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## ARCHAEOLOGY IN NEW ZEALAND



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# **A SUMMARY OF ARCHAEOLOGICAL INVESTIGATIONS AT KOHIKA, V15/80, 2004–2008**

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Kohika was a 17th century Maori lake village unusually preserved because of its wetland location in the formerly extensive Rangitaiki Swamp. It lay in the fork of the Tarawera and Rangitaiki rivers and enjoyed a high order of accessibility to local places by canoe, and also to communications along the coast and inland. However, while the location had these benefits it also had its hazards. The people of Kohika survived an earthquake but abandoned the site after a severe flood. Subsequently the sandy islet was gardened and people returned occasionally to bury their dead, but then the site was largely forgotten and remained undisturbed until agricultural drainage in 1974.

Its excavation, and the analysis and conservation of finds, has been a 30-year task by some 20 scholars (Irwin 2004). The diversity of the evidence uncovered reveals extensive information about the social and domestic activities of a community well before the advent of the pakeha. Of particular interest is new information about the waterlogged assemblage of portable wooden artefacts, the carved wooden panels of houses, the weaving, netting and cordage, and the diverse nature of a village community.

With the complex nature of the site and its contents finally described, further field investigations could be made and funds were obtained from the Marsden Fund (Grant UOA 313, 1.2.2004–31.1.2009). A summary of early results is provided here.

Initial work at the site involved a programme of geophysical survey and contour mapping of Kohika (and its two satellite islets) in association with Geometria Ltd.

## Historical Society (HS) area

In 2005 excavation began in a part of the former lake where the Historical Society had first encountered remains of a carved house in 1974–75, although the nature of the find was not understood until later. Our 2005 excavation was in the HS area enclosed by the solid line shown in Figure 1. We were able to relate the stratigraphy to University of Auckland (UOA) excavations of 1975–81 in Areas C and D, but found that all of the HS artefacts had been removed. However, we did find the disturbed timber and stone remains of what we now understand to have been a canoe landing that was not removed.

The house itself probably stood on the adjacent shore of the island in the general area enclosed by dashed line in Figure 1. Here we removed the topsoil to expose an artificially-laid platform of sand of a kind characteristic of living areas known elsewhere on the site. However, this sand lay close to the ground surface and was disturbed. It was being used as a hard-stand for cattle when seen during a visit to the site on 3 September 2002 by R. Darmody and S. Anderson (New Zealand Historic Places Trust), D. Fenton (Ngati Awa),

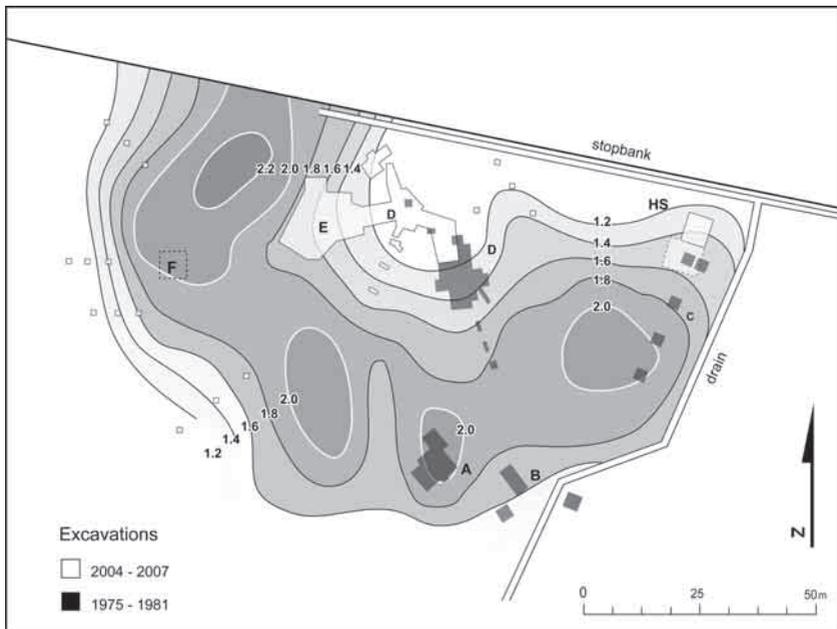


Figure 1. Plan of excavations on a contour map of the main island at Kohika.

T. Jordon and R. Gould, (Whakatane Museum) and myself. Fortunately the current farmer is taking much better care of the site than his predecessor.

We did not require pumps to dig the area of former lake in the HS area as we had in 1975 in the two northernmost squares of Area C (Figure 1), which was a significant change.

**The area of Kohika north of the stopbank**

Some archaeological evidence has been reported from the NW part of the site beyond the stopbank and drain (R. McGovern-Wilson pers. comm), and initially we had planned to investigate there, but because that area was still wet we considered that south of the stopbank should have higher priority.

