

Archaeological site assessment and management issues: Wainui Reserve, Raglan

**report to
Waikato District Council**

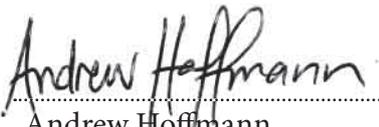
Andrew Hoffmann

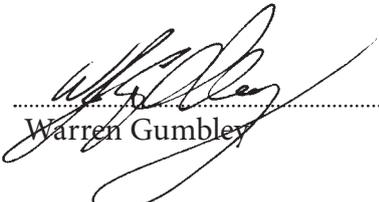


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Waikato District Council

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Introduction

This report describes the physical attributes and heritage values of all identified archaeological sites within the Wainui Reserve. The report summarises the present and on-going threats to the integrity of these sites. Management recommendations for the preservation of areas of archaeological significance are proposed and should be included in the reserve management plan.

For the purposes of this report the working definition of an archaeological site is that given in the Historic Places Act, which is:

any place in New Zealand that—

- (a) Either—
 - (i) Was associated with human activity that occurred before 1900; or
 - (ii) Is the site of the wreck of any vessel where the wreck occurred before 1900; and
- (b) Is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand.

The Act states that no archaeological site may be destroyed, damaged or modified without an authority from the New Zealand Historic Places Trust. Modified soils meet this definition of an archaeological site.

Fieldwork was undertaken over several days during May 2008, during which previously recorded archaeological sites were relocated and unrecorded sites were identified and documented.

A total of 12 archaeological sites are now recorded within the reserve, four of which are pa sites and two are best described as kainga and exhibit a complex of features similar to the pa sites but without the elements of defence. The other sites are small and less complex arrangements of one or more features such as a pit (for storing kumara) and or shell midden (cooking waste) deposits.

The first part of the report describes the archaeological sites individually according to their location within the northern and southern portions of the reserve. Sketch plans for most of the sites have been prepared and are presented along with their descriptions. An overall location plan (Figure 1) situates each site within the reserve. Two recorded sites (R14/65 and R14/136) were not re-located and are not shown on the location plan.

Assessments of each site's current condition, and of the actual and potential threats facing each site will be discussed. An assessment of the archaeological values of the complex of archaeological sites within Wainui Reserve is also presented. Site locations were recorded in New Zealand Map Grid with a handheld GPS receiver.

The report's second part summarises the preservation and management issues affecting the archaeological sites in the reserve. Proposed management objectives are presented along with management solutions to improve the long-term preservation of each site, and offer the public a greater understanding of their value.

Sites located in northern part of Wainui Reserve

R14/63, pa

The pa site R14/63 occupies the highest standing land (81 m above sea level) within the Wainui Reserve at the place known as South Head (grid reference: E 2671946 N 6375493 ± 4 m). The fortified area of the pa is situated on the knoll crest at South Head, is roughly triangular in shape and covers approximately 1300 m² (see Figure 2). Naturally steep scarps are present to the north and west. The pa's main defensive scarp demarcates the north, north-eastern and eastern lengths of the pa. A vaguely visible ditch spans the southern end of the pa and probably continues beyond the fence line through to the natural scarp on the western side. The defensive

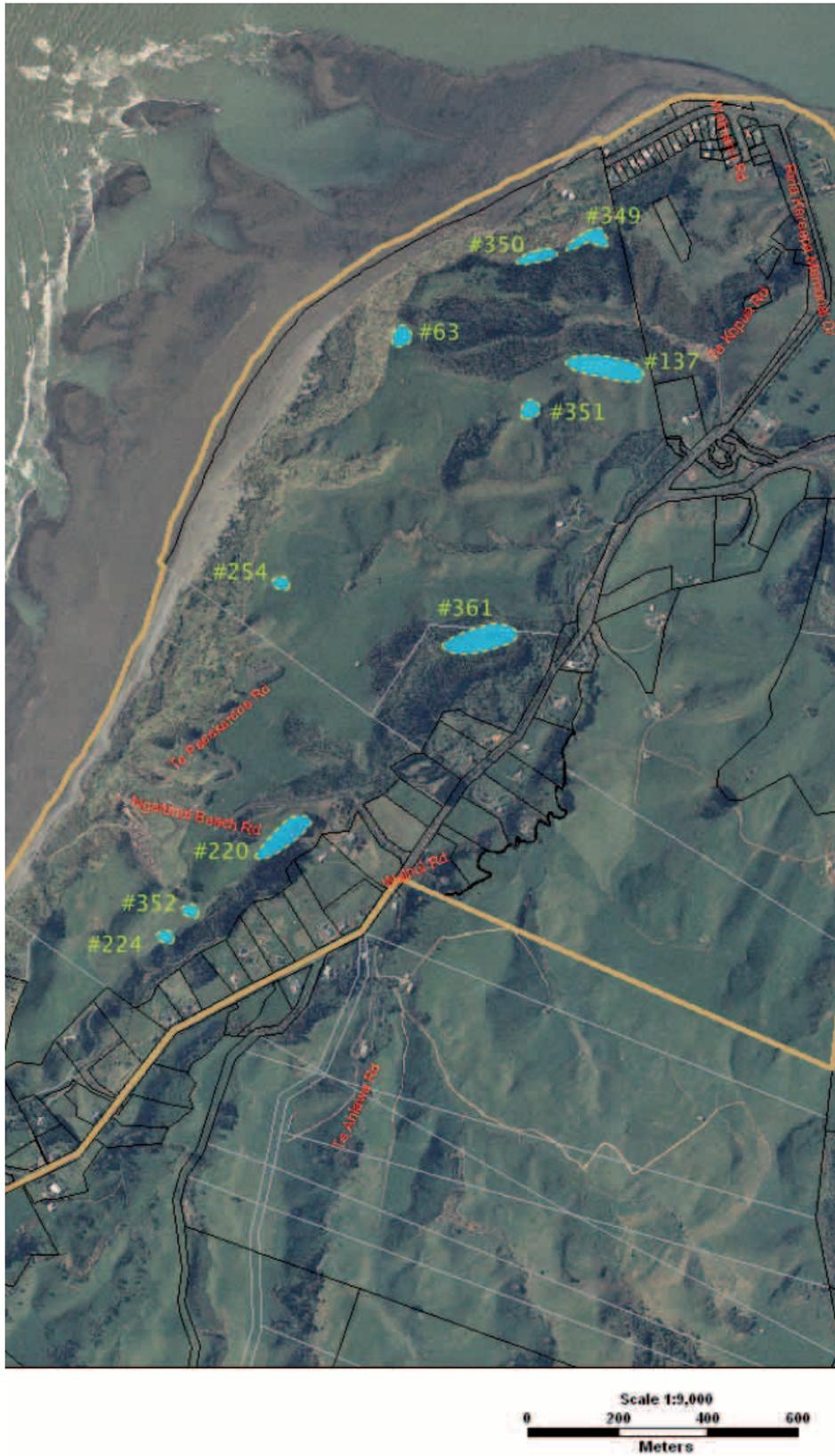


Figure 1. Location plan of archaeological sites located within Wainui Reserve, Raglan.

scarp is between approximately 0.7 – 1 m high. At the north-eastern end of the fortified area is a poorly defined terrace surface of approximately 250 m². Outside the fortified area is another faint terrace that skirts below this end of the pa. Two midden deposits are associated with the terraces.

A single pit feature (3 x 4 m x 0.5 m deep) is located on the western scarp edge, outside the reserve boundary fence, which is aligned parallel to the western scarp. The pit remains in good condition as a sharply defined depression. The South Head trig station is installed next to the pit.

