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WHENUA TUKU IHO – MANAGING AN ANCESTRAL ARCHAEOLOGICAL LANDSCAPE ŌTAKANINI TŌPŪ, SOUTH KAIPARA PENINSULA

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Ōtakanini Tōpū is a Māori incorporated farm located on the South Kaipara Peninsula just north of Te Awaroa (Helensville). With a total land area of 2800 ha, the Tōpū is one of the largest farms and Māori freehold titles in the Auckland region. The property extends from the wind-swept western coastline of the peninsula through to the more sheltered inland waters of the Kaipara Harbour (Figure 1).

The Tōpū comprises land and waters rich with centuries of ancestral occupation and use. Signs of the tūpuna remain present and visible today.

By the early 18th century, the whenua which today makes up the Tōpū fell within the rohe of Ngāti Whātua. In the early 20th century it was considered by the Land Court and titles were awarded to a limited number of owners. This ended the traditional model of authority over, and succession of, the whenua.

Between 1909 and 1959 the various blocks were leased out by the Tokerau District Māori Land Board (TDMLB). According to the Māori Land Settlement Act of 1905, the TDMLB was able to have Māori land compulsorily vested in it if, in the opinion of the Native Minister, it was not required for occupation by its owners.

When the leases expired in 1959, numerous owners of individual titles opted to incorporate their lands and create a single large property, the Ōtakanini Tōpū. They then had to take out a loan to attempt to restore the land, which had been returned in a deteriorated state after 50 years of external leasehold

use, poor infrastructure investment and a lack of supervision by the Tokerau District Māori Land Board.

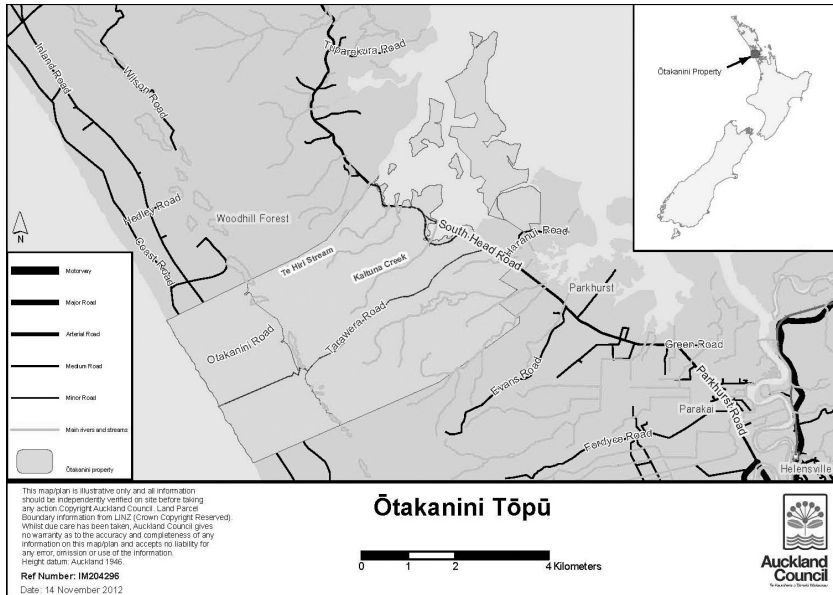


Figure 1 Location of Ōtakanini Tōpū, South Kaipara Peninsula, Auckland.

For its shareholders and the wider South Kaipara Ngāti Whātua community, the Tōpū is not only an economic and material resource, but an important living cultural landscape linked to tribal history and identity. As with any heritage landscape, there are tensions between the desire to protect significant sites and to use the land for other purposes, in this case primarily farming and forestry to provide an economic return for the often socio-economically deprived shareholder community. Over recent years the Tōpū has worked closely with Auckland Regional Council (ARC) and subsequently Auckland Council (AC) to develop a sustainable farm plan that is facilitating it to farm and otherwise use the whenua productively and with innovation, while enhancing and celebrating its natural and heritage values. A key component of the sustainable farm plan project was to gather up-to-date information on archaeological sites, an accurate map of the archaeological landscape and suggested methods to conserve that landscape. From the outset an acknowledgement was made that this component of the sustainable farm plan would be focused on archaeological assessment and recommendations on how to manage and conserve sites. Ultimately this information will be considered by the Ōtakanini Tōpū Committee of Manage-

