



**Archaeological Site Condition Monitoring
Report
Mauao Historic Reserve, Tauranga**

20 August 2018

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1. Purpose

Mauao Historic Reserve is an extensive cultural heritage landscape that covers approximately 40 hectares. It is located on the eastern side of the entrance to Tauranga Harbour (Figure 1). The Reserve contains components of three pa, plus associated pits, terraces, platforms, house floors and middens. The shell mounds in the reserve are the only known surviving examples of this type of archaeological feature within the Bay of Plenty. Mauao is gazetted as a Historic Reserve and is managed by Tauranga City Council (TCC). Mauao is protected under the provisions set out in the Mauao Vesting Act 2008. The Trustees of the Mauao Trust administer the Reserve on behalf of Ngai Te Rangi, Ngati Ranginui and Ngati Pukenga. The Reserve must be managed in a manner consistent with the requirements of the Reserves Act 1977. Mauao is also identified as a wahi tapu on the Heritage New Zealand List (item no. 9423).

One of the key principles of historic heritage management is that the values of heritage places are clearly understood before decisions are taken that may result in change. Once the heritage values are identified and understood, the aspects of the places that possess heritage value can be conserved and protected accordingly. The visible archaeological features of the Reserve were mapped in 2003 and an archaeological report was prepared by Ken Phillips at that time. In 2004 a Conservation Plan was prepared for the Reserve by Wildland Consultants Ltd, which incorporated specialist archaeological advice to guide management and conservation of the archaeological sites within the Reserve. Phillips updated the archaeological report in 2014, and there have also been other archaeological reports prepared between 2003 and 2014 relating to particular work carried out under archaeological authority conditions within the Reserve.

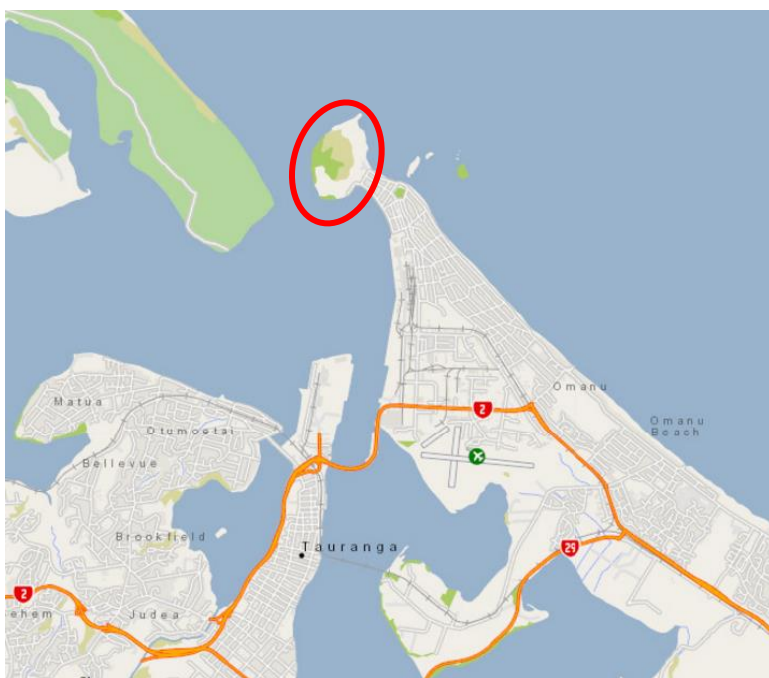


Figure 1: Location of Mauao Historic Reserve, Tauranga.



Figure 2: Plan showing recorded archaeological features on Mauao (Phillips 2003).

TCC were granted an archaeological authority (no. 2017/944) by Heritage New Zealand in August 2017, to undertake various activities associated with ongoing maintenance of the reserve. Heritage Management Specifications were prepared in May 2016 to guide the work permitted under the conditions of the archaeological authority. The specifications include the establishment and maintenance of an archaeological site condition monitoring programme. The conditions of the archaeological authority include a requirement that the authority holder (TCC) submit to Heritage New Zealand an annual report containing a summary of the maintenance works undertaken during the preceding year and outlining any archaeological work completed.

This report has been prepared to provide both a summary of the annual work programme undertaken during the period from August 2017 to 30 June 2018; and baseline data for ongoing archaeological site condition monitoring. The report includes recommendations for any work actions that may be required to address site management issues identified during the monitoring inspection.

