In volumes 2 and 4 of *New Zealand Journal of Archaeology* Atholl Anderson (1980, 1982) began a series of articles in which he discussed the social organisation, settlement patterns and land management of precontact, southern Te Wāipounamu (the South Island, south of Banks Peninsula). Initially (1980), he provided an interpretation that was primarily based on population data, mainly from Shortland’s and MacKay’s censuses, to demonstrate the uniqueness of this geopolity. Following this (1982), he shifted to a natural resource focus, in particular, that visible in archaeological contexts; then, in later works (1996, 1998), he incorporated information from the Kai Tahu lists of *mahika kai* ‘places where resources were obtained’,1 which were recorded in 1880 and, in summary form, were produced as evidence to The Waitangi Tribunal. Anderson has referenced these as “Ngai Tahu 1880, *Mahinga kai* list 1880. Manuscript, and *Waitangi Tribunal 27, Doc. R30* (1989)” (1996: 640) and “Ngai Tahu 1880. Typescript. *NTA*” (1998: 234). (*Mahinga* and *mahika* are dialeltical variations. The latter is common in South Island/Kai Tahu speech and I shall use it except when *mahinga* is used in quotes. Similarly, I privilege Kai Tahu over Ngāi Tahu.)

The documents Anderson referred to are two identical summary documents, derived from the rather voluminous H.K. Taiaroa papers (1880), written in *Te Reo Māori* (the Māori language) and containing much additional detail. I analyse these papers here to expand upon Anderson’s interpretations. In particular, I explain some of the unique southern Māori resource management vocabulary (most of which is not in the *Williams Dictionary* [1971]), showing that there was considerable attention to detail in describing the environment, resource areas and settlements. This analysis will resolve some of concerns expressed by Anderson (1996: 632).

While Ngai Tahu were masters of their own territory… their economic activities could simply have operated according to virtually subliminal understandings about kinship and commodities that were of no philosophical (or anthropological) interest to them, and which required no formal codification in traditional knowledge.
I will argue that the existence of specialised vocabulary indicates, at the least, recognition of differences between various classifications and perhaps even a formal codification of discrete entities. Anderson (1996: 631) also wrote:

I refer indirectly to diversity in the palimpsest of tribal politics—primary allegiance to the major subtribal constituents of Ngai Tahu was strongest towards the north with persistent loyalties to earlier Ngati Mamoe and Waitaha more prominent toward the south, and this matter certainly deserves more extended analysis. Similarly, regional differences in the structure of the resource environment are described below, but this, too, is an area amenable to much more detailed analysis.

In this article I employ an “insider” Kai Tahu perspective in order to extend the analysis as Anderson suggests. To do this, in addition to the Taiaroa manuscripts themselves, the Tikao papers (n.d. [a–f]) have been consulted. Both sets of papers provide data from 19th century Ngäi Tahu informants. These latter manuscripts are in the handwriting of Teone Taare Tikao (1850?-1927) and were forwarded by him to Elsdon Best, who lodged them in The Polynesian Society papers at the Alexander Turnbull Library (ATL). Of particular note is an annotation in the margin of the manuscript headed Mahinga Kauru that reads “cc d 12-4-70” with initials “F.E.N”. Presumably, this recipient was Commissioner Francis E. Nairn. His initials, coupled with Tikao’s handwriting, suggest that Tikao, then about 20 years old, may have acted as a scribe for the collection of some Canterbury Kai Tahu Mäori language material presented to the 1879-80 Royal Commission. However, why this might have been made available to Nairn as early as 1870 is difficult to imagine.

CULTURAL ADAPTATION

Underpinning my analysis of the documents are ideas about cultural adaptation in response to environmental changes. David Clarke (1968), for example, argued that, because cultures are adapted to specific environments, some form of cultural adjustment will usually accompany any change in environment. By extension, it must be asked whether a dramatic change in environment will trigger a correspondingly dramatic cultural adjustment. Certainly, the data from the Taiaroa Manuscripts suggests that Kai Tahu had, by the 19th century, moved a long way from the philosophies of resource husbandry practiced and brought with them from the North Island.

Patrick Kirch (1984) applied this relationship between changes in environment and culture to the populating of Polynesia generally and to New
Zealand in particular. He commented, “Most interesting, however, are the adaptations undergone by those who settled the far southerly regions, south of the Banks Peninsula…. East Polynesian agriculturalists were transformed to temperate hunters-and-gatherers” (1984: 92).

This was, indeed, a dramatic cultural adjustment. It was these adjustments in social structure and life-style that supported the unique pattern of resource management employed by the southern Kai Tahu at the time of European contact.

TRADITIONAL KAI TAHU SETTLEMENT PATTERNS AND MAHIKA KAI

The Kai Tahu phrase for places at which resources were obtained is mahika kai, and the inclusion of the word “kai” has led many to infer that it refers only to places where food is harvested. However, the meaning needs to be examined more closely. As noted above, Anderson used the phrase “mahinga kai” that literally does mean ‘making food’. Kai Tahu argued [to the Waitangi Tribunal] that the predominant meaning of mahinga kai “…was as a generic term for places at which foods and other subsistence resources were caught or collected” (1996: 631). A 19th century Kai Tahu worldview would not have made such a narrow interpretation. A helpful explanation from the 19th century kaumātua ‘elder’, Natanahira Waruwarutu, was quoted in Te Pānui Rūnanga (1998: 8): “Mahinga kai is not confined to the land cultivated but it refers to places from which we obtain the natural products of the soil without cultivating, you know, the plants that grow without being cultivated by man” (p. 8).

Of course, mahika kai also applied to water-based sources: in the sea, lagoons, streams and even swamps. In precontact times mahika kai were clearly not just places where food was procured, and though they are sometimes referred to as cultivations the meaning is not of cultivation in a horticultural sense. Perhaps the best definition is to say that the phrase refers to the places where the husbandry of faunal, floral and even lithic resources was carried out. Prebble and Mules suggest that mahika kai “is more significantly a mechanism for acculturating the landscape, as a Māori landscape” (2004: 53).

The natural environment contained many precious gifts, edible and inedible, that had to be cared for rather than merely viewed as resources waiting to be exploited. In the absence of the appropriate respect, they might well disappear. For example, shucking pāua (Haliotis iris) or gutting ʻīfish below the high tide mark was known to be inimical to the well-being of the species as it encouraged predators. More generally, it showed disrespect for the sea.

As Anderson correctly pointed out, the Ngāi Tahu model of land holding did not focus on each group looking after a single, contiguous area: “[T]here
is no correspondence to the ideal of a hapu having territorial integrity or of the whanau occupying a single hamlet” (1980: 10). Mahika kai were dispersed and the term “hapū”, often glossed as ‘sub-tribe’, is somewhat problematic in this context in that the more common feature of hapū being responsible for single geopolitical areas did not apply. In his testimonies to the 1879-81 Smith/Nairn commission into South Island land sales, Wiremu Potiki claimed three different hapū affiliations at different venues where he had rights (MS. 1879-80). Over time, various groups had taken responsibility for areas which might have ranged from a few square metres of land such as māra ‘gardens’ of kawakawa, mahetau,pora or purau (definitions for Māori species terms will be found in Appendix 1) to an area spanning many hectares. Their responsibility also covered areas of water. Those who shared access to a site would cite their ancestral right by mentioning the ancestor from whom the right derived and, when shifting to another site, might focus on a quite different ancestor. The pattern was correctly described by Anderson (1980) initially, but he later partly revised his analysis (e.g., Anderson 1996). He recognised some variations between the north and south of the tribal area, an observation supported by whakapapa ‘ancestral descent’, as Ngāti Mamoe and Waitaha affiliations are much more common south of Banks Peninsula. In view of the more extended analysis I have undertaken, it is worth re-stating this variation because what pertains for Kai Tahu is (i) quite different from what is described in the “standard works on Māori (Buck 1949 [1950]), including those devoted to traditional economics and land tenure (Firth 1959 [1973], Kawharu 1977)” (Anderson, 1996: 631), and (ii) important for an understanding of the detail provided later in this article.

