An Archaeological Survey of Hakapureirei (Sand Hill Point)

Richard Walter and Chris Jacomb

Southern Pacific Archaeological Research

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Background

This report describes the results and recommendations arising out of an archaeological survey and surface collection undertaken at Hakapureirei (Sand Hill Point) for the Department of Conservation (DoC). The fieldwork was carried out by the authors during a DoC-managed multi-disciplinary field trip that took place between 14 and 17 December 2004. The archaeological study was part of a larger programme of research involving botanists, geographers and iwi that was commissioned by the Department in response to ongoing management concerns.

The archaeological site lies within the Sand Hill Point Historic Reserve (Gazette Notice 080611.2. Gazette 1982, p. 603) which covers a total area of 13.8858 ha. This report will contribute to the preparation of a Department of Conservation management document to guide work required to protect and conserve the many values of the reserve.

This archaeological investigation was undertaken under a Section 18 Authority from the New Zealand Historic Places Trust (Authority No. 2005/120).

Site description

Hakapureirei is an eroding dune system containing an archaeological site complex that covers an area of about 7 ha. It lies immediately below a remnant Pleistocene beach that lies approximately 20 m asl. Dune sand is being blown over the older raised beach surfaces from the predominant south-westerly winds. The dunes have a low vegetation cover that includes pingao (*Demoschoenus spiralis*) and marram (*Ammophila arenaria*) and they contain several large deflation hollows that are covered with a thin lag deposit of pebbles and grit. The hinterland is gently rolling country covered in regenerating native forest that extends back to the Fiordland mountains. The dunes have a cobble beach to the east and a sandy beach to the south and west. Between these two areas is a rocky headland where seals haul out. The foreshore is dominated by rocks and reefs (Fig. 1).

The archaeological exposures at Hakapureirei are varied and discontinuous. They are present on both the lower dunes and on the raised terrace and range from discrete surface exposures of oven stones and midden to isolated artefact find spots. This raises the question of whether Hakapureirei should be described as a site, a series of sites or a site complex. It seems likely that at least some of the features are functionally and chronologically related. But the current spatial patterning is also likely to be, in part, an artefact of taphonomic processes – the accumulation of features from different time periods following the initial use of the site. In recording the archaeological features at Hakapureirei one of our major concerns was to gather information that would assist in addressing issues of this sort.

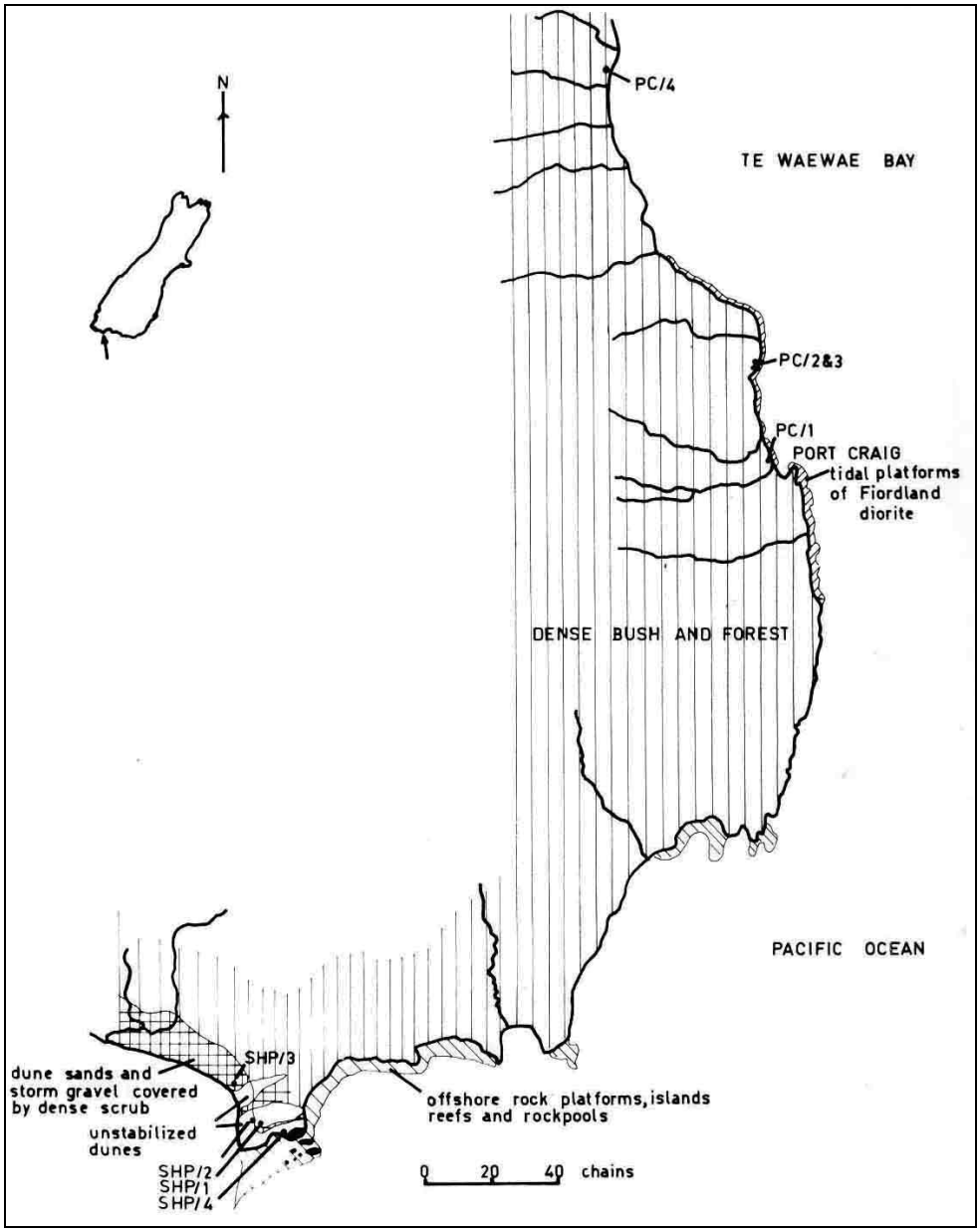

Figure 1. Locations of sites excavated by Peter Coutts at Hakapureirei and Port Craig (Coutts 1972: fig. 14-1).

Archaeological context

Peter Coutts visited Hakapureirei in October 1968 and carried out small-scale test excavations at four places (SHP/1–SHP/4) as well as three at or near Port Craig (Fig. 1), some 7 km to the northeast (Coutts 1970; 1972). Most of the exposures he saw at Hakapureirei were relatively small but in one place (SHP/3 – see Fig. 2 and 3) he described two occupation levels; one in the immature soil sealing the former dunes, and the other in the dune sand below. At Hakapureirei he reported fish bone and shell midden - mainly paua (*Haliotis* spp) and sea urchin (*Euchinus chlaroticus*), as well as hearth stones, a whalebone “blank” and other fragments of worked whale bone, 2-piece fish hook pieces (mainly shanks), two barracouta lure hook points, a one-piece fish hook, a bird-spear point, a harpoon point and some obsidian flakes (see Fig. 4-7).

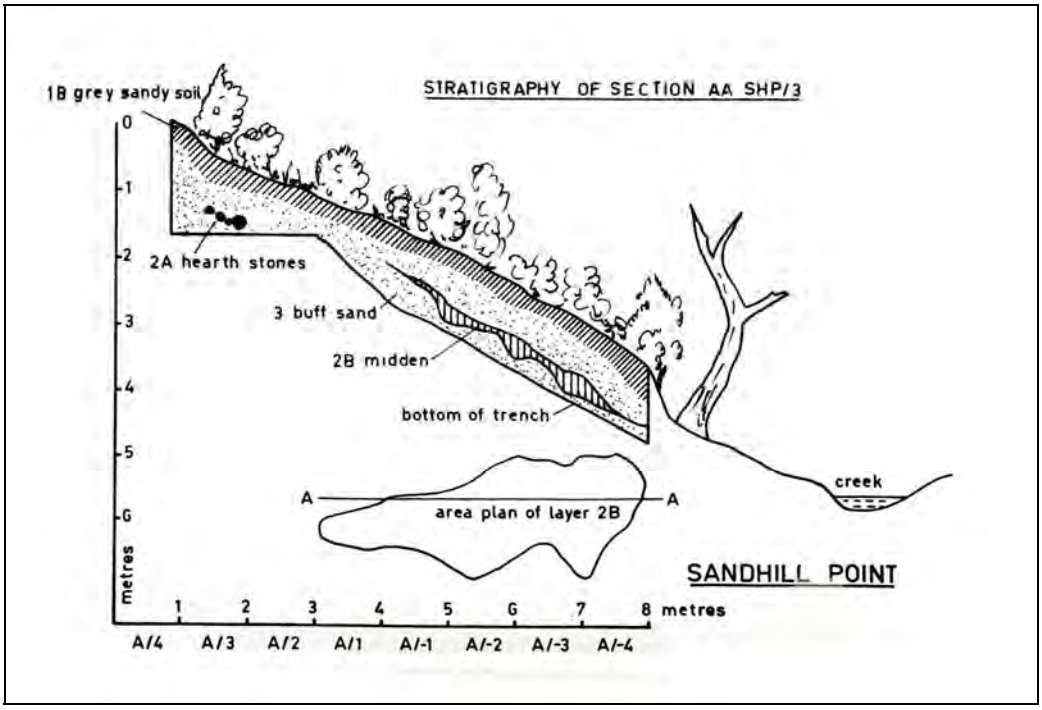

Figure 2. Section through site SHP/3 at Hakapureirei, excavated by Peter Coutts (1972: fig. 14-2)

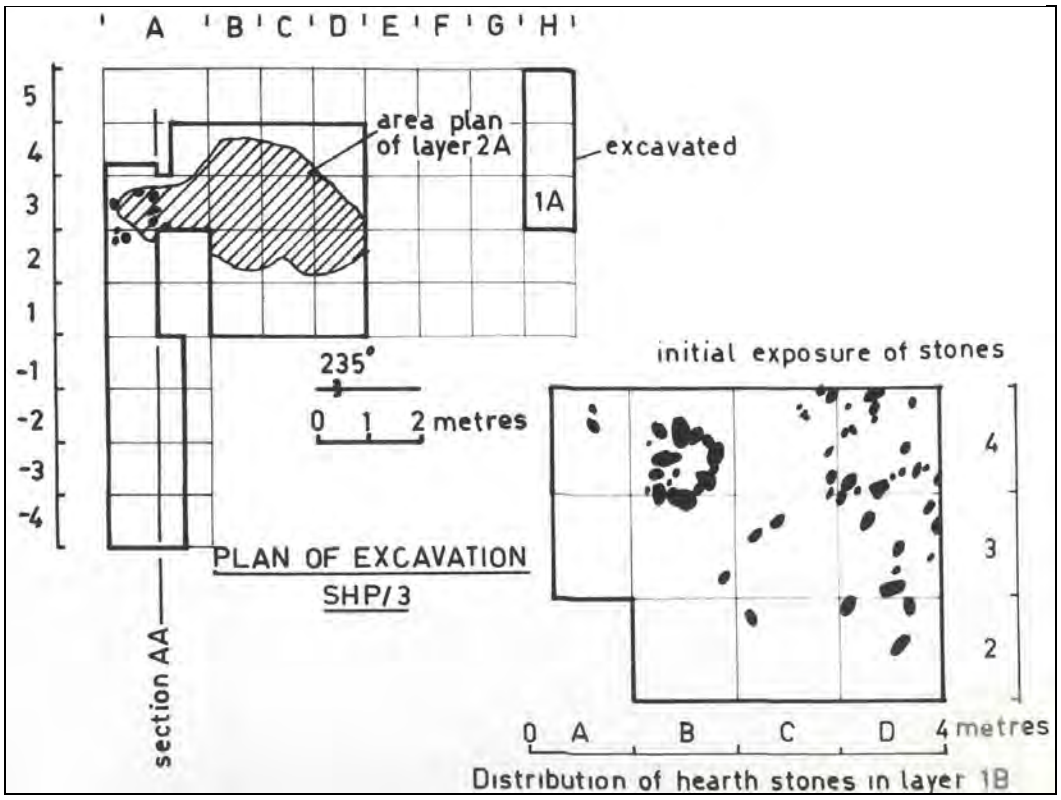

Figure 3. Plan of excavation of site SHP/3 excavated by Peter Coutts (1972: fig. 14-3).

