

ARCHAEOLOGY IN NEW ZEALAND



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NOTES AND NEWS

New Members

Marisa Bidois, Carole-Lynne Kerrigan, Phil Latham, Tane McManus, Rosie Geary Nichol, Toni-Maree Rowe, Alex Staines, Tauranga Museum, Christopher Wong

Donations (received with thanks)

W. Ambrose, D. Bray, J. Carpenter, S. Mackay, K. Maruyama, N. and K. Prickett

NZAA Council

At the 11 March 2006 meeting of the New Zealand Archaeological Association Council, General Business included the following matters:

1. Upgrade Project

See separate report.

2. Review of subscription rates

The Treasurer had now calculated the average cost of running the Association per member and compared it to the discounted subscription rate in each of our recognised categories. This showed that our current Ordinary, Joint and Student/unwaged/pensioner categories were priced below the average per member cost. As a result the Treasurer recommended that Council take a motion to the AGM to increase subscription rates

The generosity and good will of those individuals who made donations to the Association was acknowledged.

Moved (Greig/Bain) that the Treasurer prepare a paper to take to the New Zealand Archaeological Association AGM in May recommending the following subscription rates be adopted:

Ordinary member	\$65.00
Student/retired/unwaged member	\$50.00
Joint membership	\$70.00
Institutional membership	\$90.00
Overseas	\$80.00
Subscribers	\$70.00
Agreed.	

3. NZAA/HPT/DoC working party

The next working party meeting is scheduled for 6 April. NZAA is attempting to have a signed transitional agreement in place by the end of March.

4. 2006 conference

Karen reported that planning was going well.

There was to be a Wednesday evening welcome event to which iwi are invited but at this stage there are no arrangements for a powhiri. The AGM is scheduled for Friday lunchtime and on Friday night there will be a dinner and dance. A full day fieldtrip is scheduled for Saturday. Conference will finish lunchtime Sunday.

Pam noted that the Complaints Procedure was due to be taken to the AGM. There had been no feedback so far as a result of its publication in AINZ.

5. Consultants' workshop

Notice of the workshop and a draft Agenda had been widely circulated.

So far 56 people had notified the organisers that they planned to attend, and all were members of the Association.

Summary of NZAA Consulting Archaeologists Workshop

Over the weekend of 25–26 March NZAA Council hosted a workshop in Wellington for consulting archaeologists to discuss ongoing issues of professionalism and accreditation within the professional consulting archaeological community. This was funded by money held by the Institute of New Zealand Archaeologists (INZA). The workshop focused strongly on seeking solutions to much discussed issues.

John Coster opened the weekend with a history of INZA including its inception and goals. He provided a detailed summary of INZA's successes and failures and the reasons for its dissolution. This provided a useful starter for a discussion about the need for a professional body for consulting archaeologists. It was apparent that there was a wide variety of opinions on this issue.

NZAA invited Professor Ian Spellerberg to present information on the Certified Environmental Practitioner (CEnvP) Scheme as a potential model or partner for consulting archaeologists in New Zealand. This scheme is an initiative of the Environmental Institute of Australia and New Zealand to facilitate interaction among environmental professionals, promote environmental knowledge and awareness, and advance ethical and competent environmental

practice. Professor Spellerberg spoke on how the certification process works, the fee structure and the advantages of certification.

A session was provided to allow issues for professional archaeologists to be raised and for possible solutions to be discussed. Unsurprisingly, major issues that were raised included the lack of training opportunities, the problem of grey literature, the issue of standards, contract versus research archaeology, and the public perception of archaeology. A variety of solutions were proposed, including summer schools and the development of professional standards.

The issue of graduates was discussed at length. Perceived major issues included the lack of knowledge about legislation, developing relationships with Maori as well as the lack of experience. It was acknowledged that there is a responsibility on experienced consultants to mentor/train students but that recent graduates need to be realistic about their demands in terms of wages etc.

Rick McGovern-Wilson led a session on behalf of NZHPT in response to a series of issues that had been put to him. This discussion included the role of the NZHPT in terms of maintaining standards under the HPA, focusing particularly around the provision of archaeological reports as a result of mitigation work and how the NZHPT decides who will be given section 17 approval to undertake work. Rick presented a number of recent documents that the NZHPT has produced to assist in the maintenance of professional standards including how to write an archaeological assessment and how to develop a research strategy.

The question "Do we need a professional organization" was put to the group for consideration. Following discussion no clear consensus could be reached. On the surface, this appeared largely to be split between the older practitioners who felt that the community was not large enough to support a professional organization, and the younger members who felt there was a need for some sort of certification system. As a result of this split a Professional Development Cell (PDC) was created to consider possible options or solutions to some of the major issues facing consultants. There was support particularly for developing options for professional development. The volunteers who form this cell are Caroline Phillips, Chris Mallows, Ivan Bruce, Mary O'Keeffe, and Charles Sedgwick, with Meri Low providing administrative support. This group was to report back the NZAA Conference at Waihi Beach.

NZAA Council is in the process of preparing a written proceeding from this workshop which will be distributed to participants. NZAA Council would like to thank all those who gave up their weekend to participate in this discussion and looks forward to hearing the ideas of the PDC.

As an addendum to the above, the PDC did report back at conference with some possible options for professional development, including workshops and regional get-togethers of consultants. A day long workshop at the University of Waikato's Radiocarbon Laboratory was suggested as a potential first workshop and we look forward to the development of this concept. *Emma Brooks*

New Zealand Archaeological Association 2006 conference, Waihi Beach

From Wednesday the 17th until Sunday the 21st of May, 2006, 147 people with a common passion for archaeology descended on the small township of Waihi Beach, 1 hour north of Tauranga. Sources of coffee, beer and food were quickly located, and the conference-goers settled in quickly, quite happy to explain the difference between a vulcanologist and an archaeologist to the occasional bewildered local.

The conference started off with the powhiri at the Westpac Trust Community Centre, which was to be the venue for the papers presented at the conference. The registration evening was held at The Porch Restaurant and Bar, where delicious nibbles were served and consumed, and old friends and colleagues reacquainted.

Thursday started off with papers, with topics including georeferencing, the upgrade scheme, site management, and audio-visual interpretation. There was something to please everyone. In the afternoon, the first field trip was embarked upon. Two busloads of excitable heritage enthusiasts arrived at Kauri Point Reserve, where they discussed site management, the latest gossip, and the pa site visible there. Then the buses were loaded up again, and without leaving anyone behind (we think), travelled on to Koutunui Reserve, and finished off with a visit to Te Kura A Maia, at Bowentown Heads. The terracing and the panoramic view of this pa site satisfied even the most hard-to-please field-trippers; some enjoyed scrambling up and down terraces with the agility of mountain-goats.

