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## ARCHAEOLOGY IN NEW ZEALAND



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# ARCHAEOLOGICAL FIELDWORK IN THE INNER HAURAKI GULF 1987-1996

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During the last ten years there has been a major archaeological commitment to the islands of the inner Hauraki Gulf by staff and students of the Department of Anthropology at the University of Auckland, and by a number of other colleagues. Most of the work has been on Ponui and Motutapu with a little on Waiheke, which lies between the other two (Fig.1). Aspects of the work include staff research, four field schools, project work by graduate students and CRM associations with DOC, Ngai Tai and Ngati Paoa. Analysis of the accumulating information is now advanced and detailed reports are in preparation. A brief summary of the various circumstances and aspects of this work is provided.

## MOTUTAPU

This island has a long and fairly distinguished record of research. Golson dug a deeply stratified site at Pig Bay in the late 1950s (Golson and Brothers 1959) and this was followed by excavations at the Sunde Site which has evidence for occupation below Rangitoto Ash (Scott 1970). In the late 1960s Janet Davidson co-ordinated three further site excavations in the vicinity of Station Bay; two undefended ridge settlements and a headland *pa* (Davidson 1970a, 1978; Leahy 1970, 1972; Sullivan 1972). Later excavations at the Sunde site were carried out by Nichol (1988). A comprehensive survey of the island was led by Janet Davidson (1970b) which located 324 confirmed sites. This survey was notable for its explicit consideration of both methodological and theoretical issues in site definition and sampling (Davidson 1987, Law 1987).

Our recent interest in the island was provoked by a Draft Working Plan for the Revegetation of Motutapu Island produced by the Auckland Conservancy of DOC in June 1992. True to title the plan was to put much of the island under forest. A crucial point was that Motutapu and Rangitoto, connected as they are, provide a large enough area for the re-introduction of endangered birds. Thus the report maximised natural history values of the island, of which little remained, and minimised the cultural heritage values of the island, of which much remained. The draft plan attracted a sharp response by archaeologists and iwi. Different conservation values were in direct

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Figure 1. Motutapu and Ponui are of similar size and location. However, their histories have been influenced by differences in soils, stone resources and other minor variations.

opposition. A series of meetings of interested parties arranged by DOC led to a public workshop in 1993. The eventual outcome was the Motutapu Restoration Plan of August 1994 which was based on a partnership between DOC and Ngai Tai, *manu whenua* of Motutapu, and explicitly gave cultural values priority. However, some tensions remain. As DOC continuously restructures, the Restoration Trust arranges to plant trees. The island farm is leased and, frankly, there are too many heavy cattle for the fragile soils and sites, and insufficient weed control. We empathise with our colleagues in DOC which has been under-resourced from the beginning.

As a contribution to the situation from Auckland University, G Irwin contracted with the Science and Research Directorate of DOC, on behalf of staff and students of the Anthropology Department, to provide an archaeological inventory for the island in the period June 1994-June 1996, the purpose being to improve the database that would inform conservation management. Main aspects of the work include field survey and making

