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INTERIM REPORT ON EXCAVATIONS AT WATSON'S BEACH (H45/10); AN EARLY COASTAL OTAGO ARCHAEOLOGICAL SITE

Chris Jacomb and Rachel Darmody
New Zealand Historic Places Trust

Introduction

Watson's Beach is located on the Otago coast about 40 km south of Dunedin in a sandy bay below coastal benches that are used for pastoral farming. In the water adjacent to the beach, several rock islets and reefs provide a rocky shore environment to complement the soft shore of the sandy beach. The bay is bordered to the north by Big Creek, and a rocky headland defines its southern limit.

The Watson's Beach archaeological site is visible as patches of cultural material intermittently exposed over approximately 300 m of low sand dunes immediately above the beach. The site was first reported by Jane Teal in 1977 (Site Record Number H45/10) as part of a New Zealand Historic Places Trust survey of the coast between Blackhead and the Clutha River Mouth. It was described as midden scatters consisting of mussel only, extending for 15 metres on the edge of a terrace, at the south end of Watson's Beach. In early 2000 Ken and Marg Tustin found prehistoric material, including moa and seal bone, silcrete blades and two stone minnow-lure shanks, eroding out of the sand dunes at Watson's Beach. Over the intervening years, a considerably larger area had been exposed than Teal had originally seen, reflecting the damaging effect of erosion on such exposed sites.

In February 2000 the Tustins contacted Martin Palmer, kaitiaki of the area, from the Moturata Taieri Whanau (Ngai Tahu), and since that time both families have monitored the site. Concerned that deflated material would be lost into the sea, material found lying on the surface was collected, the location of each piece being recorded on a sketch map. This surface collection contains over 100

artefacts and 300 items of faunal material. The eroding cultural material was concentrated in three main exposures, in the northern, middle and southern parts of the site.

In March 2000 one of the authors (Rachel Darmody) notified the Anthropology Department at the University of Otago of the state of the site with a view to assessing its potential for future investigation, perhaps as a field school excavation. The Department determined that the site was not suitable for a field school (*pers comm.* Ian Barber); however, a monitoring programme was put in place so that the ongoing effects of coastal erosion could be studied (Tucker and Christie 2001).

Almost a year after his initial involvement with the site, Martin Palmer approached the NZHPT for assistance to recover information. Local iwi were concerned at the rate of erosion and were anxious for a salvage excavation to take place. In July 2001 the Trust's southern regional archaeologist (Chris Jacomb) visited the site to assess its condition after a report of severe damage from cattle. The site inspection showed that, although considerable damage had taken place, several areas of cultural deposit remained intact. This both confirmed the research potential of the site and reinforced the urgency of the need for a salvage excavation. An application to the NZHPT for an authority to investigate an archaeological site under s.18 of the *Historic Places Act* was duly submitted by Rachel Darmody. This paper reports the preliminary results from the excavation (Authority No. 2001/138), which was undertaken from 14 to 18 December 2001 and was jointly directed by the authors. For a more detailed physical description of the site and its recent erosional history see Tucker and Christie 2001.

The principal aim of the excavation was to salvage archaeological information from the site before it washed away. Specific objectives were as follows:

1. to recover samples for radiocarbon dating,
2. to obtain samples of fauna represented in the site,
3. to record details of any features such as ovens, postholes, drains etc.,
4. to recover and provide for the future care of items of material culture present in the site.

