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RETURN TO LAKE PUKAKI

Michael Trotter and Beverley McCulloch
Summer Wine Initiatives
Tuahiwi, North Canterbury

In 1998 the Electricity Corporation of New Zealand Limited (ECNZ) made application for resource consent for works associated with increasing the capacity of an existing diversion culvert in the Lake Pukaki hydroelectric dam in inland Canterbury, to increase the rate at which the lake could be lowered in case of emergency. This work was to take place mainly in the river bed below the dam in the general vicinity of where we had recorded an archaeological site, now known as H38/1, in 1969.

In due course the application was referred to the New Zealand Historic Places Trust, and after some discussion it was considered advisable to have an archaeological assessment of:

- the present state and condition of archaeological site H38/1, as no report on it had been made on it since its discovery in 1969, and
- the likelihood of the proposed works adversely affecting any remaining archaeological evidence in this vicinity.

To this end we were commissioned by ECNZ to inspect and report on the site in February 1999. The areas inspected included the site of a proposed coffer dam which was to prevent the river flowing back into the work area, the sources of material to be used for building it, and the accessway between them, and we were shown the position and extent of these locations by ECNZ Environmental Advisor, Mark Breen, and Project Manager, Peter Gray. We acknowledge with thanks the helpful co-operation and assistance of both.

Thirty Years Ago

It was in the summer of 1969, from the 15th to the 22nd of January to be exact, that we carried out a site survey around the area of the Pukaki hydroelectric dam.

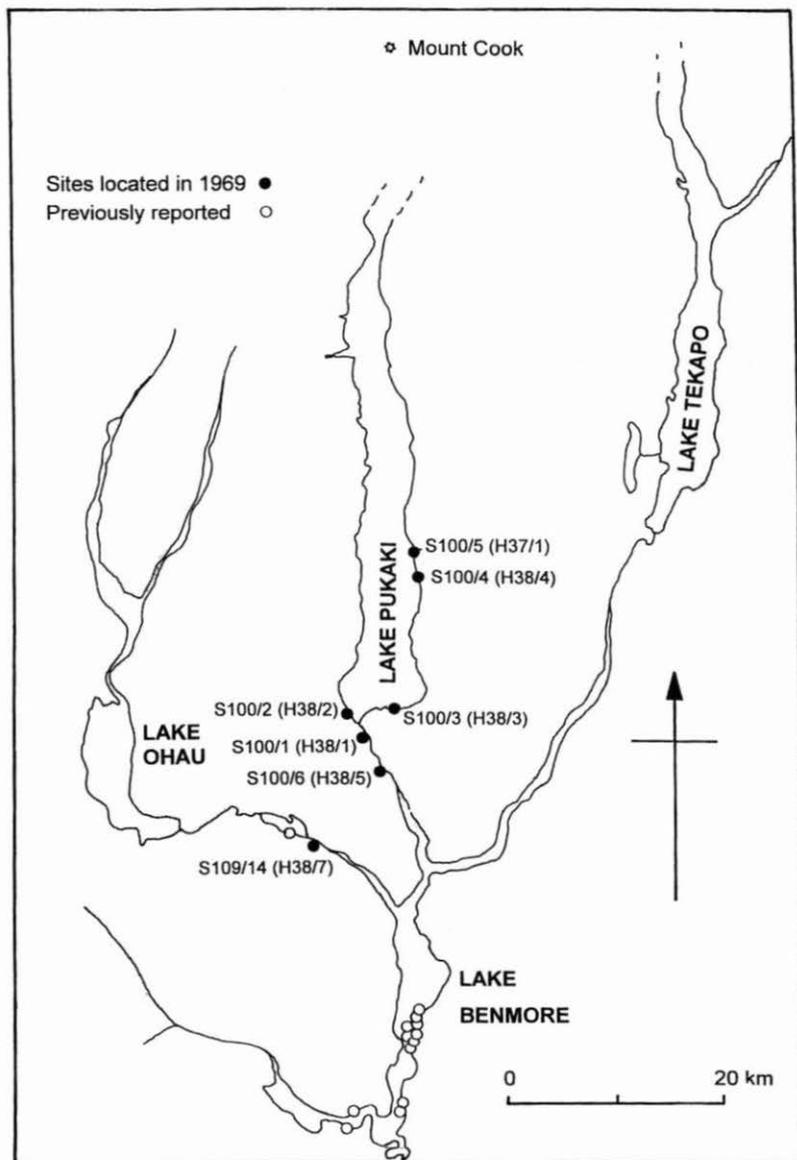


Figure 1. Sketch map of the Lake Pukaki area showing sites recorded before the completion of hydroelectric development in the 1970s (all illustrations after Trotter 1969).