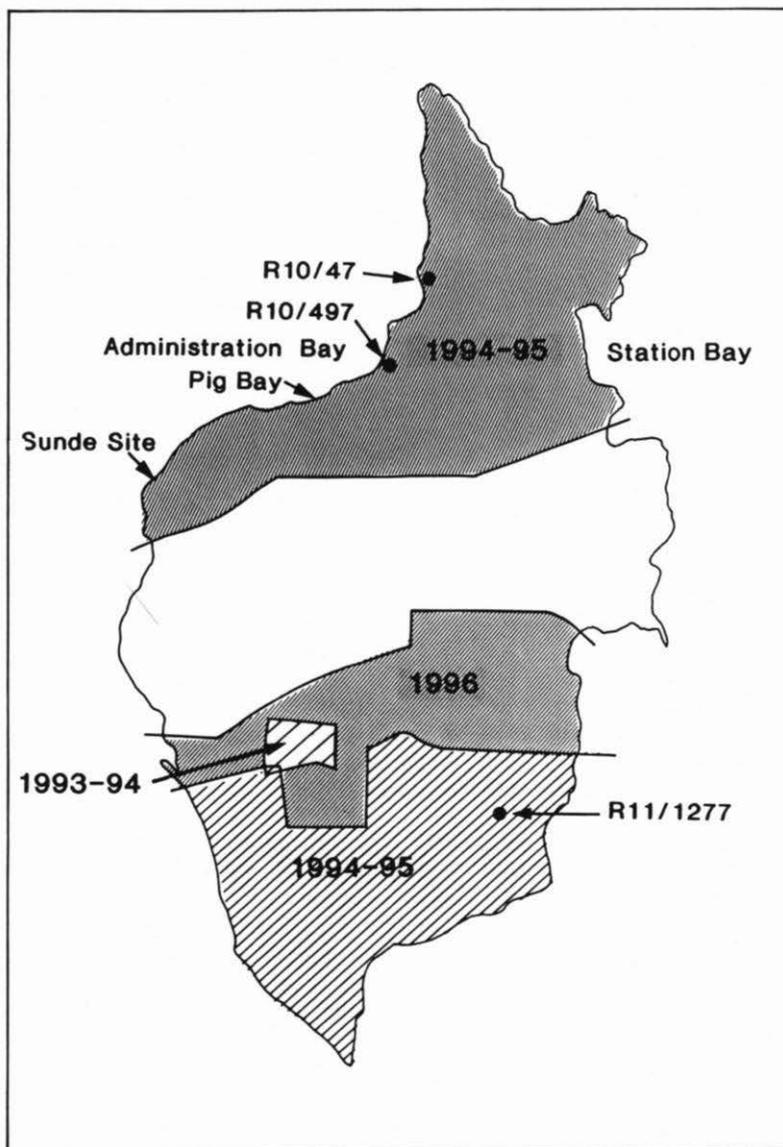


Figure 2. Recent progress with the re-survey of Motutapu is shown. The main additional information is in the form of accurate site maps. A number of new sites have been found while some previously recorded could not be relocated and may have been destroyed.

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accurate maps of all sites and, back in the Department, taking the data into a geographic information system (GIS) at a feature-level (rather than a site level) in order to study site structure and distribution. Initial survey results show a considerable increase in the number of features found which may be due to our policy of surveying in winter when ground cover is low and, perversely, because site visibility may have been increased by surface damage (exposure of shell, stone flakes, etc). Numerous visits have been made to Motutapu including two field schools run in 1995 and 1996. Figure 2 shows progress with the survey. In all, approximately 240 sites are accurately mapped and in the GIS database. Some examples near Administration Bay are shown in Figure 3. Copies of new site record forms and maps have gone to iwi groups and DOC. From a sampling point of view one might regard some of this as overkill. However, it will, we hope, keep trees off sites and it is a useful training ground for students in both academic and CRM values. Finally, the data can support unusually fine-grained research. For instance, we have experimented with the rules of defining sites by intersite distance. Should features 40m apart belong to the same site, or is 80m or 120m the appropriate marginal distance? Or should the question be approached by variations in feature density in the landscape? Initial experiments in the lumping or splitting of features into a more or fewer sites produces considerable variation in site size and structure (Doherty 1996) and a range of options for implied social structure.

The relationship of surface evidence to what lies underground is no less problematic on Motutapu than elsewhere. Our partners in DOC and Ngai Tai are interested in prospects for non-destructive methods of mapping sites to avoid planting on parts of them. This has led to a number of experiments undertaken by graduate students in image processing of geophysical data. Our experience has been that it has taken some time to learn to interpret such results through the mantle of the Rangitoto Ash. It reminds us again, that applying method to data will produce results, but whether they make any sense is another matter.

