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Sustainable Management

1.1 Natural Asset Management:
A Change in Philosophy

1.2 Statutory Framework

1.1 Natural Asset Management: A Change in Philosophy

Christchurch is located at the southern end of Pegasus Bay on the eastern side of New Zealand's South Island. Christchurch City is built on a low lying coastal plain and is flanked by the ancient volcanic rocks of Banks Peninsula, with the wide braided riverbed of the Waimakariri to the north of the city.

Early Christchurch was an extensive swamp with large areas of natural habitat. The first European settlers found it necessary to drain the land to minimise flooding and health hazards, and to maximise the available land for development. Former drainage design guides were therefore concerned with efficient drainage that was achieved through piping, pump stations and the lining of waterways.

Christchurch today is characterised by more than 360 kms of open waterways and over 50 wetlands. In recent years, a major change in the philosophy of managing waterways and wetlands has taken place. This Guide reflects that change. Today's philosophy responds to the expectations of communities with regard to wise resource management and the values associated with water environments. These values have been identified as ecology, landscape, recreation, heritage, culture, and drainage.

The change in philosophy involves a major shift away from the single-focus approach of drainage utility, toward a more holistic and integrated management approach. This new strategy demands a much greater knowledge of the interrelationship between land and water. There is increasing awareness in Christchurch and elsewhere that decisions about land use need to be strongly influenced by several issues: natural hazards, contamination of surface and ground waters, natural processes, and the six values stated above.

Essentially, the new philosophy means working with, rather than against, nature. In practice, this means setting aside sufficient space for natural systems to function, without the need for costly or unsuitable remedies and mitigation measures.

Integrated planning is taking place among Christchurch City Council staff responsible for waterways, parks, city streets, and statutory planning. Close working relationships have also been established with Environment Canterbury and *Tākatā Whenua*¹.

In 1999–2000, as part of integrated planning, the city was divided into 14 project areas according to land use, community characteristics, and the relationship between land and water environments. Long term visions were developed for each area. The anticipated

cost of these visions will determine the budgets required to protect, restore, and maintain waterways and wetlands for the next 40 years.

Developing a long term vision requires an interdisciplinary approach to fully appreciate the values associated with waterways and wetlands. It is also crucial to work closely with communities; doing so enables people to contribute to the decision-making process, and allows their aspirations for waterways and wetlands in their locality to be taken into consideration.

Values	
Ecology	The self-sustaining processes and inter-relationships among plants, animals and insects
Landscape	Includes the special character of sites and places, their aesthetic qualities, and their meaning to the community
Recreation	Includes active and passive recreation, play, and the structures that support these activities
Heritage	Includes sites and activities of historical significance (structures, remains, etc) and natural significance (remnants, landforms, etc)
Culture	The community's perception of a resource and its values, indicated by community involvement in management, celebration of past events, and planning for the future
Drainage	Includes inter-relationships between groundwater and surface water, natural flow regimes, and management of storm events

Table 1-1: Inter-disciplinary design, management, restoration and protection aims to support ecological, landscape, recreation, heritage, cultural and drainage values.

¹ With the exception of names of organisations, the dialectal 'k' is used for Maori words throughout to denote the southern dialect, replacing the use of the more common 'ng'.

1.2 Statutory Framework

There are many reasons for protecting, restoring, and maintaining the structure, function, and ambience of waterways and wetlands. These reasons are underpinned by district, regional, national and international requirements and protocols.

1.2.1 National, Regional and Local Requirements

The Resource Management Act 1991 (RMA) sets forth the governing principles under which the Christchurch City Council must manage its waterways, wetlands, and drainage system. The broad context of the RMA is given effect by the policies and rules in the Proposed Christchurch City Plan. Other significant documents under the umbrella of the RMA that should be taken into account include:

- Te Whakatau Kaupapa (the Ngāi Tahu resource management strategy)
- Environment Canterbury Regional Policy Statement
- various Environment Canterbury Regional Plans
- New Zealand Coastal Policy Statement.

Several legislative changes have re-oriented the way waterways and wetlands are managed. In 1951, the Christchurch District Drainage Act conferred responsibility for waterway management on the Christchurch Drainage Board. In 1989, local government reform transferred this responsibility from the single-purpose Drainage Board to the more broadly focused Christchurch City Council. In 1991, the RMA contributed its holistic approach to waterways, wetlands, and drainage management. District and regional councils must now consider a wide range of impacts, benefits, and community interests. The Proposed Christchurch City Plan accordingly provides policies and objectives for a number of values related to waterways, wetlands, and drainage.