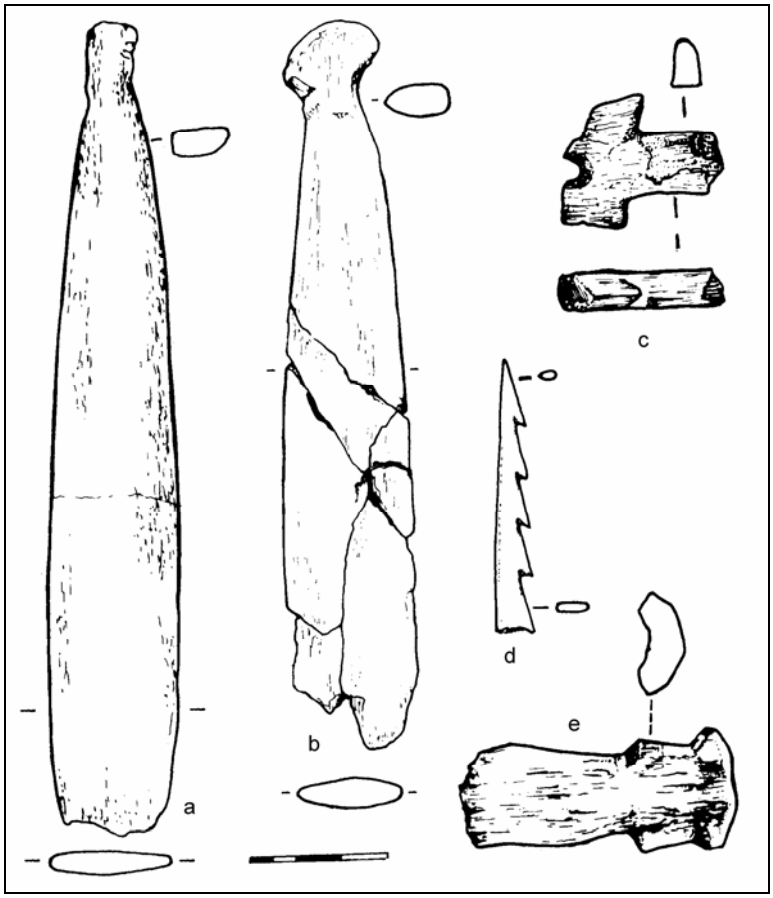

Figure 4. Artefacts excavated at Hakapureirei by Peter Coutts. **a.** Paua lever or ripi – SHP/4 A/6; **b.** Paua lever or ripi – SHP/4 layer 2; **c.** Mid-section of moa-bone harpoon point – SHP/2 A/1 layer 2; **d.** Point fragment of bone bird-spear point – SHP/1 layer 1 spoil; **e.** Butt end of paua ripi – SHP/4 A/4 layer 2 (Coutts 1972: fig. 4-167).

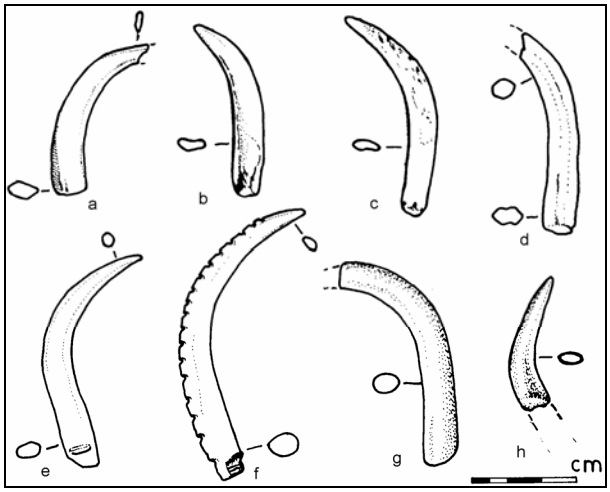

Figure 5. Barracouta lure hook points excavated at Hakapureirei by Peter Coutts. **a.** SHP/4 A/1 layer 2; **b.** SHP/4 A/4 layer 2; **c.** SHP/4 A/4 layer 2; **d.** SHP/4 A/1 layer 2; **e.** SHP/2 A/1 layer 2; **f.** SHP/1 layer 1; **g.** SHP/2 A/1 layer 2; **h.** SHP/2 A/1 layer 2.

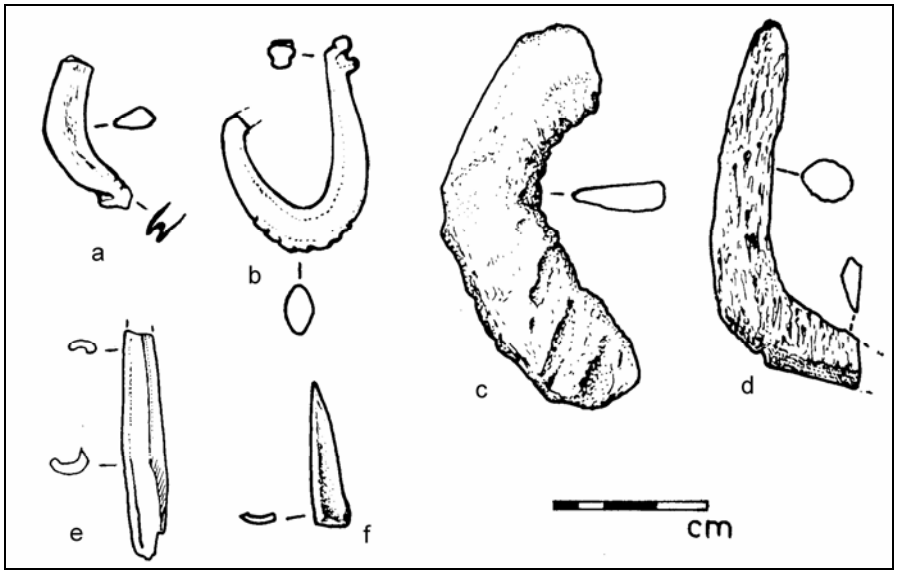

Figure 6. Artefacts excavated at Hakapureirei by Peter Coutts. **a.** Shank portion of composite fish hook (bone) – SHP/4 A/4 layer 2; **b.** One-piece fish hook – SHP/4 A/6 layer 2; **c.** Unfinished barracouta lure hook point whale bone SHP/2 layer 1 layer 2; **d.** Unfinished barracouta lure hook point whale bone – AHP/2 A/1 layer 2; **e.** Possible tab for composite fish hook point (bird bone) – SHP/4 A/4 layer 2; **f.** Possible tab for composite fish hook point (bird bone) – SHP/4 A/5 layer 2.

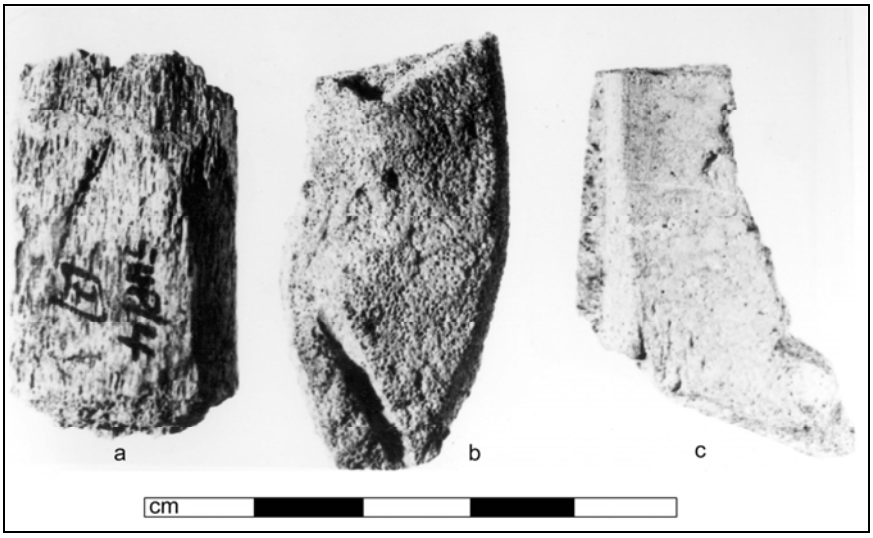

Figure 7. Worked pieces of whale bone excavated at Hakapureirei by Peter Coutts. All from SHP/4 A/2 layer 2.

Coutts carried out faunal analysis and described the material culture (above) in his PhD thesis (Coutts 1972). The midden was dominated by shellfish, principally mussel (*Mytilus edulis*), catseye (*Lunella smaragda*), paua (*Haliotis* spp) and Cook's turban (*Cookia sulcata*), of which much of latter was "utilised" although for what is not made clear. At two of his sites, SHP1 and SHP4, there was a marked predominance of Lunella, which Coutts interpreted as indicating preferential gathering (1972: 224).

The dominant fish species present in the middens Coutts sampled was barracouta (*Thyrsites atun*) although significant numbers of blue cod (*Parapercis colias*) and also spotty (*Pseudolabrus* spp.) were recorded; a pattern that is repeated in most coastal archaeological sites of Otago and Southland where midden analysis has been undertaken. The bones of only eighteen birds were identified in the midden samples, including pigeon (*Hemiphaga novaeseelandiae*), South Island kaka (*Nestor meridionalis*), parakeet sp, bellbird (*Anthornis melanura*), little blue penguin (*Eudyptula minor*), fairy prion (*Pachyptila turtur*), wandering albatross (*Diomedea exulans*), Antarctic prion (*Pachyptila decolata*), blue petrel (*Halobaena caerulea*), pied shag (*Phalocrocorax varius*) and variable oystercatcher (*Haematopus unicolor*) as well as two unidentified species. Finally, mammal remains were not common either. Coutts reported Polynesian rat (*Rattus exulans*), seal (*Arctocephalus forsteri*), Polynesian dog (*Canis familiaris*) and human remains. Dog mandibles were used for manufacturing a type of barracouta lure hook point, and Coutts interpreted some of the dog remains as evidence for the manufacture of such points.

Lithic material was rare in Coutts's excavations, with most having been imported to the site. Several flakes of obsidian were reported, which he interpreted as having been multipurpose tools used for cutting bone and other materials (1972: 229). Fragments of three adzes were found at SHP2 which appeared to Coutts to have been smashed deliberately and thrown into a fire.

Largely on the basis of the seasonal behaviour of fish, particularly barracouta, the dominant fish species, Coutts estimated the season of occupation of Hakapureirei to have been late spring and summer, although there was some evidence for a limited winter occupation. Coutts interpreted the Hakapureirei sites as being fishing camps that were occupied briefly by transient populations during the warmer months of the year, where local raw materials including whale bone and *Cookia* shell were worked and where dogs were killed occasionally for both meat and raw materials (bone for making barracouta lures). He drew a relatively strong relationship between this industrial activity and the subsistence activities carried out here, such as the manufacture of barracouta lure hooks as well as composite and one-piece bait hooks for fishing, manufacture of paua levers (ripi) for harvesting paua, and bird spear points for catching forest birds (Coutts 1972: 231-2).

The Hakapureirei site is interesting on several levels. First, the archaeological evidence extends over a very large area, albeit discontinuously. Second, it is situated in an exposed coastline environment a considerable distance from other sites of any size. Third, it is located in a position with a relatively restricted range of readily available resources.

Aims

The following issues were identified as requiring specific archaeological attention:

1) A physical assessment of the archaeological site including a consideration of the following:
    a) Nature of the features present
    b) Chronology of pre-European occupation
    c) Distribution and spatial relationship of features and artefacts

2) The significance of the archaeology in a local, regional, and national context

3) Inventory and interpretation of existing artefact collections held at Southland Museum and Art Gallery, including those excavated by Peter Coutts

This report address the first two of these issues and provides some preliminary information on the third. It also provides an assessment of current and future threats and offers some recommendations for future management of the heritage component of the reserve.

The authors are also aware of larger research issues to which the archaeology of Hakapureirei can contribute. We do not address these issues specifically in this report, except in a summary form. They are, however, matters which may draw archaeological attention in the future. These include:

1) The nature of early settlement and exploitation of the Southern Coast

2) Transport and exchange of raw materials

3) Technical issues in archaeological field survey, recovery and interpretation in deflated dune systems

Method

The investigation was conducted by foot survey combined with a variety of recording methods (see below). All archaeological features and artefacts were given a unique field number (see Appendix 1, 2) and described in the field note book. The following methods were used to record basic spatial data:

1) Large-scale mapping of the dune complex showing the location of individual features and artefacts. This work was carried out in conjunction with the geography team under the direction of Dr Mike Hilton (University of Otago). A Leica total station was used to create a detailed map of the eastern portion of the dune system onto which individual archaeological features were plotted.

2) Recording location and extent of individual features and the position of isolated artefacts using differential GPS (Trimble Pro XR)

3) High resolution (8 megapixel) digital photographic record of all features

4) A large single species shell midden exposure was recorded in detail using photogrammetry.

Surface artefact collections were made as follows:

1) Individual artefacts considered by archaeologists and iwi to have particular value, and which were located in positions making them prone to fossicking or natural damage were located using GPS then uplifted, bagged and removed to the University of Otago laboratories for further analysis.

2) One large deflated deposit containing artefacts and midden was selected for detailed analysis. A total collection of material was made using a one metre grid.

Radiocarbon samples were taken by selecting marine mollusc shells from the exposed faces of eroding midden deposits.

Archaeological Record

The archaeological deposits occur both in the lower dunes, principally visible in the deflation hollows and the eastern beach scarp, and on the upper Pleistocene beach terrace. The dunes are highly mobile so that the archaeological deposits are being regularly covered and uncovered and there is an ongoing loss of archaeological deposit along the eastern beach scarp. There may be few remaining intact deposits. Indeed, the only places in the site where we can be confident that any intact deposits are present, beyond thin lenses of charcoal-stained sand and sparse midden, are along and just below the crest of the low dune ridge immediately back from the east-facing beach scarp at the eastern margin of the dune complex (e.g., Features 61 and 62, described below). We noted two categories of archaeological feature at Hakapureirei – features and artefacts – and the locations where these were recorded are marked on the site plan (Fig. 8).

Features

These comprise clusters and surface scatters of various types of cultural debris including heat shattered rock, charcoal stained sand and midden. No attempt was made to formally sub-divide features into lower order categories because the ambiguous nature of the field record would have made it difficult to provide rigorous definitions. However, the features seem to represent several broadly defined classes of activity as outlined below (see also Figure 8). All the features have been given single Feature Numbers (e.g., F1, F2 etc) and basic descriptions and photo numbers are provided in Appendix 1.

