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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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ARCHAEOLOGICAL SITE SURVEY ON MAYOR ISLAND

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Mayor Island is situated 28 km north of Tauranga Harbour in the Bay of Plenty (Plates 1-3). The island is an extinct volcano, composed of peralkaline rhyolite lavas and pyroclastic deposits. Obsidian can be found at several places. It varies in colour from green, black, green-black, grey to brown. Mayor Island obsidian has been extensively traded in New Zealand in prehistoric times. The island's profound importance in New Zealand pre-history has long been recognised, but so far no archaeological research has been carried out that would enable us to understand the occupational history and the precise role which the island played in the economy of early New Zealand.

In light of the former economic importance of Mayor Island, and the need to determine the extent of prehistoric occupation, the present survey was planned. It is part of a larger research programme.

The site survey

Mayor Island was first surveyed by Gold-Smith (1884). He visited the island while people were still living in some places. Many of the sites he described can no longer be identified, since they are now overgrown in dense bush. Later Pos (1965) recorded a number of sites, ranging from pa, middens, pits and a few stone structures. Several of these sites were relocated and mapped, while others could not be found or have been destroyed in the time which has elapsed. The island was again surveyed for archaeological sites in May 1982. The survey did not cover the entire island as can be seen from the map (Fig. 1). The reasons for this were the extremely difficult terrain in some areas and lack of time. Some areas were intensively surveyed (Te Panui and Te Kopua Flats), while others were only cursorily examined.

Areas not surveyed include parts of the Dome and Crossman Hill, even though a brief reconnaissance of this area was done. It seems unlikely that any sites will be found in this area as this part of the island is covered in dense vegetation with a very thin soil development. Big lava blocks cover most of the surface. Due to the dense vegetation and steepness of some areas, access was impossible; even though historic records (Gold-Smith, 1884) suggest human occupation in some of these places, access to which is easier by sea. The areas between Oira Bay and Cathedral Bay

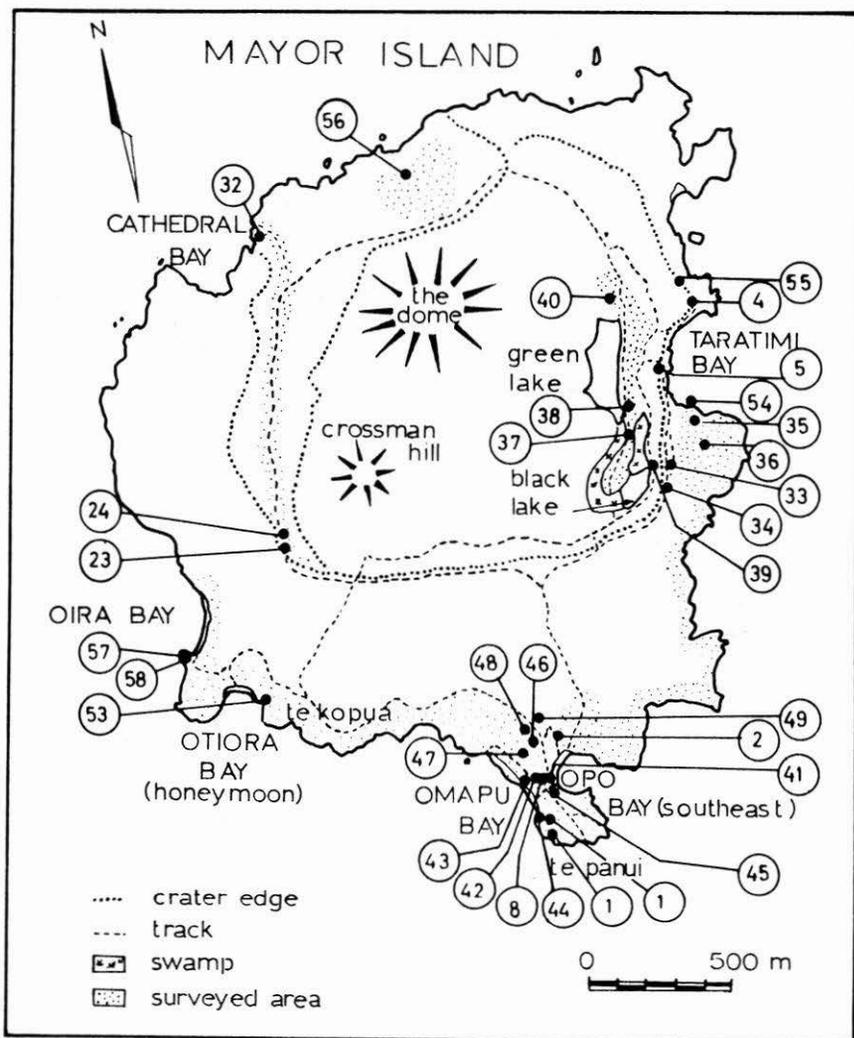


FIGURE 1. Mayor Island site distribution map.

as well as the north-east area of the island could not be surveyed in detail.