**Areas D and E, 2005–2007**

The embayment in the northern shore of Kohika was less disturbed than the HS area and had produced comprehensive evidence of a household in Area D in the 1970s excavations. The topography in Area E suggested the possibility of similar structures, and excavations were started in 2005 and expanded in 2006 and 2007 (Figure 2). There are three main areas of interest: the lake, the lake shore and the adjacent former dry land.

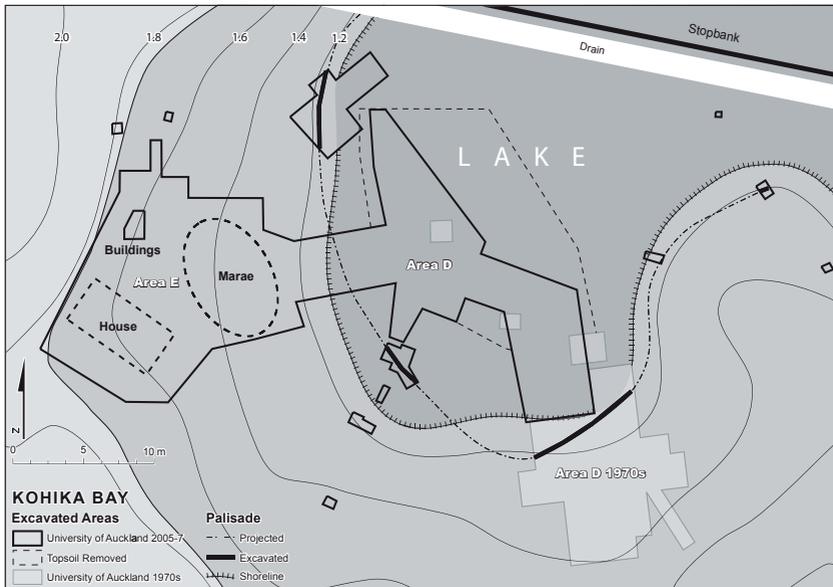


Figure 2. Excavation units in Areas D and E.

## 1. The lake

The sample of waterlogged wooden and fibre artefacts of all kinds has continued to increase. The sample runs from the shore out into the lake to where the frequency of finds declines. Figure 3 shows a small flax kete after laboratory processing, and Figure 4 shows a well-preserved hinaki (eel trap) made of fine manuka stems lashed with kiekie. We also found three intact bundles of sticks stored in shallow water that had functioned as part of fish traps. There was a considerable collection of fragments of gourd and among these a range of decorated bowls, as in Figure 5. The bowls were used as containers for liquids, solids including food, and red ochre. Some other gourds held burning material that was possibly being transported around for lighting fires, and/or for service as oil lamps, and a number of wooden and pumice stoppers for gourd water bottles were found (Irwin et al. 2007). Among the wooden

artefacts various carved and decorated items were widespread in the site.

There would have been constant traffic of canoes arriving at Kohika, but if people had regularly waded ashore over the soft lake bed of silty peat (which contained hazards for bare feet) it seems unlikely that fragile items like the hinaki could have stayed intact in shallow water while occupation continued. An explanation is now available.

## 2. The shoreline

Excavations in 2006 and 2007 have revealed a very structured artificial shoreline with a light palisade with entrances, and in places there may be more than one line of posts.

A number of canoe landings of various con-

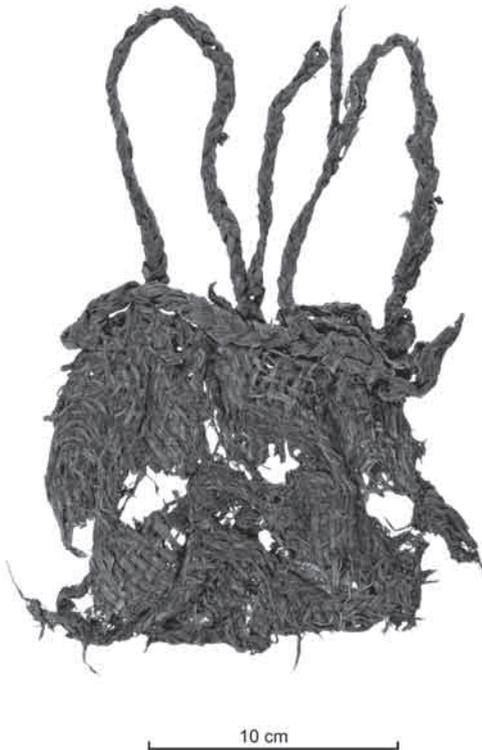


Figure 3. A small flax kete found in Area D.

