



**Archaeological Site
Condition Monitoring Report**

Mauao Historic Reserve, Tauranga

11 September 2020

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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.

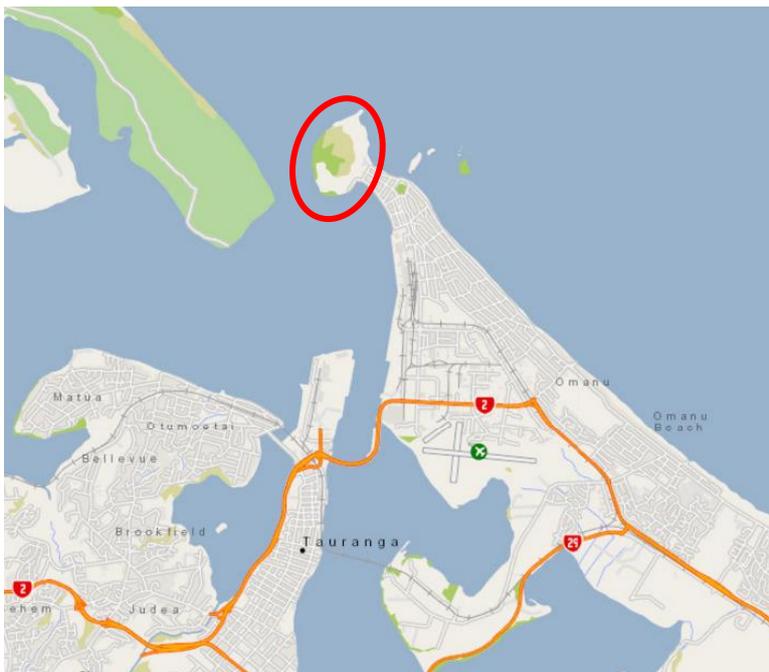


Figure 1: Location of Mauao Historic Reserve, Tauranga.



Figure 2: 2019 plan showing recorded archaeological features on Mauao (InSitu Heritage Ltd 2019).

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.

In 2018 the first annual monitoring report was prepared and provided a summary of the annual work programme and baseline data for on-going archaeological site condition monitoring. Monitoring was also carried out in July 2019 and reported.

This latest (2020) monitoring report provides a summary of the annual work programme undertaken during the period from July 2019 to June 2020; and updated data for on-going archaeological site condition monitoring. The report also includes recommendations for work actions that are required to address site management issues identified during the monitoring inspection.

2. Summary of reserve archaeological work 2019/20

Between October and December 2019 several visits were made to the Reserve relating to the repair of a section of the base track. This work has been separately reported. The work was completed in December 2019, and the repaired section of the base track was reopened. The temporary step alignment established to bypass the landslip was still in place at the time of the preparation of this report.

There has been relatively little archaeological work carried out due to Covid-19 restrictions and changes in Reserve staff during the second half of the financial year. Archaeological inspections specific to on-going reserve maintenance were carried out during the year as follows:

August 2019 – inspection to discuss annual work programme including fencing and large tree removal work. Additional areas for re-vegetation planting in 2020 were also visited and assessed for impact on archaeological features. Initial discussion and planning for the completion of archaeological mapping of the post-European stonewalls within Mauao Historic Reserve was also done.

May 2020 – mapping of post-European stonewalls was carried out. The work has been separately reported (June 2020).

Monitoring Data 2020

Mauao Historic Reserve Archaeological Site Condition Monitoring Form

Inspection By: s 7(2)(a) – Privacy

Date: 26th August 2020

Monitoring point 1:

GPS coordinates: 5830061/1880110

Description: Stone Jetty surrounds – stone walls



30th April 2018



2nd July 2019



26th August 2020



30th April 2018



2nd July 2019



26th August 2020



2nd July 2019



26th August 2020

Notes: Grass cover decreased from 2019, but no new erosion visible. Grass cover should be monitored and re-sown if it does not naturally re-establish during spring. The area of terraces to the east of the monitoring point planted in winter 2019, becoming established. Bare ground where release spraying has occurred.

Monitoring point 2:

GPS coordinates: 5829854/1879833

Description: Iron Jetty and surrounds



30th April 2018



2nd July 2019



26th August 2020



Top to Bottom:
30th April 2018
2nd July 2019
26th August 2020





30th April 2018



2nd July 2019



26th August 2020

Notes: Vegetation clearance has been completed to reduce pohutukawa and sycamore 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. Terrace surface less visible than in 2018. The view shaft to the iron debris offshore should be maintained.

Monitoring Point 3:

GPS Coordinates: 5830032/1879527

Description: Base track midden erosion



30th April 2018



2nd July 2019



26th August 2020



30th April 2018



2nd July 2019



26th August 2020

Notes: No significant advance in vegetation cover over the year and eroded face is still highly visible. Shell is still accumulating at the base of the slope, but no active rabbit browse. 2019 planting has not significantly advanced.

