

# Freshwater wetland values, objectives, attributes and targets – Summary of EIC

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Conservation  
*Te Papa Atawhai*

New Zealand Government

## Scope

- ▶ Freshwater wetlands within the proposed Plan Change 1 (PC1) area
- ▶ Specific focus on Whangamarino Wetland given the significance of this site

### **EIC addresses**

- ▶ Values and uses
- ▶ Objectives
- ▶ Freshwater Management Units
- ▶ Water quality attributes
- ▶ Targets

## Approach to wetlands in PC1

- ▶ Wetlands are frequently recognised in the Values and Uses section of PC1.
- ▶ However, the objectives in PC1 do not adequately provide for these wetland values. This represents a disconnect between the values and uses in PC1 and the objectives (as notified)
- ▶ PC1 does provide for management of the Whangamarino wetland catchment through Objective 6. But it relies on the water quality targets in Table 3.11-1. This Table omits key water quality attributes that are needed to achieve the objective.
- ▶ For example, there is no target for Total Phosphorus in contributing sub-catchments to Whangamarino Wetland

## Approach to wetlands in PC1

- ▶ The lack of technical consideration of wetlands I consider to be a critical gap in PC1.
- ▶ The absence of objectives, attributes and targets for wetlands, and the inadequacy of water quality targets for Whangamarino Wetland, means there is little certainty that wetlands will be adequately protected or restored.



*Is the existing WRP  
adequate from a  
technical perspective?*

- ▶ The operative Waikato Regional Plan (**WRP**) provides very limited direction for addressing water quality impacts on wetlands.
- ▶ There are no Policies or Implementation Methods within the WRP that seek to reduce or avoid the impacts of nutrient and sediment inputs on Waikato wetlands.
- ▶ I disagree with the S42A Officer's report (paragraph 472) that suggests sections 3.1 and 3.7 of the WRP are sufficient for protecting the ecosystem health of wetlands.

## Framework applied

1. Describe wetlands – extent, values, significance

2. Define outstanding freshwater bodies/ highly significant wetlands

3. Assess water quality impacts on wetlands

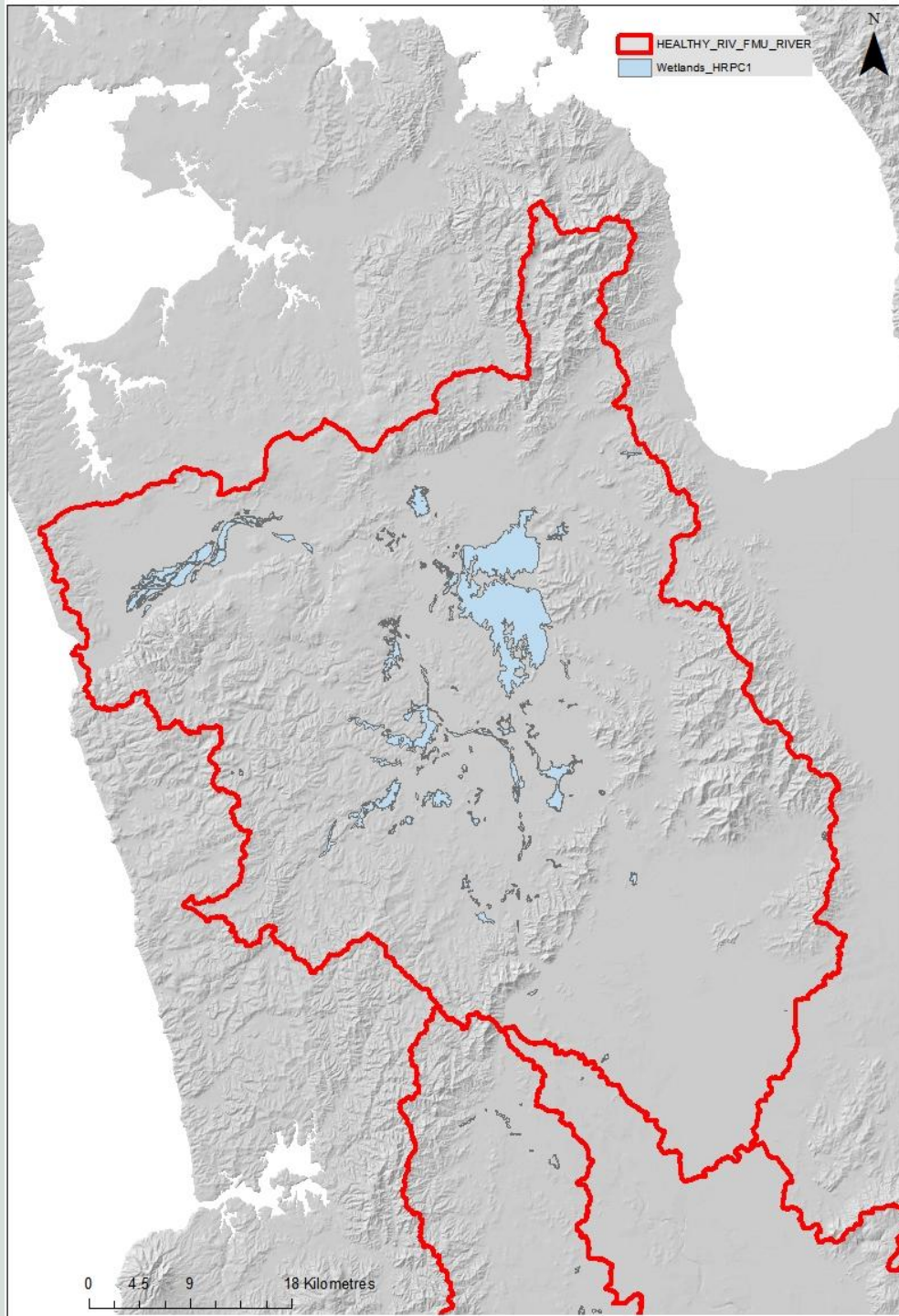
4. Define key water quality attributes that impact wetlands

