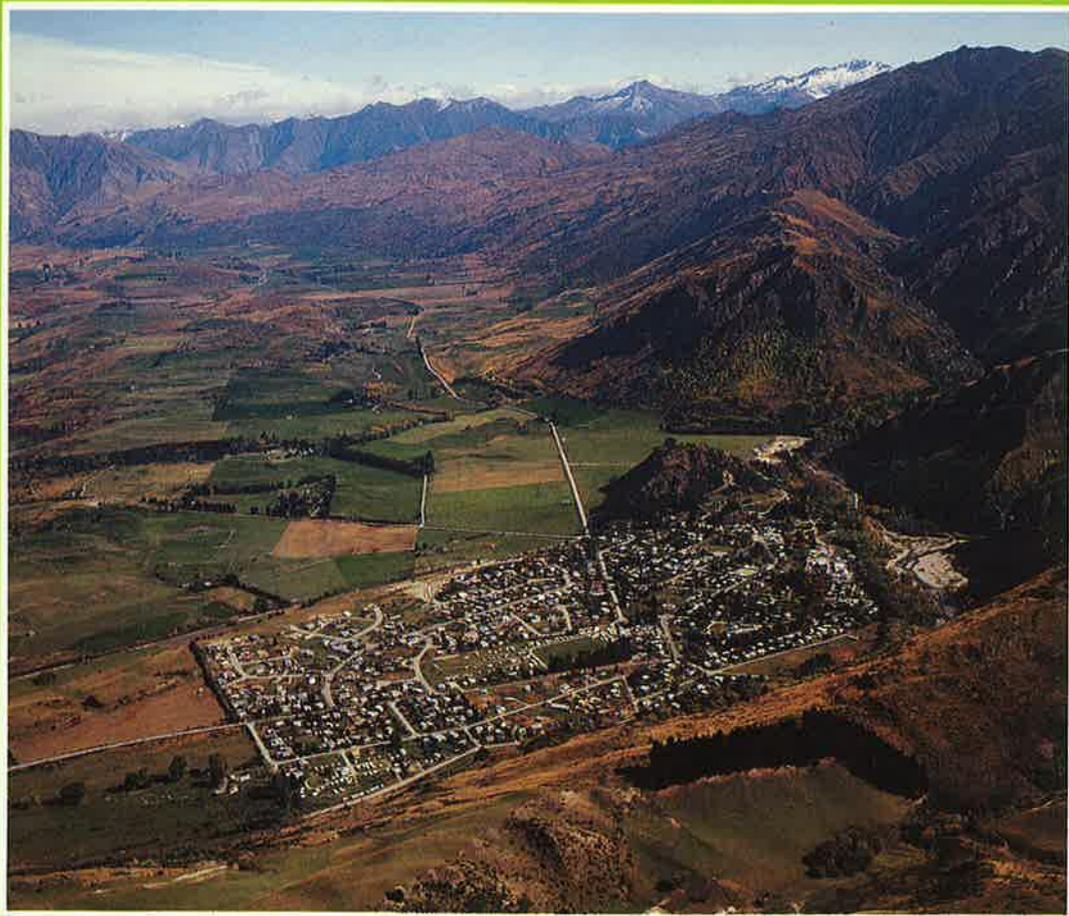


WATER & SOIL ISSUES

A Guide for Town and Country Planning



National Water and Soil
Conservation Authority

ISSN 0110-4691

**Water and Soil Issues:
A Guide for
Town and Country Planning**

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Wellington 1987

Water and Soil Issues: A Guide for Town and Country Planning
By Sylvia Allan, Environmental Planning Associates, Wellington.
Water & Soil Management Publication No. 11, 1987, 53p. ISSN 0110-4691

This publication briefly outlines the legislative and organisational framework for water and soil management and planning in New Zealand, and relates this to the town and country planning framework. Opportunities for liaison and exchange of information are described.

A number of major issues which affect both water and soil management and land use planning are covered; namely natural hazards, sea level rise, soil conservation, water supply, non-point source pollution, protection and conservation, wetlands, mining and extraction, and geothermal areas. Some appropriate planning techniques are outlined. Emphasis is placed on the need for co-operation and co-ordination of the activities of different authorities responsible for regulating the use and management of the resources.