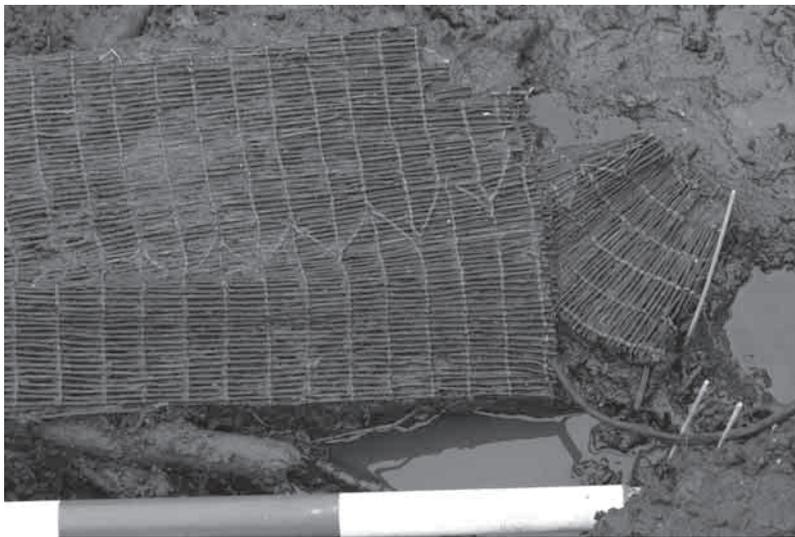


Figure 4. A finely-made hinaki which was found flattened but largely intact in Area D.

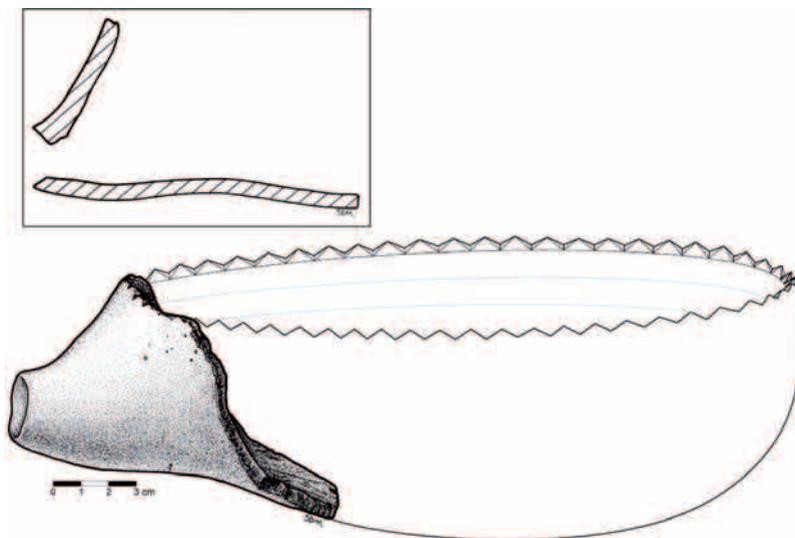


Figure 5. A decorated gourd bowl from Area D, which is the only known example to have a pouring spout.

struction are unique in my experience. Outside the palisade in front of the house excavated in Area D in 1976 (Figure 2), there is a jetty made of a baulk of split totara extending about two metres out into the lake, supported by posts driven into the lake bed and with its inner end resting on a built timber and soil embankment at the shore. People could also have waded into the water right beside the jetty on an artificial path of clay mixed with diatomaceous silt that had been laid on the fragile peaty lake bottom. We have found material of this composition occurring naturally in the site nearby. And standing in the palisade line beside the jetty was a boldly carved human figure that probably faced out into the bay. This household by the shore had its own entrance and formal canoe landing (reminiscent of a modern marina development) and the evidence that survives in the lake beside the carved house in the HS area is suggestive of a similar structure.

Other arrangements for the same purpose were found elsewhere. At the shore where Area E met Area D, the lake shore was consolidated by massed rata vine coils, packed together to make a canoe landing (Figure 6), and in the northernmost excavated unit of Area D there was an entrance through the palisade and the shore was consolidated with baulks of timber reinforced by river stones.

### *Structures on shore in Area E*

A made floor of quarried dune sand in Area E (Figure 7), was separated by a stout fence from a contemporary adjacent house with an artificial floor composed mainly of reworked alluvial Kaharoa tephra also brought from nearby. While a large number of flakes and many artefacts of other materials were found associated with the house, the sand floor had none, and its surface had been renewed again and again by the laying of lenses of clean sand. The fence evidently separated secular and ceremonial spaces, and the sand floor is tentatively interpreted as some kind of court or marae.