Monitoring Point 4:

GPS coordinates: 5830012/1879621

Description: Fence placement, rabbit browse and slope stability



30th April 2018



2nd July 2019



26th August 2020



February 2016, showing midden exposure on the slope



30th April 2018



2nd July 2019



26th August 2020

Notes: In 2019 the fence alignment was adjusted to remove it from archaeological features, using new waratah standard and netting system. Slope below has been planted, and livestock have been excluded from steep areas, to stabilise midden and protect features uphill. There is more growth appearing on the slope since rabbit numbers were reduced. Midden is less visible. Two years on the plantings are becoming well established, midden is less visible and the fence system is well maintained. Bare ground where plants have been release sprayed.

Monitoring point 5:

GPS coordinates: 5830054/1879616

Description: Rabbit damage (inactive)



February 2016 when burrow was active.



30th April 2018



2nd July 2019



26th August 2020

Notes: Old rabbit damage, visibility decreasing. Note danger that such features start to look like archaeological depressions over time. Area around burrow entrance has deflated over time.

Monitoring point 6:

GPS coordinates: 5830054/1879616

Description: Pa U14/173
condition/grass cover



30th April 2018



2nd July 2019



26th August 2020



30th April 2018



2nd July 2019



26th August 2020

Notes: General views across pa to demonstrate grass cover. Site is stable with good ground cover being maintained. Very little evidence of recent rabbit browse.

Monitoring point 7:

GPS coordinates: 5829983/1879734

Description: 4WD track maintenance issues – tailings management



30th April 2018



2nd July 2019



26th August 2020



30th April 2018



2nd July 2019



26th August 2020



30th April 2018



2nd July 2019



26th August 2020

Notes: There is no recent evidence of tailings being dumped on archaeological features above the track, as was the issue in the past. However, the artificial build-up of material continues to ‘create’ features adjacent to the track. Remedial and maintenance issues relating to the 4WD track have been on-going, and there is still a significant issue with metal being distributed onto terraces below the track. The distance between culverts, their function and the treatment of tailings needs further management attention. Consideration should be given to removal of artificial build-up with archaeological supervision.

Monitoring Point 8:

GPS coordinates: 5830123/1879699

Description: Midden and vegetation management – mingimingi growth



30th April 2018



2nd July 2019



26th August 2020



30th April 2018



2nd July 2019



26th August 2020

Notes: Mingimingi cover on midden mound above water reservoir is stable and is slowly spreading to adjacent areas with lower stock numbers. Monitoring of spread and condition should continue.

Monitoring point 9:

GPS coordinates: 5830201/1879607

Description: Erosion on shell mound – stock and vegetation management



30th April 2018



2nd July 2019



26th August 2020



Sheep exclusion commenced trial June 2018



2nd July 2019



26th August 2020

Notes: Grass sward is dense kikuyu; stock have had access to the mound since December 2019. Due to the long sward being less palatable, fewer rabbits, and reduced stocking numbers; the cover on the mound has remained intact with limited browsing. The trial has been successful and it should now be replicated on other exposed shell mounds in the Reserve.

Monitoring point 10

GPS coordinates: 5830147/1879522

Description: Rabbit damage (active).



30th April 2018



2nd July 2019



26th August 2020

Notes: Vegetation cover has significantly improved as greater rabbit control measures are in place. Lower stock numbers are also assisting.

Monitoring point 11

GPS coordinates: 5830067/1879861

Description: Land slip on southern slope



30th April 2018



2nd July 2019



26th August 2020

Notes: 2018 planting of slip scar becoming well established. There is still a lot of visible shell midden at the top of the slip scar and some evidence of recent new exposure, and there was active water flow through the slip at the time of the inspection. The shell mound immediately above the slip scar is very exposed and appears increasingly unstable. There is some possibility that this area could slip, and consideration should be given to archaeological investigation before this occurs. As an interim measure the stock exclusion trial should be moved to this shell mound.

Monitoring point 12

GPS coordinates: 5829968/1879788

Description: Fence around middens on southern slope



30th April 2018



2nd July 2019



26th August 2020

Notes: Fence around middens that was installed in 2003 was removed in 2018. Some browse of young karaka by livestock but no new erosion of midden in evidence. Continue to monitor condition.

Monitoring point 13

GPS coordinates: 5830642/1880269

Description: Area of military camp, helicopter pad, pits and terraces, retired from grazing 2018.