National Library of New Zealand
Cataloguing-in-Publication data

ALLAN, Sylvia.

Water and soil issues : a guide for town and country planning / by Sylvia Allan. - Wellington, N.Z. : Published for the National Water and Soil Conservation Authority by the Water and Soil Directorate, Ministry of Works and Development, 1987. - 1 v. - (Water & soil management publication, 0110-4691 ; no. 11)

333.7309931

1. Land use--New Zealand--Planning. 2. Regional planning--New Zealand. I. National Water and Soil Conservation Authority (N.Z.). II. New Zealand. Water and Soil Directorate. III. Title. IV. Series: Water & soil management publication ; no. 11.

Cover; Arrowtown, Central Otago. An area familiar with rural and urban development, mining, tourism, recreational pressure and their impacts on water and soil resources.

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Published for the National Water and Soil Conservation Authority
by the Water and Soil Directorate, Ministry of Works and Development,
P.O.Box 12041, Wellington North, New Zealand.

PRINTED BY WRIGHT AND CARMAN LTD, NICOLAUS STREET, UPPER HUTT

FOREWORD

The complementary responsibilities and roles of territorial local authorities and catchment authorities have been explicitly identified in the town and country planning and water and soil conservation statutes for over 30 years. Recognition of the expertise and information held by catchment authorities has resulted in the inclusion of water and soil related information in district and regional planning schemes.

I believe, however, that this appreciation is not yet nationwide and that not only local authorities and catchment authorities but the general public are the poorer for this lack of a wider appreciation.

This booklet is aimed at land use planners. It seeks to promote a better understanding of water and soil conservation; to identify sources of relevant information; to address major water and soil issues; and to encourage land use planners to work closely with those involved in water and soil management and planning.

I therefore feel it appropriate that as Minister of Works and Development, with responsibilities under the town and country planning and the water and soil acts, and as chairman of the National Water and Soil Conservation Authority, I can commend these 'guidelines' to all those involved in land use and resource management planning.



Rt. Hon. F. M. Colman
Minister of Works and Development

July 1987

Acknowledgements

A large number of people assisted in the preparation of this publication. In particular Keith Calder (Water and Soil Directorate, MWD, Wellington) and Geoff Markham (Otago Catchment Board) provided background material and examples. Ray Salter, Kathryn Edmonds, Keith Calder, Caroline Strachan, Geoff Markham, Marilyn Brown, Peter Horsley, and Laurie McCallum all read and made helpful comments in the text at various stages. Dennis Bush-King and staff of Town and Country Planning Directorate of MWD also provided ideas, examples and comments. George Asher, Department of Maori Affairs commented on the section on Maori Values. Julie Jenner typed the report, and Vivienne Bernard of Concept Delta Publishing provided typesetting and layout.

Acknowledgement is also made of those people and organisations that provided photographs or diagrams:

Aokautere Soil Conservation Centre
Auckland Regional Authority
Department of Conservation
Department of Maori Affairs
Editor, 'Soil and Water'
Geology Department of Otago University
National Publicity Studio
Neil Erickson
Nelson Catchment Board
Southland Catchment Board

and finally a special thank you to Mike Redican, Information Services, MWD, for his several forays to take some specific photographs.

WATER AND SOIL ISSUES: A GUIDE FOR TOWN AND COUNTRY PLANNING

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INTRODUCTION

In the past 50 years there have been many changes in the use of natural resources, and a growing concern for their conservation and wise use. Knowledge and understanding of the complexity and inter-relationships of natural resource systems has also increased greatly. Management and planning for the use of natural resources has become a necessity as demands increase and conflicts of use arise.

During this period there have been many changes in, and some consolidation of, legislation affecting the use of land and other natural resources, and clarification of the roles and responsibilities of owners and administrative authorities. A number of agencies and a variety of legislation now influences the use of most natural resources.

It is important that those who administer the legislation affecting natural resources understand the roles and responsibilities of other agencies concerned with the same resource. Not only are there benefits in terms of consistency of approach, but the information and advice of one agency may be very helpful to others.