Land was partitioned according to a singular geographic paradigm, expressive of a unique worldview. As Pond (1997: 12) remarked, “Māori value specific localities as places of ancestral history and healing force (marae, wāhi tapu and urupā), as places of abundant harvest (mahinga kai), as places of economic resource (an eel-weir, a whitebait run, a quarry, an ochre source…) and so on.” This perspective was the fundamental basis of the relationship between people and place. The values were implicit in the mythology, became part of the religious empathy of Māori with the natural world and were reflected in their stories. Garven, Nepia and Ashwell (1997: 24) have explained that “…interdependence with the environment is central to the Māori creation stories, traditional religious beliefs, and resource management techniques”.

That Kai Tahu had spread throughout Te Wāipounamu by the 19th century is attested by Canon J.W. Stack, the first missionary in Canterbury, who wrote: “The value attached by the Maoris to land is evident from the fact that every part of the country was owned and named. Not only were the larger...
mountains, rivers and plains named but every hillock, streamlet, and valley (AJHR 1890: 22). However, it is important to consider under what authority were land rights held? It is only possible to appreciate variations from the North Island “orthodox model” (as delineated, for instance, by Buck, Firth and Kawharu) through an understanding of the local social structure and associated practices.

THE LISTS

There are two extant sets of “Mahika Kai” lists. Quite a number of the places mentioned in the first set are also mentioned in the second but the focus is different and some places occur only in one or the other set of lists. These are the H.K. Taiaroa papers (Taiaroa 1880) and Hoani Korehe Kahu papers (Kahu 1880), containing detailed Mahinga Kai lists, presented to support testimonies to the “Smith/Nairn Royal Commission of enquiry into South Island Land Sales” of 1879-81. The lists focus on mahika kai sites lying between Maukaatua (Maungatua) and Maukatere (Mt. Gray), extending inland as far as the southern lakes and, in one case, through Arthur’s Pass to Lake Kaniere. Thus, all lay within the boundaries of either the Otago Purchase of 1844 or the Kemp Purchase of 1848 (or were adjacent to them) from which mahika kai sites were to have been reserved but, in fact, were never surveyed off. While the lists are headed “Pukapuka o Wahi Mahika Kai” it will aid an understanding of the informants’ perspectives if the sites are thought of as unrealised reserves. Details were recorded from well-known kaumatua at hui ‘gatherings’ held between February and June 1880.

In what follows I summarise the lists and analyse the data provided by those who lived a traditional life-style with a view to expanding on our current understandings of precontact settlement patterns and lifeways.

The Kahu lists:

Kahu (1880) is a series of lists headed: “Pukapuka o Wahi Mahika Kai, etc.”, and in superscript above this heading written in Beattie’s hand: “Copied from a notebook of ‘John Kahu, Arowhenua, Temuka, 2nd Pepueri, 1880’ by H. Beattie, Gore, May 1920”. It would seem likely that the title is from the original, though it is not in quotation marks, the idiom being consistent with the Māori mode of expression of the period. Beattie introduced the first list with the comment:

At a meeting of Maoris held at Waikouaiti on February 28, 1880, after passing a resolution favouring the Bible-in-Schools Movement, it was decided to ask three or four well-informed old men to supply lists of the places where the ancient Maori got his food in his itinerant journeys. (1945: 6)
The lists are probably a by-product of the Smith/Nairn Commission into South Island land sales, the hearings for which would have just ended. We know, from the names of those providing the information, that this *hui* was probably one of the last opportunities to record such knowledge of past practices as many of the informants joined their ancestors within a short time.

**Informants:** The informants mentioned were:

- Wi Pōtiki (*Kaumatua* No. 610 5),
- Teone Rehu (*Kaumatua* 885),
- Taama Tehu (Te Hu) (1070) and
- Rawiri Te Maire (392).

The scribe was Hoani Kahu (94)

**The Lists, a) to d):**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recorded 28th Feb 1880</td>
<td></td>
</tr>
<tr>
<td>a) 4</td>
<td></td>
</tr>
<tr>
<td>b) (the majority are repeated in ‘A’, below’)</td>
<td>39</td>
</tr>
<tr>
<td>Recorded 21st-22nd April 1880</td>
<td></td>
</tr>
<tr>
<td>c) (See list ‘J’, below.)</td>
<td>217 6</td>
</tr>
<tr>
<td>Recorded 2nd March 1880</td>
<td></td>
</tr>
<tr>
<td>d) (substantially duplicated in ‘N’, below)</td>
<td>83</td>
</tr>
</tbody>
</table>

Total sites 343

A simple count indicating which resources were most frequently accessed and husbanded is provided in Appendix 2.

**The Taiaroa Lists:**

Taiaroa (1880) is a second series of lists, gathered by Hori Kerei Taiaroa MHR (later MLC, see Fig. 1) at a number of *hui*, held between Otakou and Kaiapoi, between 21 May and 4 June 1880. It can be inferred from the preambles to these lists, and from the attendance, that the *hui* were organised well in advance and that they had been convened for this specific purpose. The trigger was, again, almost certainly the 1879-80 Smith/Nairn Royal Commission. The preamble to list A refers to the sale of the Otakou block; the preambles to all others refer to the Kemp Purchase. These lists provide a further 1312 place names. It seems likely that the Kahu lists may have been early attempts to gather the data, although not all the detail from them has carried through to the Taiaroa lists (see Fig. 2 for the style of the Taiaroa lists).
Figure 1. Hori Kerei Taiaroa MLC.
Courtesy of Alexander Turnbull Library, Wellington, New Zealand.
Of particular interest is the preamble: From this afternoon the Runanga (local council) gathered and began to detail, one by one, the names of places where Māori camped within the Wakefield purchase, the Otago Block, purchased on 29 July, 1844.
The lists in this second set are:

**Otakou, 21st May 1880, (unpaginated):**

A) Unnamed informants 15
21st May 1880, pp. 33-36
B) Taare Wetere Te Kahu (440?) 7
22nd May 1880, pp. 37-42:
C) Matiu Te Hu ma (1070) 25

**Waikouaiti, 26th May 1880,**

D) pp. 101-107: Merekihereka Hape (268) 33
E) pp. 110-116: Merekihereka Hape, Te Kaikaho Hamahona (740), Hona Pauahi (110), Hopa Pikahu (1223?), Hopa Ru (710), Teoti Te Wahia (489); Wahine: Katarini Hape (175), Karoko (170), Amiria Pauahi (607?); me nga tamariki: Te Ringa Tapu, Teone Erihana. 36

**Korotuaheka, 29th May, p. 117:**

F) Henare Te Maire (678) (names omitted by Hape) 6

**Moeraki, 27th May 1880, pp.118-127:**

G) Rawiri Te Mamaru (883), of Moeraki, meraatu 85

**Korotuaheka, 28th May 1880, (unpaginated):**

H) Rawiri te Maire, Tamaiharoa (392) 75
29th May 1880 (unpaginated):