ment alongside that pertaining to economically productive land use, cultural, social and community benefits, and the sustainable management of natural resources. Better knowledge and understanding will allow for informed management decisions to be made. At times this will mean compromise between different values, but the ultimate goal is for the Tōpū to continue to become more profitable, yet not at the expense of land or water quality, and to prevent unplanned damage to important ancestral sites such as pā and urupā.

Archaeological landscape

There are more than 210 archaeological sites recorded on the Tōpū including 13 pā, numerous large complexes of terrace and pit sites, middens, botanical sites and features relating to historic farming of the property. Topography can generally be divided into three zones: mobile sand dunes, high country and low country (Figure 2).

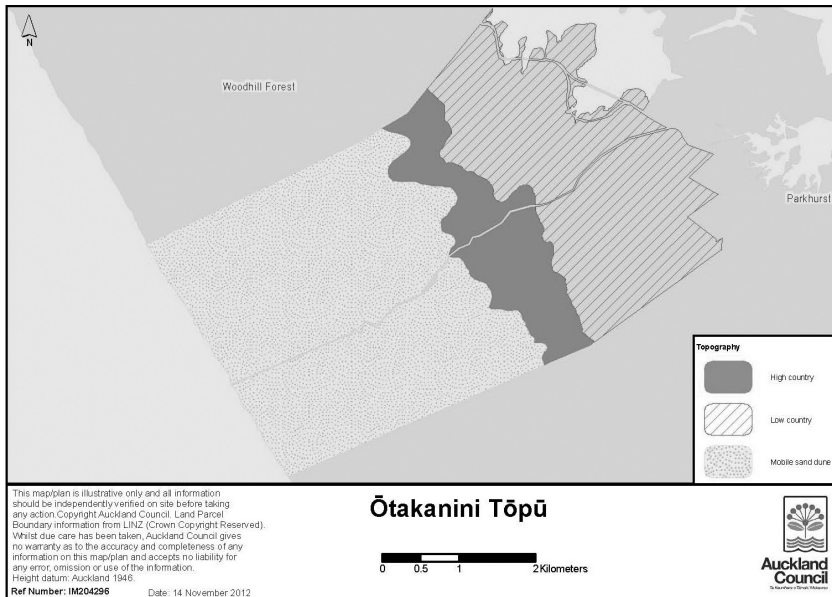


Figure 2. Topography of Ōtakanini Tōpū.

The greatest density of sites occurs in the high country that is immediately east of a band of mobile sand in a zone of consolidated sand country. Pā are situated on all of the highest points in this relatively steep landscape. As one moves east into the low country the land becomes more open and roll-

ing and archaeological sites become more sparsely distributed and generally smaller in extent (Figure 3).

