

Caring for archaeological sites

Practical guidelines for protecting and managing archaeological sites in New Zealand

Kevin L. Jones



Produced in conjunction with the
New Zealand Historic Places Trust
Pouhere Taonga



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Cover: Mount Eden, Auckland. *Photo: Kevin L. Jones*

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He kupu whakataki

Tēnā rā tātou katoa. Kua tuhia tēnei pukapuka mahi e ngā kaimātai whaipara tangata e ū tonu nei ki te kaupapa, arā, kia penapenatia ngā wāhi mau taonga o neherā hei mahi whai tikanga mā te iwi Māori, mā te iwi whānui o Aotearoa, ā, mā ngā kaitohutohu penapena taiao i roto i ngā mahinga pūkenga o te motu. I rūnangatia tētahi tuhinga tauira tōmua i Waitangi, i Tāmaki-makau-rau, i Kirikiriroa, i Tauranga, i Ahuriri, i Te Whanganui-a-Tara. Ko tētahi o ngā ture tuatahi hei whai mā rātou i roto i te whakatakoto mahere penapena, ko te tātari i ngā uara rerekē ka pā ki tēnā, ki tēnā wāhi o nehe. He whenua whai tikanga ki a wai rānei, ā, he aha rātou i pēnā ai? Pēnā i ētahi Māori maha noa, e whakapono ana ngā kaimātai whaipara tangata he rawa whakahirahira ēnei wāhi, ahakoa wāhi tapu rānei, ahakoa wāhi noa mō te iwi whānui rānei, arā, he rawa e tika ana kia āta tiakina, kia āta pupuritia mō ngā whakatipuranga kei te heke mai. Whaipānga ai tēnā, tēnā o tātou ki ēnei wāhi. He mea nui tonu hei ata, hei tohu, hei mātāpuna mō te tuakiri Māori, tuakiri Pākehā hoki o Aotearoa. He wāhi mātauranga aua wāhi, he wāhi rangahau hoki e tika ana kia tino pai rawa atu te whakamarumaruru mā ngā whakahaere mahi huakanga hou e kōrerotia ake nei i roto i tēnei pānui. Heoi anō, kia maumahara tonu tātou tērā pea ngā whakatipuranga o āpōpō e tau te hē ki a tātou ki te hohoro rawa tā tātou kuhunga ki te wāhi kāore i tika, ki te whakarite whakamarumaruru rānei i nui atu ai ngā kino i ngā pai. Me whai wāhi hoki koutou ki aua mahi huakanga hei mahara mā koutou, hei patapatai mā koutou, hei tautoko hoki mā koutou.

Foreword

This manual has been written by archaeologists who believe that conservation of archaeological sites is an important task, for iwi Māori, for the public, and for all those people in professional employment who are privileged to advise on conservation. One of the first rules to be followed in planning conservation is to analyse the different values that relate to a site. To whom does the place matter, and why? Like many Māori, archaeologists believe that the sites, whether they are tapu or open to the public, are a valuable resource that deserves to be protected and conserved for future generations. Everyone has an interest in their protection. They are important as icons, symbols and resources for the identity of Māori and Pākeha New Zealanders. They are also places of education and research that deserve the best protection that our new techniques presented here can provide. However, we must always remember that future generations may judge us harshly if we have rushed to intervene where it was not necessary, or carried out protective measures that have done more harm than good. This work deserves your attention, your questions, and your support.