This situation arises with water and soil and land use planning. Land use planning, as carried out by territorial local authorities under the Town and Country Planning Act 1977, the Local Government Act 1974, and several other Acts, has a close relationship to the management and planning of water and soil resources, as carried out by catchment authorities¹ under the Soil Conservation and Rivers Control Act 1941 and the Water and Soil Conservation Act 1967.

Because water and soil issues underlie many aspects of land use planning, coordination between land use planning and water and soil resource planning is desirable. To make the most of opportunities to cooperate and coordinate planning, everyone concerned must have a good knowledge and a clear understanding of roles, responsibilities and capabilities.

This booklet has been prepared to give land use planners and others a basic understanding of the institutional and legislative framework regulating water and soil management, and an outline of the principles and current practice of water and soil management and planning. It outlines the availability of information held by water and soil authorities, relevant to land use planning. It covers some of the major issues in water and soil management and planning, and indicates where those involved in land use planning should be seeking to work particularly closely with those involved in water and soil management and planning.

¹ Throughout the remainder of the text, the term catchment authority is used to represent all bodies with water and soil planning and management responsibilities. They are described briefly on pages 5 to 8.

WHY IS WATER AND SOIL MANAGEMENT AND PLANNING NEEDED?

The need for water and soil management and planning has arisen because of the nature of the country itself and the demands and expectations placed on water and soil resources by the human population. There are basically three aspects which have led to systems of organisation, planning, management and control of different aspects of water and soil resources.

1. Resource Damage

This includes a wide range of impacts on the land, some of which are naturally occurring geomorphological processes - others which have been accelerated by human occupation. Erosion in many forms, aggradation of rivers, siltation of river mouths, changes in soil structure and loss of fertility, have all resulted in the need for resource management and remedial measures. Similarly, problems of pollution of streams, rivers, lakes and marine areas have increasingly required solutions.

2. Resource Competition

Competition for the use of water and soil resources has grown as the human population has increased. Each resource fulfills a range of needs. For example, a single river may provide water for human and animal consumption, for commercial fishing, for increasingly intensive agricultural production, for industrial needs, for hydro-electric power development, for recreation, and for disposal of waste products. It may also have scenic or ecological significance and provide habitats for a great many species of flora and fauna. An increase in demand for any one use may put the others in jeopardy.

Soil resources are not so markedly affected by resource competition, being largely in private ownership. However, market forces, emphasising increased production, and the loss of high quality land through urbanisation, have resulted in the need for careful assessment, planning and management of soil resources.

3. Intrinsic Values

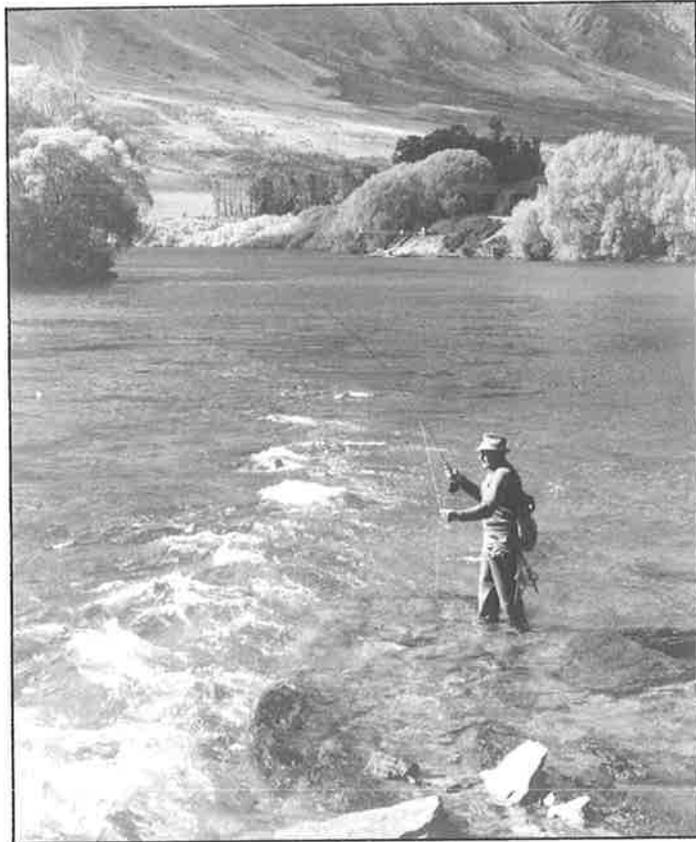
In the past 20 years there has been recognition of ecological inter-relationships and the scientific values of habitats supporting a range of species. Recognition of the importance of maintaining genetic diversity, and of the value of research into now-endangered species of plants and animals has grown. The significance of wetlands, estuaries, riparian and mountain areas in hydrological, ecological and economic terms is now becoming well understood, and the need for conservation and protection measures is recognised.