Friday's schedule was packed. The morning sessions included topics such as geophysical investigations, a spar station, rock art, the kaitiakitanga of cultural sites, and the Professional Development Cell. During the extended lunch break, the AGM was held, and the new NZAA council members announced. In the afternoon, presentation topics included prehistoric fishing, the Pegasus Bay development, Fiordland gold mines, the Wellington Inner City Bypass, the Southland Coastal Heritage Inventory Project, and the soon-to-be published Fieldguide to New Zealand Archaeology. Later that night, after the fatigue of sitting still and paying attention all day, everyone relished

kicking their heels up at the Conference Dinner at the Chambers Restaurant, Waihi. The food was ample and the dance floor was soon laden with people letting their hair down and throwing it around. Those with concerns for personal safety found quieter areas and philosophised and gossiped over dessert and wine, recording antics for posterity on their digital cameras.

On Saturday morning, the revellers (some with the aid of strong coffee) of the previous night once again loaded onto buses, this time for a whole day field-trip looking at the archaeology of Coromandel gold mining. There were oohs and aahs over the expanse of the current-day Martha open cast mine at Waihi, while the on-site Museum at the Victoria battery site brought to life the realities of a 24/7 operation (and made us glad to be archaeologists). However, walking the Woodstock-Talisman-Crown tramway loop was really the highlight of the day. Neville Ritchie's rich commentaries interspersed with walking through the eerie tunnels in darkness made for a good mix of learning, jocularity and team-bonding.

Sunday had papers on varied topics including Island archaeology, tenure review, bracken fern root, the Solomon Islands, mystery islands, and South Pacific settlement. The conference closed with the poroporoaki and a BBO lunch. All in all, those that attended this year's conference in Waihi Beach left with enriched minds and contented bellies. Special thanks to the organisers.

Tiffany James-Lee

Abstracts of paper presented at the 2006 conference

Some recent geophysical survey results from New Zealand and Australia Hans-Dieter Bader, Geometria Ltd

During the last year a number of geophysical archaeological surveys were undertaken in New Zealand and Australia. A number of different sites reveal common archaeological features that can be distinguished by geophysical methods. Geomorphology and previous archaeological knowledge are important elements of any interpretation. There are some differences between survey data from Europe and New Zealand/Australia relating both to the difference in site types as well as physics.

A case is made to use geophysical surveys to expand physical interpretations of archaeological sites beyond the interpretation of surface features.

No man's land?: Browne's Mahurangi spar station (1832–36) Robert Brassey, Auckland Regional Council

Browne's spar station in the Mahurangi Harbour north of Auckland was the first European settlement in the Auckland Region. Although the station was in use for less than five years, between 1832–36, it had an event-ful history and was the focus of considerable interaction between Maori and Pakeha. The historical and archaeological significance of this exceptionally well-preserved site is discussed, along with issues associated with its preservation/protection and interpretation.

Motukawanui Island—exploring the management of island archaeology Sally Burgess, Department of Conservation

Many of New Zealand's best preserved archaeological sites and heritage landscapes are situated on off shore islands; these places bring a particular richness to New Zealand's material culture. These unique landscapes also introduce a different set of parameters to the management of archaeology. In this paper I will utilise the example of Motukawanui Island to explore the cultural significance of the island, as well as the potential challenges and rewards of managing an island archaeological landscape. Motukawanui is part of the Cavalli Island group of Northland and is managed by the Department of Conservation as a Recreational Reserve. The past, present and future of the management of the island will be explored and questioned within the context of heritage conservation management.

Gathering bracken fern rhizomes: a yield for effort study Mike Burtenshaw and Graham Harris

As Janet Davidson has shown, fern rhizome was an important carbohydrate food source when Europeans arrived in New Zealand. This section of the presentation gives preliminary results from a yield for effort experiment aimed at exploring the practicalities of gathering fern rhizomes and processing them to their edible stage. It also outlines the wider aims of the project, which will explore unanswered toxicity questions relating to aruhe as a food source

Restricted access, conservation and interpretation: archaeological management in the royal parks of Castelporziano and Windsor Emma Claridge, University College London

This paper presents two case studies where restricted access, conservation and interpretation are important issues in archaeological management. The historical and current situations at both sites are described and analysed with a view to understanding the particular relationship between limited direct public access and preservation on the one hand and the longer term needs of conservation through interpretation on the other. It is concluded that increasing direct public access is not the solution. Rather, the development of a far more comprehensive interpretative virtual environment is needed.

John Coster, Tauranga

The NZAA site recording scheme upgrade project involves a preliminary review of archaeological site records to determine whether or not a field visit is necessary to update existing information. If a site is clearly visible on recent aerial photographs, is on Department of Conservation land or is in a cemetery or urupa, it will not generally be subject to a field check. The Waikato Region upgrade project will use the Waikato Regional Council's Geographic Information System (Geomedia) as a primary tool in the preliminary review of some 8000 recorded sites.

Geomedia provides access to recent aerial photography, topographical mapping, cadastral information, landowner details and recorded archaeological sites. These can be viewed and manipulated as separate or combined layers on a computer screen. The system allows additional layers to be inserted. Comparison of the GIS data with site record forms allows new points or polygons to be created which are more accurately located than points based on the recorded grid references. The new points and polygons are saved automatically as NZ Map Grid coordinates on data files, making an interim upgrade immediately available.

The system has been tested on 385 sites recorded in Hauraki District. Site location was improved in over 60% of cases, including 8% where it could be determined accurately enough to eliminate field checks. Identification of sites on or near the boundary of Conservation land was also clarified.

Data was also transferred manually to the GIS from original aerial photographs used in previous field surveys. This eliminated the need for field checks in another 20% of cases. Allowing for those excluded from field checks for other reasons, it seems that only about half the archaeological sites recorded in Hauraki District will need to be visited in the field.

Early eyewitness accounts of Maori use of fern root Janet Davidson, Ngakuta Bay

Nearly 40 years ago, Kath Shawcross demonstrated the importance of fern root in the northern Maori subsistence economy. Following our identification of a significant "summer gap" when kumara was not available for consumption, I have revisited the early historic sources with particular attention to when and how fern root was gathered, stored, processed and eaten. This has reinforced the importance of fern root, even in winter. It appears that Maori really enjoyed eating it.