5. Define objectives for wetlands, incl. highly significant sites

6. Decide if FMU sub-catchment approach is appropriate to objectives

7. Define water quality targets for wetlands (narrative)

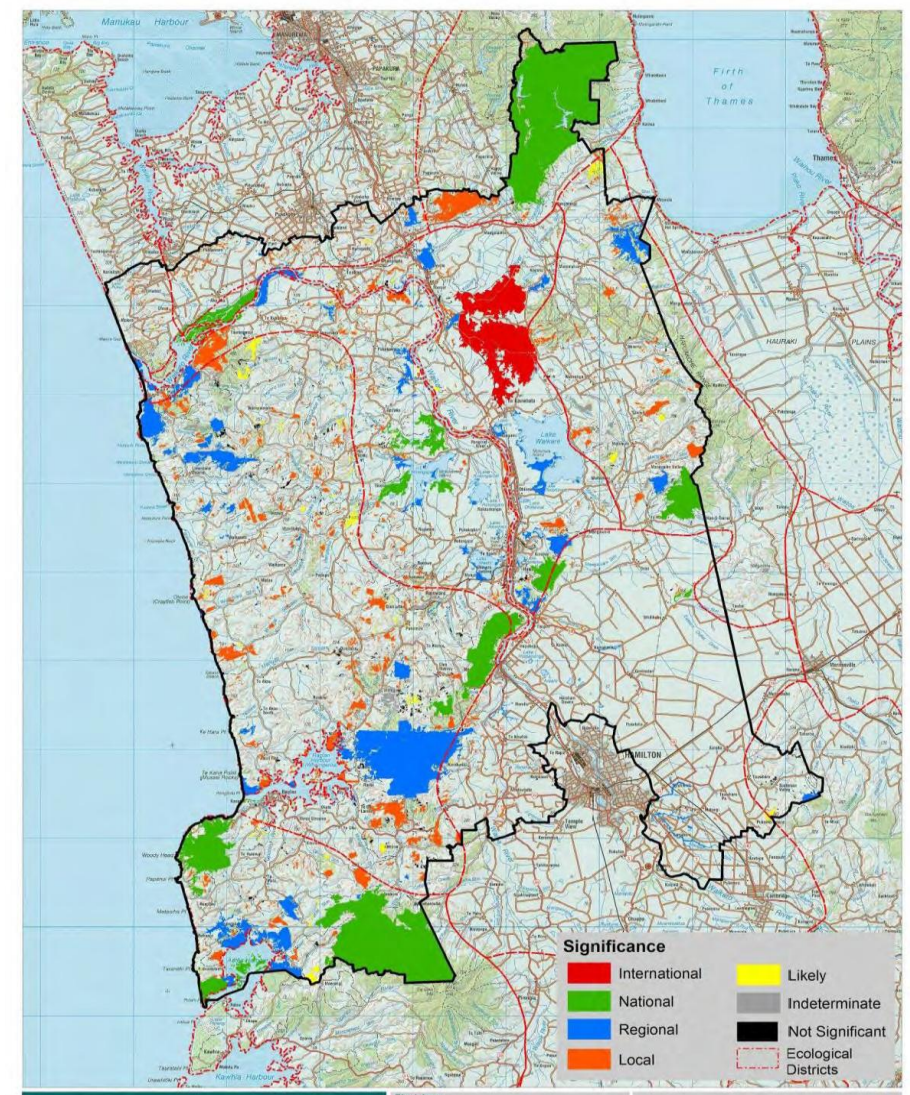
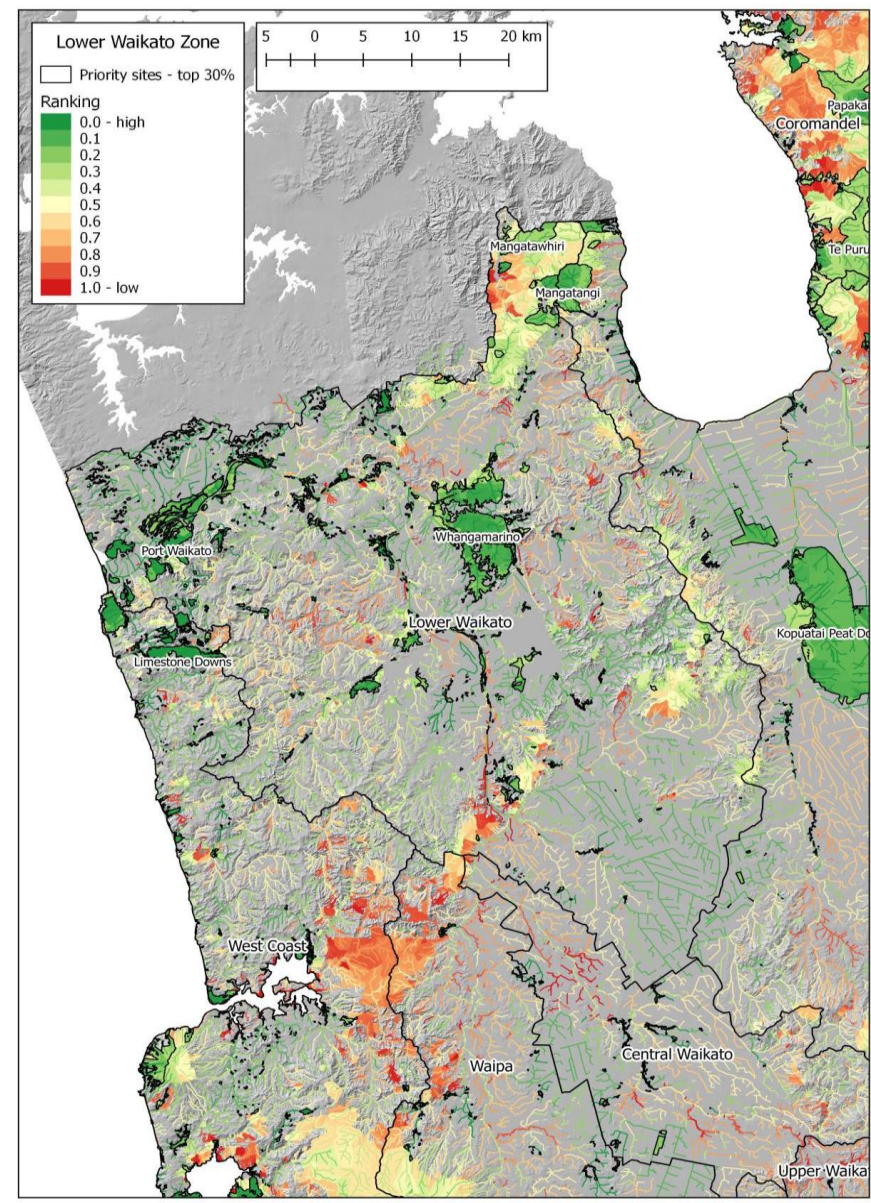
8. Define numeric water quality targets where sufficient information exists