Similarly, with more leisure time and greater mobility, the recreational and scenic qualities of remaining wild areas are far more highly valued than they were in the past.

Recognition of the costs of resource damage - particularly through erosion and flooding - led to the passing of the Soil Conservation and Rivers Control Act in 1941. Later, recognition of growing water resource competition and the intrinsic values of water resources resulted in the 1967 Water and Soil Conservation Act. This legislation is outlined in the following pages.

Because of the importance of soil and water resources in their many naturally occurring forms and in their many contexts, they are basic to human existence. While the intrinsic values of soil and water systems are recognised, most of the concerns for soil and water planning arise from the direct demands for use of water and soil by people. Thus while water and soil management and planning may be based on caring for and conserving the resource itself, the wider social and economic context of land use planning is a closely related consideration. Land use influences water and soil qualities and values as much as water and soil influences land use.

There are many justifications for careful management and planning of water and soil resources. They need to be protected from natural and man-made damage, allocated between competing uses, and protected for recreation, tourism, fisheries and wildlife needs.



ROLES AND RESPONSIBILITIES

Statutory Framework

As mentioned earlier, two main pieces of legislation currently influence water and soil management and planning: the Soil Conservation and Rivers Control Act 1941, and the Water and Soil Conservation Act 1967, and their subsequent amendments.

The long titles of the two Acts best describe their purpose and function. These are:

The Soil Conservation and Rivers Control Act

"An act to make provision for the conservation of soil resources and for the prevention of damage by erosion, and to make better provision with respect to the protection of property from damage by floods".

The Water and Soil Conservation Act

"An act to promote a national policy in respect of natural water, and to make better provision for the conservation, allocation, use, and quality of natural water, and for promoting soil conservation and preventing damage by flood and erosion and for promoting and controlling multiple uses of natural water and the drainage of land, and for ensuring that adequate account is taken of the needs of primary and secondary industry, community water supplies, all forms of water based recreation, fisheries and wildlife habitats and of the preservation and protection of the wild, scenic and other natural characteristics of rivers, streams and lakes".

When these long titles (the nearest thing to "principles and objectives" in the legislation) are related to Section 4(3) of the Town and Country Planning Act 1977:

"In the preparation, implementation, and administration of regional, district and maritime planning schemes ... regard shall be had to the principles and objectives of the Soil Conservation and Rivers Control Act 1941 and the Water and Soil Conservation Act 1967",

The general purposes of planning:

"Regional, district, and maritime planning ... shall have for their general purposes the wise use and management of the resources, and the direction and control of the development, of a region, district, or area in such a way as will most effectively promote and safeguard the health, safety, convenience and the economic, cultural, social and general welfare of the people, and the amenities of every part of the region, district or area",

and the scope of regional, district and maritime planning schemes as set out in the Schedules to the Act, the close relationship can be seen. This has been emphasised by the extension of town and country planning into water areas through maritime planning schemes, and through planning of water areas under the jurisdiction of territorial regional and local authorities.

Many other Acts also influence planning and management of water and soil resources. In particular these are the Mining Act 1971, the Reserves Act 1977, the National Parks Act 1980 and the Geothermal Energy Act 1953. Where there is any conflict between any of these Acts and the Water and Soil Conservation Act, the latter Act prevails. There is no similar provision in either the Water and Soil Conservation Act or the Soil Conservation and Rivers Control Act relating to the Town and Country Planning Act or the Local Government Act, so any conflict must be resolved either informally through good working relationships, or through formal objections and appeal procedures. However, Section 4 of the Water and Soil Conservation Act provides that territorial local and regional authorities are to be guided by that Act and by the policies and directives of the National Water and Soil Conservation Authority (see next Section) in relation to water conservation, quality, the use and disposal of water, land drainage and protection of land from flooding.