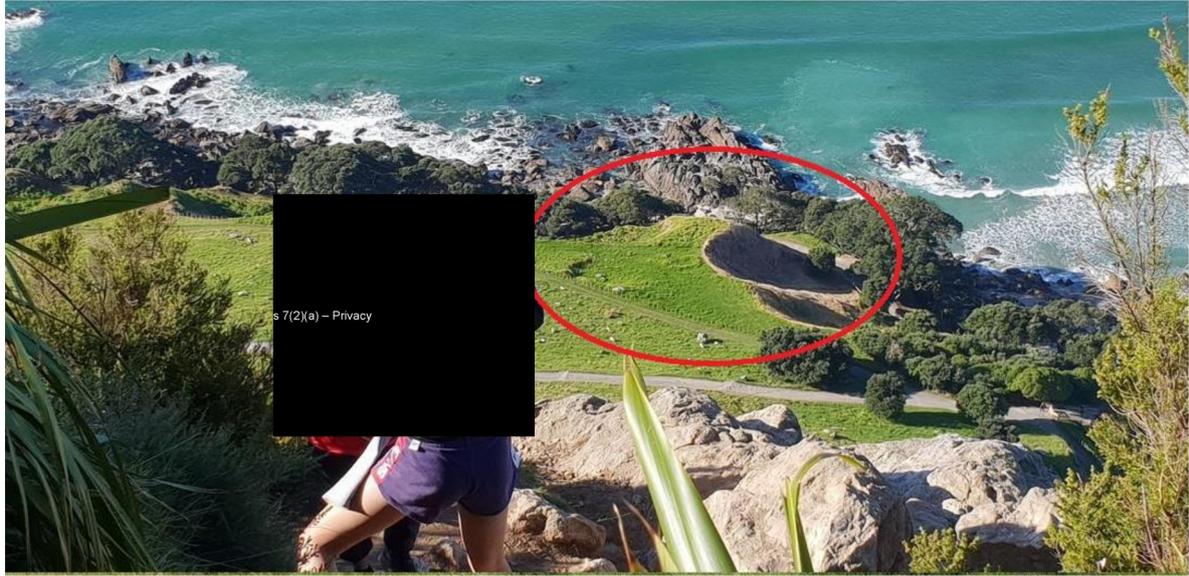
30th April 2018



2nd July 2019



26th August 2020



30th April 2018



2nd Julv 2019



26th August 2020

Notes: Management of vegetation and site visibility has significantly improved following cessation of grazing.

Monitoring Point 14

GPS coordinates: 5830643/1879826

Description: Repair to summit terraces



30th April 2018



3rd July 2019



26th August 2020

Notes: Repair to terraces completed in 2013. The aggregate at the base of the slope was not moved as recommended last year. Fence at the base of the terraces was moved back closer to road and encroaching vegetation has been partially managed to keep terraces visible, but this needs to continue. Desire line that was developing up the terraces in 2018 is reducing.

Monitoring point 15

GPS coordinates: 5830461/1879907

Description: Repair to bank on summit and steps installation



3rd May 2018



3rd July 2019



26th August 2020

Notes: Desire line/wear next to steps is increasing, action is needed to block access to prevent further damage. Widening the steps is the best option and could be done with minimal ground disturbance.

Monitoring point 16

GPS coordinates: 5830439/1879930

Description: General monitoring of summit wear



3rd May 2018



3rd July 2019



26th August 2020

Notes: There is on-going wear of imported armouring material on summit; recapping is required by bringing in additional material from stockpile.

Monitoring Point 17

GPS coordinates: 5830452/1879952

Description: Desire line track on summit



Clockwise from top left:

3rd May 2018

3rd July 2019

26th August 2020

Notes: Desire line is continuing to cause wear to intact archaeological deposit, and soil loss is readily apparent. Action to block access to prevent further wear was recommended in 2018, and needs to be implemented. Continue monitoring.

Monitoring point 18

GPS coordinates: 5830524/1880235

Description: Stone steps condition and erosion



3rd May 2018



2nd July 2019



26th August 2020

Notes: Stone work stable at present, but erosion from desire line more visible than in 2019, basically back to 2018 level, if not worse. Continue to monitor.

4. Summary of actions – Heritage Management Specification

No.	Action	Timeframe	Comment on progress
1	Condition monitoring of capping and informal desire lines	On-going	Recapping should be carried out in 2020/21.
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	On-going.
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. Shell mound above large slip needs to be assessed for stability.
6	Retire large land slips above the 4WD track from grazing	2016/17	Actioned in 2018 and progressing well.
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, on-going.
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. Expires August 2022.
11	Maintain walking and vehicle tracks	On-going	On-going. Further work to improve 4WD track maintenance required including removal of built-up tailings material below the track at culvert exits.
12	Implement rabbit control programme	2016 and on-going	On-going. Good progress being made toward

			eradication.
13	Stone Jetty and associated stone walls heritage assessment	2017	Assessment of stonewalls completed in 2020.
14	Repair of stone walls associated with jetty	2017/18	To be actioned after assessment as appropriate.
15	Monitoring and vegetation management of Iron Jetty platform	2016 and on-going	On-going vegetation management is required.
16	Monitoring	2016 and on-going	Programme established 2018, and is on-going.

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