

# Whangamarino wetland - Outline for Collaborative Stakeholder Group discussion

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**To:** Collaborative Stakeholder Group

**From:** Technical Leader Group and Justine Young Healthy Rivers Wai Ora project, Matthew Davis, Manager – Central Waikato/Lower Waikato/Waipā/West Coast Catchments

**Subject:** Whangamarino wetland

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## Disclaimer

This report has been prepared by Waikato Regional Council policy advisors for the use of Collaborative Stakeholder Group Healthy Rivers: Wai Ora Project as a reference document and as such does not constitute Council's policy.

## Purpose

The purpose of these notes is to assist the Collaborative Stakeholder Group discussion on February 19<sup>th</sup> 2016 about what the Plan Change could do to assist in restoring and protecting Whangamarino wetland.

## Issues raised at CSG 22 January 29<sup>th</sup> 2016

- a) Whangamarino wetland is internationally recognised, includes the spectrum of wetland types (marsh, swamp, fen, bog) and in the last 100 years there has been considerable degradation of high value ecosystem types.
- b) The idea of a Whangamarino wetland FMU has been suggested at the CSG in order to provide Whangamarino extra recognition.
- c) The question has also been raised as to whether land in the Whangamarino catchment should have specific policies, methods and rules that apply over and above the current policies for the Waikato and Waipā catchment.

## Information from WRC staff and TLG for CSG about Whangamarino wetland and implications for technical, policy and WRC operational aspects

The bullet points cover the following 4 topics:

1. Whether CSG have enough information to define a separate FMU for Whangamarino.
2. What the current CSG Plan Change 1 policy mix is likely to achieve
3. What other aspects in the policy mix CSG could fine-tune
4. What other relevant projects and actions outside Plan Change 1 are occurring that will assist the overall health of Whangamarino wetland

## 1. Technical information to define long term numerical limits for a new FMU

- Whangamarino wetland is part of the Lower Waikato Freshwater Management Unit (FMU) and possibly overlaps in part with the Lake Waikare peat lake FMU. There is a proposal for a new FMU<sup>1</sup> to cover Whangamarino wetland.
- The proposal means that water quality limits and a monitoring and accounting framework must be defined. The policies, methods and rules to achieve the water quality limits could stay the same i.e. the NPS-FM does not require different policy approaches for different FMUs.

Technical Leaders Group Healthy Rivers Wai Ora have contributed the following points about whether there is sufficient technical information to define long term water quality limits for Whangamarino<sup>2</sup>. See Attachment 3.

- The NPS-FM (2014) does not include any attributes for wetlands
- Development of national wetland-specific attributes is some way off and some of the candidate attributes fall outside the scope of HRWO
- Some existing attributes could be extended for use in a wetland water body type – these include E. coli (human health), cyanobacteria (human health), nitrate (ecosystem health) and ammonia (ecosystem health)
- Given the paucity of monitoring data it is not possible to determine current state with respect to potential attributes. This is a significant barrier and may require CSG to consider narrative objectives for a wetland FMU rather than numeric objectives (i.e. limits), even for those attributes that may have numeric descriptors (e.g. E. coli).
- With respect to the N, P and sediment contaminants we have severely limited scientific research upon which we could robustly develop ecosystem health attribute tables and limits for the Whangamarino.
- Given the points above, the TLG could not currently provide the technically robust information needed to determine a full suite of attributes, current state or numeric limits for a separate FMU covering the Whangamarino wetland and its catchment.

## 2. CSG's current policy mix and what it is likely to achieve for Whangamarino

- Long term outcomes

The Plan Change has an objective for each FMU that sets out numerical water quality limits to be achieved by 2096, for each of the CSG attributes.

- Short term Outcomes to be achieved in the life of the Plan Change

These are still being defined, and are intended to encompass what needs to change on the land and how we will know progress is being made.

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<sup>1</sup> The National Policy Statement for Freshwater Management (NPS-FM) would require:

- Identifying values in that FMU (the CSG list of values could apply),
- formulate freshwater objectives for that FMU, and set limits/targets to achieve those objectives
- develop a monitoring plan identifying representative site/s for the FMU (the NPS-FM allows for councils to use modelled information, there doesn't have to be a long term water quality sampling programme already in place)
- decide the water quality accounting system for the FMU

<sup>2</sup> See attachment 3 TLG notes: Recommendations of inclusion of Whangamarino FMU DM#3699610

- Non regulatory methods

These are still being defined and include reference to aspects that are not covered by rules in the Plan Change. Draft methods<sup>3</sup> refer to information gathering, and partnerships and resourcing to support implementation over the next 10-15 years.

