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EFFLUENT DISCHARGE LOCATIONS FOR MOTORISED CARAVANS: A GIS ANALYSIS FOR THE SOUTH ISLAND NEW ZEALAND

A Dissertation Submitted In Partial Fulfilment
Of The Requirements For The
Postgraduate Diploma Of Resource Studies
At Lincoln University

By Caleb Smith.
Lincoln University.
2000

ABSTRACT

Freedom Camping has gained popularity in New Zealand in the last decade. This has created the potential for consequential environmental problems. Various public sectors are concerned about the disposal of untreated sewerage commonly disposed besides roads, in rest places and in streams and rivers. At the same time campervan travellers have expressed frustration because there are limited public effluent disposal facilities situated around New Zealand.

Members of the New Zealand Motor Caravan Association Incorporated (NZMCA) completed surveys detailing their travel patterns and travel behaviour. Data was modelled and analysed using a Geographic Information System, to determine locations where public disposal facilities were required.

Research indicated that this issue is complex and there are many factors involved, which determine whether travellers discharge of effluent legally, or not. Recommendations include introducing an awareness program to educate travellers about potential environmental and health hazards associated with illegal effluent discharge. Information also needs to be widely distributed, regarding the availability and characteristics of disposal facilities around New Zealand.

Keywords: Caravans, Campervans, Dump Stations, Effluent Disposal, Freedom Camping, Free Independent Traveller, Geographic Information System (GIS), Human Waste, MotorHomes, Recreational Vehicles.

A NOTE TO PARTICIPANTS IN THIS RESEARCH

This research is the product of extensive communication with members of the New Zealand Motor Caravan Association (NZMCA), members of the Holiday Accommodation Parks New Zealand (HAPNZ), Transit New Zealand and a review of existing literature on the issue of effluent waste associated with campervans. Each participant in the study had 'their own story to tell', and I appreciate the honesty which was generated for this research. Understandably tension exists for such a complex issue. While members of different organisations may be uncomfortable with aspects of this study, I have tried to be objective in providing an understanding of the overall problem. To provide such an understanding, it is important that all viewpoints are considered and communicated. My aim for this report is to achieve a greater awareness of this issue in New Zealand, to identify 'gaps' in the system (especially in locations, which require effluent disposal facilities) and to promote greater environmental responsibility leading to sustainability in regards to campervan effluent disposal in New Zealand. This research raises further questions in relation to effluent disposal, and my hope is that other researchers will examine these in the future. Throughout this study I have aimed to understand the context behind communication with respondents, but make sincere apologies, if in any way I have misrepresented anyone's viewpoint. I thank each individual who took the time to aid me in this study.

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CHAPTER ONE
INTRODUCTION & LITERATURE REVIEW

1.0 Background

The Free Independent Travel (FIT) market is increasing rapidly in New Zealand. This can be in part credited to the growing awareness of New Zealand and its 'clean green' image on the international tourism market. Domestic travellers, who also form a significant part of this industry, tend to avoid the main tourist routes defined by Aitken (1986) as the 'Golden Circle', and travel to more remote locations.

A consequential problem emerging from the increase in the FIT market and freedom camping is the illegal discharging of effluent. Campervan hire companies and others marketing the New Zealand free outdoor experience promote the concept of 'camp wherever you want in a campervan' to travellers (Parliamentary Commissioner for the Environment, 1997). Various public sectors have expressed concern over effluent, which is discharged at roadside rest areas, farm paddocks and into waterways. Bay of Plenty environmental monitoring committee councillor, Jacqui Hughes commented

> *"Users of campervans have been spotted by the public emptying their wastewater tanks on roadsides around the region"* (NZ Local Government, 1994).

Newspaper s around the country reinforce such statements and have highlighted the issue of effluent disposal being a problem. Contributing to this problem is the increasing number of campervans on New Zealand roads. This mode of transport is attractive to a wide range of domestic and international travellers, offering versatile, quality and relatively cheap travel and accommodation, while travelling around New Zealand.

One segment of this transport industry is the New Zealand Motor Caravan Association Inc (NZMCA). This segment comprises of over 11,000 members within New Zealand using vehicles ranging from buses to commercially built campervans, (NZMCA, 1998). Most of these vehicles are recreationally used

during the holidays and weekends, though some are used for permanent living. The NZMCA has expressed concern over the problem of effluent discharge and is cooperating with this research with the aim of eliminating this problem in future.

1.1 Free Independent Travel

Modern traveller s are increasingly mobile and enjoy greater freedom than traveller's of the past (Burkart & Medlik, 1981). Trends have shifted from tourist packages to camping with tents and caravans (Holloway, 1983) and Holloway believes this trend has grown in parallel with car ownership.

Parr (1989) has extensively defined the characteristics of FITs (Free Independent Travellers) in New Zealand. The following summarises relevant findings by Parr. FITs tend to stay longer than tourists, with a mean stay in New Zealand of 33 days compared to 24 days by 'tourists'. The majority of the FIT group travelled between 15-31 days, while the distribution in the length of stay for tourists was more evenly spread. Parr determined that FITs travel mainly in small groups, couples, pairs or alone. The largest category for group size for FITs was two people. FITs are unlikely to travel in larger groups, which often proves difficult for larger groups to travel together. It is also more difficult to anticipate that accommodation will be available at short notice. Parr states that the daily holiday expenditure of the average FIT was less than expenditure by the average tourist.

1.2 Freedom Camping

Newspapers have highlighted problems associated with freedom camping. In some areas freedom camping has been banned. For example, in Wanaka, farmer s ensured a ban was enforced around the Motatapu River, following numbers of camper s leaving behind human effluent, waste water and rubbish (Smith, 1995). Farmer s emphasised that one or two freedom campers were not a problem (and not all freedom campers illegally discharge waste), but this mode of travel has become popular and campers concentrate their camping activities alongside rivers, farm paddocks and rest areas, creating problems associated with effluent waste

discharge. Cole et.al (1987) also believe human waste only becomes a problem where use is relatively high. Elsewhere, decomposition usually eliminates waste before it becomes a problem (Cole et.al., 1987).

1.3 Human Waste, Wilderness And Recreation.

Literature is well documented with the problems associated with human waste in wilderness areas and in recreation, for example alongside rivers (Harris et.al., 1990), wilderness areas (Morin et.al., 1997) and human waste and boating activities (Booth & Cullen, 1995, Baasel-Tillis & Tucker-Carver, 1998, Shafer et.al., 1998). Morin et.al believe that the inadequate disposal of human waste is one of the greatest influences affecting the quality of visitor experience in the wilderness.

1.3.1 Research in Westland

In addition to campervan travellers, other travellers and recreationists are also responsible for illegally discharging human waste. This includes those travelling by car, trampers, hitchhikers, cyclists and other visitors. The Westland District Council (1996) found 61% of all sites surveyed along State Highway 6 in the Westland District contained toilet paper. Seventy-three percent of all sign posted rest areas contained toilet paper. The Westland District Council (1996) concluded however that campervan holding tank waste was present at only one of these sites.

Wilderness areas often have fragile ecological systems and are less able to tolerate human waste as other sites which have been 'hardened' are. The Parliamentary Commissioner for the Environment (1997) believes West Coast geology also makes the problem of human waste disposal difficult. Impermeable limestone and sandstones allow seepage from human waste to pollute groundwater. The high rainfall on the West Coast also means areas are vulnerable to surface water contamination (Eyles et.al., 1999), though this will also dilute human waste to some extent.

1.4 Availability Of Disposal Facilities

The NZMCA handbook (NZMCA, 1998) details locations in New Zealand that have disposal facilities, the number of which at first seems adequate. However communication with members of the NZMCA has revealed that these are disproportionately located throughout the South Island and do not meet the requirements of campervan travellers. Effluent disposal only becomes a problem in popular areas where there are not dump stations or when travellers are not aware of their availability. As remote areas become more frequented by travellers, disposal facilities become necessary, to avoid damaging the natural wilderness.

1.4.1 Public & Private Disposal Points

Public dump stations often allow for travellers to discharge effluent at no cost. These include facilities located at service stations. Private dumping stations mainly located in camping grounds, generally charge a small fee, to allow travellers to discharge effluent, though some allow traveller s to use their facilities free. Others however may refuse access to these facilities, if travellers have not stayed overnight at their camping grounds. Some camping grounds charge considerable fees to use such facilities, if travellers do not stay overnight at their grounds, thereby discouraging traveller s from using these facilities (Heatherington, pers. comm., NZMCA, 1998). These obstacles encourage freedom campers to discharge effluent elsewhere, which may be to the detriment of the environment.

1.5 Environmental Damage

Effluent discharged from campervans is either grey water or black water. Grey water from washing water may contain sodium and phosphates. Sodium in large amounts can adversely affect the soil structure and create alkali soils, which impairs land for uses such as agriculture (McNeeley et.al., 1979). High concentrations of phosphates tend to promote algal growth in waterways, contributing to eutrophication (McNeeley et.al., 1979).

Black water from human excrement is high in nitrogen. A high concentration of nitrates in drinking water decreases the oxygen carrying capacity of the blood

(McNeeley, et.al., 1979). Chapman & Kimstach (1992) state that high nitrate concentrations in water also causes eutrophication. Preservative and deodorising chemicals used in campervan effluent tanks also contribute to environmental deterioration. Eyles et.al (1999) believe that the carcinogen formaldehyde is still used by some campervan travellers in tanks, even though this is now illegal in some other countries. Kiernan et.al (1983) have extensively studied the properties of chemical wastes from recreation vehicles. Kiernan et.al allege formaldehyde is toxic to microorganisms that carry out biological waste treatment and also to higher organisms from fish to humans.

1.6 Health

Effluent discharged in streams, lakes and rivers is a health hazard to campers swimming and using water from waterways. Excrement deposited on roadsides, in forests or by rivers can contaminate water supplies through run-off (Eyles et.al., 1999). Eyles et.al allege that human faeces contain a number of pathogens, which are capable of being transmitted through water. Susceptibility to diseases through contamination includes giardia, cryptosporidiosis and the bacterium Escherichia coli (E.coli). Brown et.al (1992) found that 32.7% of New Zealand's waterways contained the bacterium giardia. Health Canada (1999) details the symptoms of giardia and cryptosporidiosis below.

Symptoms of giardia include diarrhoea, abdominal cramps, gas, malaise, weight loss, vomiting, chills, headache and fever. These symptoms usually happen within 6 to 16 days of the initial contact and can continue as long as a month. The symptoms of cryptosporidiosis are similar; the most common are water diarrhoea, abdominal cramps, nausea, and headaches. These symptoms occur within 2 to 25 days of infection and can last from one to two weeks or as long as a month. The major symptoms of E.coli are stomach cramps, diarrhoea, vomiting, fever and chills (Virginia Department of Health, 1994). During summer these risks are higher, when the number of campers reaches peak levels and when the water is warmer.

Kiernan et.al (1983) found use of disposal stations was highly seasonal, with use during the year mostly occurring through the summer months and holiday periods. During these periods, such areas are likely to be concentrated with high levels of human waste.

A survey by the Westland District Council (1996) found sites holding toilet waste were often close to waterways. Sixty-nine percent of the sites surveyed had waste 50 metres or less away from waterways. The Westland District Council believes animals in particular are susceptible to faecal material and could transport pathogens into drinking water supplies. The Westland District Council suggests that waste left by overseas visitors could contain pathogens not already prevalent in New Zealand.

According to Meyer (1989) the period of time required for buried human excrement to decompose under the best conditions is more than a year. This is dependent upon a range of variables including soil types and textures, filterability, moisture content, slope of terrain, general exposure, insect inhabitation, pH and temperature (Lynch, 1996). Hyslop (1978) discovered some *Salmonella* serotypes survived in dried faeces for three years. The ability of bacteria to survive for such long periods is of concern, especially where travellers are camping in concentrated areas.

1.7 Aesthetics

Cole (1989) argues that human waste is not a problem in itself, it only becomes a problem when humans come in contact with it. Because humans do come in contact with it, it has become a real issue. Transit New Zealand is currently examining the extent of effluent disposal in rest areas. Some rest areas contain human waste provoking offensive odours. This is a deterrent to other freedom campers and tourists who wish to stop at rest areas. Such aesthetic distractions taint New Zealand's international 'clean green' image.

Respondent s in survey's conducted by Parr (1989), revealed visitors, especially Europeans, come to New Zealand to enjoy the pristine environment they no longer

have in their own countries. Some FITs mentioned they thought there was an excessive amount of litter on roadsides in New Zealand. Without resolution of the effluent disposal issue, it is likely that tourists will disclose similar complaints about effluent in future.

1.8 Inconsistent Regulations

District Councils have different regulations concerning freedom camping. This creates confusion, as travellers are unaware where freedom camping is permitted. Hindmarsh (1997) suggests that Arthur's Pass National Park area encourages free roadside camping, by not charging campers any fee. The Buller District Council has recently released a bylaw, which permits freedom campers to stay in a particular area for a maximum of 7 days (Heward, pers. comm., HAPNZ, 1999). The Westland District Council allows Freedom Campers to freedom camp within the region indefinitely (Heward, pers. comm., HAPNZ, 1999). Signs in other parts of the country explicitly state that freedom camping in not permitted.

1.9 Traveller Typologies

Heward (1999) has identified 3 different types of campervan users.

1. Vehicles for recreation purposes: These people are both New Zealand and International travellers who use either private or rented vehicles. Travellers from this group spend money on activities, services and gifts and generally on accommodation of one sort or another. It is generally recognised that 1 in 5 nights are spent in accommodation other than their own campervans. It is also recognised that this group also spends an average of 5 times their camp fee in the local community.

2. 'Mobile Houses': These people use their mobile vehicles as their homes. They have no other houses or permanent address. Vehicles are usually well set up for living and these vehicles may be equipped with washing machines, dryers and at times dishwashers, as well as the usual showers, sink and hand basins. Holiday parks are only used on isolated occasions and travellers spend little in the community.

3. House trucks, buses and vans: This group lives a 'gipsy' lifestyle – they are always on the move and often only have very basic sanitation. People who fall into this category may have strong conservation views. These travellers tend to avoid popular tourist areas during summer, and camp alongside remote forest roads, gravel pits and riverbeds. During winter, they may however come closer to towns or use Department of Conservation campsites. Members of this group generally spend nothing in the community and generally do not use dump stations, regardless of location.

1.10 Terminology

Terms used to describe campervans are diverse. The following terms may be used in different countries and literature: Buses, Campervans, Caravans, Mobile Homes, Motor Caravans, Motor Homes, MoVans, Recreational Vehicles and Vans. For the purpose of this exercise the term campervan(s) shall be used. The following terms will be used throughout the study and are defined below.

1.10.1 Black Water

Black Water is any water that has human waste contamination (NZMCA, 1998, p.317).

1.10.2 Grey Water

Grey Water has no human waste contamination (NZMCA, 1998, p.317) and comes from the bathroom, laundry and kitchen (Makeham, 1997).

1.10.3 Freedom Camping

Freedom Camping involves camping in areas not designated for that purpose, where (usually) no financial cost is imposed on the camper (MFE, 1988, p.1).

1.10.4 Free Independent Traveller

Visitors who make their arrangements at the last opportunity, there is no agreement on other aspects; whether they are domestic or international visitors, on holiday, or on business (Parr, 1989, pp.1-2). Tsang (1993, p.21) defines Free Independent Traveller's as those with a limited amount of pre-planning and pre-booking of the trip; who are not on packaged tours; and visitors who leave most, if not all, of their travel-related sub-decision making after their arrival at a destination.

1.10.5 Semi-Independent Traveller

Holiday visitors who prepaid at least part of their holiday, but did not travel on a package (NZTB, 1993).

1.11 Summary

Extracts from The Ministry of the Environment (1988) are summarised below, regarding the issues arising from effluent disposal:

1. Insufficient supply of toilet facilities for travellers;
2. An increasing number of recreational vehicles equipped with toilets; the impact is compounded by an inadequate supply of sewage disposal points and lack of available information about existing disposal points;
3. Increased number of freedom campers;
4. Poor availability of education/information material for campers;
5. Inconsistent application and enforcement of by-laws and regulations by agencies administering affected land;
6. The remoteness of many of the areas affected.

CHAPTER TWO
METHODOLOGY

2.0 Purpose Of This Study

The purpose of this study is to examine the issue of campervan waste disposal. This will provide various government and tourist sectors with information about the extent of the problem and solutions, which at present is limited. The following aims have been formulated:

1. To examine the travel patterns and behaviour of domestic campervan travellers.
2. To identify locations where effluent disposal units are required within the South Island.
3. To compare domestic travel campervan patterns with international patterns.

These aims will be achieved through the following objectives:

1. To identify where NZMCA members currently discharge effluent in the South Island.
2. To quantify the amount of effluent discharged at locations within the South Island.
3. To survey where members of the NZMCA stay overnight while travelling.
4. To determine the frequency of effluent disposal at each location.
5. To examine literature regarding domestic and international campervan travellers.

2.1 Research Design

Information relating to the aims and objectives of this study was largely obtained from two sources.

Study 1 Pilot Survey with members of the New Zealand Motor Caravan Association (NZMCA). This study was carried out between January and July 1999.

Study 2 Survey of Camping Grounds and Service Centres in the South Island. This study was carried out in November 1999.

2.2 Study One - Pilot Survey of NZMCA Members

2.2.1 The Sample

Members of the NZMCA were invited to anonymously participate in this research. Volunteer members were supplied with a Travel Diary Kit. This kit contained a survey (refer to Appendix 1) and a large detailed Pathfinders map of the South Island. Participants were asked to register on the survey form, the distance they had travelled, the capacity of their effluent tanks, an estimate of the amount of effluent that was discharged of at each location, and the number of people travelling. Participants were also asked to record on the map provided where they had travelled, where any effluent was discharged, and suggested locations for future disposal units. A total of 75 surveys were sent to participating members of the NZMCA. Forty-five participants (60%) responded with completed surveys.

2.2.2 Advantages of Travel Diary Kit

Travel diaries were the most effective method of collecting quantitative data for this research. The anonymous nature of the survey allowed members to be honest about their current effluent disposal practices, which is necessary for this research. Members indicated that effluent is still being disposed in illegal places such as in waterways. Such information would be unlikely, if members were identified.

2.3 Study Two - Camping Ground and Service Station Survey

2.3.1 The Sample

Many surveys completed by NZMCA members revealed that size and weight restrictions in some locations prevented campervans from utilising the facilities. Surveys and the NZMCA Handbook revealed some facilities did not have the Standard Thetford Fittings, which many campervans use. Questionaries were sent to camping grounds and service stations to determine the extent of these problems and to examine opinions of private camping organisations with regards to the issue of campervan waste disposal. These organisations were selected from the NZMCA Handbook (1998). Sixty-Four questionnaires were sent out to organisations in the South Island, which had contact addresses listed in the NZMCA Handbook (1998). Twenty-Eight questionaries were returned completed.

These questions sought to establish the following (paraphrased) from each organisation:

- Do your effluent disposal facilities cater for black water disposal (human effluent)?
- Is a fee required when disposing of effluent, for travellers staying at your camp over night? (*Please specify amount)*
- Are other caravan/campervan travellers permitted to use your effluent disposal facilities? If you answered ***YES***, please indicate if applicable, the fee charged to use your effluent disposal facilities.
- Approximately how much room is available for caravans/campervans to stop beside your facilities to dispose of effluent (Length, Width, Height)?
- Do you have any weight restrictions for caravans/campervans using your effluent disposal facilities? (*Please specify*)
- Do your effluent disposal facilities have: (Standard Thetford Fittings/ No Fittings/ Other Fittings).

The full questionnaire is recorded in Appendix 1

2.4 Other Sources of Information

Data provided by Transit New Zealand is also been used to assist in this research. Transit New Zealand has identified rest areas around New Zealand, which are polluted with human waste.

2.5 GIS Analysis

Information from Study 1, Study 2 and data collected from Transit NZ were compiled into a GIS (Geographic Information System) database for analysis. Analysing the spatial information of human behaviour is complex and GIS enables researchers to analyse complex spatial models of humans and their behaviour.

2.6 GIS Process

The process involved in analysing data collected and producing results is illustrated in Figure 1. Prioritised values for each location were calculated, based on the number of people staying overnight at each location, the number of times effluent was discharged at each location and the amount of effluent discharged at each location. Locations were nominated a number between 1 and 5, for each of these three factors, based upon data from surveys in Study 1. These factors were then combined to provide an overall priority value for each location. The maximum priority value for a particular location was 15 (ie. a value of 5 for each of the three factors). Locations with higher priority values indicate areas where public disposal facilities are highly recommended, if these are not already present. Results are presented in Chapter 4.