Note also that human remains have been found on the site previously (e.g., Coutts 1972) and representatives of Te Runanga o Oraka Aparima pointed out to us an area that they recalled as encompassing the zone within which burials had been reported. We have marked this as an urupa on Figure 8, although no archaeological evidence of burials was found during the 2004 field visit to Hakapureirei. There are two human mandibles documented in the Southland Museum and Art Gallery catalogue.

Middens

Nine of the features were nearly entirely composed of food remains and were found in various states of deflation or erosion. The midden content was dominated by shell but small quantities of bone were present in several deposits – this was mainly small bird and sea mammal, including at least two species of whale (several small whale bones may be from Pilot whales (*Globicephala* sp.), which strand along this coast and have been recorded in sites in the vicinity (Smith 1989: 98). The middens range in size from small surface exposures of discrete intact deposits to discontinuous banding along some 30 m of the eroding eastern beach scarp (Figure 8). The majority, however, are lag deposits located in deflation hollows (see Appendix 1). The range of midden types is illustrated in Figures 9-12. The following notes on faunal composition and diversity are based on qualitative field observations:

a) Paua (*Haliotis* sp.) was present at high relative abundance levels in many of the middens, particularly those in the northeast edges of the dune.

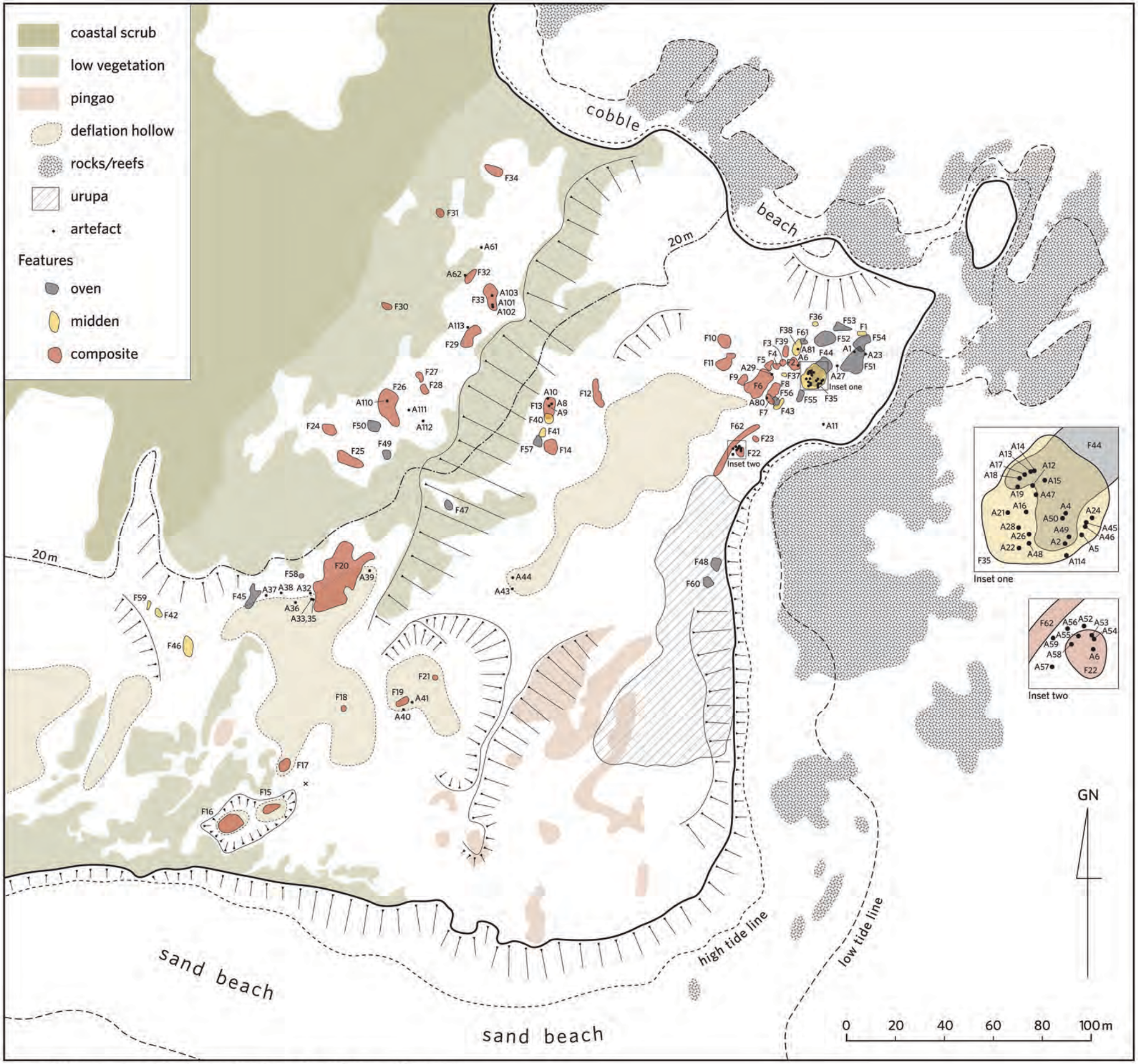

Figure 8. Hakapureirei site showing locations of artefacts and features.

b) One single-species midden (Feature 35) was recorded (Fig. 9). This was a large (c.20 m^2) exposure of catseye (*Lunella smaragda*) shells.

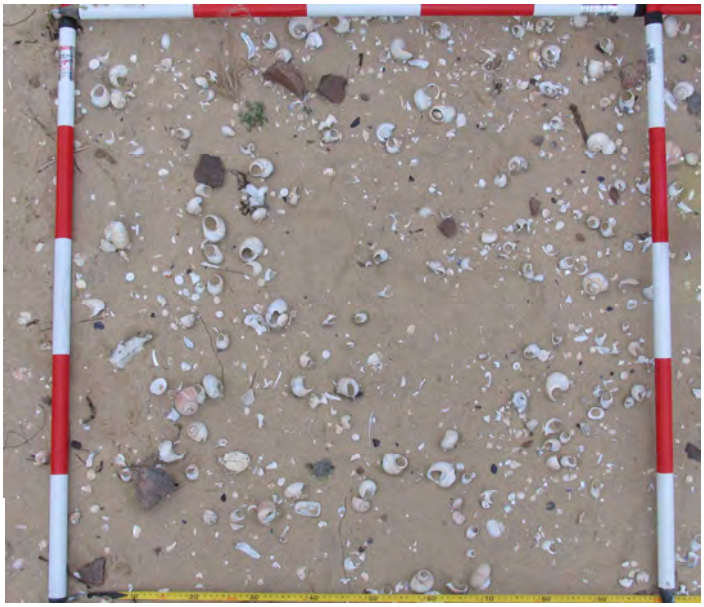

Figure 9. Single-species midden of catseye (*Lunella smaragda*, Feature 35).

c) Other shells noted in the middens include mussel, Cook's Turban, and mudsnail. Several of the middens also contained kina shell.

d) Fish bone was not present in high densities, but examples of barracouta, ling and red cod were observed.

e) Sea mammal bone was common across the site, but at very low densities. We observed specimens of New Zealand fur seal (*Arctocephalus forsterii*) and whale (unknown species). Much of the whale bone contained evidence of working (Fig 10).

Figure 10. Whale bone fragments (Feature 49).

f) Small bird bones were found in many of the middens and a total surface collection of bone was made from Feature 12 (see below). In many parts of the site, and particularly in the lag deposits, much of the bird bone might derive from natural causes. Identification of bone is not yet complete.

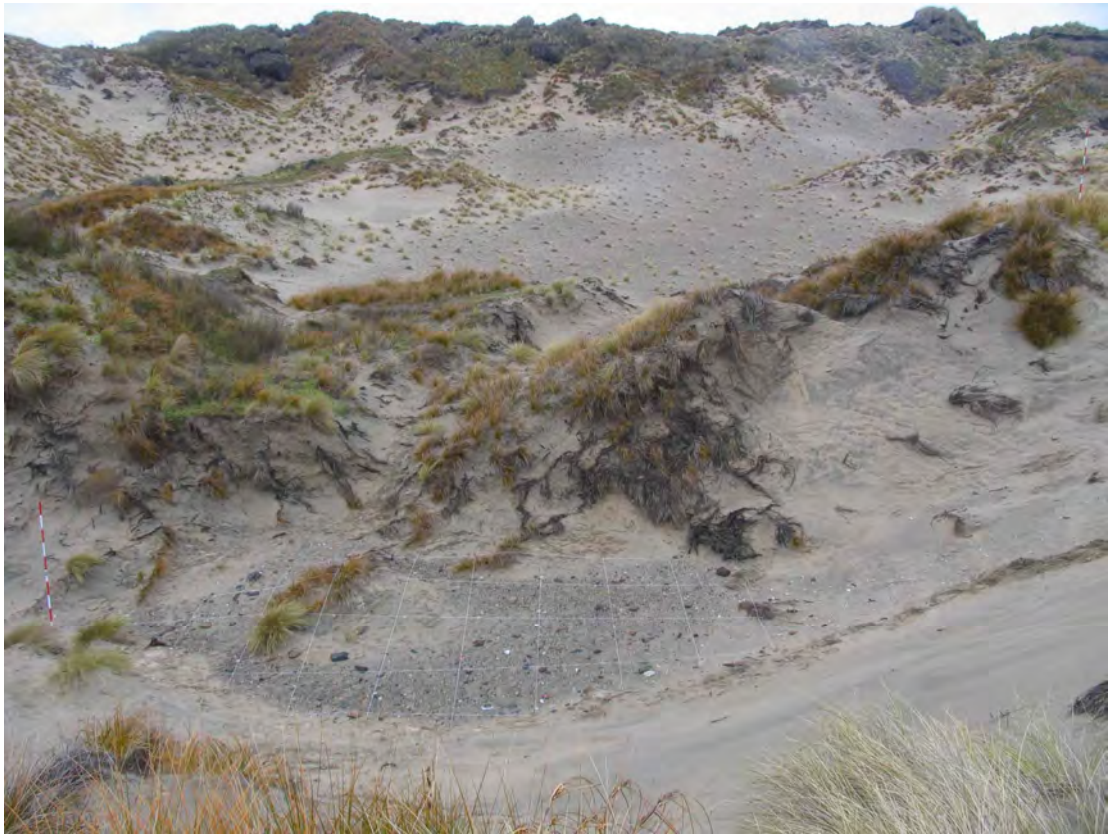

Figure 11. Gridded area (Feature 15) where a total surface collection was carried out.

Ovens

Sixteen cooking features were recorded. These range from nearly intact ovens containing dense clusters of heat cracked rocks in a charcoal-rich sandy matrix, through to sparse scatters of heat cracked rocks (e.g., Fig. 13). Midden and artefacts were often found in close association with the cooking features.

Figure 12. Oven stone scatter (Feature 50).

Composite features

This category covers all those features which could not be easily designated as either middens or ovens. Composite features are composed of low density patches of any combination of the following: heat shattered rocks, bone, shell, charcoal and artefacts (e.g., Feature 33, Fig. 13).

Figure 13. Composite feature (Feature 33).

Artefacts

A number of the artefacts found on the site occurred as single isolated specimens but there were several zones in which artefacts occurred at higher densities. We note in particular the association between features and artefacts (see Figure 8). The following artefact types were recorded during the 2004 visit.

a) Bone fish hooks. Three types of fish hook were found at Hakapureirei.

i) Barracouta lure points. These hook points are found throughout the New Zealand sequence, but are particularly common in Southern New Zealand. They occur in a range of forms, but those found at Hakapureirei are the round-sectioned variety that is associated with the early part of the sequence with examples known from Wairau Bar and other archaic sites. However we do not yet have a very tight chronology of hook types in the New Zealand record so this can only be taken as a broad indication of an early age for the site. Three examples were found at the site, although one was buried by sand before it could be retrieved (Fig. 14).

Figure 14. Barracouta lure hook point, moa bone.

ii) One-piece bait hooks. These fish hooks are largely restricted to the earliest part of the New Zealand sequence. Two fragments of this type of hook were recovered from the site, made from moa bone. They were found very close together and are almost certainly parts of the same artefact (Fig.15). One-piece fish hooks are made from a sawn and snapped rectangular "tab" of bone or sea mammal tooth which are then drilled out to form the rough hook shape. They are then carefully shaped using fine sandstone files. A fragment of a moa bone one-piece fish hook tab (Fig. 16) was found at Hakapureirei.

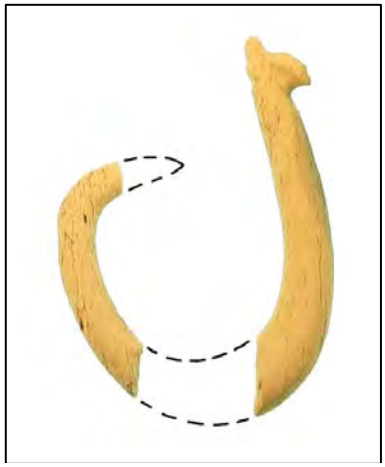

Figure 15. One-piece bait hook, moa bone (Artefacts 33 and 34).

Figure 16. Fragment of one-piece fish hook tab, moa bone (Artefact 101).

iii) Composite bait hook points. These were made for attachment to a curved wooden – or, in some. cases, bone - shank, and take the place of piece hooks in the middle and later part of the prehistoric sequence. A single example was found during the current investigation (Fig. 17).