- Rules

Currently the rule framework is the same for all FMUs. The implication for Whangamarino wetland is that the rules require landowners to

- exclude cattle, deer, pigs, horses from the wetland by 2025
- get a consent if they want to change land use (which may be declined given the non-complying status and policy guidance)
- benchmark their nitrogen leaching, and reduce nitrogen leaching, if they are above their sector 'upper limit' (in the 75<sup>th</sup> percentile of N leaching)
- have to take actions to mitigate sediment, phosphorus, nitrogen and E.coli, either in a controlled activity consent for a tailored property plan, or by complying with permitted activity conditions (setbacks from water bodies etc)
- comply with existing rules in the Regional Plan, including restrictions on land disturbance or drain deepening near the wetland

Some landowners (depending on what CSG decide for prioritisation<sup>4</sup>) will

- be in a 'high risk' mapped area and have to meet a particular timeframe for a controlled activity consent for a tailored property plan

### 3. Ideas for fine-tuning the CSG policy mix for Whangamarino

- Short term Outcomes to be achieved in the life of the Plan Change

Objectives could include a specific Whangamarino outcome that CSG wishes to see achieved in the next 10-15 years, and be written as narrative objective rather than trying to set numerical limits (see TLG note above)

- Non regulatory methods

Methods could direct WRC (with timeframes) to:

- implement a Lake Waikare and Whangamarino wetland catchment management plan in partnership with others
- ensure the Regional Plan review identifies and protects aspects outside the scope of Plan Change 1 such as the biodiversity-related significant values of wetlands such as Whangamarino.

<sup>3</sup> Draft non regulatory methods will be provided in a CSG approvals report for CSG meeting 26 February. Document # 3687921.

<sup>4</sup> Depending on where CSG get to with prioritisation, staff presume that being mapped 'high risk' could mean getting your plan first, or it could mean doing more in your plan. See CSG approvals report for 18 February discussion. Options for prioritising contaminant reductions to meet water quality limits. (Doc #3691128 dated 11 February 2016).

- Rules

Add to the rule framework for land around Whangamarino to require landowners e.g. to meet a particular timeframe or a particular standard for mitigation actions via the controlled activity consent for a tailored property plan (effectively this is equivalent to mapping this catchment as a high-risk area).

#### **4. Other projects outside plan Change 1 that will assist in improving the health of Whangamarino**

- WRC Shallow Lakes Restoration Strategy
- Department of Conservation Arawai Kakariki wetland restoration programme
- Waikato Regional Plan review will include:
  - a process for lake level setting limits
  - Biodiversity-related policies and methods
- WRC Integrated Catchment Management Directorate (ICM) is undertaking a non statutory Catchment Management Plan for Lake Waikare and Whangamarino wetland. It not required by RMA legislation and does not contain rules. The Catchment Management Plan will be produced by 2017 with key stakeholders with support from the Waikato District Lakes and Freshwater Wetlands Memorandum of Agreement (signatories are WRC, Waikato District Council, Waikato-Tainui, Department of Conservation and Fish and Game).
- Other technical work that will be used for the Catchment Management Plan
  - The Waikato and Waipa Restoration Strategy will produce a prioritised list of interventions to improve water quality and biodiversity for the Lower Waikato and for Lake Waikare (WRA, WRC and Dairy NZ). This technical work will feed into the Catchment Management Plan and is set for completion in 2017.
  - WRC is undertaking refinement of water quality and biodiversity priority areas within the Lower Waikato in 2015/16 financial year.
- WRC is undertaking optioneering to reduce sediment in and around the Lake Waikare Northern Outlet Control Gate (NOCG) and the Pungarehu Canal under the Lake Waikare NOCG Section 128 consent review in 2016. This will produce a series of physical works in and around the gate. WRC has allocated \$5.5 million in the Long Term Plan to the design, consenting and construction of the physical works. The CMP will record and take note of the sediment and water quality reduction that these physical works will contribute.
- The CMP and supporting technical work support the non statutory plan to improve the health of the streams, land, lake and wetland, including gathering additional monitoring information and undertaking modelling of Lake Waikare and its contributing catchment.