I) unnamed group 306
J) Hoani Kahu (94) (substantially list ‘c’ above, but with additions) 223

**Kaiapoi, 2nd June 1880, pp. 2-20:**

K) Wiremu Teuki (543), Arapata Kooti (19), Hakopa Teataotu (22), Teiaka Aperahama (2), Wi Naihira (582), Tare Wi Teihoka (441), Henere Mahuinga (677), and 30 others 123

3rd June 1880, pp. 21-28:

L) Tare Teihoka (124-279) 156

p. 30-ff

M) Tare Wi Teihoka 92

**4th June 1880 (unpaginated):**

N) Pene Pare Kuku (320), Wi Naihira Tanahira 72
O) Hakopa Teataotu 9
P) Mikaera Te Horo (273), Teoti Pita Mutu (347) 49

**Total sites** 1312
In all, the lists mention 114 different resources at over 1700 locations. Many of the latter are now “dead” place names, but the majority of locations (approximately 1000) have been identified, at least roughly. Yoon (1986: 120) defines a “dead place name” as one for which the precise location is no longer known but which may, with research, yet be identified. While some names have been appropriated and/or shifted it is likely that intensive research would locate others. Only a few are places well known today and in many cases Māori access to them was denied during the mid-19th century. Without continuity of visits the exact whereabouts would have been forgotten. Other sites no longer exist, especially where swamps have been drained and waterways shifted. The site names were entered on a map, now held in the Canterbury Museum archives (H.K. Taiaroa collection). Because of the sensitivity of the material, however, while it was acceptable to the kaitiaki ‘guardian’ for me to study the map, permission to copy it was denied. Some districts are rich in place names to the extent that, in many cases where mahika kai existed, the names are clustered around a single focal spot or strung along a travel route. Other areas have a paucity of place-names.

A thorough analysis of this data provides insights into traditional food management patterns. Even a cursory appraisal shows that certain foods are regularly mentioned together (e.g., kāurū and aruhe). Now, it is not to be expected that aruhe only exists where cabbage trees grow, or vice-versa, but rather we might infer that aruhe was insufficiently significant to be worthy of a separate harvesting journey. When parties were harvesting the more prestigious kāurū from cabbage trees, the opportunity was taken to also collect aruhe. An $X^2$ analysis follows (Table 1). Eventually the sites may be located in sufficient numbers to map them, thus providing regional aggregations of sites for each food, as well as the comparative groupings of the foods themselves.

To what extent might the 19th century data be biased? Firstly, it is based on the activities of a population vastly reduced by the Te Rauparaha raids which must have considerably lessened pressure on renewable resources, at least in Canterbury, and which resulted in a significant geopolitical shift towards the south. Secondly, Māori society was already showing some effects of European plant and animal introductions, particularly the potato (mahetau or taewa), which the lists imply was already being grown at non-permanent sites and was regarded as a “traditional” resource.

The two sets of lists were recorded at hui that focused specifically on mahika kai, and so it is primarily food resources that are mentioned, along with a few ancillary resources harvested at the same time or during the same journeys. The noting of the latter provide an important clue to the structure of the data; informants mentioned a number of secondary resources along
Table 1. Co-occurrence of major foods.

<table>
<thead>
<tr>
<th>Food</th>
<th>Sites</th>
<th>Correlations with:--</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>alone</td>
<td>tuna</td>
</tr>
<tr>
<td>Tuna</td>
<td>861</td>
<td>187</td>
</tr>
<tr>
<td>Weka</td>
<td>415</td>
<td>53</td>
</tr>
<tr>
<td>Aruhe</td>
<td>384</td>
<td>20</td>
</tr>
<tr>
<td>Inaka/Mata</td>
<td>281</td>
<td>1</td>
</tr>
<tr>
<td>Kāuru</td>
<td>235</td>
<td>12</td>
</tr>
<tr>
<td>Kōkopu</td>
<td>157</td>
<td>2</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>151</td>
<td>1</td>
</tr>
<tr>
<td>Pānako</td>
<td>148</td>
<td>0</td>
</tr>
<tr>
<td>Koukoupara</td>
<td>146</td>
<td>0</td>
</tr>
<tr>
<td>Pora</td>
<td>142</td>
<td>14</td>
</tr>
<tr>
<td>Kākāpō</td>
<td>111</td>
<td>0</td>
</tr>
<tr>
<td>Kiore</td>
<td>106</td>
<td>14</td>
</tr>
<tr>
<td>Tutu</td>
<td>99</td>
<td>1</td>
</tr>
<tr>
<td>Forest Birds</td>
<td>96</td>
<td>13</td>
</tr>
<tr>
<td>Kōareare</td>
<td>91</td>
<td>0</td>
</tr>
<tr>
<td>Kiwi</td>
<td>73</td>
<td>0</td>
</tr>
<tr>
<td>Pipiki</td>
<td>65</td>
<td>0</td>
</tr>
</tbody>
</table>
with the primary target, but the trick is to determine which is which. Further, because the focus was on *mahika kai*, other resources such as trees and water were not mentioned. Nonetheless they were of great importance and were managed according to the exigencies of the situation. The structure of each list suggests a series of journeys: some are mental journeys of recapitulation and others are reflections on actual harvesting trips. Keenan (2002: 247) refers to them as “resource trails”. They are a mix of actual seasonal trips and recollections of places along a route, the resources of which may have been harvested at different seasons. The key to unlocking which resources are primary is to determine the seasonality of the resources (clearly, a mixture of summer and winter resources harvested at the same place indicates separate visits).

A number of the foods are referred to alone, from which one might infer that they were worthy of a special harvesting trip. Others occur in multiples: the most numerous being 13 (at a location known as Toakara, so far unidentified, but certainly on the coast a little north of the Rakitātā river mouth). It must be recognised that the set of places and foods named do not comprise an exhaustive list: many food collection sites were not named because folk did not necessarily go there for the purpose of obtaining food. For example, during the *makā* (barracouda) migration, that fish could be caught almost anywhere on the coast, so the embarkation point was not necessarily significant unless there was a shortage of good landing places in a district. The same was true when people went inland to harvest *weka* or *kāuru*: only the frequently used camping place would have a name as the resources were available over a wide area.

There are notable omissions, particularly of ocean-based resources (and especially pelagic fish), which were important and well-known foods in precontact times. This could be either because they were only caught from canoes or because resources harvested from permanent settlements did not qualify for inclusion in that the people did not need to go to another place to acquire them. Permanent settlements are not, themselves, *mahika kai*. In addition, a present-day member of a prominent Kai Tahu fishing family told me that there was reluctance to identify their extant fishing grounds (pers. comm. 1 December 2003). *Mahika kai* sites are, by definition, places where people go to harvest. This is a feature of the lists, so we must bear in mind their purpose: to identify *mahika kai* sites that should have been reserved from the land sales. There would not have been a corresponding expectation for marine areas to been surveyed off from the Purchase as reserves since the sea was not sold.

As the lists focus on tellurian resources, those sea-based resources mentioned are excluded from the analysis that follows. Only five marine
resources are mentioned in the Taiaroa lists, and these are restricted to five of the 15 lists. They are hāpuku, which is mentioned once; ika or ika moana ‘sea fish’, from 13 sites across three lists; kina, one mention; kueo, one mention on each of two lists; pāua, five mentions on two lists; and rimurapa, one mention. However, I have included pipi, roroa, tuaki and waharoa, all of them shellfish from the inter-tidal zone, and the estuarine pātiki in the analysis. The kōura mentioned is almost certainly the fresh water variety.

