

Hazards



The hazards group of activities contributes to the following community outcomes:

- People feel safe at all times
- A strong economy
- Business and farming activities do not harm the environment

Environment Canterbury is the lead agency for gathering and providing information on natural hazards (Resource Management Act 1991) and is a joint lead agency with territorial authorities for flood risk reduction (Soil Conservation and Rivers Control Act 1941). Environment Canterbury is required to administer the Ellesmere Lands Drainage Act 1905, the Waimakariri River Improvement Act 1922, the Ashley River Improvement Act 1925, and the South Canterbury Catchment Board Act 1946, and is a leasing authority for reserve land (Reserves Act 1977). Environment Canterbury is required to maintain a register of dams in the region, to have an operative dangerous dams policy, and to be a Building Consent Authority responsible for processing and monitoring building consents for dams (Building Act 2004).

KEY ISSUES FOR 2010/11

Need for good hazard information

Environment Canterbury, the Canterbury Civil Defence Emergency Management Group, territorial authorities, infrastructure providers and other organisations need accurate information about hazards and vulnerabilities so they can make informed decisions about risk reduction, readiness, response and recovery. Ongoing hazard investigations are required to make sure enough information is available about floods, earthquakes, tsunamis, landslides and meteorological hazards.

Climate change

Climate change is projected to affect the frequency and magnitude of some natural hazards, including floods and landslides.

Flood risk

Many of Canterbury's communities are built on the floodplains of rivers rising in the Southern Alps and their foothills. Reducing flood risk requires a combination of measures, including land use planning, public education, river catchment works, monitoring river levels and providing flood warnings. New rating districts may be established in consultation with local communities to address specific flood risks.

Gravel demand

Demand for gravel exceeds supply in some parts of the region. Gravel extraction from rivers helps to maintain flood capacity but can also compromise the integrity of infrastructure such as bridges and stopbanks if not managed properly. Gravel extraction is managed through land use resource consents.

Dam safety

Growth in dam development in the region is likely given an increasing focus on water storage. The construction and ongoing maintenance of dams is regulated by the Building Act 2004, under which Environment Canterbury has regional authority functions and has recently achieved accreditation as a building consent authority for large dams.

Which key issues have changed since the 2009-19 LTCCP?

No change.



Effect on the four well-beings

Reducing the impact of flooding increases social and economic well-being. Weed control and management of riverbed and riparian areas increases environmental well-being. However, flood protection measures may adversely affect environmental well-being, through the physical impact of stopbanks and other structures, and cultural well-being, through potential impact on biodiversity and tangata whenua values.

In relation to dams, there is increased community social well-being arising from dams being designed, constructed and maintained in a safe and sustainable manner. However, for dam owners, meeting the cost of complying with consent conditions may adversely affect economic well-being.

Involving the community

- Several communities have contributed to tailored floodplain management strategies, ensuring that an acceptable and affordable combination of flood mitigation measures is put in place.
- Sixty one river rating liaison committees throughout Canterbury annually recommend work programmes and levels of funding for river works. See Level of Service 3 (page 39) for a map showing location of river and drainage schemes.
- The River Gravel Liaison Committee assists Environment Canterbury to manage the sustainable extraction of gravel from riverbeds.

UNCERTAINTIES	ASSUMPTIONS
For 2010/11, the following is uncertain:	For 2010/11, it is assumed that:
a) The amount of funding required to repair flood and erosion control works damaged by major flood events.	a) The costs of immediate works during flood events will be met from catchment rating district reserves and, if required, from other funding arrangements that Environment Canterbury has put in place.
b) The amount of maintenance work required to maintain design capacity in any one year due to the dynamic nature of river systems.	b) Forecast levels of maintenance expenditure are based on historical levels of damage. No budget provision has been made for repairing significant flood damage.
c) Whether work programme priorities will need to change as a result of natural hazard events or changing territorial authority and research institute priorities.	c) The work programme does not make provision for a natural hazard event or changing territorial authority and research institute priorities.
d) The precise number and location of existing dams in the region, including the number of dangerous dams and medium or high potential impact dams.	d) Budget provision is sufficient to carry out regional authority functions with regard to dams.
e) The number of new river rating districts that may be established.	e) No provision has been made for any future new rating districts.

