

THE ARCHAEOLOGICAL OF MATAKANA ISLAND

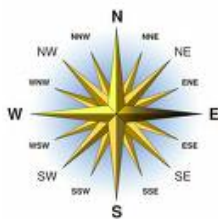
REPORT PREPARED FOR

WESTERN BAY OF PLENTY DISTRICT COUNCIL AND OTHERS

BY

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INTRODUCTION

Project Background

This archaeological report was commissioned by Western Bay of Plenty District Council in order to provide an overview of the archaeological resource on Matakana Island and forms part of the whole of island plan for Matakana Island in accordance with the Regional Policy Statement.

The Regional Policy Statement states that Council shall:

17A.4(iv) Investigate a future land use and subdivision pattern for Matakana Island, including papakainga development, through a comprehensive whole of Island study which addresses amongst other matters cultural values, land which should be protected from development because of natural or cultural values and constraints, and areas which may be suitable for small scale rural settlement, lifestyle purposes or limited Urban Activities.

Matakana Island

Matakana Island is located within the Western Bay of Plenty District. It is a long reasonably flat island with a total area of 6,076 ha. The Island extends from the Mount Maunganui entrance to the south east up to the Bowentown entrance in the north west. The Island is approximately 24km long and 5km at it widest point. It has two distinct parts comprising an inner core to the Island refereed to locally as the bulge which is approximately 1,725 ha in area. This is located on the harbour side of the Island and is where most of the population lives. Connected to this by a narrow neck of land is another 4,351 ha of exotic forest-covered coastal land of which its north east side is exposed to the Pacific Ocean. As at the 2006 census, the Island had a population of 225 people, making it the least populated area of the Western Bay of Plenty.

The Resource Management Act 1991

The Resource Management Act 1991 (RMA) provides guidelines and regulations for the sustainable management and protection of the natural and cultural environment. The 2003 RMA amendment elevated historic heritage to a *Matter of National Importance* under Section 6(f) of the Act. This section of the RMA identifies the need for “the protection of historic heritage from inappropriate subdivision, use, and development.”

The amendments to the RMA also provided a definition of “historic heritage” as:

- a) *Those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures deriving from any of the following qualities:*
- (i) *Archaeological*
 - (ii) *Architectural*
 - (iii) *Cultural*
 - (iv) *Historic*
 - (v) *Scientific*
 - (vi) *Technological; and*

b) *Includes –*

- (i) *historic sites, structures, places, and areas; and*
- (ii) *archaeological sites; and*
- (iii) *sites of significance to Maori, including wāhi tapu; and*
- (iv) *surroundings associated with the natural and physical resources.”*

These definitions are used in conjunction with the criteria in section 23.2 of the HPA to assess the heritage values of a historic place.

New Zealand Historic Places Act 1993

In addition to any requirements under the RMA 1991, the HPA 1993 protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by the NZHPT.

An archaeological site is defined by the HPA 2(a)(i) and 2(b) as: ‘any place in New Zealand that was associated with human activity that occurred before 1900, and is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand’.

Authorities to modify or destroy archaeological sites can be applied for either under Section 11, in respect to a particular site or sites, or under Section 12, for all sites that may be present within a specified area. .

Constraints and Limitations

This is a review of archaeological information available for Matakana Island and does not include an assessment of Maori values. Such an assessment can only be made by the tangata whenua. It should be noted that the archaeological information presented in this report is primarily derived from visual inspection and minor subsurface testing carried out during past archaeological surveys of the island. Such surveys cannot identify all subsurface archaeological features, or detect wahi tapu and other sites of traditional significance to Maori, especially where these have no physical remains. It should be noted that an assessment of cultural significance might not necessarily correlate with an assessment of archaeological significance.

METHODOLOGY

This archaeological review is based on a desk top study of available archaeological information for the island. This data includes recorded site information sourced from the New Zealand Archaeological Association (NZAA) Site Recording Scheme, published and unpublished reports relating to previous archaeological surveys and excavation on the island, geological papers relevant to the prehistoric period of the islands history and the authors archaeological survey experience on the Island. In addition, early survey plans and aerial photos were examined for information and or evidence of archaeological resources on the island. It should be noted that a field inspection was not carried out as part of this report, but as part of other assessments inspections were carried out by Archaeology BOP and there is familiarity of the Island.

It was not within the brief of this report to consult with tangata whenua of the island regarding the location and significance of archaeological and cultural sites.

The quality and accuracy of the available archaeological information used in compiling this report is extremely variable. Early archaeological surveys completed in 1972, 1978 and 1981 provided very basic site information including little more than location details and a brief description of primary features; the majority of NZAA site record forms contain little more than a sentence of information.

For the purposes of clarity in this report the three principal geographic areas of Matakana Island will be referred to as ‘the barrier dunes’, ‘the bulge’ and ‘Rangiwaewa Island’.

PHYSICAL LANDSCAPE

Geology

Matakana Island is a barrier island enclosing Tauranga Harbour. It consists of two main islands which lie along a north west / south east axis, and a number of smaller islets. Matakana Island itself is about 25km long and has a maximum width of about 5km. Rangiwaewa Island is about 4km long, and joins to the south east corner of Matakana at low tide. The total land area is about 12,500 acres, and the land is generally undulating to hilly rising to 70m above sea level at its highest point.

The main island is divided into two parts. The western side is known locally as “the bulge”, and is built up of Pleistocene sands mantled by thick tephra deposits. Most of the island’s occupants are located in this area. The eastern side is a long narrow coastal flat made of younger Holocene sands with minimal tephra cover. The greater part of the sand barrier is a plantation pine forest.

The Holocene sand barrier extends parallel to the ocean shoreline for a distance of 25 km and comprises a band of two or three post Taupo eruption (ca. AD200) relict fore-dunes on the seaward side, intermediate low subdued dunes with a distinct Kaharoa tephra mantle and extensive back-barrier dunes and impounded wetlands on the harbour side.

Soils

The soils on the dunes have not been the subject of a detailed survey, however, given the relatively young age of the sand barrier, significant parts of which have developed in the historic period, understanding its soil patterns and geological history is key to understanding the archaeological landscape.

