

Hazards

Environment Canterbury's role is as a joint lead agency with territorial authorities for identifying natural hazards and reducing flood risk



» Delivering on community outcomes

Desired outcomes

- People feel safe at all times.

Progress this year

All flood mitigation schemes were maintained to their full service potential and performed as expected during high flow events.

The emergency flood response team was available to provide 24/7 advice to key agencies during floods.

An assessment of the earthquake hazard in the Waimate and Mackenzie districts and part of Waitaki will assist district councils, lifeline utilities and other organisations to reduce the vulnerability of infrastructure to earthquake hazards.

Floodplain investigations on the Ashley floodplain have provided detailed flood hazard information, which will assist the Waimakariri District Council, other organisations and landowners to make informed land-use decisions.

Effect on the four well-beings:



SOCIAL



ECONOMIC



ENVIRONMENTAL



CULTURAL

The development of stopbanks and other flood protection structures can negatively impact on environmental well-being (due to the effect on plant and animal habitats) and cultural well-being (by compromising tangata whenua values). This is mitigated through the use of environmentally and cultural sensitive design and construction practices and strict observance of resource consent conditions.

» Highlights

We maintained 60 flood mitigation and drainage schemes to their design capacity and they performed as expected during high river flows.

Resource consent hearings commenced for the Waimakariri Flood Protection Project, including a secondary stopbanking system for the lower Waimakariri River, which will reduce flood risk in Christchurch City and Waimakariri and Selwyn districts.

We lodged resource consent applications for the Valetta stopbank on the south branch of the Ashburton River.

We worked towards developing flood forecasting models for the Pareora, Temuka and Ahuriri catchments.

The network of 29 rainfall and 23 water level recording stations for flood forecasting was maintained.

Information was provided to key agencies during high river flows and river flow information was available on the River Report phone line and at www.ecan.govt.nz.

We consulted with 37 river rating liaison committees on expenditure budgets and work programmes to maintain flood mitigation and drainage schemes.

» We also . . .

- Continued to work on flood mitigation investigations for Washdyke Creek.
- Assessed and protected biodiversity values on Environment Canterbury lease land.
- Facilitated the formation of a gravel liaison committee, comprising gravel extractor and rating district representatives to represent the views of stakeholders on river gravel management.
- Established bed levels for the Pareora and Ophi rivers so that flood capacity is maximised while infrastructure is protected.
- Lodged submissions on four notified city/district plan changes to ensure consistency with regional policies, and nine resource consent applications notified by city/district councils to address hazard-related issues.
- Lodged submissions on the North Bank Tunnel, the Hunter Downs Irrigation Scheme and the Central Plains Irrigation Scheme resource consent applications to ensure that any adverse effects or rating districts are avoided, remedied or mitigated.
- Used high resolution topographic (LiDAR) data to develop a two-dimensional model of the Ashley River floodplain and simulated a range of flood breakout scenarios and the potential effects on various land development options.

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Environment Canterbury acknowledges and thanks the volunteers on community advisory groups and river rating district liaison committees, who provide invaluable local input and feedback to guide planning for new flood mitigation measures and maintenance programmes for existing schemes.

- Acquired high resolution topographic (LIDAR) data, in partnership with Christchurch City Council, for the Halswell floodplain, Selwyn River bed and Kaitorete spit to assist in gravel management and floodplain modelling.
- Assessed the earthquake hazard for engineering lifelines in Waimate and Mackenzie districts and part of the Waitaki district.
- Assessed the earthquake hazard posed by the Hunters Hills Fault Zone near Waimate and Timaru.
- Launched a public education booklet on tsunamis in conjunction with the Christchurch City Council's tsunami evacuation brochure.
- Assisted the Christchurch City Council with landslide, flooding and coastal hazard projects in the Akaroa Harbour area as part of the Akaroa Harbour Basin Settlement Study.
- Provided 600 flood hazard assessments and 260 earthquake hazard reports to landowners.

» Levels of service This section reports on performance for 2007/08 against Annual Plan targets

1. Reducing risk of damage to life and property from floods

Measure

The percentage of schemes that perform as designed during flood events.

Target 2007/08

100% of the 60 schemes listed on the accompanying map perform as expected.¹

Achieved

2. Providing information to key agencies during floods

Measure

Police, Civil Defence Emergency Management controllers, radio stations and territorial authorities' rating of the information provided during floods.

Target 2007/08

All agencies rate Environment Canterbury's provision of information as very good or excellent. (On a scale of very poor, poor, satisfactory, very good and excellent.)

Achieved

¹ The level of flood mitigation provided is defined in floodplain management strategies, or asset management plans.

² Environment Canterbury's responsibility in respect of earthquake hazards is to provide regional hazard information to the agencies having responsibility for planning and managing this risk, such as district councils and other managers of infrastructural assets. See also, the Civil Defence Emergency Management (CDEM) Group's level of service for lifelines' infrastructure on page 106.