Two themes can be easily inferred from the comments accompanying the lists: (i) that they ought to have been set aside as reserves; or (ii) that they were part of that inland area, which, it has always been contended by Kai Tahu, was not included in the area sold in the Kemp Purchase, and is referred to colloquially, as “The Hole in the Middle” (Evison 1988: map, p. 24). The western boundary, as defined in the deed, is “as far as the eye can see” and Kai Tahu contend that that referred to the foothills.

Owing to inconsistencies in the way informants treat waterfowl and forest birds, I have aggregated all references to each group. Whitebait tended to be known as mata in Otago (where “inaka” is more usually smelt) and inaka (or inanga) in Canterbury (where smelt is normally “paraki”). However, as some informants mention both mata and inaka at a single site (and others inaka and paraki), and as there is no regional consistency, it is necessary to accept a certain ambiguity of data in these cases. Inaka and mata have accordingly been treated as a single resource.

It is suggested that other foods mentioned at kāuru sites were most likely to have only been exploited when the locality was visited to harvest kāuru. This would explain why sites with kāuru are “Kainga Mahinga Kai”, regardless of the number of foods taken there. The only exceptions are sites where birds are taken as well, suggesting that birds and kāuru were each of sufficient value to attract folk to remote localities. Other foods are of secondary importance. Some entries name a permanent campsite, and then list the food preserves associated with it. Clearly, these sites at least were base camps from which scattered foods in the vicinity were harvested.

Settlement Types

The Taiaroa papers associate mahika kai with one of four categories of settlement: kāinga mahika kai, kāinga nohoanga, kāinga nohoanga tūturu and pā tūwatawata. Most, but not all, kāinga nohoanga tūturu refer also to an urupā ‘burial grounds’. We can therefore, perhaps, infer four levels of settlement, referred to generally by Kai Tahu as “kāika”, here listed in increasing order of permanence:

- Kāika Mahika Kai ‘occasional camping places’, which were not maintained continuously;
• *Kāika Nohoanga* ‘regular, seasonal camping places’, probably with rudimentary dwellings, which would be maintained at each visit;⁹
• *Kāika Nohoanga Tūturu* ‘semi-permanent settlements’, the most important of which were associated with urupā, thus committing at least some of the people to regular visits. Many *kāika nohoanga tūturu* also had gardens, and/or *tūāhu* (see below);
• *Pā Tūwatawata* ‘palisaded forts’, always with urupā. These are settlements where the folk spent quite some time, and where the old and the very young would probably have wintered over. The majority have gardens and nearby *tūāhu* ‘sacred places’, with the appropriate *mauri* ‘spiritual features’, at which *karakia* ‘incantations’ were said. (For fuller details, see Garven *et al.* 1997: 77.)

Used in association with *kāika mahika kai* and *kāika nohoanga* were *pahuri* ‘temporary shelters’ as opposed to *whare porotaka*, sometimes termed “round houses”, that were more common further south (Anderson 1986). *Pahuri* were tidied up each season and re-occupied. The regularity with which a site was occupied would have depended on the primary resource associated with the site and its pattern of harvest. A place where a resource is harvested annually (e.g., migrating eels) was likely to have a more permanent type of housing than one where the harvest was only every five years (e.g., *kāuru*), especially if the harvest took place over an extended period. If extended families spent time in the area, they would have their own, more permanent houses, than would be the case if the harvest was a brief one or done by groups of men only. Perhaps archaeologists may be able to identify the features of each class of settlement.

**MAHIKA KAI AND WAKAWAKA**

Anderson correctly referred to the different usages of *wakawaka* to describe land tenure structures in Canterbury as opposed to those in southern areas (1996: 632-33, 1998: 114). The lists of *mahika kai* sites that were collected for the Smith/Nairn Commission by H.K. Taiaroa and Hoani Korehe Kahu mention 1712 land-based sites (if duplicates are ignored) in Canterbury and Otago, from which 114 different resources were harvested. Some specialist terms were used for certain food preserves, and these are listed below:

• *koutu aruhe* ‘fern-root “digs”’ those with better quality rhizomes would be used annually (Tikao n.d.[f]);
• *para kāuru*¹⁰ ‘cabbage tree groves’ harvested at roughly five-year intervals (Tikao n.d.[a]);
• *māra kawakawa, mahetau, pora or purau* ‘cultivations, implying annual attendance but some would have had the capacity to become perennial’;
• matatiki,11 pā, rē or rauiri tuna ‘eel springs, weirs, swamps or preserves’;
• tapua weka ‘weka runs’;
• werohanga or taheretanga manu ‘bird spearing or snaring groves’.

In each case, the term refers to a discrete area that had been set aside for a particular group of people (kaitiaki), and in all cases rights had been gained through whakapapa, each being a preserve with the different terms reflecting the different natures of that type of preserve. Koutu aruhe and māra are quite localised, perhaps smaller than a modern house section. However, they were not as localised as a rauiri tuna, which would be at a very specific location on a stream and only a few feet in length, whereas the garden would shift around its locality. There is no specialised term given for harakeke ‘flax’ cultivations. A tapua weka would be rather more extensive, perhaps as large as a small farm, though probably not as large as a para kāuru, which might stretch for several kilometres. A werohanga or taheretanga manu could be a single tree, a grove or a localised section of forest. There are a number of forests that have several named areas—each would have been for a discrete descent group. Names were attached to all types of preserve, rather like contemporary farm names, e.g., in List 11 (p. 4) “E Mahinga tuna Ko Te Whakahoki a Paroro”12. Koutu, para, matatiki and tapua in these contexts are not listed in the Williams Dictionary (1971), suggesting that they are probably idioms unique to the South Island. Associated with each preserve is a list of associated foods, ranging from a single food to as many as 13.

REGIONAL DIFFERENCES

My analysis of the data suggests that the fundamentals of the South Island system of landholding and resource rights may well have been developed by the earlier iwi ‘tribes’: Waitaha and Ngāti Mamoe. In the Kaikoura district and from South Canterbury south, there was significant intermarriage between Kai Tahu and the earlier iwi, whereas in Canterbury an examination of whakapapa shows rather less intermarriage. The hapū that settled at Kaiapoi and claimed much of Canterbury, under senior chief Turakautahi, migrated from the north after most of the battles with Ngāti Mamoe had concluded and the migration seems to have included greater numbers of wives and children. As a result, Canterbury social patterns remained somewhat closer to those in place before the migration south.

Resource rights in Central Canterbury came to the newcomers through three main descent lines: (i) from Te Atawhiua, (ii) from Tanetiki and Raho, and (iii) from Hinematua. Local narratives relate the following events. When the high-born Banks Peninsula chieftainess, Te Atawhiua (who was married to Tupuku) entered into an adulterous relationship with the slave,
Utakahore, her migrant father, Tutekawa, said that he would disown her, banish her from “his” lands and totally disinherit her. Her Ngāti Mamoe mother, Rakanuku, pointed out to her husband that he did not have any lands—they were all hers. Accordingly, instead, he decreed that Te Atawhiua, and all her descendants, would never be allowed to wear pounamu and then banished her. She, Utakahore and their followers moved to Kaiapoi where as Ngāi Te Atawhiua they worked the kūmera gardens and became a subservient hapū to Ngāi Tuhaitara (Tau 1992: 192, Beattie n.d.). However, the fact that Te Atawhiua brought resource rights with her is attested in Kahu (1880) where 19 mahika kai are listed as coming from Te Atawhiua and her descendants, followed by 38 places said to have descended from Tanetiki and Raho, after which there is a heading “Hinemataua” followed by a further list of 31 mahika kai. These represent the major descent groupings of the Kaiapoi people and it is significant that they are reflected in 19th century resource access rights.