Which uncertainties have changed since the 2009-19 LTCCP?

No change.

Which assumptions have changed since the 2009-19 LTCCP?

No change.

OUR ACTIVITIES

Priority in 2010/11

The focus for this group of activities is maintaining flood and erosion control works, including additional flood mitigation on the Waimakariri River floodplain.

WE WILL UNDERTAKE THE FOLLOWING ACTIVITIES:

Strategy

Developing regional strategies for Environment Canterbury's contribution to community outcomes for hazards.

Investigations

Investigating river flood, earthquake, tsunami and landslide hazards.

Planning & consents

Developing natural hazard management policy, working with territorial authorities and processing building consents for dams.

Monitoring

Monitoring natural hazards and risks, including the flood-carrying capacity of rivers and gravel extraction.

Operations

Reducing the impact of flooding on the community.

Communicating, educating & advocating

Raising awareness and providing advice about natural hazards.

Regulating

Advising on, and monitoring compliance with, requirements of the Building Act in relation to large dams.

Investigating breaches of the Building Act 2004 in relation to large dams, facilitating appropriate steps to remedy the impact of non-compliance and taking enforcement action where required.

Our work programmes in 2010/11

Strategy

- Review Environment Canterbury's hazards strategy.

Investigations

- Investigate river flood hazards.
- Investigations to support floodplain land use management and strategy development.
- Investigate earthquake hazards.
- Investigate tsunami hazards.
- Assist territorial authorities to investigate landslide hazards.

Planning & consents

- Work with communities to resolve flood risk issues.
- Ensure district and city plans give effect to the Regional Policy Statement and floodplain management strategies for managing flood risk. Work collaboratively with territorial authorities during District Plan amendments to ensure alignment with regional policy.
- Maintain accreditation and registration as a Building Consent Authority.
- Process dam building consent applications.

Monitoring

- Monitor river levels.
- Monitor changes in riverbed levels.

Operations

- Maintain river and drainage schemes in river rating districts.
- Maintain the flood-carrying capacity of rivers in river rating districts.
- Manage gravel extraction at sustainable levels.
- Undertake construction of new flood protection measures, including the Waimakariri Flood Protection Project.
- Provide timely information on river levels.
- Provide flood warnings and manage flood events.
- Manage regional reserves, including protection of biodiversity sites.
- Manage regional forestry.

Communicating, educating & advocating

- Provide information about flood, earthquake, tsunami and landslide hazards.
- Provide river flow information through the River Report info line and the Environment Canterbury website.
- Provide advice about building on floodplains.

Regulating

- Develop and maintain a dams register in association with dam owners and key stakeholders.
- Work with dam owners to monitor compliance with the Building Act 2004.

What's changed in our work programmes since the 2009-19 LTCCP?

No change.

OUR LEVELS OF SERVICE

How Environment Canterbury's levels of service relate to the community outcomes

Levels of Service	Community Outcomes		
	People feel safe at all times	A strong and sustainable economy	Business and farming activities do not harm the environment
1 Providing information during floods	<input type="checkbox"/>		
2 Working with territorial authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Reducing flood risk	<input type="checkbox"/>	<input type="checkbox"/>	
4 Collecting and providing natural hazard information	<input type="checkbox"/>	<input type="checkbox"/>	
5 Authorising the safe and sustainable design and construction of dams and associated structures, and ensuring ongoing dam safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Authorising and monitoring the use of natural and physical resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environment Canterbury's contribution will be reported on each year in our Annual Report.

1 Providing information during floods

Measure 1

The provision of river flood warnings to key agencies when agreed trigger levels are exceeded.