The high beach front dunes are generally described as wind blown sand of the Ohope series, the low intermediate dunes are yellow brown sands of the Papamoa series and the harbour dunes are windblown sands of the Kairua series of Podzols. That latter two soil types have a thin cover of Taupo and Kaharoa tephra.¹

Vegetation

Matakana Island was once covered in podocarp forest evidenced by the commercial quantities of Kauri gum deposits recovered from the island in the late 19th and early 20th century. The natural vegetation cover of the island underwent significant changes during the prehistoric period following the Kaharoa eruption in the early 14th Century and subsequent human impact from significant burning episodes soon after Polynesian arrival.² Palaeo-environmental studies of soil profiles on Matakana Island and the Papamoa dunes have shown that beginning at the end of the 13th century there was a rapid increase in charcoal and a change from tree pollen to that of grasses and bracken. The most severe human impact on vegetation is thought to have occurred between 1280 – 1500 AD³.

By the 1870s, survey plans of Matakana Island indicate that vegetation was primarily regeneration species of Manuka and fernlands with possible mature native vegetation in the vicinity of the northern lakes and lagoons on the barrier dunes and within the valleys and along the coastal escarpments of the bulge and Rangiwaia.

¹ Rijkse & Cotching 1995

² Giles et al 1999

³ McGlone 1989

ARCHAEOLOGICAL LANDSCAPE

Previous Archaeology Research

Archaeological site recording began on Matakana Island in 1966 when Janet Davidson, along with members of the Tauranga Historical Society inspected and recorded several pa on Rangiwaia Island.

Ken Moore, the former Bay of Plenty File Keeper for the New Zealand Archaeological Association, commenced recording sites on Matakana Island in 1972. Moore did not visit the island but recorded 13 named pa illustrated on early survey plans. Of these 13 pa eleven have been inspected during subsequent surveys however two remain unidentified (U14/188 & U14/431).

In 1978 Tony Walton carried out an examination of early aerial photographs of Matakana Island in an attempt to relocate pa recorded by Moore in 1972 and to identify any further sites visible on aerial photos taken during the 1940s and 1950s. Walton did not visit the island in 1978 but recorded a further 7 pa sites visible on the aerial photos.

The first archaeological survey of the island was carried out by Bruce McFadgen and Tony Walton in 1981. They did not venture onto the dunes but rather focused on visiting sites recorded by Moore and Walton to verify their location and condition. In addition they recorded a further 18 pa and 47 undefended archaeological sites not including terraces, rua and midden deposits. The survey was conducted over a week in mid August 1981 and time only permitted basic information recording such as condition of site and a brief description of principal features along with corrected grid coordinates. Consequently we know little about sites on the Island beyond their approximate location and their principal features.

Since the 1981 McFadgen and Walton survey only 4 of the 85 sites recorded on the island have been revisited and information updated by an archaeologist. The condition of the remaining 81 sites including 36 pa is unknown.

Between 1991 – 1994 the University of Auckland carried out an archaeological research project on Matakana Island involving detailed survey of selected forestry compartments on the sand barrier and an excavation within Ureturituri Pa (U14/187) located on the eastern side of 'the bulge'. The detailed archaeological surveys of selected forest compartments on the barrier dunes identified a high density of middens with extensive and complex midden deposits on the dune crests and smaller deposits in the swales. While no sites on the dunes were excavated aerially test pits revealed complex site stratigraphy including extensive evidence of garden soils. The old forest soils and Kaharoa ash overlying the dunes provided an environment ideal for cultivation which appears to have occurred over a wide area particularly on the leeward side of the high dunes. Soil profiles established from spade test pits indicated cultivation occurred before and after shell midden deposition indicating sustained long term occupation of the dunes rather than simple short term seasonal shell fish processing sites.

In 1993 the Auckland University Field School carried out an archaeological investigation of selected areas of Ureturituri Pa. Sections of the defensive ditch and bank and an area within the defences of the pa were excavated revealing a complex occupation sequence. The bank section indicated four phases of occupation between the mid 16th century and the early 19th century. Excavation within the pa revealed a complicated sequence of occupation commencing with the excavation of several large crop storage pits and rua. Subsequent reoccupation was characterised by further crop storage pit excavations and construction of houses and the establishment of cooking areas.⁴ Obsidian hydration dates established for the interior of the pa vary from 170 to 320 years BP (from late 17th to early 19th Century).

More recent archaeological surveys by Phillips & Prince⁵ carried out for proposed clear fell harvest of forest compartments and subdivision proposals have identified a further 200+ previously unrecorded archaeological sites on the sand barrier. These sites are almost all described as shell middens. Phillips argues that in terms of land area and site density, the island is comparable to the Papamoa Dune Plain archaeological landscape, but more significant because of the scale and intensity of settlement, extent of cultivations and antiquity of occupation.⁶

Site Inventory

The New Zealand Archaeological Association's '*Archsite* Database' was searched to establish the location and background of recorded archaeological sites on Matakana Island. It is important to note that the '*Archsite* Database' should be regarded as a guide only. The coordinates for many of these sites were recorded using the Imperial map system and inaccuracies in location became inherent in the data when imperial grid references were converted to the metric system. As a result it is considered unlikely that sites will be located exactly where the recorded grid references place them, but it is generally accepted that the location of sites is within 100m of the area indicated by the '*Archsite* Database'. In addition, it should be noted that the exact boundaries for many recorded sites are ill defined. The single point location coordinate provided by the '*Archsite* Database' for each archaeological site are often based on the visible surface expression of each site and in most cases should be regarded as indicative only and may not necessarily represent the true subsurface extent of the site.

The inventory of recorded archaeological sites on Matakana Island while in excess of 400 sites is far from complete. It is predicted that numerous unrecorded subsurface archaeological sites remain intact beneath cultivated land on the bulge and on Rangiwaia and many more cultivation and midden sites remain unrecorded on the barrier dunes.

⁴ Petchey 1993b

⁵ Prince and Phillips 2008, Phillips 2008, Phillips 2009, Phillips 2010

⁶ Phillips 2008:17

Site Type	The Bulge	Rangiwaea Island	Barrier Dunes
Pa	37	7	2
Midden	13	11	300+
Terraces	7	1	
Rua	12		
Pits	1		4
Terrace / Midden	6		
Rua Midden	4		
Pits / Midden	4		
Canal	1		
Artefact Find Spot			
Total	85	19	306+

Table 1. Recorded Archaeological Sites on Matakana Island.