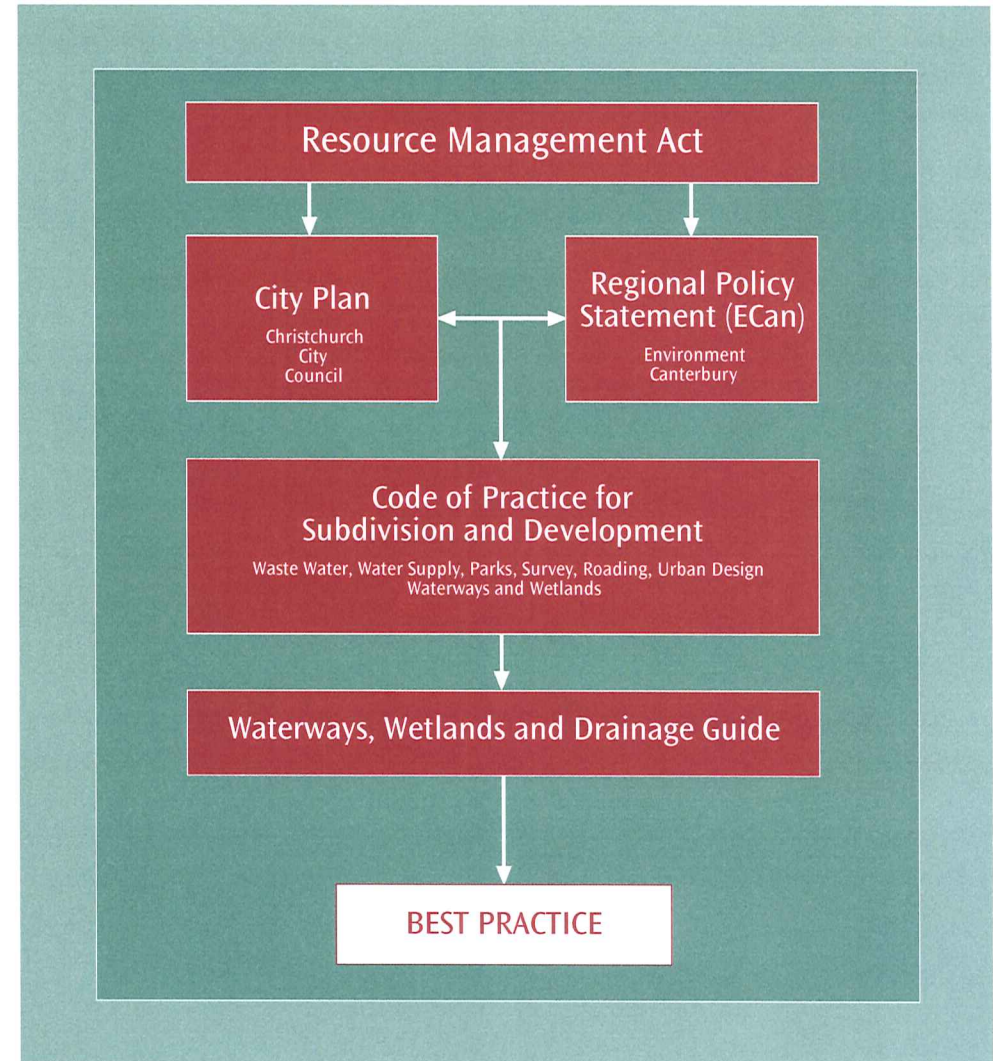


Figure 1-1: The Waterways, Wetlands and Drainage Guide: Statutory Framework.

1.2.2 Asset Management

The Local Government Amendment Act (1974, V11A) requires local authorities to prepare a long term financial strategy for managing their assets including waterways, wetlands, and drainage. Costs and benefits of different options must be clearly defined.

The Christchurch City Council Waterways and Wetlands Natural Asset Management Strategy seeks to minimise the use of pipes, channels, and other structures that require replacement by future generations. The aim instead is to provide for protection, restoration, and management of waterways and wetlands. Implementing the Strategy will advance sustainable management of waterways and wetlands from an economic as well as an environmental perspective (Figure 1-2).