A water tank is placed approximately 70 m south of the pa and a deposit of shell midden (not shown on plan) was disturbed during its installation. The remaining in-situ shell midden deposit covers approximately 10 m² on the north west side of the tank fence. The presence of this deposit indicates occupation occurred on this hillcrest outside the pa defenses and suggests archaeological features such as cooking hearths and postholes would be present across the wider ridge crest area in the vicinity of the water tank.

Physical threats to preservation

Cattle grazing has caused the most extensive damage to the pa surface, to its terraces and the defensive scarp that surrounds the main body of the pa. The result is the poorly defined condi-

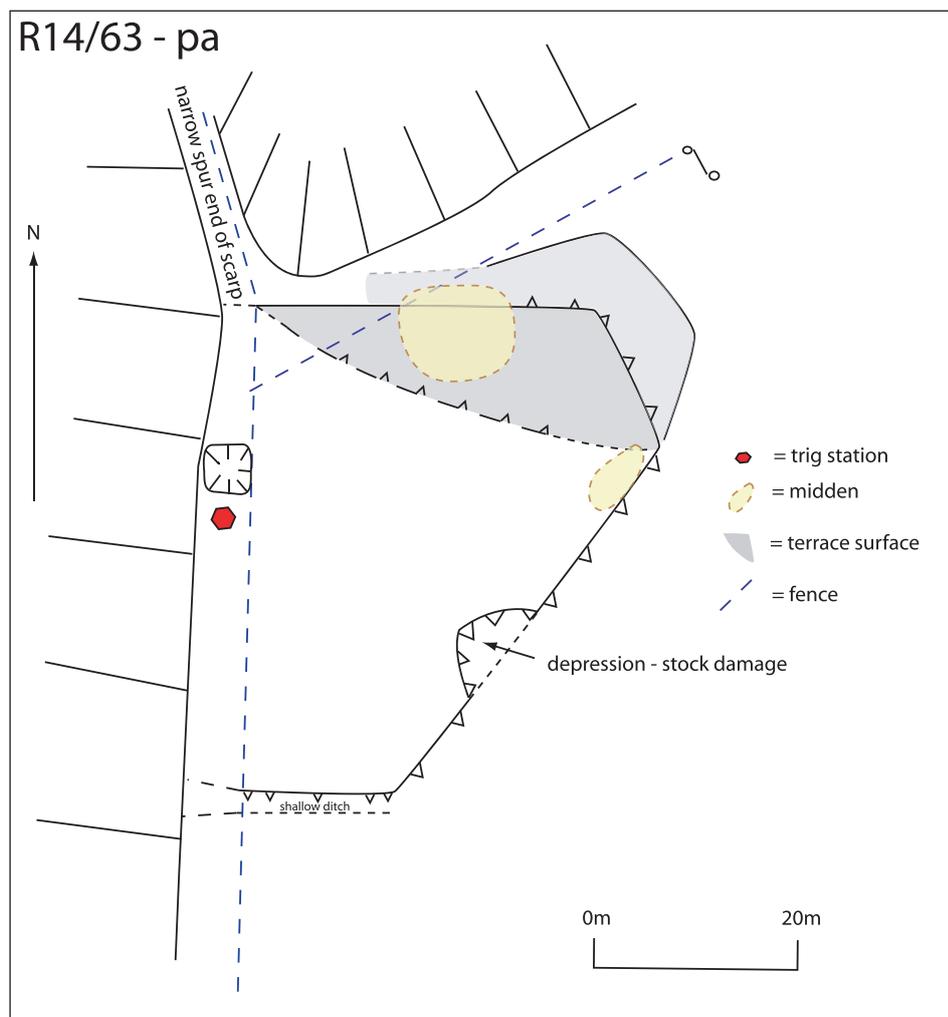


Figure 2. Plan of pa site R14/63.



Figure 3. Pa site R14/63 at South Head showing subdued defensive scarp and ditch features. Note trig station.

tion of the defensive features (ditch and scarp) and terraces of this site, in particular their edges, which are continually being worn away by the traffic of stock. In contrast, the sharply defined edges and the depth (0.5 m) of the pit located next to the trig station in an area where the cattle have not had access, illustrates this detrimental effect of stock (Figure 3).

The water tank has adversely affected a part of the peripheral shell midden on the southern ridge crest.

R14/136, possible pits

The site SRF R14/136 was recorded from the 1940s series aerial photographs SN 2676/1 & 2, which show a couple of possible pit features on the scarp edge south of the pa. Confirmation of this site was not possible because the high and dense kikuyu and gorse made surface inspection impossible in that area. It should be noted, however, that the layout of the other pa sites R14/137, R14/349 and R14/350 also suggests that unidentified pits may be located along the scarp edge in the area south from the pa site R14/63.

Physical threats to preservation

There is no immediate threat to the possible pit sites R14/136 as the area in question is already fenced off from the grazed paddock.

R14/65, midden

The location of the recorded midden deposit R14/65 indicates that this deposit is on the northern slopes of pa R14/63. The northernmost identified area of midden at R14/63 may actually be part of R14/65. However, the site was not certainly relocated, and may have been substantially lost downhill due to stock tread, etc., or may have been missed on the lower northern slopes below R14/63 during our survey. Nonetheless, the midden would almost certainly be associated with occupation of the pa site and both sites should be considered together as one site. The NZAA site record for R14/65 has been updated to reflect this association.

Physical threats to preservation

It is difficult to determine the threats to this site as it was not adequately relocated and the site may already be substantially lost.

R14/137, pa

R14/137 is a pa located to the east of R14/63 downhill along a broad ridge crest. It is situated on the relatively flat crest of an east-west orientated ridge overlooking the Wainui Stream (grid reference: E 2672422 N 6375403 ± 8 m). The defensive scarps of this site are visible when looking north-west from the Wainui Road–Wainamu Beach Road intersection. This pa comprises a fortified area and several terraces, shell middens and many rectangular pits outside the defended area. Altogether, the site occupies an approximate area of 6800 m² along approximately 170 m of the ridge crest (Figure 4).

The fortified area of the pa is rectangular, approximately 50 x 25 m, a total of 1250 m². The defensive scarp surrounds the entire circumference of the rectangular area and is up to 1 m high. A ditch and bank occupy 25 m of the pa's western side. Within the western third of the fortified area is a group of five rectangular storage pit depressions and soil has been mounded in several areas adjacent to them. The pits dimensions range from 4 x 4 m to 2 x 3 m. A lowered

