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PAENGAROA CULTIVATION (OAMARU VALLEY, KAIMANAWA FOREST PARK)

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The Paengaroa cultivation is one of a number of sites dating back to pre-European times along the Oamaru River valley. According to the Department of Conservation (DoC) Kaimanawa Forest Park (KFP) Management Plan:

> An area which should produce evidence of pre-European activity lies on the true left bank of the Oamaru River above the Kaipo confluence in the vicinity of Te Rouiti Pa, Te Tounui or Te Rourahi Pa and the Paengaroa cultivation. This area was associated with Maori settlement and warfare involving the Ngati Whiti, Ngati Maruahine, Ngati Tuwharetoa and Ngati Kurapoto tribes in the mid-seventeenth century.
>
> In many examples, the lack of physical evidence of human activity on these sites is due to the fact that they are situated in relatively inaccessible areas. Being difficult to locate, they have not been subjected to the scrutiny of persons trained in archaeological techniques. (Deptartment of Conservation 2007:16)

The DoC management plan lists Te Rouiti Pa and Paengaroa cultivation as sites needing to be located and recorded as part of cultural heritage and historical activities in KFP.

The HPT digital site report library index lists the following: Nevin, G. E. and Nevin, D. C. (1979) Archaeological site survey Kaimanawa State Forest Park, N.Z. Forest Service, U19, Two days looking for suspected sites including Te Rouiti pa marked on N113 at confluence of Kaipo & Oamaru Rivers

Enquiries made with the HPT librarian revealed that this document has been misplaced, and the author has not been able to obtain a copy to date. However, David Nevin, one of the authors, emailed the following comment:

> An NZFS guy took us in, because the inch/mile topo said 'Te Rouiti Pa' somewhere there. ... All our report said was - we spend a day looking and couldn't find anything. (Nevin 2010)

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The author conducted a search for the Paengaroa cultivation site over the period 23–24 November 2010, while accompanying a fishing party staying at the DoC Oamaru Hut. Another trip was made on 31 January 2011 to get additional GPS waypoints and photos. The search was focussed on terraces around the Paengaroa Stream which joins the true left bank of the Oamaru River approx 1.5 km upstream from the Kaipo junction. The author is an amateur archaeologist with limited experience in locating Maori garden sites but, fortunately, had the opportunity to attend a two-day Professional Development workshop on this subject the week before the trip to the Kaimanawas.

As a result of the knowledge gained from the workshop, it is considered that the Paengaroa cultivation site was probably located; based on the characteristics of the site and its suitability for growing kumara crops (as outlined at the workshop), its close proximity to Paengaroa Stream, and a few archaeological features, such as ditches, possible storage pits and a mound containing soil and rocks, which may have been a cultivation mound. The site is now recorded on ArchSite as U19/26.

The initial plan for the survey included a search for Te Rouiti pa, as it was not clear whether or not this site has been positively identified (for example, some older maps show the general location as being at or near the Oamaru-Kaipo junction). A map reconnaissance identified the 991 m spot height on the ridge leading to the 1295 m Rouiti spot height further up the ridge (Figure 1) as a likely site for a pre-European defensive pa site. As it transpired, time and thick scrub prevented a search along this ridgeline. However, it is considered that this should be undertaken in due course.

Site Description

The site considered likely to be Paengaroa cultivation was initially identified from a map reconnaissance of the area around Paengaroa Stream. The NZMS 260 map shows a terrace, or at least a widening of the contour line profile, on the true left bank of the stream. When the area was visited it was found that there is a well-defined terrace approximately 8 m above the river flats that adjoin the Oamaru River in that part of its valley. The flat area is roughly 250 m east–west by approximately 50m north–south. Closer inspection revealed two further terraces higher up towards the 991 m spot height. The lower terrace was relatively easy to search being about 70% tussock and grassland, whereas the two higher terraces were largely covered with thick re-growth scrub, and were quite difficult to search. There was easy access to the lower terrace from Paengaroa Stream and to the two upper terraces from the lower terrace.

Figure 1. TUMONZ map of area around Oamaru hut, showing approx extent of terraces on the true left bank of Paengaroa stream, and Te Rouiti ridge.