Target

Police, civil defence emergency management, radio stations and territorial authorities receive flood warnings.

Measure 2

The percentage of time that up-to-date¹ river level and flood information is available on Environment Canterbury's website and the River Report info line.

Target

Information is available at all times.



2 Working with territorial authorities

Measure

The percentage of reviewed district and city council plans that give effect to or are not inconsistent with regional policies for managing natural hazards.

Target

100% of reviewed plans (see table).

Note: Second generation plans will be developed by district and city councils by way of a plan review under section 79 of the Resource Management Act 1991. Environment Canterbury will review all second generation plans to ensure they give effect to the Canterbury Regional Policy Statement (CRPS) or are not inconsistent with the partially operative Natural Resources Regional Plan (NRRP), or the associated variations and plan changes.

DISTRICT & CITY COUNCIL PLANS		
District plan	First plan operative	Review of plan commences
Ashburton District Plan	2001	2008
Waimate District Plan	2001	2011

¹ Updated when agreed flooding trigger levels are exceeded.

3 Reducing flood risk

Measure 1

The percentage of river and drainage schemes that perform as designed during flood events.²

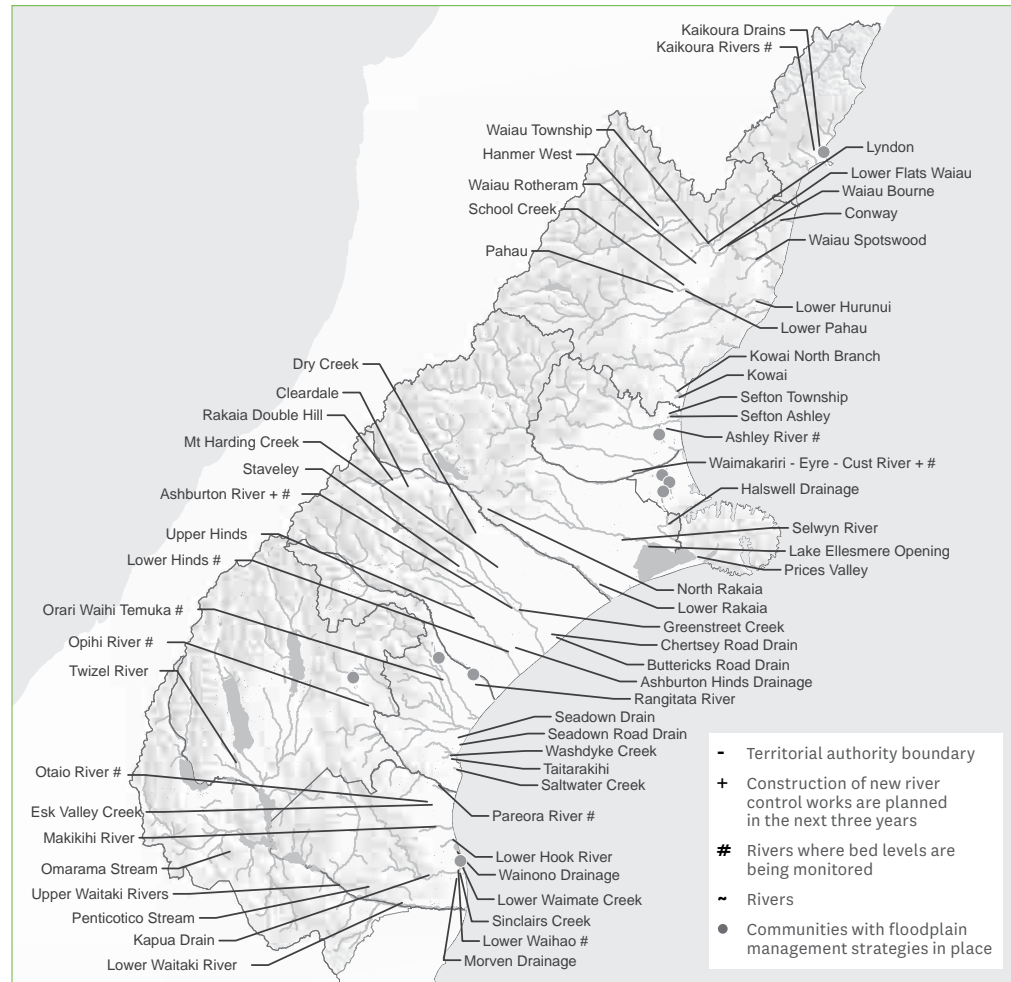
Measure 2

The percentage of schemes maintained to their full service potential.²

Target for measures 1 and 2

100% (all 62 schemes).

RIVER & DRAINAGE SCHEMES



4 Collecting & providing natural hazard information

Measure 1

The availability of river flood hazard information.

Target

See table.

RIVER OR FLOODPLAIN	YEAR FINDINGS REPORTED
Halswell	2010/11
Lake Hood	2010/11

Source: Environment Canterbury.

Measure 2

The availability of earthquake fault avoidance zone maps.

Target

See table.

TERRITORIAL AUTHORITY	YEAR FINDINGS REPORTED
Hurunui	2010/11

Note: Ashburton and Mackenzie have been completed and there are no known active faults mapped within Christchurch city or Banks Peninsula.

Source: Environment Canterbury.

Measure 3

The availability of natural hazard information on Environment Canterbury's website.

Target

Information is updated six-monthly and is available at all times.

² The level of flood protection provided is defined in floodplain management strategies, or asset management plans.

³ Structures that are integral to the proper functioning of dams.