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Research Development & Improvement Division, Department of Conservation, PO Box 10420, The Terrace, Wellington 6143, New Zealand. Email: kjones@doc.govt.nz

ABSTRACT

It is important for our sense of history and national identity that archaeological sites be protected. However, only a small proportion of archaeological sites in New Zealand are in reserved areas. This guide is intended to help improve on-site protection of archaeological sites, features and areas through practical land management. Archaeological sites can be visible at or above the ground surface or lie buried beneath it. For all sites, minimising deterioration is a key management objective. Earthwork fortifications are a common form of surface-visible site in New Zealand. Surface erosion by visitors and farm animals, and planting in pine forests both cause significant problems. Sub-surface sites also need specific attention. The management of archaeological sites requires close consideration of plant ecology, because plants will generally be the most cost-effective cover. Techniques and management philosophies are recommended for five broad ecological settings: native grassland, exotic (pasture) grassland, native shrubland, indigenous forest, and exotic (plantation) forest. Techniques include encouragement of native grass covers, site-adapted mowing regimes, stock management, fencing patterns and methods, manipulation of native forest succession, felling and removal of problem trees, artificial covers such as geosynthetic cloths, and deliberate site burial. Mowing and line-trimming should be preferred to grazing for all significant sites, especially those which are open to the public. Wider cultural or historic landscape design needs to be considered, particularly for large reserves. The general principles outlined in these guidelines will be useful when preparing management or conservation plans for archaeological sites.

Keywords: resource management, reserves, local government, restoration, reconstruction, conservation plan, ICOMOS, archaeological sites, Maori, wahi tapu, landscape, monument, historic places, weed control, forest succession, forestry, farming, fire management

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Introduction

It is important that archaeological sites are reserved, accessible, protected, and authentic. Of all the sites in New Zealand, only a small portion is in a reserved area. The largest portion is on freehold land, particularly in the northern regions of New Zealand. Thus site protection requires good will on the part of the landowner. Once a particular type of protection is decided on—for example, a form of vegetation cover—it will always be wise to seek competent local advice on how to achieve that cover. Landowners are a key source of this kind of advice.

These guidelines do not give highly prescriptive advice, because the natural setting, and the conservation and heritage significance of places vary so much; and because techniques and proprietary products may change. The general principles and the techniques explained in these guidelines should be able to be incorporated into, or referred to in, management or conservation plans. Such plans should have resolved issues in detailed site management, including the role of tangata whenua. The principles stated here may help define the issues and resolve problems in conservation planning, but they are not the final word.

The Historic Places Act 1993 (s.2) defines an archaeological site as any place in New Zealand associated with human activity (including shipwrecks) which is, or may be, able, through investigation by archaeological methods, to provide evidence relating to the history of New Zealand, and which date to the period before 1900. Such sites include middens (deposits of what was once waste from food preparation), storage pits, fortifications, and quarries. Some may be visible on the surface, some not. Appendix 1 identifies the different types of physical places that are found in New Zealand.

In New Zealand, 'historic places' can be buildings or other standing structures, wahi tapu (sites of historical significance to Maori), or archaeological sites. The vast majority of the recorded archaeological sites are pre-European Maori in age, while all of the registered wahi tapu are Maori in origin. As time goes on, the potential inventory of post-European archaeological sites continues to increase, but the pre-European Maori archaeological sites are a finite resource that needs special conservation and protection. Most of the historically significant buildings in New Zealand are post-European in age and many have significance to both Pakeha and Maori. There are a number of different marae building structures that, in some cases, are nationally significant, but most tend to be significant to particular hapu and iwi.

This guide is not about buildings, or primarily about wahi tapu, although some archaeological sites may incorporate elements of both and the general conservation principles and techniques described here can also be applied to wahi tapu, if required. Nor is the guide about the legal protection process. Instead, it is aimed at practical land management to give improved on-site protection to archaeological sites, features, and

areas. It is important to our sense of history and national identity that archaeological sites are reserved, accessible, protected, and authentic.

An archaeological site/wahi taonga is part of a cultural pattern of occupation which may be evident in the landscape. It may be the product of a succession of activities and occupation. There are 56 000 sites recorded in New Zealand. A high proportion is of Maori origin. Most sites are quite small—maybe just a few pits on a ridge. A small number cover up to 1 ha or occupy as much as 500 m of a ridgeline. A typical farm in coastal regions or on major rivers of the North Island might have one or two medium-sized sites and a scatter of sites of small area. The largest sites are the large pa, such as Otatara in Hawke’s Bay, or the pa on the Auckland volcanic cones (Fig. 1). There are also extensive areas of pre-European gardens in the coastal Bay of Plenty, or on the flanks and surrounding stonefields of the volcanic cones of Auckland or Northland.

