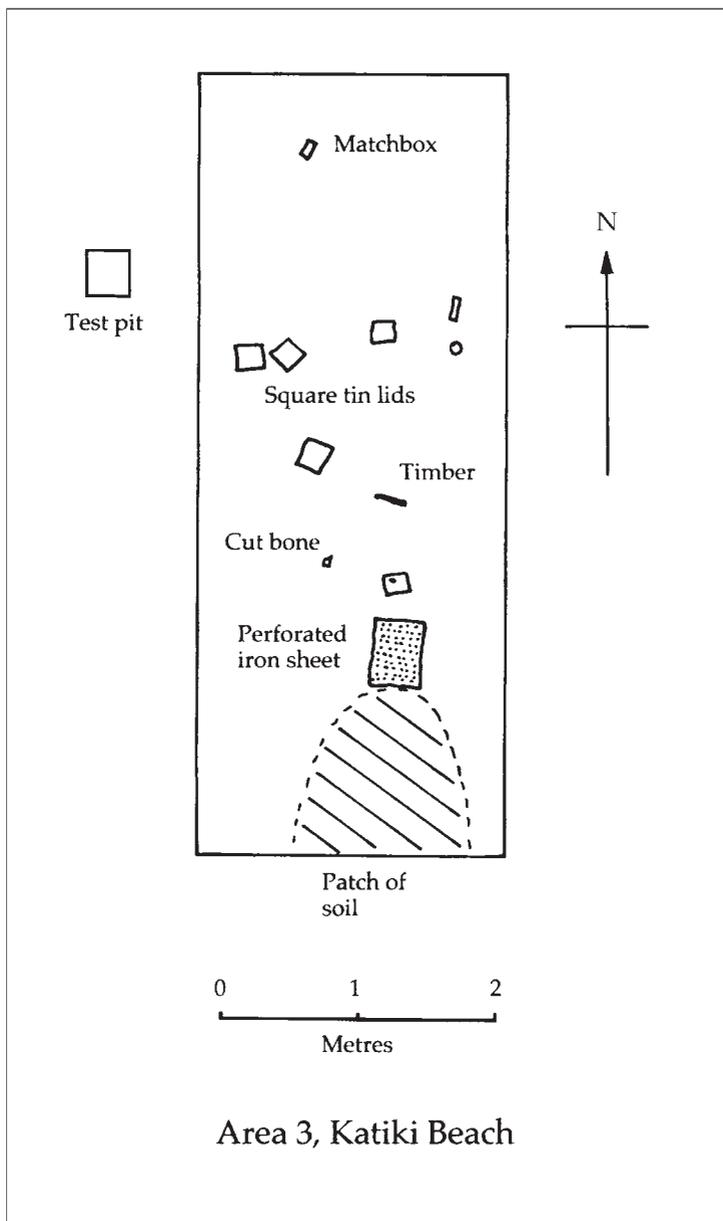


Figure 5. Plan of Area 3.

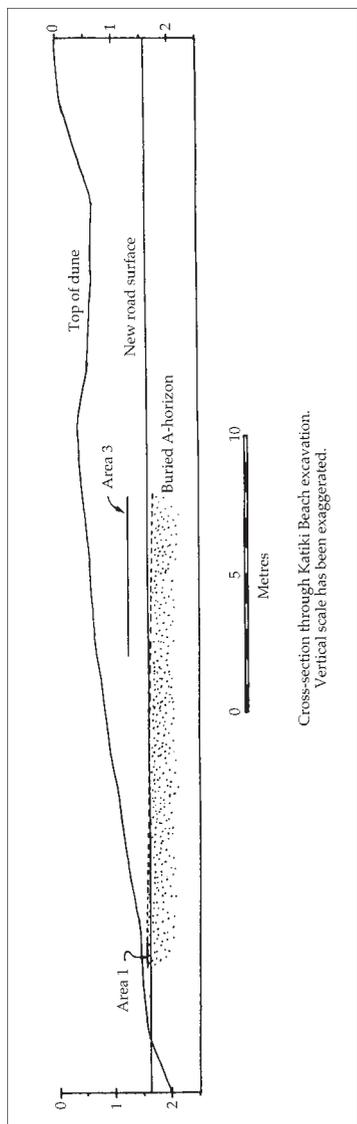


Figure 6. Cross-section through Katiki Beach excavation, showing relationship between Area 1 and Area 3 cultural horizons.

dating to ca. 1875 (Bedford 1985: 54). Third, a railway spike was recovered just to the west of the excavated area, having been located using the metal detector. It suggests a date not earlier than approximately 1876 or 1877. The main trunk railway line between Hillgrove and Palmerston was opened in December 1877 (Moore 1958: 64) and it would have been under construction in this area during the mid-1870s.

## Discussion

This site contained evidence of two distinct events. Two discrete activity areas were located close to each other, but clearly separated stratigraphically. Figures 2 and 6 illustrate these relationships.

The lower site (fireplace and shell scatter, Area 1) was clearly earlier, and was occupied at a time when the ground surface was a well-formed topsoil, possibly just behind the coastal dune system. The calibrated radiocarbon date suggests an occupation sometime between 1680 and 1820, with a likelihood that it was at the more recent end of this period. This suggests a late prehistoric or contact period occupation, although in the complete absence of any artefactual material this distinction could not be made. The simple stratigraphy of the site suggests that it was a camp site that was only used for a short time, possibly only once. The only faunal species that were present in significant numbers were large blue mussel shells, which obviously formed the bulk of the meal eaten on the site. These would have had to be carried to the site, as there is not a suitable reef directly

off-shore at this location, although such reefs are found a short distance north and south. Blue mussel shell has been found in numerous local midden sites. Dune encroachment over the site probably started a short time after the brief occupation, as the mussel shells did not appear to be very weathered and were probably covered soon after disposal.

The upper site (Area 3) was historic, and was formed while dunes were being built up. It thus became encased within a clean dune sand matrix. It is possible that this was part of a short-duration railway workers' campsite, occupied in the mid to late 1870s as the Palmerston–Hillend section of the railway was being built. As only limited evidence of food preparation, alcohol consumption or fireplaces were found, it was presumably not the main campsite, but rather a peripheral area.

Both components of this site illustrate the importance of this section of coastline as a communication route over a long period of time. When taken in context with other recorded sites along the coast (together with the current location of both State Highway 1 and the South Island Main Trunk Railway), they illustrate a continuity of use throughout prehistory and history. The site also illustrates the ongoing dynamic nature of the coastline, and processes of dune encroachment and erosion can be documented there.

### Acknowledgements

I would like to thank a number of people who have assisted with this excavation. Mark McNaelly and Mark Payne of Fulton Hogan could not have been more co-operative and helpful. Nigel Chang, Amy Howard and Kate Miller (all of the Anthropology Department, Otago University) participated in the excavation, and Brian Allingham also visited the site and assisted with interpretation and background information. Dr. Fiona Petchey of the Waikato Radiocarbon Dating Laboratory gave advice regarding the dating of the shell sample from the site, and assisted with the wording of the discussion of the date.

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