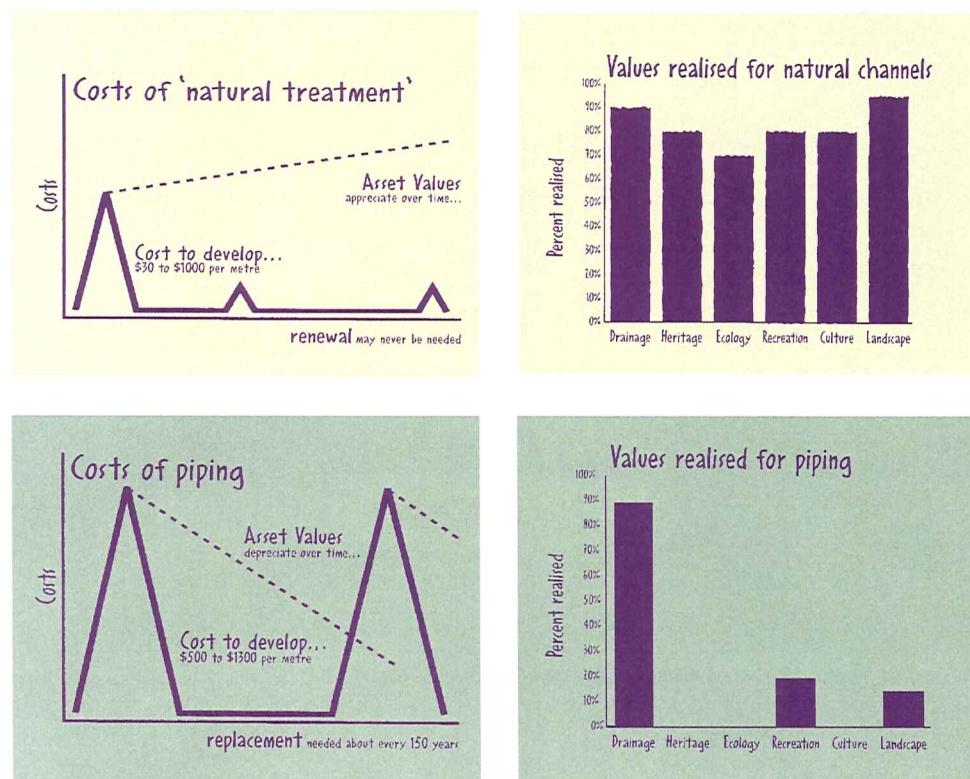


Figure 1-2: Comparison of piping and natural treatment of waterways

1.2.3 United Nations Convention on Biological Diversity, 1992

The Convention on Biological Diversity was developed at the United Nations Conference on Environment and Development (the 'Rio Earth Summit') and opened for signature on 5 June 1992. It received the signatures of 168 nations, including that of New Zealand. As a consequence, New Zealand's government and local authorities are responsible for carrying out the objectives of the Convention.

These include:

- conservation of biological diversity (ie diversity within and between species, and diversity of ecosystems)
- sustainable use of an ecosystem's components
- equitable sharing of benefits that arise from the use of genetic resources.

New Zealand is recognised as one of the hotspots for floral and faunal biodiversity (Given & Meurk 2000). Due to its geographic isolation, New Zealand has thousands of species found nowhere else in the world. However, there have been major losses throughout the country over the past 800 years or so, with 183 native species becoming extinct.

Christchurch has had its share of these biodiversity losses. Yet, despite this, Christchurch has more than 350 native plants species, 10 native fish species and an unknown number of invertebrates. It is worth noting that the number of native plant species is equivalent to the range of native plant species found in our national parks (Colin Meurk, pers comm 2001). In fact approximately 1/3 of the plants found in Christchurch are dryland species that are found in no other urban environment (Given & Meurk 2000).

There is a wide range of interconnected ecosystems throughout the city, such as dry plains, wet plains (including wetlands and riparian zones), coastal zones, hills and intermediate ecotones. There is considerable potential to protect and restore biodiversity and revitalise natural processes within Christchurch's rural and urban environments.