Figure 17. Bone point of composite bait hook (Artefact 62).

b) Sandstone files. Sandstone files are shaped pieces of sandstone (they can also be made of schist), that are used to shape artefacts such as bone bird spears, harpoons and fish hooks. Two fine sandstone files were recovered from Hakapureirei (Fig. 18), in contrast to the complete absence of attrition tools noted by Coutts.

Figure 18. Sandstone files (Artefacts 102 and 103).

c) Stone flakes. A number of simple stone flakes were recovered, some of which had hammer-dressed or polished surfaces and were therefore fragments of broken or reworked adzes. They occurred in a variety of materials of which we identified the following in hand specimen analysis: argillite, at least some of which appears to be from the Riverton (Tihaka) source (Fig 18a); silcrete, probably from a Central Otago source (Fig. 18c); porcellanite, probably from northern Southland or Central Otago (Fig. 18d), quartz (Fig. 18e) and obsidian from the North Island (Fig. 18f).

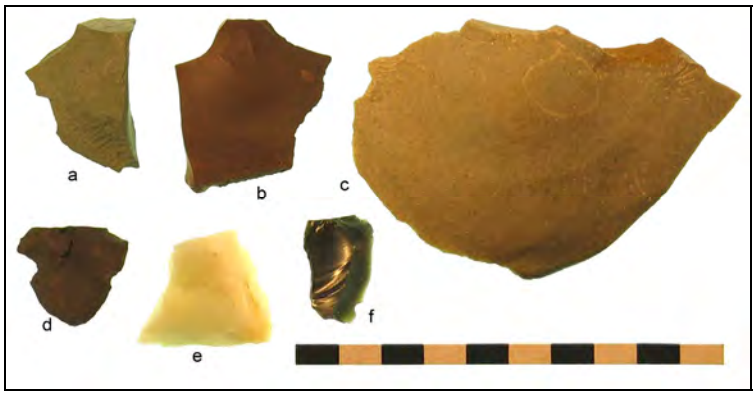

Figure 19. Examples of stone used for flaking at Hakapureirei (**a.** green argillite, **b.** red argillite, **c.** silcrete, **d.** porcellanite, **e.** quartz, **f.** obsidian).

d) Worked whale bone. Several pieces of whalebone with cut and abrasion marks were recorded, including one which may have functioned as a mallet and another that is likely to have been intended for manufacture into a paua lever (Fig. 20).

Figure 20. Worked whale bone, possibly a roughout for a paua lever (Artefact 36).

e) Possible whale-bone working tools. Several large water rolled cobbles measuring about 150 mm in diameter were recorded with shatter damage along the margins and were found in association with whale bone and within features (Fig. 21). These may have been used for working whale bone – perhaps to “flake” the bone against anvil stones. The authors have observed similar artefacts along the Kaitorete spit on the Canterbury coast, also associated with whale bone working.

Figure 21. Flaked stone tool, possibly for working whale bone (Artefact 23).

f) Adzes. A few broken adze heads were recovered. At least some appear to be manufactured in Riverton argillite (Fig. 22).

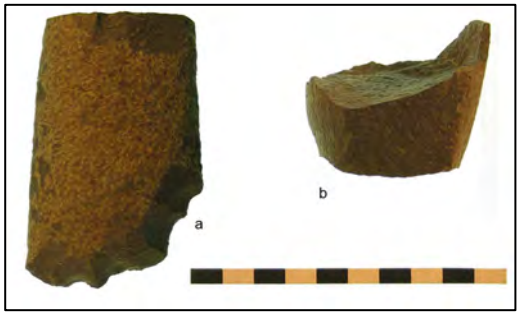

Figure 22. Adze fragments (**a.** Artefact 32, **b.** Artefact 35).

g) Whale bone spatula or ripi. The ripi is usually described as a lever for removing paua from the rocks and indeed tools of a similar shape are used for that purpose today; although made of metal. But it is possible that the ripi was used for removing paua from the shell. A particularly finely finished example was recovered from the site during a visit in 2003 (Fig. 23). A number of these artefacts are held in the Southland Museum and Art Gallery collection from Hakapureirei (see below).

Figure 23. Paua ripi, whalebone (found during 2003 visit).

Figure 25. Selection of paua ripi in the Southland Museum and Art Gallery collections.

In addition to the artefacts excavated by Coutts and those recorded during the 2004 field visit a further collection from Hakapureirei is housed in the Southland Museum and Art Gallery. A list of the Southland Museum artefacts is in Appendix 3. It includes 28 adzes, the majority of which appear to be early styles (e.g., Fig. 24), but which also include four nephrite examples.

Figure 24. Selection of adzes from Hakapureirei in the Southland Museum and Art Gallery collections.

As well as the adzes, 18 barracouta lure hook points were found, most of which were the round-sectioned type that are most commonly made from moa bone and which are understood to be from early in the New Zealand sequence. Seven bone points from composite bait hooks are recorded in the SMAG collections as well as 14 stone fishing sinkers. Two bone needles and a bone awl are present in the museum collection. The collection also includes 11 or possibly 12 paua ripi; an artefact which seem to be very distinctive of the site and reinforce the midden evidence for the importance of paua in the subsistence system.

Radiocarbon Dates

Five samples of marine shell from Hakapureirei were submitted to the Waikato University Radiocarbon Dating Lab for analysis (Table 1). The samples were taken from surface exposures of shell midden at the following four locations: Feature 20 (two samples of cockle (*Chione stuchburyi)*, Feature 1 (one sample of cockle), Feature 2 (one sample of cockle) and Feature 22 (one sample of Cook's Turban (*Turbo smaragda*)).

Table 1. Radiocarbon dates

Provenance	CRA*	Calibrated Age**	$\delta^{13}C$	Lab. No.
Feature 20, *Chione stuchburyi* GPS reference 2072012 5424309	774 ± 32 BP	1σ AD 1470-1560 2σ AD 1460-1630	0.9 ± 0.2	Wk-16586
Feature 20, *Chione stuchburyi* GPS reference 2072012 5424309	746 ± 32 BP	1σ AD 1500-1620 2σ AD 1480-1650	0.7 ± 0.2	Wk-16587
Feature 1, *Chione stuchburyi* GPS reference 2072104 5424258	839 ± 36 BP	1σ AD 1440-1500 2σ AD 1410-1540	0.4 ± 0.2	Wk-16588
Feature 2, *Chione stuchburyi* GPS reference 2072104 5424258	865 ± 33 BP	1σ AD 1430-1485 2σ AD 1400-1520	0.4 ± 0.2	Wk-16589
Feature 22, *Turbo smaragda* GPS reference 2072123 5424180	813 ± 34 BP	1σ AD 1455-1520 2σ AD 1430-1580	1.0 ± 0.2	Wk-16590

* Conventional Radiocarbon Age
**Radiocarbon dates calibrated using Oxcal v3.10 (copyright Bronk-Ramsey 2005) with marine data from Hughen *et al.* 2004 (Delta R -7 ± 11)

The radiocarbon dates indicate that Hakapureirei was used between the early 15th and late 16th centuries AD. Such a small corpus of dates cannot be taken to provide exhaustive evidence of the chronology of the site complex; however the tight clustering of the dates, from a range of locations, allows this occupation range to be accepted with some confidence.

Spatial patterns

A composite map of the dunes and archaeological site complex has been compiled from a number of sources and is shown in Figure 8. Given that the investigation of Hakapureirei reported here was based on a three-day surface study of a highly mobile environment, any spatial interpretation must be considered tentative. Yet the distribution of features observed in the field does lend itself to a certain interpretation. First, we point to the discontinuity of the cultural deposit. In part this can be attributed to erosion and site deflation but there are extensive areas of sterile lag deposit which should have preserved a record of human activity had any occurred there. The south-eastern edge of the dune system seems to have been one main locus for human activity. The long midden exposure in this area (Feature 62) could relate to a camp site in the vicinity and within 50 m or so there are a number of discrete activity zones including ovens, perhaps once associated with small

structures, and some evidence of manufacturing activity. Manufacturing is inferred from the presence of stone flakes, worked whalebone and tools that may have been used for the processing of the latter. A second locus of activity is on the higher dunes about 150 m inland and 30 m above sea level. In this zone there is likely to have been open forest and scrub at the time of occupation which would have provided some shelter from the relentless winds of the southern coast. The more consolidated soils would also have provided better support for any structures. Elsewhere along the lower dunes there is intermittent evidence of low-density activity in the form of small ovens, scatters of midden and the odd flake or flake cluster. These probably result from small, temporary camps established by small parties who were either visiting the site to make use of seasonal resources, or were passing through the area on the way to somewhere else.

An interpretation of the archaeological record of Hakapureirei

In our opening description of the archaeological landscape we asked whether Hakapureirei should be described as a site, a series of sites or a site complex. At this point we believe it is the latter. Our strong impression is that Hakapureirei was the location of multiple, short term and low-intensity occupations. As a result the Hakapureirei dunes contain a juxtaposition of features from different points in time and thus comprise a palimpsest of history. This is not a synchronic landscape; the stratigraphy is conflated, and it may be difficult to tease individual features apart on chronological grounds. Nevertheless, in a site complex of this sort the spatial distribution of individual site components retains meaning and it is our view that Hakapureirei is potentially able to contribute some insights into the chronology of human exploitation of, and movement through, the southern coastline of New Zealand. We offer brief comments on some relevant issues.

1) Hakapureirei was occupied relatively early in the New Zealand sequence. The evidence for this is firstly in the nature of the artefacts. Moa bone was used as an industrial material at Hakapureirei where finished hooks including barracouta lure points and one-piece hooks as well as a one-piece fish hook tab in this material have been recovered. It is possible that sub-fossil bone was collected for hook making, but the pressures on curved barracouta points are such that fresh bone is vastly superior and we consider it likely that the visitors to or residents of Hakapureirei had access to fresh moa bone. Second, the style of both the hooks and adzes is indicative of an early occupation with similar examples of such items coming from sites like Wairau Bar and Houhora, which are among the earliest in the country (late 13th – early 14th centuries A.D. see Higham, Anderson and Jacomb 1999) . Third, Coutts reported a bone harpoon point, almost certainly of moa bone (Fig 4c). This type of artefact – at least in the form illustrated by Coutts – is strongly associated with very early occupation in New Zealand. Finally, Coutts (1970) referred to 2-piece bone fish hook shanks being the predominant class of fish hook fragment he recovered at the site (although he only illustrated one, Fig. 6a, in his 1972 thesis). With the exception of minnow lures (which could be described as a type of two-piece hook), two piece fish hooks almost invariably had wooden shanks. Bone fish hook shanks are only found very rarely in New Zealand archaeological sites. In the northeast South Island, they are generally only found in contexts that appear on other ground to be close to the end of the time when moa formed part of the diet (Jacomb 1995). Where there are any radiometric data for these contexts (e.g., Tumbledown Bay and Moncks Cave) the indication is for an occupation in or near the 15th century (Allingham n.d.; Holdaway and Jacomb 2000). The evidence at Hakapureirei is all consistent, therefore, with an occupation centred on a 14th to 16th century time span. The radiocarbon dating results provide strong support for this estimate, although with emphasis on the later part of this range.

2) The duration of use is probably no more than a century or two. This chronological argument is more difficult to support on either material culture or radiometric grounds. The most compelling argument is simply a variation of that offered above – that the material culture all 'looks' early. Nephrite, although known about from very early in the sequence, is only found in very low numbers in Archaic deposits. However, by the time of European contact it is often the predominant stone material in archaeological sites. Only a few examples of nephrite have been found on the surface at Hakapureirei. The general absence of moa bone from the site does not necessarily mean that moa were not available by the time the site was occupied but the generally damp climate and dense undergrowth of the often swampy forest would have meant that there was little suitable moa habitat along the southwest coast of New Zealand (Anderson 1989). The nearest site with evidence of moa hunting is a cave near Port Craig reported by Coutts (1970), although moa bones were found at Pahia and a site at the western end of Wakapatu Bay (Teviotdale n.d.) as well as at Tihaka (Higham 1968) and Tiwai Pt . At Tiwai Point, the only site of any size on the south coast that has evidence of moa hunting, moa were estimated to have provided 17 percent of the meat weight as compared to 72 percent for seal (Sutton and Marshall 1980).

Furthermore the Riverton stone quarry source which we have identified as being represented in the Hakapureirei adzes was an important source in early Southern New Zealand. The degree to which it was used later on has not yet been established but on present evidence it may be an indicator of early settlement.

3) What was bringing people to Hakapureirei, one of the most exposed and windswept stretches of coastline in the country? Two possible answers arise from the archaeological record, although these do not exhaust the full range of possibilities. The first is that they were coming for the acquisition of specific resources and at least two potential resources are obvious. Large amounts of barracouta were identified in the midden recovered from the site by Coutts. Combined with the evidence of the numerous barracouta lure hook points found here, this suggests that barracouta fishing was a major activity at the site. Also, this part of the coast is renowned for paua: rich paua middens are present at Hakapureirei and the site also contains the largest assemblage of *ripi* known from anywhere in the country. It is likely, therefore, that the site was being used seasonally for taking and processing both barracouta and paua. Seal and whale bone are also found on the site, and there is evidence for the processing of whale bone. Thus sea mammals might also have been an attractor, although there is less evidence for manufacture than we would expect in a specialist site of this sort, and we do not observe middens rich in sea mammal.

The second possible answer for what people were doing at Hakapureirei is that they were simply passing through. Hakapureirei, is situated at what would have functioned as a convenient stopover during travel between the Colac Bay – Riverton area and Fiordland. There are numerous sites attesting to the use of Fiordland in pre-European times, although many may date to a later period than is indicated at Hakapureirei. There is a good sheltered bay at the south-eastern end of Hakapureirei (see Figure 8) and this may have provided a convenient stopping-off point for people moving between Riverton-Bluff Harbour and the fiords. In such circumstances people would have chosen spots like Hakapureirei that provide access to specific resources.