Southland Coastal Heritage Inventory Project - Stage II

Rachael Egerton, Department of Conservation; Chris Jacomb, Historic Places Trust; and Richard Walter, Anthropology Department, University of Otago

The Southland Coastal Heritage Inventory Project is being run as a five-way partnership that involves the NZHPT, the Southland Regional Council, DoC, NZAA and iwi. Its aim is to provide baseline data for monitoring the condition of archaeological sites over specific time frames and to assess the effects on the sites of coastal erosion and other influences. The fieldwork has been carried out in two stages, the second part having been completed in April 2006. The results of the fieldwork will be presented along with some preliminary conclusions about the work and the implications for archaeological site management in a national context.

Recent management of Otatara Pa Historic Reserve.

Russell Gibb, Geometria Ltd.; and Pam Bain Department of Conservation

In July 2005 an opening was held at Otatara Pa Historic Reserve, Hawke's Bay, to celebrate the range of work that has been undertaken at this Category 1 site in the last few years. Management of this nationally significant site rests with the Department of Conservation in association with Ngati Parau of Waiohiki Marae. A site of this size and significance with high recreational use has quite specific management requirements. In order to address these a conservation plan, condition report and site map have been completed, along with purchase of additional archaeological features outside the reserve, collation of historical material, development of a new car park, waharoa and interpretation at the entrance. As part of the day to day management of the reserve the palisades have been strengthened, weed control continued and planning is underway to rationalise the fencing. Since the opening in 2005, extensive geophysical investigations have been undertaken to identify and map subsurface features over several large areas of the pa. Results from these surveys add another layer of data which will help inform the next stage of the interpretation and the redevelopment of the track. Preliminary results from the geophysical surveys have identified previously unrecorded features and highlighted areas where more detailed surveying is required.

Update on the upgrade

Karen Greig and Phil Latham, NZAA Upgrade Project

The NZ Archaeological Association is currently undertaking a project to upgrade information about archaeological sites in its site recording scheme. The scheme is the national inventory of archaeological sites and is used for research, resource management and planning purposes. This paper summarizes

the progress of the upgrade project to date. It reviews the development of the information management system, using GIS and web services, to meet project requirements and reports on participation by local authorities and preliminary outcomes of fieldwork in some regions.

We are what we eat—diet and interpretation in New Zealand and Australian 19th Century shore whaling station sites

Tiffany James-Lee, Anthropology Department, Otago University

Diet is an important indicator of cultural and ethnic diversity, and a useful way of interpreting cultural identity. This paper looks at the differences in diet between five shore-based whaling station sites active during the first half of the 19th century in Australasia. Recent research on Australian shore-based whaling stations is used to assist developing hypotheses for testing in New Zealand, and initial observations on the evidence from two recently excavated sites is reported. In particular, the faunal remains from the shore-whaling site at Te Hoe, on the Mahia Peninsula, east coast of the North Island, are examined in detail and used to reconstruct diet, with remains from prehistoric, contact and historic periods. It is hoped that this study will help to define the emergence of a New Zealand Pakeha identity distinctive from its Australian counterpart. These results, interpretations and conclusions form the basis of my soon-to-be submitted MA thesis.

Field guide to New Zealand archaeology Kevin Jones. Department of Conservation

It is surprisingly difficult for a visitor to New Zealand to find good quality information about archaeological sites. This writing project is a contract with Penguin Books. It has a section on New Zealand field archaeology, defining this as Golson does in his 1957 JPS paper, as the study of surface evidence. However, field archaeology has also come to mean excavation and I also cover this for selected sites, putting them in the wider context of the history of New Zealand archaeology. The main body of text is arranged regionally. For each site there is a thumbnail summary of why it is interesting, an account of how to get there, what work has been done there and a description of how to walk around the site and appreciate its features. It is my impression also that access to pre-European archaeological sites has been made more difficult and interpretation less satisfactory than it has ever been, outstanding counter-examples being One Tree Hill and Mangere Mountain. Most but not all sites in the guide are in reserves. I would appreciate seeing any good examples of site brochures.

Audio-visual interpretation of coast defence sites

Chris Keenan, 4D Canvas; and Sarah Macready, Department of Conservation

One of the most effective ways of interpreting archaeological and historic sites is through animated 3-dimensional reconstructions. They allow people to visualise the sites as they would have appeared in the past, while the process of creating accurate 3D models helps to focus the efforts of historians, archaeologists and conservationists.

Chris Keenan has recently produced two films incorporating 3D animations: one for the Department of Conservation on the history of North Head from pre-European times, through the coast defence era, to the present day; the other ,with assistance from DOC, for the Motutapu Restoration Trust on the history of Motutapu, focussing on the significant World War II defences. Chris will discuss the process involved in producing the animations and present some of the results

Voyaging and settlement in the south west

Garry Law, Law & Associates

Polynesians had great success in reaching many of the scattered islands in the south west Pacific. The paper will review the incentives for exploring in particular directions and the difficulties in achieving landfalls. There was more limited success in sustaining settlements in all the places reached. The paper will explore possible reasons for this.

Georeferencing: rediscovering the past from an obtuse angle Ian Lawlor, Auckland Regional Council

Recently I had occasion to review a 100 year time sequence of ground level, oblique and vertical aerial photographs of Puketutu Island (Manukau Harbour). The work was completed as part of an assessment of effects of a proposed green waste recycling industry on the historic and cultural resources of the island. It is part of an Environment Court Appeal (ENV A0287/05) in the matter of the Resource Management Act 1991 s121 between Living Earth Limited, and the Auckland Regional and Manukau City Councils. Briefly, LEL have appealed the Councils joint decision to refuse consents to enable this non-complying activity to proceed.

Part of the assessment of effects included a georeferencing exercise to attempt to 'rediscover' the position of old Maori stoneworks and earthworks located within the proposed development area. This presentation examines the practice of georeferencing as a tool for archaeologists to help understand now modified or destroyed heritage landscapes. It briefly examines the technique and describes the results that have help in the assessment of effects

Pluralist functions of red ochre in Maori culture

Yann-Pierre Montelle, School of Sociology and Anthropology, Canterbury University

"It was during these stay-overs that they drew, using charcoal from their fires and red ochre or haematite. (This latter pigment does not occur naturally in most rock art areas and must have been brought in deliberately)" (Beverly McCulloch).