The Data
There are a number of shortcomings in the data. In the first document, transcribed by Herries Beattie from Kahu’s notebook we have to trust that Beattie’s transcription is accurate. He was known to be quite familiar with the Māori language, but accuracy will have depended upon the legibility of the original and whether species’ names were familiar to him. While he has placed a query “(?)” beside some items which he was not sure about, there may well have been other entries which he mistakenly believed to have recorded accurately.

Furthermore, the kaumātua who were the original informants, have been somewhat inconsistent in several respects.

- While some attempts have been made by the recorder to show vowel length, with a doubled vowel, it is clear that this has not happened in all cases. It is probable that the attempt was made only when there could be confusion with another item (but see, for example, rari in Appendix 1).
- There is little consistency between informants; one may use one name for a species and the next may use a different name for that species and may even use the first name for a different species.
- It is clear from the lists that the various informants had differing interpretations of what was worthwhile mentioning as some items that were generally available (e.g., aruhe) are mentioned by some of the informants but not others.
- Species delineation, as understood by the informants, differs from that in general use today.
• There are several notable omissions of sites (as is probably inevitable when the narrator is on a mental journey).
• Certain regional emphases are obvious: all references to *kanakana* are south of the Rangitātā River and *kiore* are only mentioned in the Canterbury headwater sites, yet each was known to occur in both areas.

A striking omission is the so-called Canterbury Mudfish (*Neochanna burrowsiuis*) which according to McDowall (1990) only occurs between Rangiora and Waimate. Since neither Strickland (1990) nor McDowall recorded a Māori name, it is tempting to speculate that it could be one of the unidentified species from the Canterbury lists. Nevertheless, it was there and it was eaten. (My grandfather preferred “regular eels” but would eat “mud eels” if pressed. He said that “the old people” had more of a taste for them.)

**CASE STUDY**

Certain aggregations of sites stand out within a list as most lists are in the nature of a journey or series of journeys. In particular, Table 2 below is a set of 37 sites that stand out from list “K” (#86 to #123). They are between the Rakahuri (Ashley) river crossing, just below Maukatere (Mt. Gray) in the northeast and Hororata in the southwest. They are in almost a straight line and numbers 91 to 98 run along the line of what is now State Highway 72, from Oxford to Waddington, though crossing the Waimakariri a little downstream of the Bexley Bridge. (Precontact Māori preferred to cross major rivers at the widest and therefore shallowest point, whereas the bridge is at the narrowest.) The highway almost certainly follows the old trail. After crossing the Waimakariri the sites continue in two parallel lines to Hororata. This subset is a perfect microcosm of the complete data set and as such is worthy of analysis on its own.

**Seasonality**

Of the resources that are seasonal, the following groupings can be made:

**SUMMER:** *Kāuru, Tutu.*

**AUTUMN:** *Tutu, Taewa, Ducks* (usually taken during the moult in early autumn), *Konini.*

**WINTER:** *Kiore* (early winter), *Weka* (late winter).

From this a reasonable inference might be that at least four seasonal trips were made along this path: one each in summer and autumn and two in winter. The primary objectives of the first two would have been *kāuru* and ducks, respectively—the *taewa* would have been planted for harvesting in the duck season. Each of the winter targets would have been a primary objective.
Table 2. *Mahika kai* sites, Central Canterbury.  
Type abbreviations: KMK = *Kāika Mahika Kai*  
KNT = *Kāika Nohoanga Tūturu*  
KNTU = *Kāika Nohoanga Tūturu (with urupā)*

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<td>4</td>
<td>4</td>
<td>5</td>
<td>17</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>77</td>
</tr>
</tbody>
</table>

* The type of birds taken is not specified. From what is known of the locations, it is not possible to infer with certainty either bush birds or waterfowl, both of which are detailed by species at other sites. Waterfowl, perhaps, seems the more likely as the association with aruhe, kāuru and tuna suggests an open habitat.

Miscellaneous totals.
Found at one site: *Kiwi, Koareare, Koka, Korotipa, Koura, Mako, Manawa, Pukapuka*
Found at two sites: *Kererū, Whio*
Found at three sites: *Ducks, Konini, Koreke, Mawehe, Panako, Papaii*
Discussion

Of the 37 sites, 29 are considered to be *kaika mahika kai* (seasonal camps); the remaining eight are recorded as *kaika nohoanga, kaika tūtūru* (permanent settlements) all but one of which are associated with water based resources. Only two of these have an *urupā* and these both also have gardens from which it may be inferred that they were used more often than the other six, the definition of permanent not implying that they were inhabited continuously but, rather, regularly. A further distinction is that the six were all used in the *kāuru* season (late spring) and four of the six were also used for *kiore*, a winter activity involving both men and women, as opposed to the male only *kāuru* production. The two with *urupā* are not associated with *kāuru* but rather with *weka* (winter) and eels (predominantly autumn, also the potato harvesting season). However, since there are also *kaika mahika kai* that have the same features, a distinction between the two settlement forms cannot be made merely on the basis of the resources associated with the site.

Of the 29 seasonal camps, the majority are *pākihi* ‘plains sites’, three being bush sites, and only 16 are associated with water-based resources. This reflects the fact that the major attractions were *kāuru, kiore* and *weka*. All sites are sources of at least one of these important food items, none of which require a significant water supply. It is probably reasonable to look upon all the other foods as being merely serendipitous finds.

Sites would usually be family specific, each being associated with a different group. *Korau, pora* and *kawakawa* are somewhat contentious. *Korau* (*Brassica campestris*) was said to be “just like the Pakeha (European) turnip, but did not produce bulbs” (Best 1976: 274). In October 1918, Mr W.W. Smith of New Plymouth wrote to Elsdon Best saying that he had found some in the vicinity of an old *pā* and that he had cultivated them at his home. He reported: “They grow three times larger and more robust than does the wild turnip or the charlock. The leaves are two feet long, extremely robust, and form a delicious vegetable with perfect turnip flavour” (in Best 1976: 274). Anderson (1982) says it is introduced (based on a lack of any evidence for it at earlier times, other than oral tradition—but does absence of evidence constitute evidence of absence?). Best (1976: 273) mentions the Ngāti Kahungunu saying: “Te kakano korau a Iranui”, which attributes the *korau* to Iranui (sister of Kahungunu) who introduced the seeds to Uawa (Tolaga Bay) over 20 generations ago. As Best pointed out, such a small seed would normally be referred to as *purapura*, rather than *kakano*. Ngāti Porou also refer to *korau* being available in traditional times (Best 1976: 274). Ngāti Kahungunu also have other stories that tell of *korau* growing around precontact settlements.
Te Puoho and his party, on their raid into Murihiku in December 1836, are said to have survived on weka and korau when travelling up the Nevis and down the Nokomai. For korau to be growing wild at such an isolated place, as early as 1836, strongly suggests a pre-European introduction (Smith 1910: 546). It may seem improbable but we need to remain open to the possible pre-European existence of korau.

