

# Management of Archaeological Resources in Forest Environments: Results of a Survey in North-western Tasmania

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## Abstract

*An archaeological survey of APPM (Burnie) holdings in the Surrey Hills region of inland north-western Tasmania recorded a total of 123 Aboriginal archaeological sites. The results of this survey contribute towards an understanding of the nature of prehistoric Aboriginal occupation of the inland forests and towards development of practical programmes for the management of archaeological heritage resources in such areas.*

## Introduction

Archaeological surveys are an increasingly common preliminary to the commencement of forestry activities in Tasmania. Usually the archaeologist is called in prior to the start of any development such as initial road access construction. The value of having archaeologists present at the early stages of forest harvesting is that, in theory, they are in a position to locate sites as they are exposed, and to suggest management recommendations before damage to the archaeological record of an area is too severe. In reality, however, such surveys are often limited in terms of the recovery of sufficient data upon which objective management recommendations can be made. It is not uncommon for surveys at the initial development stage to yield only one or two sites (Cosgrove 1989; Craib 1990). This is usually an inadequate and unrepresentative sample of both the area to be developed and the archaeological resources that might be present.

The problem is largely one of visibility. The high density of vegetation and ground cover within natural forests makes access and identification of sites quite difficult. Even artefacts which are exposed through harvesting are usually encrusted with mud and dirt and virtually undetectable for some time after exposure. Further, the initial disturbance through roading activities provides some clearance and access for the archaeologist to usually inaccessible areas, but only over a very small percentage of a landform area and then in locations naturally biased towards engineering considerations. It is therefore difficult to confirm whether sites located at the earlier stages of development are representative of the full range of site types and site locations within a landform area.

In subsequent stages of forestry development, with logging, windrowing, clearance and plantation establishment, large areas of newly exposed landscapes, cleared of vegetation, are maintained for some time. This exposes the soils and the artefacts therein to wind and rain which serves to clean and isolate artefacts on the soil surface. The identification of sites is thus easier, though those sites located are likely to have been considerably disturbed.

The dilemma which faces the archaeologist therefore is that while surveys in the initial stages of development have less likelihood of recovery of archaeological materials, the materials they do recover are likely to be less

disturbed and thus of considerable research potential. Surveys at the later stages of development will recover more sites and provide samples from a greater area but the sites recovered are likely to have been extensively disturbed, with a corresponding loss of value for archaeological research.

In this survey, we adopted the approach that a much larger sample of site types, locations, and contents than currently existed for the region was needed if practical assessments of the archaeological resources in forested areas were to be achieved. It was hoped that a balance would be achieved wherein greater site numbers might somewhat compensate for the damage those sites had suffered. The overall result was that site quality was to some extent sacrificed in favour of site quantity. This survey therefore focussed upon the areas of greater surface visibility, such as tracks, roads, log dumps, logged areas, cleared and windrowed areas, and plantations.

The January 1991 survey formed the first stage of a three-year project being undertaken by the Department of Archaeology, La Trobe University, investigating the archaeology of forested areas and the development of procedures for the management of archaeological resources in such areas. This first stage involved an extensive survey for archaeological sites on freehold and leasehold land managed by the company Associated Pulp and Paper Mills (APPM) in the Surrey Hills region of north-western Tasmania (Fig. 1).

The main objectives of the three-year project are:

- to conduct archaeological research in the forests of north-western Tasmania;
- to establish and test a predictive model of archaeological site type/location;
- to re-evaluate the basis for determining the scientific significance of such sites (Murray *et al.* 1990).

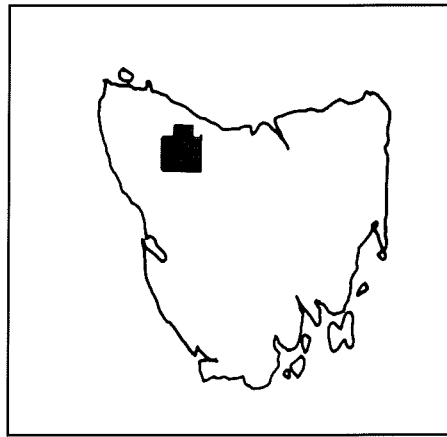


Figure 1. Location of the Surrey Hills region in north-western Tasmania.

Although the project is still in its early stages, preliminary results suggest that these objectives will be achieved.

The results of the first stage survey are reported in detail in Murray and Cosgrove (1991) and Pickering (1991). Additional information will be forthcoming following completion of further stages of the project. A summary of the methods and results of the first survey is provided here.

## Methods

The survey team consisted of two archaeologists, an Aboriginal representative of the Tasmanian Aboriginal Centre (Burnie) and a forester representing APPM (Burnie). Survey procedure consisted mainly of vehicle and on-foot examination of areas of good visibility, with random checks of adjacent areas of natural vegetation to provide some degree of comparative sampling control. While biased towards areas where research and experience had suggested sites would be visible, care was taken to ensure that examples of all terrain and vegetation types likely to have existed prior to development were continuously sampled. Site information was recorded on Tasmanian Department of Parks, Wildlife, and Heritage Site Forms. Later analysis used the data categories contained in these forms.

At the completion of field work, preliminary results were separately presented to, and discussed with, representatives of the Tasmanian Aboriginal Centre (Burnie) and with officers of APPM (Burnie).

## Results

The survey recorded a total of 123 sites consisting of 72 isolated artefacts, 47 artefact scatters, one artefact area (a definition developed in this study to describe locations where artefacts were found too far apart [ $> 25$  m] to be considered an artefact scatter but too close together [ $< 50$  m] to warrant numerous site forms), two possible chert quarries, and one rock shelter with potential for human occupation.