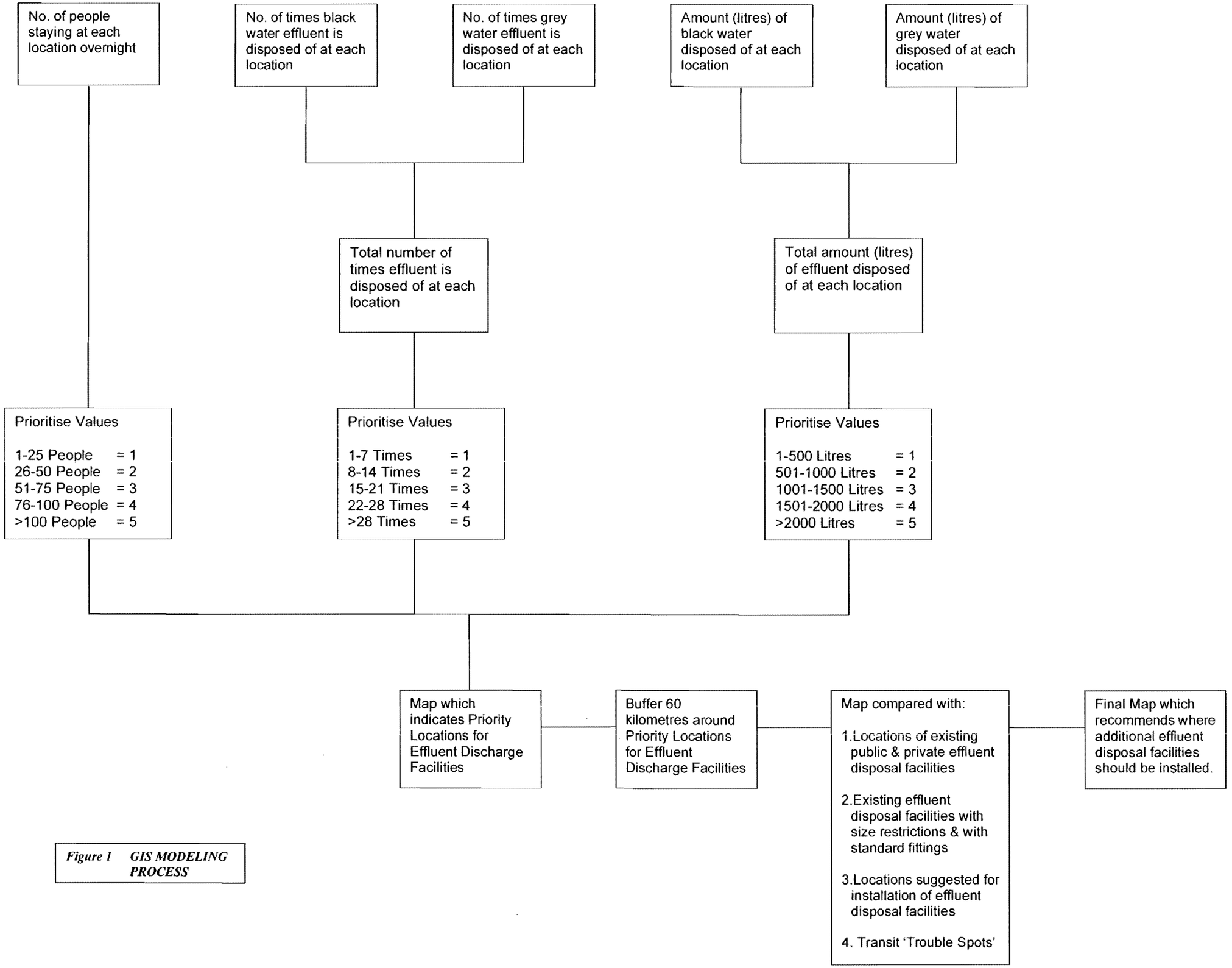


Figure 1 GIS MODELING PROCESS

CHAPTER THREE
CONTRIBUTING FACTORS TO ILLEGAL DISPOSAL OF EFFLUENT

3.0 Locations Of Effluent Disposal Facilities

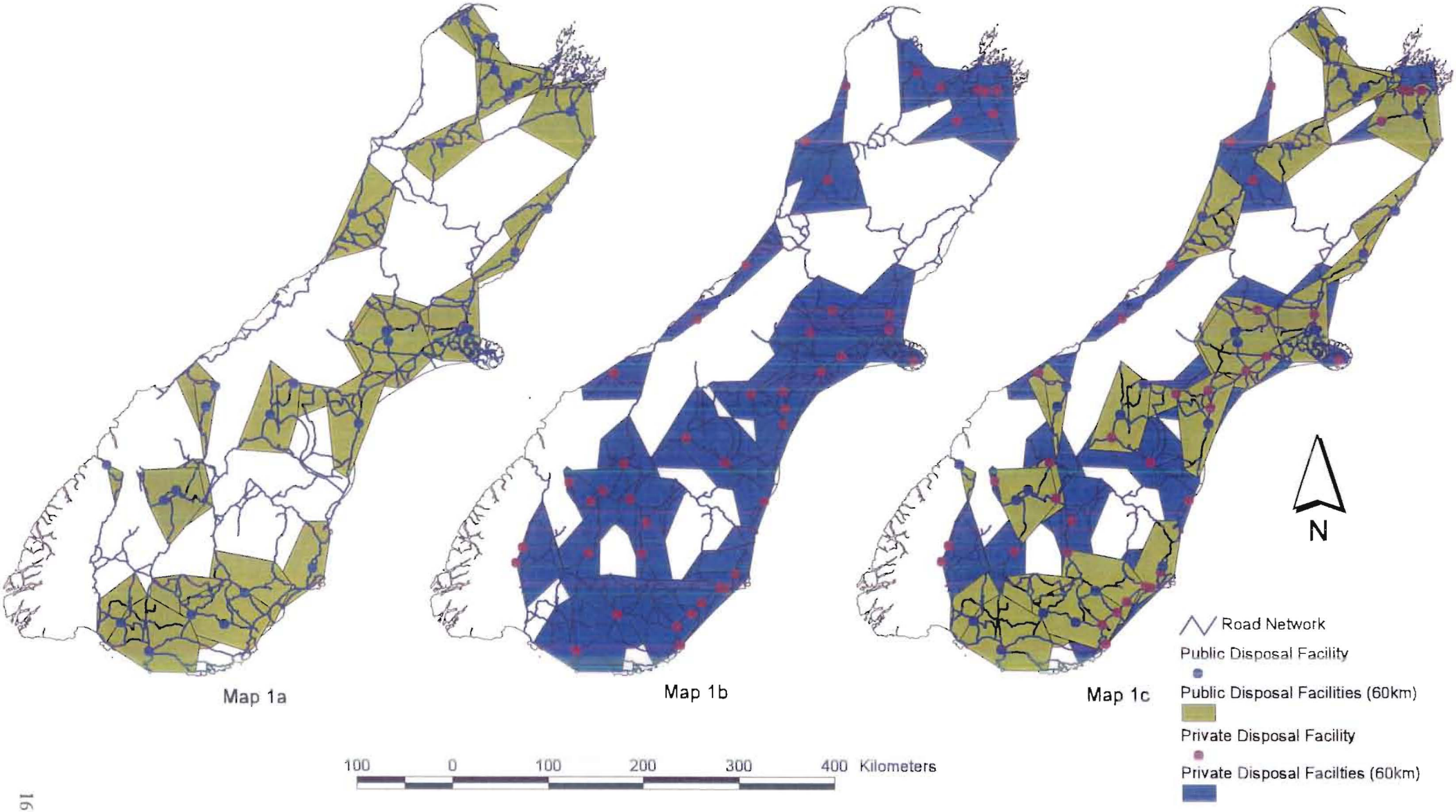
Public disposal facilities include DOC sites and Service Stations specified by NZMCA (1998) as public facilities. Map 1a identifies locations of public effluent disposal facilities and a buffer of 60 kilometres around each location. It is assumed that campervans will be able to travel this distance between disposal points. There exists a concentration of disposal facilities within the Nelson region, while parts of Canterbury and South Westland are lacking these facilities. Map 1a illustrates that the current number of public disposal facilities is inadequate, as the NZMCA has indicated. In comparison, the number of private disposal facilities (and associated coverage area) in the South Island is higher (Map1b).

The combined 60-kilometre coverage from public and private disposal facilities (Map 1c) almost covers the entire South Island. This raises the question whether there is a need for additional public effluent disposal facilities. Clearly, with problems arising with illegal dumping, there are external factors contributing to this problem. The following sections examine factors, which have been identified through this research.

3.1 Restricted Access

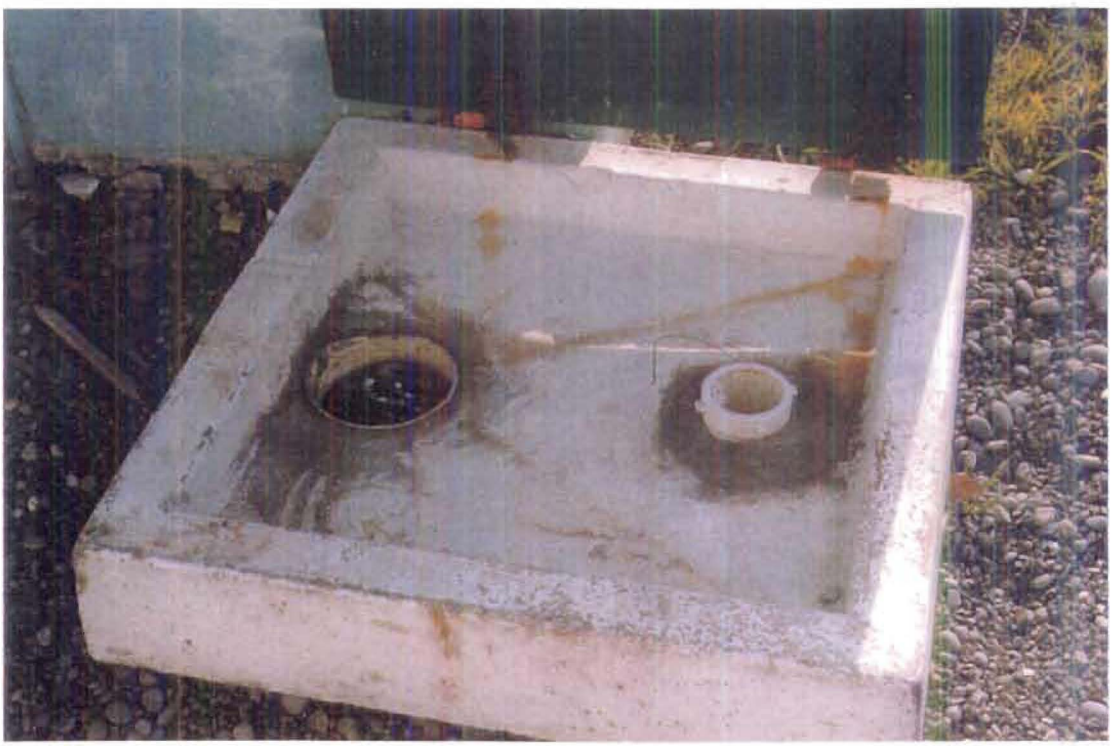
Surveys from Study 1, Study 2 and information from the NZMCA handbook (1998) indicate that some stations do not have enough space to cater for full sized campervans. Some disposal facilities only cater for porta potties. One respondent in Study 1 thought signage would be beneficial, indicating to travellers whether disposal facilities catered only for porta potties.

60 KM Coverage From Public & Private Effluent Disposal Facilities



3.2 Standard Fittings

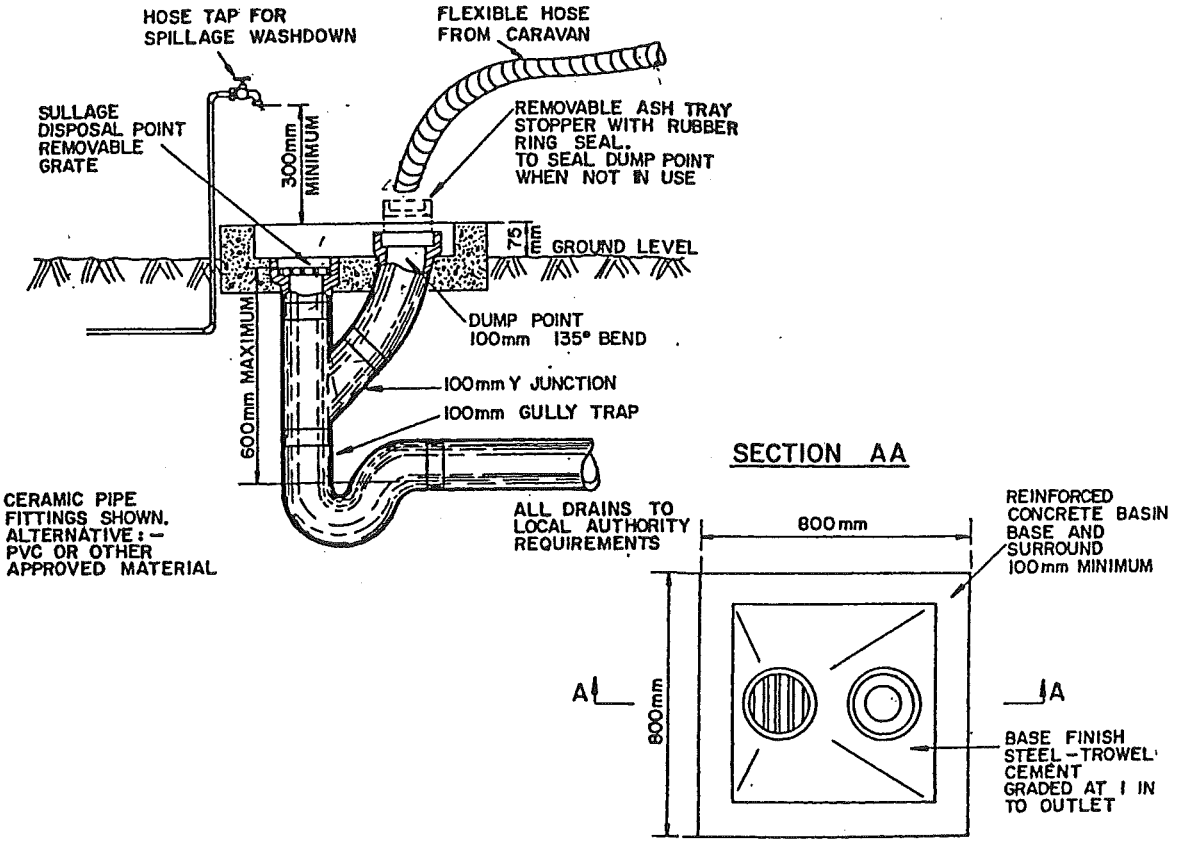
Surveys and the NZMCA handbook both reveal that some of the disposal points do not have the standard thetford fittings. These fittings are becoming more popular with campervans, allowing hoses to be clipped onto disposal facilities, without any spillage. Some respondents from Study 1 disclosed that the disposal of effluent is either impossible or messy for some campervans using facilities without standard fittings. Heatherington (pers. comm., NZMCA, 1999) believes however that most facilities are adequate for effluent disposal even without standard fittings, provided there is reasonable access. Hoses can be used to wash down any spillage associated with discharging effluent. While others may reinforce this view, it seems that the lack of standard fittings in certain locations is a deterrent to some traveller s. Appendix 1 details locations where at least one disposal facility has standard thetford fittings. Plates 1-3 illustrate some of the effluent disposal facilities that are installed in the South Island. Figure 2 provides specifications for a typical effluent disposal facility.



(Photo P. Heatherington)
Plate 1. An Example Of An Effluent Disposal Facility With Standard Thetford Fittings.

(Photo C. Smith)
Plate 2. Effluent Disposal Facility In A Private Camping Ground.

(Photo P. Heatherington)
Plate 3. Effluent Disposal Facility Without Standard Fitting (Hose At Side For Washing Down).



(Source. Christchurch City Council)
Figure 2. Specifications For A Typical Effluent Disposal Facility

3.3 Fees

Some respondents from Study One indicated being charged fees for using disposal facilities was not an issue. Respondents indicated that $2-$3 was an acceptable amount to be charged, though several respondents thought $5 was excessive, especially for travellers with 20 litre tanks. Figure 3 illustrates the range of fees charged for use of disposal facilities in the South Island. The majority of locations (52) allow free usage of their disposal facilities and 33% of these were in private camping grounds. Most public dump stations and service stations allowed free effluent disposal.

Figure 3 illustrates that the most commonly charged fee is $2, which falls in a fee range, identified by several NZMCA members as 'acceptable'. Some camping grounds may charge general travellers a small fee, but allow NZMCA members to use their facilities free.

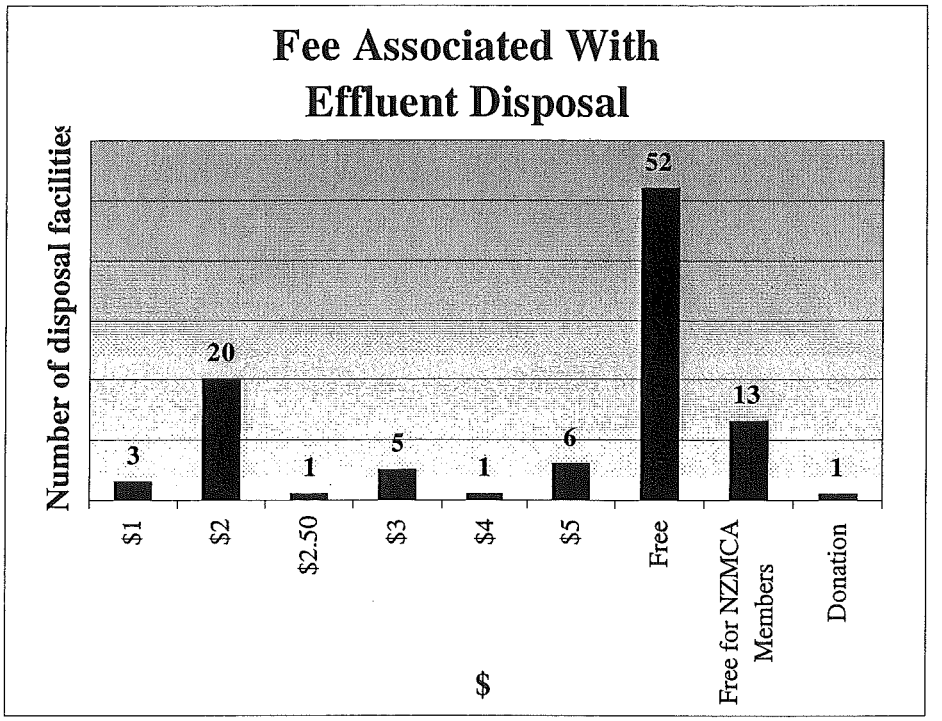


Figure 3.