Pora, according to the Williams Dictionary (1971: 293), is the South Island name for the introduced turnip (*Brassica campestris*), and the name itself suggests that it is associated with ships. The use of two names suggests that korau and pora are two different species.

A document in the Alexander Turnbull Library (Taihi 14 n.d.) provides neat pencil drawings labelled: “Pola (waikote)” and “Kavakava (hue)”. Pola and kavakava are South Island dialectical variants of pora and kawakawa. Presumably Teoti Taihi is giving alternative names by which the vegetables were also known, though the well-known hue, known as the “calabash gourd” and found in warmer parts of the country, is quite different to that drawn by Taihi. Apparently, both pora and kawakawa are now extinct.

Herries Beattie reported to Elsdon Best that an informant, John Puahu Rakiraki, had travelled with his father and brother from Tuturau (near Mataura) to Wanaka living off the land, as they knew where they could get at least two edibles: kawakawa and pora.

The first of these… are described as being like a swede turnip, but having not so much root and much smaller leaves. When young it was like a turnip; as it grew older it formed a shell under the skin, and the flesh inside could be easily cleaned out. He had never heard of it growing on clay or ordinary soil, but always in gravelly or sandy places. It is described as having three or four small leaves on top; the colour of the top was like a turnip, and the sides were a greenish colour. It kept well after being pulled, but if not pulled the inside decayed and the shells remained for a long time.….The other plant looked for by travelers along certain Maori routes in the interior of Otago was the pora. I think this was known to early European settlers as ‘Maori cabbage.’ Like the kawakawa this was edible about midsummer. This plant had a white root, generally divided into two, and sometimes three prongs. …The leaves were like turnip leaves, only not so large, though they were larger than the kawakawa. The roots were generally about eighteen inches long, and these were eaten. The leaves were used in the oven and may have been eaten as well as the roots. The term pora was applied to the roots, the leaves being called merely rau (general term for leaf), but just before flowering, when at its most edible stage, the plant was called waikote.15

(Quoted in Best 1976: 275)
The route travelled by the Rakiraki men would have been identical to that mentioned as taken by Te Puoho, so there may be some conflation of *pora* and *korau*.

A letter from H.T. Tikao of Rapaki to Elsdon Best (dated 19 April 1918) adds further detail:

[My ancestors] possessed the *pora* long before Europeans reached this land; they sowed the seeds of it in their cultivations for many generations; it was sown as turnips are. When matured they are taken up, cut into small pieces, and spread to dry. When dry the pieces were threaded on strings and cooked in a steam oven. When cooked they were hung up in a storehouse and so preserved for future use. In this condition it was called *kao*, and before being used as food it was soaked in water. (Best 1976: 276)

In this letter to Best, Tikao referred to “*te pora ara te pohata*”/ ‘the pora, that is the *pohata*. *Pohata* is another word used for turnip.

The inclusion of these vegetables in the lists (and similarly with *mahetau* and *taewa*—two names for types of potato) demonstrates that by 1879 these Māori informants were already regarding certain introduced items as “traditional”; presumably these were the items that had been introduced before their own childhood. Further research may yet establish whether any of these items dated from pre-European times.

**WAKAWAKA AND MAHIKA KAI**

Anderson’s (1996:633) explanation of the relationships between *wakawaka* and *mahika kai* are reasonably accurate, apart from his implication that the two models are mutually exclusive. The system was in fact a fluid one, depending on the exigencies of the resource frequency, the population that is entitled to share the harvest, the distance from permanent settlement and the time taken over the harvest. At one end of the scale was Central Canterbury with a large population centred on Kaiapoi. Each *hapū* unit had a *wakawaka* from which a number of resources were accessed for much of the year from the permanent settlement, without particular focus on any one resource. *Wakawaka* marched together and a wide area could be mapped to show contiguous *wakawaka*, extending out to sea. Families specialised, generation after generation, in management and harvesting of the particular resources within the *wakawaka*, for which they were *kaitiaki*.

At the other end of the scale were, for example, rat runs in beech forest, far from the central base. Each run was the preserve of a *hapū* but would be trapped, usually by a single individual, who would camp with his own, and perhaps other, families, some distance from the actual run (Tikao, n.d.[e]).
This distancing was largely because of the exigencies of ratting, as the runs had to be vacated at night when rats were moving, but also because the beech forest itself did not contain enough subsistence resources. At the camps the rat catch was processed by the extended family. Each named run was effectively a *wakawaka* but these were not necessarily contiguous to each other. By contrast, a *para kāuru* or *tī* grove, the harvest of which was five-yearly, was very labour intensive. Harvesting was undertaken communally by men who travelled long distances, firstly to chop off and replant the tops of the trees then, returning some weeks later, to chop off the trunks at ground level, dig up the taproots, replant the growing tip and carry the taproots to a central place for processing in preparation for *kaihaukai* ‘tribal feasts’ that were an integral part of regional food exchanges (Tikao n.d.[a]).

*   *   *

The case study attests that *kaitiaki* groups for the various resources could be responsible for *wakawaka* that marched together or for different suites of resources, which sometimes overlaid one another. Depending upon distance from permanent settlement and season, and whether the resource was a primary or secondary target, these areas of control could follow various patterns and the level of settlement would depend on these factors and the exigencies of the particular harvest. Accordingly, it would be wrong to attempt a definitive explanation of resource rights and to infer consistent geopolity from them. That kin groups (at either *whānau* ‘extended family’ or *hapū* level) were charged with particular responsibilities can be inferred from their ongoing *kaitiakitanga* ‘stewardship’, which, being on behalf of the *iwi*, was an effective reaffirmation of their delegated responsibilities. Resources, so husbanded, would have been distributed by those *kaitiaki* ‘stewards’ and receipt of the fruits of these harvests constituted reaffirmation of the group’s right to harvest—their *mana whenua*.

**APPENDIX 1: NGĀ KAI**

Arokehe: a black, thick-skinned eel
Aruhe: edible fern root (*Pteridium aquilinum* var. *esculentum*)
Aua: yellow eyed mullet, herring (*Aldrichetta forsteri*)
Eho: a type of fungus (*weho*) according to Beattie (1954: 55)
Ducks:
   - Kukupako: New Zealand scaup or black teal (*Aythya novaeseelandiae*) —see Raipo
   - Pārera: grey duck (*Anas superciliosa*)
Pateke: grey teal (*Anas gracilas*)
Putakitaki: aradise duck (*Casarca variegata*)
Tataa: brown duck (*Anas chlorotis*)
Totokepio: little grebe (*Podiceps rufpectus* - but usually classed with ducks)

The Canterbury lists also include:

Tetepu: possibly Shoveller (*Spatula rynchotis*)
Raipo: New Zealand scaup or black teal (*Aythya novaeseelandiae*)—see *kukupako*
Whio: Blue duck (*Hymenolaimus malacorhynchos*)

Hao: a type of slender eel, which is highly favoured
Hāpuku: “He manu tenei mea” [koau implies a type of shag]
Hāpuku-koau: “He manu tenei mea” [koau implies a type of shag]
Hāpuku: groper (*Polyprion oxygeneios*)
Hua rākau: fruits of trees (e.g., matai; kahika; whinau (sic) and pokaka)
Inaka: smelt (*Retropinna retropinna*)—see paraki, also whitebait—see mata
Kaeo: sea tulip (*Pyura pachydermatum*)
Kāha: Crested grebe (*Podiceps cristatus*)
Kahawaii: a fish (*Arripis trutta*)
Kākā: a parrot (*Nestor meridionalis*)
Kakahi: freshwater mussel (*Hyridella menziesi*)
Kākāpō: ground parrot (*Strigops habroptilus*)