4) All the arguments raised above concerning duration of occupation, site function and chronology imply specialist occupation. In other words, we do not see Hakapureirei as supporting a village community with all that this implies in terms of architecture, spatial organisation and material culture. Many of the ovens are much

larger than those we would normally associate with household level activities and the middens tend to have low levels of diversity, pointing towards a very targeted exploitation strategy such as we might expect to be associated with a specialised seasonal camp. But the record of absence is almost as informative as the record of presence. A range of tool types that are often associated with sites of a similar age to Hakapureirei have not yet been identified at Hakapureirei. These include small bone tools such as tattoo chisels and "pickers", and no ornaments of any sort have been recovered. Furthermore there are no signs of any rectangular hearths or post holes such as we might expect to see if there was any substantial architecture.

The Hakapureirei survey highlights a number of significant aspects of the potential heritage significance of landscapes of this sort. Hakapureirei is a deflated dune environment and the archaeological record consists of eroded and heavily damaged horizons that are not necessarily in primary stratigraphic context. Archaeologists may be tempted to dismiss such difficult (degraded?) landscapes as unworthy of attention but, as the Hakapureirei work shows, this would be unwise. It is important first to recognise that such landscapes contain in a single horizon the accumulated evidence of a sequence of historical events that we would normally expect to be stratigraphically separated. This imposes limitations on the way in which the spatial data can be analysed. All spatial distributions need to be seen as potentially cumulative, as probably representing long term processes of landscape use rather than the remains of a single event phase.

The spatial patterns that emerge tell us about long term regularities and disjunctures in the use of the landscape. Appropriate field methods are required. Most important is the use of survey methods that work at different levels of scale. In our work we used a combination of GPS and total station theodolite to provide large scale maps of the dune systems. At lower levels we used the same methods, plus tape and compass maps to plot the distribution of artefacts and features. Selected areas were gridded and total samples of material collected, and photography was used to record all features in the expectation that their life expectancy is limited.

The other important point about Hakapureirei and sites of this sort more generally is that they fall beyond the range of site types that are usually targeted for study by archaeologists. On the one hand they are, obviously, badly eroded and thus contain a biased record. But they are also transitory sites, places that were occupied for short periods for specific purposes and thus they do not contain the full range of structural and material culture elements that would be in use in contemporary prehistoric communities. Yet the fact is that for most of prehistory, and particularly in the early periods, there were very high levels of mobility in this country. The nature of this mobility is currently in contention in New Zealand archaeology and thus sites like Hakapureirei may hold the answers to some key questions. This area of coastline is one of the most extreme and difficult places ever settled by Polynesians and we should expect the sites to be small, transitory and difficult to deal with in archaeological terms.

The general impression therefore is of an intermittently occupied specialist fishing and shellfish gathering site that may have had a stopover function. There is midden evidence for the procurement and consumption of a range of forest and seashore species. Barracouta fishing along with paua processing and whalebone working are two specialist activities that occurred at the site. Use of Hakapureirei may have been restricted to relatively early in the sequence, perhaps from the late 14th to the 16th centuries or so.

Site management

In this section we discuss a range of management issues relating to the Hakapureirei site including its condition, significance, archaeological potential and threats, and we make recommendations about its long-term management.

Condition and completeness

The Hakapureirei site is large, but generally contains very sparse and apparently shallow deposits. These comprise discrete concentrations of middens and ovenstones, and the occasional artefact, with large areas of sterile ground as shown by the extensive lag deposits. Very little of the archaeological landscape is intact. It is located in an area of active dunes, and is therefore subjected to long-term cycles of sand build-up and removal through aeolian processes, exacerbated by the effects of deer and visitors. Although this means that there are times when a protective cover of sand will form over a cultural deposit, the long-term effect of this cycle is the "deflation" of all of the sand matrix, resulting in a lag deposit of cultural material at a lower level than its original provenance. The general condition of the site is best described as very poor. The only definitely intact deposits visible at the time of the field investigation were intermittent exposures of a dense but shallow midden along the eroding eastern beach scarp (Features 38 and 62), representing only some1-2 percent of the visible archaeological evidence at Hakapureirei.

It is possible to make a rough estimate of the likely completeness of the site complex based on the extent of the lag deposit of pebbles and the amount that contained archaeological material. Approximately 10 percent of the lower dune area of Hakapureirei is fully deflated. Any occupation in the former dunes above this zone would have left some evidence, if only heat cracked rock and stone artefacts, lying on the lag surface once the sand was removed. In fact, only about five percent of the deflation zone contained any such evidence (e.g., Features 15, 16 and 20), suggesting that only five percent of the Hakapureirei landscape ever contained any archaeological deposit. Since the visible archaeological evidence covers a similar proportion of the total land area, it is reasonable to assume that there is not likely to be a large amount of further cultural deposit remaining hidden below the sand.

Significance

Locally, the site is significant for being a large site in a section of coastline that has few recorded pre-European sites, and those it has are relatively small. It is also the only site complex in western Southland that is situated in an unstable, deflating dune system. It also has local significance as being a well-known Maori site where artefacts have been picked up over a long period of time. In this way it provides direct evidence locally of the time-depth of Maori occupation in western Southland.

In a regional context, Hakapureirei is significant for being one of only a handful of archaeological sites in Southland that have been the subject of systematic archaeological investigation. It has therefore been able to contribute a major portion of the archaeological knowledge that is available about the prehistory of this region.

Nationally it is important for having contributed to the development of our understanding of the history of Maori settlement and use of southern New Zealand. It is also uniquely placed to provide information relating to human adaptation and subsistence in an extreme coastal environment. Finally, it is an important example of an archaeological site complex in an unstable dune environment and for its potential to contribute to understanding dune processes as they affect archaeological sites.

Although we are not qualified to comment on the significance of the site to Maori, it is clear from our conversations with representatives of Oraka Aparima Runanga that it has a range of important values to iwi. Not only does it provide a tangible, direct link to ancestral life here over a large number of generations, but koiwi tangata have eroded out of the dues in the past, and more are likely to remain in the site.

Potential

Sites like Hakapureirei provide information that is difficult to obtain in non-eroded conditions – in effect these types of site are "excavated" for us. Since the site is slowly being "excavated" by largely natural processes, it has potential to continue to reveal useful evidence of the sort we describe here.

However, the site has already yielded a considerable amount of information over the years. Some 90 artefacts have been surface-collected there in addition to the material recovered during the 2004 investigation. Coutts's excavations resulted in a significant amount of faunal analysis being undertaken. Finally, the current project has resulted in a detailed map and record of all visible evidence, as well as a radiocarbon and material culture based chronology and a summary of all available evidence. Although there is some potential for significant new information to be obtained from the site through excavation – of, for example, the relatively level upper terrace where some of the apparently *in situ* ovens may be associated with living sites and structures – Hakapureirei has already been able to tell us most of what it has to say about its history and use. Any future work on the site might be better directed at the analysis of specific aspects of material already available in museum and excavated collections.

From a wider "management research" perspective, the site has the potential to contribute to an understanding of the processes affecting archaeological sites in mobile sand dune environments. Regular monitoring, perhaps in combination with aerial photogrammetry, would allow any changes to the site to be readily identified and documented over time. This would enable an evaluation to be made of the success of any active management strategies implemented by the Department of Conservation.

Threats

The archaeological deposits at Hakapureirei are being damaged in four direct ways, through wave erosion, wind erosion, trampling (by people and animals) and fossicking. The latter three would be considerably reduced if the site had a good cover of vegetation. However, extensive areas of the site are either completely free of ground cover or are only sparsely vegetated. Where these areas are level, the vast majority of the archaeological deposits present are deflation zones. Any intact deposits are visible as thin lenses in eroding dune faces. These are particularly susceptible to damage through trampling. Any archaeological deposits that are protected by vegetation cover were, for the most part, invisible at the time of our visit.

Recommendations

There are several ways of approaching the question of the future care and management of the archaeological site, and these will have to be considered in tandem with the matter of the management of the Hakapureirei dune complex as a whole. There are four general options for the archaeological site itself, as follows:

1. Leave it as it is. The result will be a gradual deterioration and eventual loss of the entire site.

2. Carry out salvage excavations in selected areas. The result would be similar to that from the first option, but with the addition of some further knowledge about specific aspects of the site's history.

3. Carry out remedial work (possibly in combination with 2). This could include some effort to keep both visitors and grazing animals out of the reserve, as well as revegetation with appropriate species (particularly dune binders like pingao), and the construction of brushwood fences to trap sand and help build up dune height in specific areas.

4. Monitor the site in the medium term, with visits by someone appropriately skilled to report on the condition of the various aspects of the site and to collect and record the locations of any newly exposed and significant items (faunal remains, material culture etc).

There are two possible reasons for wanting to excavate a site: to recover significant information about the site that would otherwise be lost (salvage excavation), or to obtain specific information relating to a particular question (research excavation). It is our opinion that salvage excavation should not be considered a priority at Hakapureirei, simply because the type of information that would be likely to be obtained from excavation of the most threatened parts of the site would probably duplicate that which is already known. If, on the other hand, it is determined in the future that the site has the potential to contribute to a specific research objective, then it might be considered worthwhile to carry out an excavation accordingly.

It is difficult to envisage any measures for keeping either visitors or deer out of the dune area. Deer-proof fences would be very difficult to establish here and probably impossible to maintain in the vicinity of the exposed ocean beach. Given the condition of the site in general and the estimated area of intact site remaining, the expense of fencing the dune area is unlikely to be warranted. Furthermore, the most threatened intact deposits are situated along the eastern beach scarp where fencing would be impractical.

It is very difficult to keep people out of the dune complex. DoC has already erected signboards warning of the presence of the fragile sites and the damage that human visitors can inflict, but there will always be a percentage of trampers who will ignore them. The only recommendation we can offer here is to ensure that the signs are maintained. If the signs don't already make reference to the potential fines upon conviction under the Historic Places Act, then it would be useful if they could be updated to do so.

Vegetation cover is a major factor in the future care and preservation of the site complex at Hakapureirei. Parts of the dunes that are covered in pingao, marram and low ground cover have some protection; however, much of the site area is in actively eroding sand. Where there is no ground cover, any surviving archaeological deposits have a greater susceptibility to damage through erosion and trampling. If revegetation is selected as a management tool at Hakapureirei, then it would be sensible far any revegetation efforts to be targeted to those parts of the dune complex that contain intact archaeological deposits as a first priority, and any other archaeological deposits as a second priority. However, if deer and visitors are not excluded, then it is not likely that revegetation – e.g., with native dune binders – would be successful. Brushwood fences to trap sand might have some effect in assisting the build-up of a protective cover of sand in particular locations but, again, the only significant area of intact deposits is in an area where this technique is not suited.

In conclusion, our recommendation is that the best management option is to put in place an ongoing programme of regular monitoring. This should involve detailed mapping and recording of new exposures, and surface collecting of material that has the potential to contribute new information. At less frequent intervals aerial photographs should be taken from a specific height after control points have been established on the ground. The Department might like to consider using the site as a case study on the long term processes affecting archaeological sites in mobile sand dune systems in a national context.

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Appendix 1. Inventory of features and artefacts from Hakapureirei, December 2005.

Feature	Description	Field photo
A 1	Anvil stone [not recovered from site]	2180
A 2	Flake in Feature 44. Green argillite (Tihaka source?).	2181
A 3	Flake in Feature 44. Red ?argillite.	2182
A 4	Flake in Feature 44. Reddish porcellanite.	2183
A 5	Flake in Feature 44. [not recovered from site]	2184
A 6	Flake. Large flake of fine grey silcrete.	2190
A 7	Coprolite - probably dog	2199, 2200
A 8	Flake. [not recovered from site]	2215
A 9	Point of barracouta hook [not recovered from site (buried by wind overnight?)]	2217
A 10	Bone point of barracouta hook. [not recovered from site (buried by wind overnight?)]	2218
A 11	Flake of quartz	No photo
A 12	Flake of green-grey argillite, one face polished, from Feature 35	No photo
A 13	Flake of very fine dark grey argillite from Feature 35	No photo
A 14	Flake of green-grey argillite from Feature 35	No photo
A 15	Flake of white quartz with cortex and possible edge-wear, from Feature 35	No photo
A 16	Fragment of grey stone from Feature 35	No photo
A 17	Flake of green-grey argillite from Feature 35	No photo
A 18	Flake of green-grey argillite from Feature 35	No photo
A 19	Fragment of white quartz from Feature 35	No photo
A 20	Flake of fine green-grey argillite with polish on one surface from Feature 35 (adze fragment)	No photo
A 21	Flake of red stone (?argillite) from Feature 35	No photo
A 22	Core of banded mudstone from Feature 35	No photo
A 23	Core with some flakes removed. Probably an anvil or chopper for working whale bone	2225
A 24	Core with some flakes removed. Probably an anvil or chopper for working whale bone	2227, 2228
A 25	Flake of green-grey argillite (Tihaka?)	2230
A 26	Flake of light green argillite with polish on one surface (adze fragment)	No photo
A 27	Flake of grey argillite	No photo
A 28	Flake of ?silcrete	No photo
A 29	Flake [not recovered from site]	No photo
A 30	Flake [not recovered from site]	No photo
A 31	Adze fragment [not recovered from site]	No photo
A 32	Adze fragment (mid-portion of lenticular-sectioned adze in green argillite (Tihaka?). May have been deliberately flaked to make a chopping tool.	No photo
A 33	Fishhook (point leg of one-piece fish hook in moa bone	No photo
A 34	Fishhook (shank leg of one-piece hook in moa bone, found close to	No photo