The Water and Soil Conservation Act vests control of water in the Crown, with some exceptions, the most important being the right to take or use water reasonably required for domestic, stock or fire-fighting needs, and the need to divert, take or use sea water. Apart from these exceptions, a water right is required for the damming of any river or stream, or any diverting, taking or use of water, or any discharge of water or waste either directly or indirectly into water. The Act contains procedures for setting minimum flows, levels or standards of water quality, and restricting water use where these have been set. It also restricts or prohibits granting of water rights in order to protect wild, scenic, fisheries, recreational or other significant values of waters, through water conservation orders. In addition, the Act provides for informal plans to be made concerning the conservation, allocation, use and quality of water.

The Soil Conservation and Rivers Control Act provides for the promotion of works and associated planning for soil conservation and erosion and flood control. Powers are given to make bylaws and issue notices restricting land use practices in order to achieve these aims. Works, for catchment control purposes may be government grant-assisted. As well, both Acts provide for research to be undertaken into water and soil management problems.

The Town and Country Planning Act allows for catchment authorities to be involved in the land use planning process for the achievement of water and soil management aims.

To those accustomed to dealing with the detailed contents of the Town and Country Planning Act and Regulations, and the Local Government Act, both water and soil Acts provide relatively little insight into the procedures and mechanisms available to those responsible for water and soil planning and management. Water and soil planning procedures have evolved largely through practice, and there is considerable variation of approach throughout the country.

Organisational Framework

National level

The guiding body for water and soil resource management and planning in New Zealand is the National Water and Soil Conservation Authority (NWASCA). This body is constituted under Section 5 of the Water and Soil Conservation Act, and consists of 15 people representing the interests of territorial local authorities, catchment and similar authorities, Maori people, industrial and agricultural users of water, fisheries interests, and recreation and wildlife interests. The Minister of Works and Development is a member, and chairs the Authority.

NWASCA is serviced by the Water and Soil Directorate of the Ministry of Works and Development, through its Head and District Offices, and through Science Centres². The Water and Soil Directorate provides an advisory link between catchment and similar authorities and NWASCA. The Directorate also advises the Town and Country Planning Directorate of the Ministry of Works and Development on water and soil planning aspects of regional, district and maritime planning schemes.