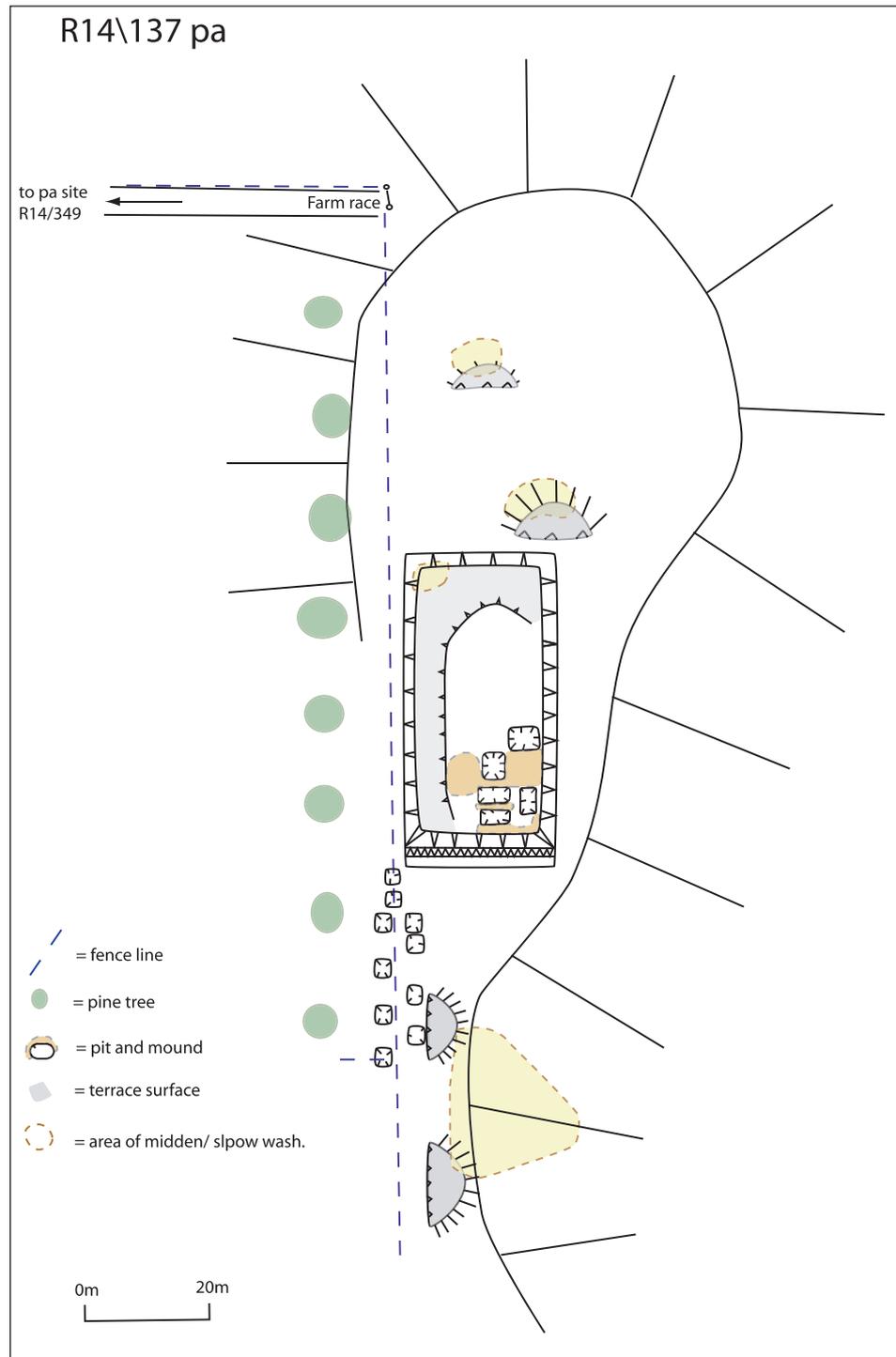


Figure 4. Plan of pa site R14/137.

terraced surface is located at the eastern end of the defended part of the pa and also continues as a narrow, 5 m wide, terrace down the length of the pa on its northern side. A shell midden deposit of crushed shell was detected under topsoil in the northeastern corner of the pa on the terrace.

Two more terraces are located east and outside of the defended core of the pa. The western terrace is approximately 15 x 6 m and is located just below the eastern defensive scarp. Shell

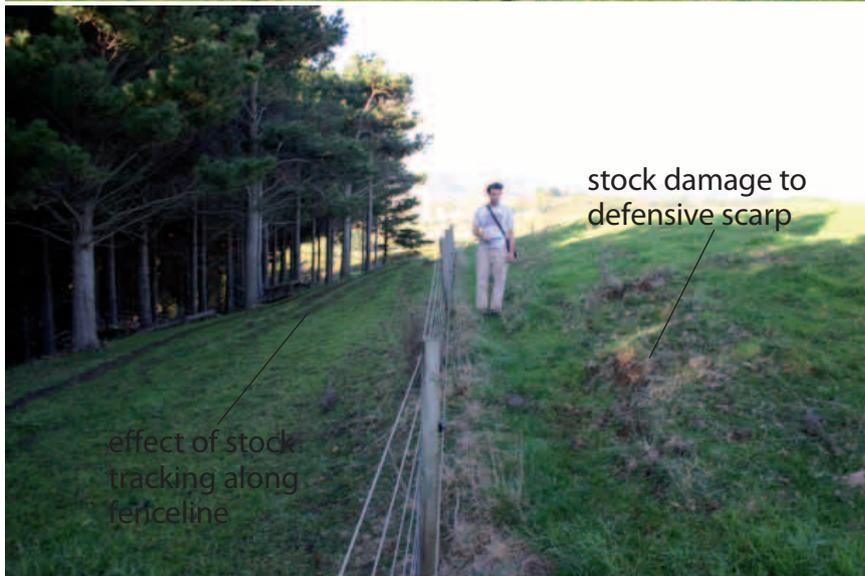


Figure 5. Pa site R14/137 showing approximate locations of features outside fortified area and effect of stock on the site.

midden is present around the shoulder and slopes of this terrace. The second terrace is approximately 25 m further east and is very faintly defined with only a weakly showing back scarp remaining. This terrace is estimated to be 10 x 5 m in size and midden was also detected on the scarp below it.

On the ridge crest, west and outside the pa's defended core, are a series of 10 poorly defined but identifiable surface depressions. These rectangular depressions are kumara storage pits. The pits are principally aligned in two rows running east–west along the ridge crest and are consistently 2 x 3 m in size. Within the same area of the pit features are the back scarps and lowered surfaces of two more terraces (15 x 7 m and 12 x 4 m respectively), which are cut into the upper shoulders of the ridge crest on its southern side. A large midden deposit, approximately 300 m², is situated on the southern slopes below the two terraces.

Physical threats to preservation

Cattle grazing is the main cause of damage to this site. The hooves of cattle have substantially worn down the edges of the defensive scarp and of the terraces. On the pa surface the pit and mound features look as if they have been significantly infilled and flattened. Almost all definition of the easternmost terrace at this site has been lost, and the loss of the front edges of the other terraces from cattle tread is clearly evident. The loss of the bank around the top of the defensive scarp is also indicative of the actions of cattle.

Pines grow on the northern slopes and shoulder of the ridge and are located within 10 m of the identified surface features of the site, including the northern defensive scarp and the pit features located west of the pa proper. The pines within this zone may be adversely affecting subsurface archaeological features. Stock tracking in this area is very obvious and the current fence alignment along the northern shoulder of the ridge crest, and the position of the gate have clearly attributed to this. The gate, in particular, has served to channel stock movement through part of the western pit complex. The fence line directs stock movement along the accessible portion of the ridge crest and has had considerable adverse effects to the physical remains of the pa (Figure 5).

R14/349, pa

R14/349 has not been formally recorded before this survey. The pa is located at the northern most corner of Wainui Reserve overlooking Wainamu Beach (grid reference: E 2672375 N 6375704 ± 10 m). A bulldozed vehicle access track ascends from the Wainamu Beach parking area and a recent extension of this track now ascends further up the eastern face to the pa proper. This track crosses the surface of the pa before making a further cutting at the southern corner of the pa at a gate on the edge of the pine plantation (Figures 6 and 7).

The fortified area of the pa R14/349 is rectangular, aligned northwest–southeast and is approximately 800 m². The natural coastal scarp to the northwest and the steep slopes to the east are natural defences of the pa. The southern defences are approximately 50 m long and are the most developed consisting of a low bank along the top of a scarp approximately 2 m high. At the base of this scarp is a shallow remnant of the ditch approximately 1.5 m wide, and a narrow, approximately 1 m wide, terrace along the outside of the ditch can be recognised. However, for most of this 50 m length, the ditch is no longer discernible and the wider lateral terrace is all that remains. Approximately 20 pine trees were planted on the defensive terrace in 1996. A rectangular pit is located on this terrace adjacent to the sea cliff and measures, 3 x 2 m. Although this depression is interpreted as a pit, its location potentially associates the feature's function with defence of the pa. Two earthen mounds less than 0.5 m high lie beside the depression.