We have, in a small way, begun to test the features mapped and prospected from the surface, by excavation. On Motutapu, with its deep layer of volcanic ash, terraces can be problematical (not including those understood for some time to be natural). One might note that "terraces" generally are a vague category in New Zealand field archaeology. In 1995 test excavations were carried out at three undefended sites R10/47, R10/497 and R11/1277. In 1995 we returned to continue excavations at R10/497 which is a small settlement with the remains of a house, some adjacent pits, evidence for stone working, cooking and disposal of food debris.

As in the case of some undefended sites, the category "*pa*" is also very variable -- although all have a defended perimeter, whatever the contents.

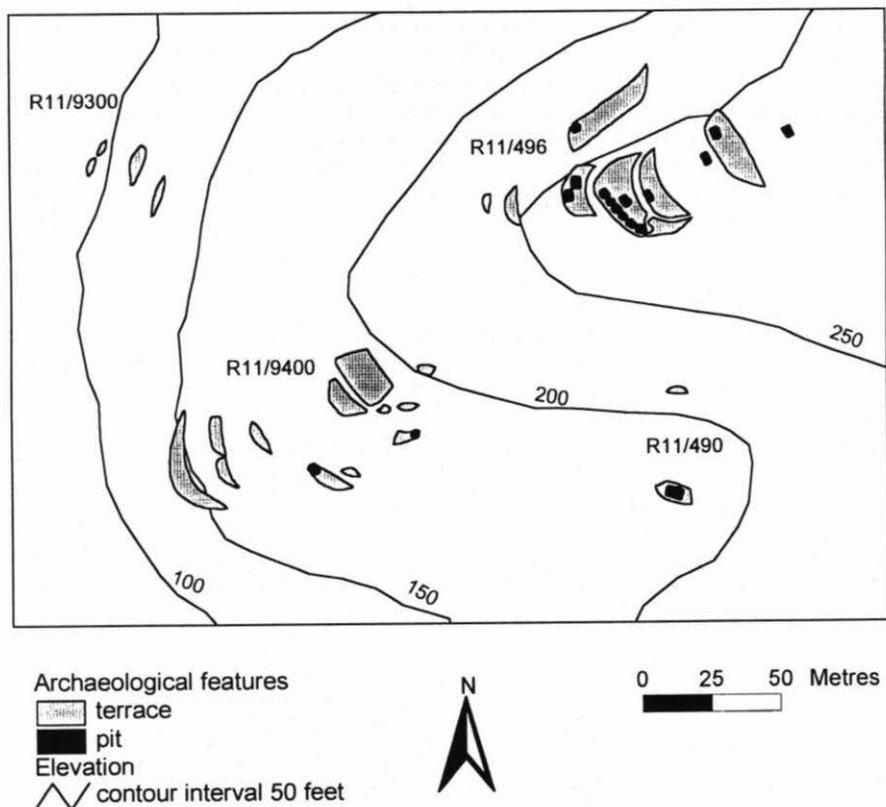


Figure 3. An example of archaeological features recorded near Administration Bay as held in the GIS. These are precisely located. They can be studied at any scale and in association with any major environmental variable.

The classification of *pa* by surface morphology, topography and other variables, seems to have made little progress for a decade or more. This may be a matter of a lack of appropriate measurement and analysis. For instance, conventional plans of *pa* have poor control of the vertical dimension. We have begun to investigate schematic maps of internal structure combined with finer grained contouring in topographic context. This approach is to be taken up in forthcoming PhD work by Claire Reeler on Motutapu and elsewhere. We also hope, in the future, that the process of site mapping may be speeded up by image processing of remotely sensed data of suitable scale. Otherwise we can scarcely hope to map enough of them while they survive.