>15,000 ha of wetlands in PCI

Wetland type	Area	Proportion	Susceptibility to elevated nutrient and sediment inputs
Bog	4871 ha	30.8 %	Very High
Marsh	1279 ha	8.1 %	High
Swamp	9595 ha	60.7 %	High
Other	72 ha	0.5 %	-
<b>Total</b>	<b>15,817 ha</b>	<b>100 %</b>	

Many wetlands in PCI recognised as a priority for management



**Waikato District Significant Natural Areas**

**Disclaimer:**  
 The provisional Significant Natural Areas of Waikato district data set are derived from interpretation of aerial photography along with information from ecological reports and data (where available), local ecological knowledge and/or limited field surveys. The data are provisional and should be used for indicative purposes only. The data have been captured at scales of 1:10,000 or smaller and should not be used at greater scales (e.g. 1:5,000) without detailed field survey. Refer to data catalogue link below for more information.  
<https://www.waikatoregion.govt.nz/services/data-catalogue>

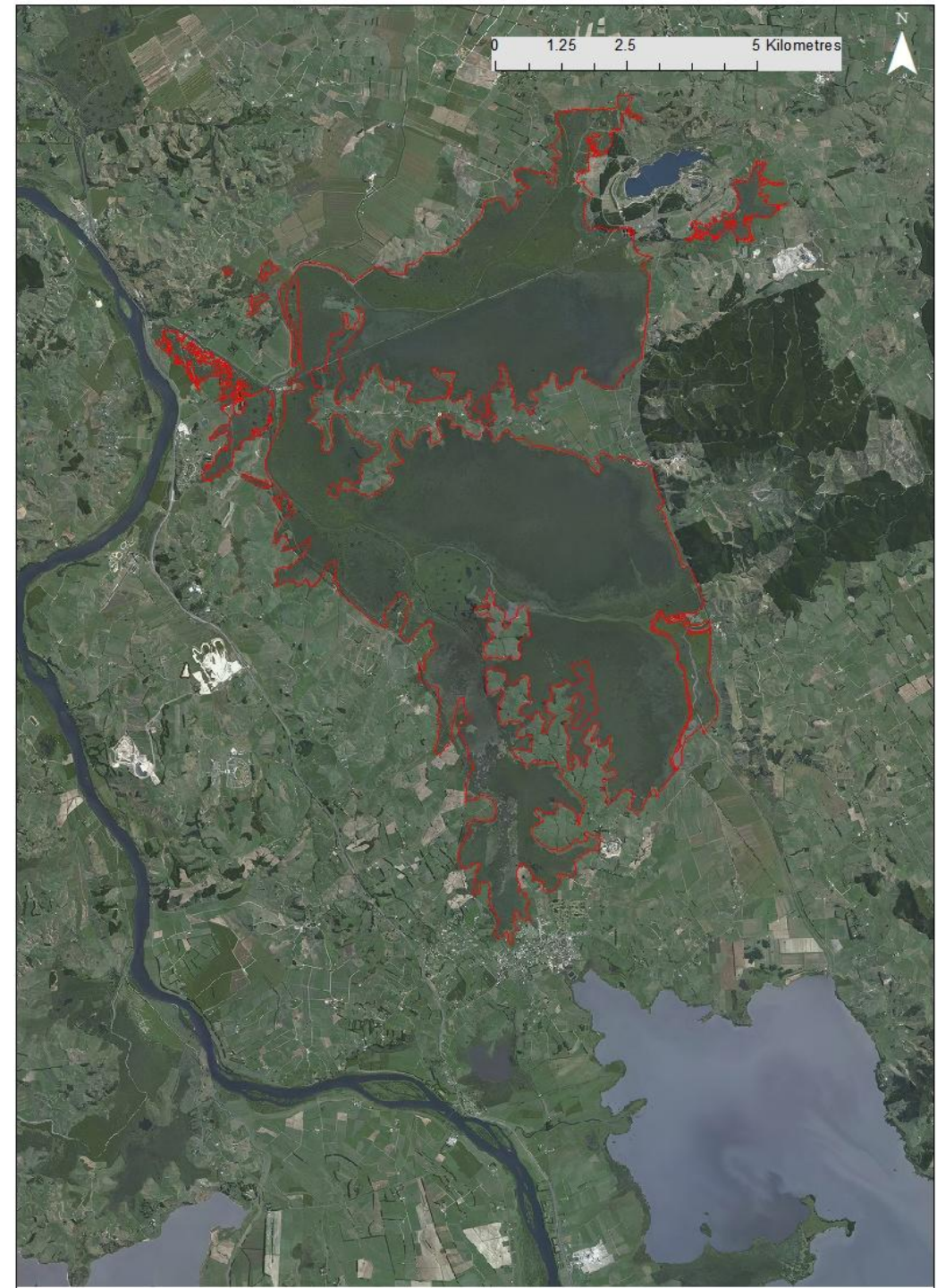
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**Waikato REGIONAL COUNCIL**  
 Te Raukiri o Waikato



