

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE-

FOR THE MEETING OF 30 JANUARY 2017

Report for Agenda Item No *

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Orari –Temuka – Opihi - Pareroa (OTOP) Zone – Defining Freshwater Management Units

Executive Summary

The purpose of this memo is to advise the Zone Committee on Environment Canterbury's preferred option for defining the OTOP zone into Freshwater Management Units.

Environment Canterbury must give effect to the National Policy Statement for Freshwater Management 2014, which requires spatial units - Freshwater Management Units (FMUs)- to be defined for the Orari-Temuka-Opihi-Pareora sub-region section (Section 14) of the Land and Water Regional Plan.

Each FMU must set freshwater objectives and water quality and quantity limits, have a monitoring plan and a water quality and quantity catchment accounting system.

Three options are assessed for the Healthy Catchments project area, ranging from two broad FMUs to dividing the zone up into 15 FMUs. Environment Canterbury's preferred option is for five FMUs comprising:

- the Pareora catchment - one FMU for surface water.
- Timaru City catchments- one FMU for surface water, excluding the Washdyke catchment.
- Opihi River catchment – surface water FMU.
- Orari River catchment – surface water FMU.
- A single groundwater FMU comprising all of the OTOP Zone.

The proposed five FMUs largely reflect the historic and current management of the main catchments in the OTOP zone, and strike a balance between having a few very large spatial management units or a large number of small management units.

As the Healthy Catchments project progresses, the proposed FMUs can be modified or refined as a result of new technical information or feedback from the community.

Recommendation

That the Zone Committee:

- endorse the five proposed Freshwater Management Units for the Healthy Catchments Project to comply with the National Policy Statement for Freshwater Management 2014, but note that these may be refined or modified as a result of new information or feedback from the community.

What are Freshwater Management Units?

The National Policy Statement for Freshwater Management 2014 (NPS-FM 2014) requires regional councils, including the Orari–Temuka–Opihi–Pareora (OTOP) sub-region process, to set freshwater objectives and limits for all ‘freshwater management units’.

Freshwater management units ((FMUs) are defined as:

“...the water body, multiple water bodies or any part of a water body determined by the regional council as the appropriate spatial scale for setting freshwater objectives and limits and for freshwater accounting and management purposes.”¹

FMUs are not a new idea. Regional councils, and their predecessors the catchment boards, have often used spatial units for land and water planning. The NPS-FM 2014 formalises this approach, while retaining sufficient flexibility to allow regional councils to:

- group multiple freshwater bodies, including non-contiguous freshwater bodies, under a single FMU and to apply concepts, such as the ‘Ki uta ki Tai’ – ‘mountains to the sea’.
- to determine the spatial scale at which freshwater objectives, water quantity and quality limits and freshwater accounting might apply. An FMU could apply to all or part of an individual water body, or to a whole catchment or zone.

The NPS-FM 2014 also requires that each FMU:

- identifies values, states freshwater objectives and applies limits, targets and methods to achieve those objectives within a specified time. (Policy CA2).
- has a monitoring plan with at least one representative site to monitor progress against the freshwater objectives (Policy CB1).
- establishes a freshwater quality and freshwater quantity accounting system when setting or reviewing limits (Policy CC1).

An FMU may contain additional management units, such as nutrient allocation zones, flow sensitive catchments, high naturalness waterbodies, groundwater or surface water allocation zones, that apply to different parts of an FMU for a specific purpose while achieving the management unit’s limits and freshwater objectives. In most cases, these subsidiary management units would follow catchment or sub catchment boundaries, but not extend beyond the boundary of the FMU.

The FMUs will form the basic units for grouping and managing freshwater bodies in Section 14 – ‘Orari – Opihi – Pareora’ - of the Land & Water Regional Plan, and contain freshwater objectives and water quantity and quality limits for the water bodies in each FMU, and if necessary, additional policies and rules to manage specific freshwater issues.