Figure 1. Aerial photo showing recorded archaeological sites on Matakana Island. White dots indicate the location of recorded pa, yellow dots indicate midden sites and pink dots indicate terraces and rua.

Archaeological Sites on the Barrier Dunes

Pa

Pending reports for the sand barrier meant that an accurate inventory of archaeological sites for this area was not available however it is currently in excess of 300 sites and almost all of which are described as middens with the exception of 3 sites with pit features and two pa (Tupaea's Pa U13/#### & U14/188). Tupaea's Pa is awaiting a site record number and coordinates from the New Zealand Archaeological Association while U14/188 Ohinetama Pa recorded by Ken Moore in 1972 on the eastern side of Bluegum Bay has not been revisited since and its exact location remains unclear.

Midden

Midden sites on barrier dunes have been described in some detail by the Auckland University and more recently by Phillips. It is anticipated that when total survey of this area is completed there will be in excess of 1000 midden sites. It is important to emphasize that midden is a descriptive rather than an interpretative field classification. The shell midden represents the visible surface expression of an often expansive subsurface archaeological resource which may comprise gardening, crop storage, and sea food processing and living area components. It does not mean that only shell midden was present. It is within the more compact garden soil matrix that archaeological evidence of structural features such as house floors, terraces and crop storage pits typically survive.

Some site distribution patterns within the wider archaeological landscape are emerging at the northern end of the barrier dunes as more forest compartments are surveyed. Three or four principal zones of prehistoric activity have been identified (Figure 2).

The first zone (A) comprises relatively low concentrations of sites on the coastal high dunes that appear smaller and less complex than inland midden sites several dune ridges removed from the coast. These sites likely represent short term seafood processing activities.

The second zone (B) includes the main concentration of sites within the property clustered along two principal high dune ridges that extend the length of the barrier dune formation. The volume of processed shell evident on these two ridges is considerable suggesting intensive industrial food processing over an extended period. In a number of areas, and particularly on the northern end of the seaward dune ridge, there is evidence that the dune crests have been levelled most likely to accommodate structures associated with more permanent settlement.

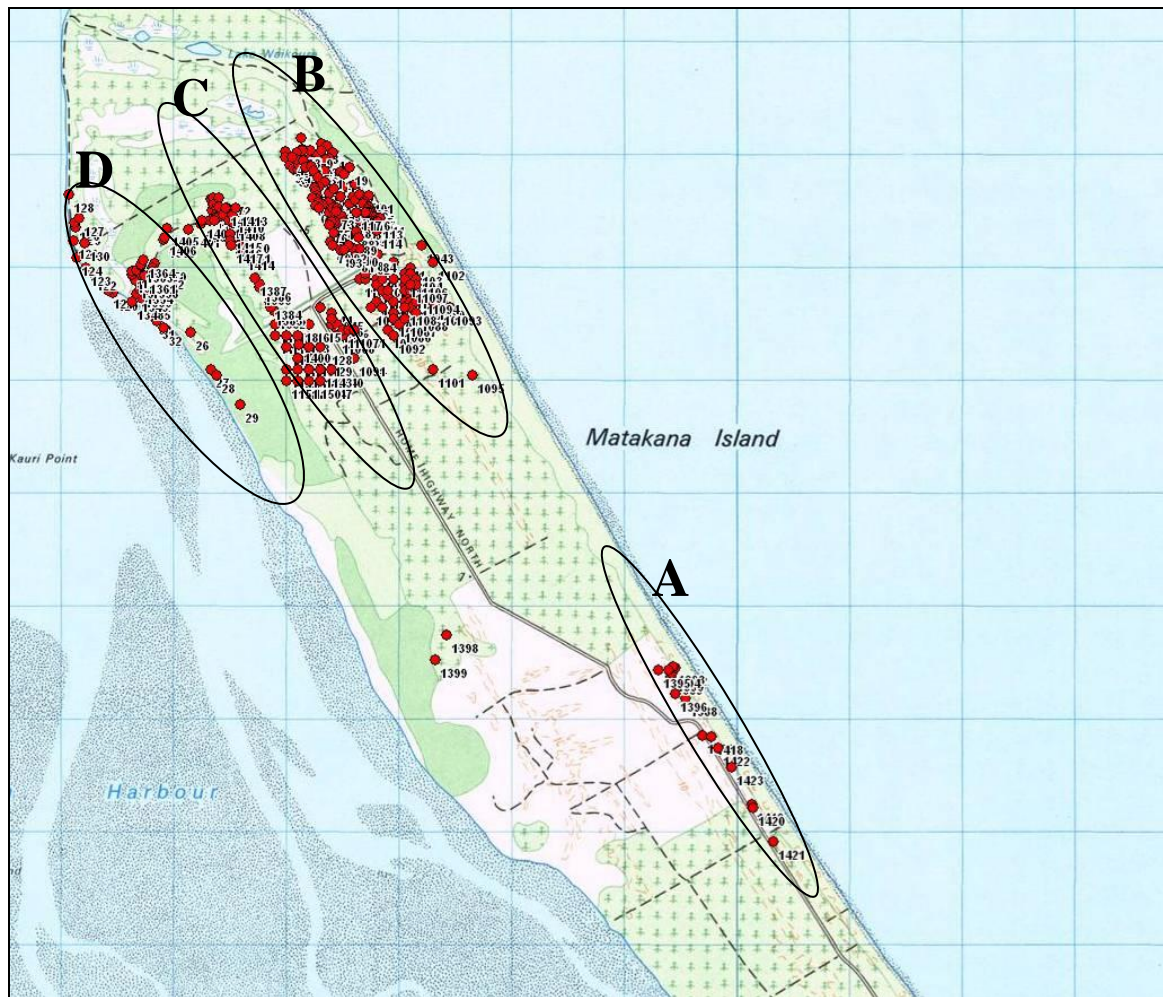


Figure 2. Site distribution map showing principal prehistoric activity areas.

Zone C comprises a principal high dune ridge separated from the harbour by old subdued dunes and wetlands. The archaeology of this high dune is characterized by shell concentrations and levelled occupation areas. Recent archaeological work carried out on the subdued dunes immediately to the west has revealed evidence of deep modified soils indicative of prehistoric cultivation. Based on our understanding of prehistoric cultivation on other dune systems such as the Mahia tombolo, Rangitaiki Plains, and the Papamoa dunes, prehistoric gardening on Matakana may potentially cover many hectares particularly on the older dune formations on the harbour side of the island.

