

## 6 Stormwater

Stormwater is rain which has run off hard, “impervious” surfaces like roads, roofs, car parks and surface water. Traditionally stormwater has been piped away from these hard surfaces and discharged into the nearest waterway (e.g. stream, beach, harbour, wetland). Stormwater is not usually treated in any way.

Council provides a stormwater system that aims to protect property and public health by safely and efficiently collecting, transporting, and disposing of stormwater. This includes managing streams, watercourses and a stormwater pipe system. The latter totals some 683 km of pipes and tunnels.

The system has evolved with the development of the city and ranges from open channels to pipes less than 200 millimeters in diameter.

### 6.1 Communities

The communities for the stormwater assessment have been divided into the reticulated area of the city and the non-reticulated communities of Makara, Ohariu, Horokiwi and South Karori. The reticulated area of the city can be further broken down into 42 stormwater catchments.

### 6.2 Standards

Council provisions for stormwater quality and quantity come from the following documents;

- Ministry for the Environment Marine Recreational Water Guidelines
- GWRC Freshwater Plan
- GWRC Coastal Waters Plan
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality
- Resource Management Act 1991
- Building Act 1991
- District Plan
- Local Government Act 2002

- Long Term Council Community Plan
- Bush and Stream Restoration Plan 2001
- Asset Management Plan.

## 6.3 Stormwater Infrastructure

### 6.3.1 Catchments

A catchment is defined by topography. A main stream and tributaries join together in the catchment to form a water system which drains through a single outlet into the harbour or south coast. Council catchments are generally based upon actual drainage characteristics, but are also affected by management boundaries.

The more urbanised eastern side of the Wellington region has been broken up into 42 individual catchments ranging in size and elevation from rural Kaiwharawhara (1917 ha, 420m) to smaller urban catchments such as Thorndon (12 ha, sea level). The rural western region has not been subdivided into catchments at this time. Figure 9 shows the main stormwater catchments. All these catchments contain a multitude of small watercourses, streams and piped stormwater infrastructure.

The rural streams are generally narrow and restricted channels with over hanging vegetation, compared to the channelised urban streams. Streams have an average grade of 7.25% throughout the region, representing the steep topography associated with most of the Wellington catchments.

Wellington stormwater from these catchments is discharged directly into the City's streams, harbour and south coast. Eleven of the major discharges to the sea are currently consented under the RMA 1991. The consents for the discharge of wastewater-contaminated stormwater to the coastal marine area were issued in 1994 and require Council to carry out improvement works by 2013. The works are dependent on the individual consent conditions.

In addition to the eleven consented discharges, there are thirteen significant unconsented discharges to the harbour and south coast with varying states of water quality. Appendix 4 lists these consented and unconsented catchments.