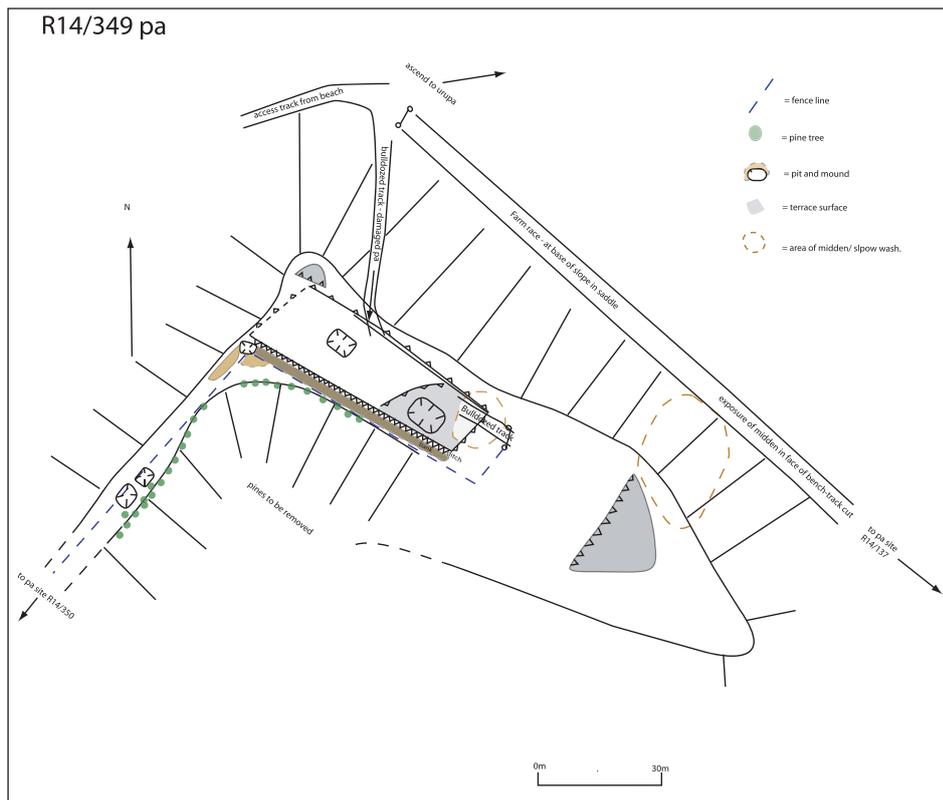


Figure 6. Plan of R14/349.

Within the fortified pa area kikuyu is the dominant species, and while relatively short its mat made identification of surface features in this area difficult. Gorse and bracken grows on the northern and western sides of the pa.

A lowered terraced surface was evident covering the southeastern third of the pa. A midden deposit, exposed by the recent earthworks for the track, is present at the eastern extent of that terrace and consists principally of cockle (*Austrovenus stutchburyi*), pipi (*Paphies australis*) and tuatua (*Paphies subtriangulata*).

Approximately 35 m south of the defensive ditch along the western coastal cliff are at least two other rectangular kumara pits (4 x 4 m and 2 x 3 m). These pits are shallow but distinct. Pines grow in the immediate area of these pits, which are almost certainly functional aspects of R14/349.

Two other terraces are associated with this pa. Both are located outside the pa defences. One terrace (7 x 4 m) is located on the extreme north-western corner of the pa, at the top of the coastal cliff and above the track from the car park. This terrace is set approximately half a metre below the pa's central platform and no midden was evident around the shoulders of the terrace. This terrace has not been affected by the track from the car park. The other terrace is located approximately 30 m down hill to the southeast of the pa among the pine plantation. This terrace is relatively large, approximately 25 x 12 m, and the back scarp is shallow, approximately 150 mm. A shell midden deposit is present on the slopes immediately to the east below the terrace. The midden indicates food preparation as at least one function of the terrace.

Physical threats to preservation

Where the newly cut track intersects the pa it has damaged the defensive scarp on the north-eastern slope of the pa. It has also made a substantial cutting through the defensive scarp and



Figure 7. Pa R14/349 showing damage to fortified area of site by track cutting and also the proximity of pines to the main defensive scarp and pits along coastal cliffs.

associated shell midden deposit at the south-eastern end of the pa. The purpose of the track is not immediately certain but its presence assists access by vehicles, especially motorbikes and quad-bikes which have left tracks on the pa.

Pines have been planted around the edge of the pa on the southern slopes. As noted above, some of these trees have been planted on the lateral defensive terrace and close to the western rectangular pits west of the defences. The lower south-eastern terrace is located among planted pines, although only a handful are planted on the edge of the terrace, with the core of it free from trees. The pines trees located on the site are very undesirable because they have substantial adverse effects on the archaeological deposits, from the growth of both the root systems and boles. There is also an added risk from three-throw that causes substantial adverse effects when the root plate is dislodged.

R14/350, pa

This pa site had not been previously identified or formally recorded (grid reference: E 2672214 N 6375669 ± 10 m). The details of the R14/350 were difficult to record because the site was mostly covered in long kikuyu and coastal shrubs. The pa is relatively small and utilizes the narrow crest at the top of the coastal escarpment, with its focus on a natural, sharply defined knoll. This pa is a little less than 50 m south of R14/349 along the coastal scarp. The pa's upper platform is approximately 70 m² and terraces step down to the east and west. A deep pit (2 x 2 x 0.7 m) is cut into the surface of the western mid-level terrace. A defensive transverse ditch is obvious west of the lowest westernmost terrace. A similar ditch was tentatively identified to the east of the eastern terrace. The defensive scarp along the southern length of the pa is up to 3 m high and a narrow lateral terrace is located at the base of the scarp. It is approximately 1.5–2 m wide and has a fence located along its edge. Along the coastal escarpment to the east and west outside the pa defenses, several pit features are present, each approximately 2 x 3 m. These pits are clearly defined and one was approximately 1 m deep. The presence of the thick grass cover may have made other finer features indiscernible.

Physical threats to preservation

Considering the problems with observing the ground surface because of the dense mat of vegetation on it, it is hard to be clear on the state of the site. However, our impression is that this pa is in good condition as it has been fenced off from the main reserve. Nonetheless there is a possible stock track running parallel to the cliff edge. Because the site has been fenced off cattle do not currently graze it.

The only significant threat to the site are the pines that grown immediately south of the pa's main defensive scarp. Several pines do grow on the narrow lateral terrace skirting the main scarp next to the fence line. The adverse effects of these have been noted above.

The growth of gorse and native shrubs on the site also provides some threat to the integrity of the site, in particular fine subsurface archaeological features.

R14/351, pit and possible terraces

The site is located on the end of the spur south of R14/137 (grid reference: E 2672229 N 6375338 ± 10 m). The largest feature is a raised rim square shaped (10 x 10 m) shallow depression with approximately 200 mm of mixed clay fill in the centre of the depression (Figures 9 and 10). This feature is similar to the large depression evident at R14/220 and the limited depth of fill suggests the feature may be the remains of a ware structure; the raised rims possibly reflect the perimeter of a house structure. A low linear mound is evident adjacent to the north side raised rim.



Figure 8. Plan of pa R14/350.