# Whangamarino wetland

- ▶ Internationally significant
- ▶ Outstanding freshwater body (Section 8B, WRPS)
- ▶ MfE Guidance

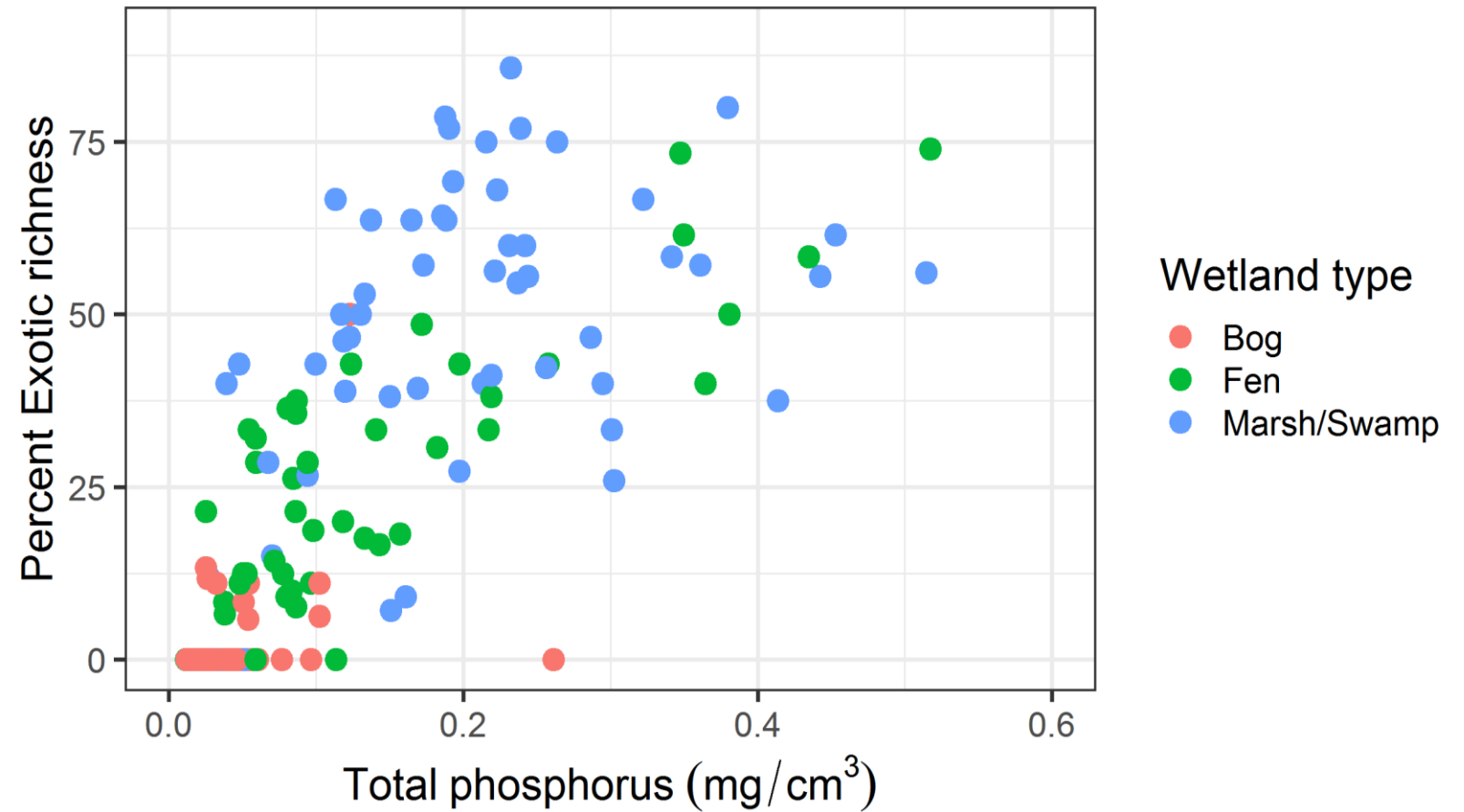


## Water quality impacts on wetlands

### Widespread understanding of water quality impacts on wetland ecosystem health:

- ▶ Nutrient enrichment increases primary productivity leading to loss of indigenous dominance, increased exotic species richness and decline in natural character and ecological health
- ▶ Increased sedimentation causes habitat disturbance, including smothering wetland plants and contributes to loss of indigenous dominance and increased exotic species richness
- ▶ Poor water clarity reduces the quality of habitat for indigenous species
- ▶ Hydrological change (increased flooding, drainage) often exacerbates nutrient and sediment impacts

Water quality impacts  
on wetlands



## Water quality attributes for wetlands

The key water quality attributes that effect wetland ecosystem health are:

- ▶ Phosphorus
- ▶ Nitrogen
- ▶ Sediment
- ▶ Hydrological regime (as an attribute that directly influences water quality effects).

## How to apply water quality attributes for wetlands?

- ▶ Desirable to have specific targets defined separately for all priority wetland complexes in PC1 --- ***technical investment over 10 year period recommended***
- ▶ In the interim, adoption of narrative targets will provide the framework for policies, rules and implementation methods in PC1 to address water quality pressures on wetlands.
- ▶ The exception to applying narrative targets is for Whangamarino Wetland, where numeric targets are recommended

*Recommended  
amendments - values  
and uses*

I have proposed amendments to:

- ▶ Ecosystem health
- ▶ Natural form and character
- ▶ Mahinga kai
- ▶ Mitigating flood hazards

Recommended  
amendments - *Objective*  
*6*

- ▶ I disagree with the suggestion that Objectives 1 and 3 will adequately protect and restore the significant values of wetlands, including Whangamarino Wetland.
- ▶ Recommend **Objective 6 is retained** in PC1, and amended so that an integrated approach is taken reduce the adverse impact of nitrogen, phosphorus and sediment on Whangamarino Wetland
- ▶ Recommend Objective 6 refers to Table 3.11-1 **and Appendix 7** (refer EIC).

## Additional objective - wetlands

- ▶ Recommend that a new separate objective for all wetlands is defined in PC1.

***By 2026, policies and methods are implemented that safeguard the ecosystem health of all wetlands by specifically minimising and avoiding the impact of nitrogen, phosphorus and sediment on natural wetlands, and associated hydrological drivers of water quality decline, including a programme for benchmarking and setting numeric targets for wetland attributes***