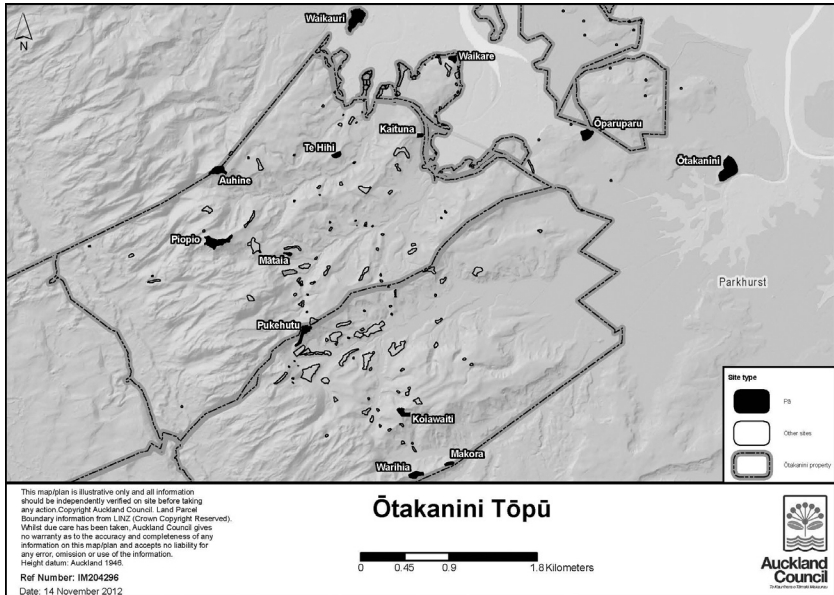


Figure 3. Archaeological site location and extent on Ōtakanini Tōpū (pā named and defined in black).

Three ring ditch pā, Te Hihi, Kaituna and Waikare, are present on the major ridgeline at the northern end of the Tōpū linking the hill country, Auahine and Piopio, with the coast. Three of the largest pā, Ōtakanini, Ōparuparu and Waikauri (an island pā), are located on the Kaipara Harbour (Table 1).

The majority (approximately 60 per cent) of the recorded archaeological sites occur in the high consolidated sand country on the steep-sided ridges and spurs in an 800 m wide strip of land. Another zone containing a high proportion of archaeological sites includes the paddocks adjacent to the Kaipara Harbour. Sites recorded in this area are predominantly midden.

The mobile sand dune ōtā has not been completely systemically surveyed for archaeological evidence. It is predicted that midden sites will be present throughout the mobile sand dune country but archaeological survey is unlikely to detect many of the sites as they are likely to be buried under metres of sand.

A high concentration of archaeological evidence is also found on the islands. The islands are presently under regenerating bush.

Table 1. Pā on the Tōpū and their locations.

Name of Pā	NZAA Number	CHI Number	Location
Te Hihi	Q10/233	6701	Low country
Mātaia	Q10/201	9077	High country
Auhine	Q10/238	9196	High country
Pukehutu	Q10/132	9580	High country
Koiawaiti	Q10/178	9581	High country
Kaituna	Q10/225	9582	Low country
Pioio	Q10/231	9583	High country
Waikauri	Q10/703	10576	Island
Waikare	Q10/704	10577	Low country
Makora	Q10/750	13450	High country
Warihia	Q10/751	19730	High country
Ōparuparu	Q10/53	9071	Low country
Ōtakanini	Q10/44	9572	Low country

Previous archaeological work

The first systematic archaeological survey on the Ōtakanini Tōpū was undertaken by Barry Baquie in 1975 at the request of New Zealand Historic Places Trust (NZHPT), and until recently was the most comprehensive survey of the Tōpū. The survey extended from the Tōpū property boundary in the south to Hihi Stream in the north (Figure 1). Baquie recorded approximately 100 archaeological sites on the property, representing the full range of Māori site types.

The following year, Douglas and Nugent were engaged by the NZHPT to survey a number of land blocks in the South Kaipara area. Survey within the Tōpū block had some overlap with Baquie's work and extended from Tarawera Road to Hihi Stream (Figure 1). Karen Lilburn (1985) and Wynne Spring-Rice (1996) produced theses that also looked at archaeological sites on the Tōpū and in 1998 Kevin Jones recorded several pā sites on the Tōpū from aerial photographs.

The majority of the sites on the Tōpū were originally recorded using the NZMS 1 Imperial Map series and grid references have not always converted accurately from NZMS1 to the NZMS 260 metric system. This is particularly evident in the South Kaipara where site locations often shifted hundreds of metres from their original positions as a result of the conversion. This presented a challenge when trying to relocate sites in an archaeologically dense landscape

that had not been re-visited in over 35 years. Original grid references had to be plotted by hand onto an imperial map for field survey and in some instances converted to metric before being recorded using the New Zealand Transverse Mercator (NZTM) grid reference system.