Figure 1. One Tree Hill, Auckland, viewed from the southeast. Relatively light grazing by sheep has maintained features well. Having staff and concessionaires on site (to right) enables close supervision of visitors. The pattern of treeland reveals the upper features of the site well to visitors on the ground.



A whakatauki (Maori proverb), ‘He whakatipu ngā otaota’ (Let weeds flourish), implies that all man-made productions are in a cycle of decay and being resumed by the earth. Consultation, planning, and working—with appropriate Maori authorities and hapu in particular—is an essential early stage in any planned work on archaeological sites. As it is sometimes difficult to ascertain who the appropriate Maori groups are that should be consulted and worked with over any planned work on sites, the New Zealand Historic Places Trust Pouhere Taonga maintains a list of iwi authorities and Maori heritage groups that can be accessed. As an organisation, the trust has developed good working relationships with iwi across the country on a range of heritage issues and can be consulted for advice about how and who to contact for consultation and partnership purposes.

Section 4 of the Conservation Act 1987 requires the Department of Conservation (DOC) to actively protect resources of interest to tangata

whenua, and to consult. Similar duties are imposed on other departments and the wider community under the Resource Management Act 1991 and the related Historic Places Act 1993. In the future, district plans are the medium which will impose restrictions and duties on land managers, but practical advice and good will are needed to make regulation work. Early in any consultation phase, good examples of positive management of sites to conserve their archaeological, visitor-appreciation, and other commemorative values should be part of the approach of the land manager to Maori communities.

Any kind of disturbance of the ground surface sets an archaeological site at risk. This raises questions about the best way to manage archaeological sites on farms or forestry land, or in urban areas, in a manner that is complementary to productive use. Sites with surviving surface earthworks—such as pa or storage pits—are often on high points or on ridge lines. Their protection and management in the course of farm or forestry operations is of particular concern. Many subsurface sites are in areas of intensive rural and urban use (under houses, under flat land used for yards), so that impacts on the sites are always possible. Archaeologists, in turn, have to recognise that rational protection of site values requires good methods of protection, balanced with the recognition that landowners should enjoy usage and commercial return. The Historic Places Act 1993 is the principal regulatory tool which enables the Crown to balance these factors.

Although only a small proportion of sites are actively managed, other sites should be kept in stable vegetative cover that protects the archaeological values and requires the least long-term management effort and cost. Sites for public appreciation should have the vegetation managed so that the stratigraphy, earthworks, and other structures are not only visible, but also protected. Opening up rare or unique types of sites (this includes the display of excavated areas) should be done with great caution. The same applies to the exploration and documentation of delicate sites such as cave floors and places with rock art.

The alternative to active management is to accept that there will be a steady loss of archaeological sites and values, or that there should be a cost to record and to recover information from the archaeological sites. The Historic Places Act 1993 is based on the premise that the destruction of sites should be controlled. Under the act, where destruction is inevitable there may be a requirement for an excavation, which can be expensive. For many years, archaeologists have seen excavation as an early resort where site protection could not be guaranteed. However, in the last decade, all international guidelines, such as the International Charter for Archaeological Heritage Management (ICAHM), have moved away from the assumption that sites should be excavated where they come under threat. Instead the stress is on in situ (in the ground) management and protection of sites for the information they contain and for their broader cultural interest.

A managed site is a recognised asset, and is less likely to be inadvertently destroyed by careless land development. Even if they are damaged in

some way, sites will still have significance to tangata whenua (Maori people) and local communities, and will also still have archaeological value. Evaluation of the protection possibilities for damaged sites should be the subject of discussion between landowners, archaeologists, and tangata whenua.