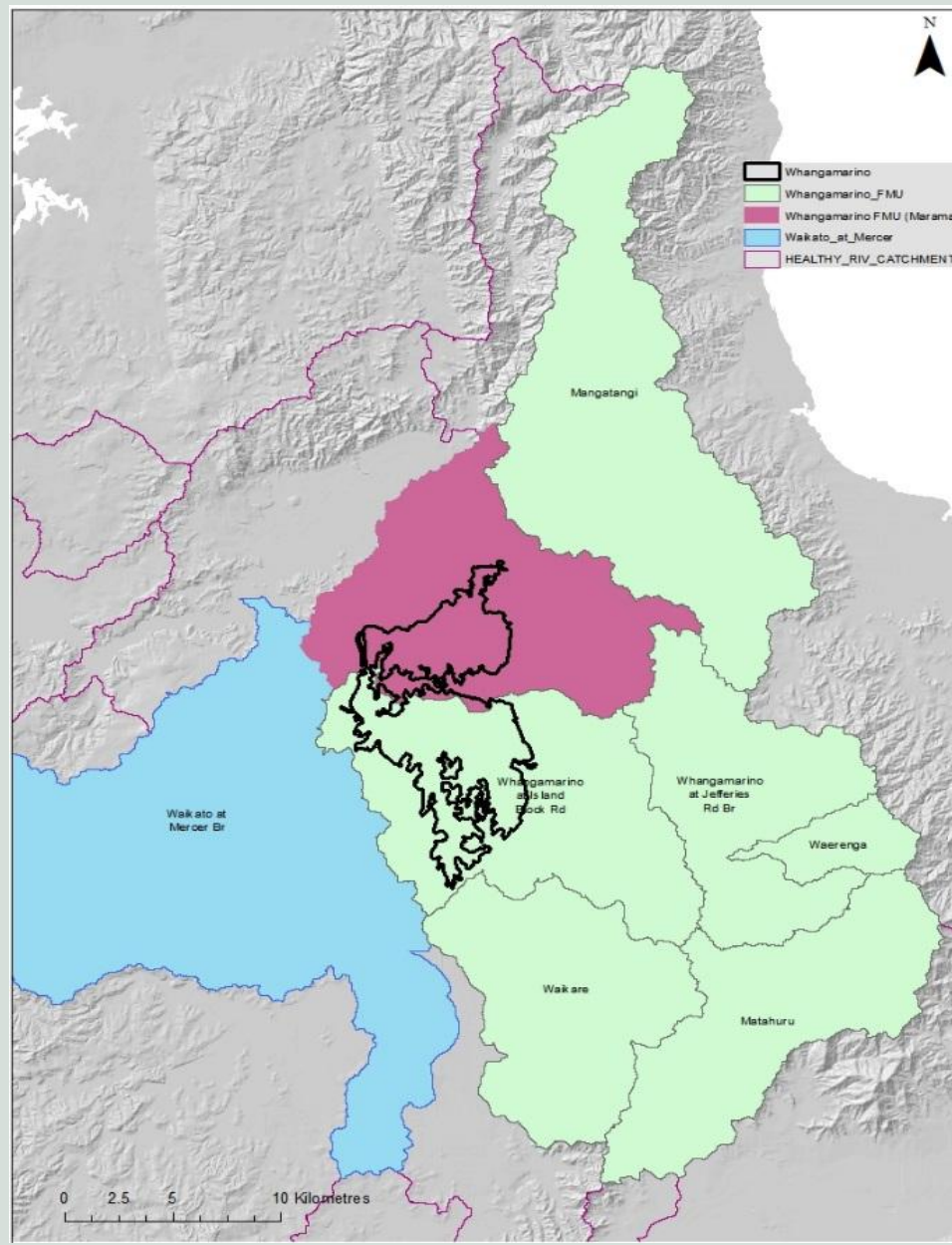