In the last decade, geochemical methods of provenancing red ochres have made noticeable progress. Lab analysis, using particle induced x-ray emission, and data analysis, using principal components analysis, are in the process of becoming standardised methodologies to source red ochres. This introductory paper will briefly discuss the pluralistic functions of red ochre in Maori culture, with an emphasis on red ochres used in South Island Maori rock art. After a short introduction to two specific rock art sites, the question of field, lab and analytical methodologies will be discussed. It will be shown that sourcing samples of red ochres and characterizing samples of hematite-based rock art motifs can result in archaeological reconstructions of prehistoric patterns of resource use, trade and travel. As a concluding thought, a potential correlation schema between red ochre diffusion and rock art motif recurrences will be presented.

Mystery islands: a New Zealand perspective Sreymony Muth, Anthropology Department, Otago University

The mystery islands refer to a number of Polynesian islands which were inhabited in early prehistory and later abandoned. Several of these islands are in New Zealand waters including the Kermadec and the Auckland islands. Various models have been proposed to explain their abandonment. Some models focus on environmental degradation, others on declining voyaging networks and changing relationships between smaller and larger population centers (the satellite – mother island model). Although the West Coast of the South Island is not strictly a mystery island, some of the proposed models of mystery island abandonment may also assist in understanding prehistoric West Coast settlement and population decline. These ideas are reviewed in this paper

The shifting place of Ngai Tahu rock art Gerard O'Regan, Ngai Tahu Maori Rock Art Trust

Recent landscape approaches in rock art research emphasize the significance of the pictures being located *in place*. Having being first lifted from the landscape in archaeological records, some motifs in southern Maori rock

art now have quite extensive re-use histories triggering questions of misappropriation, cultural re-use and authenticity. Within this, the reconnection of Ngai Tahu with its rock art heritage has seen the location of the art within the tribe shift from the landscape. This shift will be tracked through case studies of the re-use of some well known motifs before exploring what it means to the Ngai Tahu Maori Rock Art Trust as it engages in the upgrade of visitor facilities at the Takiroa and Maerewhenua rock art sites

The Preservation Inlet gold mines, Fiordland National Park Peter Petchey, Dunedin

In October 2004 Peter Petchey and Rachael Egerton surveyed the sites of the Morning Star, Golden Site and Alpha mines for the Department of Conservation. All three mines are located to the south of Preservation Inlet, in Fiordland, at the far south west corner of the South Island. These three mines all commenced operation in the 1890s, and their operation supported two townships, Cromarty and Te Oneroa, on the shore of Preservation Inlet. The Morning Star was the most successful of the three mines, and the last to close, ceasing operations in 1913.

Today there is little visible left of either Cromarty or Te Oneroa, but there is still considerable archeological evidence of the three mines. The Morning Star Mine was located close to the shore of the inlet, and so most heavy machinery was removed after closure. But the Golden Site and Alpha mines were further inland, and most machinery was abandoned on site, and remains there today. This paper examines this archeological evidence.

Findings of the Professional Development Cell Caroline Phillips, Auckland

In March NZAA held a workshop in Wellington for consulting archaeologists to debate issues relating to professional development and the future role of NZAA in relation to consultancy. A consensus was reached that a series of Professional development workshops would benefit our community. Consequently, a steering committee was created called the Professional Development Cell comprised of Caroline Phillips, Meri Low, Mary O'Keeffe, Ivan Bruce, Charles Sedgwick, and Chris Mallows. The purpose of the PDC was to investigate the "best way forward." This paper will present the findings of a questionnaire sent out to professional and consulting archaeologists

Kaitiakitanga of cultural sites

Roy Piahana, Te Runanga a Iwi o Ngati Tamatera

Te Runanga a Iwi o Ngati Tamatera manage heritage issues relating to the archaeological sites within our rohe. We wish to talk about the management of these places; kaitiakitanga or guardianship of our cultural sites; identification of waahi tapu and how do we know the site is waahi tapu; what procedures are in place to manage or protect these sites; and working with archaeologists, Historic Places Trust staff and councils.

Tenure review in Otago: the role of the DoC archaeologist in the tenure review process

Matt Schmidt, Department of Conservation

This presentation illustrates the role the Otago DoC Conservancy archaeologist has in tenure review. Tenure review is a procedure through which a pastoral lessee enters into a voluntary process where the lessee and the Crown negotiate how much of a pastoral lease can be free-holded to the farmer, and what land becomes fully Crown owned. Part of this process involves specialists in botany, entomology, landscape values, archaeology, etc., surveying the pastoral lease and recording evidence particular to their discipline so judgements can be made on what areas of land are significant and hence should be retained by the Crown. For the Otago Conservancy archaeological, field and historic literature evidence relating to early pastoralism, gold-mining and Maori activity on the lease is gathered, reported on and then recommendations made on the future management of archaeological/historic sites on the lease using a set of SIVs (significant inherent values). Proposed management may range from archaeological sites receiving no special protection other than by the Historic Places Act (1993), to proposing protection covenants on freehold land containing sites, or for highly significant sites to be protected by creating or extending a Historic Reserve

Bilua Bifoa: current research on Vella Lavella, Western Solomon Islands Richard Walter, Anthropology Department, University of Otago; and Peter Sheppard, Anthropology Department, University of Auckland

Staff and students from the Anthropology Departments at the University of Auckland and the University of Otago have been working in the Western Province of the Solomon Islands for the last 10 years. The first stage of the project focussed on the Roviana Lagoon region and looked at the archaeology of head-hunting, and the development of the Roviana Chiefdom. The Vella Lavella research builds from this and extends our work on the development of late period socio-political systems into the non-Austronesian

part of the Western Solomons. In this paper we review our recent fieldwork and discuss some of the ways in which we have been trying to make sense of a difficult and often confusing archaeological record.

How big are pa?

Tony Walton, Department of Conservation

There are now a number of samples providing data on the size frequency of pa. The available data is of variable precision and the samples range from a small to a large proportion of the known sites in an area but they are telling a consistent story, with possible minor regional variations.