Examples of the damage that can happen on farms are roading or fencing, which may cut through a site. Yet farmland grazed by sheep provides the most obvious way to reveal the form of ancient surface earthworks for visitors or for passers-by. Forest or shrubland cover will obscure these reminders of a more ancient landscape. Tree root growth and tree harvesting destroy sites, but there are also opportunities to protect sites in small patches of grass or native shrubs within the forest. Where a site is to be open to the public and interpreted for public presentation, visitors may come from any part of New Zealand or the world. The preservation of archaeological sites in the long term depends on the good will of local people. These guidelines will assist in defining these issues, and will provide logical steps in planning for protection and describing techniques that can protect sites in a variety of situations.

The guidelines presented here cover methods for the conservation and restoration of archaeological sites. They revise and replace 'A manual of vegetation management on archaeological sites' (Hamel & Jones 1982). In 1994, the sites in that manual were re-visited and re-surveyed (and additional sites were surveyed) by Jones & Simpson (1995a, b). They noted that few sites had been managed positively following the recommendations of the 1982 manual. Some of the sites were in far worse condition than in 1982. In more recent years, positive investigations have been carried out on ground covers at Ruapekapeka (Woods 1993, 1999) and insights have been drawn from that work. Such documentation is particularly needed because without it experience of stabilisation initiatives cannot be consolidated and more widely disseminated to professional land managers. In addition, published guidelines for international practice (Jones 1993, 1998; Andropogon Associates n.d., 1988; Thorne 1988, 1989, 1990; Berry & Brown 1994, 1995) have influenced this study.

These guidelines are intended for people professionally involved in the management of land where there are archaeological sites, which includes:

Land owners and managers

- DOC conservation officers and technical services officers
- Farm and forest owners and managers
- Local and regional government reserve managers and operations staff
- Private landowners administering covenanted areas or areas where there are archaeological sites

Waitangi Tribunal and Office of Treaty Settlements

Maori Land Court

Tangata whenua

- Iwi authorities and iwi heritage management groups
- Trustees and lessees of Maori Reserves

Professional groups

- Landscape architects
- Queen Elizabeth II National Trust
- New Zealand Historic Places Trust
- Archaeological and resource management consultants

The work is arranged as follows:

Part 1—Discussion of heritage policy issues that will assist an understanding of archaeological values and management objectives for archaeological sites.

Part 2—Techniques for maintaining condition of sites.

Part 3—Guidance on archaeological site management under particular land uses (amenity, forestry, farming), with several case studies.

1. Conservation policy and planning

This part deals with the policy background to the practical care of archaeological sites—the values, conservation threats, and interventions involved. All land managers will need to consider a broad range of values: cultural, policy, local community relations, resource management and logistical matters. Any conflict in values will need to be resolved by good conservation planning.

The statement of outcomes—the long-term results and benefits—was developed in discussion with staff of the New Zealand Historic Places Trust.

1.1 DESIRED OUTCOMES FOR ARCHAEOLOGICAL SITES

If these recommendations outlining the care of archaeological sites are followed, outcomes for archaeological site management will be different from those at the moment. Most sites will continue to be managed as part of farming or forestry operations. At the least, continued heavy stocking with animals or forest reversion on sites will become a matter for decision by land managers. At best, archaeological sites and the landscape areas in which they can be appreciated will have distinctive management that conserves them properly, and guarantees that in the long term they will be available as landscapes or places of tribal identity, mana, commemoration, education, and research.

Distinctive management for archaeological sites will lead to the following outcomes:

- All archaeological sites are managed with care and in a professional way to maintain authenticity of the original fabric and stratigraphy.
- Reserve land with archaeological values have distinctive management in sympathy with the values protected and different from that of other classes of land.
- Wahi tapu are treated and valued as heritage resources in the same way as archaeological sites.
- The archaeological landscape is distinguished within the natural landscape by appropriate use of vegetation contrasts and links.
- A large number of sites remain under shrubland or other appropriate cover and are protected, so that in the future a decision could be made to allow for a range of management purposes—including public visitation or to conduct research.
- Damaging or potentially damaging land uses on areas that have archaeological sites are avoided.