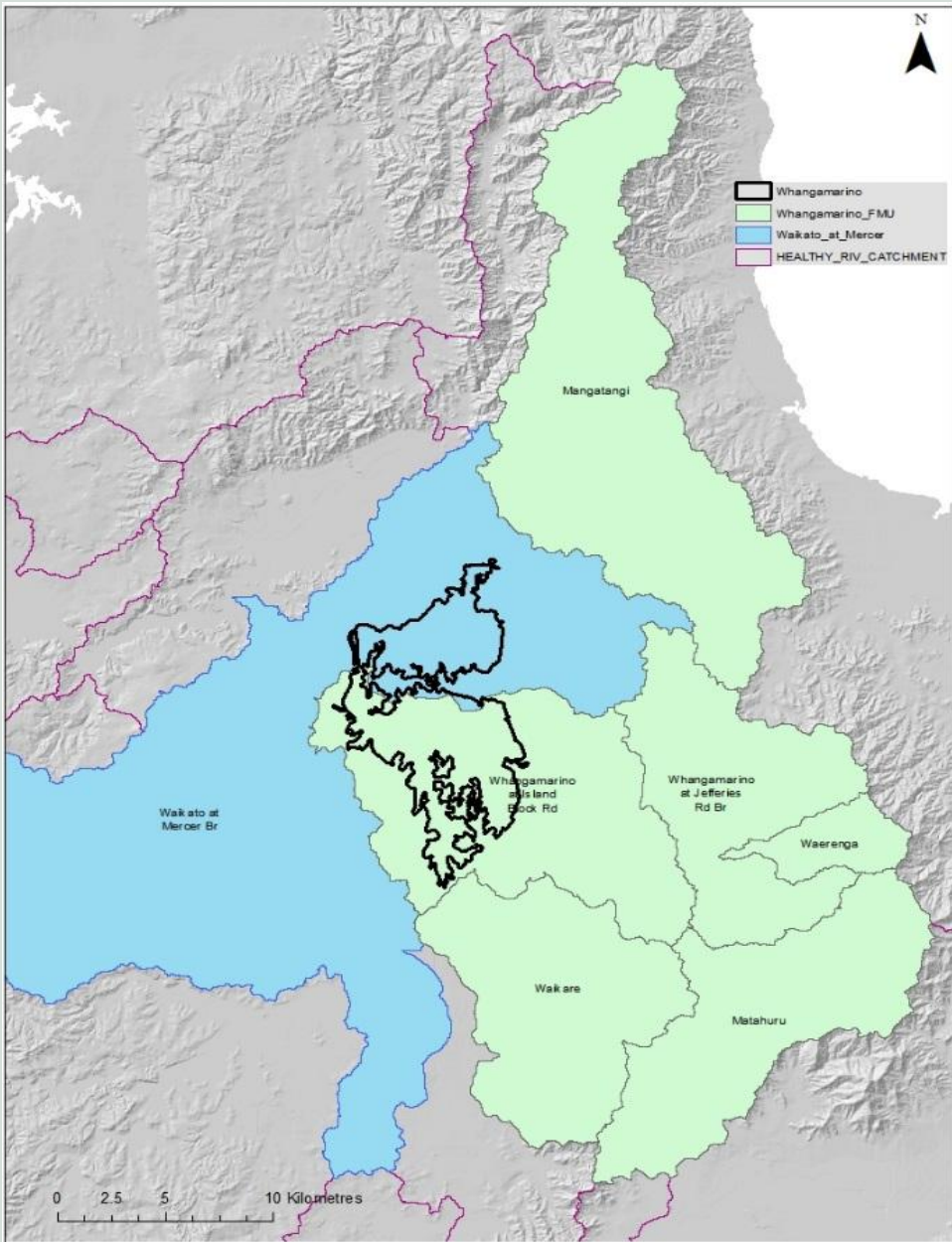