What are the requirements for defining a Freshwater Management Unit?

Neither the NPS-FM 2014 or the associated guidance document (MfE 2016) specify a single, correct method, or a preferred way, of defining FMUs. The size and number of FMUs for the OTOP Zone will depend on what is the the most relevant and practical approach for each zone.

Some of the factors that can be used to define an FMU (MFE 2016) are:

- the appropriate scale for setting and monitoring freshwater objectives and limits.
- similar hydrological characteristics including catchment boundaries and hydrological connections between freshwater bodies.
- the types of land uses, the pressures and/or demands on the freshwater resources, local communities and their social identity and relationship to the rivers, lakes and aquifers.

¹ NPS-FM 2014 ‘Interpretation’ pg 7.

- the rohe and area of interest to local runanga.
- the historic management of the freshwater resources, such as the Opihi River.

Separate FMUs can be defined for surface and groundwater bodies, or for surface waterbodies and their hydraulically connected groundwater to ensure the water bodies are managed as an integrated system, especially where surface and groundwater bodies are highly connected, lag times are short and groundwater abstractions affect the amount of available surface water (MFE 2016).

How many Freshwater Management Units would be required in the OTOP Zone?

Apart from the Pareora River and Timaru catchments, the boundaries of surface and groundwater catchments the coastal plains portion of the OTOP Zone do not line up neatly. Therefore, we have assumed that for the Zone there would be separate groundwater and surface water FMUs, with shallow hydraulically connected groundwater included within the surface water FMUs. This approach is consistent with current water quantity management where highly and moderately hydraulically connected groundwater forms part of any surface water allocation².

Parts of the Pareora River and Opihi River mouths (Milford Lagoon) would fall outside of a FMU because they lie within the Coastal Marine Area which is covered by the Regional Coastal Environment Plan 2005. This plan is currently being reviewed. Any recommendations for the management of the Coastal Marine Area³ that might arise from the OTOP Zone sub region process could be included in the Zone Implementation Plan Addendum and considered as part of the coastal plan review.

There are broadly three options for defining the FMUs, based on splitting the OTOP zone into increasingly finer units. Other combinations are possible, and as a result of this sub region process, there could be further refinements to the proposed FMUs.

Option 1: Two FMUs - a surface water and a groundwater FMU that cover the whole zone.

Option 2: Five FMUs comprising the following:

- the Pareora catchment - one FMU for surface water.
- Timaru City catchments- one FMU for surface water, excluding the Washdyke catchment.
- Opihi River catchment including the Washdyke Cctchment– surface water FMU.
- Orari River catchment – surface water FMU.
- A single groundwater FMU comprising all of the OTOP Zone

Option 3: 15 FMUs based on the eight major surface water catchments in the OTOP Zone – Pareora River, Opihi River, Ophua River, Tengawai River River, Temuka River, Orari River, Coastal spring fed streams, Timaru City catchment, and the seven main groundwater zones – Fairlie, Upper Pareora, Lower Pareora, Timaru, Rangitata/Orton, Orari-Opihi and Levels Plain.

The relative merits of each option are assessed in Table 1 using the following criteria:

- 1) *Is the scale appropriate for setting freshwater objective and limits ?*
- 2) *Is the scale appropriate for freshwater accounting and management purposes?*

² See Land & Water Regional Plan Policy 4.61, Schedule 9. Both the Pareora Catchment Environmental Flow and Water Allocation Regional Plan and Opihi River Regional Plan use different approaches to define and calculate stream depletion. It is expected that these will be reviewed as part of the process to review and set water quantity limits.

³ The Coastal Marine Area is defined in the RMA 1991 as essentially the area of coastal water beyond mean high water springs to the territorial limit, and where the line crosses a river, either 1 km upstream of the river mouth or the distance 5 times the river mouth width whichever is lesser.