Survey methodology

The scope of the present project included relocation of all previously recorded sites, assessment of areas where archaeological evidence was considered likely and limited inspection of the mobile dune country of the Tōpū. Archaeological survey commenced in the early summer of 2010 and was intermittently completed over the following two years. A walkover survey and visual inspection of major ridgelines, spurs, streams and other likely areas for traditional Māori habitation was undertaken during relocation of New Zealand Archaeological Association (NZAA) recorded sites.

In addition to standard NZAA data updating and collection, the objective of the present project was to generate and prioritise management recommendations for archaeological sites and the cultural landscape. This was achieved through the application of a digital archaeological site condition, pressure, and response monitoring methodology specifically designed for this purpose. The ARC developed the archaeological site management tool in response to the need to identify and protect 900 recorded archaeological sites on the 40,000 ha of land that it managed (Mackintosh 2001, Tanner and Mackintosh 2006). A handheld Personal Digital Assistant (PDA) with Global Positioning System (GPS) enables fieldworkers to spatially define the archaeological sites in a Geographical Information System (GIS). Quantitative and qualitative data on archaeological site condition, threats and future management options is also recorded in the GIS and may be mapped. The data collection methodology was designed to encourage a condition, pressure, response approach to recommending and prioritising archaeological site management options. The data collection methodology was also designed to standardise and simplify data capture and allow individuals other than heritage professionals to gather the on-going monitoring data following initial baseline data collection. Quantitative data on land use, state and condition, perceived threats and management priorities is collected using drop down menus and prompts. Fields have also been set up in the PDA to collect qualitative or more descriptive data. Recommended levels of intervention in terms of site management are based on the ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value (ICOMOS Charter).

As part of the present project, data on the state and condition of archaeological sites was collected in order to create a baseline measure for

understanding and recording future change and for prioritising management and conservation work. Archaeological site state and condition judgements were made based on change observed since original site recordings made in the 1970s, and relative to other sites on the property. For an archaeological site to be recorded in the ‘good’ category a site would generally exhibit a high degree of intact, easily interpretable and visible features and little evidence of erosion or loss.

For the purposes of farm planning and in order to better manage archaeological sites on the Tōpū, data on perceived future threats to archaeological site integrity was recorded as part of the survey. Any activity or event that has the potential to cause ground disturbance on an archaeological site is considered a threat. Threat data was broadly grouped into the following nine categories: animals, erosion, farming, development, management, vegetation, forestry, visitors and other.

Within each of these categories, further detail on specific threats such as animal types or the kind of farming activity that threatens a site was collected and may also be quantified and mapped. It is generally found that there is more than one potential threat to each site.

The following principles, developed specifically for the sustainable farm plan, are designed to allow for optimal management of archaeological sites on the Tōpū, given that it is primarily a pastoral farm:

1. Management should be anticipatory and proactive to prevent unplanned damage to cultural or archaeological sites.
2. Management may require the collaboration of expertise from many fields, including tikanga, history, farming, cultural or traditional resource use and management, archaeology, ecology, arbory and pest management.
3. Management should be targeted at conserving recognised values, for example, tapu, ancestral association, traditional resource use, archaeology.
4. Proactive management requires on-going state, condition and success monitoring.
5. Archaeological investigation, a legal requirement should a site require modification, should be considered a last resort management and mitigation tool.

Results and archaeological recommendations

Approximately 95 per cent of previously recorded archaeological sites were relocated and an additional 35 new archaeological sites were added to the NZAA Site Recording Scheme. All NZAA records were updated and all sites

were spatially defined using the PDA. Sketch plans were made and photographs taken for the establishment of the baseline monitoring record.

Whilst the majority of archaeological sites on the Tōpū were recorded as having suffered some modification in the past, the archaeological landscape as a whole is considered to be in good to excellent condition.

Figure 4 illustrates the levels of modification recorded for sites on the Tōpū.