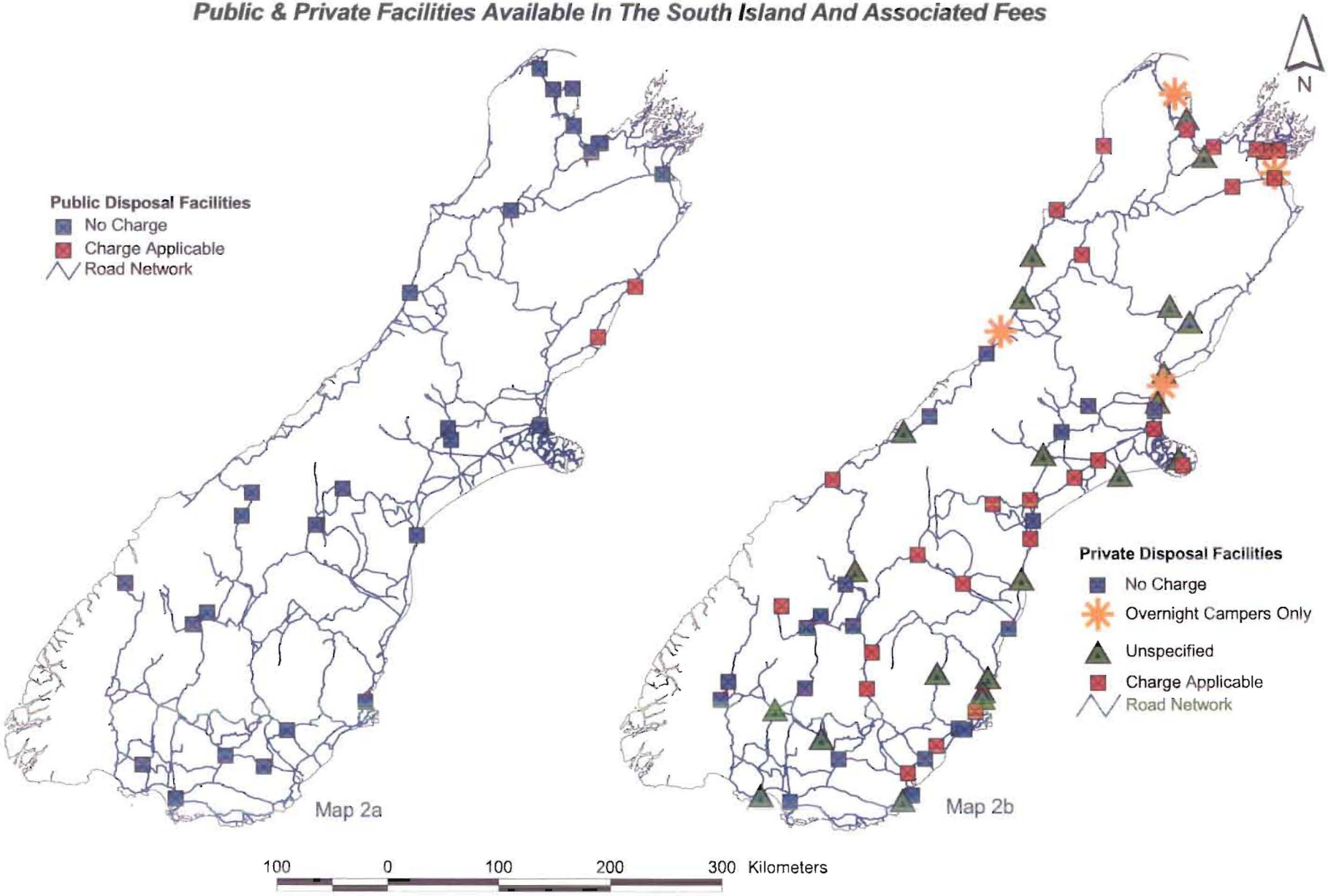
Maps 2a and 2b indicate locations where disposal of effluent is free for members of the NZMCA using both public and private facilities. The lower parts of the South Island offer travellers a good selection of free disposal facilities, which are public or private.

Some members of HAPNZ however strongly believe travellers should pay for use of disposal facilities and are generally not in favour of public disposal facilities. One respondents comment from Study 2 echoes the belief of other HAPNZ members

> *"I don't believe waste dumps should be provided by any councils without a charge, because we as rate payers will otherwise pay for the installation and maintenance of these facilities, therefore providing a free holiday for people not contributing to our region by the way of rates. They say they buy goods in the region, but the freedom campers, who are the only ones who require free dump stations, don't spend much except bare minimum. For the majority of travellers that stay in Holiday Parks, there are plenty of waste dumps throughout the country. (All Holiday Parks have them)."*

NZMCA member and campervan owner Peter Heatherington (pers. comm., 1999) however says many campervan travellers are inclined to spend more money when travelling than they usually would at home.

Public & Private Facilities Available In The South Island And Associated Fees



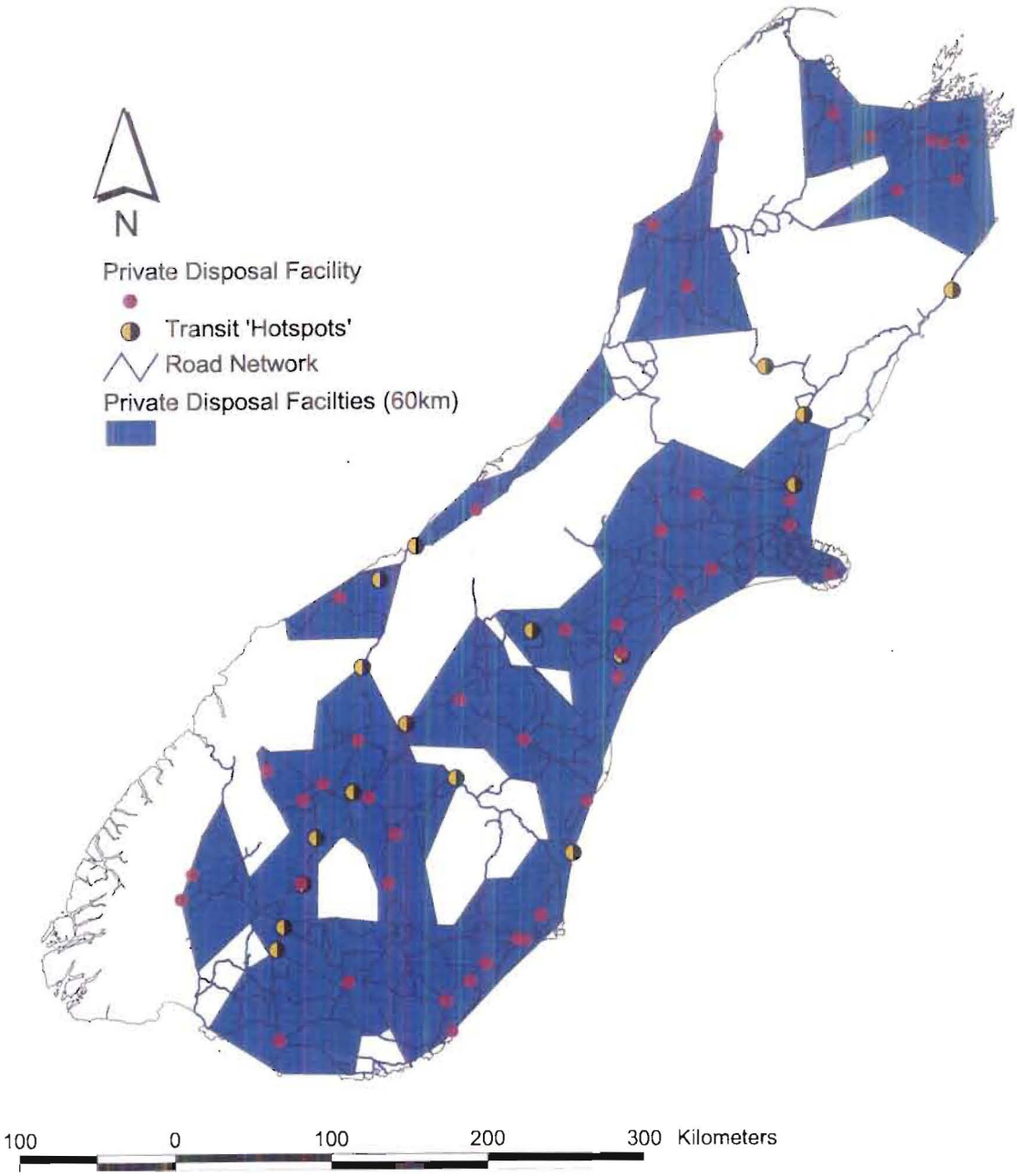
3.4 Asking for permission

Heatherington (pers. comm., NZMCA, 1999) believes that being charged fees is not a problem for most NZMCA members, providing it is 'reasonable'. Some NZMCA members however, feel uncomfortable asking for permission to use private effluent disposal facilities, when they have not stayed overnight at the camping ground concerned. Similarly, members may feel uncomfortable asking to use disposal facilities at service stations, without purchasing fuel, or buying something in the shop. Members in either case did not want to purchase goods (or stay overnight), but felt compelled to do this, prior to using such facilities, even if there was a charge with discharging effluent. Consequently, some travellers will only use public disposal facilities, rather than having to ask to use private facilities.

Map 3 suggests similar findings by illustrating areas, which Transit New Zealand has identified as problem spots for human waste and toilet paper. These areas have private facilities in the nearby vicinity and some of these facilities are free. Both Cromwell and Athol have free facilities, though Athol's facilities cater only for porta potties. With similar incidents occurring in other parts of the South Island, research needs to investigate whether people are disposing of human waste illegally because they don't know that facilities exist, the facilities are inadequate, or they do not like using private facilities.

Respondents from Study 2 however reveal that some travellers believe 'it is their right' to use disposal facilities free of charge and other facilities such as showers and kitchen facilities. One respondent commented that some non-resident dumpers can be very aggressive when asked to pay a charge to use their facilities.

Map 3. Comparison Of Trouble Human Waste Areas And Locations Of Private Effluent Disposal Facilities



3.5 Tank Sizes

The size of effluent tanks on campervans can determine how long or where travellers choose to stay, while travelling. Results indicated that in general, travellers with larger tank sizes discharged effluent less frequently. Campervans with larger effluent tanks allow travellers to stay in remote places or places without disposal facilities longer.

3.5.1 Length Of Time Before Effluent Discharge

Less than 1% of all travellers in Study 1 discharged both black and grey water effluents after 1 day. The majority of travellers (67%) discharged black water effluent after 3, 4 or 5 days. Fifty-eight percent of all travellers discharged grey water effluent after 3 or 4 days. The maximum number of days before discharging black and grey water was after 9 days. Eighty-two percent of travellers, who used porta potties, travelled 3 days or longer before discharging black water effluent. Fifty-seven percent of travellers discharged effluent after 3 or 4 days. This indicates that generally even travellers with porta potties are able to travel at least 3 days before discharging effluent. Table 1 indicates the majority of travellers still use porta potties for black water. Larger porta potties can hold up to 45 litres. Most travellers however, had porta potties holding between 20-29 litres.

Table 1. Frequency Of Campervan Tank Sizes

Litres	Black Water Frequency	Grey Water Frequency
No Tank	2	10
10-19	5	0
20-29	18	3
30-39	5	1
40-49	3	0
50-59	0	0
60-69	1	1
70-79	2	4
80-89	1	5
90-99	0	0
100-199	0	13
200-299	6	4
300+	2	1

In Study 1, effluent tanks were variable in size, ranging from 2-320 litres for black water and from 20-330 litres for Grey Water. Porta potties ranging from 20-25 litres were common and grey water tank sizes ranging from 100-99 litres were more frequently used than other tank capacities. Twenty-two percent of respondents did not have grey water tanks. This may indicate they had a combined tank for black and grey water. Combined tanks were classified as black water tanks because they contained this type of waste.

3.5.2 Daily Amount Of Effluent Discharged

Results from Study 1 indicate that the majority of travellers (84%) discharged on average up to 4 litres of black water effluent per individual each day. Thirty-four percent discharged 1-2 litres and 28% discharged 2-3 litres of black water effluent on average per individual, each day. The range for black water effluent discharge per individual each day was 0.17-9.6 litres. The majority of travellers (58%) were within 60-80% of their tank capacities, when they discharged of black water effluent.

The amount of grey water effluent discharged per individual each day was consistently in the range of 1-17 litres on average. Eighty-seven percent of all travellers were within this range. Fifty-seven percent of travellers were able to use 10 litres or less on average per person for washing up purposes, indicating that water conservation is possible when travelling. The majority of travellers (73%) with a combined black and grey water tank discharged up to 17 litres of effluent on average per individual, each day. Forty-eight percent of travellers discharged 15 litres or less. Twenty-five percent of travellers discharged 16-17 litres on average per individual, each day. Half of all travellers were within 50-70% of their tank capacities, when they discharged of grey water effluent. Thirty-four percent had reached 60-70% of their grey water tank capacities, before discharging effluent.

3.5.3 Tank Size & Length Of Stay

The majority of travellers travelled in pairs, though occasionally travellers travelled unaccompanied, or in a company of 3 or 4 people. To allow for 2 days use, a black effluent tank needs to be a minimum of 16 litres to cater for 2 travellers. A grey effluent tank should be a minimum of 40 litres to cater for the same time period. Data from Study 1 indicates that most available tank sizes, including porta potties are adequate to provide up to 3 days use before discharging. One respondent from Study 1 who had travelled widely throughout New Zealand on 3 different occasions commented

> *"(We) always found that there were sufficient dump stations for our tank holding capacity. Never been full."*

This respondent had a combined black and grey water tank with a capacity of 240 litres. The respondent also used public toilets to discharge effluent at some locations.

3.6 Remote Locations

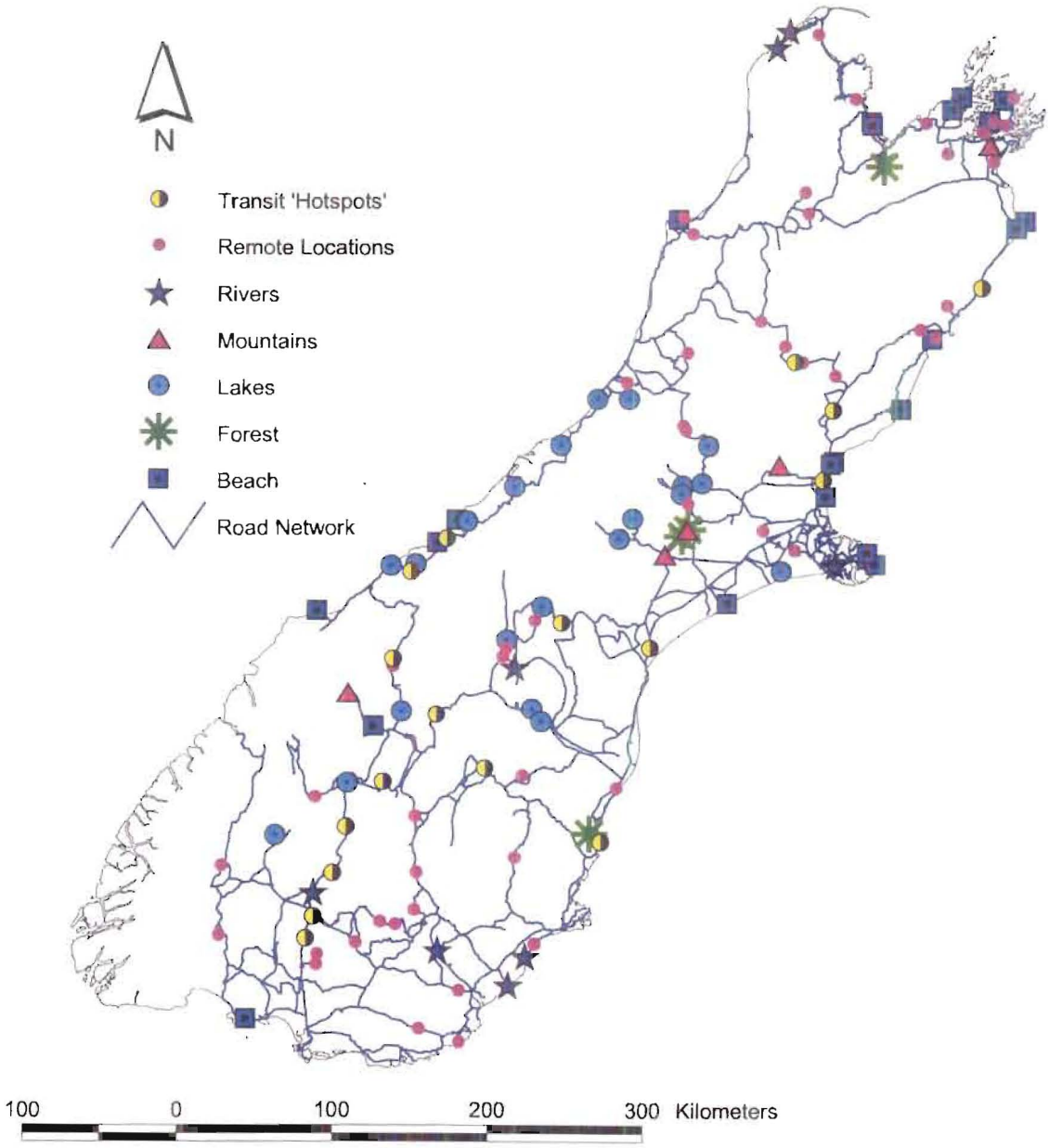
Respondents from Study 1 often travelled on local roads in regions, rather than using the Main State Highways. Respondents also stayed overnight (and in some cases, disposed of effluent) in areas other than towns. These places included staying beside rivers, lakes, forests and beaches. Table 2 lists the properties of remote and natural areas visited by NZMCA travellers.

Table 2. Properties Of Remote & Natural Areas Visited By NZMCA Travellers

Type	Number Of Each Type Visited	Number Of Travellers Overnight	Number Of Times Black Water Was Discharged	Number Of Times Grey Water Was Discharged
Remote Locations	50	154	6	10
Beaches	22	102	10	14
Lakes	21	119	8	10
Rivers	8	44	2	2
Mountains	5	10		
Forests	4	9		1

Map 4 identify's the locations of each natural and remote area visited. Data from Table 2 reveals 50 locations were used for overnight camping, which were not in populated areas. Black water effluent was discharged at 6 of these locations and similarly, grey water effluent was discharged at 10 locations. Beaches and lakes were the most commonly visited natural areas. More travellers stayed overnight and discharged effluent at beaches and lakes than at other natural areas.

Map 4. Utilisation of Natural & Remote Areas



Surveys indicate grey water is disposed of more frequently than black water in remote areas. One respondent had discharged grey water behind shrubs, trees and in paddocks at different locations. Data from Transit New Zealand, identifying problem areas of human waste is also illustrated in Map 4. This reinforces the Westland District Council's (1996) survey results of human waste in the Westland district (Section 1.3.1).

3.7 Free Independent Traveller's & Freedom Campers – Different Perceptions Of Terminology

Confusion has arisen between the differences of the terms 'Free Independent Traveller' and 'Freedom Camper' (Heatherington pers. comm., NZMCA, 1999). Various camping grounds view those using their disposal facilities, while not staying overnight as freedom campers. Heatherington believes this is often not the case, as many travellers stay overnight at other camping grounds, which do not have these facilities. Tension is high between some camping ground owners and travellers who choose to use disposal facilities in camping grounds, but choose to stay overnight in other locations. Several respondents from Study 2 expressed annoyance that DOC charged an annual fee to some campervan groups, which gave them unlimited usage of DOC's camping grounds. Respondent s similarly expressed annoyance that some council s fully funded installation and maintenance costs of disposal facilities.

One respondent from Study Two, when asked whether such travellers were permitted to use their facilities responded by saying

> *"Yes (But we do not approve of freedom campers, but allow them to dispose, so they do not dump effluent elsewhere)."*

Twenty-Six of the respondents (out of 28 returned questionnaires) in Study Two indicated that 'non-overnight' travellers were permitted to use their facilities. Of the camping grounds where 'non-overnight' travellers were not permitted, one of these facilities only catered for porta potties and the other respondent's facilities were old and needed upgrading.

Map 2b (page 21) indicates where 'non-overnight' travellers are not permitted. However as this map indicates, only four locations do not permit 'non-overnight' travellers from using their disposal facilities. Such restrictions may occur in camping grounds elsewhere, but other disposal facilities are available for travellers in these locations.

3.8 Limited Awareness Of The Availability Of Effluent Disposal Facilities

Although the annual NZMCA handbook (1998) details locations with public and private effluent disposal facilities, some respondents indicated they do not read this thoroughly by suggesting locations for public disposal points, which already have these facilities available.

3.8.1 Distribution Of Information

The Ministry Of Health, the Health Funding Authority and NZMCA have recently updated a brochure initially produced by DOC, NZTB and the Ministry of Health, which indicates locations with disposal points. This brochure does not identify size restrictions, whether the disposal facilities have standard fittings and in some cases the fees set for effluent disposal. The brochure is contained in Appendix 3. Anecdotal evidence suggests that the distribution of the disposal facility brochure is limited. Major New Zealand rental companies such as Maui, do not currently offer any information about available effluent disposal facilities.