Waypoint	NZTM Reference	Comments
PP2	1881363 E 5668791 N	Point where DoC track along Oamaru Valley crosses Paengaroa Stream
539	1881480 E 5668944 N	North east corner of lower terrace
540	1881306 E 5668912 N	Ponding area, with drain running towards low point in cliff leading to Oamaru River flats
541	1881357 E 5668906 N	Point where drain meets cliff
542	1881188 E 5668854 N	South-west corner of lower terrace, approx 2–3m above bank of Paengaroa Stream
543	1881272 E 5668860 N	Mound (soil sample taken)
545	1881351 E 5668960 N	Outline of possible square pit approx 1 x 1 m
546	1881286 E 5668910 N	Possible storage pit in slope, 3 x 2.5 m with earth wall approx 0.8 m high

Table 1. GPS way points for features recorded at the Paengaroa Cultivation site.

On the lower terrace there are two well-defined channels that run east–west along the base of the ground sloping down from the north. These appear to be ditches constructed to control water levels on the terrace. There were also probable remains of two storage structures: one appears to be a rectangular pit set into the ground (WP 545 on the middle terrace, Table 1), and the other dug into the side of a slope (as described by Best 1916:82) on the northern slope of the lower terrace (WP 546). The latter was approximately 3 x 2.5 m with a well defined earth wall on the western side approximately 0.8 m high. There was also one mound, on the lower terrace, which may have been a cultivation mound (WP 543).

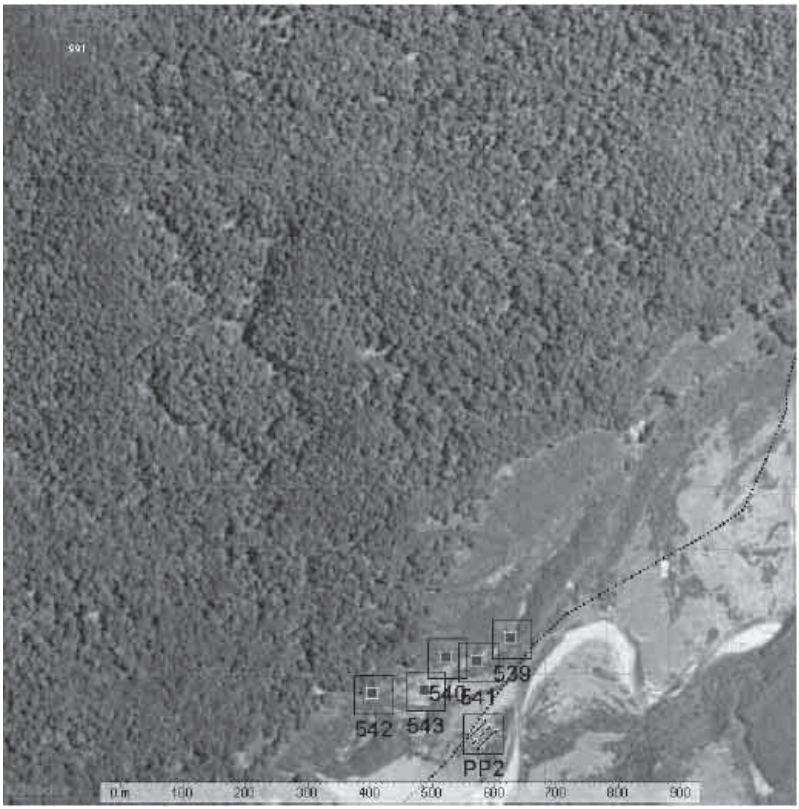

Figure 2. TUMONZ air photo of Paengaroa Terraces area, showing main GPS waypoints.

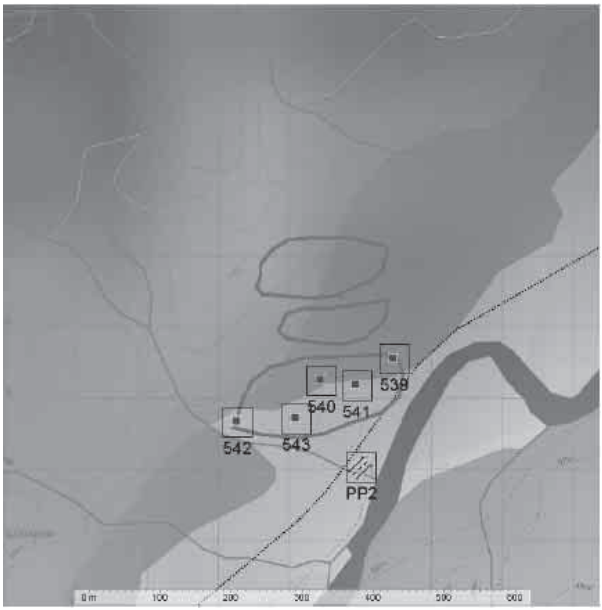

Figure 3. TUMONZ vector map showing Paengaroa Terraces and key waypoints.