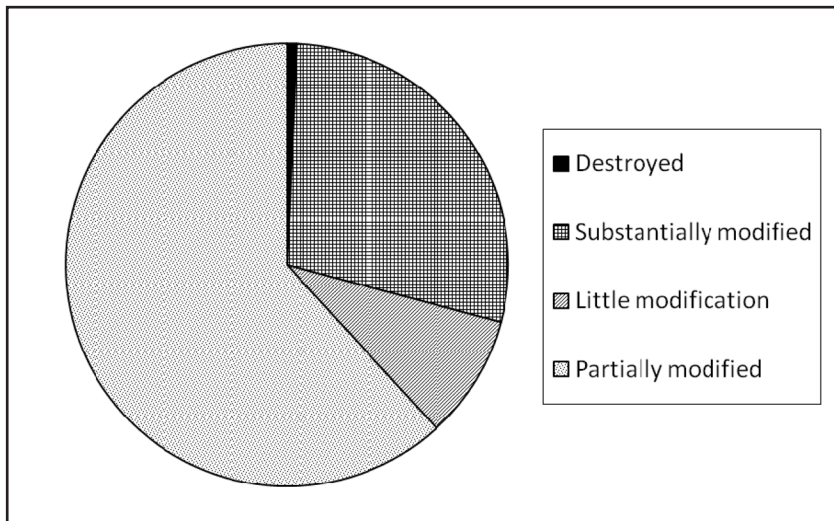


Figure 4. The level of modification to archaeological sites on the Tōpū

As is to be expected from a pastoral farming environment, the primary agents of past modification to archaeological sites were recorded as farming and stock. In most cases stock damage has generally been attributed to cattle. Causes of modification to archaeological sites are illustrated on Figure 5.

Farming activity is largely responsible for the current condition of the archaeological landscape, although continuing natural processes are responsible for eroding sites in the mobile sand country. Farming activities that have led to the modification of sites include roading, fencing, vehicle use and infrastructure installation.

For the majority of sites the on-going rate of deterioration is considered to be slow. This will only be confirmed through the continuing collection of state and condition monitoring data. For archaeological sites recorded in the slow to deteriorate category, it is not expected that significant change or loss

in the readability of features will occur in the next 10 years under the current land management regime.

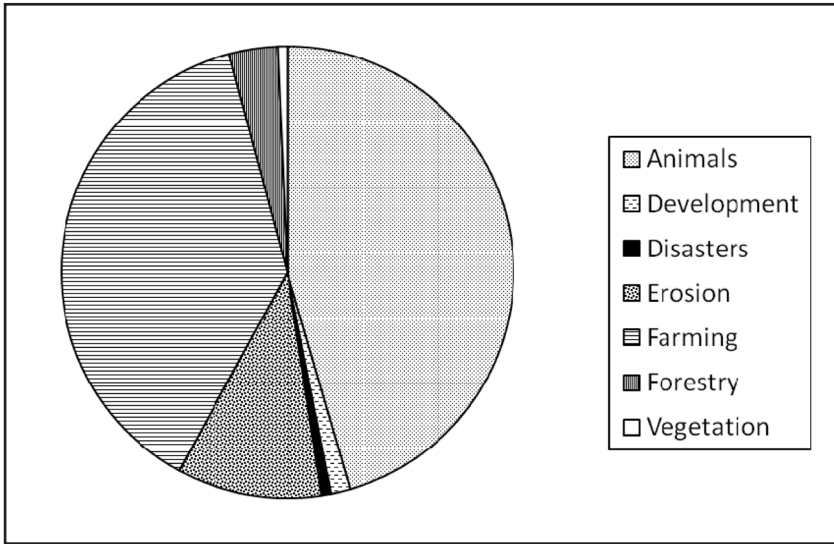


Figure 5. The primary causes of modification to archaeological sites.