3.8.2 Signage

Lack of awareness in relation to locations of disposal points can partly be attributed to poor signage around the South Island. Survey results from Study 1 and Study 2 reflect this. One respondent from Study 2 comments

> *"Additional advertising at campervan depots of the places that have effluent disposal facilities could help reduce the problem of illegal disposal. More signage around the towns and cities could also help"*

3.9 Public Disposal Facilities versus Private

Public disposal facilities are desirable as far as most travellers are concerned, even with fees attached. Though the preference of travellers is toward public facilities, some members of HAPNZ are against such facilities, primarily because usage of most facilities is currently free. Heward (pers. comm., HAPNZ, 1999) comments

> *"People shouldn't have to spend all their time in holiday parks, but councils shouldn't be subsidising them at our expense"*

Other HAPNZ members also hold this belief. Many members were not happy that usage was free and they were being charged rates for the installation and

maintenance of these facilities, when usually they had similar facilities in their camping grounds. Heward also comments

> *"(Travellers get) free water, parking, rubbish disposal, all things which the council charge us for. One group is free and the other group is paying for it."*

Kiernan et.al (1983) found in Washington that public disposal stations were popular among recreational vehicle owners and reasonably well received by non-owners also. Owners appreciated the convenience of the stations and both groups supported the associated public health benefits. Kiernan et.al also recognised that non-users perceived disposal stations more beneficial, when users paid for the facilities.

3.9.1 Problems Associated With Public Disposal Facilities

The Tourism Policy Group and Transit New Zealand (1994, cited in Eyles et.al., 1999) are reluctant to provide and maintain toilet facilities at roadside rest-areas due to the problem of vandalism. Kiernan et.al (1983) discovered vandalism to be a problem with public disposal stations in rest areas along Washington highways. Kiernan et.al listed other problems including dumping large quantities of waste, oil and toxic or hazardous waste, washing out stock truck effluent and horse trailers (hay and straw clogs up the pipes), disposal holes clogged up with litter, people stealing hoses, people not cleaning up mess and effluent freezing during winter.

CHAPTER FOUR
IDENTIFICATION OF PUBLIC EFFLUENT DISPOSAL FACILITY LOCATIONS

4.0 Public Effluent Disposal Systems Modelling

Despite the problems associated with public disposal systems, it is still desirable to have these facilities available for travellers. Surveys indicate travellers are more inclined to make use of public disposal facilities than private, and this has to be beneficial for the environment and New Zealand's green tourism image. Chapter 4 presents the process and results of the GIS modelling process (outlined in Figure 1) which incorporates data from Study 1.

4.1 Identification Of Priority Locations

After calculating the priority values listed in Figure 1 into the GIS model, priority locations were established, indicating where the demand for disposal facilities was highest in the South Island. Table 3 lists these locations and their attributes ranked in order of priority. Locations that registered less than Priority 4 are listed in Appendix 2.

Christchurch has a priority value of 15 indicating that this location requires public disposal facilities. Four respondents from Study 1 suggested Christchurch as a location, where disposal facilities are necessary, reinforcing the need for facilities in this area. Currently Christchurch has no public disposal facilities, though 2-3 free disposal points are due to be installed with Standard Thetford Fittings in the Christchurch area soon. Two other Canterbury locations, which feature high priority values, are Timaru and Oamaru. Timaru currently has free disposal facilities with standard fittings and Oamaru provides free facilities with standard fittings, at a local service station. Other locations with high priority values include Invercargill, Blenheim, Dunedin and Takaka.

Table 3. Properties Of Priority Locations

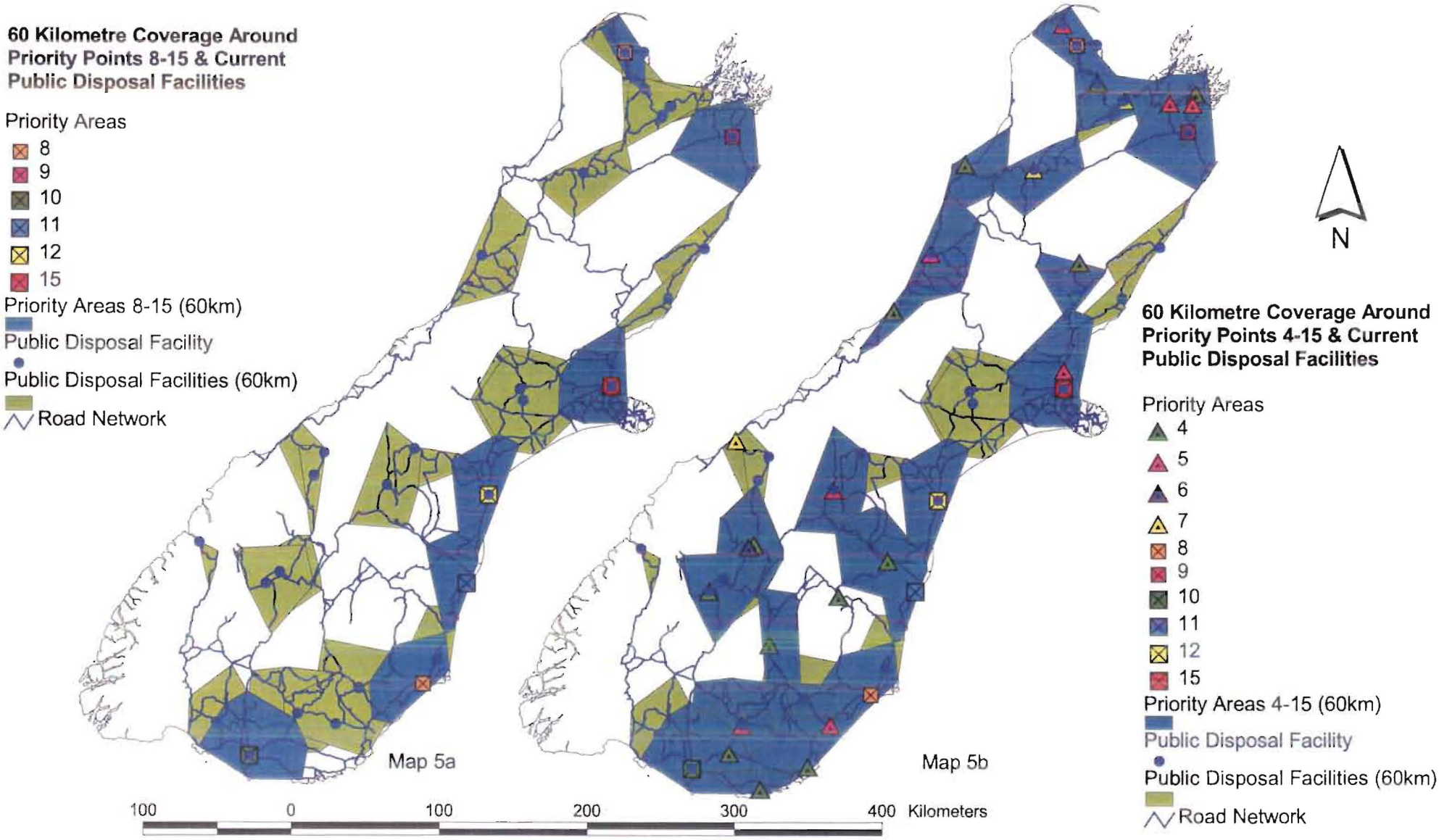
LOCATION	PUBLIC DUMP	PRIVATE DUMP	SF	SUGGESTED	PRIORITY VALUE
CHRISTCHURCH	N	Y	P	4	15
TIMARU	N	Y	P		12
OAMARU		N	P	1	11
INVERCARGILL	N	N	P		10
BLENHEIM	N	Y	P		9
DUNEDIN		N	P	1	8
TAKAKA	N				8
HAAST		Y			7
MURCHISON	N				7
NELSON	N	Y	P		7
WANAKA		N			6
COLLINGWOOD	N				5
GORE	N	N	P		5
GREYMOUTH	N	U			5
HAVELOCK		Y	P		5
KAIAPOI		N			5
MILTON		N			5
PICTON		Y	P	2	5
TWIZEL	N		P		5
ALBERT TOWN					4
DUNTROON					4
EDENDALE					4
HANMER SPRINGS		U			4
MOTUEKA	N	Y			4
OWAKA		U			4
PORTAGE				3	4
QUEENSTOWN	N	N	P	1	4
RANFURLY					4
ROSS		N	P		4
ROXBURGH					4
WAIKAWA					4
WESTPORT		Y		1	4

Key: N = Disposal Facility Available With No Charge U = Unspecified For Fee
Y = Disposal Facility Available But Charge Applicable
SF = Standard Fitting P = Present
Suggested = Locations suggested by travellers that require a disposal facility

4.2 Mapping Coverage's Based On Priority Value Locations

Maps 5a and 5b depict a comparison between a 60-kilometre coverage around priority values 8-15 and priority values of 4-15. Adding additional priority values to the map provides greater coverage, and it is therefore recommended that the location coverage commence with the priority value 4. It is recommended installing disposal points where necessary in locations with higher priority values. Where 2 locations are within close proximity to each other, the location with a higher priority is recommended, unless installing a disposal point at the other location provides greater coverage.

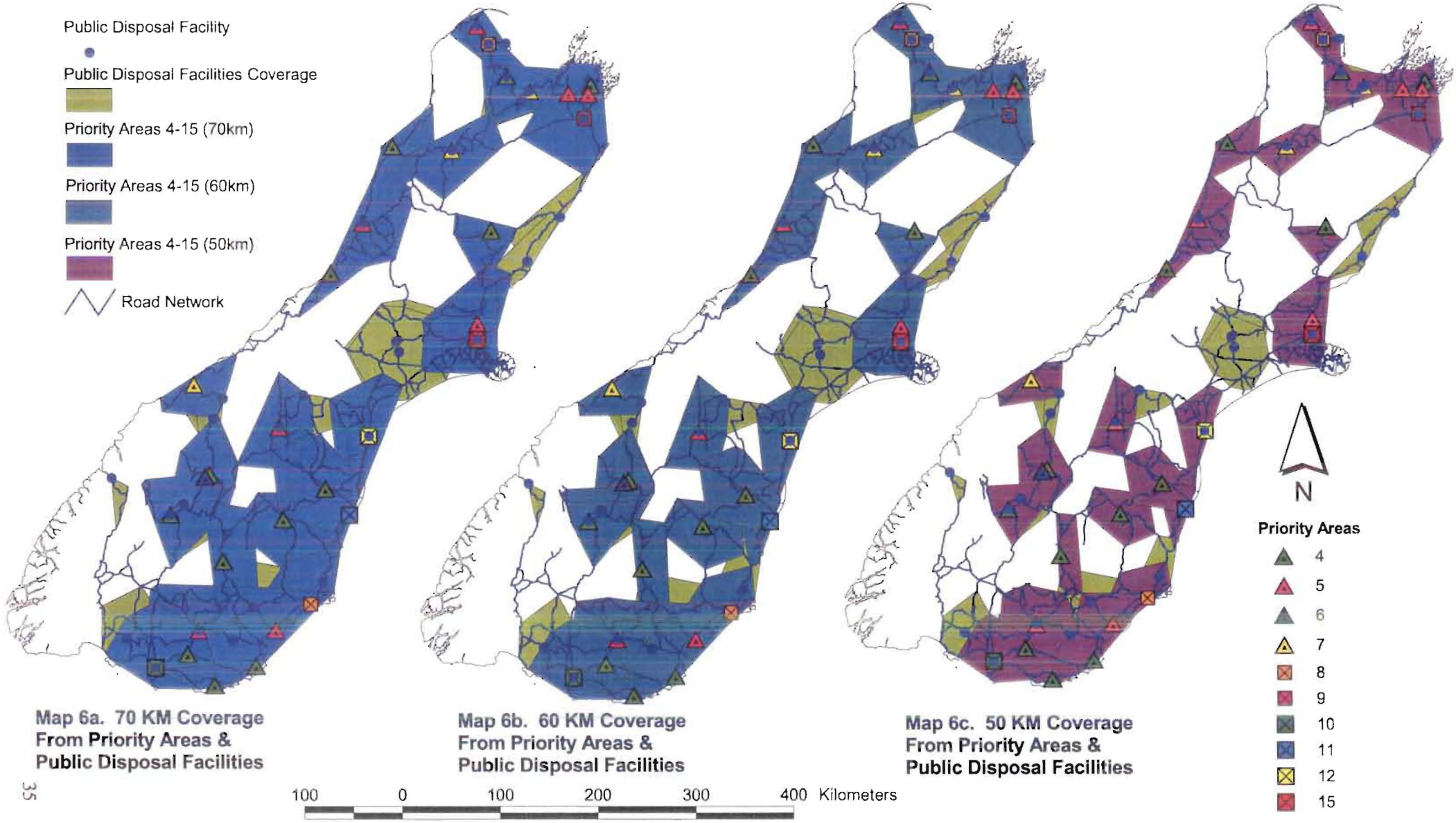
Comparison Of Disposal Facility Coverages



Maps 6a, 6b and 6c present 3 different scenarios of distance covered by campervans from current public disposal facilities and locations, which have priority values between 4 and 15. These distances are 50, 60 and 70 kilometres. Each scenario illustrates that the South Island is still not fully 'covered' if disposal facilities were provided at each of the locations mapped. These maps illustrate the respective maximum distances that campervans would need to travel between disposal points, to discharge effluent. This indicates that if disposal facilities are necessary right around the South Island, additional facilities are required in other locations. The installation of additional facilities is recommended, as survey data indicates that travelling patterns are diverse.

This research makes the assumption that campervans could drive 60 kilometres between disposal facilities before discharging effluent. Results from study 1 (Section 3.5) indicate most travellers discharge effluent after 3-4 days. Travellers can then stay in remote places for at least 2 days and a disposal facility will be within 60 kilometres of their camping destination.

Comparison Between Distance Coverages From Priority Areas & Public Disposal Facilities



Map 6a. 70 KM Coverage From Priority Areas & Public Disposal Facilities

Map 6b. 60 KM Coverage From Priority Areas & Public Disposal Facilities

Map 6c. 50 KM Coverage From Priority Areas & Public Disposal Facilities

4.3 Analysing Effluent Disposal Coverage By Combining Public Effluent Disposal Facilities And Priority Locations Data

Coverage areas of the existing public disposal facilities were mapped prior to selecting additional priority value locations for disposal points. Table 4 details the properties of each public disposal point.

Table 4. Properties Of Public Disposal Facilities

LOCATION	FEE	SF	SP	SUGGESTED	PRIORITY	OTHER
CHRISTCHURCH	N	P		4	15	Soon to be installed
TIMARU	N	P	P		12	
INVERCARGILL	N				10	
BLENHEIM	N				9	
TAKAKA	N				8	
NELSON	N				7	
MURCHISON	N				7	
COLLINGWOOD	N				5	
GREYMOUTH	N				5	
TWIZEL	N	P			5	Possibly Restricted
GORE	N	P			5	
MOTUEKA	N				4	
QUEENSTOWN	N		P	1	4	Hose & Porta Potty
RICHMOND	N				3	
RAKAIA GORGE	N	P	P		3	Building Eave Overhang
LAKE TEKAPO	N	P			3	
ARROWTOWN	N		P		3	Very Restricted
OTAUTAU	N				3	
WARRINGTON	N	P			3	
TOTARANUI	N				3	
METHVEN	N		P		2	
LAWRENCE	N	P			2	
CLINTON	N		P		2	
KAIKOURA	Y			2	1	$2 Charge
NELSON PORT	N	P			0	Restricted Access
CHEVIOT	Y				0	$2 Charge
PLEASANT FLAT	N				0	
MAKAROA	N				0	
MILFORD SOUND	N				0	

Key: N = Disposal Facility Available With No Charge
Y = Disposal Facility Available But Charge Applicable
SF = Standard Fitting SP = Signposted P = Present
Suggested = Locations suggested by travellers that require a disposal facility

Selection of priority value locations was then based upon the priority value of the location and also on the coverage area it provided for. Map 7a shows the effluent disposal coverage these locations and public disposal facilities extend to, with a buffer of 60 kilometres.

4.4 Private & Other Additional Effluent Disposal Facilities

To ensure a 60-kilometre public effluent disposal coverage extended through the entire South Island road network, additional disposal points are necessary. The location of the existing private disposal facilities was mapped with the public disposal and priority values coverages. Map 7b illustrates that these disposal points provided further coverage for several additional areas. It is recommended that these facilities be made into public facilities, to avoid the reluctance of certain travellers to visit private facilities. Table 5 details the current properties of these private facilities.

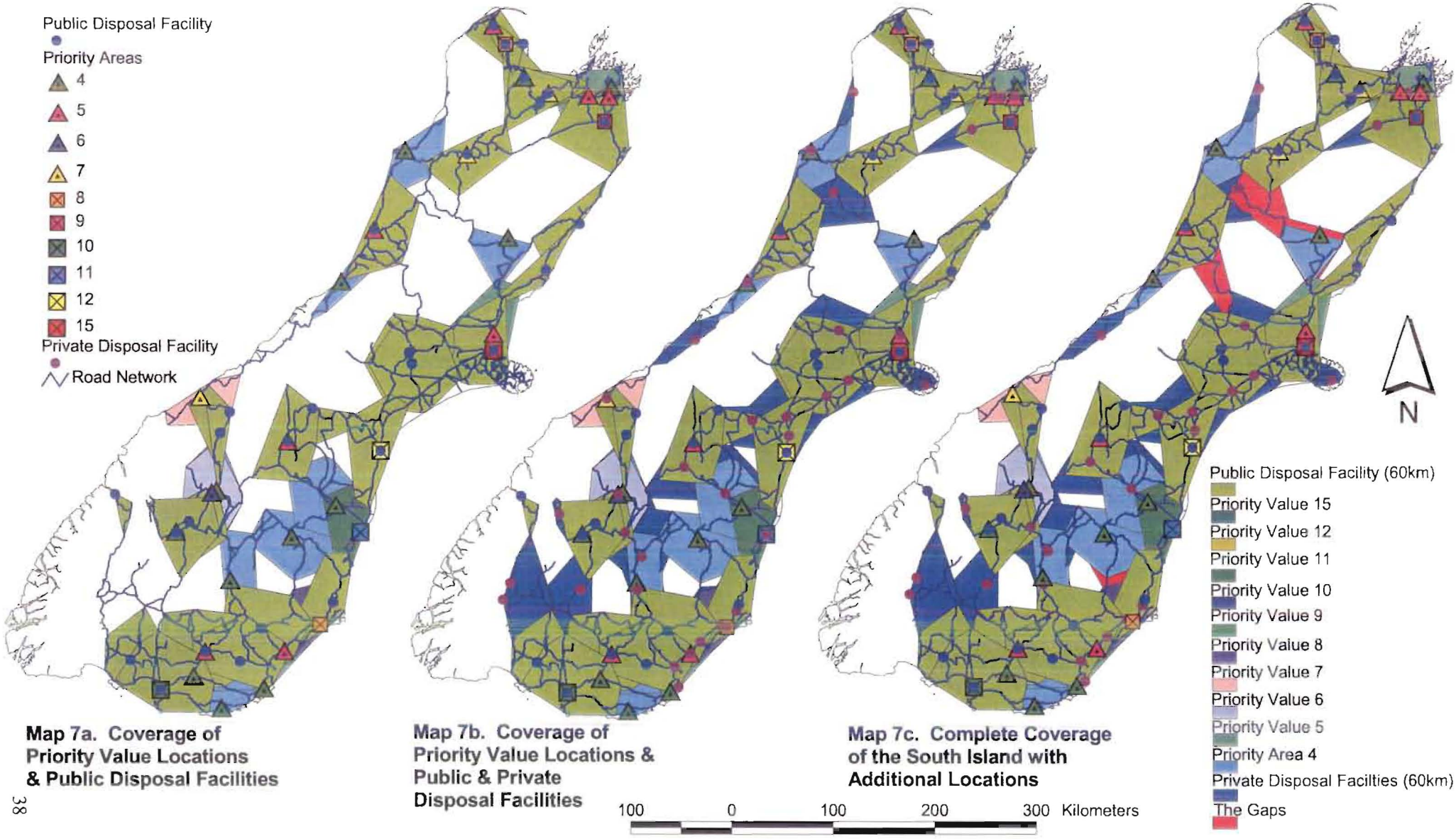
Table 5. Private Effluent Disposal Facilities Recommended To Be Made Into Public Effluent Disposal Facilities.

