

TOTALS											
		QUESTIONNAIRE			SHORE COUNTS			PATROL COUNTS			
		done?	no.?	J. COULL HUT	done?	TIEKE HUT	done?	TOP	done?	BOTTOM	NOTES
TOTALS	39	331	70	1837	24	365	23	899	27	1487	
MEANS		8.49		26.24		15.21		###		55.07	(Refer to other collection records for other count details).
SUMMER	35	267	67	1712	21	265	23	899	25	1344	
		7.63		25.55		12.62		###		53.76	
EASTER	4	64	3	125	3	100	0	0	2	143	
		16.00		41.67		33.33		0		71.50	
refer notes	A	B	C	D	E	F	G	H	I	J	
A	Questionnaires were administered on 39 days in total. There were 35 Summer days and 4 Easter. Figures corresponded with the availability and ability of Wardens to administer the questionnaires.										
B	A total of 331 people completed questionnaires, with 267 in Summer and 64 in Easter. The rate of completion/day was higher in Easter, which may reflect more intensive use, or the effectiveness of the Warden in administering the questionnaire (this varied amongst Wardens).										
C	Shore counts were done on 70 days in total at John Coull Hut. The actual details of how counts were made, and whether they were always consistently done are not yet available.										
D	At least 1837 people were counted at John Coull Hut, for an average of 26/day for the 70 days in total. Easter rates were higher at an average of 41/day. Again this reflects either higher Easter use or better counting, the former option is the real situation.										
E	Shore counts of people bypassing Tieke Hut and therefore being missed by the questionnaire approach were made on 24 days in total. Summer counting was intermittent, and therefore of limited value. But Easter counts were more consistently done.										
F	Overall the count indicates an average of 15 people bypassing Tieke/day. For Summer it was 12/day and for Easter it was 33/day. It is unclear if this difference is due to more users, a different Easter trip pattern, or better Easter counts. At least minimum averages can be assumed.										
G	Patrol counts of the Top section of the river were done on 23 days, all in summer. On each of these is a corresponding Bottom section count. These counts are accurate although some minor variation is likely due to Patrol timing. Detail not yet available (may be unnecessary).										
H	Top Section counts recorded 899 people, at an average of 39/day. This is a minimum estimate of daily average for Summer use of the Top section. Some of these people may not have passed Tieke Hut due to trip completion at Whakahoro. Estimates of these not yet available.										
I	Bottom section Patrol counts were done on 27 days in total, 25 in Summer and 2 in Easter. No Top section counts were done during Easter. Detail on count variation not yet available (may be unnecessary).										
J	Bottom section counts recorded 1472 people in total (av of 54/day). The Summer average of 53/day was exceeded by the Easter average of 73 people seen /day. Patrol counts were accurate so this clearly indicates greater use intensity in Easter, particularly on the Bottom section.										

APPENDIX 4

Visitor use patterns

This appendix reports information provided by canoeists on the river map included in the questionnaire (Appendix 2). It covers the entry and exit points, the campsites and huts used, and the stops made along the river to view attractions or do walks.

A4.1 River entry/exit points

As described in Section 1.1, trips down the Whanganui River cover two distinct sections, defined by the entry and exit points used (Figure 2). The top section from Taumaraunui to Whakahoro involves entry at either the Cherry Grove site in Taumaraunui, or the Ohinepa site located 15 km downstream. Trips beginning at these sites are referred to as 'Top-entry' trips. The bottom section from Whakahoro to Pipiriki involves a continuation down-river from above, or entry at Whakahoro. Trips beginning at Whakahoro are referred to as 'Mid-entry' trips. Very few canoeists finish their trips at Whakahoro, having done the top-section only (Lythgoe, Hormann, pers. comm.). Table A4.1 shows the entry and exit points used by canoeists sampled in this study.

While an overall view indicates a fairly even distribution of trips starting from the three main sites, it is clear that there is a major difference between the summer and Easter patterns. In summer, over 70% of canoeists used a top-entry site, and completed both top and bottom sections. The remaining 30% joined the down-river flow of use through the bottom section by entering at Whakahoro. In Easter, the preferred top-entry site shifted downstream to the Ohinepa site, effectively shortening the trip. Over 40% also joined the flow at Whakahoro. It would seem that the shorter time available during the Easter holiday period is creating a preference for shorter river trips.