The state and condition data collected demonstrates that farming activity is largely responsible for the condition of archaeological sites on the Tōpū, and that activities such as fencing and infrastructure installation have damaged sites in the past. It is intended that a result of the incorporation of the archaeological data and recommendations into the sustainable farm plan will be that farming activity will no longer be the primary cause of modification and deterioration for many sites. As illustrated in Figure 6, stock, particularly cattle, are considered to pose the single greatest threat to the archaeological sites going into the future. Stock damage on archaeological sites generally leads to additional problems like leaving sites (or parts of them) more prone to erosion, or enhancing erosion scars and increasing rates of deterioration. However, the removal of stock entirely would create alternative threats, such as the encroachment of larger vegetation. Management recommendations and strategies for the Tōpū have therefore primarily been designed around maintaining a dense pasture sward and preventing hoof damage and stock tracking.

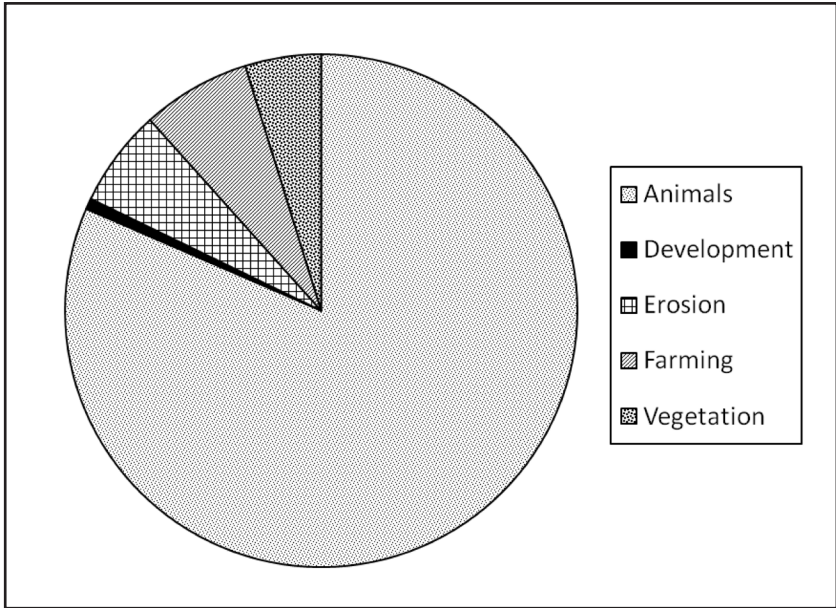


Figure 6. Perceived future threats to archaeological sites.

In accordance with the ICOMOS Charter, preservation of a place should involve as little intervention as possible to ensure its long-term survival and the continuation of its cultural heritage values. The degree of intervention required was assessed in the context of the following hierarchy:

1. Non-intervention
2. Stabilisation
3. Maintenance
4. Repair
5. Restoration

Figure 7 illustrates the levels of intervention recommended for achieving the conservation of archaeological sites on the Tōpū.

For the majority of archaeological sites the relatively stable condition they are in means that intervention is not generally required, but most will benefit from changed stocking regimes. Sites where stock damage has caused or will imminently result in significant erosion, require stabilisation either through the removal of stock until pasture can re-establish itself, or stabilisation planting and on-going vegetation management. Only two sites were recommended as requiring repair.