LOCATION	PUBLIC DUMP	PRIVATE DUMP	SF	SUGGESTED	PRIORITY VALUE	CURRENT RESTRICTIONS
FRANZ JOSEPH		N			3	Mobil Station has limited access for larger vehicles
KUROW		Y		2	3	
OMARAMA		Y		3	3	Closed in winter
TE ANAU		N	P	1	3	
WAIRAU VALLEY		Y			3	
MANAPOURI		N	P		1	
ATHOL		N			0	Porta potties only

Key: N = Disposal Facility Available With No Charge
Y = Disposal Facility Available But Charge Applicable
SF = Standard Fitting P = Present
Suggested = Locations suggested by travellers that require a disposal facility

Three of the seven facilities are provided free to travellers, another facility (Franz Joseph) is provide free to NZMCA travellers. Three of the seven facilities are known to currently have some restrictions. Kurow, Omarama and Te Anau were locations suggested by some respondents as locations requiring disposal facilities. The priority values for all of these locations are low, therefore converting these facilities into public facilities is desirable in the long term, but other areas with high priority values require attention first.

Effluent Disposal Coverage Of The South Island



Map 7a. Coverage of Priority Value Locations & Public Disposal Facilities

Map 7b. Coverage of Priority Value Locations & Public & Private Disposal Facilities

Map 7c. Complete Coverage of the South Island with Additional Locations

Map 7b indicates that Arthur's Pass, Lewis Pass and parts of Otago still have 'gaps', where effluent disposal coverage is not provided. The following locations in Table 6 have been recommended in addition to other recommended locations, as areas requiring disposal facilities, to achieve full effluent disposal coverage for the South Island. Map 7c illustrates a complete effluent disposal coverage with these 'gaps' filled.

Table 6. Locations Completing Effluent Disposal Coverage In The South Island

LOCATION	PUBLIC DUMP	PRIVATE DUMP	SF	SUGGESTED	PRIORITY VALUE
ARTHURS PASS			1		1
SPRINGS JUNCTION					1
HANMER JUNCTION					0
KYEBURN					0

Key:
SF = Standard Fitting
Suggested = Locations suggested by travellers that require a disposal facility

4.4.1 Justification Of 'Gap' Selection

Kyeburn was selected as a location because this location provided the greatest coverage within this area. Arthur's Pass provides the greatest coverage through the Arthur's Pass highway. This town is also now expected to receive higher numbers of campervans, with the recent opening of the Otira viaduct. Hanmer Springs is also another popular tourist destination. The Hanmer Junction was selected rather than Hanmer Springs, as this will encourage travellers who are not going to Hanmer Springs, but are still travelling through Lewis Pass to discharge effluent. Such travellers may not feel inclined to travel to Hanmer Springs, just to discharge effluent. Springs Junction provided the best coverage in this area and its location on a junction allows travellers going to Canterbury, Nelson and the West Coast to have access to this facility.

4.5 A Full List Of Recommended Sites For Effluent Disposal Facilities

Table 7 lists locations, which will provide effluent disposal coverage around the South Island in addition to the existing public disposal facilities (Table 4).

Table 7. Locations providing full effluent disposal coverage in the South Island

LOCATION	PRIVATE DUMP	SUGGESTED	PRIORITY VALUE
OAMARU	N	1	11
HAAST	Y		7
WANAKA	N		6
HAVELOCK	Y		5
RANFURLY			4
ROSS	N		4
ROXBURGH			4
WAIKAWA			4
WESTPORT	Y	1	4
AKAROA	Y		3
FRANZ JOSEPH	N		3
GLENORCHY	Y		3
KARAMEA	Y	1	3
KUROW	Y	2	3
OMARAMA	Y	3	3
SPRINGS JUNCTION			3
TE ANAU	N	1	3
WAIRAU VALLEY	Y		3
ARTHURS PASS		1	1
MANAPOURI	N		1
ATHOL	N		0
HANMER JUNCTION			0
KYEBURN			0

Key: N = Disposal Facility Available With No Charge
Y = Disposal Facility Available But Charge Applicable
Suggested = Locations suggested by travellers that require a disposal facility

The Priority Value column indicates which locations need addressing first. Oamaru, Haast and Wanaka have the highest priority values, and it is recommended that these areas be examined, before other locations. It is desirable that even locations with lower priority values are addressed in the long term, to provide a complete effluent disposal coverage in the South Island.

CHAPTER FIVE
INTERNATIONAL CAMPERVAN TRAVELLERS

5.0 International Campervan Use

Data suggests only a small percentage (2.4%) of all international visitors use campervans (NZTB, 1996). Collier & Harraway (1998) believe however, that international visitors account for 80-90% of total rental campervan usage in New Zealand. Eyles et.al (1999) estimate that about 10,000-12,000 campervans are used in New Zealand. Approximately 2000 of these are from rental campervans.

5.1 Travel Routes

Data suggests that domestic travellers travel on local roads and to more remote destinations than international travellers. First time international tourists tend to travel more on State and Provincial highways and stay overnight at more popular destinations such as Christchurch, Dunedin and Queenstown and the two glaciers Fox and Franz Joseph. This is commonly known as the 'Golden Circle' (Aitken, 1986) or the 'Loopy Route' (Amey, pers comm., 1999).

5.2 Profile Of International Visitors Travel Routes

According to NZTB (1993), more than half of all holiday visitors from the UK, other Europe (excluding Germany) and the "other countries" sector, travelled as free independent travellers. 50% of travellers from Canada also chose this mode of travel. Though Australian visitors are among our most frequent visitors, 50% choose to travel in package tours. Data recording the mode of travel of international visitors is recorded in Table 8.

New Zealand Tourism Board statistics reveal that 17 % of German travellers used campervans as a means of transport and 25% used campervans, tents and camping grounds for accommodation while in NZ (NZTB, 1993). 43% of Germans had spent at least one night in a caravan, tent or camping ground. For other international groups, the use of campervans during their stay was not significant. Japanese visitors did not use this mode of transport at all and were more inclined

together with Singapore visitors to visit New Zealand on a package tour (NZTB, 1993).

Table 8. Travel Styles Of Holiday Visitors (NZTB 1993)

	Free Independent Travellers	Semi-Independent Travellers	Package Travellers
United Kingdom	57%	19%	21%
Canada	50%	6%	44%
Germany	37%	37%	26%
Hong Kong	33%	11%	56%
Australia	30%	21%	50%
USA	29%	13%	57%
Japan	20%	8%	72%
Taiwan	18%	0%	82%
Singapore	15%	8%	77%
Other Europe	64%	12%	21%
Other Asia	26%	15%	62%
Other Countries	64%	12%	24%

The above table excludes those whose main reason for visiting New Zealand was to visit friends and relatives.

5.3 Utilisation of Natural & Remote Areas

Some international travellers who participated in Parr's (1989) survey expressed that they would change their form of transport, if they could do the trip again. Some relying on public transport or hitchhiking found travelling to remote locations difficult, and said they would hire a vehicle, preferably a campervan if they could afford it, another time. This reinforces Amey's (pers. comm., 1999) belief that first time international tourists do the 'loopy route' and are keen to explore more remote locations, if they decide to travel to New Zealand on future occasions.

Higham (1997) believes the areas visited by overseas visitors are largely areas designated for conservation. The New Zealand Tourism Board (1993) reveals that Fiordland, Mount Cook and Westland National Parks were the most popular for overseas visitors. International visitors are likely to visit national park areas, determined by the accessibility, infrastructure and promotion of the area. (Shultis, 1989). More than half of all international visitors went to a national park, forest or maritime park while in New Zealand. In particular, German travellers accounted for a large percentage of international visitors visiting national parks. The New

Zealand Tourism Board Survey (1993) reveals that 88% of Germans visited parks while travelling in New Zealand.

Some respondents from Study 2 believed international traveller's were more inclined to freedom camp than domestic tourists. Domestic tourists were perceived to be more environmentally conscious and more aware of the issues associated with effluent disposal. One respondent commented

> *"I would think the problem with effluent disposal is more with overseas travellers who rent campervans at such high prices during the season, that they tend to free camp... Because this is not their country, they often do not care about dumping their waste... A lot of free camping is done to save money because of the high rental cost."*

Another respondent wrote

> *"I do not think there is any problem with NZ MoVan owners. The problems are with overseas tourists. They are the ones that need educated."*

Parr's (1989) findings however concluded that overseas tourists (especially European travellers) were disturbed to see excessive litter on our roadsides and Shultis (1989) suggests that international wilderness users have stronger positive attitudes to the natural environment, as well as stronger negative attitudes to environmental problems, than the New Zealand public. In Europe and the United States, public effluent disposal facilities are common on highways, so international traveller s may be already aware of this issue, if travelling by campervan. However it would be beneficial to highlight this issue further in travelling guides, which promote New Zealand.

CHAPTER SIX
DISCUSSION

6.0 Discussion of Results

While it is desirable to have disposal facilities existing in locations, which provide coverage over the whole of the South Island, it is more essential that those locations listed with higher priority values be attended to first. Although the surveys indicate that free independent travellers travel to remote locations, many also end up visiting the same locations. It is recommended that existing facilities with high priority values be upgraded also. At present, some of these facilities have size restrictions and cater only for porta potties.

Even when public facilities are provided, this does not mean all travellers will use them. The Westland District Council (1996) discovered some individuals (not necessarily campervan travellers) discharged human waste on the roadside, when toilets were present within a kilometre. Heward (1999) categorised three different campervan traveller types (Section 1.9) and suggests that the last type which permanently live in house trucks, buses and vans, are inclined not to use facilities at all. The question, which needs to be addressed in both cases, is 'were travellers aware of public facilities close by?' Education is necessary regarding the awareness of facilities and the environmental hazards produced by illegal effluent disposal.

6.1 Education

Data suggests there is a need for education, which has also been noted by Eyles et.al (1999). Surveys revealed that some respondents in Study 1 were not aware of public facilities in the locations they were visiting, regardless of their own NZMCA handbook detailing where such locations existed. This indicates that a more effective way of communicating this information needs to be examined. The handbook may be too big for members to read or carry around with them, and a brochure could be more effective in conveying such information.

Education needs to focus on the availability of disposal facilities and also awareness of the environmental damage and aesthetic pollution, which campervan waste can create. Harris et.al (1990) suggest that traditional behaviour of dumping human waste may change in response to well distributed and graphic information, about the yearly amounts of impacts removed and the cost of removing them. A NZTP survey (NZTP, 1988) indicates the travel brochure is an important source of information to traveller's visiting New Zealand. Other important sources of information include guidebooks, especially for 'budget' travellers and also word of mouth (NZTP, 1988). A NZTP survey (1988) revealed 44% of the sample used word of mouth as the primary source of information about New Zealand. While effluent disposal may not be the first topic of conversation, it is worth considering word of mouth as a medium for education, especially if travellers regard effluent disposal as an important issue.

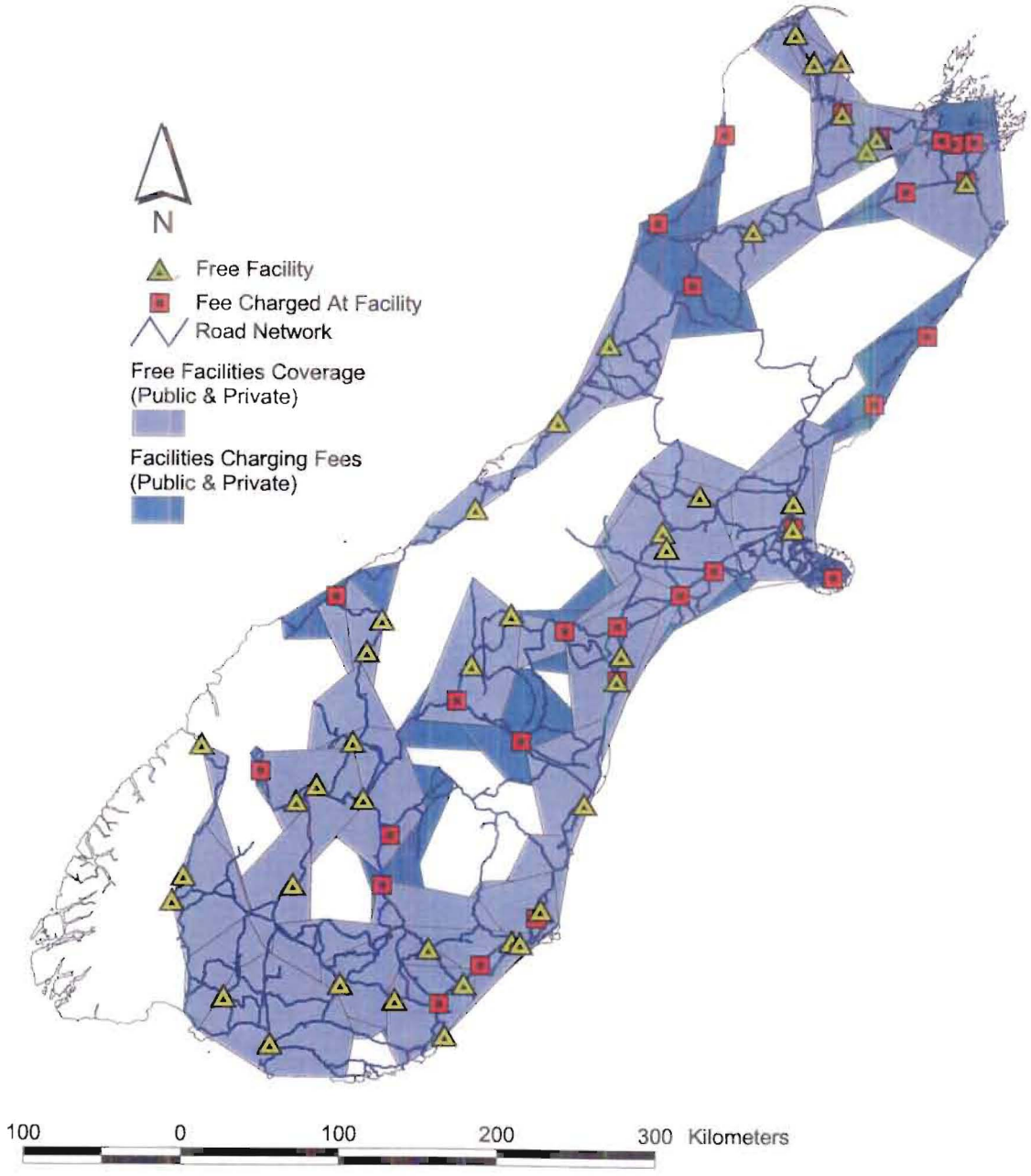
6.1.1 Design & Distribution Of Brochure

The Ministry of Health, the Health Funding Authority and NZMCA have recently updated a free brochure detailing the availability of public and private disposal facilities. This brochure fails to detail the costs of using some facilities and lacks information such as whether the facility has standard thetford fittings. Recommendations for consideration in future brochures are listed below:

- A map indicating locations of free and fee based facilities (See Map 8)
- Detail whether facilities are public or private disposal facilities
- Include information such as fees, size restrictions, standard fittings and whether facilities cater only for porta potties.
- A brief summary of environmental and health hazards and also the aesthetic pollution, associated with illegal human waste.

Education in simple graphic form is often the most effective and the brochure design should convey this. It is also recommended that these brochures are distributed with every rental campervan and widely distributed throughout visitor centres and other travelling and tourist agencies. A 'pin-up' map detailing locations of disposal facilities that are free, fee-based, public and private could be placed in both rental and private campervans for reference.

Map 8. 60 KM Coverage Of Non Fee & Fee Charging Facilities



6.1.2 Information Planning

According to Mansfield (1992), studies in leisure indicate that tourists are more reliant on informational material when preparing for their trip at home, rather than when arriving at their destination. This trend though may not be as evident in free independent travel, where destinations are not necessarily planned ahead of time. For travellers that do plan ahead however, it may be worthwhile ensuring brochures are readily accessible within their towns and countries. It is possible that some travellers may then plan their trip in relation to where effluent disposal facilities exist.

6.2 Signage

Surveys clearly indicate that signage is inadequate. It is recommended that a national study be carried out to determine where signs are needed. These need to be clearly visible from a distance. Signage needs to be simple but effective. Only basic information should be conveyed on these, including the direction and distance to disposal facilities. Other information concerning the characteristics of these facilities can be included in the travel brochure. Design considerations for signage must include examination of the following:

- Signs must be readily and easily identifiable. It is recommended that the standard international symbol for campervan and caravan disposal facilities also be used. This is illustrated below in Figure 4.

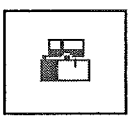


Figure 4
International Symbol For
Effluent Disposal Facility

- The conflicts associated with masses of signs. Signs detailing locations, businesses and advertisements create confusion when concentrated in a particular location.
- Consideration of Transit New Zealand regulations, and heritage and colour schemes of towns.

6.3 International Visitors

The New Zealand Tourism Board's statistics (Chapter 5) reveals that European visitors, especially German visitors, are the most frequent users of campervans in New Zealand. Other Free Independent Traveller markets include Canada. The New Zealand Board is constantly aware of the campervan use trends of international visitors and these will provide an indication of who to target, when distributing awareness information overseas. Brochures, tourist guidebooks and the Internet are all mediums, which can be used to provide educative material to prospective travellers. The Internet is increasingly becoming a tool used by travellers to provide up-to-date information. Major rental companies such as Maui

feature their own web sites and bookings can be made from the Internet. A 'good practice guide of effluent disposal' could be added to these web sites, to ensure prospective travellers are informed about disposing of human waste properly.

Parr (1989) found that the most frequent problem expressed by international FITs, was lack of up-to-date, unbiased information. Widely distributed educative material is needed for both domestic and international markets.

6.4 Regulations & Council Responsibilities

At present there are different freedom camping regulations in different districts, creating confusion for freedom camping travellers. Communication between each local government body regarding effluent disposal is essential to ensure consistency occurs with freedom camping regulations. Confusion will be overcome when the local government sector aligns individual bylaws and creates consistent policy on this issue. Policy could include ensuring public disposal facilities are provided in each region.

While some council s are reluctant to provide public disposal facilities, each needs to be mindful of preserving New Zealand's international 'clean green' image, upon which much of our tourism relies. Regions or districts that do not provide facilities are more prone to illegal discharges. Other districts or regions may also have to cope with additional effluent, if conscientious travellers carry the effluent further to the next available disposal facilities. It is likely that councils will benefit by providing disposal facilities. Travellers may spend money in each area and limiting illegal effluent discharges will also enhance the aesthetic and tourist appeal of each region.

6.5 Fees

Whether travellers should pay fees or not for effluent disposal is an issue. Holiday Park owners are not happy about subsidising travellers who use free public disposal facilities, through their rate payments. Some NZMCA members have indicated they are happy to pay, providing the fee is 'reasonable'. These respondents have suggested two to three dollars. A study examining this issue in more detail is recommended. Respondents suggested that users pay by the quantity of effluent they dispose. This is however difficult to implement and police. A low fee should be charged for access to disposal facilities rather than being based upon the amount discharged. If large volumes of discharged effluent are likely to exceed the carrying capacity of any particular facility, a fee system based on volume may then be necessary.

6.6 Limitations

This research did have certain limitations and these will be expanded on in this section. The research relied upon people's estimation on how much effluent they had discharged. This provided a foundation from which, priority values were established for each location.

The study was limited in terms of its geographical scope. The South Island was used as a pilot study and only members of the NZMCA were invited to participate. Future studies could examine the patterns of both domestic and international travellers who use rental campervans. Study 1 may have had a seasonal bias. The survey period lasted from January to July. It is possible travelling patterns may be different from August to December.

6.7 Future Study

Some future studies have been recommended in other parts of this chapter. Future studies could also examine the following:

- Investigate whether travellers overnight destinations would change, based upon the availability of disposal facilities. One respondent from Study 1 commented

  "I think the need to dump waste can colour one's thoughts as to length of stay in any one place, or even if one stops at all"

- Results from Study 1 revealed that some travellers refuse to use private disposal facilities, because they feel that they have to stay overnight, or purchase something to use the facilities. It would be worthwhile examining the extent of this issue, and examine ways in which travellers may be comfortable using private facilities.

- A study examining the travelling behaviour of international travellers using campervans would be beneficial. This could examine awareness of environmental problems associated with dumping and their awareness of the availability of disposal points. The study could also examine whether the travelling patterns of 2nd time visitors to New Zealand change.

- Further study could also examine whether public toilets in towns could be adapted to provide discharging facilities. Policy could be implemented, where new toilets have facilities for accepting campervan discharge as a standard part of design. The issue of using chemicals as preservatives and deodorisers in campervan waste will need to be examined, should this option be considered.