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### PONUUI

Ponui, sometimes called Chamberlin's Island, is an archaeological gem. Most of it has been held by that family for the last 150 years and under their farming management, archaeological sites have been unusually well-preserved. Archaeology on the island goes back 40 years. Excavations at the important early site S11/20 (formerly N43/1), were carried out by V Fisher of the Auckland Museum in 1956, 1957 and 1959 (Fisher 1964) and reported in articles by M Nicholls (1963, 1964). Nicholls also undertook test excavations at the site in 1962 to collect information in order to complete her reports. J Davidson (1963) reported some initial survey in the south of the island. Two theoretically significant papers by Shawcross (1967) and Terrell (1967) appeared following a fairly brief investigation of a late coastal site at Galatea Bay. Subsequently P Matthews (1979) reported on a survey he made in the west-central part of the island.

Since 1987 a dozen or more field trips have been made to the island by various groups organised by G Irwin. One aim was to completely survey the island. In all some 150 sites were recorded, including 20 *pa* for which detailed plans were drawn (Fig.4). Unexpectedly it proved possible to map the former distribution of patches of forest which were cleared in early historic times, which gave the pattern of previous clearance and information on land use.

Substantial area excavations were made in 1989 to a *pa* in Motunau Bay (S11/21) and in the same year S11/20, the early site dug by Fisher, was tested mainly to locate his trenches. The extent of the site was examined by a pattern of test pits and ground conductivity. It seems likely that the current stream that divides the site actually cut through it during prehistory and discharged further along the beach during occupation. In 1992 further area excavation was carried out. Data was recorded by a total station theodolite (EDM) and computer maps of constituents were generated as excavation proceeded (Holdaway and Irwin 1993).

From 1989-94 all of the *pa* were carefully test excavated. These excavations were not intended to provide complete stratigraphic histories of all sites, but rather to provide precise stratigraphic control of fortification events which, collectively, may be of considerable interest. A further seven undefended sites have been tested. So far, the project has produced some 55 radiocarbon dates from 27 archaeological sites. Five of these have been dated in collaboration with the PhD research of M Schmidt of Waikato University. The existing dates provide a context for the next chronological efforts which will be to collect samples for obsidian hydration dating as part of a FORST-funded project in the Centre for Archaeological Research in the Anthropology Department at Auckland (Sheppard *et al* 1996).