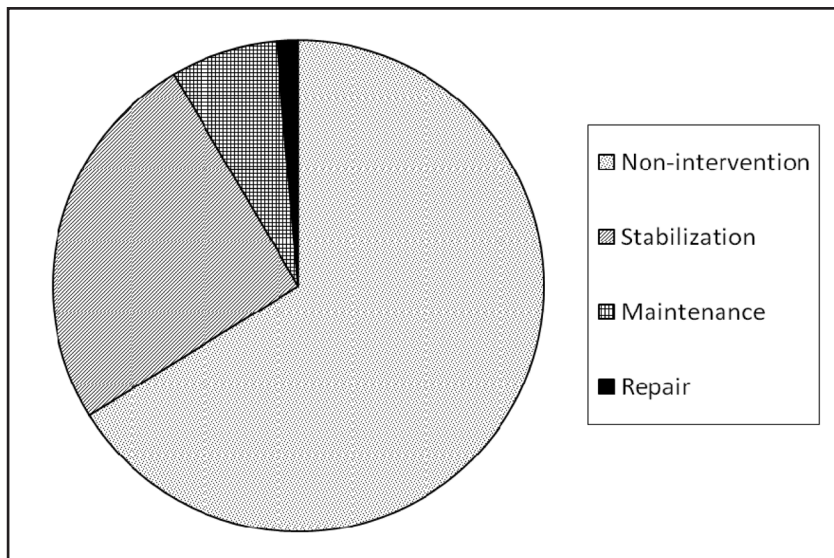


Figure 7. The level of intervention recommended for archaeological sites on the Tōpū.

As a component of the present archaeological survey, management recommendations were made for all archaeological sites. Broad changes to the grazing and paddock regime will benefit the conservation of most archaeological sites. In terms of the specific, an excess of 210 archaeological sites have tailored management recommendations and this information is available digitally as an Excel spreadsheet and as a GIS file. It is recommended that if the Ōtakanini Tōpū Committee of Management are identifying specific area-based management changes or seeking conservation initiatives, for example, for the pā sites, that site-specific archaeological management recommendations should be explored in greater detail.

Broadly, in terms of archaeological site conservation, the objective of grazing and stock management on archaeological sites should be to maintain a dense pasture sward. This can be achieved through the successful combination of stock species, age class, pasture type and season of year that grazing is undertaken. With this objective in mind, the farm manager is best placed to advise on exactly how this might be achieved.

Generally the highest density of sites occurs within a zone that will be grazed only with sheep in the future. This will assist with the preservation of the highest density archaeological site zone. To compensate for the reduction of stock in the fragile high country, stocking will be intensified in the lower lying

areas. Although there are fewer archaeological sites in the low-lying areas, there are some significant archaeological sites for which conservation management will need to be carefully considered, as they will be subject to greater risk of damage as a result of the intensification of grazing. It is recommended that these sites be fenced and stock managed independently of the wider paddock, or alternatively that in those paddocks stock are only grazed during the drier months of the year. Stock impacts on these sites should be regularly monitored and management adjusted accordingly.

Fences have the potential to damage archaeological sites in a number of ways; firstly, through installation and, secondly, because stock will track along them. Gateways and fence corners where stock congregate are particularly detrimental to archaeological sites. In addition, fence maintenance, realignment and removal where ground disturbance is involved will lead to damage to archaeological sites. Ideally, in the future fence alignments will be designed to avoid archaeological sites and used to enable the management of stock to better conserve sites. Numerous sites on the Tōpū have fences bisecting them or causing adverse effects. In terms of fence realignment, for the majority of sites it is recommended that realignment occur at the time fences come up for renewal. For several pā, however, including Auahine, Piopio and Koiawaiti, their conservation would benefit from fence removal and realignment in the short term.

Management recommendations were also made with regard to other factors and activities that currently, or may in the future, affect archaeological site conservation, including the control of pest plants and animals, cropping, natural erosion, forestry operations and farm infrastructure. To date, the archaeological information in the sustainable farm plan has been used to successfully design trough and waterline layout to avoid archaeological sites.

As a broad generalisation, the more complex the archaeological site in extent and nature, the more complex the management issues tend to be for the Tōpū. In instances where a significant cultural heritage site is involved, it was recommended that individual detailed conservation strategies and priorities be developed and carried out. This approach has been recommended for all 13 pā as a high priority. It is envisaged that the cultural heritage component of the sustainable farm plan could be used in support of funding applications to assist with the development and implementation of detailed conservation strategies.

A monitoring timeframe was established for all archaeological sites. This was based on the condition of the site, perceived rate of deterioration and

threats. As is illustrated in Figure 8, the majority of sites require a condition monitoring visit in 10 years.