The Excavation

Random test-pitting confirmed that the densest cultural deposits were restricted to the three areas noted during surface inspection. The excavation efforts were directed to these concentrations, designated Areas A, B and C, north to south

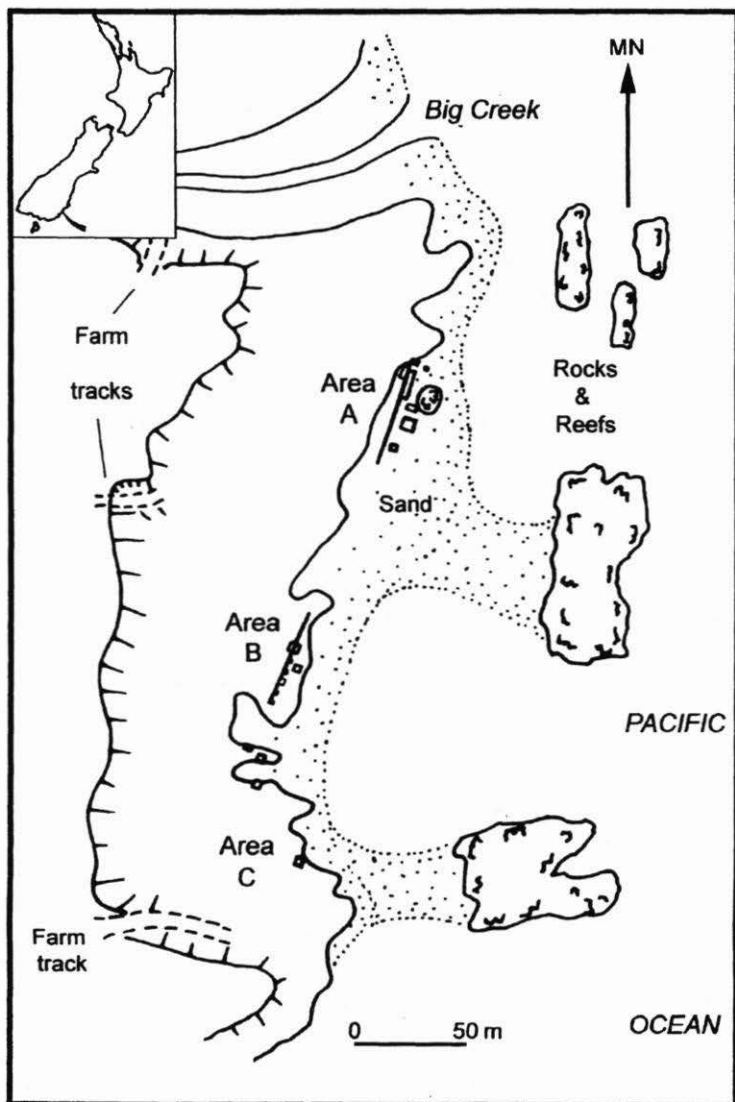


Figure 1. Sketch plan of Watson's Beach site.

(see Fig. 1). The vast majority of the surface collection made by the Tustins and Palmers can be provenanced to these three areas.

Area A

Area A was a relatively level part of the site near a prominent rock outcrop on the beach edge. Waves and stock had damaged the deposit, particularly on its seaward side; however, part of it remained intact under grass. Three small exposures of occupational material were visible in an area of about 40 x 6 m.

A 50 m base line was laid out north to south along the alignment of the exposed material and the concentrations of occupational material were gridded and pegged according to a 1 m grid. The excavation squares were lettered alphabetically W-E and numerically S-N.

The southernmost feature excavated in Area A was a small concentration of charcoal-stained sand and fire-cracked rock that was probably the remains of a small fire-scoop and had been badly damaged by rabbits. About ten metres north of this a low mound about 5 x 5 m in area was investigated and became one of the focuses of the excavation. It comprised at least two fire areas that included fire-cracked rock and charcoal-stained sand, covered by a layer of shell midden, made up almost entirely of blue mussel (*Mytilus edulis*) as well as a few whole paua shells (*Haliotis* sp) and some fish and dog bone. Several large fragments of moa eggshell, as well as numerous bird bones (including several parrot beaks) were found amongst the charcoal-stained sand.

A few metres north of this a smaller concentration of fire cracked rock and charcoal-stained sand turned out to be a shallow oven and a hearth upon excavation. A silcrete blade in two pieces was found in the rake-out of this feature (Fig. 2, left side).