Discussion of sites

The sites will be discussed in terms of their category rather than by geographical distribution. Site types are given in Table 1 and a list of sites in Table 2.

Pits. The predominant types of sites found were pits, a number of which are associated with terraces. A total of 16 pits were found. These can be divided into two types. Of the first type (rua) nine were found. All of these are located on the slope next to the top of natural ridges formed by lava flows. These places are all well drained and suitable for food storage. They were found mostly concentrated in groups of two or more. Only in one place were they located on the top of the ridge itself (site N54/23) where they are associated with a terrace complex.

Of the second type of pits (rectangular) eight were found. These are rectangular structures, with a raised rim on at least three sides. It is possible that they were covered with some kind of wooden structure or building. Dimensions vary from 2 m wide to 7 m wide and 3.5 m long to 10 m in length. Three of them were found isolated from other archaeological features, while two were found together and associated with an apparently defensive ditch nearby. These two are located on top of the crater rim, while the others are on the flat areas near the coast.

<u>Site Type</u>	<u>Number</u>
Pa	3
Pits (storage)	9
(other)	8
Quarries	3
Working Floor	1
Middens	3
Terraces	4
Pit and terrace complexes	5
Platforms	3
Ditches	3
Others	1
	<hr/>
Total	43

TABLE 1. Mayor Island site types. (Note that these sites do not all have separate site record numbers. Many have been recorded together under the same site number).

Site Number	Site
N54/1	Panui pa
N54/4	Taumou pa
N54/5	Quarry
N54/8	Midden
N54/23	Pits with associated terraces and associated to site N54/24
N54/24	Ditch
N54/32	Pit
N54/33	Raised rim pits (2)
N54/34	Ditch
N54/35	Platforms (2)
N54/36	Terraces and pits
N54/37	Raised rim pit
N54/38	Midden
N54/39	Working floor
N54/40	Cave with a rock wall
N54/41	Midden
N54/42	Raised platform with surrounding ditch
N54/43	Rectangular pit
N54/44	Rua
N54/45	Raised rim pit facing an artificial terrace
N54/46	Rua (2)
N54/47	Rua
N54/48	Rua (2)
N54/49	Rua (2)
N54/50	Two associated ditches
N54/51	Rua (3)
N54/52	Stone alignment
N54/53	Two terraces with surrounding drain
N54/54	Quarry
N54/55	Quarry
N54/56	Complex of three pits
N54/57	Rua
N54/58	Flat upright stones

TABLE 2. Mayor Island list of sites.

Pits and terraces. Five complexes of pits and terraces were found. The terraces have all been cut into the sides of natural ridges or the top of these have been artificially flattened. Some of the terraces are very narrow, and might support at the most two houses (N54/23). The pits are located on the sides of the ridges and not on the terrace proper, as is the case for the isolated pits. The pits associated with these terraces are all of the first type (rua), with one exception (rectangular raised rim pit).

Terraces and platforms. Two types of platforms were found built on natural lava ridges, or of artificially built up soil. Two platforms built by flattening the top of natural ridges were found over Parikoura Point. Gold-Smith (1884) describes a pa in this vicinity. No fortification remains are obvious on the surface, but shell fragments indicate that the area has been used as a living place. The other platform is an artificially built up earth mound, surrounded by an artificial ditch. It is possible that it supported some kind of house structure.

Two small terraces cut into a low ridge were found along Te Kopua Flats. They resemble rectangular pits, but the area has been artificially leveled and the soil used to build a bank and rim around the terraces. A ditch drains the upper terrace.

Middens. Three middens were found as well as a few isolated shells in the vicinity of some of the pits and terraces. Two middens were located near the beach on the edge of a natural bank. The upper one had been exposed by erosion of the bank. The midden can be seen in the cut underneath the roots of an old pohutukawa tree. The lower midden could have been formed by dumping the refuse over the bank, or through erosion of it. It seems more likely to have been formed by the former, since it appears to be stratified. Midden remains include Nerita sp., paua (Haliotis iris), limpets (Cellana strigilis and C. radians), Cook's turban (Cookia sulcata), and Thais orbita. Fishbones are abundant in the two coastal middens. Charcoal and obsidian flakes were found in all of them. Fifty per cent or more of the midden material was composed of Nerita, limpet and paua. Only one midden deposit was found inside the crater at the Green Lake shore, while some isolated shells were found at the working floor inside the crater. The three middens are close to a fresh water source.