Wellington Inner City Bypass section 12 investigations Katharine Watson, Canterbury

This paper presents some very preliminary results from the Section 12 investigations undertaken during the Wellington Inner City Bypass. To date, only the field investigations have been completed and work is continuing on the artefact analysis and the historical research. This paper discusses each of the sections in the Bypass on which monitoring was undertaken, presenting the history (as it is currently understood) and discussing the archaeological remains found. In most cases this consisted of brick fireplace foundations, drains and foundation piles. There were, however, some sections that stood out for the wealth and nature of the archaeological material that was recovered, including the remains of a factory

Prehistoric Māori fishing at Tauroa Point, Northland, New Zealand Victoria Wichman, Anthropology Department, Auckland University

Several archaeological studies have been examined with regard to New Zealand prehistory, yet few of these studies have early time sequences combined with significant temporal depth. And, although there are many archaeological studies in New Zealand based on prehistoric Māori fishing practices, there are few within the Far North region of the North Island. Tauroa Point, located within the Far North District, is an interesting example of an early prehistoric Māori fishing camp (A.D. 1220–1390) combined with evidence for a late period in New Zealand (post-A.D. 1650) and therefore demonstrates a significant time sequence.

Three fish bone assemblages, from two different Tauroa Point excavations (1992 and 2003), were analysed in order to understand whether patterns of change could be identified through time within an area that is represented by a significant time sequence. Several variables were measured such as taxonomic abundance and richness. These measures were quantified by identify-

ing the fish bone assemblages by the number of identified specimens using the five paired diagnostic jaw bones, or jawNISP. Fish taxa were also evaluated by assessing diet and habitat preferences as an aid in understanding fishing technologies.

This study contributes to unresolved regional issues, particularly in the context of faunal analysis, as well as broadening our knowledge of Māori settlement and subsistence practices evidenced within early and late periods in the Far North region of New Zealand.

The meaning of middens: Pegasus Town, North Canterbury Dan Witter, Canterbury

Development is now underway for Pegasus Town, a large scale planned town for about 5000 people in a 4 by 3 km area 15 km north of Christchurch. It is just south of Kaiapoi Pa and contains, in a conservation area, the Hohoupounamu greenstone working site. A mitigation program is currently underway by Witter Archaeology.

The town has a belt of sand dunes running through it, containing a large number of shell middens recorded by Chris Jacomb in the late 1990s. These dunes have been planted in pines which are being cleared and logged in the initial stages of development. The archaeological work is concurrent with the developmental process. As sites are exposed by ground disturbance they are tested and ones with high excavation potential are salvaged.

Prior to the mitigation program it appeared that all of the sites in the dune area apart from the Hohoupounamu site were day-camp cooking places with an absence of artefacts or animal bone. They looked to be places where estuarine shell fish had been transported 2 or 3 km for consumption, probably to supplement other food such as bracken rhizome. Similar middens are known throughout an 11 km inner dune belt between the Waimakariri and Ashley Rivers, and date back to 500 years ago.

Archaeological work began in October 2005 following a detailed research strategy submitted to HPT for the Authority. Preliminary excavation results are now available for 1000 by 500 m area in the sand dunes. Midden and oven sites were found as three groups within this area. These groups show differences in contents and spatial pattern from each other due to different strategies of shell fish harvesting, cooking technology and disposal systems

NZAA President's report

The past year has been a busy one for the NZAA council supported by a dedicated group of members who undertake a variety of roles on behalf of the Association.

The Upgrade Project remained a major focus of the Association's activity through the year and its progress will be reported separately. Work has also continued on the joint DoC/NZHPT/NZAA Working Party on the site recording scheme. Garry Law will be reporting on progress within the general business section of this AGM.

The NZAA Council prepared submissions or provided input to several planning issues during the past year including: The Sustainable Development Plan for the Kororipo-Kerikeri Basin, the Environment Bay of Plenty Regional Policy Statement appeals process, a proposed variation to the Waipa District Plan and the Ocean Beach Planning Charette process. In addition council has also made comment on the high-country land tenure review process in Canterbury. Council recently appointed Cathy Barr to the role of co-coordinating submissions on planning matters. Members who have an interest in local heritage issues can make contact with Cathy to discuss the preparation of submissions.

The council has responded to issues raised relating to professional development and support of members who are practicing as consultant archaeologists. This has included the development of a series of resource documents for consultants available via the NZAA website, and the continued operation of the consultant's directory. In March a weekend workshop was held in Wellington, which was attended by 56 NZAA members. The professional development cell, which Caroline Phillips reported on prior to this meeting, arose from the workshop. The workshop was made possible by utilising funds bequeathed to NZAA by the former Institute of New Zealand Archaeology.

The past twelve months have also been marked by the deaths of four longstanding members of the Association. The contributions made by John Yaldwyn, Mary Jeal, Lady Aileen Fox and Beverley McCulloch were immeasurable, and they will all be sadly missed.

This AGM marks the end of my term as President of the Association. The experience can best be described as having been a personal challenge. I offer my sincere thanks to the great council team and NZAA members that kept me on track.

Lynda Walter

Publications Manager's report

Sales of monograph titles are intermittent, and we need new titles to keep the money flowing in, and to keep our customers interested. Change Through Time continues to sell well, both to students in New Zealand and, as reviews are published, orders are coming in from overseas. It has been a good opportunity to get awareness of New Zealand archaeology into university libraries in the UK and US.

Financially the publications account is still in a healthy state. However publications are also subsidising the production of AINZ each year. Without having sales of new titles to boost the account balance, AINZ will soon start to be a drain on the profitability of publications.

Through NZAA publications we can produce monographs of limited print run at a reasonable price. However, we need new manuscripts. Please consider the monograph series if you are preparing a large manuscript on any subject, and talk to Simon and myself if you want any advice on suitability. Louise Furey

New Zealand Journal of Archaeology Editor's report

Volume 26 was published in December 2005, following delays in typesetting, and then another long delay while the University of Otago Printing Department underwent a review. Volume 26 contained five papers and totalled 128 pages.

Copy editing and typesetting of Volume 27 are well in hand. It will contain six papers and should be out within the next few months. Several papers are currently with referees and will be scheduled for Volume 28 if accepted. Prompt publication of Volume 28 depends on the actual submission of several promised papers and/or new submissions.

The rate of submission of papers is still too low. Although more archaeology is being done now that when the Journal was launched nearly 30 years ago, submission of papers has not increased accordingly. It is understandable that people want to publish in prestigious international journals. But recently papers on New Zealand archaeology that would have been very suitable for NZJA have also appeared in other regional journals. It can be argued that other journals publish more promptly, but it is important to remember that NZJA fell behind schedule mainly because not enough papers were being submitted. This led to a vicious cycle. Lack of papers led to delays, which were in turn used as justification for non-submission of papers. Our journal will not survive indefinitely if our own members do not support it.