ACKNOWLEDGEMENTS

I have so many people to thank for assistance in some way, toward this research. I am especially thankful to the following people:

- The New Zealand Motor Caravan Association for their generous financial support in fully funding this research project.
- Professor Chris Kissling for supervising this research and also for previous summer scholarship work, and faith in my research abilities.
- Mary Hennessy for her help and inspiration in developing the GIS prototype.
- Peter Heatherington for raising awareness of this issue, raising finance and contributing useful information for this research.
- Participants in both Study 1 and Study 2 of this research for their explicit honesty when contributing to this research.
- Transport Department secretary, Shirley-Anne Pearce for cheerfully putting up with my photocopying, faxing, asking for codes a million times and for forwarding jokes, on otherwise very monotonous afternoons.
- Jason Holland, research assistant for aiding in data input.
- My parents, for their continued support financially and their faith in me.
- Also to other friends, family, flatmates and colleagues who have helped me in many ways – A Big Thankyou!

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APPENDIX 1

Questionaries from Study 1 & Study 2

Thankyou for volunteering to take part in this Travel Diary survey. This diary is a research project by Lincoln University, which will assist Regional Authorities and the New Zealand Motor Caravan Authority in planning future locations for effluent disposal. Please answer the following questions at the beginning of your holiday.

- What is the capacity (litres) of the urine container in the caravan? .....
- What is the capacity (litres) of the black water tank in the caravan? .....
- What is the capacity (litres) of the grey water tank in the caravan? .....
- What are the odometer / hubometer readings at the commencement and the end of your journey? **Commencement** ..... **End** .....

Please familiarise yourself with the following questions and then fill in the table on Page 2 at the end of each day of your journey.

(1) How many people are using the effluent tank on your journey?

This includes ALL people making use of the caravan's toilet facility.

(2-4) How full was each tank when effluent was discharged?

Please provide a percentage estimate detailing how full the tank was when the effluent was discharged. For example, 100% Full, 75% Full, 50% Full. If you did not empty the effluent tank today, write N/A.

Please illustrate the following questions on the Pathfinders South Island Map provided.

(5) Mark the route which you have travelled today using an arrowed line ⟶ to illustrate this.

(6) Mark the location where you are staying overnight with the current date. *For example, **1/2**. If you are staying in the same location for more than one day this can be written like **1/2 - 3/2**. This indicates you have stayed at a certain location from February 1st - February 3rd.*

(7) Mark the town or location where the effluent was discharged with a * sign. Please also include other useful details on the map such as the name of the road, river or public toilet where the effluent was discharged.

(8) If you think there is a more suitable location for discharging effluent in this area, indicate this location with a ⊕ sign. Please also mark other specific locations during your trip today, which you think would be beneficial as effluent disposal sites.

DATE	(1) NO. OF PEOPLE	(2) % OF CONTAINER URINE EFFLUENT DISCHARGED TODAY	(3) % OF TANK BLACK WATER EFFLUENT DISCHARGED TODAY	(4) % OF TANK GREY WATER EFFLUENT DISCHARGED TODAY

1. Name of business .....

2. Please identify the town/city where your business is located .....

3. Do you currently have effluent disposal facilities available for caravans/campervans? .....

4. Do your effluent disposal facilities cater for black water disposal (human effluent)? .....

5. Is a fee required when disposing of effluent, for travelers staying at your camp over night? (*Please specify amount)* .....

6a. Are other caravan/campervan travelers permitted to use your effluent disposal facilities? .....

6b. If you answered ***YES*** to Part 6a, please indicate if applicable, the fee charged to use your effluent disposal facilities. .....

7a. Approximately how much room is available for caravans/campervans to stop beside your facilities to dispose of effluent?

Length .....

Width .....

Height (*If applicable*) .....

8. Do you have any weight restrictions for caravans/campervans using your effluent disposal facilities? (*Please specify*) .....

PLEASE TURN OVER TO PAGE 2

9. Do your effluent disposal facilities have:

(Please tick)

☐ Standard Thetford Fittings

☐ No Fittings

☐ Other Fittings (*Please specify*) .....

.....

10. Please provide additional comments/information, which you think could aid this research.

.....

.....

.....

.....

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.....

THANKYOU FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONAIRE.

APPENDIX 2

Data From Study 1

LOCATION	PUBLIC DUMP	PRIVATE DUMP	SF	O/N	# BL TIMES	# GR TIMES	# BL LITRES	# GR LITRES	SUGGESTED	PRIORITY O/N	SUM BL_GR TIMES	PRIORITY BL_GR TIMES	SUM BL_GL LITRES	PRIORITY BL_GL LITRES	PRIORITY VALUE
CHRISTCHURCH	N	Y	P	114	22	11	1898	715	4	5	33	5	2613	5	15
TIMARU	N	Y	P	57	17	8	1975	622		3	25	4	2597	5	12
OAMARU		N	P	47	16	7	1556	537	1	2	23	4	2093	5	11
INVERCARGILL	N	N	P	54	11	9	951	580		3	20	3	1531	4	10
BLENHEIM	N	Y	P	29	15	8	929	468		2	23	4	1397	3	9
DUNEDIN		N	P	50	8	9	908	390	1	2	17	3	1298	3	8
TAKAKA	N			20	14	9	898	589		1	23	4	1487	3	8
HAAST		Y		22	9	0	1559	0		1	9	2	1559	4	7
MURCHISON	N			10	8	9	511	591		1	17	3	1102	3	7
NELSON	N	Y	P	23	10	7	519	505		1	17	3	1024	3	7
WANAKA		N	P	22	10	3	1137	189		1	13	2	1326	3	6
COLLINGWOOD	N			18	6	6	157	360		1	12	2	517	2	5
GORE	N	N	P	23	6	6	514	319		1	12	2	833	2	5
GREYMOUTH	N	Y	P	23	5	4	305	234		1	9	2	539	2	5
HAVELOCK		Y	P	14	6	2	847	9		1	8	2	856	2	5
KAIAPOI		N		25	4	4	292	226		1	8	2	518	2	5
MILTON		N	P	12	6	4	380	241		1	10	2	621	2	5
PICTON		Y	P	24	6	4	393	290	2	1	10	2	683	2	5
TWIZEL	N		P	13	8	3	813	100		1	11	2	913	2	5
ALBERT TOWN				26	0	1	0	40		2	1	1	40	1	4
DUNTROON				28	2	1	90	198		2	3	1	288	1	4
EDENDALE				14	2	8	48	252		1	10	2	300	1	4
HANMER SPRINGS		U		36	3	2	313	130		2	5	1	443	1	4
MOTUEKA	N	Y		14	5	4	293	191		1	9	2	484	1	4
OWAKA		U		17	2	6	34	185		1	8	2	219	1	4

PORTAGE				22	4	4	74	299	3	1	8	2	373	1	4
QUEENSTOWN	N	N	P	20	5	4	98	289	1	1	9	2	387	1	4
RANFURLY				8	4	0	518	0		1	4	1	518	2	4
ROSS		N	P	8	7	4	319	173		1	11	2	492	1	4
ROXBURGH				4	2	2	318	248		1	4	1	566	2	4
WAIKAWA				44	1	1	23	87		2	2	1	110	1	4
WESTPORT		Y		22	5	4	65	263	1	1	9	2	328	1	4
AKAROA		Y		24	2	2	32	220		1	4	1	252	1	3
ALFORD FOREST				1	0	1	0	28		1	1	1	28	1	3
AMBERLEY		O		13	0	1	0	28	3	1	1	1	28	1	3
AMBERLEY BEACH				8	1	1	8	60		1	2	1	68	1	3
ANISEED VALLEY				2	0	1	0	32		1	1	1	32	1	3
ARROWTOWN	N	N		12	4	3	201	73		1	7	1	274	1	3
ASHBURTON		Y		13	3	4	36	182	3	1	7	1	218	1	3
BALCLUTHA		Y	P	10	1	1	224	10	1	1	2	1	234	1	3
BERLINS				2	1	1	13	15		1	2	1	28	1	3
BLACK HOLE				2	1	1	18	135		1	2	1	153	1	3
BLUFF		Y	P	21	3	3	53	154		1	6	1	207	1	3
BOUNDARY CREEK				6	2	2	24	86		1	4	1	110	1	3
CARTERS BEACH				2	1	1	18	56		1	2	1	74	1	3
CHARLESTON				6	0	1	0	32		1	1	1	32	1	3
CLIFDEN				2	1	1	13	15		1	2	1	28	1	3
CLYDE				8	2	1	189	78	1	1	3	1	267	1	3
COES FORD				2	1	1	13	110		1	2	1	123	1	3
COLAC BAY				16	1	5	20	201		1	6	1	221	1	3
CROMWELL		N	P	6	3	3	70	129	1	1	6	1	199	1	3
CULVERDEN				2	1	0	10	0	1	1	1	1	10	1	3
DARFIELD				2	1	1	7	15		1	2	1	22	1	3
DUNBACK				12	0	4	0	152		1	4	1	152	1	3

ELAINE BAY				4	1	0	224	0		1	1	1	224	1	3
FAIRLIE		Y	P	4	1	1	15	60		1	2	1	75	1	3
FIVE RIVERS				4	1	1	8	15		1	2	1	23	1	3
FORTROSE				11	0	1	0	34		1	1	1	34	1	3
FOX GLACIER		Y		6	1	1	20	100		1	2	1	120	1	3
FRANKTON				10	1	0	33	0		1	1	1	33	1	3
FRANZ JOSEPH		N		8	3	4	62	134		1	7	1	196	1	3
GERALDINE		Y		8	2	2	50	115	2	1	4	1	165	1	3
GLENDHU BAY				2	1	1	13	2		1	2	1	15	1	3
GLENORCHY		Y		12	2	2	88	131		1	4	1	219	1	3
GOLDSBOROUGH				2	0	1	0	36		1	1	1	36	1	3
GOOSE BAY				4	1	1	10	100		1	2	1	110	1	3
HOKITIKA		O		10	2	2	28	110	1	1	4	1	138	1	3
JACKSON BAY				8	0	1	0	54		1	1	1	54	1	3
KAIKOURA	Y	Y	P	8	4	0	360	0	2	1	4	1	360	1	3
KAKA POINT		N		2	1	1	33	70		1	2	1	103	1	3
KARAMEA		Y		10	2	1	21	110	1	1	3	1	131	1	3
KOHAIHAI BLUFF				8	1	1	13	110		1	2	1	123	1	3
KOTINGA				2	1	1	20	90		1	2	1	110	1	3
KUROW		Y		6	1	1	24	63	2	1	2	1	87	1	3
L10				6	1	0	14	0		1	1	1	14	1	3
L11				6	0	1	74	0		1	1	1	74	1	3
L26				6	2	2	72	105		1	4	1	177	1	3
L31				2	1	1	10	16	0	1	2	1	26	1	3
L32				2	0	1	0	16	0	1	1	1	16	1	3
L33				2	0	1	0	48		1	1	1	48	1	3
L34				2	0	1	0	32		1	1	1	32	1	3
L35				2	1	1	20	100		1	2	1	120	1	3
L51				2	1	1	20	165		1	2	1	185	1	3

LAKE AVIEMORE				4	1	1	20	100		1	2	1	120	1	3
LAKE CLEARWATER				6	0	1	0	2		1	1	1	2	1	3
LAKE HAWEA		U		4	2	2	28	123		1	4	1	151	1	3
LAKE HAYES				12	1	1	10	15		1	2	1	25	1	3
LAKE HERON				4	0	1	0	90		1	1	1	90	1	3
LAKE MAHINAPUA				18	1	1	20	100		1	2	1	120	1	3
LAKE TEKAPO	N		P	7	2	2	177	111		1	4	1	288	1	3
LAKE WAHAPO				2	0	1	0	40		1	1	1	40	1	3
LAKE WAITAKI				2	1	1	20	165		1	2	1	185	1	3
LINCOLN				2	0	1	1	46	1	1	1	1	47	1	3
LINKWATER		Y		14	4	3	280	199		1	7	1	479	1	3
LONG BAY				2	0	1	0	6		1	1	1	6	1	3
LUGGATE				22	1	1	10	25		1	2	1	35	1	3
MANGAMAUNU				14	0	1	0	20		1	1	1	20	1	3
MAPUA				14	1	1	6	100		1	2	1	106	1	3
MARFELLS BEACH				10	1	1	2	3		1	2	1	5	1	3
MATAURA				6	3	3	54	84		1	6	1	138	1	3
MOSSBURN		U		10	1	1	18	123		1	2	1	141	1	3
NAPE NAPE				8	0	1	0	50		1	1	1	50	1	3
NELSON CREEK				12	2	2	20	80		1	4	1	100	1	3
NEW BRIGHTON				6	2	1	26	110		1	3	1	136	1	3
NGATIMOTI				12	0	1	0	40		1	1	1	40	1	3
OKAINS BAY				4	2	1	180	52		1	3	1	232	1	3
OKIWI BAY				4	1	1	1	3		1	2	1	4	1	3
OMARAMA		Y		6	1	1	17	90	3	1	2	1	107	1	3
OTAUTAU				6	3	2	55	147		1	5	1	202	1	3
OTEKAIEKE				2	0	1	0	104		1	1	1	104	1	3
PAPATOWAI				6	3	2	48	152		1	5	1	200	1	3

PUKAKI REST AREA				2	1	1	18	150		1	2	1	168	1	3
PUPONGA				12	2	2	53	130		1	4	1	183	1	3
RAKAIA GORGE	N	N	P	18	4	3	49	80		1	7	1	129	1	3
RANGITATA				2	1	1	26	40	1	1	2	1	66	1	3
REEFTON		Y		6	2	2	85	102		1	4	1	187	1	3
RICHMOND	N	U		4	1	1	19	65		1	2	1	84	1	3
RIVERTON		U		6	2	2	24	44		1	4	1	68	1	3
ROLLESTON				4	1	0	20	0	1	1	1	1	20	1	3
RUSSLEY				2	1	0	65	0		1	1	1	65	1	3
SALT WORKS				14	1	1	19	54		1	2	1	73	1	3
SPRING CREEK		O		2	2	2	16	86		1	4	1	102	1	3
SPRINGS JUNCTION				2	0	1	0	160		1	1	1	160	1	3
ST KILDA				2	1	1	20	50		1	2	1	70	1	3
STUDHOLME		U	P	4	1	1	16	63		1	2	1	79	1	3
TAHAKOPA				1	0	1	0	28		1	1	1	28	1	3
TAIERI MOUTH				2	0	1	0	100		1	1	1	100	1	3
TE ANAU		N	P	10	3	2	48	71	1	1	5	1	119	1	3
TE ANAU DOWNS				4	1	1	8	60		1	2	1	68	1	3
TEMUKA		N	P	14	3	2	220	62		1	5	1	282	1	3
THE BROTHERS POINT				4	0	1	0	11		1	1	1	11	1	3
THE GROVE				6	1	1	14	130		1	2	1	144	1	3
TOTARANUI	N			10	2	1	207	98		1	3	1	305	1	3
TUAPEKA MOUTH				4	1	0	12	0		1	1	1	12	1	3
TUTAKI				2	0	1	0	32		1	1	1	32	1	3
URUWHENUA				14	1	1	19	45		1	2	1	64	1	3
WAIANAKARUA				4	0	1	0	34		1	1	1	34	1	3
WAIAU		U		8	1	1	10	20		1	2	1	30	1	3

WAIHOLA		Y		6	2	1	53	56		1	3	1	109	1	3
WAIMAKARIRI GORGE				1	0	1	0	28		1	1	1	28	1	3
WAIMATE				14	2	1	240	63		1	3	1	303	1	3
WAIPAHI				3	0	1	0	84		1	1	1	84	1	3
WAIPARA		U		10	0	3	0	104	2	1	3	1	104	1	3
WAIRAU VALLEY		Y		4	1	0	12	0		1	1	1	12	1	3
WARRINGTON	N		P	8	1	0	20	0		1	1	1	20	1	3
WEDDERBURN				12	1	1	3	10	1	1	2	1	13	1	3
WOODEND				4	2	2	72	91		1	4	1	163	1	3
WYNDHAM				2	1	1	13	110		1	2	1	123	1	3
CHEVIOT	Y				1	0	172	0		0	1	1	172	1	2
CLINTON	N				1	1	15	90		0	2	1	105	1	2
GRANITY				0	0	1	0	30		0	1	1	30	1	2
HOPE					1	0	170	0		0	1	1	170	1	2
L17					0	1	0	100		0	1	1	100	1	2
LAWRENCE	N		P		1	1	150	150		0	2	1	300	1	2
METHVEN	N				1	1	8	60		0	2	1	68	1	2
MILFORD SOUND	N				1	0	12	0		0	1	1	12	1	2
SUMNER					0	1	0	65		0	1	1	65	1	2
WAIKOUAITI		U	P		1	1	12	264		0	2	1	276	1	2
12 MILE DELTA				8						1		0		0	1
ALBURY				2	0	0	0	0		1	0	0	0	0	1
ALEXANDRA		Y		6					1	1		0		0	1
ALLANDALE				2	0	0	0	0		1	0	0	0	0	1
ANOTARI RIVER				12						1		0		0	1
ARAMOANA				12						1		0		0	1
ARGYLE POND				6						1		0		0	1
ARIKI				23						1		0		0	1

AROWHENUA	2	0	0	0	0		1	0	0	0	0	1
ARTHURS PASS	4					1	1		0		0	1
ARUNDEL	10						1		0		0	1
ATAAHUA	2						1		0		0	1
BALMORAL	2	0	0	0	0		1	0	0	0	0	1
BANNOCKBURN	2						1		0		0	1
BIG LAGOON	2						1		0		0	1
BLACKMOUNT	6						1		0		0	1
BRIGHTON	2						1		0		0	1
BRIGHTWATER	4	0	0	0	0		1	0	0	0	0	1
BRUCE BAY	4						1		0		0	1
BURKES FLAT	4						1		0		0	1
CAPE FOULWIND	2	0	0	0	0		1	0	0	0	0	1
CARDRONA	12						1		0		0	1
CARLUKE	4						1		0		0	1
CASCADE CREEK	6						1		0		0	1
CATTLE CREEK	4	0	0	0	0		1	0	0	0	0	1
CATTLE CRK	2	0	0	0	0		1	0	0	0	0	1
TOWN CAVE	2						1		0		0	1
CLIFTON	14						1		0		0	1
CLYDEVALE	2	0	0	0	0		1	0	0	0	0	1
COBB RESERVOIR	2	0	0	0	0		1	0	0	0	0	1
COBDEN	2	0	0	0	0		1	0	0	0	0	1
CONWAY FLAT	2	0	0	0	0		1	0	0	0	0	1
DIAMOND HARBOUR	2						1		0		0	1
DROMORE	2	0	0	0	0		1	0	0	0	0	1
DUNSANDEL	2						1		0		0	1
EARNSCLEUGH	8						1		0		0	1

EAST TAKAKA		8					1		0		0	1	
ELLESMERE		2	0	0	0	0	1	0	0	0	0	1	
FAIRLIGHT		10					1		0		0	1	
FRENCH PASS		14					1		0		0	1	
GABRIELS GULLY		6					1		0		0	1	
GIBBSTON		4					1		0		0	1	
GILLESPIES BEACH		4					1		0		0	1	
GLENAVY		4					1		0		0	1	
GLENTUI		8					1		0		0	1	
GORE BAY		2	0	0	0	0	1	0	0	0	0	1	
GOWANBRIDGE		8					1		0		0	1	
GREENFIELD		2	0	0	0	0	1	0	0	0	0	1	
HAKATERE		4					1		0		0	1	
HALDON ARMS		2					1		0		0	1	
CAMP HAMILTON		2	0	0	0	0	1	0	0	0	0	1	
HAMPDEN		2		0		0	1		0		0	1	
HAPUKU		4	0	0	0	0	1	0	0	0	0	1	
HAWARDEN		2					1		0		0	1	
HERBERT FOREST		2	0	0	0	0	1	0	0	0	0	1	
HIRA		4					1		0		0	1	
HOLLYFORD		6					1		0		0	1	
HOWARD		12					1		0		0	1	
INANGAHUA		2					1		0		0	1	
JUNCTION KAITERITERI	U	2					1		0		0	1	
KAKANUI		2	0	0	0	0	1	0	0	0	0	1	
KATIKI		4					1		0		0	1	
KAWATIRI		6					1		0		0	1	
KEKERENGU		2	0	0	0	0	1	0	0	0	0	1	

