

1 General questions on zone and catchment management plans

1.1 What is a zone plan?

The Waikato region is divided into eight zones. There is a separate, non-statutory, zone plan for each one.

The key purpose of these plans is to set out the long term vision for the zone, guiding the integrated catchment management activities that will be carried out to improve environmental health.

These plans also record the current state of the zone, identify key challenges and potential solutions, set out service levels and performance standards for the activities we'll carry out, and detail our financial strategies and funding arrangements.

1.2 What is a catchment management plan?

A catchment management plan (CMP) is similar to a zone plan, but focuses on a specific catchment or sub-catchment (a smaller area) within a zone.

These plans are created in collaboration with other agencies and organisations who have an interest in the catchment, for example local landowners and iwi, government departments like the Department of Conservation (DOC), Fish & Game, district councils, and community groups.

Catchment management planning basically ensures everyone working to improve the environmental health within a catchment is working to a common vision and plan.

1.3 Why do we need these plans?

As well as influencing the work the Integrated Catchment Management (ICM) team will do in an area, these plans identify how our council, other agencies, organisations, iwi and local landowners can work with each other to help achieve community goals.

This collaborative approach often helps us achieve more. The plans provide a framework for holistic management of a catchment or sub-catchment, and will take into account where resources should be allocated to achieve the best outcome.

2 Lake Waikare and Whangamarino Wetland Catchment Management Plan (CMP)

2.1 Why do we need a catchment management plan for the Lake Waikare and Whangamarino Wetland catchments?

- Lake Waikare and the Whangamarino Wetland have multiple important values (cultural, ecological, recreational and economic) and interests to a wide range of people and organisations. Local hapū describe them as the lungs and kidneys of the lower Waikato.
- Whangamarino Wetland supports significant populations of rare native animals and plants, and is recognised as a wetland of international significance under the RAMSAR Convention.
- Lake Waikare also supports a range of native plants and animals.
- Many people have expressed their concerns about poor lake water quality and the impact of increasing sediment and nutrient loads to the lake and wetland. A catchment management plan is recognised as the best way forward to address these concerns.

- The plan will be critical to obtaining funding to deliver the agreed solutions for improving the health of both the lake and wetland.

2.2 What area will the CMP cover?

The Lake Waikare and Whangamarino sub-catchments, including the Waerenga and Matahuru sub-catchments. The catchment includes:

- a number of freshwater streams, including the Waerenga, Whangamarino, Maramarua and Matahuru streams
- Lake Waikare, and four smaller lakes: Ohinewai, Kopuera, Rotokawau and the Penewaka lagoon
- Whangamarino Wetland.

Visit the CMP pages on Waikato Regional Council's website to find a map of the area covered by this plan: waikatoregion.govt.nz/lakewaikareplan

2.3 What effect will the CMP have on me?

Landowners in the area will play a very important role in putting the plan into action once it has been completed, but the plan itself will be non-statutory. Rather than legally binding outcomes, it will support and enable best management practices. Being part of the process is voluntary.

2.4 Who is responsible for developing the CMP?

Waikato Regional Council is working with a group of key partners, including the Lower Waikato Catchment Committee, DOC, Fish & Game New Zealand, landowners represented by the Primary Stakeholders Catchment Trust, Waikato District Council, and iwi representatives to better understand the goals and aspirations people have for Lake Waikare and the Whangamarino Wetland.

Understanding the work that's already being done in the sub-catchments is also an important part of the process to help improve the health of these natural assets.

This information has been used to develop the CMP, which has been developed by our council under the direction of an independent project manager and with support from a technical team.

An earlier community open day was held in November 2017, during which the community provided valuable feedback. The draft CMP will also be made available to the community to provide feedback during July and August.

3 CMP stakeholder engagement and feedback

3.1 Who should I contact for further information?

For more information on the Lake Waikare and Whangamarino Wetland Catchment Plan, you can:

- call Waikato Regional Council on 0800 800 401 and ask for Sarah Lealand
- send an email to lakewaikareplan@waikatoregion.govt.nz

3.2 How can I provide feedback?

There are multiple ways you can let us know what you think about Lake Waikare and the Whangamarino wetland.

- Use the online feedback form waikatoregion.govt.nz/lakewaikarefeedback.
- Call Sarah Lealand (zone manager) on 0800 800 401.

- Send an email to lakewaikareplan@waikatoregion.govt.nz.

3.3 What kind of feedback am I supposed to give?

We welcome any feedback you may want to give us about the Lake Waikare and Whangamarino sub-catchments. In particular, we're interested in your views about the:

- land and soil
- water quality
- water management
- biodiversity
- values
- future funding.

You may also want to share with us your visions, values and concerns for the freshwater streams, lakes and wetland.

3.4 What happens with my feedback after I've given it to you?

We are in the process of mapping the goals and aspirations people have for these sub-catchments and the scope of work that may be needed to achieve them. Your feedback will be included as part of this process.