The team comprised volunteers, mostly from the Canterbury Museum Archaeological Society and the North Otago Scientific and Historical Society, under Michael's direction. (We take the opportunity here to acknowledge the debt that Canterbury archaeology owes to the work of volunteers who participated in surveys and excavations at their own cost.) The main object of the survey was to locate archaeological sites in the area around Lakes Pukaki, Twizel and Ohau, particularly any that might be affected by ongoing hydroelectric works and the raising of the lake level.

At this time there was no universal protection for archaeological sites, so it was a matter of obtaining as much information as possible before the sites were damaged or destroyed – legal protection did not come into force until the 1975 Amendment to the *Historic Places Act* and the subsequent revisions of the *Act* itself in 1980 and 1993. Having said that, we must also add that we had the utmost co-operation and assistance from the New Zealand Electricity Department, the Ministry of Works and local residents.

Proposed hydro development works in inland Canterbury and North Otago from the late 1950s to the early 1970s acted as a spur to the systematic recording of archaeological sites in the region. Up until that time most recording had been done on the coast (although a number of inland sites had been noted – see, for example, Stevenson 1947) and as a result very little was known about the prehistoric utilization of the interior. Indeed, one researcher wrote in an international journal on 'The Unimportance of the Inland Plains in South Island Prehistory' (Ambrose 1968), an idea that was more recently echoed by Aidan Challis (1995: 6). Several surveying expeditions were made to the upper Waitaki area, including parts of the valleys of the Pukaki, Tekapo and Ahuriri Rivers which flow into the Waitaki. The best financed and organized of these was the work carried out by Wal Ambrose and Frank Davis during 1958-60 in the area that was to become Lake Benmore (Ambrose and Davis 1958, 1959, 1960; Ambrose 1970), but there were also surveys by the Otago Anthropological Society in February and April 1968, as well as some sporadic work by various workers from Otago and elsewhere, including Graeme Mason in the early 1960s (Mason 1963 and Site Record Forms). Some investigational work was also done in the proposed Lake Aviemore area on the upper Waitaki by Michael in 1965 (Trotter 1970a). (And to complete the coverage of hydroelectric development areas, we subsequently carried out a survey around Lake Tekapo in 1970 with the Canterbury Museum Archaeological Society – see Trotter 1970b.)

The filling of the Benmore and Aviemore artificial lakes and the raising of glacial Lake Pukaki drowned many recorded archaeological sites, and doubtless a number more that were not recorded. And even above the new lake shorelines, Neville Ritchie reported that some sites that had been found around the Lake Ohau outlet had been destroyed by 1982.

Getting back to the 1969 survey, we adopted two methods of searching for archaeological evidence. One was to use a team of four or five people to intensively search only likely camping places such as sheltered portions of river flats or where a creek flowed into the Lake. The other was for a larger team to spread out "emu parade" fashion and search continuously over stretches of river- or lake-side for any sign of previous habitation or other utilization. Although both methods were used concurrently throughout the survey, we note that all the sites located were found by the former method in places we would logically expect them to be.

A total of about 750 kilometres was travelled by our motor vehicles in the survey area taking teams to search localities, often over rough roads and very rough farm land, and a launch was used to get to Te Kowai Island and to points along eastern shore of the Lake where land access was difficult. To view and photograph one site from the air – large patterns of apparently placed stones on the west bank of the Ohau River – an aeroplane was chartered to fly over it three times. (In the event, the stone formations proved to be natural.)

Although Site Records were filed, the results of the 1969 Pukaki Survey were never published except as a supplement to the Canterbury Museum Archaeological Society's *Newsletter* with its strictly limited distribution. The map accompanying this article shows the sites as located at that time prior to the 1970s hydroelectric development.

In brief, the sites located in 1969 were:

S100/1 (now H38/1): Fourteen flakes and chips of orthoquartzite found on the surface within an area about 25 metres across. (Use of orthoquartzite cutting implements is usually indicative of early occupation in the South – later Otago researchers prefer the term 'silcrete'.)

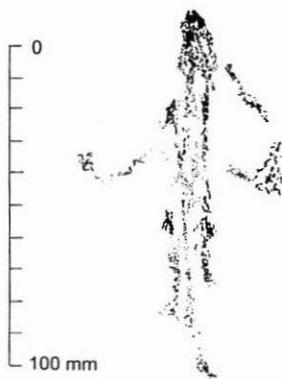


Figure 2. Small charcoal rock drawing of a stylized human figure in site H38/2.

S100/2 (now H38/2): A slightly overhanging rock shelter, 7.6 m long, with a smoke stain at the southern end, and a faint black abstract human drawing about half way along (see Figure 2). The overhang would have provided shelter for four to ten people.