**Conclusion: Will a separate FMU help?**

As discussed by the CSG, the act of creating a specific FMU for Whangamarino could help raise awareness of its special values.

However, there are technical constraints at this time to establishing attribute bands, limits and targets for a wetland FMU.

Specifying a timeframe for a catchment management plan within the Plan change might go some way towards acknowledging the particular values of Whangamarino.

It is not essential to have a separate FMU if CSG wants some policy measures to apply specifically to Whangamarino wetland. For instance these could include narrative objectives for the Whangamarino, and/or defining it as a high-risk area.

## References

Facilitation notes from CSG workshop 21 DM#3666721

National Policy Statement for Freshwater Management 2014

Proposed Waikato Regional Policy Statement decisions (November 2012); updated 1 September 2015.

Report to CSG21; Lakes policy options and water quality outcomes. DM# 3603451

Resource Management Act 1991

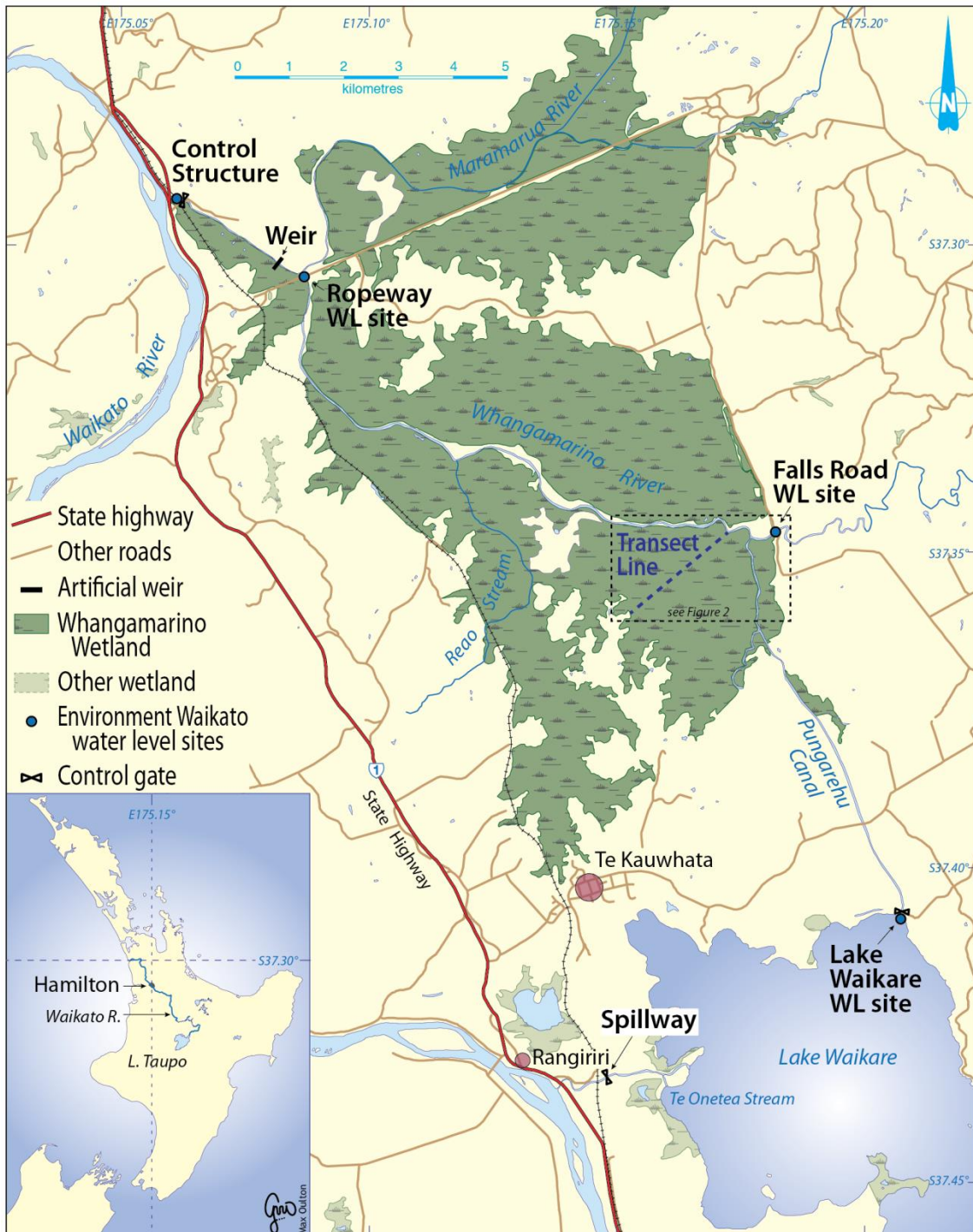
Technical Leaders Group. 1 August 2014; report to CSG5: Freshwater Management Unit options for consideration by the Collaborative Stakeholder Group.