A4.2 Hut and campsite use

The questionnaire map data on the huts and campsites used represents a detailed and specific record. However, the interpretation of these data is complicated by the different entry points used, the different trip lengths, and the relative sample sizes. For example, the number of canoeists doing 3 night trips who entered at Cherry Grove was 35. At this level of response frequency, only broad generalisations are wisely made about the sites used. Despite such limitations, the results are still useful if the appropriate cautions are applied.

A4.2.1 Trip durations

Overall, 1145 visitor nights were recorded on the maps. This represented an average of 3.5 visitor nights per person ($n = 331$), suggesting most trips lasted between 4-5 days, with 3-4 overnight stays. The average for summer was 3.6 visitor nights, while for Easter it was 2.8. For those beginning their trips

Table A4.1 Entry and exit points.

Entry	Overall (n=331)	Summer (n=267)	Easter (n=64)
Cherry Grove (Top-entry)	34	38	15
Ohinepa (Top-entry)	34	33	44
(Top-Entry Total)	(68)	(71)	(59)
Whakahoro (Mid-entry)	32	29	41
Exit			
Pipiriki	97	96	100
Whanganui	3	4	0

with top-entry, the average was 3.8 visitor nights, while for mid-entry it was 2.6. These distinctions were reinforced by the actual numbers of nights the canoeists stated that their trips lasted (Table A4.2).

Summer trips were on average longer than those of Easter, while, as would be expected, the mid-entry trips were shorter than the top-entry trips. In addition, the duration of summer trips appears to have decreased since 1978. In 1978 (Devlin *et al.* 1980), 48% of canoeists spent over 6 nights on trips, compared with only 8% doing so in 1992. And while 23% of 1978 canoeists spent more than one night at some sites, only 8% did so in 1992. Whether this represents a trend in canoeist trip preferences, or a change in trip patterns such as greater use of Whakahoro as an entry point, is not addressed by these results.

A4.2.2 Site-use patterns

The location and pattern of overnight stays by canoeists is of particular interest for managers, given the physical limits to the capacity of some sites. Table A4.3 is a summary of the types of sites used.

Overall, most visitor nights were spent in the sites specifically provided by managers (huts and campsites). Fewer than 15% of total visitor nights were spent at unofficial or 'wild' informal campsites¹⁰. Some variation in the patterns with which the different types of sites were used is apparent, according to the season, and the entry points used. Canoeists who entered the river at Whakahoro (mid-entry) tended to use huts more often than others. Use of formal campsites was most common for those who entered the river at the top, and for summer canoeists in general. Camping by the huts appeared most common during Easter, possibly reflecting hut overflow during this 'peak' period, and the general concentration of bottom-section overnight stays either in or around huts.

However, Table A4.3 cannot tell us which specific sites were used, at what stage in trips such use occurred, or how the differing trip patterns affected their use. Some indication of the amount of site use can be obtained from the site use frequencies presented in Table A4.4. These frequencies represent the number of visitor nights spent at each site in total. Refer to Figure 2 for site locations.

Table A4.2 Nights spent on the trip

Nights on trip	Total %	Summer	Easter	Top-entry	Mid-entry
1 Night	3	3	0	2	5
2 Nights	13	12	27	3	41
3 Nights	37	31	60	36	42
4 Nights	29	33	13	36	13
5 Nights	10	13	0	15	0
Over 5 Nights	6	8	0	9	0
Average nights/trip	3.6	3.7	2.8	3.8	2.6

Table A4.3 Types of sites used for overnight stays.

Site types	Total %	Summer sample	Easter sample	Top-entry	Mid-entry
In huts	30	30	28	24	48
Camped by huts	12	9	28	12	16
Formal campsites	44	46	35	48	33
Informal camping	14	15	9	16	3

¹⁰ Establishment of 'Great Walks' status and the associated informal campsite prohibition in 1993 means these patterns have now changed, and these results suggest few canoeists would be adversely affected by the change.

Calculation of the proportions of overall visitor nights spent at each site is given in Table A4.5, and the proportion of the sample using each site on their trips in Table A4.6.

The low proportions of visitor nights spent at each site indicates overnight stays are spread over a wide variety of sites, rather than being concentrated upon a few very common ones. If a common trip pattern occurred, key sites would emerge with much higher visitor night totals.