The fourth zone (D) comprises the harbour margin where the archaeological evidence indicates that earlier and longer term settlement occurred. The harbour edge settlement area includes both the earliest and latest prehistoric occupation sites and consequently is considered to encompass the most complex archaeological landscape within the property.

It should be recognized that within each zone there are numerous variables affecting the nature and concentration of sites including access to fresh water, proximity to wetland resources, harbour channel access, cultivable soils, elevation, shelter etc.

Archaeological Sites on the bulge and Rangiwaea Island

Pa

Pa are the most identifiable archaeological sites in the landscape in terms of visible earthwork features and were typically the first archaeological sites to be recorded by amateur archaeologist during the formative years of site recording with the New Zealand Archaeological Association. The recorded pa of Matakana Island represent a highly visible and significant component of the archaeological resource however it must be recognised that the visible surface features have often survived by virtue of their location near the edge of the coastal escarpment away from cultivation and ploughing and determining the full extent of these sites often requires more than an inspection of old aerial photos and a brief site inspection.

The bulge contains one of the highest concentrations of pa in the Bay of Plenty with 37 recorded pa primarily located on the coastal escarpments and 8 on what may be called the inland hill country. Most if not all pa have known traditional names many of which are documented in Land Court Minutes and on early survey plans. Table 2. provides a list of pa on the barrier dunes, the bulge and Rangiwaea and traditional names for many are provided but need verification by tangata whenua. The dates provided in the recorded and updated column indicate that most have not been inspected by an archaeologist and site information updated with the NZAA for 30 years or more. Consequently there is currently insufficient information to make comment on the size, style, condition or significance of the pa on 'the bulge' and on Rangiwaea Island. Many pa were described as damaged or in poor condition when recorded primarily due to infilling of defensive ditches and successive ploughing. However, while the earthwork features may have been damaged or obscured pa of this type typically retain high subsurface archaeological integrity and it will be important to identify accurately the original extent of each pa, internal features and the location and extent of possible external occupation and cultivation areas to better define the complete archaeological / cultural landscape and the likely extent and integrity of the archaeological resource associated with each pa.

The extent of archaeological sites described as pa are frequently incorrectly defined by defensive features resulting in isolated pa reserves disconnected from their cultural and archaeological landscape. Archaeological excavations throughout New Zealand have shown that the defended area of many pa represents only a component part of the archaeological site and the wider archaeological / cultural landscape. It is important to determine the function of different pa type i.e. defended community, refuge or citadel in order to predict the likely undefended component of the site. Frequently most activities including living, cooking and cultivation occurred outside of the defended perimeter of the pa. It is this undefended component of the site that often has the highest archaeological values but it must be recognised that the defended component often has the highest symbolic and cultural values to tangata whenua.

Site No.	Site Type	Name	Recorded / Updated	Easting	Northing	References
U14/150	Pa	Motutangaroa	1966	1873962	5831676	Rangiwaea Island
U14/151	Pa	Tongoio	1966, 1972, 1981	1873954	5830766	Rangiwaea Island
U14/176	Pa	Hepitema	1972, 1981	1869185	5833920	
U14/178	Pa	Matakana	1972, 1981	1867894	5834168	
U14/179	Pa	Moturiki	1972, 1981	1867721	5836159	
U14/180	Pa		1981	1873994	5830426	Rangiwaea Island
U14/181	Pa	Tahutoru	1972, 1981	1867904	5834348	
U14/182	Pa		1972, 1981	1875285	5830308	Rangiwaea Island
U14/183	Pa	Te Ahipuhipuhi / Te Horo?	1972, 1981	1870257	5833571	ML 5676, ML 11207, ML 10511
U14/184	Pa	Tou Patiki ?	1972, 1981	1867802	5835328	
U14/185	Pa / Urupa	Rangiwaea	1981	1875126	5829667	Rangiwaea Island
U14/186	Pa	Opuhi	1972, 1981	1868805	5833739	ML 7068, ML 13634, ML 20281, SO 46319
U14/187	Pa	Ureturituri	1972, 1981, 1993	1869930	5837143	Auckland University Field School. ML 5676, SO 1463
U14/188	Pa	Ohinetama ?	1972	1870951	5837145	No reference found.
U14/193	Pa	Korokoro	1972, 1978, 1981	1867648	5837419	SO 46031
U14/313	Pa	Te Morere?	1978, 1981			SO 1463
U14/314	Pa		1978	1870653	5835993	SO 1463
U14/315	Pa		1978, 1981	1869220	5837192	
U14/329	Pa / Urupa	Te Kutaroa	1972, 1978, 1981	1870778	5833192	ML 13632
U14/330	Pa	Waiharere?	1981	1869456	5833760	ML 5676, ML 7068
U14/331	Pa	Onoakahu?	1978, 1981	1872519	5832765	ML 5676
U14/332	Pa	Te Eratau	1978, 1981	1870512	5836574	SO 46031, SO 46319
U14/333	Pa	Panetaua	1981	1874133	5831086	Rangiwaea Island
U14/337	Pa	Kikaheke	1972, 1978, 1981	1868600	5836630	ML 5676
U14/340	Pa	Opureroa?	1981	1870969	5832262	ML 10512
U14/341	Pa		1981	1870869	5832582	
U14/342	Pa	Tauaroa	1981	1871258	5833143	ML 5676, ML 5681, ML 12932, ML 10511
U14/343	Pa		1981	1868541	5836120	
U14/344	Pa	Opureroa?	1981	1871260	5832062	ML 5676, SO 46320
U14/345	Pa	Whangawahau?	1981	1872327	5834085	ML 5676
U14/346	Pa		1981	1872207	5834315	
U14/347	Pa	Otahapu	1981	1871966	5834725	ML 5676, ML 10511, SO 46320
U14/348	Pa		1981	1870191	5837013	
U14/349	Pa		1981	1868929	5837301	
U14/350	Pa	Puketutu?	1981	1868429	5837531	ML 5676
U14/351	Pa	Tirohanga?	1981	1867559	5837199	SO 46031
U14/352	Pa		1981	1867589	5837109	
U14/353	Pa	Pukeroa	1981	1868240	5836990	SO 46031
U14/354	Pa		1981	1868013	5834698	
U14/355	Pa	Rangiata	1978	1869796	5834021	ML 5676, ML 7068, SO 46319
U14/356	Pa		1981	1869706	5833640	
U14/357	Pa		1981	1870567	5833332	
U14/358	Pa	Pukemanuka	1978, 1981	1870115	5834682	ML 5676, ML 7068, SO 46319
U14/414	Pa / Urupa		1981	1874545	5830166	Rangiwaea Island
U14/431	Pa	Oteihi	1972	1875116	5829667	Coordinates incorrect – Location unknown.
U14/###	Pa	Tupaea's Pa	2009			SO 491

Table.2 Recorded Pa on Matakana Island.