Quarries. Only three places were found that can be classified as actual quarries. In these the obsidian flows had been mined following the natural vein inwards; these appear in the form of tunnelling, about 1 m high and a little over a metre in depth. The obsidian quarried in these places is of very good flaking quality - very glassy with few or no crystalline inclusions. The

surface around the quarrying area is covered in obsidian flakes, but it appears that the obsidian was not worked at these places. Access to these quarries is rather difficult, one of them having easy access only by sea. Since a boat was not available, it was not possible to investigate other areas around the coastline, where other quarries might be found.

Pa. Only three sites recorded fall into this category. Fifty per cent of the sites recorded in earlier surveys were pa. Two of the pa sites recorded and mapped in 1982 had been recorded earlier. Most of the sites recorded in previous years are almost inaccessible due to the extremely dense vegetation that has grown and obliterated many of their original features. Taumou (N54/4) has been recorded earlier. This is a fortified terraced pa built on top of the crater rim on a high peak with almost vertical walls and cliffs falling away on three sides. Only three of supposedly seven terraces could positively be identified.

The other two pa include one headland pa built on a peninsula with cliffs on three sides of it, overlooking Opo Bay (Panui). A defensive ditch has been recorded for this site, but it can not be seen anymore. The other pa is built on a natural ridge with a defensive ditch on one end and a natural scarp surrounding the remainder of the site.

Working floor. Only one site has been identified as a possible working floor. This is inside the crater a few metres off the Black Lake shore. The area is covered with cores and flakes. A few shells were also found as mentioned above.

Ditches. One ditch was found that cuts through the crater rim and seems to serve a defensive purpose. It is associated with two rectangular pits. One of the obsidian quarries is a few hundred metres further along the crater rim. Other small ditches were found crossing through small ridges near some of the storage pits (N54/50). It seems more likely that these served as drains, since they were very shallow, narrow and short. They cut across the top of these ridges and then disappear.

Other sites. No positive identification of gardening areas was made. A stone alignment enclosing the upper part of one small valley or drainage was found. It is not certain what function it might have served. There are no other stones in the close vicinity.

Discussion and conclusions

Most of the sites are being obliterated though by the dense bush cover that is now taking over the Island. For the past 20

years the island has been left to regenerate to a forest cover. Areas that had been cleared for gardening and living are all covered in secondary bush growth. This is composed to a large extent of manuka, kanuka and bracken fern in the more open coastal areas. Roots and trees growing on the sites will cause some of them to disappear in a short time. Even now some sites and major features described only 10 to 15 years ago, are no longer visible. The major threat to archaeological sites, however, is wild pigs. The damage these animals are causing to the sites is substantial. Sites already partially destroyed by pigs are N54/23, N54/47, N54/45, N54/44, N54/51. These are mainly pits. Pigs have also turned up shells in the vicinity of some of the platforms.

Other destruction of sites has been caused by erosion and human action (N54/41, 8, 5). These sites are being partly destroyed. A shed of the Tauranga Big Game Fishing Lodge was built in the middle of the midden (N54/41) destroying at least one quarter of the site. On the other hand, on site N54/5 visitors have been pecking at the obsidian flow, obliterating in part some of the prehistoric activities at the site.

An unexpected result of the archaeological survey was the absence of any concentrated quarrying and flaking areas. From the volume of obsidian collected in archaeological sites throughout New Zealand it is surprising to find only two or three areas where some sort of continuous quarrying of obsidian might have taken place. Nor are these quarries extensive. At the same time, the absence of working floors (only two recorded) suggests that the material was transported in whole blocks or cores to the mainland, from where it was distributed by means of trade or other exchange to other areas of New Zealand. While obsidian can be picked up almost anywhere on Mayor Island, only some of the flows are of high quality flaking material.

Defended settlements still comprise 30 per cent of the sites so far recorded. It is difficult to tell without excavation if all these belong to late Maori occupation. Even if most of them were not occupied at the same time, this is a fair density. One can ask if these were defending access to the island and hence, to the obsidian. In view of this it is even more surprising that so little of the obsidian flows seems to have been systematically quarried. On the other hand if they were late developments, it might suggest also that the exploitation of Mayor Island obsidian might have changed throughout time. Did it increase, decrease or remain stable? It is hoped that the study of the overall volume of obsidian found in New Zealand archaeological sites will provide the answers.

It is important to stress once again the destruction that is affecting a number of archaeological sites by pigs and visitors. Summer tourists to the island sometimes exceed 200 on a single weekend. Even though the island is a Wildlife Refuge, no protection from casual visitors is given to archaeological sites.