2. Summary of reserve archaeological work 2017/18

Throughout the year several visits were made to the reserve relating to the proposed realignment of a section of the base track. This work has been separately reported.

Archaeological inspections specific to on-going reserve maintenance were carried out during the year as follows:

August 2017 – inspection and sign-off of emergency archaeological authority no. 2017/945EM2. Minor damage to pasture sward due to vehicle tracking was noted in the vicinity of the water reservoir. This has exposed midden in the turf and topsoil layer. To be monitored to ensure that sward re-establishes.

October 2017 – contractor induction day for archaeological authority no 2017/944. All contractors working within the reserve were advised of the requirements of the archaeological authority and familiarised with the sections of the Heritage Management Specification relevant to their work area. An annual meeting was also held to discuss the coming years work programme and a walk-through inspection of the reserve was completed.

December 2017 – Archaeological monitoring of the removal and repositioning of the slip debris spoil heap near the water reservoir; this included the removal of material that had been recently dumped adjacent to the 4WD track. There was no impact on any intact archaeological features. During the same visit repairs to a retaining wall in the motor camp were also inspected and a work plan was made to ensure that there would be no impact on intact archaeological features.

April 2018 – The annual condition monitoring inspection was carried out, and the proposed work programme for the coming year was discussed.



Figure 3: Slip debris spoil stock pile after restacking and shaping (InSitu Heritage Ltd April 2018).

3. Monitoring Data 2018

Mauao Historic Reserve			
Archaeological Site Condition Monitoring Form			
Inspection Done By	s 7(2)(f)(ii)	Date	30 th April & 3 rd May 2018

Monitoring point 1

Description: Stone Jetty surrounds – stone walls

Date: 30th April 2018

GPS coordinates: 5830061/1880110

Notes: Recent vegetation clearance completed. Constant on-going minor erosion of midden evident. Suggest that it is monitored for 2 years to see if we can establish if intact midden is eroding or whether it is previously displaced shell that is washing off the track surface. The stone jetty itself is stable, it would be good to establish the antiquity of the associated stone walls in this area and establish how much pre-1900 fabric remains.





Monitoring point 2

Description: Iron Jetty and surrounds

Date: 30th April 2018

GPS coordinates: 5829854/1879833

Notes: Vegetation clearance is required including pohutukawa growing on the stonework face of the jetty. Possible interpretation could be developed at the jetty. It should be maintained in low vegetation/ferns/rank grass, with periodic weed eating. The view shaft to the iron debris offshore should be opened and maintained.





Monitoring point 3

Description: Base track midden erosion.

Date: 30th April 2018

GPS coordinates: 5830032/1879527

Notes: This is potentially stabilising based on observations at previous visits, possibly as a result of less rabbit browse. There has been some recent planting in the vicinity. Monitor for 2 years and then reassess.



Monitoring point 4

Description: Fence placement, rabbit browse and slope stability

Date: 30th April 2018

GPS coordinates: 5830012/1879621

Notes: Fence alignment is on the edge of archaeological features, but there is no other practical fencing alignment available. The aim is to stabilise the slope below the features to prevent their loss due to landslip. There is more growth appearing on the slope since rabbit numbers were reduced. Midden is less visible.





By comparison photograph (above) was taken in February 2016, showing midden exposure on the slope.

Monitoring point 5

Description: Rabbit damage (inactive)

Date: 30th April 2018

GPS coordinates: 5830054/1879616

Notes: Old rabbit damage, visibility decreasing.





Comparison photography (above) taken in February 2016 when rabbit burrow was active.

Monitoring point 6

Description: Pa U14/173 condition/grass cover

Date: 30th April 2018

GPS coordinates: 5830054/1879616

Notes: General views across pa to demonstrate grass cover.



Monitoring point 7

Description: 4WD track maintenance issues – tailings management

Date: 30th April 2018

GPS coordinates: 5829983/1879734

Notes: 4WD maintenance routine is causing an on-going issue of tailings clearance. Artificial build up of material is 'creating' features adjacent to the track. Tailings should be removed off site to the stockpile by the reservoir. Remedial and maintenance issues relating to the 4WD track are on-going and have not been adequately addressed since the conservation plan was prepared in 2004. The distance between culverts, their function and the treatment of tailings needs to be improved.



Monitoring point 8

Description: Midden and vegetation management – mingimingi growth

Date: 30th April 2018

GPS coordinates: 5830123/1879699

Notes: Midden mound above water reservoir has good cover of mingimingi and it is gradually spreading to other mounds as sheep numbers have been reduced. Monitor spread and condition.



