DIGGING STICK SITE, NAMADGI NATIONAL PARK, ACT.

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Further fieldwork has been undertaken at the digging stick site, Namadgi National Park, Australian Capital Territory earlier reported by Argue (1995:38-39). The site is located at 970m altitude near the head of a steep valley on the western flank of Mt Tidbinbilla above the Bendora Dam. The site is defined as the discrete location at the base of a cliff where the digging stick was found. The cliff is about 100m in height, broken by a complex of tiers.

The objective of the ongoing project is to determine the function of the site in the context of Aboriginal occupation of the Australian Alps. The objectives of this stage of the fieldwork program were:

- to examine the stick under a microscope to determine whether it was made with a stone or metal tool,
- to extract two 0.8g samples of wood from the stick: one for AMS dating and one for the identification of the wood species of timber from which it was made; and
- determine if there were any other indications of human occupation at the site.

All proposed tasks were agreed to by the three relevant Aboriginal organisations in the ACT and by the Heritage Council of the ACT. Mr Richard Williams of the Ngunnawal Aboriginal Land Council participated in the initial fieldwork.

Results

The two previously reported cut marks on the stick were examined on site under a WildM5 low magnification stereoscopic microscope. The two cuts are 1.5mm transverse cuts made at a 25° angle. It was not possible to ascertain whether the cuts had been made using a stone or metal tool (Kamminga 2001:4).

Two samples of 0.8g were extracted from the stick. One of these was submitted for dating using Accelerator Mass Spectrometry to the NWG Macintosh Centre for Quaternary Dating. The result is 224 =/-50BP (NZA 10301). This age is calibrated to four possible date ranges within the 95% confidence level. These are:

- 427 BP to 388 BP
- 322 BP to 259BP
- 221 BP to 137 BP
- 29BP to 5 BP

Each of these dates is technically equally likely. However we consider the last set of dates to be improbable - by 1921 Aboriginal people had long since ceased practising a traditional way of life in this region.

The second sample was submitted to CSIRO Forest and Forest Products, Melbourne, for species identification. CSIRO Forest and Forest Products advised that:

'The specimen is consistent with the wood structure of Acacia sp. Leguminosae. The sample exhibits distinct growth rings with a growth pattern which is usually associated with a montane habitat' (CSIRO Forest and Forest Products Job No 420/11/00).

Apart from the digging stick, there are other indications of human occupation at the site. An area of 5m x 2m around where the stick lay appears to have been cleared of cliff rockfall. As well, larger rocks are located at the outer edge of this area, leaving a level space covered in small rock fragments. There are ten stone artefacts located within this space, one piece of ochre and large amounts of charcoal. No other charcoal or artefacts were found anywhere else along the base of the cliff.

Two other apparently cleared areas are located at the base of the cliff. A 2.4m x 1.9m cleared area is located 7 meters from the digging stick site and 4m from this is a smaller cleared area of 1.24m x 0.92m.

Ten stone artefacts, a piece of ochre and large amounts of charcoal were recorded under the overhang where the stick was found. No other charcoal or artefacts were found along the base of the cliff (Argue 1995:38).

Evidence of the procurement of quartzite from the cliff face at the site was recorded in the most recent survey. At least five conchoidal initiation impact marks in a 12cm long vertical series are evident 1.3m above the digging stick site (Kamminga 2001:1).

There are no indications of art, stone engravings, grinding grooves or scarred trees. A soluble white salt was noted efflorescing from shales in the cliff face adjacent to the area where the stick was located. Samples were collected for X-ray diffraction, which revealed that this is starkeyite, a hydrated magnesium sulphate MgSO4.4H2O (Hope 1996:5). It is not known if this is significant.

The possibility of excavating the site to try to elucidate its function through time will be discussed with the Ngunnawal community, Namadgi National Park management, the Heritage Council of the ACT and the Australian Alps Liaison Committee.

Acknowledgements

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References

EVIDENCE FOR EARLY HOLOCENE CHANGE IN THE WHITSUNDAY ISLANDS: A NEW RADIOCARBON DETERMINATION FROM NARA INLET 1

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This report describes a recently obtained radiocarbon determination from the Nara Inlet 1 rockshelter site on Hook Island, off the Central Queensland coast. The new date was obtained in order to more clearly refine changes in stone artefact discard densities within the site as part of a wider technological study, centring on the South Molle Island quarry (see Lamb 1996 & in prep).

The Nara Inlet 1 site initially excavated in 1988, yielded a near basal date of 8150±80, providing evidence of continuous marine occupation throughout the Holocene (Table 1). Analysis of this site by Barker (1991,1996,1999) revealed a relatively low discard of most cultural materials until the late Holocene when discard rates increased along with a range of other quantitative and qualitative changes. The exception to this was stone artefact discard where the pattern was reversed with higher discard rates in the early Holocene and a significant reduction in the late Holocene. Barker (1996) explained this pattern as relating to the greater degree of marine specialisation (apparent in the range and discard densities of marine species) that required a more specialised marine technology made from non-lithic sources.

Further analysis of material from the site indicated that there was a change in discard of stone artefacts in XU 41, Square H50. A similar pattern emerged from Square G50 (which has contiguous stratigraphic layers with H50), whereby a marked change in numbers of artefacts per excavation unit was observed at around 78-83cm in depth. Excavation Unit 41 is in SU III (H50), 12cm below the date of 3990±60 and 13cm above the near basal date of 8150±80. In order to characterise this change, a radiocarbon determination for this level was obtained (Table 1). The refined temporal sequence illuminated a pattern of decreased stone artefact discard in Nara Inlet 1, that began significantly prior to the Late Holocene (contra to Barker 1996). It is now apparent that the greatest stone artefact discard occurred between 8990BP and 7190BP and that the decline in discard begins immediately post 7190BP. Discard densities continue to decline steadily until post 520BP when the pattern is reversed and there is a subsequent increase in discard (Figure 1).

Although it is clear that in Nara Inlet 1 there is a major decline in artefact discard in the late Holocene, what has been demonstrated here is that the decline in the discard of stone artefact material begins much earlier, that is immediately post 7190BP. One of the implications of this pattern is that the differential discard rates may relate to changed conditions of access to the South Molle Island quarry.

Over 90% of all artefactual material came from the South Molle Island Quarry (Barker and Schon 1994). Sometime after 10,000BP South Molle Island was separated from the mainland by rising sea levels, which then stabilised at approximately 6,500BP (Barker 1996). It was during this period of altering landscapes that discard of stone artefacts begins to decline.

The new radiocarbon determination of 7190BP marks the initial decline of stone artefact discard rates in Nara Inlet 1. Sea level data for the region demonstrate a strong correlation between this pattern and rising sea levels. As part of an ongoing research project (Lamb in prep.) the relationship between sea levels and differential access to the South Molle Island Quarry will be

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Table 1 Radiocarbon dates from Nara Inlet 1. Conventional radiocarbon ages were calibrated using CALIB 3.03c computer program (Stuiver and Reimer 1993). Dates on charcoal samples were calibrated using the bi-decimnal atmospheric calibration curve with no laboratory error multiplier. 40 years was subtracted to correct for 14C variations between northern and southern hemispheres. Dates on shells were calibrated using the marine calibration model with a < R value of -5 ±35 (Stuiver and Braziunas 1993). The calibrated ages reported are rounded to the nearest 10 years.