Four terraces are identified on or below the shoulder of the ridge. Three were approximately 10 x 5 m in size and had straight back scarps. The fourth was slightly larger at 15 x 5 m and had a curved back scarp. The latter is similar to a stock-rub scar and is considered unlikely to be of archaeological origin. Two circular depressions approximately 7 m in diameter and with quite steep sides approximately 0.5 m deep, are located beside the terraces. One of the depressions is possibly archaeological and has a stock water trough installed on its base. The other was tested with an auger and was shown to have over 1m of mixed tephra fill with flecks of charcoal common. It is probably archaeological.

This site is somewhat atypical in comparison to the others recorded within Wainui reserve and several of the features shown on the site plan are only tentatively interpreted as archaeolog-

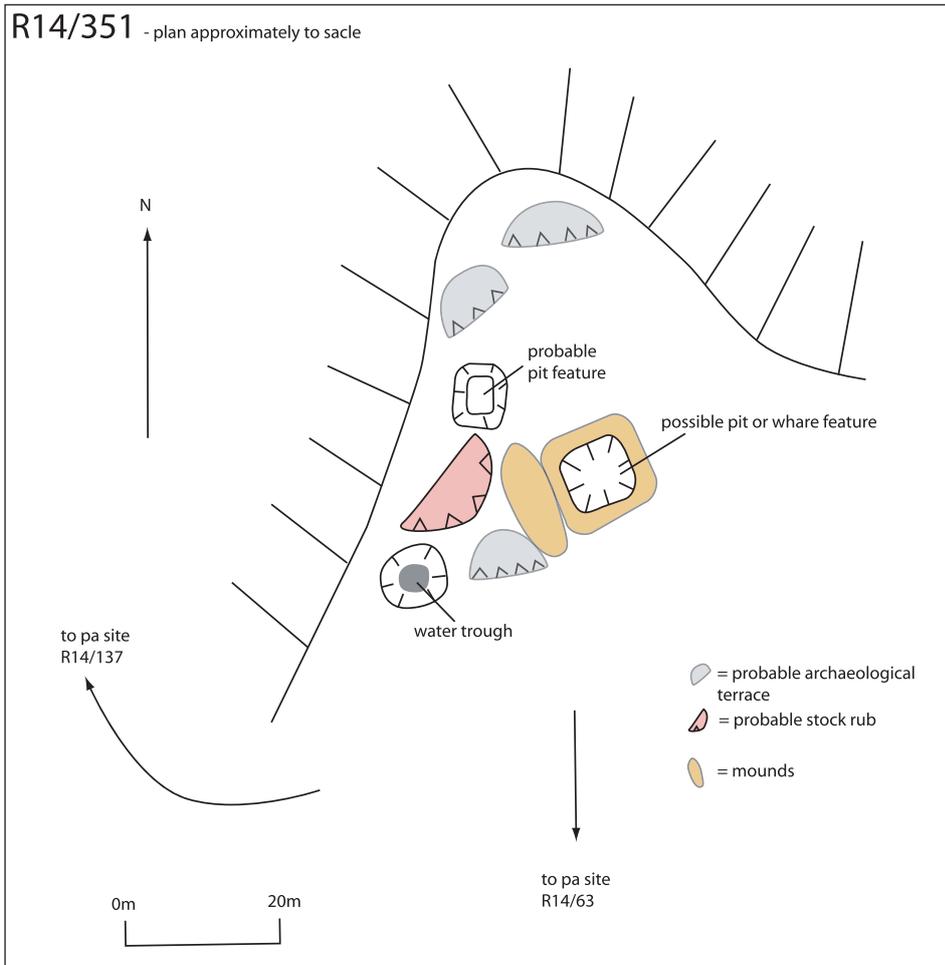


Figure 9. Plan of R14/351.



Figure 10. View to east to spur end site R14/351. Note depression feature. The other features are not visible in the photo.

ical. The lack of midden deposits across the spur and on its slopes is unusual for an occupation site and prevents more than a cautious identification of it as archaeological. For the purposes of management of the site a precautionary approach should be taken, and it should be treated as an archaeological site. A more certain definition of its status can only be gained from an archaeological excavation.

Physical threats to preservation

A significant threat to this site is the continued presence of cattle grazing over the spur. Cattle are suspected of creating a stock-rub terrace adjacent to other likely archaeological terraces. Continued cattle grazing will exacerbate this damage over a wider area of the site. Also, the water trough is possibly located on the base of an archaeological depression/pit feature and this is attracting stock to the site and increasing the potential for disturbance to occur.

R14/361, kainga: terraces, midden and possible pits

This site is located on the knoll crest of the ridge within the Wainui Reserve's picnic and retiree's native tree planting area (grid reference: E 2672120 N 6374400 ± 20 m). This site is referred to as the "kainga site" on the picnic area's display map and the start of the walking path. A walking track traverses the ridge, which is densely covered in shrubs and young trees. This vegetation complicated the survey and meant that a clear record of the surface features could be made.

An area of shell midden deposit was located on the northern slopes below the knoll crest (and existing walking track) confirming the area as an archaeological site. In addition, a number of terraces were identified on the eastern slopes of the knoll but the vegetation made close definition of them impossible. A series of auger tests showed soil profiles were variable across the top of the knoll. In places the natural soil profile has been truncated, perhaps representing cutting and filling episodes in the formation and use of the kainga. In places the soil had clearly been deepened with a significant but variable depth of mixed soil above natural clay, from 200 mm to more than 1 m deep. The deepest mixed soils encountered probably relate to kumara pits. One of these pits may be recognised as a very shallow rectangular depression on the walking track.

Physical threats to preservation

The presence and continued growth of the young trees and shrubs presently covering the site will certainly cause damage to archaeological features. In particular the plants that will grow into large shrubs or trees will have significant effects on the site through the growth of the roots and the bole, as well as possible damage from tree-throw. Also, gardeners planting with spades have damaged part of the midden deposit and in one area some cooking stone had brought to the surface indicating that buried features of the site are being affected.

Sites located in southern part of Wainui Reserve

R14/220, kainga

This site is located in the southern portion of the Wainui Reserve approximately 1.5 km south of the four pa sites – R14/63, R14/137, R14/349 and R14/350 – grouped at the northern end. R14/220 is situated at the northern end of the sharply defined ridge trending northeast–southwest, adjacent to the tarsealed access road over the Wainui Stream into the reserve's carpark. This ridge is immediately west of and is aligned with the Wainui Stream course (grid reference: E 2671635 N 6374349 ± 10 m). The archaeological features comprising R14/220 span a distance of approximately 150 m to the end of the ridge. A fence line runs effectively along the crest of

the ridge. Close inspection of the features on the eastern side of the fence was not possible as that area was under long grass (Figure 11).

The end of the ridge is approximately 35 m wide and a concentration of features is present there. Within the site area the ridge narrows to less than 10 m in the central portion. The southern end of the site is slightly wider with a maximum width of approximately 20 m. Further south is a minor saddle in the spur before it rises to a wide flattish area west of the main ridge scarp. The saddle effectively marks the edge of the site.

A terrace is present across the northern end of the ridge. Two midden deposits are present on the shoulder and lower slopes to the north and west adjacent to the terrace. Three definite and one certain pit are visible on the surface across the wide northern end of the ridge. The largest is approximately 12 x 8 m. The depressions are most likely kumara storage pits and the smaller ones are approximately 6 x 6 m.