- Some archaeological sites are actively managed to preserve them for the longest time frames (thousands of years).
- Land owners and managers have a good relationship with the public, tangata whenua, and other descendant groups such as New Zealand Chinese:
 - At appropriate sites, members of the public take an interest in and appreciate the place and the lives of the people who lived or worked there.
 - Kaitiaki and other descendant group(s) are involved in conservation planning and active management.
 - Sites of Maori origin are conserved and managed in partnership arrangements between landowners and relevant iwi.
- Accessibility and appropriate use is provided for:
 - Where access is part of an approved conservation or management plan, sites are maintained to allow the public to visit and appreciate them, without risk to the site.
 - Sites with high archaeological, historic, landscape, and educational values are a valued part of the visitor/tourist infrastructure.
 - Archaeological sites, and the historic landscapes of which they are a part, are maintained so that the cultural features are visible and able to be appreciated from within the reserve and from the surrounding area.
- Site management techniques are understood and supported by the wider public:
 - Appropriate resources are available for the management of archaeological sites.
 - Sound techniques are in widespread use by land managers and are taught in training programmes.
 - Conservation planning can rely on a growing body of experience and proven practices.

1.2 CONSERVATION AND LAND MANAGEMENT OBJECTIVES

In addition to these outcomes, a number of objectives relating to good land management need to be achieved. These are as follows:

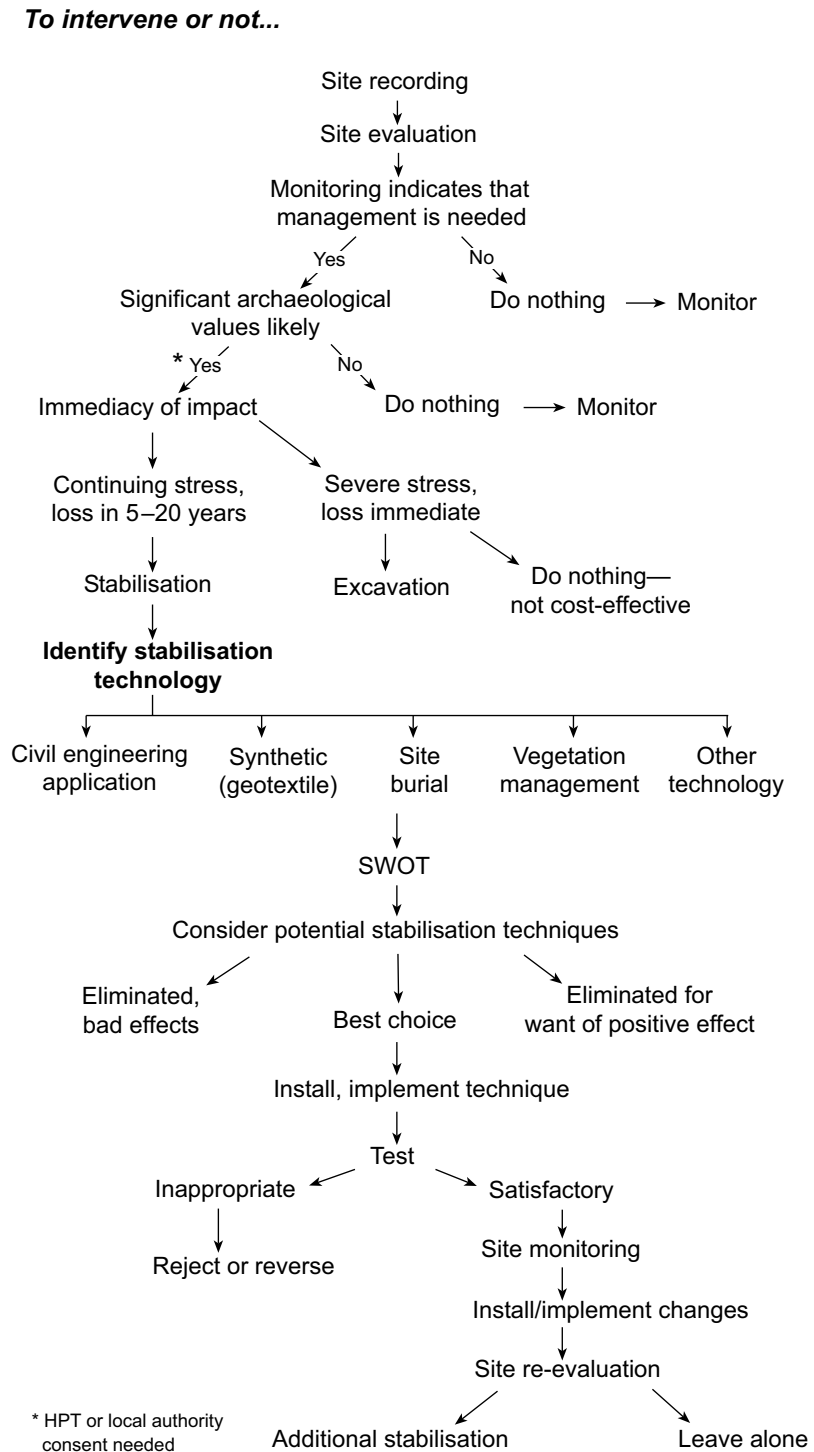
- Public access to a range of archaeological sites in reserves is maintained and enhanced.
- Site management is cost-effective and efficient.
- Vegetation covers used are stable and ecologically appropriate.
- Maori values are fundamentally integrated into land and conservation management planning.
- Archaeological site management takes into account the need for biodiversity conservation, recreation, farming and commercial uses.
- Sites managed under these guidelines are seen to be examples of good management.