Figure 3. Aerial photo of ‘the bulge’ and Rangiwaea Island showing the location of recorded archaeological sites. White dots indicate the location of recorded pa, yellow dots indicate midden sites and pink dots indicate terraces and rua.

Undefended Settlement and Cultivation Sites

The least understood component of the archaeological landscape on Matakana is the location and extent of undefended prehistoric settlement and cultivation areas that were likely extensive and focused around coastal pa, on elevated ridges and surrounding springs and water courses. While farming and in particular maize cultivation in the second half of the 19th century and first half of the 20th century changed the landscape the impact this had on underlying archaeology is likely to have been minimal. The impact of some 100 years of maize production on archaeological evidence of earlier settlement sites is likely restricted to a 20 – 30cm plough zone that has obscured rather than destroyed these sites.

Recorded sites described as terraces, pits, rua and midden typically represent components of undefended settlement sites most often associated with cultivations. These site types typically have limited surface expression are often difficult to identify during field surveys. They are easily obscured by vegetation and or

successive ploughing but typically survive largely intact beneath plough zones. In many parts of the North Island open rectangular crop storage pits are the most common recorded site type however in the Bay of Plenty pits are only identified following significant ground disturbance due to the prehistoric practice of backfilling when the pit was no longer required or the site was abandoned. The scores of pits recently uncovered during upgrade work along Matakana and Waihirere Roads is a common occurrence in the Tauranga District and the recorded inventory of undefended sites is considered unrepresentative of what is known to be one of the most extensive prehistoric horticultural landscapes in New Zealand. The geographical constraints of Matakana Island likely encompass an even higher density of buried unrecorded undefended settlement and cultivation sites than the mainland.

Site No.	Site Type	Recorded / Updated	Easting	Northing	References
U14/381	Terraces	1981	1870392	5836253	
U14/394	Terraces	1981	1868921	5836151	
U14/395	Terraces	1981	1868752	5835560	
U14/401	Terraces	1981	1869295	5833980	
U14/406	Terraces	1981, 2011	1870676	5834282	updated by Opus in 2011
U14/407	Terraces	1981	1870435	5834542	
U14/434	Terraces	1981	1870124	5834882	
U14/371	Terraces / Midden	1981	1870878	5833162	
U14/374	Terraces / Midden	1981	1871087	5833673	
U14/389	Terraces / Midden	1981	1868000	5836649	
U14/396	Terraces / Midden	1981	1867662	5835468	
U14/398	Terraces / Midden	1981	1868134	5834408	
U14/404	Terraces / Midden	1981	1870447	5833452	
U14/418	Terrace / Rua	1981	1874024	5830736	Rangiwaia Island

Table.3 Recorded Terrace sites on Matakana Island.

Site No.	Site Type	Recorded / Updated	Easting	Northing	References
U14/373	Rua	1981	1870687	5833242	
U14/378	Rua	1981	1870453	5835773	
U14/379	Rua	1981	1870453	5836033	
U14/380	Rua	1981	1870352	5836173	
U14/382	Rua	1981	1870262	5836403	
U14/386	Rua	1981	1867729	5837209	
U14/387	Rua	1981	1867899	5837330	
U14/390	Rua	1981	1868610	5836861	
U14/397	Rua	1981	1872067	5833995	
U14/408	Rua	1981	1869634	5835011	
U14/410	Rua	1981	1869522	5835861	
U14/420	Rua	1981	1867900	5836849	
U14/376	Rua / Midden	1981	1872086	5834405	
U14/383	Rua / Midden	1981	1870111	5837013	
U14/388	Rua / Midden	1981	1867999	5837100	
U14/391	Rua / Midden	1981	1871795	5834915	
U14/427	Pits	1981	1870231	5836863	
U14/368	Pits / Midden	1981	1871509	5832573	
U14/369	Pits / Midden	1981	1871619	5832583	
U14/375	Pits / Midden	1981	1871407	5833473	
U14/377	Pits / Midden	1981, 2011	1870655	5834763	Site updated by Opus 2011

Table.4 Recorded Pit sites on Matakana Island.

Site No.	Site Type	Recorded / Updated	Easting	Northing	References
U14/365	Midden	1981, 2003	1871630	5831873	R. Hooker inspected location in 2003 but did not find the site
U14/366	Midden	1981	1871750	5832273	
U14/367	Midden	1981	1870879	5832492	
U14/370	Midden	1981	1872399	5832905	
U14/384	Midden	1981	1868188	5837610	
U14/385	Midden	1981	1867758	5837489	
U14/392	Midden	1981	1867911	5835989	
U14/393	Midden	1981	1868821	5836261	
U14/399	Midden	1981	1868234	5834408	
U14/402	Midden	1981	1869986	5833581	
U14/403	Midden	1981	1870086	5833641	
U14/409	Midden	1981	1869452	5835711	
U14/411	Midden	1981	1875056	5829717	Rangiwaia Island
U14/412	Midden	1981	1874396	5829826	Rangiwaia Island
U14/413	Midden	1981	1874285	5830046	Rangiwaia Island
U14/415	Midden	1981	1874005	5830266	Rangiwaia Island
U14/416	Midden	1981	1874574	5830927	Rangiwaia Island
U14/417	Midden	1981	1875566	5830048	Rangiwaia Island
U14/419	Midden	1981	1869160	5836781	
U14/422	Midden	1981	1875345	5830268	Rangiwaia Island
U14/423	Midden	1981	1874925	5830227	Rangiwaia Island
U14/424	Midden	1981	1874443	5831307	Rangiwaia Island
U14/425	Midden	1981	1874042	5832077	Rangiwaia Island
U14/426	Midden	1981	1873931	5832207	Rangiwaia Island

Table.5 Recorded midden sites on the bulge and Rangiwaia Island .