Workshop notes CSG21 DM#3652426

Workshop notes CSG22 DM#3689206

# Attachment 1 – map showing location and extent of Whangamarino wetland

(excerpt of presentation to CSG from D. Campbell 28th January 2016. Document # 3688996)



# Attachment 2 – What has CSG decided so far?

## 1. CSG decisions/discussion on lakes

At CSG21, the Collaborative Stakeholder Group (CSG) agreed to set lake attribute-states, apply the river FMUs policy package to the lakes FMUs, and consider other recommendations they could make to improve lake water quality<sup>5</sup>. CSG considered how the plan change would relate to the Waikato and Waipa River Restoration Strategy (the Strategy) and the Waikato Shallow Lakes Management Plan (SLMP). The CSG agreed to set narrative and numeric objectives, and achieve the bottom lines in the numeric National Objectives Framework (NOF) and be swimmable in 80 years. Above and beyond this, lake managers would set a vision, objectives, timeframes and actions for each lake through individual lake restoration plans to be consistent with the Vision and Strategy<sup>6</sup>.

## 2. CSG discussions on Whangamarino Wetland

'Wetland' includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions<sup>7</sup>. Under the Resource Management Act (RMA), Waikato Regional Council (WRC) is required to recognise and provide for the preservation of the natural character of wetlands, and the protection of them from inappropriate subdivision, use, and development<sup>8</sup>. Through the policy cascade, wetlands are identified in the National Policy Statement for Freshwater Management (NPS FM) objectives<sup>9</sup> and in the Proposed Waikato Regional Policy Statement (RPS) policies and implementation methods<sup>10</sup>.

At CSG21 the idea of a Whangamarino wetland FMU was suggested. The discussion focussed on whether wetlands should be considered as a separate issue and how changes to the NPS FM to provide for wetlands would affect the plan change<sup>11</sup>. Further discussion<sup>12</sup> at CSG22 included a presentation<sup>13</sup> from Dave Campbell (Environment/NGO CSG rep) on Whangamarino. The CSG discussed whether Whangamarino needed extra recognition, and if this new FMU could raise the profile of wetlands generally. CSG asked if a separate FMU would make any difference to policy, and should it be separate as well as being acknowledged within the overall policy mix. Other questions included having a different timeframe and having whether a different set of tools is needed.

Dave Campbell presentation DM#3688996

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<sup>5</sup> Report to CSG21; Lakes policy options and water quality outcomes. DM# 3603451

<sup>6</sup> Facilitation notes from CSG workshop 21 DM#3666721

<sup>7</sup> Resource Management Act 1991; interpretation

<sup>8</sup> Resource Management Act 1991; section 6

<sup>9</sup> See Appendix 1

<sup>10</sup> See Appendix 2

<sup>11</sup> Workshop notes CSG21 DM#3652426

<sup>12</sup> Workshop notes CSG22 DM#3689206

<sup>13</sup> See Appendix 4



# Attachment 3 Technical Leaders Group Summary of considerations of Whangamarino FMU

Technical Leaders Group  
16 February 2016

## Technical considerations for a wetland FMU

Whangamarino wetland may be regarded as a water body type distinct from the river, lake-fed river and lake types already incorporated into Healthy Rivers: Wai Ora. As such Whangamarino wetland may require separate consideration to protect/restore its values.

Should the CSG decide to designate Whangamarino wetland as a distinct FMU then the National Objectives Framework should be applied to be consistent with the process for river and lake FMUs already designated under Healthy Rivers: Wai Ora.

Defining values for Whangamarino should be relatively straightforward, as the same three core values (Contact recreation, ecosystem health and mahinga kai) identified for lakes and rivers are likely to be relevant to the wetland.