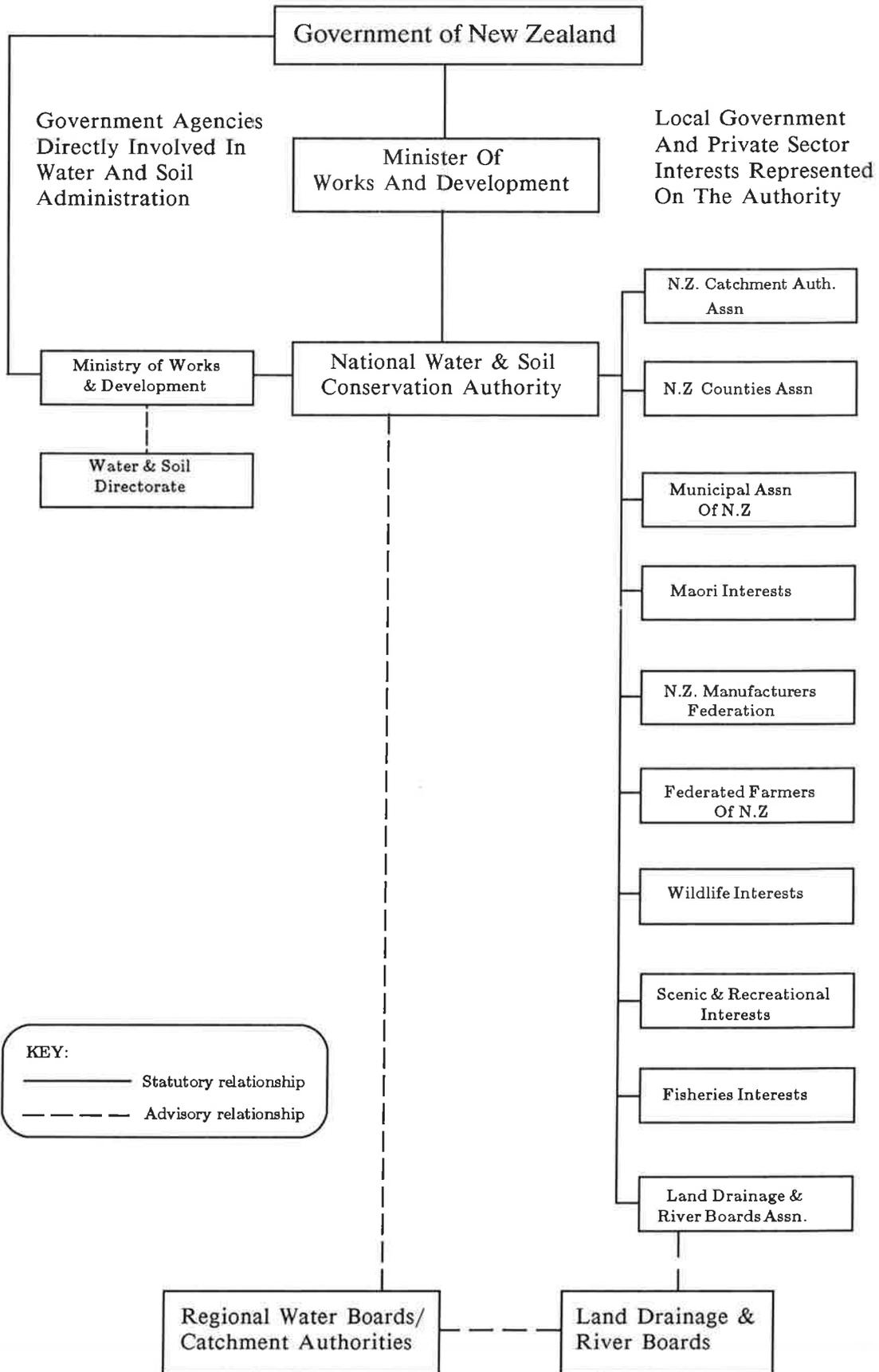
NWASCA functions

NWASCA has a great range of functions, as listed in Section 14 of the Water and Soil Conservation Act. These can be grouped as:

- 1 Examining problems and making plans for the allocation and use of water (including the needs of all types of users), and the conservation and preservation of water and soil resources.
- 2 Examining problems and making plans to help control natural hazards such as flooding and erosion, and accretion in coastal areas.
- 3 Establishing quality and flow standards for water bodies and for pollution control.
- 4 Controlling the taking of water and discharge of anything into water.
- 5 Coordinating all matters relating to water so that as far as possible, all demands are met, and water is used to the best advantage of the country and the region in which it occurs.

² Science Centres include the Water Quality Centre, Hamilton; the Aokautere Soil Conservation Centre, and the Hydrology Centre, Christchurch. They provide specialist advice to NWASCA, catchment authorities, and other agencies.

Water And Soil Conservation Administration In New Zealand



- 6 Reviewing the roles and performance of catchment authorities.
- 7 Advising the Minister of Works and Development on the need for statutory changes.
- 8 Advising the Minister of Works and Development on funding and allocation of money for soil and water uses and protection purposes.
- 9 Promoting research into water and soil conservation, and education on water and soil matters.
- 10 Collecting and disseminating data relating to natural water resources, and soils.

Under the Soil Conservation and Rivers Control Act, NWASCA has further specific responsibilities relating to soil conservation, prevention of flooding and soil erosion and reinstatement of land, assistance to owners of land affected by soil erosion or floods. It also has a major role in policy coordination, research and education relating to soil conservation and river control.

NWASCA develops and promotes national policy, carries out research and makes the results of these activities widely available through a series of publications. It is responsible for setting guidelines under which catchment authorities formulate and approve their own water and soil conservation proposals. It can classify water by quality, and it processes water conservation orders.