	33 and probably from the same artefact)	
A 35	Flake of obsidian	No photo
A 36	Worked whale bone, probably a tab for a paua lever	2272
A 37	Flake of quartz with cortex	2273
A 38	Flake of brown quartzite (silcrete?)	2274
A 39	Adze fragment (mid-portion of quadrangular sectioned adze, front narrower than back, possibly a Duff Type 5).	2275
A 40	Flake of coarse-grained green-grey stone (argillite?)	2280
A 41	Flake of green-grey argillite with hammer-dressed surface (adze fragment) (Tihaka?)	2281
A 42	Flake of dark green argillite with hammer-dressed and polished surface (probably Colyers I).	
A 43	Flake of mottled quartzite	
A 44	Flake of white chert from Feature 35	
A 45	Flake of fine green-grey argillite Feature 35	No photo
A 46	Flake of fine green argillite from Feature 35	No photo
A 47	Flake of grey argillite from Feature 35	No photo
A 48	Flake of green-grey argillite from Feature 35	No photo
A 49	Flake of green-grey argillite from Feature 35	No photo
A 50	Flake of ?porcellanite from Feature 35	No photo
A 51	Piece of bone, perhaps worked	No photo
A 52	Flake of green argillite from Feature 22	No photo
A 53	Flake of green argillite from Feature 22	No photo
A 54	Flake of green argillite from Feature 22	No photo
A 55	Flake of green argillite from Feature 22	No photo
A 56	Flake of green argillite from Feature 22	No photo
A 57	Flake of green argillite from Feature 22	No photo
A 58	Flake of red argillite from Feature 22	No photo
A 59	Flake of green argillite from Feature 22	No photo
A 60	Flake of black stone (porcellanite?) from Feature 15	No photo
A 61	Barracouta lure point	No photo
A 62	Bone point of a composite fish hook, finely serrated along back edge.	No photo
A 80	Obsidian flake from Feature 23 (grey)	No photo
A 81	Worked whale bone (polisher?)	No photo
A 82	Flake of obsidian from Feature 22 (grey)	No photo
A 83	Flake of green argillite from Feature 22	No photo
A 101	Fragment of moa bone fish hook tab from Feature 23	2325
A 102	Stone file (very fine grained) from Feature 23	2325
A 103	Stone file (very fine grained) from Feature 23	2325
A 104	Flake of dark grey argillite (Tiwai area?) from Feature 24	No photo
A 105	Flake of dark grey argillite (Tiwai area?) from Feature 24	
A 106	Flake of green-grey argillite from Feature 24	
A 107	Flake of green-grey argillite from Feature 24	

A 108	Flake of dark grey argillite from Feature 24	
A 110	Worked whale bone	2308
A 111	Worked whale bone	2309
A 112	Worked whale bone	2310
A 113	Worked whale bone, chopped and scarfed	2314, 2315, 2316, 2317
A 114	Flake in Feature 44	
A 115	Butt portion of flaked and hammer dressed Duff Type 1A adze, probably Bluff argillite	No photo
F 1	Dispersed scatter of sea mammal bone close to edge of Feature 54	No photo
F 2	Dispersed oven stones, bird and seal bone	2185
F 3	Scattered stone and sea mammal rib bones	2187
F 4	Scattered stone, paua shell, one sea mammal vertebra	2188
F 5	Fragmented shell and bird bone	2189
F 6	Shell, mostly broken, some oven stone and bird bones	2190
F 7	Small patch of finely fragmented shell plus bird bones	2196
F 8	Scatter of oven stones down back of dune slope, some sea mammal long bones	2197, 2198
F 9	Shell scatter and bird bone	2201, 2202
F 10	Lag deposit of very small, water rolled pebbles (probably from Pleistocene terrace) with many small bird bones	2212
F 11	Lag deposit of very small, water rolled pebbles (probably from Pleistocene terrace) with many small bird bones	2213, 2214
F 12	Scatter of small bird bones	2216
F 13	Scatter of fragmented shell and sparse oven stones. Fish bone, mainly barracouta with some ling	2219
F 14	Scattered oven stones and shell, including cockle and small amount of cats eye	2243
F 15	Scattered shell and bone, some oven stones	2255
F 16	Scattered shell and bone, some oven stones	2267
F 17	A lag deposit of small water rolled pebbles with some scattered oven stones, small bird bone, cats eye and cockle	2270
F 18	Scatter of oven stones	2278
F 19	Scatter of oven stones	2279
F 20	Scatter of oven stones	2276, 2277
F 21	Small cluster of oven rocks	2282
F 22	Scatter of shell midden and oven stones	2292
F 23	Scatter of shell midden and oven stones	2293, 2294
F 24	Oven, partially intact with scatter of cooks turban, whale bone 'flakes', and some deer bones	2303
F 25	Scattered oven stones	2304
F 26	Scattered oven stones with six fragments of whale bone, some appears worked	2307
F 27	Scattered oven stones	2311
F 28	Scattered oven stones	2312
F 29	Scattered oven stones with some shell	2313

F 30	Oven stones exposed in grass at top of dune, ridge	2320
F 31	Oven stones and seal mandible exposed in grass at top of dune, ridge	No photo
F 32	Midden scatter with some flakes and sea mammal bone	2322, 2323
F 33	Cluster of oven stones and scatters of paua, cats eye, cockle and Cooks Turban. A fragment of worked moa bone, some small fragments of whale bone.	No photo
F 34	Oven stone scatter with fragments of shell, mainly cats eye, paua and cooks turban	No photo
F 35	Cats eye shell midden	2191
F 36	Paua shell and some cats eye, few oven stones. This feature may overlie an oven	No photo
F 37	Echinoderm (kina) shell midden	2186
F 38	Paua shell, some cats eye and ling bone	2203, 2204
F 39	Cats eye shell midden with some mammal bone, probably whale. This slumped area may be part of Feature 38	2205
F 40	Cockle shell scatter, some oven stones, paua shell and cats eye	2220
F 41	Cluster of cockle shells	2245
F 42	Cooks turban, cats eye, mussel	2262, 2263
F 43	Shell midden scatter	No photo
F 44	Oven stone scatter partly overlying Feature 35	No photo
F 45	Scatter of oven stones with some shell	2259
F 46	Scattered oven stones	2264
F 47	Scattered oven stones, some cockle	2283, 2284, 2285
F 48	Scattered oven stones	2291
F 49	Scattered oven stones	2305
F 50	Scattered oven stones	2306
F 51	Oven stone scatter 10 m E of Feature 44	No photo
F 52	Oven stone scatter plus fragmented paua and cats eyes	No photo
F 53	Oven stone scatter 20 m NE of Feature 44	No photo
F 54	Oven stone scatter nearly contiguous with Feature 44	No photo
F 55	Oven stone scatter beside Feature 35	No photo
F 56	Scattered oven stone and some paua shell	2194, 2195
F 57	Scattered oven stones spilling down dune slope	2244
F 58	Scatter of oven stones	2258
F 59	Intact midden 5 m north of F42	
F 60	Scattered oven stone	
F 61	Intact midden	
F 62	Intermittently exposed midden layer (Rachael's Layer L) in eastern beach scarp	2345, 2346, 2347

Appendix 2. Laboratory photographs of artefacts collected in December 2004.

Figure 25. Surface-collected artefacts from Hakapureirei. **a.** Green argillite flake (Tihaka source? – A2); **b.** Red argillite or chert flake (A3); **c.** Red-brown porcellanite (A4); **d.** Flake of fine, grey silcrete (A6); **e.** Barracouta lure hook point, bone (A10); **f.** Quartz flake (A11).

Figure 26. Surface-collected artefacts from Hakapureirei (all from Feature 35). **a.** Flake of green-grey argillite, one face polished (A12); **b.** Flake of very fine dark grey argillite (A13); **c.** Flake of green-grey argillite (A14); **d.** Fragment of grey stone (A16); **e.** Flake of green-grey argillite (A17); **f.** Flake of green-grey argillite (A18); **g.** Flake of white quartz with cortex and possible edge wear (A15); **h.** Fragment of white quartz (A19); **i.** Flake of fine green-grey argillite with polish on one surface (adze fragment, A20); **j.** Flake of red stone, ?argillite (A21); **k.** Core of banded mudstone (A22).

Figure 27. Surface-collected artefacts from Hakapureirei. **a.** Flake of green-grey argillite, probably Tihaka source (A25); **b.** Flake of light green argillite with polish on one surface (adze fragment, A26); **c.** Flake of grey argillite (A27); **d.** Flake of ?silcrete (A28); **e.** Point leg of one-piece fish hook, moa bone (A33); **f.** Shank leg of one-piece fish hook, moa bone, found close to A33 and probably part of the same artefact (A34); **g.** Adze fragment (mid-portion of lenticular-sectioned adze in green argillite, probably Tihaka source (A32).

Figure 28. Surface-collected artefacts from Hakapureirei. **a.** Obsidian flake (A35); **b.** Quartz flake with cortex (A37); **c.** Quartzite flake (A39); **d.** Mid-portion of quadrangular-sectioned adze, possibly from a Duff Type 5 adze (A39); **e.** Worked whale bone, probably a tab for a paua lever (A36).

Figure 29. Surface-collected artefacts from Hakapureirei. **a.** Flake of coarse-grained, green-grey stone, ?argillite (A40); **b.** Flake of green-grey argillite with hammer-dressed surface (adze fragment, A41); **c.** Flake of dark green argillite with hammer-dressed surface, probably from Colyers Island source (A42); **d.** Flake of mottled quartzite (A43); **e.** Flake of white chert from Feature 35 (A44); **f.** Flake of fine green argillite from Feature 35 (A45); **g.** Flake of fine green argillite from Feature 35 (A46); **h.** Flake of grey argillite from Feature 35 (A47); **i.** Flake of green-grey argillite from Feature 35 (A48); **j.** Flake of green-grey argillite from Feature 35 (A49); **k.** Flake of ?porcellanite from Feature 35 (A50); **l.** piece of bone, possibly worked (A51).

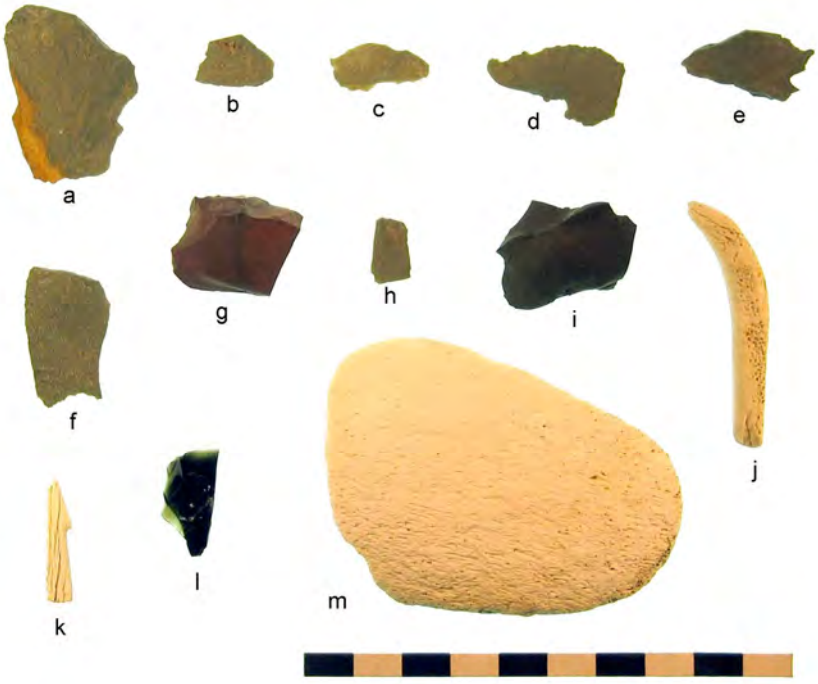

Figure 30. Surface-collected artefacts from Hakapureirei. **a.** Flake of green argillite from Feature 22 (A52); **b.** Flake of green argillite from Feature 22 (A53); **c.** Flake of green argillite from Feature 22 (A54): **d.** Flake of green argillite from Feature 22 (A55); **e.** Flake of green argillite from Feature 22 (A56); **f.** Flake of green argillite from Feature 22 (A57); **g.** Flake of red argillite from Feature 22 (A58); **h.** Flake of green argillite from Feature 22 (A59); **i.** Flake

of black stone, ?porcellanite, from Feature 15 (A60); **j.** Barracouta lure hook point (A61); **k.** Point from a composite fish hook, bone (A62); **l.** Flake of grey obsidian from Feature 23 (A80); **m.** Worked whale bone (polisher, A81).

Figure 31. Surface-collected artefacts from Hakapureirei. **a.** Flake of grey obsidian from Feature 22 (A82); **b.** Flake of green argillite from Feature 22 (A83); **c.** Fragment of moa-bone one-piece fish hook tab (A101): **d.** Stone file from feature 23 (A102); **e.** Stone file from feature 23 (A103); **f.** Butt portion of flaked and hammer-dressed Duff Type 1A adze, probably Bluff argillite (A115); **g.** Flake of dark grey argillite from Feature 24 (A104); **h.** Flake of dark grey argillite from Feature 24 (A105); **i.** Flake of green-grey argillite from Feature 24 (A106); **j.** Flake of green-grey argillite from Feature 24 (A107); **k.** Flake of dark grey argillite from Feature 24 (A108).