Tieke hut and its adjacent camping area did have the highest visitor night totals. For example, for those entering the river at Whakahoro, 39% of their visitor nights were spent in or near Tieke hut. For these canoeists at least, a more 'standard' trip pattern seems to occur. However, this result may in part be due to Tieke but being the location that sampling took place; where managers estimated at least 70% of

Table A4.4 Site-specific use frequencies.

No.	Sites used overnight	Total sample	Summer sample	Easter sample	Top-entry	Mid-entry
1	Te Maire campsite	2	2	0	2	–
2	Camping at Ohinepa	35	29	6	35	–
3	Camping at Nukunuku	20	15	5	20	–
4	Poukaria campsite	101	101	0	101	–
5	Maraekowhai campsite	12	12	0	12	–
6	Camping at Tawhata	1	1	0	1	–
7	Camping opposite Wades Landing	4	4	0	4	–
8	Whakahoro hut	39	34	5	30	9
9	Camp at Whakahoro hut	33	15	18	27	6
11	Kirikiroa campsite	74	69	5	46	28
10	Camping opposite Kirikiriroa	23	20	3	15	8
12	Ohauora campsite	63	44	19	47	16
14	John Coull hut	96	81	15	55	41
13	Camp at John Coull hut	7	7	0	7	0
15	Puketapu campsite	101	77	24	81	20
16	Mangawai-iti campsite	55	46	9	49	6
17	Mangapurua campsite	49	44	5	32	17
20	Camping at Parinui	1	1	0	1	0
22	Tieke hut	206	176	30	130	76
23	Camp at Tieke hut	103	71	32	73	30
24	Ngaporo campsite	19	19	0	17	2
25	Pipiriki campsite	29	29	0	29	0
26	Other informal camping	72	66	6	67	5
	Total visitor nights	1145	965	180	870	275
	Sample size (n =)	331	267	64	228	103
	Average nights per person	3.5	3.6	2.8	3.8	2.6

Table A4.5 Main overnight sites used (% of total visitor nights).

Main sites used	Total %	Summer	Easter	Top-entry	Mid-entry
Tieke hut	18	18	17	15	28
Camp by Tieke hut	9	7	17	8	11
Poukaria campsite	9	10	0	12	0
Puketapu campsite	9	8	13	9	7
John Coull hut	8	8	8	6	15

Table A4.6 Percentage of canoeists using each site.

Main sites used	Total %	Summer	Easter	Top-entry	Mid-entry
Tieke hut	62	66	47	57	72
Camp at Tieke hut	31	27	50	32	28
Poukaria campsite	30	38	0	44	0
Puketapu campsite	30	29	37	36	19
John Coull hut	29	30	23	24	40
Kirikiroa campsite	22	26	8	20	27
Unspecified informal camping	22	25	9	29	5
Ohauora campsite	19	16	29	21	15
Mangawai-iti campsite	17	17	14	21	6

canoeists usually stayed. Reference to Table A4.6 gives a clearer picture of where the canoeists stayed overnight, based upon the percentage who used each, rather than that of total visitor nights.

Again, as would be expected for the sampling location, almost 100% of the sample either stayed in or camped beside Tieke hut¹¹. No other site was used by such a high proportion of the sample, again suggesting that trip patterns are characterised by diversity rather than consistency amongst the different canoeist groups.

A number of other interesting findings can be derived from Table A4.6. John Coull hut and the nearby Puketapu campsite¹² attracted approximately 50% of canoeists on most trips. This suggests an overnight stay in the vicinity of John Coull but is an important part of many of the trips made down the river. Use of the hut itself is particularly high for those starting trips at Whakahoro. By contrast, those starting at the top tend to prefer camping rather than huts, and include a much higher number of canoeists camping at unspecified 'informal' sites. Subsequent closure of the Puketapu site for camping has required

The Tieke and John Coull hut areas appear to attract the most overnight use. Overall, hut use is higher on the bottom section, and camping is preferred more in the top section. Those doing the top section first must be prepared for camping, which may explain their preference for it relative to the mid-entry starters. This is, however, rather speculative, and reference to the sites used according to different trip patterns would be useful here. It is here that the limitations of the data, and more particularly the sample size, become apparent.

The ways in which use of these overnight sites fitted into the different trip patterns of the canoeists is less easily determined than their overall use levels. The main limitation resulted from the inadequate response frequencies which remained once the data was broken down by trip pattern. However, this was done, and the main points which could be taken from this are summarised below, according to which entry point was used and the trip duration.