Definition of appropriate attributes relevant to the core values raises a number of significant issues. There are no wetland attributes provided in the NPS-FM (2014). All existing attribute tables relate to lake, river or lake-fed river water body types. There are three possible options for defining attributes that could be considered for a Whangamarino FMU:

1. Developing a set of wetland-specific numeric attributes
2. Adapting or extending existing numeric attributes for use in a wetland context
3. Providing narrative attributes

Ministry for the Environment recognises the gap existing in the current NPS-FM (2014) and has implemented a work programme to develop attributes for wetlands. This work programme is in its early days, but MfE have indicated that the following are aspects to be managed within wetlands:

- Hydrological regime
- Substrate characteristics
- Indigenous species
- Wetland extent
- Connectivity
- Pathogens and toxins

Of these aspects we suggest that hydrological regime, indigenous species, wetland extent and connectivity all fall outside the scope of Healthy Rivers: Wai Ora. In contrast, a link can be made between sediment and wetland substrate characteristics (e.g. sedimentation in wetlands) and the pathogens and toxins aspect is within scope of Healthy Rivers: Wai Ora. The latter could include existing attributes of *E. coli*, cyanobacteria, nitrate and ammoniacal nitrogen.

With respect to trophic state, we have no NOF attribute tables for wetlands that we could apply directly. Existing trophic state attributes such as TN, TP, phytoplankton and periphyton are relevant to different water body types and it would be inappropriate to apply these attributes and their existing bands to wetlands without undertaking research to calibrate these attributes.

The NPS-FM (2014) provides for formulating freshwater objectives (to “protect the significant values of wetlands”) using narrative attributes if numeric are impracticable. This suggests we

could have a Whangamarino FMU that has narrative objectives for those aspects that we do not have numeric attributes for.

Determination of current state for any potential attributes (e.g. *E. coli*, nitrate toxicity) is not possible due to a paucity of monitoring data. Without knowledge of current state it would be difficult to determine the gap between current and desired states. The absence of monitoring data and relatively poor understanding of wetland ecosystems would also make modelling of wetland response to changing contaminant inputs very difficult. Determination of limits without current state information is impracticable.

The Whangamarino studies conducted to date provide strong evidence that nutrient and sediment inputs are having a deleterious effect on the ecosystem health of the wetland but there is nothing quantitative relating changes in ecosystem health to changes in sediment and nutrient levels that we could draw on. Inability to link cause-effect is a strong argument against numeric limits.

The current inclusion of the Whangamarino in the Lower River FMU requires that inputs from tributary streams are subject to the limits imposed for the Lower FMU either directly for sediment and *E. coli* or indirectly (by the needs of the main stem) for N and P. Analysis of current state attribute data versus desired state limits and the scenario modelling sees these catchments as having amongst the highest requirement for mitigation action. Likewise, the poor condition of Lake Waikare sees its contributing catchments also having a high requirement for mitigation action, and therefore a 'flow-through' benefit to the Whangamarino.

The TLG considers that the Whangamarino wetland is most likely to respond to contaminant inputs differently from other water bodies in the catchment and if targeted research is undertaken that elucidates those responses, and aided by the development of NOF to include wetlands, then future consideration could be given to establishing attribute limits specific to the Whangamarino if these prove to be more restrictive than those for the lower FMU (perhaps at the next plan change?).

The current treatment of the Whangamarino (within the lower river FMU) requires considerable attention be given to contaminant inputs from its contributing catchments in any case so the direction of staged improvement will be in place.

## Summary

In considering whether to designate Whangamarino Wetland as a separate FMU the CSG should consider the following constraints:

- The NPS-FM (2014) does not include any attributes for wetlands
- Development of national wetland-specific attributes is some way off and some of the candidate attributes fall outside the scope of HRWO
- Some existing attributes could be extended for use in a wetland water body type – these include *E. coli* (human health), cyanobacteria (human health), nitrate (ecosystem health) and ammonia (ecosystem health)
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- With respect to the N, P and sediment contaminants we have severely limited scientific research upon which we could robustly develop ecosystem health attribute tables and limits for the Whangamarino.
- Given the points above, the TLG could not currently provide the technically robust information needed to determine a full suite of attributes, current state or numeric limits for a separate FMU covering the Whangamarino wetland and its catchment.