Although circulation is always a worry, in the past year new subscriptions have probably almost balanced loss of older ones. But there is still need for more new subscriptions, particularly from younger individuals.

It is not easy to continue producing a refereed professional journal entirely on the goodwill of volunteers. I thank the referees, the typesetters, the business managers and those who continue to support the Journal by contributing papers.

Janet Davidson

NZAA Site Recording Scheme File Coordinator's Report Search Fee Increase

NZAA Council has made the decision to increase the standard NZAA site record search fee from \$25.00 to \$50.00. The administration costs of maintaining the file are not being covered at present and the search fee has not been increased for some years.

SOP for File keepers

With the large number of new file keepers over the last couple of years, it has been suggested that the development of "standard operating procedures" would be helpful. This document will cover the basics of operating a district file and is being drafted by Pam Bain.

File keepers

Over the past year Beverly Parlsow took over as file keeper for the Auckland file, with assistance from Greg Walter. The Auckland and Northland files have been audited in the last 6 months as part of the Upgrade Project.

Neville Ritchie is now the file keeper for both Hauraki-Coromandel and the Waikato files, with administrative assistance from Meri Lowe. The administration support is a short-term arrangement as part of the upgrade project and there is a need to consider what assistance can be provided to file keepers in the future for the operation of some of the larger files. The three largest files (Northland, Auckland and Bay of Plenty) hold nearly half of the records.

Amos Kamo was appointed the Canterbury file keeper and the files continue to be housed in the Historic Places Trust office in Christchurch

Records

Central Filekeeper, Tony Walton, has advised that on 31 March 2006 the Central File held a total of 58,514 records. This is an increase of 1137 on last year's figure and represents an increase of about 2%. The district files

with the highest levels of new records were Northland and Auckland. The largest percentage increases were in Offshore Islands (6.7%), Taranaki (5.2%), and Hauraki-Coromandel (2.9%). Regional totals are as follows:

Region	2005	2006	Change
Northland	10774	11017	+ 243
Auckland	9314	9488	+ 174
Hauraki-Coromandel	4330	4454	+ 124
Waikato	3755	3835	+80
Bay of Plenty	8325	8438	+ 113
Taupo	457	457	
East Coast	2918	2929	+ 11
Taranaki	1584	1667	+ 83
Inland Patea	305	308	+ 3
Hawkes Bay	2014	2045	+ 31
Wanganui	925	935	+ 10
Wellington	1127	1146	+ 19
Nelson	1655	1657	+ 2
Marlborough	595	611	+ 16
Canterbury	1310	1310	
West Coast	914	917	+ 3
Otago	2660	2734	+ 74
Central Otago	2117	2213	+ 96
Southland	1467	1466	- 1
Outlying Islands	831	887	+ 56
Summary			
North Island Files	45828	46719	+ 891
South Island Files	10718	10908	+ 190
Outlying Islands	831	887	+ 56
	57377	58514	+1137

Rachel Darmody

Archaeology in New Zealand Editor's report

Our members continues to send in some excellent papers for publication in AINZ and the Notes and News/Fieldwork stalwarts continue to deliver four times a year. This year's June issue has papers on Tauroa Point in Northland, the Waihou River on the Hauraki Plains, Waiu Pa on the Volcanic Plateau and Katiki Beach in North Otago, covering the length of the country in one issue, and some interesting papers are already promised for September. Please don't forget that anyone can contribute to the Notes and News and Fieldwork sections—this is the Association's forum for keeping up to date with what other members are doing.

I repeat my statement from last year's report, urging our members to use AINZ to publish the results of small scale mitigation excavations that might otherwise be as good as lost in the grey literature. Alongside the Notes and News/Fieldwork sections of *AINZ*, I see this as the journal's most important function. I believe that if we don't put the results of our work in the public arena we will find it increasingly hard to justify our existence in the hard-nosed world of commerce and politics. What we do is both interesting and relevant to the New Zealand public, but only if they know about it. *AINZ* is a vital forum for this.

AINZ is now prepared using Adobe InDesign CS2 page layout software, which is a considerable improvement on the previous software both in functionality and ease of use. The Notes for Contributors in the back cover of AINZ has now been changed to reflect this.

Volume 47 Number 4, the 50th Jubilee issue Digging into History, continues to sell well, only one box is left, which is a very pleasing outcome. *Matthew Campbell*

Webmaster's report

The visitor totals to nzarchaeology.org for the calendar year were:

	2005	2004	2003	2002
Hits	1,085,022	720,020	504,609	250,440
Pages	221,341	135,436	107,170	74,030
Visits	129,298	88,996	62,264	43,394

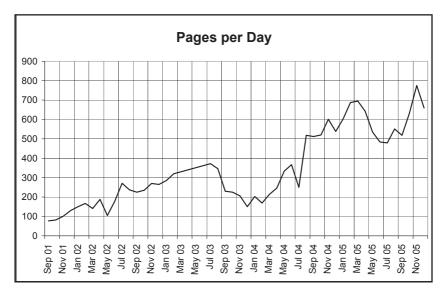
The growth has been considerable and sustained from the previous years.

The number of pages per visitor continues to be low and fairly steady (it is a measure of how many of our visitors find the site interesting enough to surf around in).

There are 336 subscribers to the email newsletter which appears about twice monthly.

The jobs/digs wanted guestbooks are attracting posts. Jobs/digs offerers are much more scarce. The homepage is the most common entry page followed by the conference page. The Kevin Jones electronic publication on aerial photography gets a lot of hits, probably from search engine links on place names in the article. Further statistics are available at http://www.nzarchaeology.org/reports/webmaster05.pdf

Garry Law



NZAA Site Recording Scheme Upgrade Project Coordinator's report

The second year of the three year funding period for the Upgrade Project provided by funding from the Ministry for Culture and Heritage has been a period of intense activity, which has resulted in the project now being active across every region of the country.

Sixty-seven of the 86 local authorities have now either completed, or are committed to completing, upgrade project work. Eight councils have declined to participate and a further ten have simply chosen to ignore correspondence and repeated attempts at contact.

NZAA is continuing to work with the Department of Conservation to encourage the department to begin the process of updating information about sites they administer. Discussions have largely revolved around the form and method of data transfer between the department and the NZAA. Hopefully the near future will see actual data begin to flow through to the project. At present the Department's proposed date for completion of the project is still June 2010, as has been noted previously this is three years after the end of Ministry for Culture and Heritage funding for the national project.

