



Managing Catchments and Flood Risk

WHAT IS A CATCHMENT?

A catchment is an area of land from which all rainfall and surface water eventually drains to a lake or the sea via the same river, or stream. Catchment management focuses on the catchment as a whole and recognises how different parts of the catchment interact. In New Zealand, the boundaries of regional councils are based on catchment boundaries.

HOW IS CATCHMENT MANAGEMENT USED IN NEW ZEALAND?

The aim of catchment management is to address land-use planning, flooding, erosion, biodiversity, water use and water quality in an integrated way, helping us to understand the interrelated nature of:

- land
- natural hazards
- freshwater
- the coast
- people and communities.

Catchment management can be applied in rural areas, looking at land-use and farm management, and in urban areas where the focus is on land-use planning, stormwater and wastewater.

As the complexity of resource management has increased so has the realisation that issues such as water resources, land-use planning and climate change adaptation need to be resolved in an integrated way. Awareness of the value of catchment management as a tool to achieve this has grown.

WHAT ARE THE BENEFITS?

Catchment management gives us:

- the capacity to manage issues such as water use and water quality, flooding, land-use, biodiversity and biosecurity in an integrated way
- the ability to respond to local contexts and constraints
- the capability to take into account the cumulative effects of individual activities.

WHAT IS THE MINISTRY FOR THE ENVIRONMENT'S ROLE?

The Ministry is leading a number of initiatives that rely on catchment management to deliver Government's aim of sustainable development. Examples are:

- the Sustainable Water Programme of Action (see the information sheet called *New Zealand. A Valuable Body of Water*)
- the Flood Risk Management Review (see below)
- climate change adaptation which is helping New Zealanders prepare for and adapt to the impacts of climate change. This includes building resilience to droughts, water shortages and other climate impacts (see the *Helping New Zealanders Prepare for and Adapt to the Impacts of Climate Change* information sheet and visit www.climatechange.govt.nz)
- the Sustainable Management Fund which supports practical initiatives to produce long term environmental benefits, including catchment management and related projects (see www.mfe.govt.nz/withyou for information about the fund, including how to apply).

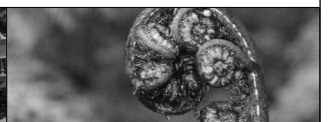
WHAT DO YOU THINK?

We are keen to hear your thoughts on catchment management and its use in New Zealand:

- What are the key issues in catchment management in your community?
- Are there further opportunities to promote catchment management?
- What do you want catchment management in your community to be like in 2050?

REVIEWING THE MANAGEMENT OF FLOOD RISK

We are reviewing flood risk management in partnership with other government agencies, including local government. The review focuses on how flood risk is managed and how decisions are made. The aim is to ensure robust management of flood risk, now and into the future.



HOW IS THE REVIEW PROGRESSING?

The review began in July 2005. Full details of the review are available on our website at www.mfe.govt.nz/issues/land/natural-hazard-mgmt/flood-risk-review.html

So far we have:

- examined local authorities and other agencies' approaches to flood risk management
- summarised, and distributed to local government for their comment, case studies of councils
- reviewed existing legislation for flood risk management
- researched information needs around flood risk management and information transfer.

WHAT HAVE WE FOUND SO FAR?

We have undertaken case studies with 17 councils about how they manage flood risk. Some findings are:

- Councils employ a range of tools and measures to manage flood risk, including structural measures such as stop banks, planning measures and emergency management. Tools chosen reflect local context and response to local conditions. Floods are only one of a number of hazards that must be managed by councils. Physical works remain an important part of managing flood risk.
- Many of our larger cities and towns are on floodplains and protected by physical works such as stop banks, which work well to the design level. In large flood events, beyond which stop banks can cope, emergency management is relied on.
- Resourcing can be a constraint in flood risk management, including accurate information about flood hazards. Good information is critical to managing flood risk and is also crucial to withstand scrutiny in planning processes.
- Development of floodplains is ongoing. There are instances where development has not been allowed but this is not common.
- Many approaches emphasise risk mitigation rather than risk avoidance. The Building Act and Code are often used to help mitigate the effects of flooding.
- While climate change is acknowledged the focus is primarily on sea level rise. Fewer areas have incorporated the effects of climate change into flood risk management, due to uncertainty about how climate change will effect flooding.

- Differing roles and responsibilities of regional councils and territorial authorities can make integrated management of waterways and flooding difficult. Most regions have reached agreements over responsibilities.
- Councils maintain their flood protection assets through asset management plans. Few new structural works have taken place since 1990 but works are being maintained and often upgraded.

WHAT IS GOVERNMENT DOING?

Government has agreed to:

- produce more guidance on management of flood risk (including the effects of climate change)
- develop a way of monitoring flood risk management across the country
- set up and lead a forum with local government and provide leadership in flood risk management.

WHAT'S NEXT FOR THE REVIEW?

Next steps in the work programme involve:

- studying good practice and establishing tools that could be used to manage flood risk
- examining funding and affordability issues
- exploring the future roles of central government and other parties in flood risk management.

Review findings will be used to focus Government's commitment to robust flood risk management and enhance New Zealand's resilience to the effects of climate change.

WHERE CAN I GET MORE INFORMATION ABOUT FLOODING?

You can find out more about flood hazards and how to prepare from:

- the Civil Defence website, www.getthru.govt.nz
- your regional, district or city council
- your regional civil defence and emergency management group.

Useful information for practitioners can be found at:

www.mfe.govt.nz
www.niwascience.co.nz
www.qualityplanning.org.nz
www.gns.cri.nz
www.climatechange.govt.nz
www.civildefence.govt.nz

WANT TO KNOW MORE?

You can contact the **Ministry for the Environment** by phoning (04) 439 7400, emailing information@mfe.govt.nz, writing to PO Box 10362, Wellington, or see our website: www.mfe.govt.nz