Antiquity of Prehistoric Settlement on Matakana Island

Radiocarbon Dates

To date just six radiocarbon dates have been obtained from sites on Matakana Island. All six were established from shell samples submitted by the University of Auckland following their 1993 surveys and excavation of Ureturituri Pa (U14/187). The University also derived dates from obsidian flakes using Obsidian Hydration Dating (OHD) and while these dates are consistent with expected occupation periods and compare favourably with the few radiocarbon dates, the OHD process has been shown to be problematic. Consequently, the few available radiocarbon and OHD dates add little to our understanding of the antiquity of prehistoric occupation on Matakana Island which can be more accurately established based by comparison with known antiquity of similar archaeological site types and occupation sequences established elsewhere in the Bay of Plenty.

Further radiocarbon dates will soon be available from sites exposed during recent road upgrade work along Matakana and Waihirere Roads⁷ and from shell samples recovered during archaeological investigations carried out at the northern end of the dunes within Blakely Pacific Forests.⁸ These pending dates should identify a more robust period for specific prehistoric activities on the island including cultivation on the island and the dunes.

⁷ Pers. Com. Nick Cable Opus International Consultants.

⁸ Phillips 2010

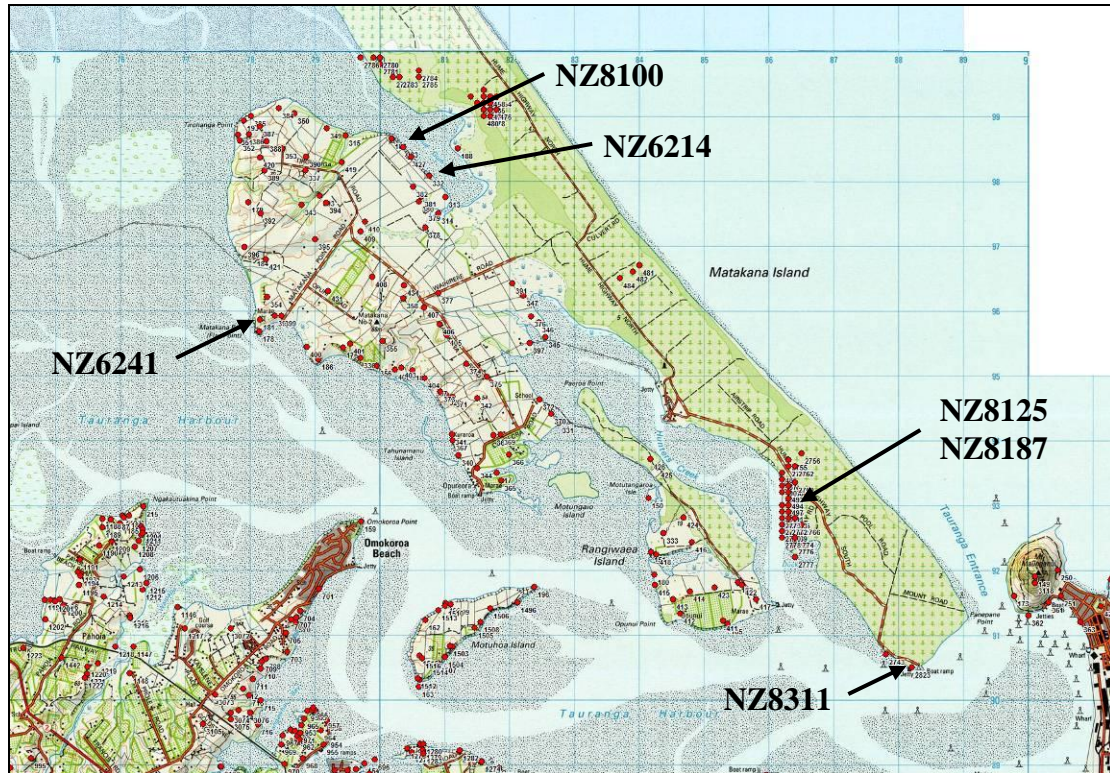


Figure 4. Location of available Radiocarbon dates for Matakana Island.

Site	C14 Ref	Age	Sample type	Context
U14/332	NZ6214	869 ± 55	Shell (Austrovenus stutchburyi)	Buried mixed topsoil under defensive bank
U14/181	NZ6241	581 ± 54	Shell (Austrovenus stutchburyi)	Shells on top of buried topsoil below a defensive bank.
U14/187	NZ8100	183 ± 39	Charcoal (unspecified)	Second period ditch and bank defence
U14/ ?	NZ8125	667 ± 36	Shell (Paphies subtriangulata)	Hunters Creek. Sample from midden beneath wind blown sand, resting on buried soil.
U14/ ?	NZ8187	677 ± 29	Shell (Paphies subtriangulata)	Hunters Creek. Sample from midden beneath wind blown sand, resting on buried soil.
U14/2823	NZ8311	751 ± 37	Shell (Paphies australis)	Shell midden 2m deep exposed in marine cut bank.

Table.6 Radiocarbon dates obtained for Matakana Island archaeological sites.

Archaic Settlement of Matakana Island 13th – 15th Century

The perceived lack of archaic sites in the Bay of Plenty compared to the high concentration of early sites on the Coromandel Peninsula a short distance to the north has been commented on by a number of authors.⁹ Based on extensive field survey of the Tauranga area, O’Keeffe stated that there was a “...lack of typically early sites in Tauranga county”¹⁰. McFadgen writes that despite the favourable climate and

⁹ O’Keeffe 1991, Anderson 2003, McFadgen 2007

¹⁰ O’Keeffe 1991.143

resources of the Bay of Plenty ‘early Maori settlers do not appear to have taken advantage of the low-lying sandy coastal spits that they favoured elsewhere in New Zealand, and the typical early Archaic coastal sites are all but missing. He further suggests that this may be due to the catastrophic geological events that have affected the region including the Kaharoa eruption in the early 14th Century and a number of tsunami events that may have struck the coast in the early prehistoric period.