A major focus of the last twelve months has been the commissioning and establishment of the Upgrade Project Information Management System. The web form and map service now available to assist in the completion of the project have been demonstrated and reported on this morning by Karen Greig.

Over the last year fieldwork has been undertaken in numerous districts, ranging from Whangarei in the north to Invercargill City in the south. The presentation made by Phil Latham this morning illustrated the diversity of the sites and landscapes being visited in the course of the project work.

The Upgrade Project is made possible by a small very hardworking team. Although these roles are funded through the project, all the individuals involved put in effort and hours well beyond what they are paid for, which reflects their dedication to the task. Their contribution is greatly appreciated.

Lynda Walter

Project Manager

Telephone tollfree 0508 272 423

Atholl Anderson CNZM

Atholl Anderson was made a Companion of the New Zealand Order of Merit in the New Year Honours list in 2006, following in the footsteps of Foss Leach, who received the same award a year previously. The citation, for services to archaeology and anthropology, recognises Atholl's Ngai Tahu heritage, his former position as Professor of Anthropology at the University of Otago, and his direction of a major project on the prehistoric colonisation of the Pacific islands in his present position as Professor of Prehistory the Australian National University in Canberra. Among



his many publications are his books: When All the Moa Ovens Grew Cold, Te Puoho's Last Raid, Prodigious Birds, and The Welcome of Strangers. Atholl is described as a resident of Picton and Canberra. There can be few small communities in the Marlborough Sounds that can boast, as Ngakuta Bay can, of two holders of CNZM among their ratepayers.

Groube Fieldwork Award 2006 recipient: Anne Leahy

NZAA Council have great pleasure in announcing that Anne Leahy is the 2005-2006 recipient of the Groube Fieldwork Award for an outstanding contribution to field work in New Zealand archaeology.

Support statement (contributions from J Davidson, K Jones and B Sewell).

Anne was originally a school dental nurse, but she had given that up before she went to university as a mature student, in the late 50s. She went to teacher training college after she had finished her first degree. She endured some years at Tamaki Intermediate as a teacher and then joined the education staff at the Auckland Museum in about 1970, remaining there till she retired at the end of 1977. It was after she retired that she and Wendy Walsh did most of their big site surveys, although they had started working together in Northland by 1976.

Her first dig was Pig Bay in 1959. Janet Davidson met her at Sarah's Gully in January 1960, which was also when she met Trevor Hosking. She was at the first Mt Wellington dig briefly and at Kauri Point. Anne, Molly Nicholls and Janet Davidson began site recording together about 1960 surveying sites just north of Auckland and organised the first Motutapu and Motuihe surveys. Anne and Janet did some survey work on Ponui when Molly was digging there. They paid their first visit to the far north in November 1963. In 1964 Anne and Molly went to the Poor Knights. Anne and Janet surveyed Tupou Bay in 1965.

In those days it was all voluntary, no payment or expenses. It would be hard to say who was in charge of any of it, although Anne was the oldest of the three and the only one with a car. Molly met Henning in Samoa, married and went back to Samoa with him in 1966 ending Molly's participation. Janet started at the Auckland Museum and Anne worked with her on nearly all her fieldwork - on Motutapu and in the far north particularly. She was a vital part of that

In the heyday of the field operations of the Auckland University Archaeological Society in the early 1960's Anne was a consistent participant in excavations and was a leader in the site recording days the society undertook, introducing new members to site recording techniques.

While Whakamoenga was officially Trevor Hosking's dig, it was written up for publication by Anne. The excavations at Motutapu (1967-68, 1970-1971, 1972), Hot Water Beach (1969), and Haratua's pa were hers alone. They were all published.

Anne also wrote up the Gorbey Poor Hill excavation and the Golson Taylor's Hill excavation and published them.

She and Wendy did a huge amount of site recording in the Trust sponsored work, in the early 1980's in Northland, East Cape and eastern Bay of Plenty. They endured hardships that many these days would not entertain. On the East Cape survey they often slept on the floor of sheds or if they were lucky in shearer's quarters. They were often distant from any shops so their meals were simple and often they relied on farmers in the back blocks to help them out. There are still reports of local community's appreciation of "the two middle aged ladies who came down from the hill". Despite this Anne's field books are an example to all of us of just how field notes should be written up. They have been archived in Auckland Musuem. Her reports on the surveys of the Bay of Islands and eastern Bay of Plenty were good examples of their kind. The people who have been doing the Site Record Upgrade Project have appreciated all her meticulous work and have been most impressed at its quality.

Anne was a sterling contributor to the site recording scheme virtually from its beginning - on many maps north of Auckland and on the East Cape the first records would have been submitted by Anne. She has probably submitted more site records to the scheme than any other individual.

In summary:

- A very valuable initial site recording contribution in early 1960s.
- A staunch contribution to Janet Davidson's projects during the latter 1960s and throughout the 1970s.
- Excavations at Motutapu -N38/30, N38/140, and Hot Water Beach as her own projects.
- The major site recording work with Wendy Walsh in the latter 1970s and early 1980s under the HPT's schemes
- Haratua'a pa excavation in the Pouerua project.

Obituary

Mary Jeal, 1931-2005

Ellis Mary Jeal, nee Munro, who died on the 24 of August 2005 in Coromandel, made a significant contribution to New Zealand archaeology through her work in Hawke's Bay: as the New Zealand Archaeological Association file keeper from 1975 to 1990; as recorder of many archaeological sites; as mentor of young and enthusiastic archaeologists; and as a Councilor and President of the New Zealand Archaeological Association.

As Dr Mark Allen recalls:

Mary was a key factor in my decision. She was very enthusiastic and supportive of this dubious American coming down to [Hawke's Bay] to study pa (which was in complete contrast to the gate-keeping behaviour of the odd Auckland academic) ... I felt like I had a place where I was welcome. I was also impressed by the surveys that she and Lady Fox had completed—they demonstrated that my proposed plan of work could be completed with a small crew. I also knew that there would indeed be clusters of sites and some significant "central place" sites with a settlement hierarchy. Thanks to their work, I was pretty confident that chiefdoms or other forms of polities could be delineated (Allen 2005 pers. comm.).

Mary was born in Wellington on 1 July 1931 the eldest of six children. Her parents separated when she was thirteen and Mary supported her mother and helped with the younger children. These experiences contributed to her understanding, compassion and the mentoring skills that were such important attributes of her character. She was educated at Wellington East Girls' College, leaving when she was 19 because her schooling had been interrupted when she had contracted the poliomyelitis in about 1944, which was to affect her later life. Mary attended Victoria University for two years as a full-time student studying English and History and competed for the university in fencing.