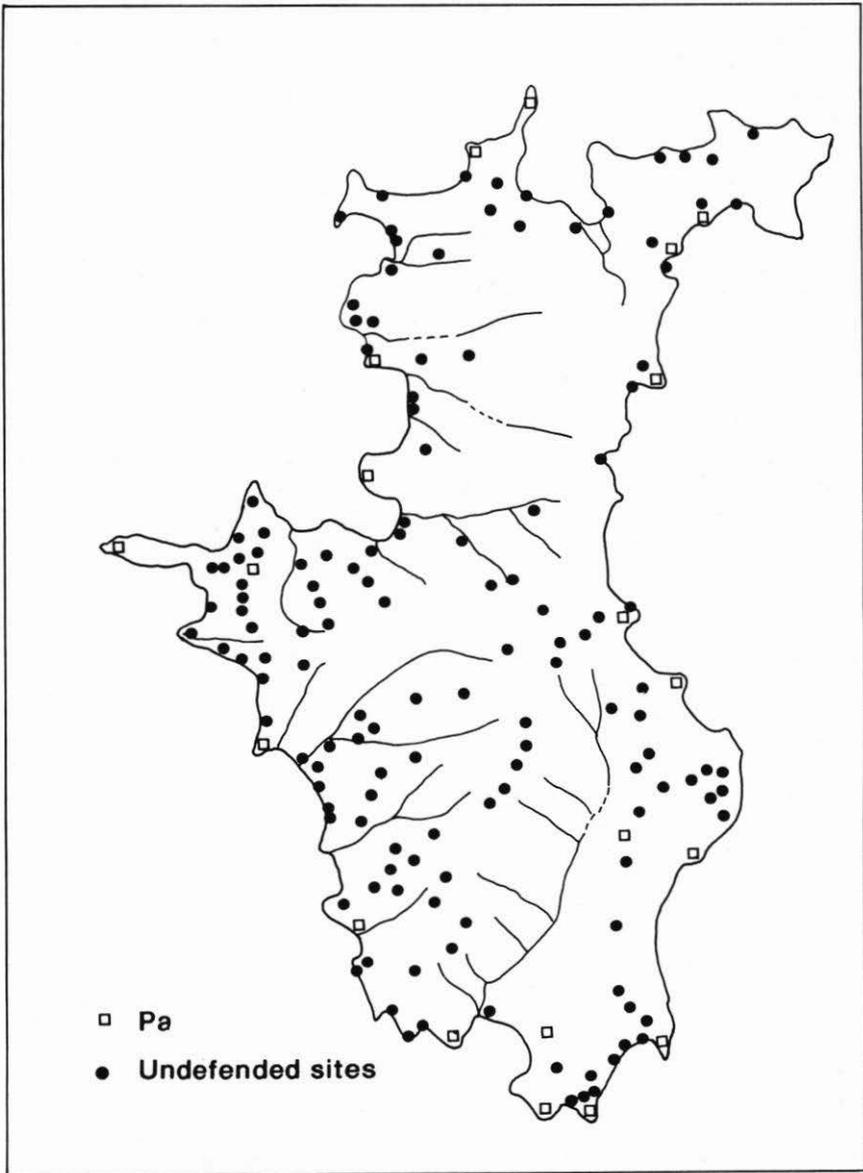


Figure 4. The distribution of recorded sites on Ponui.

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Various analyses of recovered material include charcoal, midden, stone flakes, other artefacts and soils. In addition to materials collected since 1988, we were able to study the Fisher collection housed in Auckland Museum. Included in the material were bones of several extinct bird species and of tuatara. We also found the remains of a (probably) hump-backed whale which had been stranded long before human occupation of S11/20, but provided a source of industrial bone later.

Through time pre-European Ponui emerged as a defended landscape of people who lived, gardened and fished locally and took part in wider interactions. The approach taken in recent work has an explicit strategy of sampling and dating and aims to discern the outlines of a developing social landscape in settlement and subsistence perspective. As such, it will be one more case study for the consideration of such developments in wider NZ prehistory. It will also provide a context for subsequent work in the Hauraki Gulf dealing with different questions of finer scale.

### WAIHEKE

Ponui and Motutapu provide high quality samples of different kinds from inner Hauraki Gulf islands. They both cover the known timespan of regional prehistory. Between them lies larger Waiheke which provides an altogether much rougher sample due to its areas of housing development in the west and partial scrub-cover in the east. Considerable site recording has been done by a number of archaeologists over the years (e.g. Atwell 1975) but quality and coverage is patchy. We have compiled an inventory of archaeological features and W England's (1993) MA thesis research included mapping selected *pa* and examining all sites within a detailed study area in a northwestern part of the island. The general field strategy is that different scales of sampling in these islands will allow a degree of extrapolation across all three.

### PERSONNEL INVOLVED

Field supervision and other involvement has been provided on various occasions by (in alphabetic order) Simon Best, Simon Bickler, Nigel Champion (field computing), Rod Clough, Gaetano Cofini, Simon Holdaway (EDM, obsidian), Geoff Irwin (project co-ordinator), Jill Irwin, Thegn Ladefoged (GIS), Joan Lawrence (illustration), Hamish Macdonald (photography), Caroline Phillips, Geraint Rees-Jones (computing), Brenda Sewell, Peter Sheppard (geophysical survey), Matt Schmidt (C14), Pat Stodart (survey), Mike Taylor (fauna), Marianne Turner (lithics), Rod Wallace (charcoal, laboratory supervision). Numbers of Auckland graduate students have confronted the islands in their coursework and dissertation research. Prominent among these are Martin Jones (obsidian hydration dating); Moira Doherty, Janet Romanes

and Fiona Tarlton (GIS); and Sarah Ross and Stephanie Clout (geophysical prospecting). Apologies to anyone overlooked.

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