A4.3 Site use for different trip patterns

A4.3.1 Cherry Grove entry (n = 111)

This top-entry point was used by 34% of the overall sample, decreasing to 15% for Easter. Of these, 11% were on 1 or 2 night trips, 33% were on 3 night trips, 31% on 4 night trips, and 25% on trips of 5 nights or more. Sites used are summarised in Table A4.7.

11 This is now recognised as a marae, but public overnight use is still available subject to marae protocols.

12 Closure of this site in 1993 presented a potential bottleneck in the commonly used John Coull hut area, but the Department is developing new campsites in the area to compensate for the change.

Table A4.7 Sites used from Cherry Grove entry. Named sites are the most important.

Nights	3 night trips (n = 35)	4 night trips (n = 33)
1	46% Poukaria, 23% informal	48% Ohinepa, 30% Poukaria
2	48% John Coull, rest scattered	51% Camp Whakahoro, 24% Whakahoro hut
3	66% Tieke hut, 28% camped Tieke	39% Puketapu, 36% John Coull
4		54% Tieke hut, 36% camp Tieke
Nights	5 night trips (n = 15)	6 night trips (n = 10)
1	87% Poukaria	60% Poukaria
2	40% Puketapu, 33% Whakahoro hut	80% informal
3	33% Puketapu, 23% camp Tieke	50% Kirikiriroa camp, 30% informal
4	40% Tieke hut, 33% informal	50% Puketapu, 30% Kirikiriroa
5	no data, mostly "missing"	50% Tieke hut, 30% Mangawai-iti camp
6		50% Ngaporo camp, 30% Tieke hut

Clearly, use patterns became less consistent as trip length increased from the Cherry Grove start. Poukaria campsite was commonly used on the first night of all trips, while Tieke hut was commonly used on the last night. John Coull hut appeared less important for longer trips, although frequencies were low. However, it is likely that periods of bad weather would increase the frequency of overnight stays there. Manager observation indicate greater hut use in wet conditions (Lythgoe, DoC, pers. comm.).

A4.3.2 Ohinepa entry (n = 114)

This top-entry point was used by 34% of the survey sample overall, increasing to 44% in Easter. Of these, 9% were on 1 or 2 night trips, 36% were on 3 night trips, 42% on 4 night, and 17% on trips of 5 nights or more. The main difference (Table A4.8) from Cherry Grove trip starts were a higher proportion of 4 night trips from here, and a lower proportion of trips over 5 nights.

Again, as trip duration increased, use of less popular sites and camping rather than huts appeared to increase. The John Coull hut area does not seem to attract much use from Ohinepa-entry trips, apart from those of 3 night duration. Informal camping on undefined sites appears to be particularly important for the first nights of trips, while Tieke hut is commonly used for last nights. Use of sites above or below the John Coull hut area seems to best fit the longer trip patterns starting at Ohinepa.

Table A4.8 Sites used from Ohinepa entry. Named sites are the most important.

Nights	3 night trip (n = 41)	4 night trip (n = 48)
1	32% informal, 24% Whakahoro hut, camp, Ohauora	75% Poukaria
2	47% Puketapu, 22% John Coull	46% Kirikiriroa, 35% Ohauora
3	66% Tieke camp, 23% hut	58% Mangapurua, scattered
4		50% Tieke hut, 38% Pipiriki camp
Nights	5 night trip (n = 19)	
1	58% informal, 30% Jock Ercegs	
2	scattered (42% opposite Kirikiriroa)	
3	68% Mangawairiti camp	
4	58% Mangawairiti camp	
5	100% Tieke camp	

A4.3.3 Whakahoro entry (n = 103)

This mid-entry point was used by 32% of the survey sample overall, increasing to 44% in Easter. Of these, 41% were on 2 night trips, 42% on 3 nights and 13% on 4 nights. The main differences (Table A4.9) from the top-entry sites were the much higher proportion of 2 night trips from here, and the lower proportion for 4 nights.

Trips from Whakahoro were shorter and less varied than those starting at the top. Use of huts was particularly common on 2 night trips, while those on 3 night trips tended to camp either above or below the John Coull hut area on nights 1 and 2.

Table A4.9 Sites used from Whakahoro entry. Named sites are the most important.