She did not finish her degree because she joined the Art Department in the Government Printing Office. During the summer holidays while working in the Actuary's Office Mary saw the advertisement for this position and applied for it because she was a competent and dedicated artist, having attended classes on Saturday mornings and Wednesday evenings at the Wellington Technical Institute since she was 14. She was an enthusiastic member of the life drawing class, when she was required to take a folio of her work to the interview at Government Print she took a series of male nudes drawn in the life class. While at Government Print Mary did drawings for schools, leaflets and the School Journal. She claimed her crowning glory was drawing the left hand leaf of the new Police logo! Mary's drawing remained an important part of her life until her death. In 2001 she was runner up in the Norsewear Art Exhibitions. The painting was the back of a nude kneeling on a sofa looking at a small photograph inserted into the painting. A year or two before her death she had an exhibition in the art gallery in Coromandel which was the first time there was a whole exhibition of her work.

Mary married Mick Jeal on 20 October 1955. The following March they moved to Auckland where their three children, Dirk, Kim and Tarn, were born. Soon after Tarn's birth the family shifted to Gisborne. It was here Mary was initiated into New Zealand prehistory by Elizabeth Hines (nee Shaw) who started an archaeology group and ran an excavation on a flat land pa near Young Nicks Head in 1969. Mary and Mick moved their family to Hawke's Bay in 1971.

In 1973 Mary saw in the *NZAA Newsletter* that an excavation was planned in Hawke's Bay. She wrote to Lady Fox asking if she could be of assistance and met her in the summer of 1974. This began a six-year working partnership and firm friendship. The Tiromoana excavation on Bill Shaw's property at Te Awanga involved students from both Otago and Auckland Universities.

Mary and Lady Fox began field work in May 1974 on the property adjacent to Tiromoana pa using information obtained from air photographs, landowners and rapid field surveys carried out by Lady Fox and Mary. This was the beginning of Lady Fox's seasonal return to live at Mary's house and site record with her.

Mary became file keeper for Hawke's Bay in 1975 taking over the duties from Mr. Munro, the Director of the Hawke's Bay Museum. This was the time when numerous archaeological surveys were carried out under the auspices of the New Zealand Historic Places Trust following the passing of the first Historic Places Act in 1975. In the summer of 1975–76 Mary, Sue Menzies, Neville Ritchie and Jenny Cave worked at Waimarama, while Glenys Millyn and David Nevin surveyed in the Waipukurau district. All of this work pushed the site record numbers well above the 50 Mary had inherited as file keeper.

The following summer an NZHPT contract enabled Mary and Lady Fox to record sites including pa and open settlements on the hills behind the Inner Harbour and sites at Wharerangi. In 1977 Mary and Lady Fox explored the northern coastal strip and recorded a number of sites around Arapaoanui, north of Napier. The next year the pair worked in the Fernhill district, in the land between the Ngaruroro and the Tutaekuri Rivers. They recorded Moteo and Oueroa pa and many sites around Lake Rotokare in the hills just west of Taradale. In March 1978 the HPT held a site recording seminar in Hawke's Bay run by Jim McKinley, Aidan Challis and others from Wellington. By then Mary and Lady Fox were the principal site recorders in Hawke's Bay.

Otatara Pa, purchased in 1972 and gazetted as a Historic Reserve in 1973, was administered by a Trust Board, of which Mary was a member. The Board was keen to have signs to interpret the archaeological features for the general public and Lady Fox, in association with Mary, planned them.

1979 was another busy year. In January, during an extremely hot, dry, summer Mary and Lady Fox spent 15 days recording in the rich archaeological landscape around Valley Road, south of Hastings: Ohiti pa and redoubt was one of the "nicest" sites they recorded that season. Mary attended the

Archaeology Section of the Australia and New Zealand Association for the Advancement of Science Congress, and then went on to the Archaeology Committee of the HPT.

From December 1979 to January 1980 five days were spent in the field at Horonui, Waipiropiro and Raukawa, south of Hastings. The weather was poor but 34 sites, including 15 pa, were recorded in this short period. The World Scout Jamboree was held in Hawke's Bay in January 1980. Mary and Lady Fox took one of the courses.

Mary was on the NZAA Council from 1980 until 1988. In 1984 and 1985 she was elected President of the Association and in 1986 and 1987 she was immediate Past President. During that time she and Mick undertook several lengthy site recording surveys at Mahia that were funded by the HPT. Lady Fox returned to live in Britain in June 1983.

Mary continued to record sites throughout Hawke's Bay in her role as file keeper. She was an invaluable member of the community, advising local bodies, forestry companies, landowners and iwi about archaeological matters. She played an important role in the purchase of Heipipi Historic Reserve by the newly formed Department of Conservation and encouraged the people



Mary Jeal at Waipuna Pa, N117/33, 1986.

of Waiohiki Marae to take an active part in the management of Otatara Pa Historic Reserve.

She ran an archaeological group for several years with about 16 enthusiastic members. Monthly meetings were held at Mary's house and weekend field trips were arranged to visit sites of particular interest or with management issues. Mary continued to mentor people and encourage their development. She encouraged Robert Hunter to undertake extensive field surveys of Hawke's Bay, particularly around Cape Kidnappers, the Tuki Tuki River area and the Kaokaoroa range. Robert mapped and photographed several hundred sites over a number of summers, riding his horse and accompanied by his dog.

Mary and Mick retired to Coromandel in 1991 where Mary decided to devote herself to her painting, drawing and writing rather than continue with her archaeological work.

Mary made a considerable contribution to New Zealand archaeology throughout her time as NZAA's Hawke's Bay file keeper. She recorded numerous sites throughout Hawke's Bay and Mahia; educated the community about the importance and significance of our archaeological heritage; helped empower iwi to actively participate in the care and management of their landbased cultural heritage; mentored and encouraged numerous people; was an active member of the national archaeological community; sat on the Council; and was a President of the New Zealand Archaeological Association. She accomplished a great deal for New Zealand's archaeology.

I wish to thank Mick Jeal, Mark Allen, Tony Walton and Kevin Jones for their contributions. Other sources of material were Mary's file book and notes in the NZAA Hawke's Bay file and her article in *A Lot of Spadework to be Done*.

Elizabeth Pisheif