1.3 PRINCIPLES OF CONSERVATION

In the 1990s, the process and principles for conserving historic places, buildings and sites alike were systematised. Figure 2 (based on Thorne 1988) shows the process of site conservation.

The Australian ICOMOS Charter (The Burra Charter) of 1981 (Australia ICOMOS 1999; Kerr 1996), the Aotearoa Charter (ICOMOS New Zealand 1992), the International Charter on Archaeological Heritage Management, and the Cultural Tourism Charter all have relevance to the task of site

Figure 2. A model of the conservation process. SWOT: Strengths, weaknesses, opportunities, threats. After Thorne (1988).



preservation. (ICOMOS is the International Council on Monuments and Sites, a UNESCO agency.)

These charters adopt a conservative approach to the preservation of historic places. Although recognising that a range of values need to be considered and respected, they stress the principle of the need to maintain the integrity of surviving fabric. The existing materials of a site or place should have their condition stabilised, and not restored or reconstructed. Key concepts of the charters as they apply to archaeological sites, particularly earthworks, follow.

Some conservation concepts

Authenticity—The physical constituents of a site and its associations for people reflect continuity with and respect for the past. Authenticity depends on maintaining the overall form of the site and standing earthworks and the stratigraphy.

Conservation—All the processes involved in caring for a place so as to retain its significance.

Preservation/Stabilisation—Maintaining a place with as little change as possible.

Restoration—Returning a place to a known earlier state by the re-assembly and reinstatement of surviving but dislodged fabric or by the removal of additions.

Reconstruction—Returning a place to a known earlier form by the introduction of new or similar materials ... usually where a place has been damaged.

Monitoring—Measuring or other recording of condition at time intervals so as to determine whether change is occurring, and in particular whether it is accelerating.

Intervention—Actions taken to improve the condition, or reduce the deterioration of an archaeological site. Intervention may include ceasing an activity which is damaging a site.

(For further comment on Reconstruction and Restoration see section 2.6.)