A few metres west of this oven the Tustins had collected several fragments of moa bone, at the edge of the grassed area, amongst some more fire-cracked stones. Just to the south of the moa bones they had noted a concentration of stone flakes and several adze fragments. Just to the north of the moa bone they had observed several fragments of red ochre. Immediately west of the ochre/moa bone locations was an area of apparently intact cultural deposit sealed by a sand layer that was covered in grass. The cultural layer was visible as a band of charcoal-stained sand, about 100 mm thick, below 100-200 mm of clean dune sand. Although the only evidence of occupation was a blackened sand layer, the site was quite level and was a likely location for a dwelling or other structure.



Figure 2. Silcrete blades from Watson's Beach.



Figure 3. Flaked stone discs found at Watson's Beach.

The first two-metre square excavated resulted in the discovery of two probable post holes and some very sparse, crushed midden fragments. On the basis of the post hole evidence, and the non-eroded nature of the deposit here, a relatively large area was turfed and cleared of overburden and excavated (totalling 40 sq m). Unfortunately, no further post holes were found in spite of a considerable amount of effort being expended. For the most part, this deposit only contained a very sparse scatter of crushed shell midden and a few fragments of red ochre, and it was very much disturbed by rabbit burrowing. Two significant discoveries were a concentration of small bird bones, probably all small parrot, and two unusual discoidal stone artefacts, one with a depression in one face (Fig. 3). The stone discs, made from a relatively soft sedimentary stone, had been roughly flaked to shape. Waste flakes of the same material were found in the vicinity.

A trench excavated at the north end of Area A (E-W) showed wind-blown bands of sand dipping inland and still rising towards the east until truncated by wind and wave erosion. However, once this was excavated down to the level of the occupation, the cultural layer dipped towards the sea and inland equally, with a high point about 1.5 m east of the base line. This suggests that at least some of the sand lost during major erosion of the past twenty years or so (see Tucker and Christie 2001) may have involved sand that had been deposited both after the cultural layer was laid down and seaward of it.

Finally, the base of what must have been a small oven was excavated just north of the red ochre deposit.

Area B

Area B was located about 100 m south of Area A and showed up as very sparse scatters of shell midden with concentrations of fire-cracked rock in places. A second 50 m base line and grid was set up aligned and labelled in the same way as Area A. Because the surface evidence did not make it clear where the most important deposits were likely to be, a series of 50 x 50 cm test pits was excavated along the base line at four metre intervals. These revealed only sparse evidence near the surface except for one where a 2 x 1 m square was then excavated (that yielded a sparse mussel midden and some dog bone) and one that produced several fragments of seal bone. On this basis a 2 x 2 m square was excavated, later extended to 4 x 3 m (Fig. 4). The stratigraphy here was similar to that in the Area A midden mound, with a cap of mussel midden overlying a blackened sand layer containing fire cracked rock and cooking fires. However, in Area B the ovens were deeper. A small but deep oven was

exposed near the centre of this excavation as well as a smaller one at the south end. Several pieces of seal bone and two porcellanite flake tools were found immediately below the black layer, resting on clean sand. There was no evidence for any time gap between the deposition of the seal bone/flake tools and the fire features or between the fire features and the shell midden. Some of the seal bone was from a juvenile, or possibly foetal, individual. Some moa eggshell and tracheal rings were found here as well as more bird bones and parrot beaks and a small amount of fish bone.

Close to the north end of the Area B base line a remnant dune outcrop had at least two small stake holes visible in the eroding cultural layer at its base. However, the presence of a little blue penguin living in an old rabbit burrow immediately above the cultural layer prevented any further investigation here.



Figure 4. Sheridan Easdale, Lauren Kaplan and Rachel Darmody excavating in Area B at Watson's Beach.

Area C

At the southern end of the site it appears that most of the occupation layer that might have once been present has disappeared. In two places waves have broken through to the boggy flat behind the beach resulting in deeply scoured

'blowouts', and there is little or no vegetation cover on the remainder of this area of the site. Only the lower parts of several ovens remain, as well as an occasional artefact. Four ovens were intact enough to be worth investigation. All were excavated in half section, including one that was more than two metres in diameter and about a metre deep. None contained any faunal material.