While the impact of these catastrophic events must have been significant the extent to which they prevented, terminated or delayed early settlement in the region remains unclear. Large scale erosion episodes that may have been caused by palaeo-tsunami events could have destroyed evidence of archaic settlement particularly on vulnerable sand spits but the significant accretion episodes caused by volcanic activity and increased mobile sediment loads within the Bay of Plenty catchments may have deeply buried archaeological evidence of the archaic settlement phase. Consequently it may be argued that the Bay of Plenty archaic sites are just harder to find than in the Coromandel where sites are typically identified within coastal erosion scarps.

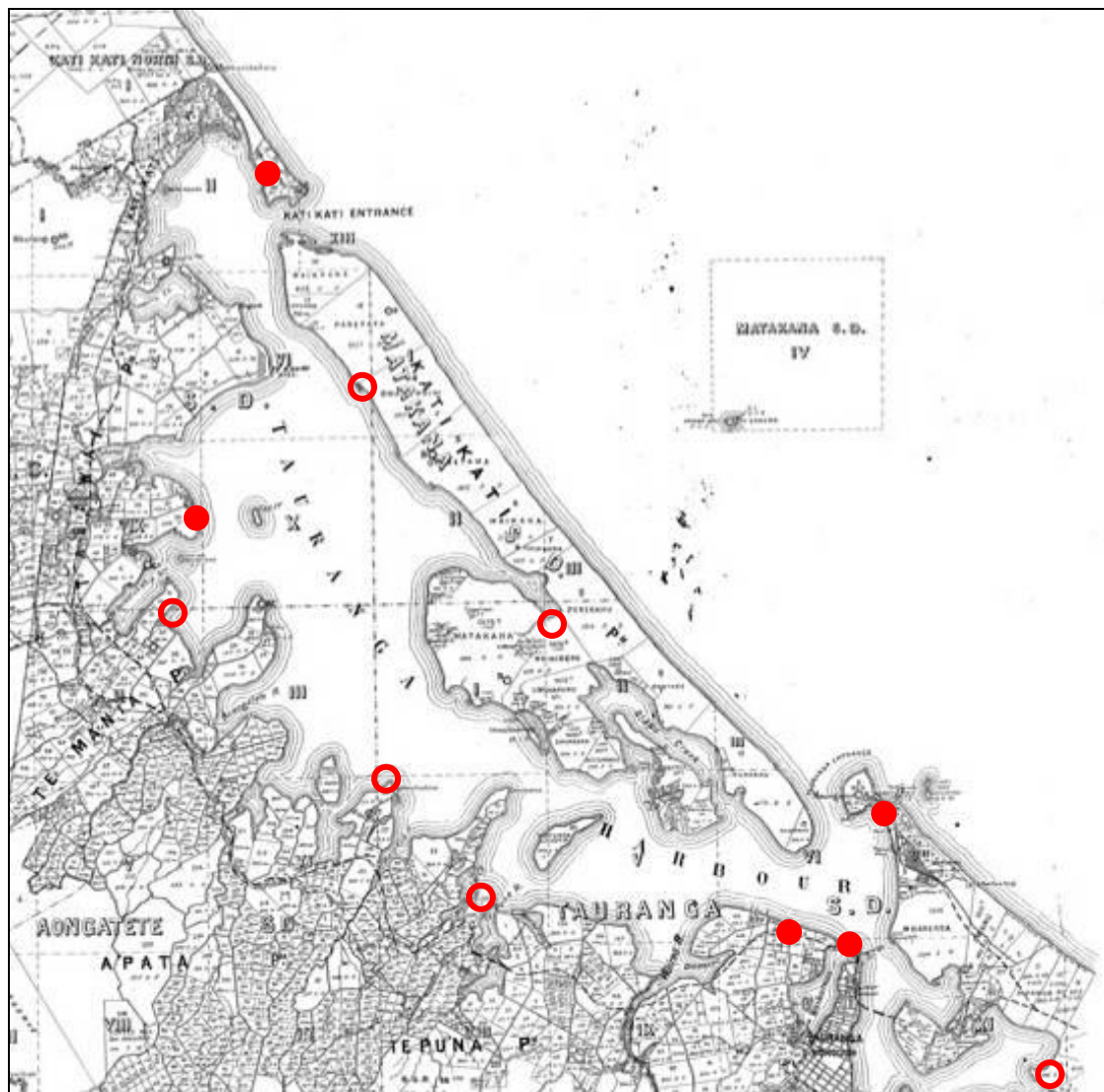


Figure 5. Plan showing the location of known and possible early or archaic settlement sites at Tauranga Harbour. Infilled circles indicate the location of archaic settlement sites. Open circles indicate archaic artifact find spots.

Several of the earliest known sites in the Tauranga area generally referred to as archaic sites dating the arrival of Polynesians to New Zealand in the 13th or 14th century are located at Pio's Beach at Bowentown and Pilot Bay at Mauao and it should not be surprising that similar early occupation sites are present on Matakana Island, however to date archaeological evidence has been limited.

McFadgen has recently argued that the relative lack of butchered moa bone in early Bay of Plenty archaeological sites may be due to the devastation caused by the Kaharoa eruption of c AD 1314. It is now generally thought that regional moa populations were wiped out within 50 – 100 years of Polynesian arrival.

In 1885 an almost complete skeleton of a moa was found on the sand hills of Matakana Island exposed following a south westerly gale. A number of bones, some human, some fish and several large moa bones were exposed. Further investigation just a few yards away revealed a near complete moa skeleton.¹¹ Admittedly little can be drawn from such a brief article but the presence of moa on Matakana island is significant partially if it was found in association with human remains.

More tangible evidence of early settlement on Matakana has been found in the form of early or archaic style artifacts. An archaic adze was found at Bluegum Bay during the University of Auckland's field school on the island in 1993. In addition quantities of lithic flake material including chert, obsidian, Tahanga basalt and D'Urville Island argillite has been found on a sand spit south of Tupaea's Pa on the harbour side of the barrier dunes. The Tahanga Basalt percussion flakes are indicative of the preliminary stages of adze manufacturing and are similar to that found at Bowentown to the north and Pilot Bay to the south.¹² The occurrence of the artifact find spots at the high water mark suggest the presence of an early or archaic settlement site on the coastal margin however further subsurface testing is required to established its extent, antiquity and significance.