1.4 VALUES OF ARCHAEOLOGICAL SITES

1.4.1 Potential for archaeological research

Archaeology is an essential part of identifying and evaluating the evidence of past human activities. Sites are not just pieces of dirt with artefacts in them. They are a product of human activities, which have been altered over the succeeding years by physical, biological, and chemical processes and human activity. These processes eventually reduce a place to a fairly stable state, but one in which soil layers and surface features can still be detected and investigated. For successful investigation, the condition of a site at this stage should be maintained as far as possible. Further

disruption by alteration or destruction needs to be inhibited or prevented if the archaeological evidence is to be preserved. The authenticity of the site requires protection of its scientific and information potential as well as the form of surface earthworks.

1.4.2 Wider community values

Sites should be not only places of potential archaeological research, but also places that commemorate the past. Some sites may be important simply because an important event happened there and may have no surface expression of that event. All these sites hold different meanings for different groups within New Zealand society. There may be some places the nation does not wish to commemorate, or some particular local community does not wish to see commemorated, interpreted, or investigated—for whatever reason. However, these places may need protection through control of the vegetation or other means. Authenticity is still relevant.

1.4.3 Educational values

Education about the past is an important function of historic sites. The knowledge on which education depends may require research into the site, including its archaeology. Commemoration is also a part of education. Learning may be regarded as a form of recreation.

1.4.4 Landscape values

These include the need to view the site as part of the historical values which have accrued in a wider area. Maintaining sites in a visible condition in the landscape is important for understanding and ‘reading’ a place, for educational purposes and to encourage an interest in and appreciation of the past and archaeological sites in particular. This may require appropriate management to maintain views to and from the place, use of appropriate vegetation cover, etc.

1.4.5 Other values

Other values will include amenity and recreation values, vegetation values, and landscape value. Vegetation can itself have historical and commemorative value. Many historical sites will have amenity values for low-impact activities such as walking, relaxation, and visiting for the view.

1.5 THREATS TO ARCHAEOLOGICAL SITES

The authenticity of a site depends on maintaining two characteristics. The first is the surface form of standing earthworks and their relationship to standing structures. The second is stratigraphy (the layers of the site) which will, in many instances, be related to the surface-visible earthworks. Stratigraphy is not only structures in the ground—such as the cut marks and fill of terraces, pits, postholes and drains—but also deposits such

as oven rake-out and midden, and layers of soil that may have formed when people left the site.

A threat is any factor which will destroy the commemorative associations of the place or disturb, disrupt, or remove any earthworks or stratigraphic evidence.

1.5.1 Major classes of threat

English experience shows that the risk to archaeological sites is highest on forestry and arable land. There are moderate risks in urban areas and on pasture land (Darvill & Fulton 1998: 225-226). New Zealand experience would also suggest that farming and forestry are major sources of risk (Prickett 1985). Figure 3 gives a shorthand summary of these classes of threat. There are further threats that need to be managed. These include public visits to land within the protected area network, and any intensive management to cater for this visitation. The final threat is to sites with unstable and rapidly changing vegetative cover such as weeds or specimen trees (Fig. 4). There are other broad classes of land use change which can threaten sites such as pasture to viticulture or urban subdivision, but these are generally governed by wider regulatory arrangements and are not within the scope of these guidelines. Some particular techniques covered in these guidelines, such as deliberate site burial, will be relevant.

Some threats to archaeological site condition

Natural causes

- Root growth from the site's vegetation cover
- Weed growth and inappropriate weed removal practices

Figure 3. General diagram of threats to surface earthworks and sub-surface layers of an archaeological site.