Monitoring point 9

Description: Erosion on shell mound – stock and vegetation management

Date: 30th April 2018

GPS coordinates: 5830201/1879607

Notes: Develop sheep exclusion trial and monitor results.





Sheep exclusion trial June 2018.

Monitoring point 10

Description: Rabbit damage (active)

Date: 30th April 2018

GPS coordinates: 5830147/1879522

Notes: Monitor condition of site after on-going rabbit control.



Monitoring point 11

Description: Land slip on southern slope

Date: 30th April 2018

GPS coordinates: 5830067/1879861

Notes: Recent planting of slip scar completed. Monitor stability/recovery of area.



Monitoring point 12

Description: Fence around middens on southern slope

Date: 30th April 2018

GPS coordinates: 5829968/1879788

Notes: Fence around middens is not required and should be removed. It was installed in

approximately 2003, ground has since stabilised. Remove fence and monitor result.



Monitoring point 13

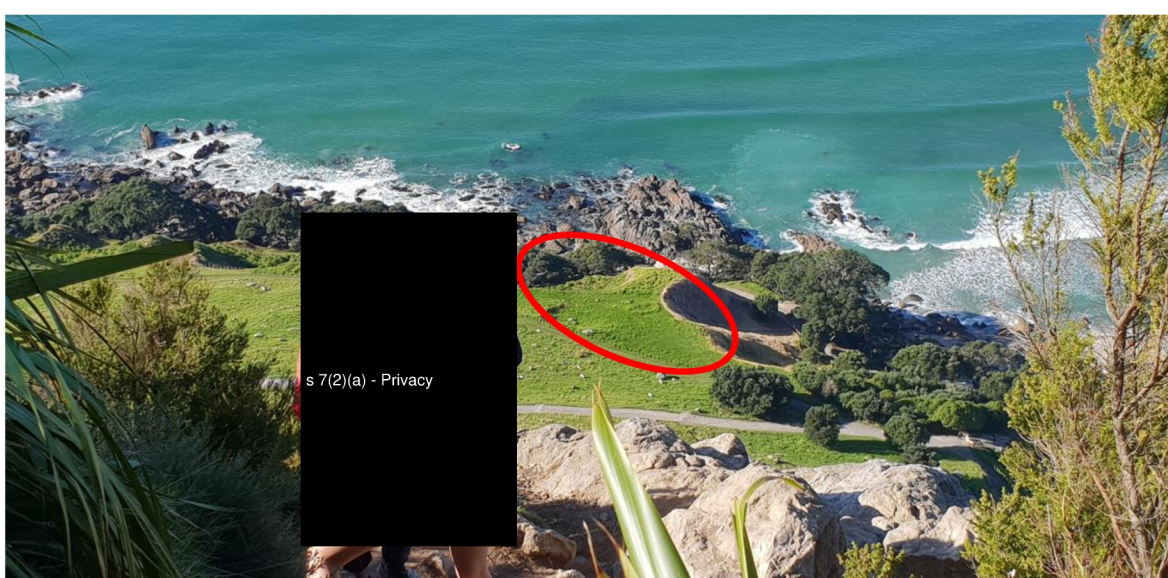
Description: Area of military camp, helicopter pad, pits and terraces, recently retired from grazing.

Date: 30th April & 3rd May 2018

GPS coordinates: 5830642/1880269

Notes: Monitor for stability and visibility following cessation of grazing.





Monitoring point 14

Description: Repair to summit terraces

Date: 3rd May 2018

GPS coordinates: 5830643/1879826

Notes: Repair to terraces completed in 2013. The aggregate at the base of the slope needs to be removed. Fence at the base should be better reinstated to prevent developing desire line.



Monitoring point 15

Description: Repair to bank on summit and steps installation

Date: 3rd May 2018

GPS coordinates: 5830461/1879907

Notes: Monitor the developing desire line/wear next to steps and act to block access if required.



Monitoring point 16

Description: General monitoring of summit wear

Date: 3rd May 2018

GPS coordinates: 5830439/1879930

Notes: Monitor wear of imported armouring material on summit and recap as/when required by bringing in additional material.



Monitoring point 17

Description: Desire line track on summit

Date: 3rd May 2018

GPS coordinates: 5830452/1879952

Notes: Developing desire line is causing wear to intact archaeological deposit. Monitor and act to block if wear continues.