Also, in the northwestern part of Area E and facing the court were further laid sand floors of a kind often associated with houses. There was more than one period of use of this area as the floors and a number of surviving posts were found to be on different alignments. Contemporary with the court and the adjacent house was a substantial working floor with much obsidian and many artefacts of other kinds (Figure 8). Excavation in this area is not complete and the final planned phase of the current project is to establish the stratigraphic relations of this structural evidence and to sink a test pit to reach the natural of the former dune below.

Area E on dry land, and the adjacent part of Area D represent a new complex of associated structures at Kohika.



*Figure 6. Massed coils of rata vine consolidating the shore at the junction of Areas D and E. This was one of a variety of forms of canoe landing found.*



*Figure 7. A photograph of excavations of Area E at an early stage in 2005. The surface of the sand court is exposed and excavation of a house separated by a fence from the court is just beginning in the lower left of the photograph. The peat of the former lake in Area D is showing in the top of the picture, plus the curving lake shore.*

## Area F

This lay on a high part of the former island inland from Area E and in a similar spatial relation to how Area A stood with regard to Area D in the 1970s excavations (Figure 1). In Area F the topsoil and a layer of mixed garden soil (Layers A and B) were removed to reveal the surface of a complex of intercutting pits, bins and firescoops that intruded into the natural sand of the former dune (Layer C). The general pattern of evidence was the same as previously encountered in Area A which was interpreted as an open area used at different times for storage and then for cooking (Irwin 2004). Area A also had three or four late intrusive burials that post-dated the abandonment of Kohika, but none were apparent in Area F. The plan of features showing in the surface of Layer C in Area F were recorded but not excavated as other work had higher priority, however, we have a good idea of what was present.



*Feature 8. More than 2500 individual finds came from this part of Area E, but the ones shown in the shaded court area came from underneath, not in, the former sand structure.*

## Test pits on the west and north east sides of the site

A further aim was to investigate the western side of the island, and in Figure 1 a series of four lines of small test units are shown crossing from the former lake/swamp across the perimeter on to dry land. While analysis of the information is still continuing, it is clear that the western side of Kohika was cultural. However, the current rather meagre sample suggests that only the

northernmost section of test pits, plus one other to the northeast of Area D of the 1970s (Figure 1), show signs of the kinds of laid sand floors that have been found previously in Areas HS, D and E with household occupation. This could suggest that areas of concentrated occupation may have occurred on the sides of the island most easily accessible by canoe.

## **Taphonomy**

The conditions for survival between the dry land and the former lake at Kohika are extremely different and we have found that intra-site comparison provides an insight into the taphonomic processes operating. As one example, the large dog bone assemblage provides a unique opportunity to compare processes affecting bones deposited in anaerobic wetland versus aerobic dry land environments (Taylor and Irwin in press). About half of the dog bones recovered from Kohika between 2005 and 2007 came from an area that would have been lake, and the majority of these bones tended to be well preserved and were frequently completely intact even if small or from immature dogs. The remainder of the dog bone assemblage was deposited in a dry and often sandy environment where the bones were more exposed to weathering, human modification and more prolonged dog and rat gnawing. Taphonomic variables are likely to account for many of the discrepancies in dog body part representation in dryland New Zealand archaeological sites.

## **Kohika has been drying out**

Until 1974 the Kohika wetland was stable but agricultural drainage in 1974 affected the water table in the immediate vicinity of the site. There have been other changes in the wider environment that follow from management of rivers and drainage including the straightening of the lower Tarawera River and reconstruction of stopbanks in the 1980s, and the construction of floodgates at the seaward end of the Awaiti Stream and Canal 109 following the Edgecumbe Earthquake of 1987 (B. Crabbe pers comm. 2008). The site is located within this perimeter and the water table is now lower.

The peat surrounding the former island in what was lake and swamp in prehistory is now drier than it was, and this is where nearly all of the organic artefacts are found. Excavation units that required constant pumping during excavations prior to 1980 can now be emptied quickly, in normal circumstances. Fortunately, the wooden and fibre artefacts remain in good condition – for the present. However, this can be expected to change because a layer of post-Kaharoa lacustrine silt underlying the culture-bearing peat now has a much drier and firmer consistency in the new conditions.

Archaeological investigations at Kohika began as a rescue and subsequently developed into a project that combined research and the conservation of waterlogged materials (Irwin 2004). During the current project these aspects continue, but the need to conserve the site emerges as a major imperative. Kohika will need to be kept wetter if it is to survive.

During the current project I have visited numerous wetland archaeological sites in Ireland, the UK and Scandinavia where wetland sites are being managed successfully. In the case of Kohika there are many stakeholders involved with a diverse range of interests, and the expense could be considerable. The rate of environmental change suggests there are still probably a few years available but the risk will increase.

### **Acknowledgements**

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