3.5 Hasn't Waikato Regional Council already asked us this before?

Waikato Regional Council often involves the community and asks landowners for their feedback when working on projects. For some projects, it's important that we check in along the way. The council is working on various projects in the lower Waikato zone, many of which focus on water quality.

3.6 How does this CMP process relate to other projects Waikato Regional Council is working on (like Healthy Rivers/Wai Ora)?

There are a lot of statutes, policies and strategies that influence the CMP. See the brochure for an explanation of the current projects Waikato Regional Council is working on in the lower Waikato zone and how the CMP process relates to them. It's online at: waikatoregion.govt.nz/lakewaikarefeedback

4 CMP implementation

4.1 What will happen once the CMP has been finalised and approved?

The CMP will set out the actions we'll take to help address the issues identified, like the lake and wetland water quality, soil conservation, water management, biodiversity and community values. We will work on an implementation plan where we prioritise the actions we focus on each year.

4.2 Will the plan force me to do things differently on my land (for example fencing, riparian planting, effluent treatment or nutrient management)?

The CMP is a non-statutory plan – nobody will be legally required to carry out any of the recommended actions. As such, the success of the plan relies on landowners and organisations working together and choosing to take action.

4.3 Will the CMP affect my rates?

The costs of implementing the CMP have been included in the council's *2018-2028 Long Term Plan* and will be delivered through rates revenue. Funding for implementation was identified in the plan, and through the consultation process we received feedback which was considered before the plan was adopted at the end of June 2018. CMP areas of focus will continue to be captured as part of the annual and long term plan processes, providing the community with an opportunity to review what is planned and to provide feedback.

4.4 How do we measure the success of the plan (and the actions defined)?

Some monitoring and review processes have already been developed as part of the plan and this will be further developed through the next stages in developing the implementation plan. Monitoring which is currently being undertaken in the catchment will be used as a baseline and indicator for future measurements and success.

4.5 How will the progress of the plan be communicated?

The Lake Waikare and Whangamarino Wetland Catchment Management Plan webpages – waikatoregion.govt.nz/lakewaikareplan – keep you up to date with developments and opportunities to get involved in the process.

5 Rural run off

5.1 What is rural run off?

Water quality does not just get affected by direct discharges (point source) from factories and wastewater treatment plants. Many of the contaminants in water in rivers and lakes come from rural and urban run-off, also known as non-point source discharges. Non-point source discharges are sources of contaminated water that don't have a single identifiable source or specific outlet. For example, nutrients and sediment from farmland are washed into waterways by rainfall run off or leach through the soil into ground water.

Rural run off is water that runs off the surface of land outside urban areas and flows into waterways. Some of the key contaminants of rural run off include:

- sediment
- phosphorus
- faecal matter – bacteria and viruses
- nitrogen

5.2 What about run off from urban areas? Is it an issue? Is it included in this work?

Stormwater from towns and cities contains debris from urban and industrial areas, including substances such as:

- oil and other hydrocarbons from roads
- heavy metals
- chemicals
- sediment

Most stormwater drains discharge directly into waterways, including rivers, streams and lakes. Nowadays, non-point source discharges, including urban run-off, have a bigger impact on water quality than point sources, such as factories. However, rural run off tends to be the bigger issue, especially in heavily farmed areas, and there are no large urban or industrial areas within the sub-

catchment. Te Kauwhata stormwater and wastewater both discharge within the sub-catchment location.

5.3 What are the effects of urban/rural run off on wetlands, groundwater, streams, lakes and rivers?

Point sources, such as factories, were once the main source of contaminants in rivers. Today non-point sources have the most influence on water quality. Waste water treatment has improved considerably over the past three decades, so that many waste water discharges are now treated to a high standard. Run off and ground water flow to rivers, however, they are difficult to isolate, let alone to treat and control.

Rural run off and leaching (non-point source discharges) are the main sources of the nutrients (nitrogen and phosphorus) in the lower Waikato rivers, lakes and wetlands during the summer. An estimated 75 per cent of non-point nitrogen comes from pasture – mostly from cow urine – which leaches into groundwater and eventually flows into rivers, lakes and wetlands.

Major point source discharges in the lower Waikato area (Hamilton wastewater, a meat works and Ngāruawāhia wastewater) only generate five per cent of the total bacteria levels. Scientists believe the remaining bacteria in the rivers and lakes come from sources like rural and urban run-off. Only a small amount of all animal waste deposited in paddocks would be needed to account for the remaining bacteria.

5.4 Why do we need to manage effects from rural run off?

Nitrogen promotes the growth of nuisance plants and algal blooms in rivers and lakes, especially during summer.

Farming is probably the main non-point source of contaminants to the Waikato River, followed by cities and towns. Scientists estimate that the waste generated by the 3000 dairy herds in the Waikato River catchment is equal to the waste from about 5 million people or nearly 50 cities the size of Hamilton. Increasing herd sizes are likely to result in higher amounts of nutrients and bacteria entering waterways through run off and leaching.

The use of fertiliser and agrichemicals and spreading wastes onto land can also contaminate run off, so these activities need to be carried out with care.