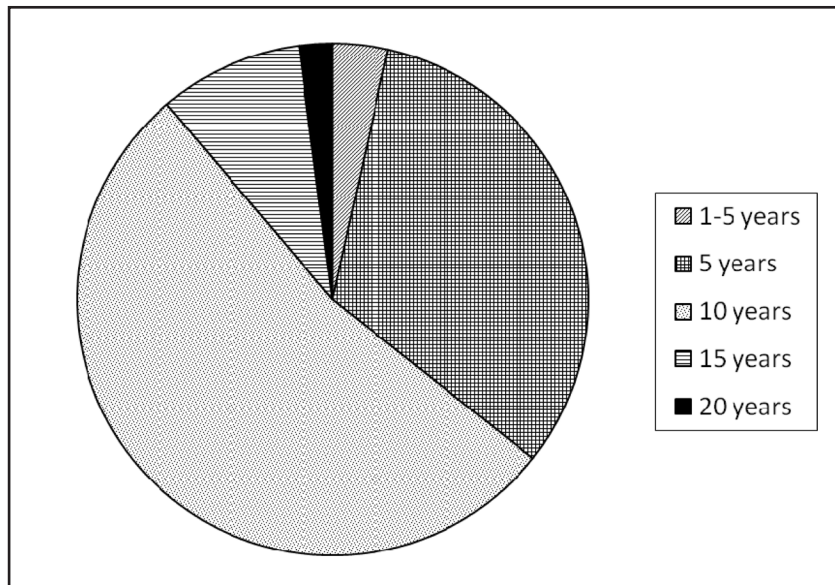


Figure 8. The recommended timeframes for monitoring archaeological sites.

Discussion and conclusions

Over recent years the Tōpū has worked closely with Auckland Council to develop a sustainable farm plan which will assist it to farm and otherwise use the whenua productively and with innovation, while enhancing and celebrating its natural and heritage values. This archaeological survey of Ōtakanini Tōpū and the accompanying archaeological site conservation recommendations are a key component of the sustainable farm plan. This information will be considered by the Ōtakanini Tōpū Committee of Management alongside that pertaining to economically productive land use, cultural, social and community benefits, and the sustainable management of natural resources.

It is envisaged that better knowledge and understanding of the archaeological landscape of the Tōpū will allow for informed management decisions to be made that will contribute to the conservation of that landscape. It also means that any modification that needs to occur has been approved with a full understanding of the options and their implications. So far, what the farm plan has clearly shown is the range of possibilities open to the Committee of

Management within existing land use that could slow the rate of deterioration of archaeological features. Some of these, such as lighter stocking on the fragile high country, fit well with already planned farm management changes and offer further synergies with sustainable land management practices. These are the ‘easy wins’ where improvements in the farming regime offer benefits in many ways.

In the future, larger changes may require greater capital and labour investment, for example, the construction of new fences to allow for altered stocking practices and the timing of their implementation will come in accordance with availability of budget and capacity. Changes to the farming regime present opportunities to consider a number of actions that can contribute to archaeological site conservation without necessarily having to incur significant costs on top of those required to undertake the farming operation. For example, if fence renewal is planned with knowledge of the location, nature and significance of archaeological sites, it offers the chance to realign fences so that they avoid damage and contribute to conservation of those sites.

Considering archaeological site conservation alongside farming priorities and identifying opportunities that satisfy both paradigms is facilitated through the sustainable farm plan.

It is envisaged that from time to time there will have to be compromise between different drivers, which include the need for the Tōpū to produce a return for its often socio-economically deprived shareholder community, the role of the Tōpū as a cultural landscape linked to tribal and community history and identity, the commitment to sustainable natural resource use and the desire of the community to access and move across the whenua. The time will come when harder decisions will be required, which may necessitate ranking one imperative above another. Empowerment through knowledge will mean that those decisions can be made critically and with full understanding of the implications.

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