*Kanakana: lamprey (*Geotria australis*)
Kāuru: sugar extracted from cabbage tree (*tī*) (*Cordyline* sp.)
Kea: mountain parrot (*Nestor notabilis*)
Kererū: wood pigeon (*Hemiphaga novaeseelandiae*)
Kina: sea urchin, or sea egg (*Evechinus* sp.)
Kiore: so-called Polynesian rat (*Rattus exulans*)
Kiwi: (probably *Apteryx australis*)
Kōareare: edible rhizome of *raupo* (*Typha angustifolia*)
Koau: shag, usually generic
Kōhītiti: shrimp? water cress?
Kōkā: South Island *kokako* or native crow (*Callaeas cinerea cinerea*)
Kōkō: *tūi* (*Prosthemadera novaeseelandiae*)
Kōkopu: giant bully (*Gobiomorphus gobioides*, also used for *Galaxias* sp.)
Kōnini: berries of *kōtukutuku* or fuschia (*Fuschia excorticata*)
Kōrakiraki: a type of eel
Kōrau: possibly *purau* but Best (1918:54) mentions *kōrau* in traditional times.
Koreke: New Zealand quail (*Coturnix novaeseelandiae*)
Korotipa: “shipworm” according to Williams (1971), but from its inland locations perhaps the large white gorseworm
Kōtukutuku: —see kōnini
Koupara: —see koukoupara
Koukoupara: giant kōkōpu (*Galaxias argenteus*?, but also *Galaxias* sp. generally)
Kōura: both fresh water crayfish (*Paranephrops spp.*) and sea crayfish (*Jasus* sp.)
Kuku: mussel (*Perna* sp. and *Mytilus* sp.)
Kukuruwhatau: banded dotterel [sandpiper] (*Charadrius bicinctus*)
Kurupatu: “a waterbird”
Kūmera (kūmara): sweet potato (*Ipomoea batatas*)
Maakaataharaki (*sic*): kingfish [most likely *Rexea solandri* (known in the north as *hake*), rather than *Seriola grandis*, (the “Kingfish of the North Island”)]
Mahetau: type of potato like small, purple marbles
Mako: various sea fish, especially shark, but cannot be specifically identified
Manawa: type of eel?
Mangā: barracouta (*Thyrsites atun*)
Marāri: butterfish (*Odax pullus*)
Mātā: fernbird (*Bowdleria punctata*)—see toetoe
Matamo: a type of eel
Matuku: bittern (*Botaurus poiciloptilotus*)
Mawehe: unknown
Mehotātai: species of waterfowl
Naupiro: (*Angelica montana?*)
Oho: a rail (*Rallus philippensis assimilis*)
Pakake: probably kelp (*Durvillea antartica*) [see rimu]
Pākura: swamp hen (*Porphyrio porphyrio*), pukaki in Canterbury and pukeko elsewhere.
Papaaka: crab, apparently used generically.
Paara (also pāra): frostfish (*Lepidotus caudatus*)
Panako: “Rock trout” or “torrentfish” (*Cheimarrichthys fosteri*)
Papaī: spaniard (*Aciphylla squarrosa*), smaller than taramea and edible.
Paraki: smelt (*Retr opinna retropinna*) [see also, inaka]
Patete: a small fish
Pātiki: flounders of various sp.
Pāua: *Haliotis* sp.
Pawhaitiri: a small fish
Pioio: a bird, pipit (*Anthus novaeseelandiae*)
Pipi: used for a number of bivalve mussels, but most commonly *Paphies australis*.
Pipiki: *kökopu* (“probably a male bully because it is said to be black” [Strickland 1990])
Pirikaka: fermented kākā (Te Maire Tau, pers. comm. 23/11/99)?
Poketara: traditionally, puffball; these days, usually mushroom; also a metaphor.
Pora: *kawakawa, pora*, according to Williams (1971: 293), is the Southern name for turnip.
Puahapuka (*sic*), pukapuka?: pollen of *raupo* (*Typha angustifolia*) from which a small cake was baked in ashes.
Pūpū: univalve molluscs of various sp.
Purau: “Māori onions” (*Bulbinella angustifolia*). “Had roots like clusters of marbles, virtually unknown in Southland. So well known in Canterbury that a place was named for it” (Beattie 1945: 65).
Rāri: usually ling (*Genypterus blacodes*), but *rarī* is butterfish (*Odax pullus*).  
Rimu: kelp (*Durvillea* sp.), *rimurapa*-leaves, *rimupuku*-stems when roasted, even if hard as wood, the charcoal would be scraped away and the remainder sucked like licorice.  
Roroa: shellfish (*resania lanceolata?* [Beattie 1954: 59])  
Ruao: (*Galaxias fasciatus*)  
Tāka Korari: nectar from, New Zealand flax (*harakeke*) (*Phormium tenax*)  
Tapuku: snowberry (*Gaultheria rupestris*)  
Tiroki: fruit of *kiekie* (*Freycinetia banksii*)  
Toetoe: fernbird22 (*Bowdleria punctata*) —see mātā  
Tuaki: cockle (*Chione stuchburi*)  
Tuna: eel (*Anguilla* sp.)  
Tutu: a shrub (*Coriaria* sp.)  
Tutukiwī: an orchidaceous plant (*Pterostylis banksii?*)  
Upokororo: greyling (*Prototreces oxyrhynchos*)  
Waharoa: horse mussel (*Atrina zelandica*)  
Weka: so-called woodhen (*Gallirallus* sp.)  
Wharawhara: (*Astelia banksii*)  
Whareata: a fungus?  
Whetike: *whetiko*, the *pūpū* (*Monondonta corrosa* [Beattie 1954: 59])  
Whitau: only mentioned in conjunction with *korari*, therefore it can probably be safely assumed that it refers to flax fibre for weaving—known as *muka* in the North.

**APPENDIX 2: RESOURCES MENTIONED IN THE KAHU LISTS**

Note: * marks those cases where number of sites referred to (see note 6).  