5.5 Who is responsible for managing run off that enters Lake Waikare and the Whangamarino Wetland?

It is a collaborative effort. City and district councils are responsible for most stormwater drains and are working with Waikato Regional Council to minimise environmental effects. It is important for everyone to be aware that stormwater drains empty into waterways and to be careful what we wash into them.

Farming is one of the main non-point source of contaminants to lower Waikato rivers, lakes and wetlands. Therefore, farmers have a responsibility to reduce the amount of contaminants entering our waterways. Waikato Regional Council can provide advice and in many cases support on-farm work to help achieve these reductions.

6 Lower Waikato Waipā Control Scheme and the s.128 review

6.1 What is the Lower Waikato-Waipā Control Scheme?

The Lower Waikato-Waipā Flood Control Scheme is a comprehensive river control scheme designed to provide flood protection and drainage improvements within the flood plains of the lower Waikato and Waipā rivers. The scheme consists primarily of stopbanks, pump stations, floodgates, and main river channel improvement works. Scheme construction commenced in 1961 and was completed in 1982.

In its natural state, lakes and wetlands dominated the lower Waikato floodplain. Today, much of this land has been drained and brought into agricultural production. The original area of low lying land in the lower Waikato, comprising the floodplains of the Waikato River and its tributaries and substantial areas of wetland, was approximately 36,400ha. Approximately 17,200ha of this is directly protected from flooding¹ by existing scheme works including stopbanks, floodgates and pumping stations. An additional 16,500ha has seen a reduction in flooding following the improvements to the waterways and river channels (including the main channel of the Waikato River) and the community works designed to control ponding areas.

Within the Mangawara River Valley the scheme provides protection to approximately 8300ha of rural land. In addition to protecting pastoral land, the scheme provides protection to the urban settlements of Huntly in the lower Waikato zone, and Te Kūiti and Ōtorohanga in the Waipā zone.

6.2 How does it impact Lake Waikare and the Whangamarino Wetland?

The Lower Waikato Flood Control Scheme provides flood protection to approximately half of the Waikato River floodplain, resulting in substantial economic benefits in the Lake Waikare and Whangamarino sub-catchments and beyond. These benefits include increased productivity of agricultural and horticultural land, and protection for private property and major communication and transportation networks.

Lake Waikare and Whangamarino Wetland play a key role in the scheme, providing flood storage when the Waikato River is in flood. But the role of the lake and wetland in flood protection has had a downside too.

Since the commissioning of the Lake Waikare northern outlet Control Gate in 1965, the average lake level was lowered by approximately one metre to maintain adequate storage capacity within the lake for a severe flood event. The fluctuation in the lake's average water level was reduced from approximately two metres to approximately .35 metres.

The wetlands surrounding the shores of Lake Waikare have been significantly reduced since 1963. This has affected the lake's water quality, along with sediment and nutrients entering the lake as a result of land clearance within the lake catchment in the beginning of the 20th Century and the intensification of pastoral farming within the lower Waikato River catchments.

Prior to the scheme construction, the lake's discharges into the Whangamarino Wetland occurred as an overflow over the lake edge during high flow events several times a year. Following the scheme, discharges from Lake Waikare are controlled by the northern outlet control gate and are concentrated through the artificial Waikare Canal (Pungarehu Canal) connecting the lake to the Pungarehu Stream, which joins the Whangamarino River at its southern end.

¹ The flood protection level of service is set at an annual exceedance probability (AEP) of one per cent for the main channels, and ranges from 1-20 per cent for tributaries.

However, results from water quality monitoring carried out by Waikato Regional Council show that Lake Waikare is hypertrophic, with extremely high levels of inorganic suspended sediments. This means the lowering of the average lake level is only one of the aspects contributing to the lake's water quality decline.

6.3 What is the “s.128 review”?

The s.128 review is a statutory process initiated by a key stakeholder with the objective to reduce sediment deposition in downstream Whangamarino Wetland that could be caused by Northern Outlet Control Gate (NOCG) and Pungarehu Canal discharge. The s.128 review included the review of consent conditions that influence this sediment disposition.

Stakeholders have expressed concern related to the extent of sediment deposition that occurs within the Whangamarino Wetland from the discharge of water from Lake Waikare through the NOCG into the Pungarehu Canal.

One of the key outputs from this process is the set of revised consent conditions for the Lake Waikare discharge.

The parties agreed on an approach for changing the operation of the Te Onetea gate, to reduce the volume and therefore sediment discharges through the NOCG. Changes to the operation of the gate will be undertaken through a section 127 process (to enable a change to the gate operation, within the consent).

6.4 Who was involved in the s.128 review?

Waikato Regional Council, Lumsden Farms Limited, the Director General of Conservation (Department of Conservation), Auckland/Waikato Fish & Game Council and iwi.

6.5 What is happening with the Northern Outlet Control Gate?

The Northern Outlet Control Gate (NOCG) remains as a key component of the Lower Waikato-Waipā Flood Control Scheme and this function will continue.