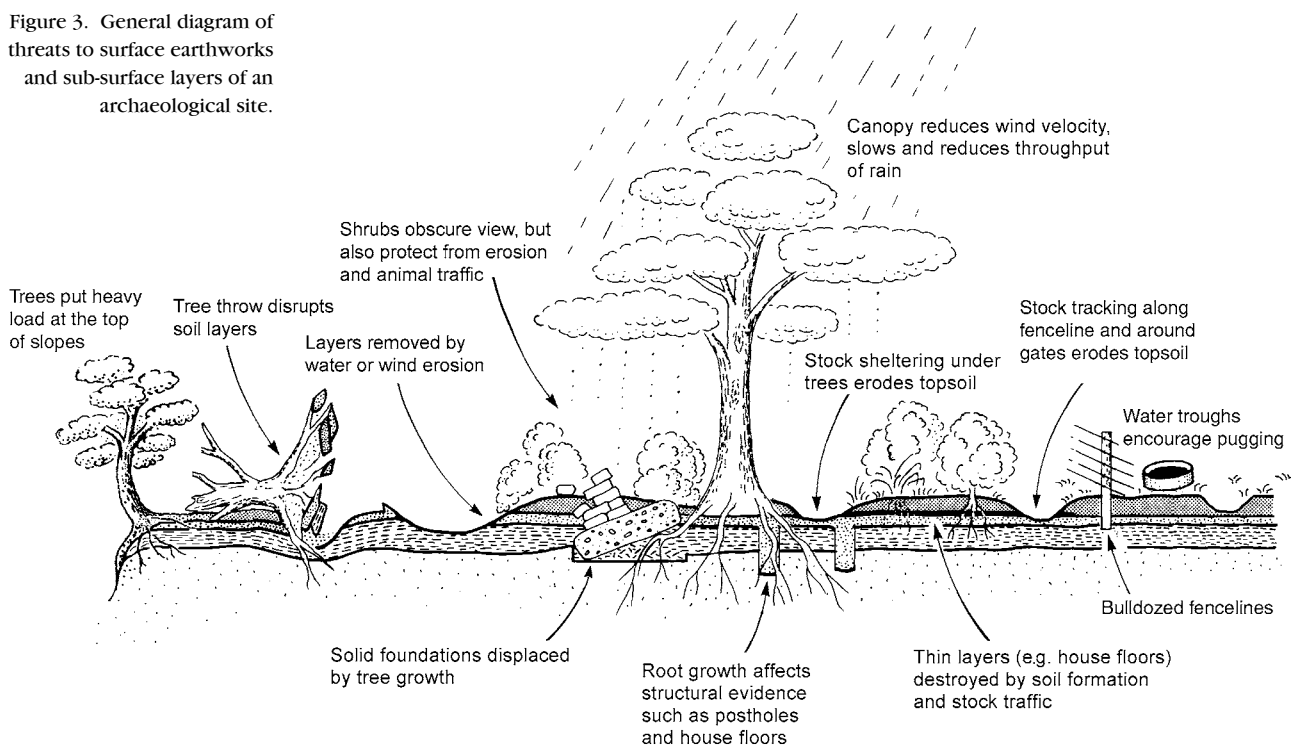


Figure 4. Root plate of a thrown tree at Whangapoua, Great Barrier Island (Aotea Island), showing midden and oven-stones in the dislodged earth. *Photograph: Dianne Harlow.*



- Tree throw, generally caused by wind pushing over the tree and lifting the tree's root plate (Fig. 4)
- Soil processes—physical, chemical, and bioturbation (disturbance caused by plant roots or animals), including freeze-thaw
- Erosion and gross movement—gullies, sheet erosion, wave and stream erosion at site margins and in landslides or subsidence, deposition of erosion products
- Burrowing animals—principally rabbits and pigs; ground-nesting birds such as petrels may burrow in areas such as coastal headlands

Human activities

- Roads and tracks, fencing
- Inappropriate mowing practices
- Damage caused by excavation of all kinds
- Wear from walking, 4WD vehicles, and mountain biking (Fig. 5)
- Damage from camping, tent sites, fireplaces
- Wear from machinery used in park management, including line-trimmers and mowers
- Compression of layers, especially where fill is placed or vehicles run over the site

Farming and forestry

- Damage caused by farm animals including soil compaction, pugging, tracking (especially near fences and gates), pawing and dust bowls (especially by bulls), scrapes and 'camping' areas for shade or shelter from wind, downhill soil creep, terracette formation, and slumping
- Inappropriate fencing practices
- Ploughing/disking
- Tree planting and root growth disturbing stratigraphy
- The impact of tree felling and hauling