CHAPTER 1:INTRODUCTION

This report presents data relating to the chemical quality of New Zealand's community drinking water supplies. The objective of the report is to provide an overview of the national and regional distribution of concentrations for each determinand listed as health significant in the *Drinking-Water Standards for New Zealand:2000*, plus an overview of the significance of these data for New Zealand.

This report is the first to detail what is known about the chemical quality of New Zealand's community drinking-water supplies that has been produced since the *Drinking-Water Standards for New Zealand, 1995* was introduced. It is anticipated that it will provide useful policy direction to those with responsibility for the management of drinking-water supplies and water resources.

The last report of this type was produced in two volumes, the first in February 1991, and the second in March 1992 (Mattingley 1991, 1992). That report presented a data review for the period 1983 – 89 and used the *Drinking-Water Standards for New Zealand: 1984* as a 'yardstick' for assessing public health significance.

The *Drinking-Water Standards for New Zealand 1995* introduced an extensive range of chemicals (determinands) of potential health significance. It also introduced a priority classification procedure for demonstrating compliance. To demonstrate compliance with the *Standards*, only those relatively few determinands that fall into the classes with highest potential risk, Priorities 1 and 2, are required to be monitored. Monitoring of determinands in the classes with lower potential risk, Priorities 3 and 4, is at the discretion of the supplier, unless required by the Medical Officer of Health for public health reasons. (MoH 2000a). This approach differed from that of the 1984 *Standards*, because a much wider range of chemical determinands were allocated Maximum Acceptable Values (MAVs), and a procedure was defined which, if followed, would permit a water supplier to demonstrate compliance.

This report presents the results of Ministry of Health Programmes that have investigated the chemical quality of community drinking-water supplies. All chemicals that have been identified in community drinking-water supplies at greater than 50% MAV are recommended for classification as 'Priority 2'. These chemicals are considered to be potentially health significant (and thus require regular monitoring) and are the major subject of this report.

The Ministry of Health has formalised Priority 2 classifications made for the larger water supplies (those that serve populations greater than 500). These classifications must be monitored if compliance with the *Drinking-water Standards for New Zealand:2000* is to be demonstrated. Assessment of this monitoring has not been investigated, and is not covered in this report. Thus, the information in this report represents an overview of the chemical quality of community drinking-water supplies based only on the data initially used to identify Priority 2 determinands. It is not known if the quality is improving or deteriorating, and an investigation into the monitoring conducted by water suppliers would be required to determine this.

Since 1995, a new edition of the Drinking-Water Standards has been introduced – the *Drinking-Water Standards for New Zealand:2000 (DWSNZ:2000)* (MoH 2000a). This report uses the 2000 version of the *Standards* as the "yard stick" for assessing the public health significance of the water quality data.

The majority of data used to compile this report have been obtained from the Ministry of Health's Priority 2 (P2) Identification Programme. Relevant data from surveillance programmes conducted by the Ministry of Health/Department of Health are also included.

The Priority 2 Programme is an on-going programme, and the period of time covered in this report is 1995 – 2000. This is termed **Phase 1 of the P2 Programme**. 859 community drinking-water supplies serving a population of approximately three million people were assessed during this Phase.