Nights	3 night trip (n = 41)	4 night trip (n = 48)
1	44% John Coull, 22% Ohauora	31% Kirikiriora, 19% Whakahoro hut, Ohauora
2	71% Tieke hut, 29% Tieke camp	45% John Coull, 14% Puketapu, Mangawai-iti, Mangaparua
3		69% Tieke hut, 14% camp

A4.3.4 Summary

From all these analyses, some generalisations can be made:

- Top-entry trips and trips of greater duration tended to involve more camping, and use of a diverse range of overnight sites. Hut use and consistent trip patterns were more characteristic for the shorter duration and mid-entry trips.
- Most informal camping appeared to occur in the top section, especially on the longer trips.
- Common to almost all trips was use of Tieke hut on the last night, as would be expected of the sampling location. However, some canoeists were observed by-passing Tieke (Section 3.1.1), indicating that other trip patterns were also occurring.
- Overnight stays in the John Coull but area were fairly equally balanced between the hut, and the nearby Puketapu campsite (now closed). Use of the Kirikiriora and Ohauora campsites above this area, and the Mangawaiiti and Mangapurua campsites below, tended to predominate over its use on trips of greater duration.

These generalisations are based on low response frequencies, and their interpretation must be qualified. However, they do demonstrate that distinct patterns of use based upon different entry points and trip durations occur. They also provide the basis from which managers can identify where problem areas and 'bottle-necks' may arise if access rights or use-level changes occur.

Table A4.10 Riverside attraction visits.

Riverside attractions visited	Total %	Summer	Easter	Top-entry	Mid-entry
Bridge to Nowhere only	63	60	78	64	63
'Bridge' and Mangapurua Valley	7	8	3	10	1
Maraekowhai/ Niu Poles	23	26	9	33	0
Kirikiriora steps/ lookout	18	14	31	16	21
Tamatea Cave	12	11	14	9	17
Puraroto Caves	7	9	0	11	0
Mangawaiiti Landing	5	5	5	1	13
Waiora Springs	4	4	0	5	0
Puketapu	3	4	0	4	1
Jock Erceg's Museum	3	4	0	4	0
Other	21	21	20	26	10
(n =)	331	267	64	225	103

A4.4 Visits to riverside attractions

Whanganui River trips provide the opportunity to engage in a number of riverside walking and sightseeing opportunities. Canoeists were asked to mark on the questionnaire maps the places they had disembarked for such activities. In total, 82% of canoeists visited an attraction, with 55% doing two, 23% doing three, and 8% doing four or more. Almost all Easter canoeists visited an attraction (97%). Table A4.10 shows where these visits were made, and provides frequencies from which use percentages can be calculated.

These data show that 70% of the overall sample walked the Bridge to Nowhere track, including 7% who also explored further up the valley. This track was the most popular overall, followed by visits to the Niu Poles and Ohura Falls at Maraekowhai (23%), and the Kirikiriroa lookout (18%). The remaining tracks and sites were less frequently used. Over 20% of canoeists also visited a variety of "other" sites. These sites were very diverse, and were each visited at only low frequencies. The concentration of these other visits occurred on top-entry trips, and particularly on the top section itself.

Some variation in visit patterns was also evident from trips of different durations. Table A4.11 shows the frequencies of visits made on these. However, these were low once the data was broken down, limiting the validity of anything but the broadest generalisations.

Most people visited the Bridge to Nowhere, particularly on longer top-entry trips, and almost all mid-entry trips. These mid-entry trips were short in duration, and apart from the most popular site, few other visits were made. This may reflect a tighter time-budget for these trips, leaving time for only the most popular walks. Top-entry canoeists tended to visit a greater variety of sites, and this increased with trip length. For example, the proportion of visitors to the Bridge to Nowhere was higher on the longer top-entry trips in particular.

Table A4.11 Attraction visit frequencies by trip duration.

Attractions visited (% of those who visited this)	Top-entry %			Mid-entry %	
	3 nights	4 nights	5+ nights	2 nights	3 nights
Bridge to Nowhere	78	69	97	97	83
'Bridge' and Mangapurua Valley	3	17	19	3	0
Maraekowhai/ Niu poles	39	21	75	0	0
Kirikiroa steps/ lookout	31	8	17	13	41
Tamatea Cave	10	6	14	29	10
Puraroto Caves	3	18	22	0	0
Mangawaiiti Landing	0	0	0	0	7
Waiora Springs	0	15	33	0	0
Puketapu	5	6	0	0	3
Jock Erceg's Museum	13	1	0	0	0
Other	25	32	28	0	31
(n =)	67	77	36	31	29