Acknowledgements

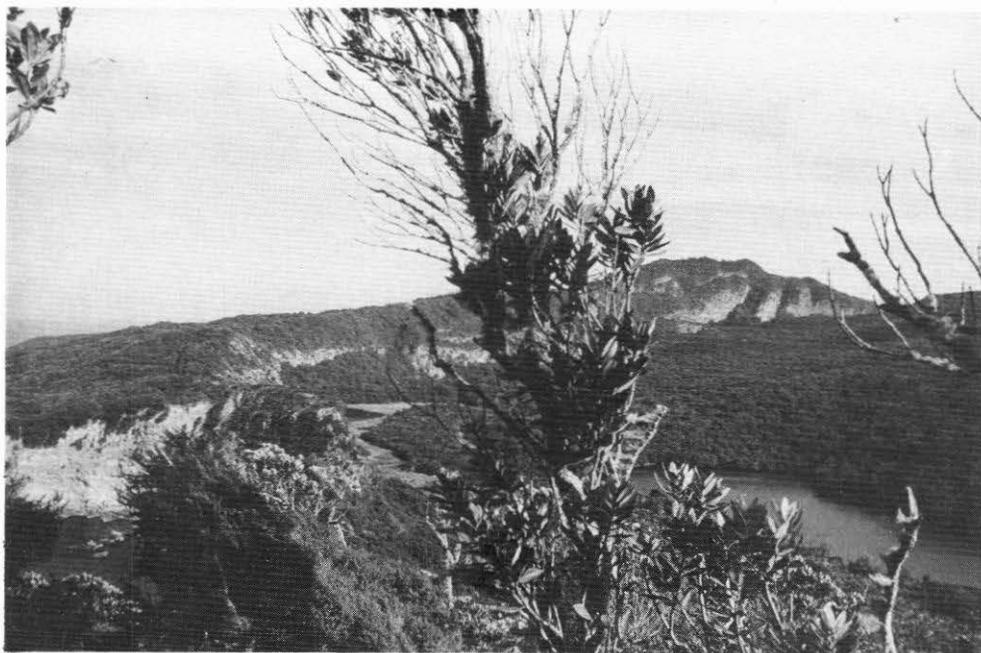
The fieldwork was carried out with financial support from the University Grants Committee and the New Zealand Historic Places Trust, this is gratefully acknowledged. I am indebted to Chuck Bollong, Simon Holdaway and Michiko Intoh for their valuable help during the fieldwork. To Mr Charlie Williams, Chairman of the Mayor Island Trust Board for allowing the survey to be carried out, to Mr and Mrs Bill Ohia of Tauranga and Mr and Mrs Behren of the Tauranga Big Game Fishing Lodge on Mayor Island for their hospitality and help, and to the fisherman who brought us back to Tauranga, I wish to extend my appreciation.

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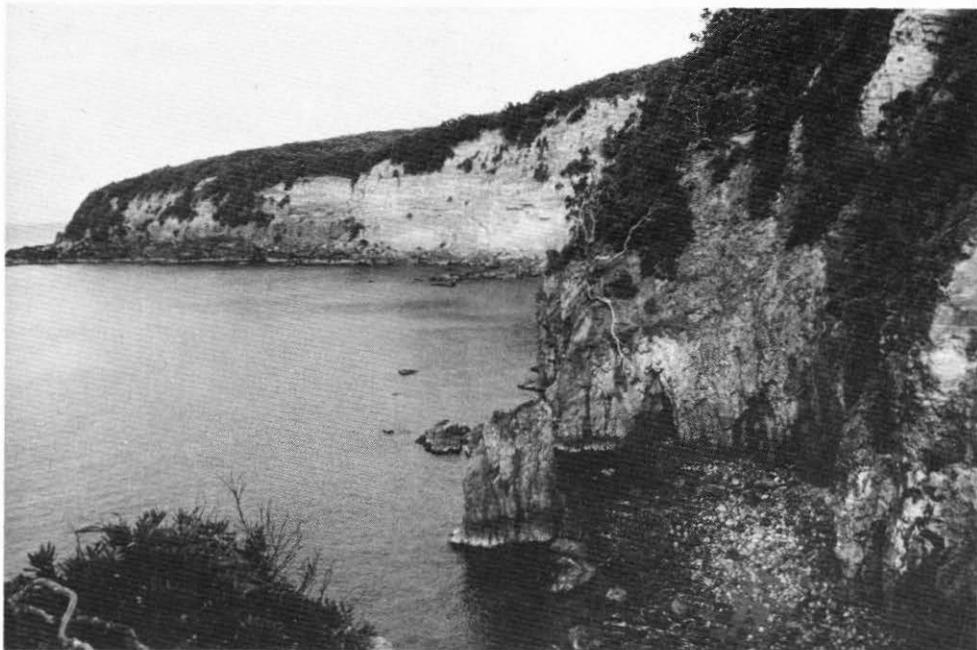
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HAMLIN'S HILL Plate 3.



MAYOR ISLAND Plate 1. View from top of Taumou pa over Green and Blue Lakes.



MAYOR ISLAND Plate 2. Crater Bay, looking at obsidian flows.



MAYOR ISLAND Plate 3. View north over crater towards Crater Bay.