Flat Areas

Several relatively flat areas behind the beach, close to Areas A and B, were test-pitted but no evidence for occupation behind the main alignment of cultural features here was encountered. Sparse cultural material was, however, visible near the blowouts south of Area B.

Discussion

Sites with evidence for moa hunting are relatively rare on the south Otago coast. Between the Otago Peninsula and the Clutha River mouth sparse moa remains have been reported from Kaikorai, the Otokia Creek mouth at Brighton, a cave and an open dune site at Taieri Mouth, and a small site at the mouth of the Tokomairiro River (Anderson 1989: 137).

The stratigraphy at the site was generally simple and straightforward, with a sand overburden, sometimes grassed, overlying a single cultural deposit that rested on clean sand. Up to three episodes of deposition could be seen in the cultural layer, including an initial deposit of seal bones and butchering artefacts (Area B) overlaid by a charcoal-stained sand layer containing fire cracked rocks and seal and bird bones, and ovens, capped by a layer of burnt and unburnt mussel midden. In Area A only two episodes were visible; there was no lower component, and little seal bone. Elsewhere only a sparse scatter of mussel midden and/or fire-cracked rock was present. Although the various deposits at Watson's Beach could not be directly connected stratigraphically, their composition is consistent with their being derived from the same occupation.

Material culture items recovered from the site both through surface collection and during the current excavations included silcrete, porcellanite, obsidian, argillite (mostly with the appearance of being from Southland), chert, basalt, and sedimentary stone. Two schist minnow-lure shanks are among the more striking artefacts found at the site (Fig. 5), along with the two discs described above (Fig. 3). Seven silcrete blades (Fig. 2, 6) and five porcellanite flake tools (Fig. 7) were found, as well as numerous utilised flakes and waste flakes of both materials. Nine adze preforms or fragments were found at the site (e.g. Fig. 8),



Figure 5. Stone minnow-lure shanks recovered from the surface at Watson's Beach by Ken Tustin.

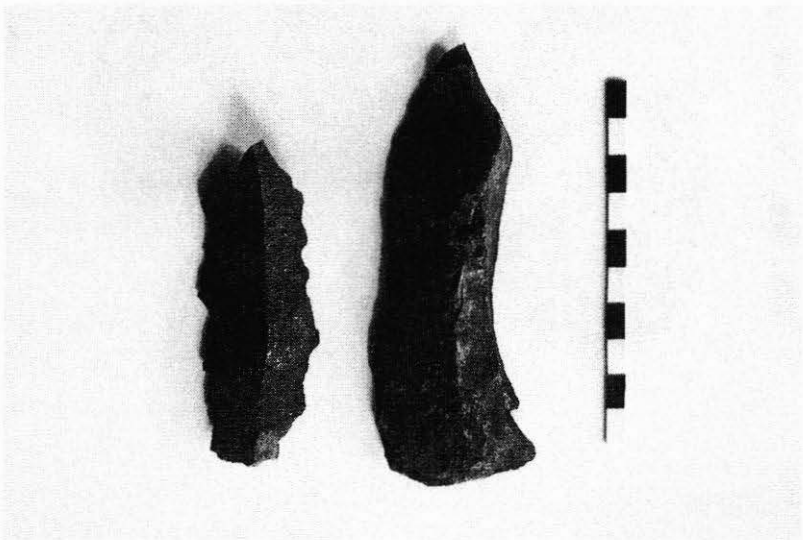


Figure 6. Silcrete blades from Watson's Beach.

seven of them in Area A. Few bone artefacts were found, a notable example being a sharp, fine-pointed bird-bone awl.