<table>
<thead>
<tr>
<th>RESOURCE</th>
<th>NO. OF MENTIONS</th>
<th>NO. OF LISTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>aka (usually: <em>e papa aka</em>)</td>
<td>5</td>
<td>2 lists</td>
</tr>
<tr>
<td>aua</td>
<td>5</td>
<td>4 lists</td>
</tr>
<tr>
<td>ducks</td>
<td>42</td>
<td>5 lists</td>
</tr>
<tr>
<td>hapuku</td>
<td>7*</td>
<td>4 lists</td>
</tr>
<tr>
<td>hapuku koau</td>
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<td>1 list</td>
</tr>
<tr>
<td>harakeke</td>
<td>73*</td>
<td>6 lists</td>
</tr>
<tr>
<td>hi ika</td>
<td>5</td>
<td>3 lists</td>
</tr>
<tr>
<td>inaka</td>
<td>53*</td>
<td>5 lists</td>
</tr>
<tr>
<td>kaeo</td>
<td>10*</td>
<td>4 lists</td>
</tr>
<tr>
<td>kahawai</td>
<td>2</td>
<td>1 list</td>
</tr>
<tr>
<td>kaka</td>
<td>2</td>
<td>2 lists</td>
</tr>
<tr>
<td>kakapo</td>
<td>10</td>
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</tr>
<tr>
<td>kanakana</td>
<td>14</td>
<td>3 lists</td>
</tr>
<tr>
<td>Name</td>
<td>Count</td>
<td>Lists</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>kererū</td>
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<td>2</td>
</tr>
<tr>
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<td>3</td>
</tr>
<tr>
<td>kiore</td>
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<td>40*</td>
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</tr>
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</tr>
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<td>1</td>
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<tr>
<td>mako</td>
<td>5*</td>
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</tr>
<tr>
<td>manga</td>
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<td>2</td>
</tr>
<tr>
<td>marari</td>
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<td>1</td>
</tr>
<tr>
<td>mata</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>pakake/paara</td>
<td>8*</td>
<td>3</td>
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<tr>
<td>pakura (see ducks)</td>
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<tr>
<td>panako</td>
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</tr>
<tr>
<td>papaii</td>
<td>3*</td>
<td>3</td>
</tr>
<tr>
<td>pāra</td>
<td>5*</td>
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</tr>
<tr>
<td>para kāuru</td>
<td>67*</td>
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</tr>
<tr>
<td>paua</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>pipi</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>pipiki</td>
<td>2*</td>
<td>2</td>
</tr>
<tr>
<td>pora-kawakawa</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>pukapuka</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>pupu</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>purau</td>
<td>5*</td>
<td>3</td>
</tr>
<tr>
<td>rāri</td>
<td>4*</td>
<td>2</td>
</tr>
<tr>
<td>rere</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>rimu</td>
<td>5*</td>
<td>4</td>
</tr>
<tr>
<td>taewa (only with kūmera)</td>
<td>5</td>
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APPENDIX 2 – continued

<table>
<thead>
<tr>
<th>RESOURCE</th>
<th>NO. OF MENTIONS</th>
<th>NO. OF LISTS</th>
</tr>
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<tbody>
<tr>
<td>tāka korari</td>
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<tr>
<td>tikumu</td>
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</tr>
<tr>
<td>totokepio</td>
<td>27</td>
<td>1 list</td>
</tr>
<tr>
<td>tuaki</td>
<td>2</td>
<td>2 lists</td>
</tr>
<tr>
<td>tuna</td>
<td>184*</td>
<td>6 lists</td>
</tr>
<tr>
<td>tutu</td>
<td>26*</td>
<td>6 lists</td>
</tr>
<tr>
<td>upokororo</td>
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<td>waharoa</td>
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<td>1 list</td>
</tr>
<tr>
<td>weka</td>
<td>23</td>
<td>3 lists</td>
</tr>
<tr>
<td>whetike (whetoko?)</td>
<td>2</td>
<td>2 lists</td>
</tr>
</tbody>
</table>

NOTES

1. “Mahika kai” is used a little loosely by the informants as this set of lists mentions two vegetable resources which are not foods (taramea, a perfume, and tikumu, used to make leggings). See, note 7 below.

2. Full testimonies, with translations, can be found at National Archives (Wellington): MA 67.

3. It is probably for this reason that marine sites are not included unless they are associated with periodic camps.

4. Kahu is also a major contributor to the Taiaroa Lists, below.

5. All Kai Tahu persons alive in 1848 were allocated “Kaumātua No.’s” in 1925, following a special sitting of the Māori Land Court (published as Ngaitahu Maori Trust Board, 1967). All tribal members today trace their descent from one or more of these kaumātua.

6. Several times places are listed and then a note “ko nga kai o roto o enei rauiri e ..., e ..., (etc.)”. As it is often difficult to ascertain just how many sites the comment applies to, the foods so mentioned have an asterisk (*) after the count in Appendix 2. This could increase some food counts by up to 80-90 additional instances.

7. By comparison with the first set of lists, mahika kai is used even more loosely in this set. Accordingly, natural resources is a better explanation, even though the informants say (e.g.) “The foods are ...” but then go on to include weaving materials and even some lithic resources. Nevertheless, all sites given do mention foods and well known quarries are not mentioned when there is no focus on foods in their vicinity. Perhaps the way to express it is: “These are the places we went to on expeditions when the main purpose of the trip was food gathering. All things which were collected there will be included.”
8. Kai Tahu *Kaumatua* No. is given in brackets.

9. In his testimony (No. 36) to the Smith/Nairn Commission (National Archives, MA 67/4: 17-18), J.W. Stack describes a *kāinga nohoanga* as any place with both a dwelling and a *pātaka* ‘storehouse’. Neither on its own was deemed evidence of regular residence.

10. North Island “uru tī”.

11. A *matatiki* is an underwater spring somewhere in the course of a stream. It is usually a source of somewhat warmer water, and eels are inclined to congregate at such places. This contrasts with a *puna* which is the actual source of a stream—the spot where the flow emerges from underground.

12. An eel preserve named “Te Whakahoki a Paroro”.


14. I have not identified Teoti Taihi but the language he uses is almost certainly that associated with southern Te Wäipounamu.

15. This description is consistent with the drawings by Taihi (n.d.).

16. *Kao* is also the term used for dried *kümera*.

17. Identification of some items has not been possible; for others it is problematic. Further, some traditional names have these days been transferred to another species.

18. Beattie (1954: 46) wrote, “the kurupatu is either a rail or a duck. It is a water bird whose identity I have not solved so I cannot tell its huru (species).” In traditional times, waterfowl were collectively known as *manu wai Māori*. Following contact, “duck” seems to have been used instead. There was no one Māori word covering all species of duck.

19. They are, according to McDowall (1984: 23), the transparent young of the five species of galaxids: (known elsewhere as *inanga*, *inaka*, etc.). See Strickland, *Galaxias maculatus*; *koaro*, *Galaxias brevippinnis*; banded *kokopu*, *Galaxias fasciatus*; giant *kokopu*, *Galaxias argenteus*; and shortjawed *kokopu*, *Galaxias postvectis*. Number and distribution of species have changed since land clearances in colonial times.

   It must be appreciated that traditionally the shoals were significantly larger “[whitebait] ‘covered the face of the waters’ for miles in length; shoals several hundred feet long and varying from three to six feet in width were not uncommon sights as late as 1890.” (Pond 1997: 2, quoting from Mitchell 1948: 45)

20. Beattie (1954: 39) may shed some light: “I also heard another rail, a swamp bird the size of a pateke (teal), called mohotatai.”

21. Khyla Russell remembers the mushroom/puffball debate being carried out in the early 1960s and feels that it has probably gone on much longer than that (pers. comm. 20/12/99).

22. It should be noted that *toetoe* was not used in the south for the plant known here as *kakaho*.
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*Oral informants*

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Higgins, David—Upoko Rūnanga, Moeraki

Russell, Khyla (Dr)—Kai Tahu, Taua

Tau, Rawiri Te Maire (Dr)—Ngāi Tūahuriri

Te Maihāroa, Tim—Kai Tahu, Kaumātua

Walsh, Te Mahana—Kai Tahu, Kaumātua, Puketeraki
ABSTRACT

Pre-European Te Wāipounamu, south of the limit for reliable cultivation of kūmara, was a very different environment to anywhere else in Polynesia, requiring a regional adaptation and associated settlement patterns not seen elsewhere. The unique interjacency of resources and their husbanding (termed mahika kai) led to a geopolity based on the seasonal harvesting journeys, which are described and analysed. A considerable corpus of Māori language material, collected from elders in 1879, allows an insider’s view of the lifestyle that had just disappeared.

Keywords: Mahika kai, Kai Tahu, natural resource management, settlement patterns.