Appendix 3. Inventory of artefacts held in the collections of the Southland Museum and Art Gallery (note that this list does not include the material excavated by Peter Coutts).

92.103
Adze
Brief description: Dark grey-black baked argillite (slightly veined). Clean break at right angles to long axis - butt section missing. Heavy bifacial use damage has obliterated original cutting edge. Quadrangular x-section. Satin polish. Probably a Duff Type 1.
Size: 115 x 540 x 390 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s. S175/10 E475 N167
1940s

92.104
Adze
Brief description: Butt section only. Bifacial flake scars at break suggests an attempt at re-working. Hammer-dressed butt, matt polish on back and front. Dark green baked argillite (probably Bluff Harbour source).
Size: 130 x 660 x 360 mm
Provenance: Sand Hill Point, Fiordland. Collected by donor's father 1940s.
S175/10 E475 N167
1940s

92.105
Adze
Brief description: Light green Riverton source baked argillite. Hammer-dressing and flake scars, with trace of matt polish. Heavy bifacial use-wear has obliterated original cutting edge. Trace of polished bevel.
Size: 902 x 330 x 180 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s

92.106
Adze
Brief description: Mid-section only. Quadrangular x-section. Hammer-dressed, with trace of polish on one side. Broken at chin (one end). Dark green (igneous) rock with white feldspar inclusions.
Size: 750 x 670 x 680 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s
24/11/2004 Collection of Southland Museum & Art Gallery:

92.107
Adze
Brief description: Butt section only. One ridge on butt; hammer-dressed. Light green Riverton baked argillite. Some bruising around break. Small patch cortex on poll.
Size: 890 x 410 x 330 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s

92.108
Adze
Brief description: Flaked and hammer-dressed ventifact. Brown cortex on back and front. Light grey baked argillite - probably Mokomoko Inlet source. Recent flaked damage to poll.
Size: 147 x 630 x270 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s

92.109
Adze
Brief description: Butt section only. Hammer-dressed. Break is just across shoulder - bifacial(reworking) flake scars on poll. Dark green Bluff Harbour source baked argillite .
Size: 108 x 430 x 240 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s

92.110
Adze
Brief description: Butt fragment only, includes part of shoulders. Original surface remaining is hammer-dressed. Dark green Bluff Harbour baked argillite.
Size: 640 x 470 x 310 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s
24/11/2004 Collection of Southland Museum & Art Gallery:

92.111
Adze Preform
Brief description: Small size, made from dark green Bluff Harbour source baked argillite. Some secondary retouching on cutting edge area, small amount hammer-dressing on sides near poll. Triangular shape.
Size: 810 x 40 x 150 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s

92.112
Worked Stone
Brief description: Water-rolled greywacke cobble. Rough break down one side (flat). Two sides flat; oval section with hammer-dressing along one rounded end.
Size: 130 x 510 x 340 mm
Provenance: Sand Hill Point, Fiordland, collected by donor's father 1940s.
S175/10 E475 N167
1940s

97.18
Adze
Brief description: Bevel end only, with clean break through middle. Oval x-section at break. Hammer-dressed sides, matt polish front and back, skewed and convex cutting edge.
Size: 490x430x200 mm
Provenance: Anon. postage to donor with note "found while tramping near Sand Hill Point" - probably from S175.10.

86.321
Flake Core
Brief description: Obsidian.
Green is transmitted light. Flakes appear to have been struck off from all directions. Roughly rectangular in shape.
Size: 164 x 68 x 103 mm
Provenance: Willa collection "no 189 found at Sand Hill Point beyond Port Craig, 1921. Collected by P Willa.
S175/10 (probably)
24/11/2004 Collection of Southland Museum & Art Gallery:

85.241
Adze
Brief description: Nephrite adze. Duff Type 2B. Quadrangular x-section. Matt polish. Cutting grooves upper and lower; one side. Poll is rough break. Double bevelled. Convex near cutting edge - does not appear to have been used. One side has rough unpolished patch. Nephrite sourced, RJB to West Coast probably Barn Bay.
Size: 209 x 560 x 30 mm
Provenance: Found at Sand Hill Point together with adze of dark stone. Probably

from site S175/10.
Found during the late 1950s.

82.1349
Paua Lever
Brief description: Developed butt end, curved towards working point, broken off. Bone waste 2/3 way from butt. Transverse groove near brown edge, 3 pieces. 1 pair reglued. Adzing on 1 sitck (??).
Size: 269 x 38 x 14 mm
Provenance: 39.487 and 39.489, Sand Hill Point. Joining new catalogue No. (sic). Both these pieces naturally join together, hence 1 new catalogue number.

82.1350
Paua Lever
Brief description: Bone, whale. Handle area of Maripi. Notched 1 side butt. Slightly on other. 2 pieces reglued. Working edge broken off. Bone white, silt on rough places. Slightly curved.
Size: 104 x 40 x 13 mm
Provenance: Sand Hill Point - Sorensen No DS39.490 -11/10/39

82.1351
Paua Lever
Brief description: Bone, moa? Well developed butt, edges of bone rough. Chip removed from butt end. Bone broken. Bone flat, upper surface smooth.
Size: 79 x 20 x 7 mm
Provenance: J & E Sorensen 29/12/36 at Sand Hill Point, Sorensen No D36.247 24/11/2004 Collection of Southland Museum & Art Gallery:

82.1352
Paua Lever
Brief description: Bone, whale, small butt area. Asymmetrical piece possibly broken off. Broken edge signs of gluing.
Size: 70 x 15 x 8 mm
Provenance: J & E Sorensen 29/12/36 at Sand Hill Point, Sorensen No DS36.248 29 December 1936

82.1472
Worked bone
Brief description: Whale bone. Bone shows possible butt and then tapers to point. Caked in siltstone (grey), bone consists of 2 pieces glued together.
Size: 124 x 22 x 16 mm
Provenance: 'Broken Maripi', Sand Hill Point JHS 11/10/39. Sorensen No DS39.488

82.1473
Paua Lever
Brief description: Whale, piece of small Maripi, working points shows break and re-smoothing. Bone consists of 2 pieces reglued. Light brown in colour.
Size: 96 x 21 x 6 mm
Provenance: Sand Hill Point, J Sorensen 17/2/34. Sorensen No 34.59 17 February 1934

82.1474
Paua Lever
Brief description: Whale, small piece of worked bone, shows carved butt area. Bone shows cut at break point - possible sawn off.
Size: 57 x 25 x 7 mm
Provenance: Sand Hill Point by JH Sorensen 10/4/39. Sorensen No 39.118 'Sawn of Maripi'.
10 April 1939
24/11/2004 Collection of Southland Museum & Art Gallery:

82.1475
Worked bone
Brief description: Small piece of bone, shows working on all surfaces. Slight curve to bone. Chip out narrow end, glue other end. Brown. Possibly a paua lever?
Size: 58 x 18 x 8 mm
Provenance: E Sorensen at Sand Hill Pt 29/12/36. Sorensen No D36.249 'Worked Bone'. 29 December 1936

83.424
Worked Shell
Brief description: Dentalium, variegated white to brown, smooth. Conical shape, wide end irregular, narrow end, possibly cut.
Size: 39 x 9 mm
Provenance: Found Sand Hill Pt by JH Sorensen 10/4/39. 10 April 1939

D41.2
Adze
Adze
Provenance: Found Sand Hill Point, Fiordland, 24-3-1940 by JC Calvert.

D46.1264
Adze
Adze
Provenance: Sand Hill Point, Fiordland

83.1240
Needle
Brief description: Bone, point missing, eye partially broken. Facial marks, ground.
Size: 90 x 3 x 2 mm
Provenance: Sand Hill Point, JH Sorensen 11/10/39. Purchased from the Sorensen Collection in 1946.
11 October 1939
24/11/2004 Collection of Southland Museum & Art Gallery:

83.1597
Awl
Brief description: Bone, sliver bird bone, one end ground to a point. Other end cut and ground.
Size: 60 x 7 x 3 mm
Provenance: Sand Hill Point, JH Sorensen 26/4/41 26 April 1941

83.2036
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg only minus tip and butt. Brown, ground and pitted.
Size: 39 x 8 x 7 mm
Provenance: Sand Hill Point, J & E Sorensen 29/12/36 Purchased Sorensen Collection in 1946.
29 December 1936

83.2037
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg top section with tip only. White and ground.
Size: 30 x 8 x 5 mm
Provenance: Sand Hill Point, J & E Sorensen 29/12/36. Purchased from the Sorensen Collection in 1946.
29 December 1936

83.2038
Fishhook
Brief description: Incomplete
Bone, two piece. Point leg with notches on side. White, ground and split.
Size: 36 x 6 x 2 mm
Provenance: Sand Hill Point JH Sorensen 10/4/39 Purchased from the Sorensen Collection 1946.
10 April 1939
24/11/2004 Collection of Southland Museum & Art Gallery:

83.2039
Fishhook
Brief description: Incomplete

Bone, two piece. Type C3 (Hjarno). Point leg only with tip missing. Has been broken and glued. Notches on side. White, ground and weathered.
Size: 46 x 8 x 4 mm
Provenance: Sand Hill Point JH Sorensen 10/4/39 Purchased from the Sorensen Collection 1946.
10 April 1939

83.2040
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg minus butt only. Brown, white and pitted.
Size: 61 x 6 x 3 mm
Provenance: Sand Hill Point JH Sorensen 11/10/39. Purchased with Sorensen Collection in 1946.
11 October 1939

83.2041
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg minus tip only. Butt ground. Brown, ground and weathered.
Size: 52 x 8 x 7 mm
Provenance: Sand Hill Point J & E Sorensen 29/12/36 - Purchased from the Sorensen Collection, 1946.
29 December 1936

83.2042
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg top section with tip only. Brown, ground and weathered.
Size: 37 x 7 x 6 mm
Provenance: Sand Hill Point J & E Sorensen 29/12/36 Purchased Sorensen Collection in 1946.
29 December 1936
24/11/2004 Collection of Southland Museum & Art Gallery:

83.2043
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg butt section and partial leg only. Brown, ground and weathered. End ground.
Size: 50 x 10 x 8 mm
Provenance: Sand Hill Point J & E Sorensen 29/12/36 Purchased Sorensen Collection in 1946.
29 December 1936

83.2044
Fishhook
Brief description: Incomplete
Bone, barracouta point. Point leg without tip. Notches, Type A2. Butt end ground. Brown, ground and weathered.
Size: 60 x 9 x 7 mm
Provenance: Sand Hill Point J & E Sorensen 29/12/36. Purchased from Sorensen Collection in 1946.
29 December 1936

83.2045
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Middle section point leg only. Tip and butt missing. White and ground.
Size: 50 x 8 x 6 mm

Provenance: Sand Hill Point JH Sorensen 1940. Purchased from the Sorensen Collection in 1946.
1940

83.2046
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Point leg minus top only. Butt end ground. White and ground. Weathered.
Size: 42 x 7 x 3 mm
Provenance: Sand Hill Point JH Sorensen 26/4/41. Purchased from the Sorensen Collection in 1946.
26 April 1941
24/11/2004 Collection of Southland Museum & Art Gallery:

83.2047
Fishhook
Brief description: Incomplete
Bone, barracouta point. Point leg without tip. Type A1. Butt end ground. White, ground and weathered.
Size: 61 x 8 x 8 mm
Provenance: Sand Hill Point JH Sorensen 26/4/41. Purchased from the Sorensen Collection in 1946.
26 April 1941

83.2048
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg only with partial butt missing. White, ground and weathered.
Size: 50 x 8 x 6 mm
Provenance: Sand Hill Point JH Sorensen 26/4/41. Purchased from the Sorensen Collection in 1946.
26 April 1941

83.2049
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg with tip missing, Butt end ground. White, brown, ground and weathered.
Size: 42 x 9 x 5 mm
Provenance: Sand Hill Point JH Sorensen 26/4/41. Purchased from the Sorensen Collection in 1946.
26 April 1941

83.2050
Fishhook
Brief description: Incomplete
Shell, barracouta point. Point leg without tip. Type A1. Butt end missing. Made from paua shell. ground edge, flaky.
Size: 38 x 5 x 2 mm
Provenance: Sand Hill Point JH Sorensen 1940 - Purchased from the Sorensen Collection in 1946.
1940
24/11/2004 Collection of Southland Museum & Art Gallery:

83.2051
Fishhook
Brief description: Incomplete
Bone, barracouta lure hook point. Type A1 (Hjarno). Point leg complete. White, brown and ground, Weathered. Butt end ground.
Size: 51 x 7 x 6 mm
Provenance: Sand Hill Point JH Sorensen 4/1/41 - Purchased from the Sorensen Collection in 1946.
04 January 1941

B67.97
Sinker
Brief description: Diorite.
Size: 53 x 53 mm
Provenance: Found at Sand Hill Point by A Hamilton. 24/11/2004 Collection of Southland Museum & Art Gallery:

D46.1799
Fishhook
Brief description: Ivory. One piece type. Bone-white and smooth. Has many splits laterally which are embedded with sand. The bend is notched and roughened.
Size: 46 x 25 x 6 mm
Provenance: Purchased with Sorensen Collection in 1946. Found at Sand Hill Point by JH Sorensen 29/12/36.