There was not much moa bone recovered at the site, although the presence of tracheal rings suggest that at least one bird was killed nearby and, along with the moa eggshell, that at least some of the bone was fresh and not subfossil. The faunal evidence from Areas A and B suggests that the bulk of the meat weight consumed at the site was seal, with some moa, dog and smaller bird. Mussel meat would have made a smaller contribution. The apparently large number of parrots represented in the site requires some comment. Most of these were small, probably parrakeet (systematic identification has not been undertaken yet), and would not have provided much meat. During excavation it appeared that many lower wing and leg bones were missing. It is possible that the birds were harvested for their colourful feathers.



Figure 7. Porcellanite artefacts from Watson's Beach.

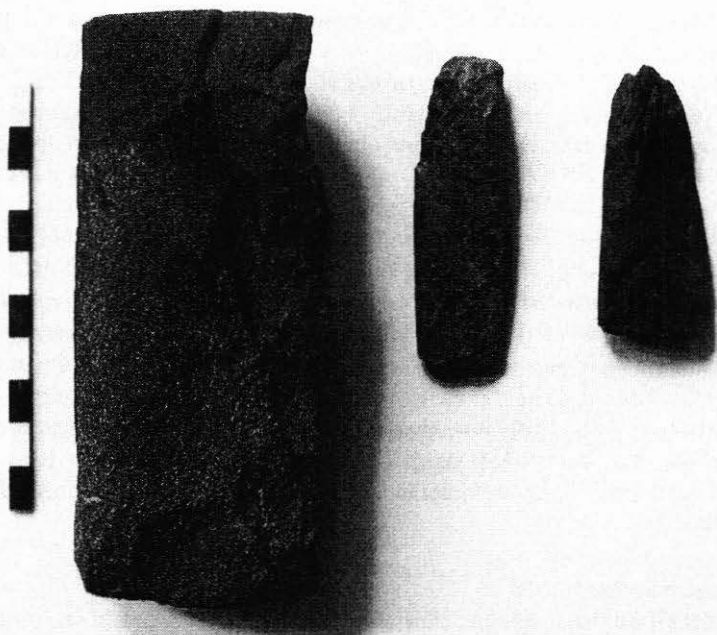


Figure 8. Adze preforms from Watson's Beach.

Several discrete activity areas were apparent during both the surface collecting and the excavation. Although ovens were scattered more or less evenly over the site, often capped by mussel shell midden, various specific activities were localised within Area A. These included an area where adze fragments and flakes were concentrated, an area just to the north with a moa bone deposit, and an area just west of that where the two discs appear to have been made. Immediately north of the moa bone deposit was found a scatter of red ochre fragments, and the two probable post holes were found a few metres to their west. Finally, two to three metres northwest of the post holes a concentration of small parrot bone was found.

The main activities represented at the site revolved around resource exploitation and included moa and seal butchering and consumption, fishing and shellfish gathering, and fowling. Although some of the fowling was undoubtedly for meat, much of it is likely to have been aimed at obtaining colourful feathers. There are several discrete areas in Area A where specific activities were undertaken including artefact manufacture or maintenance (flaking of adze stone

and the two stone discs), use or manufacture of red ochre pigment (kokowai) and processing of small birds. The stone material found at the site includes some that may have been brought from as far away as Southland (some of the argillite), Central Otago (some of the silcrete and porcellanite), and Nelson (argillite). The impression gained by both the location of the cultural deposit (spread along a narrow, north-south alignment, with little evidence immediately inland of either Area A or Area B), and the evidence from the trench at the north end of Area A (that the base line was located very close to the highest point on the dune at the time the site was occupied) is that the occupation may have been concentrated along a single dune ridge. It is possible that it did not extend a great distance seaward of what is currently visible. Certainly the deposit, where it still remained more or less intact, was generally shallow and sporadic, indicating a brief occupation. However, the site is important in the context of Otago archaeology, being one of only a very small number of coastal sites to have been systematically investigated so far. Analysis of the material recovered from the site will yield significant new information about early Maori settlement, chronology and interaction with the environment on the south Otago coast.

Acknowledgements

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