S100/3 (now H38/3): Three clusters of burnt broken stones that we interpreted as indicating a probable prehistoric cooking area. There was no other occupational evidence that would indicate age.

S100/4 (now H38/4): A rock shelter on the eastern side of the Lake large enough to shelter from one to three people. A small sondage in the floor revealed two flakes of orthoquartzite.

S100/5 (now H37/1): Bolton's Gully. A layer of charcoal overlaid by burnt stones was exposed about 23 centimetres below the surface in the bank of a bulldozer cutting on the south side of the gully. Nearby at the same level were three pieces of broken moa bone (two leg and one pelvis fragments) and other pieces were found by excavation, which also revealed a cooking area about three metres in diameter comprising a layer of burnt and broken greywacke stones with larger unbroken stones around the perimeter, lying on a layer of charcoal up to 25 centimetres thick (see Figure 3). (In 1972 we obtained a radiocarbon date of 498 ± 50 on small pieces of charcoal from this site – McCulloch and Trotter 1975.)

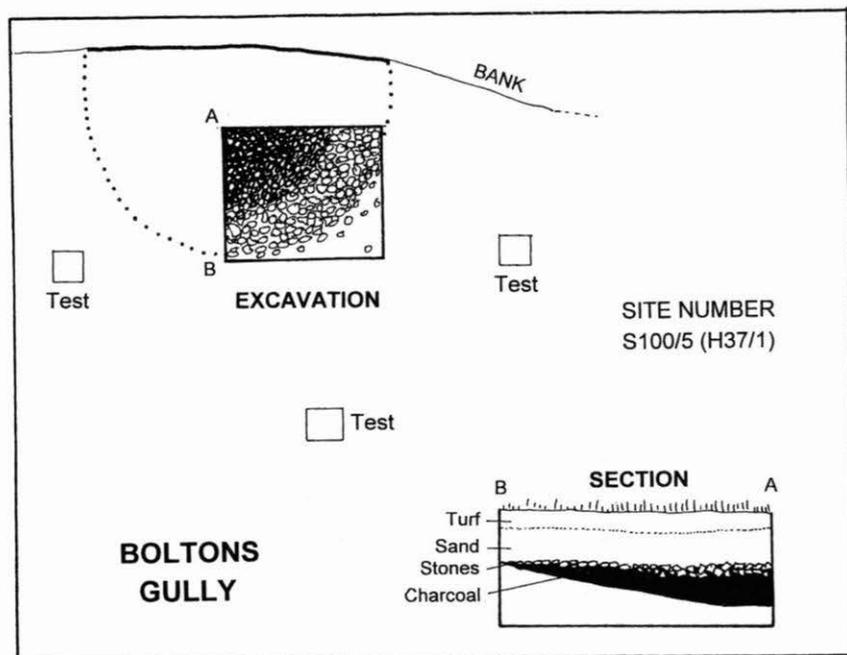


Figure 3. Details of test excavations at site H37/1 at Boltons Gully.

S100/6 (now H38/5): Twenty-seven flakes of orthoquartzite, a broken adze-head, and pieces of an unfinished slate knife were found near three clusters of burnt stones.

S109/14 (now H38/7): Seventeen flakes of orthoquartzite, three of yellow chert and three of purple-grey chert (more like porcellanite), two pieces of a broken slate knife and flakes of red jasper were found on the surface near the left bank of the Ohau River. (Further upstream, a team from the Otago Anthropological Society, who did some excavating, found flakes, a broken slate knife and a very small amount of shell and charcoal the previous year – site H38/8.)

Finally, two fond recollections of the 1969 trip: a budding young archaeologist, who shall remain nameless, joined us for a few days. (We will simply refer to

him as A.A. – standing for Archaeologist Anonymous of course. What else?) A.A. slept under his car at night and was wont to listen to his radio quite late. He maintained that the music attracted the local (and large) hedgehog population which gathered to listen as if hypnotized. They were, he insisted, particularly fond of Sibelius.

And, at the close of each very hot day, we foregathered on the verandah of the Lake Pukaki Inn – which served the most delicious cold lager on tap – to sample its wares and gaze across the Lake to Mount Cook at its head and watch the sun set behind the Alps. Archaeology as it should be.

Return in 1999

The site in question that we located in 1969 was on the right side of the Pukaki River not far below the low dam that existed then, and it was recorded as site number S100/1 (see above) in the New Zealand Archaeological Association's site recording scheme. When this became H38/1 with the changeover to metric maps, the calculated conversion to a metric grid reference placed the site in a location that did not conform to the site description, which indicated that it was at the sheltered upstream end of a medium-height river terrace where the banks of higher and lower terraces converged. Fourteen flake artifacts of orthoquartzite from an early Maori occupation had been found on the surface by the survey team, though the extent of the site was not investigated. Near by, some placed stones, broken blue glass, and pieces of fencing wire bent into U-shapes indicated the remains of a rabbitier's camp, probably dating to the first half of the twentieth century. As an interesting reflection of our values at that time, the rabbitier's camp was not entered into the site record – we have since added these details to the revised form with its corrected grid reference.