Discussion

Option 2 is preferred by Environment Canterbury. The proposed five FMUs largely reflect the historic and current management of the main catchments in the OTOP zone, and strike a balance between having a few very large spatial management units or a large number of small management units. It is important that the proposed FMUs are able to differentiate freshwater objectives and limits within the zone, and to apply a consistent set of outcomes to similar types of water bodies. Within the FMUs, groundwater and surface water allocation zones and nutrient allocation zones can be used set water quality and quantity limits.

Too many FMUs are likely to limit the opportunities for integrated land and water management across the major catchments, and the NPS-FM requirement to implement monitoring plans and catchment accounting systems for each FMU would mean additional administrative oversight and demands on resources.

Environment Canterbury's recommendation does not preclude further changes to Option 2. As the Healthy Catchments project progresses, the proposed FMUs can be modified or refined as a result of new technical information or feedback from the community.

Recommendation

That the Zone Committee:

- endorse the five proposed Freshwater Management Units for the Healthy Catchments Project to comply with the National Policy Statement for Freshwater Management 2014, but note that these may be refined or modified as a result of new information or feedback from the community.

References

MFE 2016 *A Guide to Identifying Freshwater Management Units: Under the National Policy Statement for Freshwater Management 2014*. Publication no. 1244. Ministry for the Environment, Wellington.

Appendix 1: Assessment of options for defining FMUs in the OTOP zone

Options	Assessment Criteria	
	Is the scale appropriate for setting freshwater objectives and limits?	Is the scale appropriate for freshwater accounting and management purposes?
	<ul style="list-style-type: none"> • Similar hydrological characteristics, including catchment boundaries • Recognises communities of interest with the water resources including values and uses • Reflects the rohe of Arowhenua and Waihao 	<ul style="list-style-type: none"> • Can include water quality & quantity management units • Resources needed to implement catchment accounting & monitoring. • Reflects historic management of water resources
<i>Option 1 – Two FMUs – one surface water and one groundwater</i>	<p>Probably not The OTOP zone consists of three major surface water catchments with differing issues and communities of interest. A single surface water FMU is likely to be too broad and not reflect the differences between the catchments.</p> <p>Both FMUs would fall within the rohe of Arowhenua and Waihao runanga.</p>	<p>Possibly not The FMUs could include a subsidiary water management units and a monitoring plan which could be designed with representative sites to monitor water quality and quantity and an associated catchment accounting system.</p> <p>The three major catchments in the zone have required specific planning provisions to address particular freshwater management issues in each catchment.</p>
<i>Option 2 – 5 FMUs</i>	<p>Yes The FMUs would reflect the major surface and groundwater catchments in the zone, their particular identities and land uses, and generally align with catchment boundaries and the interests of local communities and runanga.</p> <p>Specific freshwater objectives and limits could be set for each surface water and groundwater FMU.</p>	<p>Yes The proposed FMUs would reflect the longstanding approach to land and water management in South Canterbury. A plan to monitor the freshwater objectives, using representative sites, in each FMU would be very similar to the ECan's current water quality and quantity monitoring programme .</p> <p>The number and size of FMUs reflects a pragmatic balance between having an FMU that does not recognising the diversity in South Canterbury area and too many FMUs that would very similar and require extensive resources to implement.</p>
<i>Option 3 - 16 FMUs</i>	<p>Possibly not The FMUs are based on the surface and groundwater catchments with generally discrete catchment boundaries. However, many of the rivers are similar types and are likely to have the same or similar freshwater objectives. The NPS-FM allows regional councils to 'aggregate' similar types of water bodies so they have common freshwater objectives.</p>	<p>No A large number of FMUs is not consistent with the concept of mountains to the sea idea of integrated management. It is likely to require a more intensive programme to monitor the freshwater objectives and implement catchment accounting systems with significant additional costs to ratepayers and uncertain benefits.</p> <p>The operation of the Opuha Dam affects management of rivers and land uses in the Opihi catchment and requires an integrated approach across the catchment</p>

FIGURE1