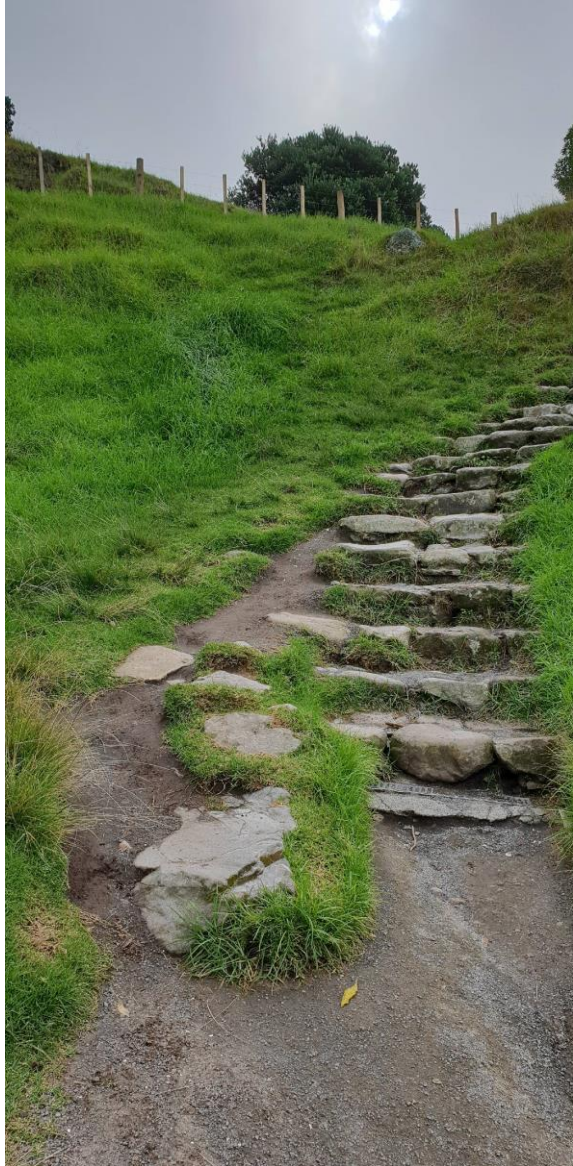
Monitoring point 18

Description: Stone steps condition and erosion

Date: 3rd May 2018

GPS coordinates: Not collected due to flat battery, **needs to be added.**

Notes: Monitor condition of stone work and desire line wear.



4. Annotated summary of work actions from heritage management specification

No.	Action	Timeframe	Comment on progress
1	Condition monitoring of capping and informal desire lines	On-going	Monitoring established April 2018.
2	Remedial action as required: addition of approved/suitable fill, or aggregate to address desire lines.	On-going as required in response to monitoring	On-going.
3	Large tree removal	2016-18	Delayed until 2019/20.
4	Remove smaller trees by felling at ground level, followed by herbicide application to stumps if necessary.	2016-17	On-going.
5	Land-slip assessment and response	2016 and on-going as required	On-going.
6	Retire large land slips above the 4WD track from grazing	2016/17	Not actioned to date, but some replanting in 2017.
7	Pest control in areas retired from grazing in 2005.	On-going as required following planting	On-going.
8	Weed control in areas retired from grazing in 2005.	Ongoing	On-going.
9	Establishment of pohuehue on shell mounds	2017	Trial commenced 2018.
10	Ensure archaeological authority is in place prior to any fencing or planting work above the base track on the north-eastern side of Mauao	2016	Archaeological authority no. 2017/944 in place.
11	Maintain walking and vehicle tracks	On-going	On-going. Work practice for 4WD track maintenance must be addressed.
12	Implement rabbit control programme	2016 and on-going	On-going.
13	Stone Jetty and associated stone walls heritage	2017	Not yet actioned.

	assessment		
14	Repair of stone walls associated with jetty	2017/18	Not yet actioned.
15	Monitoring and vegetation management of Iron Jetty platform	2016 and on-going	Not yet actioned.
16	Monitoring	2016 and on-going	Programme established 2018.

References

Phillips, K.J.S. 2003. Preliminary Archaeological Survey and Identification of threats to archaeological resources, Mauao Historic Reserve. Unpublished report to Tauranga District Council

Phillips, K. J.S. 2014. Archaeological Inspection and Conditions Assessment Mauao Historic Reserve. Unpublished report prepared for Tauranga City Council

Wildland Consultants Ltd. 2004. Conservation Plan For Mauao Historic Reserve. Unpublished report prepared for Tauranga District Council