KENEPURU HEAD	10					1	1		0		0	1
KIDDS BUSH	6						1		0		0	1
KINA BEACH	2	0	0	0	0		1	0	0	0	0	1
KINGSTON	4						1		0		0	1
KINLOCH	4	0	0	0	0		1	0	0	0	0	1
KNIGHTS POINT	2	0	0	0	0		1	0	0	0	0	1
KNOBS FLAT	4	0	0				1	0	0		0	1
KUMARA	2						1		0		0	1
KUMARA JUNCTION	8						1		0		0	1
L1	4						1		0		0	1
L12	4						1		0		0	1
L13	4						1		0		0	1
L14	4						1		0		0	1
L15	2						1		0		0	1
L16	2						1		0		0	1
L18	2						1		0		0	1
L2	4						1		0		0	1
L20	18						1		0		0	1
L21	8						1		0		0	1
L22	2	0	0	0	0		1	0	0	0	0	1
L24	2	0	0	0	0		1	0	0	0	0	1
L25	4	0	0	0	0		1	0	0	0	0	1
L27	2	0	0	0	0		1	0	0	0	0	1
L28	2						1		0		0	1
L29	2	0	0	0	0		1	0	0	0	0	1
L3	2						1		0		0	1
L30	4	0	0	0	0		1	0	0	0	0	1
L36	2	0	0	0	0		1	0	0	0	0	1

L37	2	0	0	0	0	1	0	0	0	0	1
L38	2	0	0	0	0	1	0	0	0	0	1
L39	2	0	0	0	0	1	0	0	0	0	1
L40	2					1		0		0	1
L41	2					1		0		0	1
L42	2	0	0	0	0	1	0	0	0	0	1
L43	4	0	0	0	0	1	0	0	0	0	1
L44	2	0	0	0	0	1	0	0	0	0	1
L45	2	0	0	0	0	1	0	0	0	0	1
L46	2	0	0	0	0	1	0	0	0	0	1
L47	2	0	0	0	0	1	0	0	0	0	1
L48	2	0	0	0	0	1	0	0	0	0	1
L49	2	0	0	0	0	1	0	0	0	0	1
L5	2					1		0		0	1
L50	2	0	0	0	0	1	0	0	0	0	1
L52	2	0	0	0	0	1	0	0	0	0	1
L53	2	0	0	0	0	1	0	0	0	0	1
L6	4					1		0		0	1
L7	4					1		0		0	1
L8	2					1		0		0	1
L9	4					1		0		0	1
LAKE GEORGINA	12					1		0		0	1
LAKE IANTHE	2	0	0	0	0	1	0	0	0	0	1
LAKE LYNDON	2					1		0		0	1
LAKE MAHINERANGI	4					1		0		0	1
LAKE MAPOURIKA	8					1		0		0	1
LAKE MATHESON	4					1		0		0	1
LAKE MOERAKI	4	0	0	0	0	1	0	0	0	0	1

LAKE PARINGA			10							1		0		0	1	
LAKE PUKAKI			6							1		0		0	1	
LAKESIDE			6	0	0	0	0			1	0	0	0	0	1	
LEESTON			2							1		0		0	1	
LEITHFIELD BEACH			2							1		0		0	1	
LINDIS PASS			2							1		0		0	1	
LINDIS VALLEY			2							1		0		0	1	
LITTLE RIVER			4							1		0		0	1	
LOWBURN			2	0	0	0	0			1	0	0	0	0	1	
LYELL			12							1		0		0	1	
LYTTELTON			2							1		0		0	1	
MACLENNAN			2	0	0	0	0			1	0	0	0	0	1	
MAHENO			2							1		0		0	1	
MANAPOURI	N	P	10							1		0		0	1	
MANGARAKAU			4							1		0		0	1	
MANORBURN RESERVOIR			4							1		0		0	1	
MARIRI			6							1		0		0	1	
MARUIA SPRINGS			2	0	0	0	0			1	0	0	0	0	1	
MATAKITAKI			3							1		0		0	1	
MIDDLEMARCH	U		4							1		0		0	1	
MITCHELLS			4	0	0	0	0			1	0	0	0	0	1	
MOERAKI			2	0	0	0	0			1	0	0	0	0	1	
MOKOTUA			4							1		0		0	1	
MONOWAI			2	0	0	0	0			1	0	0	0	0	1	
MORVEN			2	0	0	0	0			1	0	0	0	0	1	
MOSGIEL			22							1		0		0	1	
MOTATAPU			2							1		0		0	1	
MT COOK			6						1	1		0		0	1	

MT HUTT FOREST		2					1		0		0	1	
MT PLEASANT		2					1		0		0	1	
MT SOMERS	U	2					1		0		0	1	
MT. THOMAS		4	0	0	0	0	1	0	0	0	0	1	
NASEBY		4	0	0	0	0	1	0	0	0	0	1	
NIAGARA		2					1		0		0	1	
OARU		2	0	0	0	0	1	0	0	0	0	1	
OHAU RIVER		6					1		0		0	1	
OKARITO		2	0	0	0	0	1	0	0	0	0	1	
OMAKAU		2	0	0	0	0	1	0	0	0	0	1	
OMAUI		2	0	0	0	0	1	0	0	0	0	1	
OPIO		2					1		0		0	1	
OTAPIRI		2					1		0		0	1	
OTARA		2					1		0		0	1	
OTUREHUA		4	0	0	0	0	1	0	0	0	0	1	
PAENGA		2					1		0		0	1	
PAKAWAU		4					1		0		0	1	
PARAPARA		2					1		0		0	1	
PATONS ROCK		2					1		0		0	1	
PATURAU RIVER		6					1		0		0	1	
PELORUS BRIDGE		2					1		0		0	1	
PINES BEACH		4	0	0	0	0	1	0	0	0	0	1	
PORTOBELLO		4					1		0		0	1	
POUNAWEA		8					1		0		0	1	
PUKIPUKI		2					1		0		0	1	
PUNAKAIKI	U	4					1		0		0	1	
RAI VALLEY		8					1		0		0	1	
RARANGI		10	0	0	0	0	1	0	0	0	0	1	
RENWICK		4					1		0		0	1	

RIVERSDALE	U	4						1		0		0	1	
RIWAKA VALLEY		10	0	0	0	0		1	0	0	0	0	1	
ROBERTSON POINT		2						1		0		0	1	
ROTHERHAM		2						1		0		0	1	
ROTOROA		2						1		0		0	1	
RUBY BAY		2	0	0	0	0		1	0	0	0	0	1	
SEAFIELD		4						1		0		0	1	
SHEFFIELD		4					1	1		0		0	1	
SOUTH MAVORA LAKE		8						1		0		0	1	
SOUTHBROOK		2	0	0	0	0		1	0	0	0	0	1	
SPREYDON		2	0	0	0	0		1	0	0	0	0	1	
SPRINGFIELD	N	2						1		0		0	1	
SPRINGSTON		6						1		0		0	1	
ST ARNAUD		2						1		0		0	1	
ST BATHANS		2	0	0	0	0		1	0	0	0	0	1	
ST JAMES WALKWAY		2	0	0	0	0		1	0	0	0	0	1	
STANLEY BROOK		2	0	0	0	0		1	0	0	0	0	1	
STOKE		2	0	0	0	0		1	0	0	0	0	1	
TAPANUI		2						1		0		0	1	
TAPAWERA		4						1		0		0	1	
TASMAN		4						1		0		0	1	
TAUPATA CORNER		6						1		0		0	1	
TENNYSON INLET		2						1		0		0	1	
THE KEY		8						1		0		0	1	
TINWALD		4	0	0	0	0		1	0	0	0	0	1	
TITIRANGI BAY		8						1		0		0	1	
TOKO MOUTH		6						1		0		0	1	

TUATAPERE		4						1		0		0	1
WAIHAO FORKS		4	0	0	0	0		1	0	0	0	0	1
WAIKAIA		4						1		0		0	1
WAIKANUI BEACH		8						1		0		0	1
WAIKAWA1		2						1		0		0	1
WAIMEA FOREST		4	0	0	0	0		1	0	0	0	0	1
WAINUI		2						1		0		0	1
WAITAKI BRIDGE		2	0	0	0	0		1	0	0	0	0	1
WAITOHI SCENIC RES		14						1		0		0	1
WAIUTU		2						1		0		0	1
WAKEFIELD		2						1		0		0	1
WARD BEACH		2	0	0	0	0		1	0	0	0	0	1
WATERTON		4	0	0	0	0		1	0	0	0	0	1
WESTPORT JUNCTION		4						1		0		0	1
WINDWHISTLE		4						1		0		0	1
WINSCOMBE		2	0	0	0	0		1	0	0	0	0	1
WINTON		10					1	1		0		0	1
WOODSTOCK		6	0	0	0	0		1	0	0	0	0	1
AHAURA								0		0		0	0
ATHOL	N							0		0		0	0
BALFOUR								0		0		0	0
BEAUMONT								0		0		0	0
BELFAST							1	0		0		0	0
BENMORE								0		0		0	0
BROWNS								0		0		0	0
CANVASTOWN								0		0		0	0
CASS								0		0		0	0
CENTRE BUSH								0		0		0	0

CHARLTON								0		0		0	0	
DIPTON								0		0		0	0	
DOMETT								0		0		0	0	
DUVAUCHELLE	U							0		0		0	0	
EDIEVALE								0		0		0	0	
ETTRICK	Y							0		0		0	0	
FAIRFIELD	N							0		0		0	0	
GRASSMERE								0		0		0	0	
HALSWELL		0	0	0	0	0	1	0	0	0	0	0	0	
HANMER JUNCTION								0		0		0	0	
HARIHARI								0		0		0	0	
HERIOT								0		0		0	0	
HORNBY SOUTH							1	0		0		0	0	
HORORATA								0		0		0	0	
HURUNUI							1	0		0		0	0	
IDABURN								0		0		0	0	
INANGAHUA								0		0		0	0	
INCHBONNIE								0		0		0	0	
INCHBONNIE JUNCTION								0		0		0	0	
ISLA BANK								0		0		0	0	
KAIKOURA								0		0		0	0	
JUNCTION														
KANIERE								0		0		0	0	
KAPUKA								0		0		0	0	
KARITANE	U							0		0		0	0	
KYEBURN								0		0		0	0	
LAKE COLERIDGE								0		0		0	0	
LAKE KANIERE								0		0		0	0	

LAKE PEARSON									0		0		0	0
LONGFORD									0		0		0	0
LUGGATE									0		0		0	0
JUNCTION														
LUMSDEN									0		0		0	0
JUNCTION														
MAKAROA	N								0		0		0	0
MAKIKIHI									0		0		0	0
MANAROA									0		0		0	0
MAYFIELD									0		0		0	0
MILTON JUNCTION									0		0		0	0
MOANA				0	0	0			0		0		0	0
MOTUPIKO									0		0		0	0
MT ASPIRING									0		0		0	0
NELSON PORT	N		P						0		0		0	0
NGAHERE									0		0		0	0
NIGHTCAPS									0		0		0	0
OTEMATATA									0		0		0	0
OTIRA									0		0		0	0
OUTRAM									0		0		0	0
OXFORD								1	0		0		0	0
PALMERSTON		Y	P					1	0		0		0	0
PARNASSUS									0		0		0	0
PLEASANT FLAT	N								0		0		0	0
PLEASANT POINT									0		0		0	0
POHARA		O							0		0		0	0
RAES JUNCTION									0		0		0	0
RAKAIA		Y						1	0		0		0	0
RAKAIA HUTS		U							0		0		0	0
RANGIORA								1	0		0		0	0

RED POST									0		0			0	0	
RICHMOND									0		0			0	0	
JUNCTION																
ROTOMANU									0		0			0	0	
RYAL BUSH									0		0			0	0	
SEDDON								1	0		0			0	0	
SELWYN HUTS		0	0	0	0	0			0	0	0	0		0	0	
SHEFFIELD									0		0			0	0	
JUNCTION																
SOCKBURN									0		0			0	0	
SPRINGVALE									0		0			0	0	
ST ANDREWS									0		0			0	0	
STILLWATER									0		0			0	0	
TAITAPU		0	0	0	0	0			0	0	0	0		0	0	
TARRAS JUNCTION									0		0			0	0	
TEDDINGTON									0		0			0	0	
TOKANUI								1	0		0			0	0	
WAIKARI									0		0			0	0	
WAIKUKU	U								0		0			0	0	
WAITARIA BAY									0		0			0	0	
WAITATI	Y								0		0			0	0	
WARD									0		0			0	0	
WEST WANAKA									0		0			0	0	
WHATAROA									0		0			0	0	
WOODLANDS									0		0			0	0	
WRIGHTS BUSH									0		0			0	0	

Key: N = Disposal Facility Available With No Charge
Y = Disposal Facility Available But Charge Applicable
U = Unspecified For Fee
SF = Standard Fitting P = Present
Suggested = Locations suggested by travellers that require a disposal facility

APPENDIX 3

Brochure Prepared By
Health Funding Authority
& Ministry Of Health

NORTH ISLAND DUMP STATIONS

Places where you can empty your recreation vehicle's on-board toilet

1. NORTHLAND

Houhora Heads Motor Camp
Houhora Heads Road, Kaitaia
(09) 409 8564

Martins Bay Holiday Park
Martins Bay, Warkworth
(09) 425 5655
(Contact: Rodney District Council)

The Park 90 Mile Beach
(residents only)
Waipapakauri Ramp
18km north of Kaitaia
(09) 406 7298

Tauranga Bay Holiday Park
Tauranga Bay
17.5 km from Kaeo
(09) 405 0436

Aranga Holiday Park
Kerikeri Road, Kerikeri
500m south of town
centre, opposite BP
(09) 407 9326

Smith's Holiday Camp
Paihia-Opua Main Road, 2.5km South of
Paihia Post Office
(09) 402 7678

Twin Pines Tourist Park
Puketona Rd, Haruru Falls
2 km from Paihia
(09) 402 7322

Bay of Islands Holiday Park
Puketona Road, Paihia
(09) 402 7646

The Park Bay of Islands
(residents only)
Cnr. Seaview & McMurrays Rd
Paihia, Bay of Islands
(09) 402 7826

Russell Top 10 Holiday Park
Long Beach Road, Russell
(09) 403 7826

Oakura Motel & Caravan Park
Oakura Bay, Whangaruru
50 km north-east of Whangarei
(09) 433 6803

Dargaville Public Dump Station
At Mobil Service Station, Cnr Normanby &
Polo Streets, Dargaville
(09) 439 5599

Dargaville Public Dump Station
At Caltex Service Station on SH12 in
town centre

Kawakawa Public Dump Station
Beside Council Depot, off SH1 past Mobil
Service Station. 24 hrs

Selwyn Park Motor Camp
Jervois Street, Dargaville
(09) 439 8296

Matauri Bay Holiday Park
RD1, Kaeo, Northland
(09) 405 0525

Baylys Beach Motor Camp
Seaview Rd, Baylys Beach, Dargaville
Adjacent beach
(09) 439 6349

Paparoa Motor Camp
On cnr. SH12 & Pahi Road
Paparoa

Pahi Motor Camp
Pahi Road, RD 1, Paparoa
On North Kaipara Harbour 7km from
Paparoa
(09) 431 6856

Kamo Springs Caravan Park
55 Great North Road, Kamo, Whangarei
(09) 435 1208

Whangarei Holiday Park & Cabins
24 Mair Street, Whangarei
2.5 km north of Post Office
(09) 437 6856

Otaika Motel & Caravan Park
(residents only)
136 Otaika Road, Whangarei
(09) 438 1459

Tropicana Holiday Park & Motels
(residents only)
Whangarei Heads Road, Whangarei
(09) 436 0687
Freephone 0800-101-012

Whangarei Public Dump Station
Council Sewage Treatment Plant
Rewa Rewa Road
Open 8am to 5pm Monday to Friday

Mangawhai Beach Hideaway Park
Moir Point Road, Mangawhai Heads
13.4 km east of Kaiwaka
(09) 431 4251

Mangawhai Riverside Caravan Park
Black Swamp Road, Mangawhai
(09) 431 4825

Warkworth Public Dump Station
Kowhai Park on cnr SH1 & Sandspit/Leigh
Intersection

Warkworth Hire Centre
Dump Station just inside main gate

2. AUCKLAND

Orewa Beach Holiday Park
Hibiscus Coast Highway, Orewa
(09) 426 5832

Puriri Park Holiday Complex
Puriri Avenue, Orewa
(09) 426 4648

Stillwater Holiday Park
Duck Creek Road, Stillwater, Silverdale
(09) 424 7518

North Shore Motels & Holiday Park
52 Northcote Road, Takapuna
Auckland
(09) 418 2578

Takapuna Beach Holiday Park
22 Promenade, Takapuna, Auckland
(09) 489 7909

Shelly Beach - beside public toilets

Avondale Motor Park
46 Bollard Avenue, Avondale, Auckland
(09) 828 7228

Remuera Motor Lodge
16 Minto Road, Remuera
(09) 524 5126

South Auckland Caravan Park
Ararimu Rd, Ramarama, South Auckland
(09) 294 8903

Orere Point Holiday Park
Orere Point Road, Clevedon
75km south-east of Auckland
(09) 292 2774

Clarks Beach Holiday Park
Tokar Road Extension, Clarks Beach Road
Pukekohe
(09) 232 1685

Manukau Central Caravan Park
902 Great South Rd, Manukau City

Port Waikato Motor Camp
Maunsell Rd, Port Waikato
(09) 232 9657

3. COROMANDEL/WAIKATO

Boomerang Motor Camp
Te Puru. 11km north of Thames on
Coromandel Road
(07) 868 2879

Dickson Holiday Park
Victoria Street, Thames
(07) 868 7308

Waiomu Bay Holiday Park
Waiomu Valley Road, Thames Coast
(07) 868 2777

Shelly Beach Holiday Park
Colville Road, Coromandel
(07) 866 8988

Colville Dump Station
Wharf Road (by public toilets)
Colville
Contact: TCDC Coromandel
(07) 866 8859

Pauanui Dump Station
Pleasant Place (off Vista Paku)
Pleasant Point, Paunaui
Contact: TCDC Whangamata Office
(07) 865 8514

Whangamata Public Dump Station
Whangamata Domain
Turn off Port Road into Aicken Road

Waters Edge Motor Lodge
84 Albert Street, Whitianga
(07) 866 5760

Mercury Bay Motor Camp
121 Albert Street, Whitianga
(07) 866 5579

Hahei Holiday Resort
Harsant Avenue, Hahei Beach
Whitianga
(07) 866 3889

Pinefield Holiday Park
Port Road, Whangamata
(07) 865 8791

Buffalo Beach Tourist Park
Eyre Street, Whitianga
(07) 866 5854

Harbourside Holiday Park
135 Albert Street
Whitianga
(07) 866 5746

Raglan Kopua Holiday Park
Marine Parade, Raglan
(07) 825 8283

Paeroa Public Dump Station
Next to Information Centre

Te Aroha Public Dump Station
Next to Public Toilets

Te Aroha Holiday Park
217 Stanley Road, Te Aroha
(07) 884 9567

Municipal Recreation & Camping Ground
Anzac Street, Morrinsville

Matamata Dump Station
Hetana St, off Broadway
Contact: Matamata-Piako District Council
(07) 884 8179

Opal Hot Springs
Springs Rd, Matamata
(07) 888 8198

Huntly Borough Council Caravan Park
Turn off Taihua St. opp. Memorial Hall

Ngaruawahia Dump Station
Eyre Street (near Waikato River)
Contact: Waikato District Council
(07) 824 8633

Waingaro Hot Springs
Waingaro Road, Ngaruawahia
(07) 825 4761

Tokoroa Dump Station
Whakamaru Street, next to sewerage
treatment plant
Contact: South Waikato District Council
(07) 886 8109

BP Service Station
Hamilton. On Bypass Auckland/Te Awamutu
Cnr Lincoln Road & Massey Road

Cambridge Motor Camp
Scott Street, Leamington. 2 km off SH1
Council operated
(07) 827 5649

Karapiro Public Dump Station
On SH1 at Mobil Service Station south of
Cambridge

Tirau Public Dump Station
SH1 next to Public Toilets
Contact: South Waikato District Council
(07) 886 8109