Site location reflects the conditions imposed by terrain and clearance. Most sites (81%) were situated on gentle to moderate slopes and usually within 100 m of a water source (78%). Pre-European vegetation was mainly wet sclerophyll forests. Most sites (72%) had a south-west to north-easterly aspect, placing them on the sunnier slopes. The general altitude of the study area ranged from 250 m in the north to 800 m in the south, with isolated peaks rising above 800 m. Site altitudes ranged between 501 and 750 m, with the majority (92%) occurring between 501 and 650 m.

The types and location of sites may reflect either occupational preference or biases in visibility produced through the practice of maintaining buffer zones of natural vegetation along the larger watercourses. Future archaeological research will investigate these alternatives.

The 123 sites yielded a total of 339 stone artefacts. These were recorded in detail and analysed in terms of size, shape and technological attributes. Locally obtained cherts and quartzes were the most commonly used raw materials.

Artefact densities on sites were generally very low, with 84% of sites having one to three

artefacts. Low artefact densities appear to be a characteristic of sites in Tasmanian forest environments (see Cosgrove 1990). A possible reason for this is that most stone and wooden artefacts were made elsewhere prior to seasonal entry into the forests with a completed tool kit.

Artefact classes identified included unmodified flakes (58%), modified flakes (14%), formal tools (4%), cores (8%), flaked pieces (13%) and manuports (3%). Primary flakes are produced through deliberate controlled striking from a stone core. Unmodified flakes are those which show no visible evidence of use or edge alteration. Modified flakes are those altered through deliberate trimming or heavy use. Formal tools are artefacts which have been deliberately shaped through trimming and/or use to produce distinctively shaped artefacts which recur in Tasmanian archaeological sites. Cores are the blocks of stone from which flakes have been removed. Flaked pieces are blocks from which one or two flakes have been removed but which lack other distinguishing features which would allow positive identification as cores, tools or flakes. Manuports are unmodified stones which are found in a context or place where they could not have arrived through natural processes.

## Discussion

This survey is the first stage of a larger project which will research the prehistory of the Surrey Hills region in some detail. Only generalised and tentative suggestions as to the nature of past Aboriginal use of the region can be made at this stage.

The results of the 1991 survey provide the first hard archaeological evidence to support the idea put forward by earlier researchers (Jones 1974; Cosgrove 1989; Craib 1990) that Aboriginal occupation of the north-western inland region, including the Surrey Hills area, was regular but limited and highly seasonal. This would have seen a small population dispersing widely through the forests of the

plateau, following the natural corridors of the rivers and streams. Occupation of the region was most likely to have been limited to the warmer late summer months when animal resources were most abundant, the climate more hospitable to human occupation, and the forest understorey drier and more suited to controlled burning which aided access and hunting.

Analysis of artefacts suggests that the stone tool kit of the prehistoric Aboriginal occupants of the Surrey Hills region was simple but effective, perfectly suitable for the predominantly cutting and scraping tasks required. The large number and widespread distribution of isolated artefacts and small artefact scatters recorded possibly indicates locations where hunters paused to repair tools and prepare captured game during the day-to-day hunting trips.

The main camps of these small bands of hunters and their families were likely to have been based at the junction of forests with the swamps, marshes and grasslands at the heads of many of the major watercourses. It is at these locations that the largest scatters of artefacts were found.

As well as shedding some light on the nature of prehistoric occupation of an area, studies such as this one also provide data essential for developing strategies for the protection and/or management of a cultural resource that would otherwise be damaged or destroyed. Using the information on site types, site contents and environmental situations, it is possible to begin to develop a generally accurate picture, or predictive model, of where similar sites will occur within a study region. Such models have the

potential to allow both forest and cultural resource managers to determine compatible development and research priorities, for example where surveys will be needed, what site types are likely to be present, how surveys should be carried out, how long they will take, and the likely value of the information to be obtained should a research commitment be considered warranted. This provides for increased efficiency and organisation in both development and research planning, resulting in less cost in terms of both money and time to developers and resource management organisations. The ultimate aim is that many of the requirements of both developers and resource managers can be satisfied while at the same time allowing a very real contribution to be made towards the understanding of Australia's prehistoric heritage.

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### References

- Cosgrove, R. (1989) An Archaeological Survey of Four Forestry Road Lines in the Guildford Area, NW Tasmania, January 1989. A report to Associated Forest Holdings, Burnie, Tasmania.
- Craib, J.L. (1990) An Archaeological Survey of Selected Forest Roads in Northwest Tasmania. A report submitted to Australian Forest Holdings Pty. Ltd. Burnie, Tasmania.
- Jones, R. (1974) Appendix: Tasmanian Tribes. In: *Aboriginal Tribes of Australia* (ed. N.B. Tindale). University of California Press.

- Murray, T. and Cosgrove, R. (1991) *Report of Phase 1 (1990-1991). The Management of Archaeological Resources in Forested Areas*. Department of Archaeology, La Trobe University, Bundoora, Victoria.
- Murray, T., Cosgrove, R. and Warner, A. (1990) The management of archaeological resources in forested areas. *Australian Archaeology* 30: 81-83.
- Pickering, M.P. (1991) *Report on the Archaeological Site Survey of the Surrey Hills Region, North Western Tasmania*. Report prepared as part of the project 'The Management of Archaeological Resources in Forested Areas'. La Trobe University, Bundoora, Victoria.