⁴ Environment Canterbury is an accredited Building Consent Authority under the Building Act 2004.

⁵ New dams classified as "medium or high potential impact" must register a dam safety assurance programme within 3 months of being commissioned. Existing dams so classified are required to register a dam safety assurance programme by October 2010 (existing dams must have a potential impact classification by 1 July 2010).

5 Authorising the safe & sustainable design & construction of dams & associated structures³ & monitoring & enforcing ongoing dam safety

Measure 1

The percentage of building consents for dams processed in compliance with the statutory time frames set down in the Building Act 2004.⁴

Target

100%.

Measure 2

The percentage of building consent conditions for dams consistent with Building Act 2004 requirements.⁴

Target

100%.

Measure 3

The percentage of dams classified as “medium or high potential impact” that have a registered dam safety assurance programme.⁵

Target

100%.

6 Authorising & monitoring the use of natural & physical resources

Measure

The percentage of gravel extraction resource consents consistent with Resource Management Act 1991 requirements, including proposed and operative regional plan requirements.

Target

100%.

Source: External audit of sample of issued consents.

FINANCIAL SUMMARY

\$000	Annual Report 2008/09	Annual Plan 2009/10	LTCCP 2010/11	Annual Plan 2010/11
Total Expenditure	12,002	12,328	13,817	12,870
<i>Funded by:</i>				
General rates	2,823	2,928	3,579	3,464
Targeted rates	5,318	5,449	7,168	6,953
User pays/Other	3,473	4,296	4,324	4,112
Grants	316	253	272	274
Interest	172	153	147	167
Total Income	12,102	13,079	15,490	14,970
Reserves Increase/(Decrease)	100	751	1,673	2,100

Asset management & capital expenditure

See Appendix 3 for information on assets involved in this group of activities.

How this work is funded

For more information on source of funds and rationale for selection, see:

- Funding and Financial Policies 2009, Long Term Council Community Plan 2009-19 Part B.
- Rating information on pages 99-110.

What's changed in this financial summary since the 2009-19 LTCCP?

Revenue and expenditure has been adjusted in accordance with the number of building consent applications for dams we now expect.

Reserves are held within each rating district account to meet costs of unprogrammed works (repairs), enable a rapid start on repairs, and to smooth rating levels between financial years. The increase in reserve levels have been agreed with river rating liaison committees.