*Recommended  
amendments -  
narrative targets*

- ▶ I recommend PC1 should define specific attributes and narrative targets that apply to all wetlands
- ▶ As presented in Appendix 5.

*Recommended amendments  
-Definition of FMU for  
Whangamarino Wetland*

- ▶ **Achieving the river sub-catchment targets in Table 3.11-1 will not protect the significant values of Whangamarino Wetland.**
- ▶ Recommend a separate FMU for Whangamarino Wetland is defined in PC1.
- ▶ The FMU is proposed to address the absence of targets for phosphorus, nitrogen and sediment in Table 3.11-1.



Proposed  
FMU boundary



Whangamarino is well  
studied

Catchment monitoring is  
established

*Recommended  
amendments - Numeric  
targets*

► Additional attributes to achieve ecosystem health outcomes  
at Whangamarino Wetland

<b>Additional attributes for FMU:</b>	<b>80 Year Targets</b>	<b>Reason</b>
<b>TP Median Conc (mg/m<sup>3</sup>)</b>	50 mg/m <sup>3</sup>	The Whangamarino FMU is adversely affected by high phosphorus levels. The 80-year target of 50 mg/m <sup>3</sup> aims to reduce TP overtime.
<b>TN Median Conc (mg/m<sup>3</sup>)</b>	750 mg/m <sup>3</sup>	The Whangamarino FMU is adversely affected by high nitrogen levels. The 80-year target of 750 mg/m <sup>3</sup> aims to reduce TN overtime.
<b>TSS Annual Load (T/yr) [at Pungarehu Canal]</b>	>30% reduction  (10% reduction by 2030)	Water quality in the Pungarehu Canal is driven by the concentration of sediment, as well as the discharge volume regulated by a control gate. Achieving only the water clarity target for this site will not achieve an ecosystem health outcome.

*Comment on s42A  
report*

I disagree with the S42A officers report (para 489) that there is insufficient information to set numerical targets for Whangamarino Wetland.

- ▶ there is relatively comprehensive data on the current state of Whangamarino Wetland
- ▶ there is understanding of water quality attributes that effect wetland health
- ▶ in other parts of PC1, to ensure the Vision and Strategy is achieved, additional attributes not required by the NPS-FM have been adopted

## *Summary of recommended changes to PCI*

- Amendments to the values and uses for wetlands
- Objective for protecting and restoring the values and uses of wetlands, including benchmarking current state
- Amendment to Objective 6 for Whangamarino Wetland
- Establishment of a Whangamarino Wetland FMU
- Narrative water quality targets for wetlands
- Numeric water quality targets for the Whangamarino Wetland FMU
- Inclusion of targets for Pungarehu Stream/Canal in Table 3.11-1