Regional level

The regional bodies for water and soil resource management and planning are the catchment authorities. There are 20 of these and their areas are based on single or multiple catchments and generally take in the seabed and coastal waters out to the edge of the territorial sea. The boundaries of catchment authorities are rarely congruent with Ministry of Works and Development Water and Soil Districts, with regional or united county boundaries, or with local territorial authorities. This means that a regional or united council may cover parts of the areas of several catchment authorities, or vice versa, and a single catchment authority may have as many as 30 local authorities within its boundaries.

Catchment authorities include Catchment Boards and Catchment Commissions which are both constituted under the Soil Conservation and Rivers Control Act 1941. They are identical in function but Boards are directly elected whereas Commission members are appointed by territorial local bodies.

In Auckland and Wellington the Regional Councils act as the catchment authority and in the Waikato the Waikato Valley Authority fulfills this function.

All of these bodies also act as Regional Water Boards under the Water and Soil Conservation Act 1967.

Land Drainage Boards and River Boards exist in some areas, but these days they serve mainly maintenance functions. There are also some Urban Drainage Boards responsible for sewage and stormwater disposal. These are public utilities acting under separate legislation.

Catchment authority staff include administrators, engineers, hydrologists, soil conservators and other water and earth scientists, and increasingly, qualified planners and resource managers. There is no standard administrative structure.

Catchment authority functions

Catchment authorities carry out policy directives from NWASCA and have delegated authority to carry out many of the responsibilities of NWASCA for their own area. They have duties of keeping hydrological records, which means that collection of rainfall, flooding, watercourse and lake information is an important function. They also can repair, maintain and improve watercourses, and carry out erosion control schemes and afforestation on public and private land. They can cooperate and share resources with the local authority over catchment protection and water supply. They also have a wide range of physical rights and regulatory powers over watercourses and private land relating to use and management of land and watercourses, to achieve the general purposes of water and soil legislation.

Catchment authorities can make bylaws or administer soil conservation regulations for the protection of watercourses and defences against water (eg, floodbanks), the control of gravel removal from watercourses, the control of vegetation removal (eg, fire control) or other matters likely to cause or aggravate soil erosion or flooding, the regulation of dam design and construction, and the control of bores and their effects on groundwater.

Catchment authorities can also issue, on behalf of NWASCA, Section 34 and 35 notices (authorised under those sections of the 1959 amendment to the Soil Conservation and Rivers Control Act). Notices are directed at the public or at individual landowners in an area, and can relate to any time period, and to any area specified. Public notices declare that certain land use practices are likely to cause or aggravate soil erosion, sedimentation or flooding, and that consent to proceed is needed from the catchment authority. Individual notices can go further than this and may require the carrying out of remedial works or a change in current practices.

Every owner of land within a catchment area has a duty of prudent land use practice, but has rights to object to notices and/or can request the catchment authority's consent for practices which may result in soil erosion or deposition in watercourses.

Catchment authorities act for NWASCA in regulating the taking and using of water, and discharge of waste into or onto land or into water, through the issue of water rights. In granting rights, conditions and restrictions can be imposed, and in periods of water shortage, water rights can be temporarily suspended.

General authorisations can be given by catchment authorities, in the public interest to avoid applications for every water right. These are generally given to territorial local authorities for stormwater discharge, minor extraction, and minor instream structures.

Increasingly, catchment authorities are preparing water allocation plans and/or water and soil resource management plans for the whole or parts of their areas. While water allocation plans, like farm plans prepared for soil conservation purposes, deal with a single resource, water and soil management plans represent a more comprehensive and integrated planning approach. These plans are generally prepared in response to specific problems of water shortage or in situations where existing or forecasted demands are likely to lead to conflict in water use. There is no statutory obligation to prepare such plans, or to follow any particular method in preparing them; nor are they statutorily binding on anyone, except where they incorporate policies and controls under other statutory powers such as bylaws, notices, minimum flows, etc. Each plan has been developed to meet specific objectives, and as a result there is great variation in presentation, content, and policies. Despite the lack of legal status, water allocation plans and water and soil management plans clearly indicate the policies and intentions of the catchment authorities concerned, and are thus extremely useful. They are also usually the outcome of several years in-depth study and analysis of existing resources, problems and demands, and provide useful information for other types of planning. Public participation and extensive consultation is usually part of the planning process.