3. Maintaining flood protection and drainage schemes to protect life and property

Measure

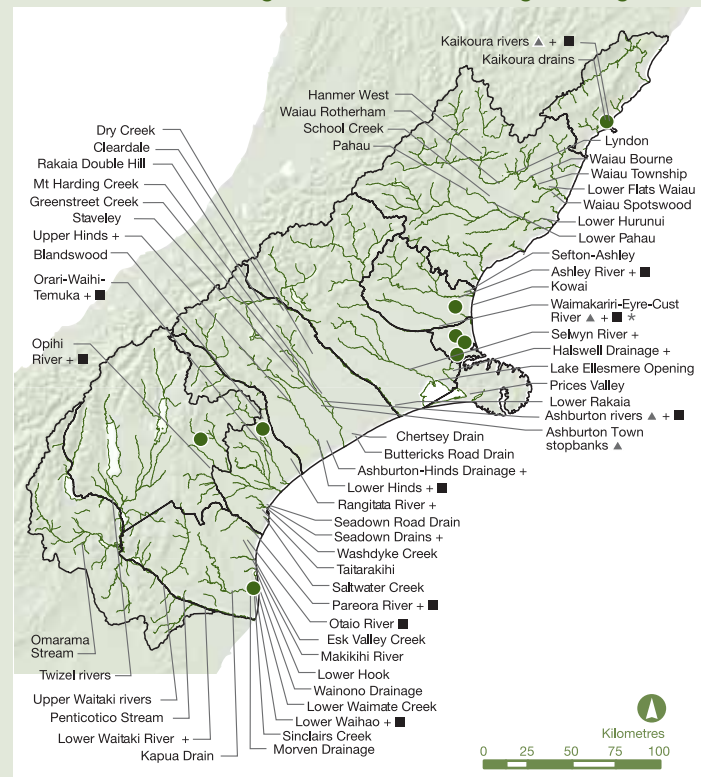
The percentage of schemes maintained to their full service potential.

Target 2007/08

100% of the 60 schemes listed on the accompanying map are maintained to full service potential.²

Achieved

Locations where high flood risk is being managed



4. Progressing the identification and understanding of hazards and encouraging other agencies with responsibility to take appropriate action

Measure
Progress made on investigating and reducing flood and earthquake hazards.

Target 2007/08
Stages are completed by the dates set out in the tables below.

Earthquake hazard ²				
Investigation		Investigation completed	Report or strategy published	Result
Earthquake hazard in Waitaki, Waimate and Mackenzie districts.		2007/08	2007/08	<i>Achieved.</i> This investigation was deferred from 2006/07 after consultation with affected district councils, to enable them to more fully participate in the process.
Potential impact of earthquakes on key primary industries.	Part 2	2007/08	2007/08	This investigation was cancelled to enable other higher priority earthquake issues to be investigated. <i>Not achieved.</i>
Offshore earthquake source.	Part 2	2007/08	2007/08	<i>Achieved.</i> This project required only one stage, which was completed in 2006/07.
Hunters Hills fault zone.		2007/08	2007/08	<i>Achieved</i>

Flood hazard				
Investigation	Investigation completed	Report or strategy published ³		Result
Tinwald area	2007/08	n/a		<i>Achieved.</i> Investigations showed that the original community-suggested solutions relating to Casters and Lagmhors creeks were not feasible. However, alternatives were identified.
Avon River	2007/08	2007/08		The project did not proceed because of a lack of resources at Environment Canterbury and the Christchurch City Council. <i>Not achieved.</i>

Source: Environment Canterbury.

³ Flood risk reduction strategies often include both structural and non-structural measures. Structural measures are usually constructed and maintained by Environment Canterbury and can include floodgates, tree planting and stopbanks. Non-structural measures can often include requirements that district councils are responsible for implementing, usually through the District Plan, such as setting minimum floor levels and other land-use controls.



>> Financial summary

\$000	Actual 2007/08	Budget 2007/08	Actual 2006/07
Total Expenditure	10,390	10,608	8,851
<i>Funded by:</i>			
General rates	2,874	2,874	2,676
Targeted rates	5,131	5,054	5,053
Grants	284	210	210
User pays and other	2,781	2,946	2,494
Total Funding	11,070	11,084	10,433
Reserves Increase/(Decrease)	680	476	1,582

Work on the requirements of the Building Act in relation to dams has been completed and can now be implemented. This work was not initially budgeted. Advisory services in relation to river engineering have also been higher this year due to the three-yearly cycle of meetings and submissions required on resource consents in central and southern Canterbury.

Capital Expenditure

■ Refer to Appendix 1, page 118

for more information on capital expenditure associated with this activity. Capital expenditure associated with this group of activities was funded from general funds and included as depreciation expense.