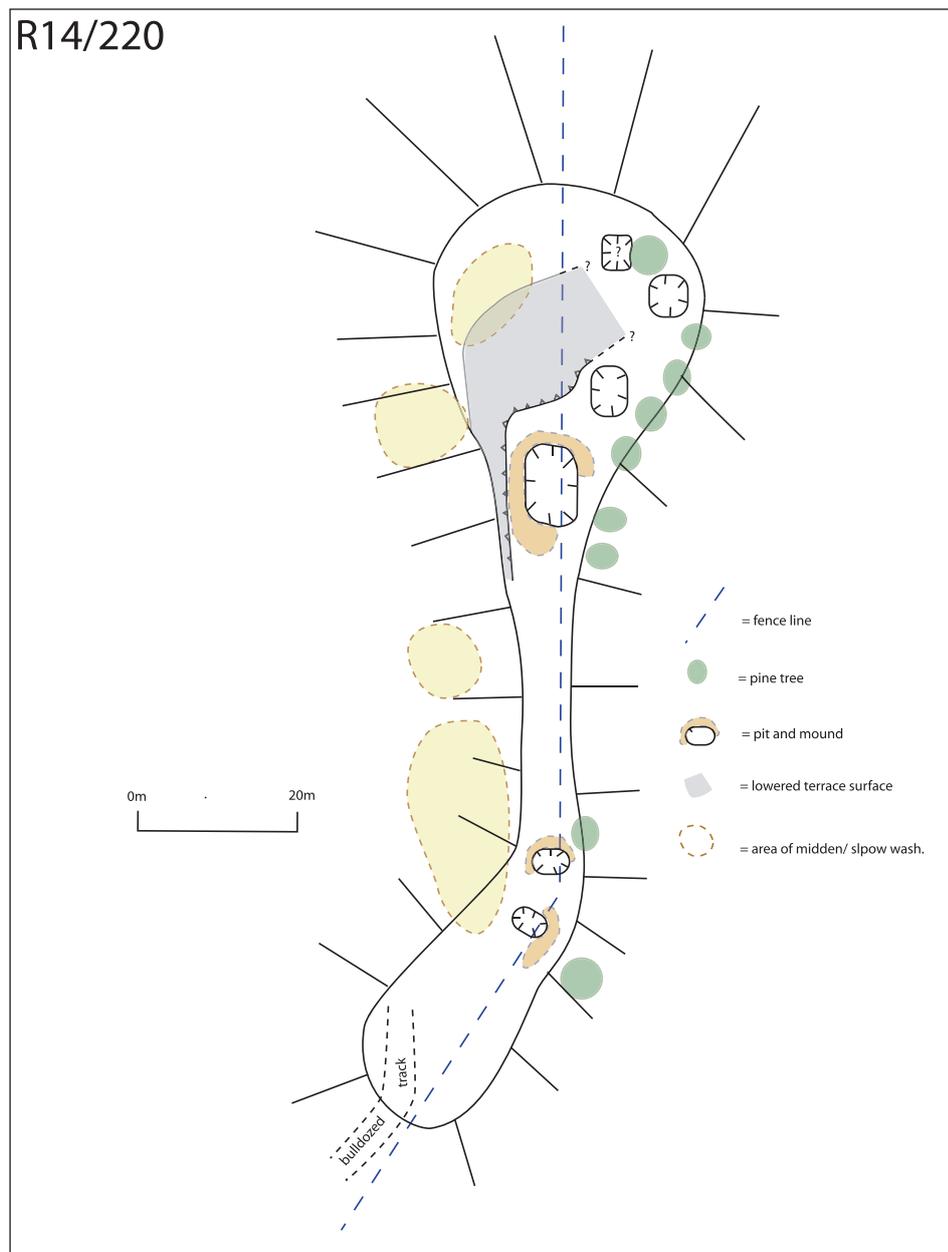


Figure 11. Plan of kainga site R14/220.

Two further pits were identified within the line of the fence at the southern end of the site. A low mound is evident to the side of one of the pits.

The narrow central portion of the ridge shows little evidence of any surface features, however the ridge was under moderately quite high grass at the time of survey and some features may have been missed. The original site record form suggests that two to three other pit depressions are present along the fence line. Two midden deposits were, however, identified on the western slopes of the ridge in this central portion of the site indicating that cooking wastes were dumped off the crest from this area and possibly implies that the adjacent portion of the crest was used for cooking activities.

Physical threats to preservation

An old bulldozed track has been cut through to the southern area of R14/220. Although it is not clear if any site features were disturbed during that event, any further bulldozing along the ridge crest would certainly disturb the site's features. The bulldozed track also continues from



Figure 12. Views of site R14/220. Note pines standing on eastern half of spur, and recent stock damage.

the saddle down the south-eastern slopes of the ridge and may have intersected other midden deposits.

Again, cattle are the largest threat to the integrity of R14/220. Cattle contour tracks have been cut deeply into the western slopes of the ridge below the site. Where midden is present across that slope, the deposits have been adversely affected and are effectively creeping downhill as a result. In a similar manner to the other sites, cattle grazing on the ridge crest has effectively flattened the terrace edges, reduced the visibility of the pits by breaking down their sides while at the same time filling them. The attrition of the shoulders of the ridge from cattle means that features close to the edge of ridge crest will have been damaged or destroyed. To some degree the fence running the length of the site may have protected the eastern half from stock damage.

Over-mature pine trees grow on the eastern side of the fence and penetration of their roots systems will have adversely affected site features in some places. Furthermore, the age of these trees combined with the steep slopes on which they grow suggest that several may to fall. Any tree throw would dislodge the root plate and cause substantial damage the archaeological features present (Figure 12).

R14/220 is located within the area where Sound Splash and other events are held. There is potential for damage from vehicles, the erection of structures and the laying of utilities in trenches.

R14/224, pit

As described in the original site record form, this site is a single depression, 1.5 x 3 m by 1m deep, situated on the edge of the steep east facing ridge scarp above the Wainui Stream (grid reference: E 2671419 N 6374135 ± 10 m). The centre of the depression was tested using an auger

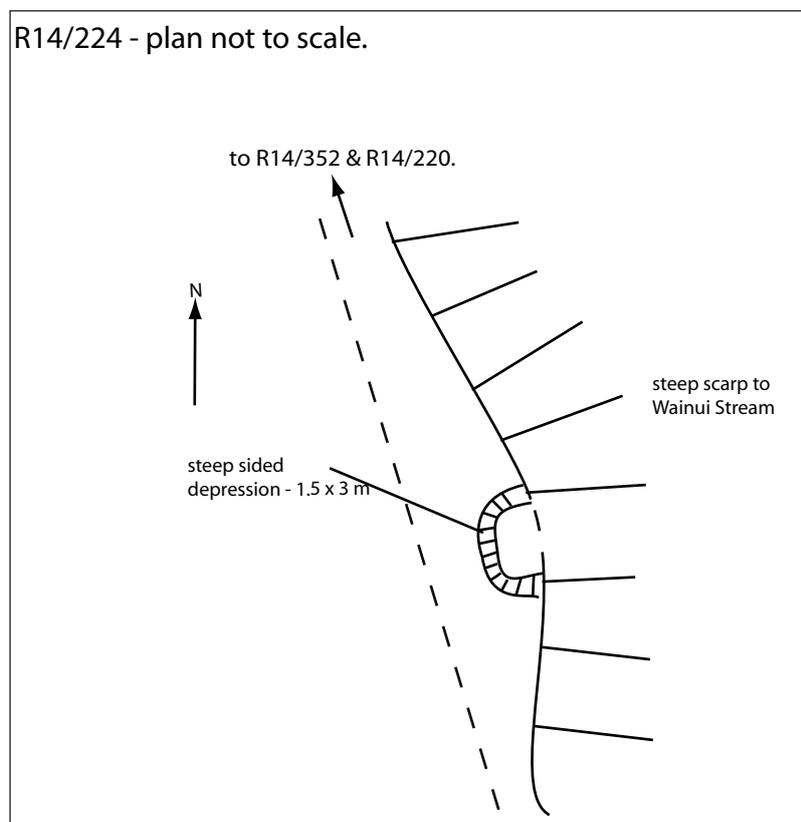


Figure 13. Plan of R14/224.

and showed over 1 m of uncompacted mixed fill. The location of the feature is very unusual and this leaves a question about its status as an archaeological site. Although the site may be a pit it may also be a tree throw. Without further archaeological investigation we are not able to confirm its status. Nonetheless, this site has been previously recorded as an archaeological site and for the purposes of managing the archaeological sites within the Wainui Reserve a precautionary approach is warranted and this site should be treated as archaeological.