Figure 4. General view of lower terrace, looking north-east.

Figure 5. View from lower terrace, looking down on Oamaru River flats (approx 8m below).

Figure 6. One of two channels on the lower terrace, thought to be man-made ditches, running east-west across the base of the slope from the hillside above.

Figure 7. Mound at WP 543.

Figure 8. Outline of possible storage structure dug into slope (WP 546); earth wall on left.

Figure 9. Graphic evidence of why crops weren't normally grown on river flats - flood debris from Cyclone Wilma (Jan 2011), several hundred metres from the main Oamaru River channel.

Site Analysis

The complex of three terraces was assessed for its suitability for growing tropical crops such as kumara, based on criteria sourced from Furey (2006) and Lawlor (2010). This is shown in Table 2.

The Paengaroa terraces surveyed meet most of the criteria, and would probably be the most suitable site for gardening within 1–2 km of the Paengaroa Stream.

It is considered that the system of terraces surveyed on the true left bank of the Paengaroa Stream is probably the Paengaroa cultivation site; based on the characteristics of the site and its suitability for growing kumara crops (as outlined at the November 2010 Professional Development workshop), its close proximity to Paengaroa Stream, and a few archaeological features, such as ditches, possible storage pits and a mound containing soil and rocks, which may have been a cultivation mound. A soil sample was taken from this mound, and, if feasible (and affordable), will be analysed to test for the presence of Maori cultigens such as kumara.

Suitability Criteria	Conformance or Comments
Not damp, but elevated (water depresses the temperatures). Not at the base of a ridge (to avoid storm-water damage).	Lower terrace is approx 8m above the Oamaru River flats, and wouldn't be subject to flooding from that source. There would be some seepage from the upper terraces and hillside above, but it appears two ditches had been constructed running east–west, at the base of the slope, to control this.
Lying towards the sun (warm aspect), and oriented east–west to gain all-day sun	Yes to both. The lower terrace site felt warm and humid, compared with the rest of the valley, on the days visited (however, no measurements were possible)
Open expanse and even surface	Yes – the lower terrace is still largely clear of vegetation
Slightly rounded surface (or flat)	All three terraces appear to be flat.
Naturally-occurring sand and gravel soil, not requiring mixing	The soil appears to be a mix of black humus and volcanic debris, such as sand and scoria. Cliffs in the vicinity show evidence of volcanic debris, such as pumice
Good shelter and natural protection from cold and blustery winds	The shape of the hills surrounding the lower terrace, and primary bush at each end of it, provide good shelter. There was little evidence of breeze at the site, even on a day when there was a noticeable wind blowing down the Oamaru Valley
Mounds of soil mixed with stones to raise temperatures	There was one well-defined mound. Other parts of the lower terrace had stones scattered about.
Existence of storage pits near-by	Possible evidence of two pits, but these didn't photograph well, due to vegetation

Table 2. Suitability criteria for kumara cultvation.

There may well be other opinions as to whether or not the site is a cultivation area. It is therefore recommended that the site be subjected to more specialised investigation. There is also potential for more widespread archaeological survey activities in the Oamaru valley, as it is likely that other sites associated with a hapu structure would exist.

References

Best, E. 1916. Maori Storehouses and Kindred Structures, Museum of New Zealand, Wellington.

Deptartment of Conservation 2007. Kaimanawa Forest Park Management Plan, Turangi.

Furey, L. 2006. Maori Gardening: an Archaeological Perspective, Department of Conservation, Wellington.

Lawlor, I. 2010. Presentation re: excavated, surveyed and investigated gardens, Professional Development Cell Workshop on Maori Gardening, Auckland.

Nevin, D. 2010. Personal communication, email 12 December.