Not surprisingly with the building of a 'high dam' at the Lake outlet in the 1970s, the area had changed considerably since our first visit thirty years earlier, but there was clearly no archaeological evidence visible in the areas of the planned works.

The location of the reported archaeological site proved to be some 350 metres downstream from the proposed coffer dam, and nearly half a kilometre from its metric grid reference. While we have come to expect errors of up to a couple of hundred metres or so in the calculated metrication of NZMS1 grid references, a discrepancy of this order is unusual. The surface of the ground where the site was in 1969 had since been mechanically scraped, doubtless during the high

dam building operations, and both the prehistoric and the historic remains had been destroyed.

(Sad to say, the Lake Pukaki Inn has also gone. Its remains now lie beneath the raised waters of the Lake, where it doubtless forms an underwater archaeological site, waiting for some future investigator.)

ECNZ had been told by a self-styled 'authority' of another, previously unrecorded, unique prehistoric archaeological site nearby, which in all good conscience they were providing with informal protection. As we had surprisingly missed this during our 1969 survey, we took the opportunity to make amends by examining it with Mark Breen and Peter Gray. It comprised a trench-like artificial hollow extending from near a prominent large rock to the edge of a high terrace and it was officially described as being of "pre-Maori" origin, located where there was a good view both down the Pukaki River valley and, before the high dam was built, up the lake to Mount Cook. There was said to be some special significance in the large stones placed along the sides of the hollow, which had provided shelter to the occupants, and in a built-up projection of the terrace edge opposite it.

In fact, the site was clearly a scoop made by a narrow-bladed bulldozer pushing material over the edge of the terrace, and while it could perhaps date to the 1930s, it was certainly not prehistoric nor worthy of much protection. Nor was it even unique as we observed other similar trenches in the area.

ECNZ also told us of the remains of an early European building several kilometres downstream from the Pukaki dam on the left bank of the river – outside the survey area. We were unable to examine this, but understand the Chris Jacomb has reported on it, identifying it as the site of an early accommodation house.

Because of the extremely harsh climatic conditions and the uncompromising landscapes which prevail in these inland areas, site preservation is generally extremely poor, and there is undoubtedly a higher percentage of total site loss than is usual for most of New Zealand.

Rick McGovern-Wilson (1991) noted that a lack of sites recorded in a similar area (the upper Ahuriri Valley) was probably also a reflection of the amount of fieldwork carried out, and that the nature of the sites often meant that they were less likely to be detected by landowners.

As a result of these factors, it is easy to underestimate the cultural importance of inland areas in South Island Prehistory.

References

- Ambrose, W., 1968. The Unimportance of the Inland Plains in South Island Prehistory. *Mankind* 6 (11): 585-593.
- Ambrose, W., 1970. Archaeology and Rock Drawings from the Waitaki Gorge, Central South Island. *Records of the Canterbury Museum* 8 (5): 383-437.
- Ambrose, W., and Davis, F., 1958, 1959, 1960. Reports in *Annual Reports of the National Historic Places Trust*. Government Printer, Wellington.
- Challis, Aidan, 1995. *Ka Pakihi Whakatekateka o Waitaha: the Archaeology of Canterbury in Maori Times*. Science & Research Series No.89, Department of Conservation, Wellington.
- Mason, G. M., 1963. Preliminary Note on Two Waitaki River Sites – MacKenzie Country. *New Zealand Archaeological Association Newsletter*, 6 (2): 93-94.
- McCulloch, Beverley, and Trotter, Michael, 1975. The First Twenty Years. Radiocarbon Dates for South Island Moa-hunter Sites, 1955-74. *New Zealand Archaeological Association Newsletter* 18 (1): 2-17.
- McGovern-Wilson, Rick, and Bristow, Peter, 1991. Moa-Hunter Sites in the Upper Ahuriri Valley. *Archaeology in New Zealand*, 34 (1): 25-32.
- Stevenson, G. B., 1947. *Maori and Pakeha in North Otago*. A. H. & A. W. Reed, Wellington.
- Trotter, Michael M., 1969. *Lake Pukaki Survey*. Canterbury Museum, Christchurch. 8 pages.
- Trotter, Michael M., 1970a. Archaeological Investigations in the Aviemore Area, South Island. *Records of the Canterbury Museum* 8 (5): 439-453.
- Trotter, Michael M., 1970b. Lake Tekapo Survey. *Canterbury Museum Archaeological Society Newsletter*, March 1970.