Te Awamutu Public Dump Station
On SH3 at Mobil Service Station

Otorohanga Kiwi Town Caravan Park
Domain Drive, Otorohanga
(07) 873 8214

Te Kuiti Domain Motor Camp
Council Operated. On SH3, opp. public
school

4. BAY OF PLENTY

Waihi Motor Camp
6 Waitete Road, Waihi
(07) 863 7654

Beachaven Caravan Park
21 Leo Street, Waihi Beach
(07) 863 5505

BP Service Station
Tauranga. Chappel Street end of Waihi-Mt
Maunganui Expressway via Harbour Bridge

Mayfair Tourist Park
9 Mayfair St, Tauranga

Bayshore Leisure Park
SH29, Windermere, Tauranga

Shell Service Station
Hewletts Road, Tauranga. On main route to
Tauranga via Harbour Bridge

Golden Grove Motor Camp
73 Girven Road, Mount Maunganui
(07) 575 5821

Mt Maunganui Domain Motor Camp
1 Adams Avenue, Mt Maunganui
(07) 575 4471

Papamoa Beach Holiday Park
535 Papamoa Beach Road, Papamoa

Te Puke Public Dump Station
Situated at public toilets

Awakeri Hot Springs Holiday Park
Rotorua/Whakatane Highway, Whakatane
(07) 304 9117

Whakatane Public Dump Station
Caltex Service Station, Commerce Street

Thornton Beach Motor Camp
Thornton Beach Road off SH2
14km NW of Whakatane
(07) 304 8296

Ohope Public Dump Station
At public toilets

Waiotahi Public Dump Station
Waiotahi Beach Domain
On SH35 at public toilets

Surf 'n Sand Holiday Park
211 Pohutukawa Ave, Ohope
(07) 312 4884

BP Service Station, Opotiki
Cnr Bridges & Church Streets

Opotiki Holiday Park
cnr Grey St & Potts Ave, Opotiki

Omaio Public Dump Station
Omaio Domain, off SH35

Whanarua Bay Motor Camp
on SH35. 90 km NE of Opotiki

Te Araroa Public Dump Station
At public toilets

Te Araroa Holiday Park
SH 35, Te Araroa
(06) 864 4873

Gisborne Public Dump Station
At Night Soil Depot

Mahia Beach Motor Camp
Moana Drive, Mahia Beach

5. ROTORUA

Rotorua Public Dump Station
Te Ngae Road, near Heli pad

All Seasons Holiday Park
50-60 Lee Road, Hannahs Bay, Rotorua
(07) 345 6240

Blue Lake Holiday Park & Motels
Tarawera Road, Rotorua
(07) 362 8120

Lakeside Motor Camp
(residents only)
54 Whittaker Rd, Rotorua
2 km from CPO. Turn off Lake Rd

Rainbow Resort
(residents only)
22 Beaumont Rd, Ngongataha, Rotorua
(07) 346 3140

Rotorua Thermal Holiday Park
Old Taupo Road (south end), Rotorua
(07) 346 3140

Taheke Lakeside Holiday Park
Okere Falls. On SH33

Lake Rotiti Lakeside Holiday Park
(residents only)
Okere Rd, Okere Falls. 20km from Rotorua

6. EAST COAST

Taradale Holiday Park
470 Gloucester St, Taradale

Napier Public Dump Station
Latham Street

Waipatiki Beach Motor Camp
Waipatiki Beach. Off Napier/Wairoa Rd
(SH2)
(06) 836 6075

Westshore Motor Camp
1 Main Road, Westshore, Napier

Kennedy Park Motor Camp
Storkey St, Napier. Off Kennedy Rd

Hastings Holiday Park
Windsor Park, Hastings

Arataki Holiday Park
(residents only) 139 Arataki Rd
Havelock North
(06) 877 7479

Waipukurau Holiday Park
River Terrace, Waipukurau
Off SH2 400m north of PO
(06) 858 8184

Rivers Edge Holiday Park
Harker Street, Waipawa. Off SH2
(06) 857 8976

Dannevirke Holiday Park
Christian St, Dannevirke
(06) 374 7625

Woodville Dump Station
Street front next to public baths
Normanby Street, 50m from SH2

7. CENTRAL PLATEAU

BP Service Station & Truck Stop
Wairakei. On SH1 opposite Wairakei Hotel

Great Lake Holiday Park
Acacia Bay Road, Taupo
(07) 378 5159

De Bretts Thermal Resort
Napier/Taupo Rd, Taupo
SH5 1 km from Lake
(07) 378 8559

Taupo Motor Camp
15 Redoubt Street, Taupo
(07) 377 3080

Lake Taupo Holiday Park
Upper Spa Rd - Centennial Drive, Taupo
(07) 378 6860

Taupo All Seasons Holiday Park
16 Rangatira St, Taupo
(07) 378 4272

Motutere Bay Caravan Park
SH1, Motutere Bay. North of Turangi
(07) 386 8963

Parklands Motor Lodge
Cnr Arahori St & SH1
Turangi. Opp. DB Hotel

Turangi Cabins & Holiday Park
Ohaunga Rd, Turangi. Off SH41

Tokaanu Public Dump Station
At boat ramp, turn opp. Tokaanu THC

Whakapapa Motor Camp, Mt Ruapehu
Tongariro National Park
(07) 892 3897

8. TARANAKI/WANGANUI

New Plymouth Public Dump Station
Water Treatment Station on SH3
Ask at office, 5 days 8am-5pm

Belt Road Seaside Holiday Park
2 Belt Road, New Plymouth
(06) 758 0228

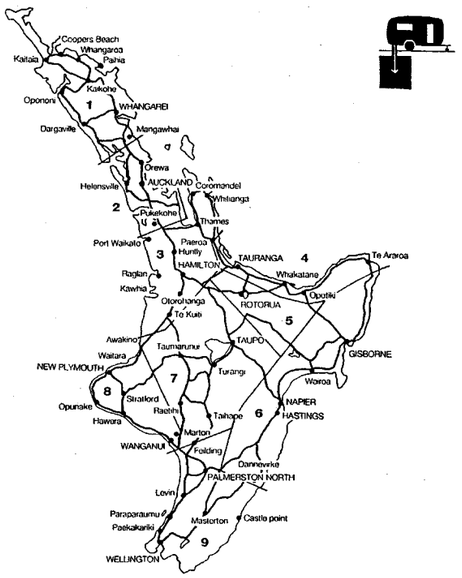
New Plymouth Top Ten Holiday Park
29 Princes Street, Fitzroy, New Plymouth
(06) 758 2566

Stratford Holiday Park
10 Page Street, Stratford
(06) 765 6440

King Edward Park
Waihi Road, Hawera
(06) 278 8544

Taumarunui Holiday Park
SH4, Taumarunui. 4 km south of
Taumarunui

Aramoho Top 10 Holiday Park
Somme Parade, Wanganui



Castlecliff Holiday Park
1A Rangiora Street, Wanganui
Adjacent to beach

Bignell St Motels, Cabins & Caravan Park, 86 Bignell Street, Wanganui

Raetihi Motor Camp
On SH4, 400 m from township

BP Express Service Station
Cnr Kimbolton Rd & Aorangi St, Fielding

9. WELLINGTON

Castlepoint Holiday Park
Jetty Road, Castlepoint
(06) 372 6705

Palmerston North Public Dump Station
Caltex Service Station, cnr Fitzherbert
Ave & College St

Palmerston North Holiday Park
133 Dittmer Drive (off Ruha Street)
Palmerston North
(06) 358 0349

Palmerston North Public Dump Station
Totara Road Wastewater Plant

Foxton Beach Motor Camp
Holben Parade, Foxton

Mawley Park Motor Camp
Oxford Street, Masterton
(06) 378 6454

Howard Booth Caravan Park
Belvedere Road, Carterton
(06) 379 8267

BP Service Station
State Highway 1, Otaki
(06) 364 7159

Byron's Resort
20 Tasman Road, Otaki Beach
(06) 364 8121

Hydrabad Holiday Park
Forest Road, Waitarere Beach
(06) 368 4941

Playford Park Motor Camp
38 Parker Avenue, Levin
(06) 368 3549

Lindale Motor Park
On SH1, 2 km north of Paraparaumu
(04) 298 8046

Paekakariki Holiday Park
Wellington Road, Paekakariki
(04) 292 8292

Upper Hutt Public Dump Station
On SH2 (River Road) at Rest Area sign
beside toilet

Harcourt Holiday Park
45 Akatarawa Road, Upper Hutt
(04) 526 7400

Hutt Park Holiday Village
(residents only)
95 Hutt Park Road, Moera, Lower Hutt
(04) 568 5913

Wellington Public Dump Station
Ferry Terminal
Off Jervois Quay, Central Wellington
(04) 472 5399

Tawa Public Dump Station
At swimming pool, Duncan Park
Davis Street, Tawa
Contact: Northern Area Parks
(04) 232 7149

SOUTH ISLAND DUMP STATIONS

Places where you can empty your recreation vehicle's on-board toilet

10. NELSON/ MARLBOROUGH

Smiths Farm Holiday Park
Queen Charlotte Drive
Linkwater. Charge $2

Havelock Motor Camp
Inglis Street, Havelock
Off SH6 opp. Domain entrance
Charge $5

Alexanders Motor Park
Canterbury Street, Picton
(03) 573 6378

Blue Anchor Holiday Park
70-78 Waikawa Road, Picton
(03) 573 7212

Spring Creek Holiday Park
(residents only)
Rapaura Road, Spring Creek
Marlborough
(03) 570 5893

Mobil Service Station
Cnr Grove Road & Nelson Street
Blenheim

Duncannon Caravan Park
(residents only)
St Andrews
Main South Highway, Blenheim
(03) 578 8193

Grove Bridge Holiday Park
Grove Road, Blenheim
(03) 578 3667

Esplanade Holiday Park
128 Esplanade, Kaikoura
(03) 319 5947

Kaikoura Motels & Caravan Park
(residents only)
11-15 Beach Road (on main highway)
Kaikoura
(03) 319 5999

Kaikoura Public Dump Station
BP Service Station
On SH1 on the north side of town

Collingwood Public Dump Station
At entrance to Collingwood Camping Ground

Nelson Public Dump Station
Mobil Tahunanui Ltd
28 Tahunanui Drive

Nelson Public Dump Station
BP Truck Stop in Hay Street
Port Nelson

Tahuna Beach Holiday Park
70 Beach Road, Tahuna, Nelson
(03) 548 5159

Richmond Public Dump Station
In Jubilee Park, Gladstone Road

Muritai Service Station
Cnr Tahunanui Street & Muritai Street
Nelson

Richmond Holiday Park
29 Gladstone Road (SH6)
Richmond, Nelson
(03) 544 7323

Motueka Public Dump Station
Cnr Monahan & Huffam Streets

Fearons Bush Camp
10 Fearon Street
Motueka
(03) 528 7189

Kaiteriteri Beach Motor Camp
Kaiteriteri, Motueka
(03) 527 8010

Takaka Public Dump Station
Information Centre car park

Golden Bay Holiday Park
Tukurua Beach, Takaka
(03) 525 9742

Murchison Public Dump Station
On SH6 between Mobil Garage & Matakitaki Bridge

11. WEST COAST

Reefton Domain Camp
Main Street, SH7, Reefton
(03) 732 8477

Seal Colony Tourist Park
Carters Beach, Westport
(03) 789 8002

Westport Holiday Park
Domett Street, Wesport
(03) 789 7043

Punakaiki Camping Ground
Punakaiki. On SH6

Greymouth Public Dump Station
At BP Truck Stop

Greymouth Seaside Holiday Park
Chesterfield Street, Greymouth
(03) 768 6618

Franz Joseph Holiday Park
Main Road, Franz Joseph
(03) 752 0766

Goldfields Tourist Centre
Ross. Beside Public Toilets on roadside
Sign posted. No charge

Fox Glacier Motor Park
Lake Matheson Road
Fox Glacier
(03) 751 0821

Haast Motor Camp
14.5km south of Haast on
Jackson Bay/Haast Beach Road
(03) 750 0860

Hokitika Holiday Park
(residents only)
Stafford Street, Hokitika
(03) 755 8172

12. CANTERBURY

AA Tourist Park
200 Jacks Pass Road, Hanmer Springs
(03) 315 7112

The Pines Motor Camp
Jacks Pass Road, Hanmer Springs

Mountain View Holiday Park
Main Road, Hanmer Springs
(03) 315 7113

Waiau Reserve Camp
Highfield Street, Waiau
On SH70 north of Culverden

Leithfield Beach Camp
2 km from SH1, 45km north of Christchurch

Pineacres Holiday Park
Main North Road, Pineacres
(near Kaiapoi)
(03) 327 5022

Meadow Park Holiday Park
39 Meadow Street, Christchurch
(03) 352 9176

Amber Park Caravan Park
308 Blenheim Road, Christchurch
(03) 348 3327

North South Airport Park
Cnr Johns & Sawyers Arms Roads
Christchurch
Opp. Truckstop. Charge $2

Canterbury Agricultural Park
Curletts Road, Christchurch

South New Brighton Holiday Park
(residents only) Halsey Street
(off Estuary Road), South Brighton
Christchurch
(03) 388 9844

Russley Park Motor Camp
372 Yaldhurst Road, Christchurch 4
(03) 342 7021

All Seasons Holiday Park
5 Kidbrooke Street (off Linwood Avenue)
Christchurch
(03) 384 9490

Alpine View Holiday Park
650-678 Main South Road
Templeton
(03) 349 7666

Le Bons Bay Motor Camp
Walley Road, Le Bons Bay, Akaroa
(03) 304 8533

Akaroa Holiday Park
Morgan Road, Akaroa
(03) 304 7471

Kowhai Pass Domain Camp
Springfield. On SH73
No charge

Rakaia Huts Camping Ground
On SH72 at public toilets northside of river

Rakaia River Holiday Park
Main South Road, Rakaia
(03) 302 7257

13. SOUTH CANTERBURY/OTAGO

Coronation Park Motels & Motor Camp
778 East Street, Ashburton
(03) 308 6603

Rakaia Gorge Public Dump Station
On SH72 at public toilets northside of river

Gateway Holiday Park
Allandale Road, on SH 79, Fairlie
(03) 685 8375

Temuka Holiday Park
1 Fergusson Drive, Temuka
(03) 615 7241

Glenmark Motor Camp
Beaconsfield Road, RD 2, Timaru
(03) 684 3682

Timaru Public Dump Station
Follow Truck By-pass route off Marine Parade

Selwyn Holiday Park
144 Selwyn Street, Timaru
(03) 684 7690

Waimate Public Dump Station
Knottingley Park. At rear end of public toilets in camping area

Waimate Public Dump Station
Victoria Park
In camping area

DK Auto Services Waikouaiti Motors
Main Road, Waikouaiti
(03) 465 7213

Warrington Reserve
Esplanade Road, Warrington
Contact: Dunedin City Council
(03) 477 4000

Farmlands Caravan Park
Waitati Valley Road, Waitati
Dunedin
(03) 482 2730

Dunedin Public Dump Station
Shell Service Station Kaikorai Valley Road
South of PO, off SH1

Aaron Lodge Motor & Holiday Park
162 Kaikorai Valley Road, Dunedin
(03) 476 4725

Tahuna Park Motor Camp
41 Victoria Road, St Kilda, Dunedin
(03) 455 4690

Leith Valley Touring Park
103 Malvern Street, Dunedin
(03) 467 9936

Fleetwood Motors Limited
46 Main Road, Fairfield, Dunedin
(03) 488 3218

Brighton Caravan Park
Brighton Road, Brighton
(03) 481 1404

Lake Waihola Holiday Park
Waihola Domain
On SH1, 40km south of Dunedin
(03) 417 8908

Taylor Park Camping Ground
Park Road, Milton
Contact: Clutha District Council
(03) 418 1350

Geraldine Motor Camp
Cnr. Cox & Hislop Street
Geraldine
(03) 693 8860

Lake Tekapo Motor Camp
Lake Side Drive, Lake Tekapo
(03) 680 6825

Methven Public Dump Station
Mobil Service Station, Hall Street

Omarama Holiday Park
Junction SH8 and 83
Omarama
(03) 438 9875

Kurow Holiday Park
76 Bledisloe Street
Kurow
(03) 436 0725

Oamaru Garden Holiday Park
30 Chelmer Street
Oamaru. Charge $2
(03) 434 7666

14. CENTRAL OTAGO/ SOUTHLAND

Arrowtown Public Dump Station
Behind Lake Districts Museum

Arrowtown Caravan Park
47 Devon Street, Arrowtown
Charge $2

Naish Park Motor Camp
56 Charlotte Street, off George St
Balclutha. Charge $1
(03) 418 0088

Lawrence Service Centre
5 Peel Street, Lawrence
(03) 485 9909

Lawrence Public Dump Station
On west side of town beside rest area on SH8.
No charge

Glenorchy Holiday Park
2 Oban Street, Glenorchy
(03) 442 9939

Lake Tekapo Dump Station
Alexandra Terrace
Contact: MacKenzie District Council
(03) 685 8514

Twizel Dump Station
Next to Twizel Resort
Services Service Station
Contact: MacKenzie District Council
(03) 685 8514

Papatowai Motor Camp
Owaka, Otago
(03) 415 8500

Te Anau Motor Park
Manapouri Road, Te Anau
(03) 249 7457

Wanaka Pleasant Lodge Holiday Park
Glendue Bay Road
Wanaka
(03) 443 7360

Wanaka Motor Park
212 Brownston Street, Wanaka
(03) 443 7883

Cromwell Holiday Park
1 Alpha Street, Cromwell
(03) 455 0164

Alexandra Holiday Camp
Manuherikia Road, Alexandra
(03) 448 8297

Stadium Tavern
143 Centennial Avenue
Alexandra. Charge $3

Roxburgh Family Motor Camp
11 Teviot Street
Roxburgh
(03) 446 8093

Caltex Service Station
Village Centre
Cromwell

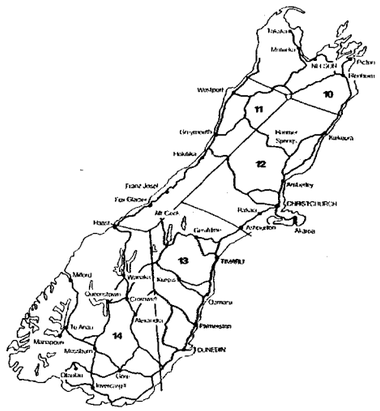
Arthurs Point Camping Ground
(residents only) Gorge Road
Arthurs Point, Queenstown
(03) 442 9306

Queenstown Public Dump Station
2nd left off Brecon Street

Queenstown Motor Park
Main Street, Queenstown
(03) 442 7252

Queenstown Creeksyde Campervan Park
Robins Road, Queenstown
(03) 442 9447

Clinton Public Dump Station
On roadside adjacent park
On SH1 turn at BP Station



Mossburn Country Park
Five Rivers, Mossburn
(03) 248 6350

Te Anau Mountain View Holiday Park
Mokonui Street, Te Anau Terrace, Te Anau
(03) 249 7462

Te Anau Motor Park
1 Te Anau-Manapouri Road, Te Anau
(03) 249 7457

Manapouri Lakeview Motels & Motor Park
Manapouri-Te Anau Road, Manapouri
(03) 249 6624

Milford Sound Public Dump Station
In car park

The Riverton Rock
136 Palmerston Street
Riverton

Riversdale Service Station
On SH94, Riversdale

Argyle Camping Ground
Bluff. Off SH1. Turn into Gregory Street
No charge

Gore Public Dump Station
Richmond Road
At kerbside, 750m upstream from SH1 bridge. Opposite Trafford Street
No charge

Invercargill Public Dump Station
At Rockgas, 20 Spey Street

Otatara Beach Road Motor Camp
Follow signs to Airport 8 km to the west
No charge

Gore Motor Camp
35 Broughton Street, Gore
(03) 208 4919

Prepared with the assistance of the
New Zealand Motor Caravan Association (Inc.)

Health Funding Authority
Te Mana Putea Hauora O Aotearoa

MINISTRY OF HEALTH
MANATU HAUORA

New Zealand, September 1999. Code 4603

- **The careless discharge of toilet waste is illegal in New Zealand. You can locate the nearest dump station to empty your campervan toilet by using this guide.**
- **There may be a charge for using a dump station at a camping ground, unless you are staying there.**

DUMP STATIONS

Further information about protecting your health and the environment when looking for a toilet while travelling is available in a leaflet "Finding a Toilet in New Zealand". Ask for a copy at Visitor Information Centres, Conservation offices and health agencies.