Physical threats to preservation

There are no immediate threats to the continued preservation of this feature. It is located within the fenced off portion of the scarp edge in this area, and is not grazed by cattle.

R14/254, pits

This site comprises two sub-rectangular kumara pits features, both 4 x 2 m, located on the crest of a small knoll of approximately 70 m² area (grid reference: E 2671670 N 6374942 ± 10 m). Auger tests of both features showed they contain 0.5 m and 1 m of mixed soil fill respectively. This site was flagged as a potential pa site when originally recorded due to the presence of a possible defensive scarp on the knoll's northern side. This site is not a pa. Our recent assessment of this site concludes that the scarp in question is a result of stock rub. No midden deposits were identified on or in the vicinity of the knoll.

Physical threats to preservation

The only threat to the preservation of this site is the continued trampling of cattle and their use of the seaward bank as a rub. Since the original site was recorded and the presence of this scarp noted, a second stock rub has developed in the same area.

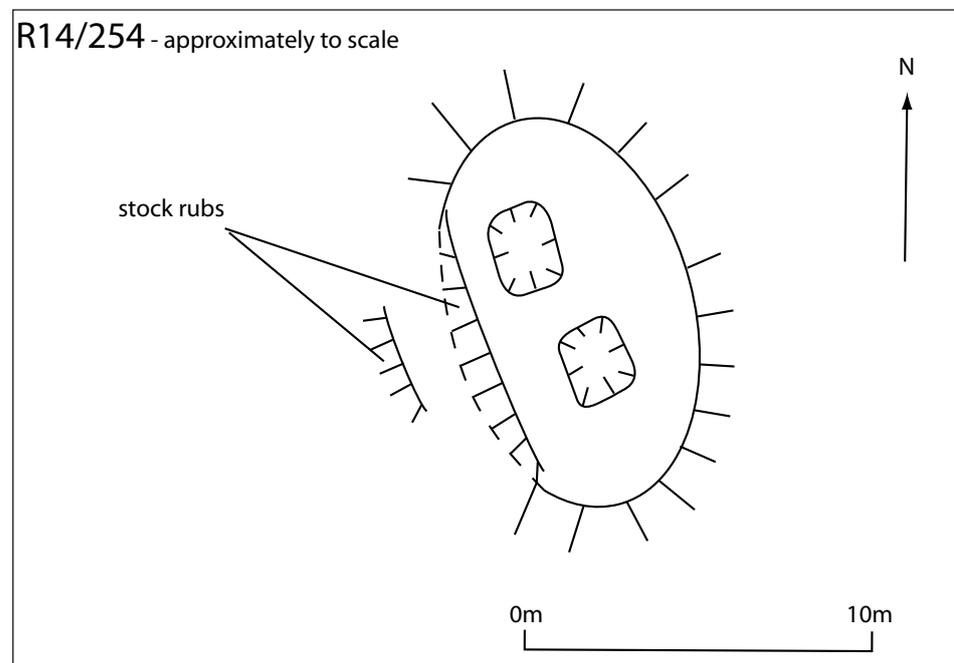


Figure 14. Plan of R14/254.

R14/352, shell midden and possible pit

This site is located approximately 100 m south of R14/220 and 50 m north of R14/224. The site is situated to the south the saddle at the south end of the R14/220 ridge on a flattish, wide ridge crest. An exposure of midden is approximately 10 m north of a paddock gate set perpendicular to the ridge. The midden deposit here is approximately 2 m² and is immediately adjacent to a vague oval surface depression interpreted here as a possible pit feature measuring 3 x 2 m. The midden is composed of fragmented shell in a dark brown soil. The presence of this site on the flattish ridge crest and close to the ridge scarp suggests that further unidentified archaeological features reflecting occupation of the area by Maori may be present in the vicinity. An auger test in the centre of the oval depression showed 300 mm of dark mixed soils and charcoal flecks were evident.

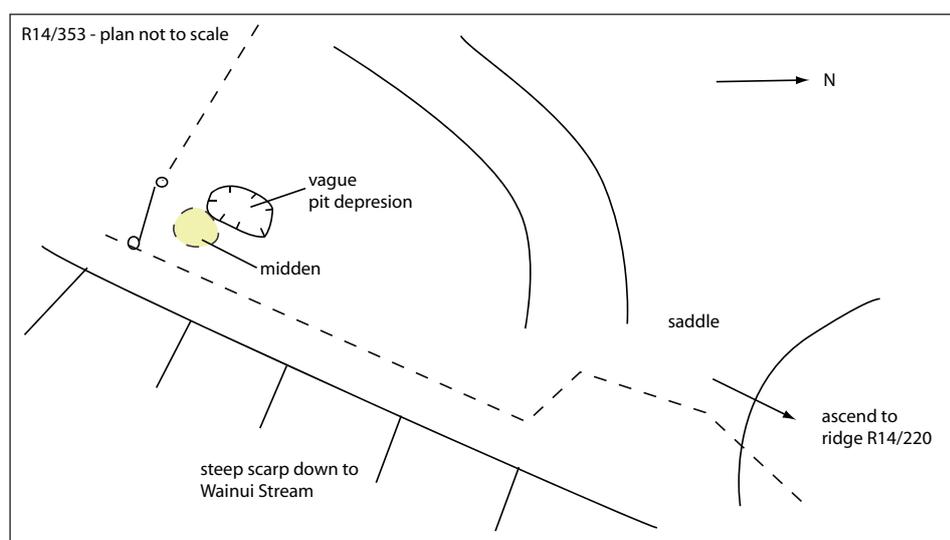


Figure 15. Plan of R14/352.

Physical threats to preservation

Because of the flattish nature of the site cattle grazing will not cause as substantial damage as that which will occur on sites with features in relief, such as pa or pits and terrace sites. Nonetheless, the effect of grazing has been a general flattening and infilling of the depression and a minor exposure of the midden has appeared. Grazing will continue to cause low-level disturbances to the site.

As mentioned there is a possibility that other unidentified site features are present on the wide and flattish crest area. The proximity of the paddock gate to this site implies farm vehicles would often run over the site surface, and may have contributed to the flattened appearance of the depression. The impact of vehicle movement over the site would be greatest during winter when the clay soils soften and vehicles create tracks in the ground. This activity may also affect any unidentified features.

Pokopoko urupa

During our time at Wainui Reserve with Tex Rickard the approximate location and boundaries of an urupa (burial site) named Pokopoko were discussed. The location of the urupa is known

to certain kaumatua of Tainui who prefer that its exact location remain confidential. In the area indicated by Mr Rickard the threats are not known.

Te Paeakaroa pa

According to Tex Rickard the area immediately down slope of the vehicle track Te Paeakaroa Road is a pa site called Te Paeakaroa pa. The area in question does exhibit large terrace like 'steps' on the coastal cliff. The steps are densely overgrown in kikuyu. No midden was evident across the fore slopes of two of the purported terraces and it was not possible to confirm them as archaeological features. In our view the terraces are natural geological features related to large slip events of the sea coast.

No immediate threats to the area are known.