Christchurch is taking steps to improve biodiversity on public and private land, as encouraged by recent government initiatives. For example, planting riparian margins along waterways and wetlands contributes to protecting the diversity of riparian ecosystems and helps to protect aquatic environments.

The Waterways, Wetlands and Drainage Guide is another positive step towards the conservation of biological diversity.

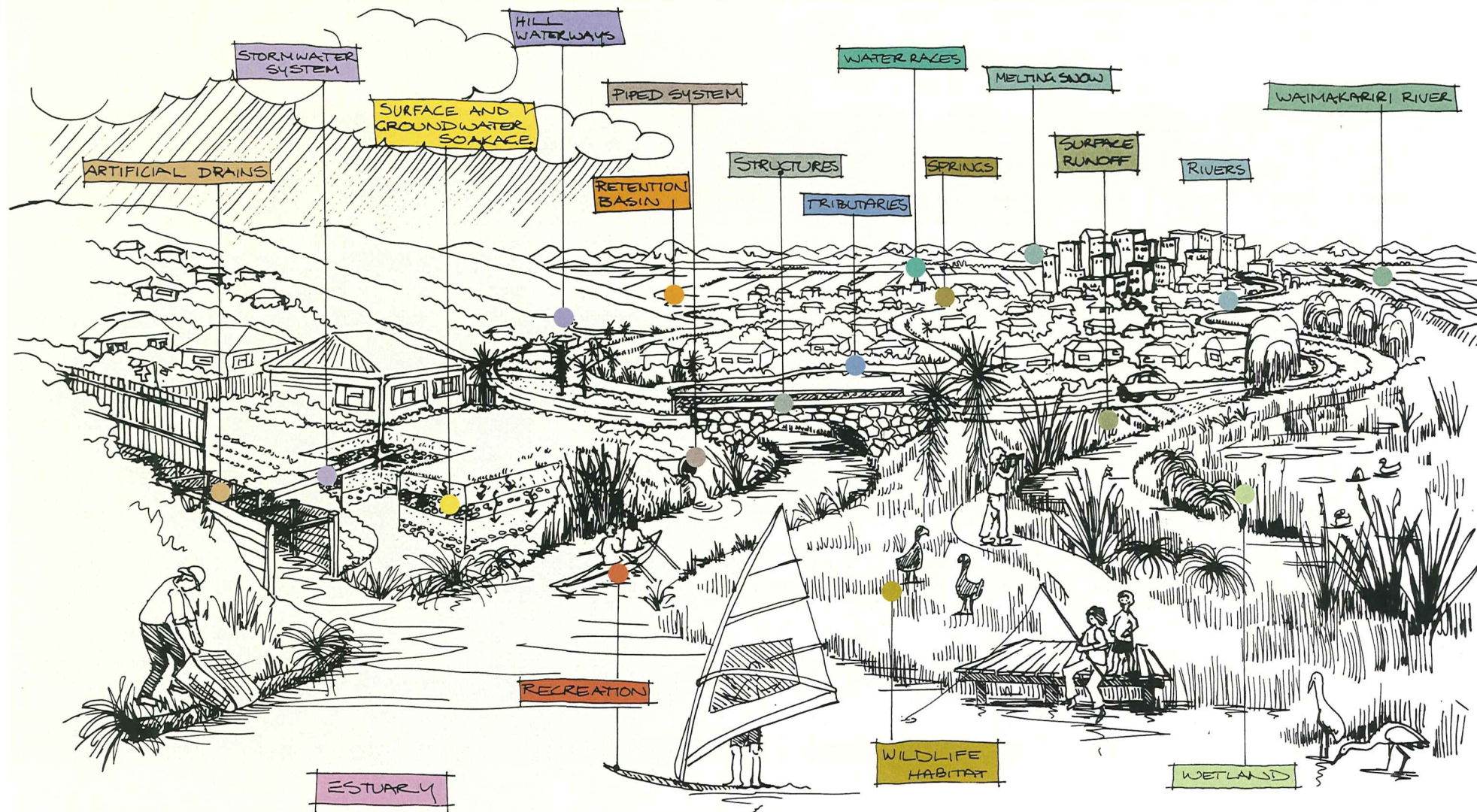


Figure 1-3: Separation of the waterways, wetlands and drainage system of Christchurch into a number of 'components' which convey rainwater to the sea. Sustainable management entails managing all these components as an integrated whole.