16th – 19th Century

The commencement of pa building on the coastal escarpments of the bulge and Rangiwaea Island probably began in the 16th and 17th centuries. The need for defended positions suggests a rapidly increasing population resulting in outside pressure on resources of the island including fertile cultivable soils, ready access to vast resources of the surrounding harbour and ocean beach and a highly strategic location.

¹¹ Bay of Plenty Times 17 January 1885.

¹² Pers. Com. Dr Marianne Turner, April 2009.

DISCUSSION

Archaeological Significance

The Bulge & Rangiwaea

The geology and geography of the bulge presented constraints and limitation to prehistoric populations on the island but also offered one of the most favourable and desirable landscapes in the Tauranga District. The favourable volcanic soils overlying the Pleistocene dune formations were ideal for cultivation but limited in area and the lack of lithic resources meant that even the simplest of items such as hangi stones had to be imported. These limitations were more than made up for by the access to abundant marine resources, the strategic location both in terms of early settlement trading networks and later political divisions and the unique resources of the barrier dunes that may have been progressively realized. The resultant intensive and complex archaeological resource must be considered unique in the Tauranga District. It provides evidence of a desirable landscape that accommodated a high population and resultant pressure on resources reflected in the high density of defended pa.

Recent archaeological investigations by Nick Cable during road widening work provided a peak into the intensive and significant archaeological resource that lies beneath the cultivated fields of Matakana Island. Archaeological information gleaned from this intensive prehistoric horticultural microcosm may assist in the interpretation of mainland cultivation practices particularly in regard to the purposeful infilling of crop storage pits and successive reuse of favoured cultivation and occupation areas.

The Barrier Dunes

The only comparable Bay of Plenty archaeological landscape within a coastal dune environment in terms of land area and site density is the Papamoa Dune Plain. It appears from the current site inventory that site type and function on the Matakana dunes are similar to that of the Papamoa Dune Plain archaeological landscape. In both landscapes the many shell middens visible on the dunes were initially thought to have represented short term camp sites where seafood was processed before being transported back to pa complexes on adjacent hill country. While this theory may explain the presence of many middens it is possible that many of the dune midden sites predate the construction of the pa complexes and instead represent sustained settlement sites with associated cultivation areas.

The archaeological landscape of the barrier dunes is arguably more significant than the Papamoa Dune Plain in terms of the scale and intensity of settlement, extent of cultivations and antiquity of occupation. The island encompasses resource rich wetlands, lakes and lagoons and soils suitable for large scale cultivation while its geographical location afforded ready access to both sea and harbour resources as well as adjacent prehistoric polities including the Bowentown pa and trading centres to the north and Mauao to the south.

It must however be recognized that the archaeological integrity or condition of the sites on the barrier dunes is extremely variable and the majority of recorded sites have

been affected to some degree by 80 years of production forestry and possibly gum digging prior to that. Many sites recorded from surface shell midden have been largely destroyed by forest operations.

There is a high potential for the presence of early archaic sites on Matakana Island particularly in the erosion prone harbour edge escarpments surrounding the bulge and along the harbour side of the barrier dunes. Such sites can add significantly to our understanding of a very poorly understood period of the early settlement of Bay of Plenty during a period of significant geological instability.

Current Threats

Processes of erosion and progradation has and continues to shape Matakana Island. Severe erosion is currently affecting the harbour side of the barrier dunes and around the bulge and Rangiwaea Island. In these areas wave cut scarps are exposing and eroding archaeological sites.

Undefended settlement sites on the bulge and Rangiwaea are generally stable but infrastructure upgrade work such as the recent road widening will expose and damage subsurface archaeological sites. Such developments can also be viewed as an opportunity to investigate, record and preserve valuable archaeological information.

Eighty years of plantation forest activity on the barrier dunes has had a significant impact on the integrity of the archaeological landscape, however, mitigation measures including harvest and planting strategies more sympathetic to the preservation of archaeological sites along with a program of site recording and research investigations will assist in recovering archaeological information.

Sites potentially containing archaeological evidence of the earliest settlement on the island are typically located near sandy bays on the inner harbour areas where erosion is currently exposing many archaeological sites that are not being unrecorded.

RECOMMENDATIONS

This review of the archaeology of Matakana Island has been a desk top exercise and before assessments can be made regarding the identification of significant archaeological sites, groups of sites or archaeological landscapes that require active management and protection from infrastructure upgrades, proposed developments or intensification of land use the core archaeological data from which such assessments can be made must be improved considerably. It should also be recognised that there is currently no data base identifying significant cultural or wahi tapu sites that may not have an archaeological component but are likely to be integral components of the archaeological landscape.

The 30 year old information held by the New Zealand Archaeological Association Site Recording Scheme relating to recorded archaeological sites desperately requires upgrading by way of field inspections and assimilation with traditional histories to determine archaeological integrity and archaeological and traditional significance. In order to provide a more complete spatial data base of the significant archaeological and cultural resources of the island a collaborative approach between tangata whenua and archaeologists in the identification of significant cultural and archaeological sites would be beneficial.

It is recommended that all archaeological sites on Matakana Island recorded with the New Zealand Archaeological Association Site Recording Scheme are overlaid with other values (ecology, cultural, landscape etc) and mapped as part of any structure plan process.

Recorded and unrecorded archaeological sites on the island are a potential constraint for future development proposals including rural settlement, lifestyle and limited urban activities.

The recorded sites and all unrecorded archaeological sites on the island have legal protection under the NZHPA 1993 and cannot be modified damaged or destroyed without an authority from the NZHPT. All future development proposals on the island will require an assessment of effects on archaeological values to ensure protection and preservation of significant archaeological sites and landscapes and also provide opportunities to record and investigate unrecorded archaeological sites to enhance our understanding of the prehistory of the island.

Draft structure planning for areas considered suitable for the matters in the Regional Policy Statement method 17A.4(iv) should be subject to more detailed archaeological study of the proposed areas. Density considerations are also important with any proposals given that low intensity is less likely to disturb significant archaeological landscapes than urban forms experienced in other areas like Papamoa.

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APPENDIX A

Topographic Map showing location and NZAA numbers of recorded archaeological sites on Matakana Island.