D49.12
Fishhook
Brief description: Bone. One piece type. Both point leg and shank leg are similar lengths. Distinct grooving on shank knob and a single groove on the bend. Brown and smooth.
Size: 41 x 31 x 5 mm
Provenance: Sand Hill Point, Fiordland

D46.1729
Paua Lever
Brief description: Curved bone. Thins towards working edge. Working edge bevelled, butt end well preserved. Small chip missing, possibly done when made. Bone consists of 3 parts, glued together. 2 blobs of glue on lower surface. Bone mainly white, glued cracks whited over.
Size: 268 x 34 x 14 mm
Provenance: Sand Hill Point, Fiordland. JH Sorensen collection. Found 10/4/39. 10 April 1939

D46.1730
Paua Lever
Brief description: Bone, whale
Butt end notched on one side only. Possible notching broken off other end. Long chip of bone removed. Working surface of bone missing. Bone has hand grip and has been broken below hard grip - since reglued. 2
blobs of glue. Bone weathered on lower surface. Asymmetry on butt.
Size: 214 x 26 x 12 mm
Provenance: Sand Hill Point, Fiordland. JH Sorensen collection. Found 10/4/39. 10 April 1939
24/11/2004 Collection of Southland Museum & Art Gallery:

D46.1727
Paua Lever
Brief description: Bone: rib of seal?
Butt end, roughly circular. Butt and upper part of shank rough. Lever reasonably flat but curves on sides towards the butt. Lower surface of the lever shows many scratch marks. Working point has 2 chips out of it, one re-smoothed and one fresh. Crack in bone 1/3 the way from the working edge. Asymmetry of butt area.
Size: 227 x 22 x 10 mm
Provenance: Sand Hill Point, Fiordland. Sorensen collection.

D46.1731
Paua Lever
Brief description: Bone, seal?
But end - broken at very end and neatly finished on one half, rough on other. Bone curved. Working point has large chip removed and a bevelled edge. Bone has convex curve on upper surface. Lever consists of 3 pieces, 2 glued together and one broken piece that had at sometime been glued. Bone white upper surface, grey lower surface.
Asymmetry on butt area.
Size: 230 x 22 x 8 mm
Provenance: Sand Hill Point, Fiordland. JH Sorensen collection, 10/4/39 10 April 1939

D46.1732
Paua Lever
Brief description: Bone, whale
Butt end incomplete - has had a hole, being refashioned. Ridge runs from butt along concave surface, chalky white, convex brown. Bevelled at working edge.
Size: 179 x 40 x 13 mm
Provenance: Sand Hill Point, Fiordland. Sorensen collection 11/10/39 11 October 1939
24/11/2004 Collection of Southland Museum & Art Gallery:

D49.10
Paua Lever
Brief description: Bone, whale
Butt end notched. Thick bone, shows adzing on both surfaces. Contains rust on butt and working edges. Working and broken. Bone straight - 'dagger-like'. White coloured bone on both surfaces. Typical bone structure at butt end. Butt asymmetrical.
Size: 180 x 30 x 18 mm
Provenance: Sand Hill Point, Fiordland - no further information.

D49.11
Paua Lever
Brief description: Bone, whale
Butt end complete and well shaped. Has transverse groove right on end of bone. Secondary groove around top of butt end. Bone curved and thins towards bevelled working point. 2 blobs of glue on under side of bone. Bone tapers towards butt end.
Size: 140 x 24 x 9 mm
Provenance: Sand Hill Point, Fiordland.

D46.1674
Fishhook
Brief description: Bone
Composite bait hook point, type C4 (Hjarno). Internal barb, 3 external lashing notches tending to serrations along outside edge of level of barb. Straight, chalky white. Bone structure shows on one side which is porous. Engrained with dirt.
Size: 59 x 12 x 5 mm
Provenance: Purchased with Sorensen Collection in 1946. Found at Sand Hill Point, Fiordland by J Sorensen on 10/4/39.
10 April 1939

D46.1837
Fishhook
Brief description: Bone
Composite bait hook point, type C3 (Hjarno). White with one concave surface due to the hollow of the bone. Internal barb and external lashing notches and serrations. Sand embedded in the flat side.
Size: 100 x 16 x 6 mm
Provenance: Found at Sand Hill Point, Pahia by EA Sorensen on 10/4/39. Purchased with Sorensen Collection in 1946.
10 April 1939
24/11/2004 Collection of Southland Museum & Art Gallery:

D49.13
Fishhook
Brief description: Bone
Composite bait hook point, type C4 (Hjarno). Internal barb one third of the way down. External edge serrated down to barb. Flat area between barb and basal projection supports lashings. S curve. Base filed at bottom and side. Off-white, one side brown with engrained dirt.
Size: 82 x 14 x 9 mm
Provenance: Found at Sand Hill Point, Fiordland.

D49.14
Fishhook
Brief description: Bone
Composite bait hook point, type C3 (Hjarno). Grey and grainy with internal barb and external knob to accommodate lashings.
Size: 49 x 10 x 5 mm

Provenance: Found at Sand Hill Point, Fiordland.

D46.1675
Fishhook
Brief description: Bone, unfinished. Barracouta lure hook point. Type A1 (Hjarno). White and textured with 3 deep hollows toward the base on one surface.
Size: 52 x 8 x 6 mm
Provenance: Purchased from the Sorensen Collection in 1946. Found at Sand Hill Point, Fiordland on 10/4/39 by JH Sorensen.
10 April 1939
24/11/2004 Collection of Southland Museum & Art Gallery:

D46.1846
Fishhook
Brief description: Bone, unfinished. Barracouta lure hook point. Type A1 (Hjarno). Point leg only. Butt end partially ground. White, ground and weathered.
Size: 58 x 8 x 6 mm
Provenance: Found in Sand Hill Point, Fiordland by E Sorensen 29/12/36

D49.15
Fishhook
Brief description: Bone, unfinished. Barracouta lure hook point. Type A1 (Hjarno). Point leg only minus tip. Butt end ground. White, ground and weathered.
Size: 53 x 7 x 5 mm
Provenance: Sand Hill Point, Fiordland.

D52.955
Fishhook
Brief description: Ivory. Barracouta lure hook point. Type A1 (Hjarno). White and textured with pointed rather than a flattened base.
Size: 51 x 9 x 6 mm
Provenance: Found at Sand Hill Point on 30/12/40 (possibly 1948). No. and information not in the register.
30 December 1940

B77.853
Short Club
Brief description: Patu paraoa.
Whalebone. It appears to have a stylised design on the butt but it is very weathered so it is difficult to tell.
Size: 348 x 109 x 19 mm
Provenance: Found on the surface of site S175/10, Sand Hill Point in July 1977 exposed by wind erosion.
July 1977

B77.474
Cutter
Believed made of a retouched flake of black porcellanite.
Provenance: Found at Sand Hill Point, Fiordland. 24/11/2004 Collection of Southland Museum & Art Gallery:

Z.3709
Flake
Brief description: Flake of translucent bowenite, possibly water-worn.
Size: 66 x 2 x 14 mm
Provenance: Found by donor on surface of sand hills at Sand Hill Point, together with 1984/4. Grid ref (S175): E473 N166 in first row of dunes, in wind scoop.

Z.3710
Flake
Brief description: Green argillite flake, with small striking platform and bulb, rectangular shape. Triangular cross-section. All surface have been water-worn subsequent to fabrication.
Size: 42 x 4 x 17 mm
Provenance: Found by donor on surface of sand hills at Sand Hill Point, together with 1984/4. Grid ref (S175): E473 N166 in first row of dunes, in wind scoop.

Z.3953
Adze

Brief description: Duff Type 1A. Dark green, Bluff Harbour metabasalt. Hammer-dressed butt, hammer-dressed with matt polish on remaining surfaces. Trace of patina. Unifacial use-wear on convex cutting edge. Longitudinal curvature.
Size: 235 x 39 x 60 mm
Provenance: Found by donor at Sand Hill Point 24/4/1986 - in tidal zone at beach near other adze (1986/6). GR S175 (Orepuki, Fiordland) E476 N165

Z.3954
Adze
Brief description: Dark green, Bluff Harbour metabasalt. Butt and portion of blade only. Large flakes on front of break - reworking after breakage. Hammer dressing and matt polish.
Size: 150 x 44 x 51 mm
Provenance: Found by donor at Sand Hill Point 24/4/1986 - in tidal zone at beach near other adze (1986/6). GR S175 (Orepuki, Fiordland) E476 N165

D41.1
Adze
Provenance: Found by JC Calvert at Sand Hill Point, Fiordland, 24/3/1940. 24/11/2004 Collection of Southland Museum & Art Gallery:

D41.3
Adze
Provenance: Found by JC Calvert at Sand Hill Point, Fiordland, 24/3/1940.

D45.97
Sinker
Provenance: Sand Hill Point, Fiordland.

D45.98
Sinker
Provenance: Sand Hill Point, Fiordland.

Z.4601
Needle
Brief description: Curved bone - tapers to point at one end. Large off-set hole drilled in other end.
Size: 30x9x22 mm
Provenance: S175/10 E475 N167 Sand Hill Point
Found by R Egerton, Dept. Conservation staff [Te Anau field centre] at Sand Hill Point site. Surface find; eroded from midden. Found Oct. 1996.
Custody; to SMAG, 16-4-1997
24/11/2004 Collection of Southland Museum & Art Gallery:

Z.4796
Adze Preform
Brief description: Light green baked argillite [Riverton source]. Flake scars. Small amount of hammer dressing on back and front.
Size: 135x22x50 mm
Provenance: C46/31 E721 N243
Surface collected by Luke Goodseeker; Sand Hill point, 10-1-2001
Custody; awarded to Oraka Aparima Runaka, 8-6-2001

D46.1093
Greenstone adze
Provenance: Sand Hill Point, Fiordland

D46.1109
Adze Preform
Provenance: Sand Hill Point, Fiordland

D46.1124
Adze
Provenance: Sand Hill Point

D46.1211
Adze, broken.
Provenance: Sand Hill Point, Southland.

D46.1302
Adze preform.

Provenance: Sand Hill Point, Southland. 24/11/2004 Collection of Southland Museum & Art Gallery:

D46.1498
Gouge.
Provenance: Sorensen Collection. Sand Hill Point.

D46.1562
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1564
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D39.1573
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1582
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1585
Sinker
Provenance: Sorensen Collection. Sand Hill Point. 24/11/2004 Collection of Southland Museum & Art Gallery:

D46.1586
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1588
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1589
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1590
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1591
Sinker
Provenance: Sorensen Collection. Sand Hill Point.

D46.1609
Sinker
Provenance: Sorensen Collection. Sand Hill Point. 24/11/2004 Collection of Southland Museum & Art Gallery:

D49.5
Adze
Provenance: Sand Hill Point, Fiordland

D49.6
Adze
Provenance: Sand Hill Point, Fiordland

D49.7
Adze
Provenance: Sand Hill Point, Fiordland

D49.8
Adze
Greenstone.
Provenance: Sand Hill Point, Fiordland

D49.9
Adze
Greenstone

Provenance: Sand Hill Point, Fiordland 24/11/2004 Collection of Southland Museum & Art Gallery:

A41.107

Homo sapiens sapiens

Brief description: Skeletal Material - Human Mandible. Base has been glued to something at one time. A hole exists below the left incisors and the crown of the mesial incisor is decayed. The left distal incisor is missing. Right premolar is growing at an angle distally causing a gap in the teeth. Three molars are present on the left side but there is only room for two on the right side.
Size: 102 x 120 mm
Provenance: From Sand Hill Point. Original date catalogued 2/9/41.

[Observations made by Amanda George [PhD student, Department of Anatomy & Structural Biology, School of Medical Sciences, University of Otago]; 11 - 15 June 2001:
CATALOGUE NO: A41.107
ELEMENT: Mandible only.
PRESERVATION: Very good condition.
PROVENANCE: Sand Hill Point, Fiordland, Southland.
SEX: May be male. Estimated from the degree of gonial eversion and the overall robusticity.
AGE: No precise estimate possible.
DENTITION: The left central and lateral incisors (31 and 32) and the left first premolar (34) are missing postmortem. All other teeth are present apart from the right third molar which may be either unerupted or congenitally absent. Attrition is moderate to extreme on all teeth with scores ranging from 5 to 10.
PATHOLOGY: There are periapical lesions around the bases of the right second premolar (45) and the first molar (46), at the base of the left first molar (36), and the left first molar. There is periosteal new bone along the alveolar margin surrounding these teeth]

A41.108

Homo sapiens sapiens

Brief description: Skeletal Material - Human Partial Mandible. Broken between two left incisors and behind the second molar. Base looks as if it had been struck with something. Belonged to child which was just starting to loose baby teeth. Left permanent incisor can be seen in bone and the top of the right mesial incisor can be seen in the socket. The first molar and premolar are present with the premolar having been glued. A permanent molar can be seen through the hole in the mandible at the distal end.
Size: 56 x 27 mm
Provenance: Found at Sand Hill Point. Original catalogue date 12/9/41.

[Observations made by Amanda George [PhD student, Department of Anatomy & Structural Biology, School of Medical Sciences, University of Otago]; 11 - 15 June 2001:
CATALOGUE NO: A41.108
ELEMENT: Mandible fragment only from the left side.
PRESERVATION: Good condition.
PROVENANCE: Sand Hill Point, Fiordland, Southland.
SEX: No estimate possible.
AGE: Child between 5 - 6 years based upon the pattern of tooth eruption.
DENTITION: All deciduous teeth are present from the left central incisor (71) to the second milk molar (75). The first adult incisor (31) is beginning to erupt.
PATHOLOGY: No evident pathology.]