Archaeological values

As can be seen in Figure 1, the four pa sites within Wainui Reserve are grouped closely together across the reserve's northern end and form a cultural landscape which includes a fifth pa, outside the reserve boundary, Rangipu Pa (also an urupa). The close grouping of the pa is unusual. Tex Rickard stated that each of the pa were occupied by separate hapu of Tainui. This information from Mr Rickard reinforced the impression of this cluster of pa as an associated group and in our view, it is very likely that these pa sites reflect a single, effectively contemporaneous phase of occupation by Tainui.

The development of five pa within one relatively small area perhaps suggests a high level of social competition among the hapu in the building of pa and perhaps more so over the access to the harbour and terrestrial resources (garden land, etc.) in the region.

The heritage value of these sites must be considered as part of this wider cultural landscape, of which they are components. The two kainga sites and the less complex pit and midden sites are also significant components of this landscape. Together the identified sites indicate occupation over the whole reserve with varying foci on defense, habitation and food production. It is likely that areas of prehistoric gardens would also be located within the reserve land, but which are very difficult to identify archaeologically without significant sub-surface investigations. The Wainui Stream provides a natural boundary and would have been a life sustaining resource. The same can be said for the coastal resources, which abound to the north and west of the reserve.

Finally, the archaeological sites within the reserve are generally well to moderately preserved and hold high heritage value individually, but principally together as part of a cultural landscape neatly bounded by the natural recourses that were the impetus to prehistoric settlement of the area.

Summary of preservation issues and proposed solutions

Section 17 of the Reserves Act 1977 requires Waikato District Council to manage and preserve the archaeological sites within the reserve to the extent compatible with the principal or primary purpose of the reserve:

Recreation reserves

Sec 17 (1) (b)

Where scenic, historic, archaeological, biological, geological, or other scientific features or indigenous flora or fauna or wildlife are present on the reserve, those features or that flora or fauna or wildlife shall be managed and protected to the extent compatible with the principal or primary purpose of the reserve: Provided that nothing in

this subsection shall authorise the doing of anything with respect to fauna that would contravene any provision of the Wildlife Act 1953 or any regulations or Proclamation or notification under that Act, or the doing of anything with respect to archaeological features in any reserve that would contravene any provision of the Historic Places Act 1993.

The Historic Places Act 1993 provides protection to all archaeological sites from destruction, damage or modification:

Archaeological sites not to be destroyed, damaged, or modified

Sec 10 (1)

Except pursuant to an authority granted under section 14 of this Act, it shall not be lawful for any person to destroy, damage, or modify, or cause to be destroyed, damaged, or modified, the whole or any part of any archaeological site, knowing or having reasonable cause to suspect that it is an archaeological site.

The principle threat to the majority of sites is the damaging effects of cattle grazing. This is particularly evident now at the pa sites R14/63 and R14/137, on the kainga site R14/220, and the pits site R14/254, where cattle have begun to damage and modify these site's features.

Another issue of substantial concern is the pines standing within and immediately adjacent to sites, such as at R14/220, and within a 10 m area around the sites, such as at R14/349, R14/350 and R14/137. To a lesser extent, the growth of gorse and shrubs on sites R14/349 and R14/350 are problematic and will cause low-level disturbances to site features. The pine's root systems, and to a lesser extent those of the gorse, disturb subsurface archaeological features, and in cases where windfall occurs, destroy them. In the particular case of site R14/361, where native and exotic trees have been recently planted, the expected growth of the tree species, such as the Oaks and other larger trees, will certainly cause unnecessary damage to that site's features.

A significant threat to the preservation of these sites is the potential for uncontrolled earthworks to occur. An example of this is the recently cut access track at R14/349, which has damaged part of the pa's defensive scarp and pushed through a midden deposit. Such vehicle tracks allow and encourage recreational motorbike riders etc to enter the reserve land. Once inside the reserve such vehicles can cause extensive damage to a site.

The best-preserved sites, or at least parts of sites, are those that have been fenced off from cattle and do not have pines standing on them. The best-preserved site is probably the pa R14/350, which has been fenced off from both cattle and vehicles.

Continuation of the present land use practices within the reserve, principally the persistence of cattle grazing, and to a lesser extent the unchecked growth of pines and gorse, will impact on each site's integrity and will eventually see a loss of visible surface features. Allied to this is the effect of fences constructed on the archaeological sites. These have the effect of concentrating and directing cattle across the site which then concentrates damage in particular areas and magnifies it.

The table below summarizes the threats to the identified site within the reserve and offers practical solutions to resolve them. These solutions have been incorporated into the proposed management objectives stated in Table 1.

Management objectives

1. Effective management and protection of the identified archaeological sites in the reserve. Existing factors attributing to the continued damage and modification of these sites must be addressed.
Specific solution guidelines to the identified threats facing each archaeological site should be acted upon urgently and can be summarized as follows:

- motor vehicles should not have access to, or be driven within, the reserve land other than in cases of emergency;
 - cattle should be removed from the reserve, or fences installed around sites under the guidance of an archaeologist;
 - no earth working should be undertaken within the reserve unless an assessment of the proposed works is completed by an archaeologist, and the Historic Places Trust issues an authority with conditions for mitigation where necessary;
 - all pines and other trees, shrubs and weeds, growing within a site and up to 10 m distance from any identified archaeological site should be felled or sprayed.
2. Design an archaeological site interpretation scheme for the reserve.
- Great potential exists to provide interpretive signage at each site and to discuss the reserve area as an archaeological Landscape. This would have the effect of better informing people of the cultural history of the area and about archaeological sites more widely. The concentration of pa in the northern end of the reserve is both unusual and would prove very suitable for interpretation. Specifically, this would involve:
- creating more obvious, better defined, walking tracks to access the pa and kainga sites within the reserve and other significant viewing points;
 - use signs at selected sites to display plans of each site and inform the public during their walking tour of their presence within a cultural landscape and of the historical importance to the region.

Site	Summary of threats	Proposed resolution
R14/63	Cattle grazing	Remove CATTLE, or, fence off site area
R14/137	Cattle grazing Channelling stock along fencing Pines growing within 10 m of site Possible root push and wind fall damage	Remove cattle Remove current fences and fence off site area Fell all pines within a 10 m buffer zone around the site
R14/349	Use of vehicle track – quad bikes etc. Fence located on edge of site. Pines growing within 10 m of site Possible root push and wind fall damage. Growth of gorse bush and other weeds	Install a locked gate at base of access track at car parking area. Install new gate at eastern end of pa. Lock gate and allow walking access only Move fence off site area Fell all pines within a 10 m buffer zone around the site features. This includes the terrace on the slope below the pa in the pine plantation Spray and kill all weeds and grasses over the pa site area, including around the terraces and pits.
R14/350	Pines growing within 10 m of site. Possible root push and wind fall damage Fence constructed on defensive terrace Growth of gorse bush and other weeds	Fell all pines within a 10 m buffer zone around the site features Move fence off site Spray and kill all weeds over the pa site area, including around the terraces and pits.
R14/351	Cattle grazing Presence of water trough	Remove cattle, or fence off site area Remove trough from vicinity of site
R14/361	Presence of trees and shrubs across site Gardening/planting activity	Remove all tall growing trees as a priority and all other trees if possible No further digging or planting should occur within the site area
R14/220	Cattle grazing Possible windfall of old pines Bulldozed track – continued earthworks?	Remove cattle, fence off site area Fell all pine trees on eastern slopes of ridge No further earthworks across ridge or slopes of ridge.
R14/224	no immediate threats	
R14/254	Cattle grazing	Remove cattle, fence off site area
R14/352	Cattle grazing Repetitive use of farm vehicles over site	Lay down road metal over the site area to minimise the effect of stock tread Lay down a layer of road metal and ensure vehicles stay on the formed tracks

Table 1. Summary of threats and proposed resolutions for each site.