




Waikato River Estuary Summary



Helen Kettles – 25 March 2019

Main points

- Improve integration of freshwater and coastal management
- Estuaries as valuable ecological assets
- The state of Waikato River Estuary
- Adaptive management including limits and target setting

Estuaries as valuable ecological assets

Globally
0.35% area
12.2%
ecosystem
services

Over 300
estuarine
systems in
NZ

Highly
productive



Harnessing the climate mitigation, conservation and poverty alleviation potential of seagrasses: prospects for developing blue carbon initiatives and payment for ecosystem service programmes

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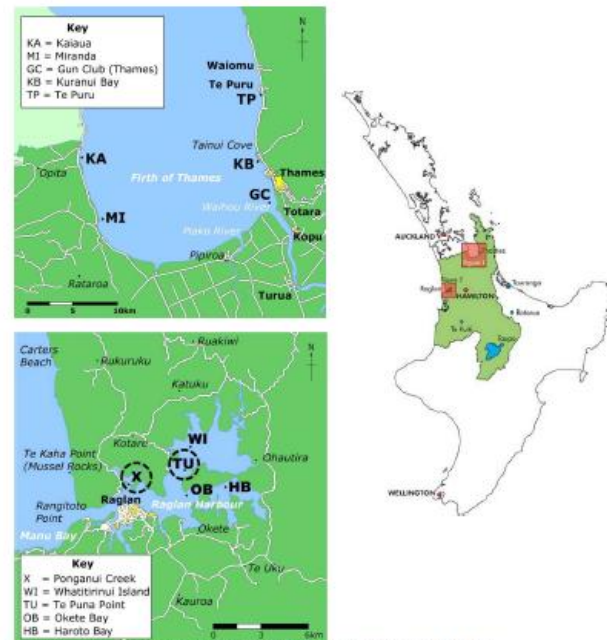
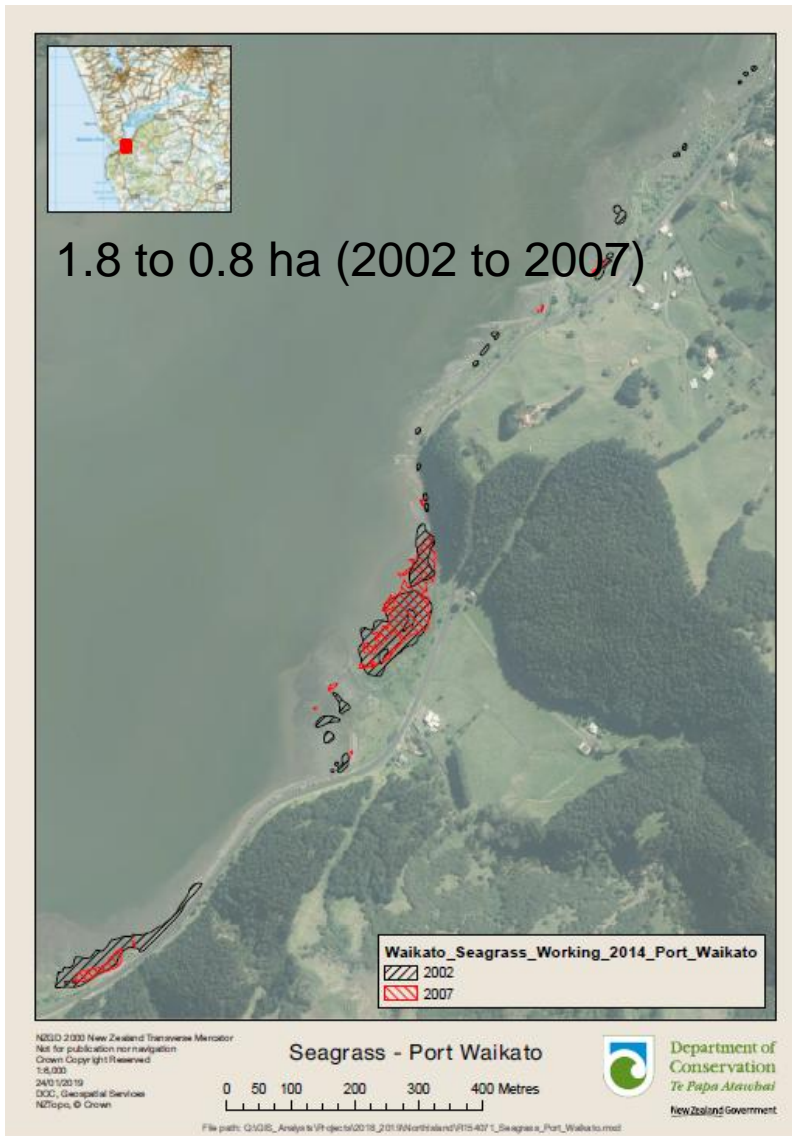
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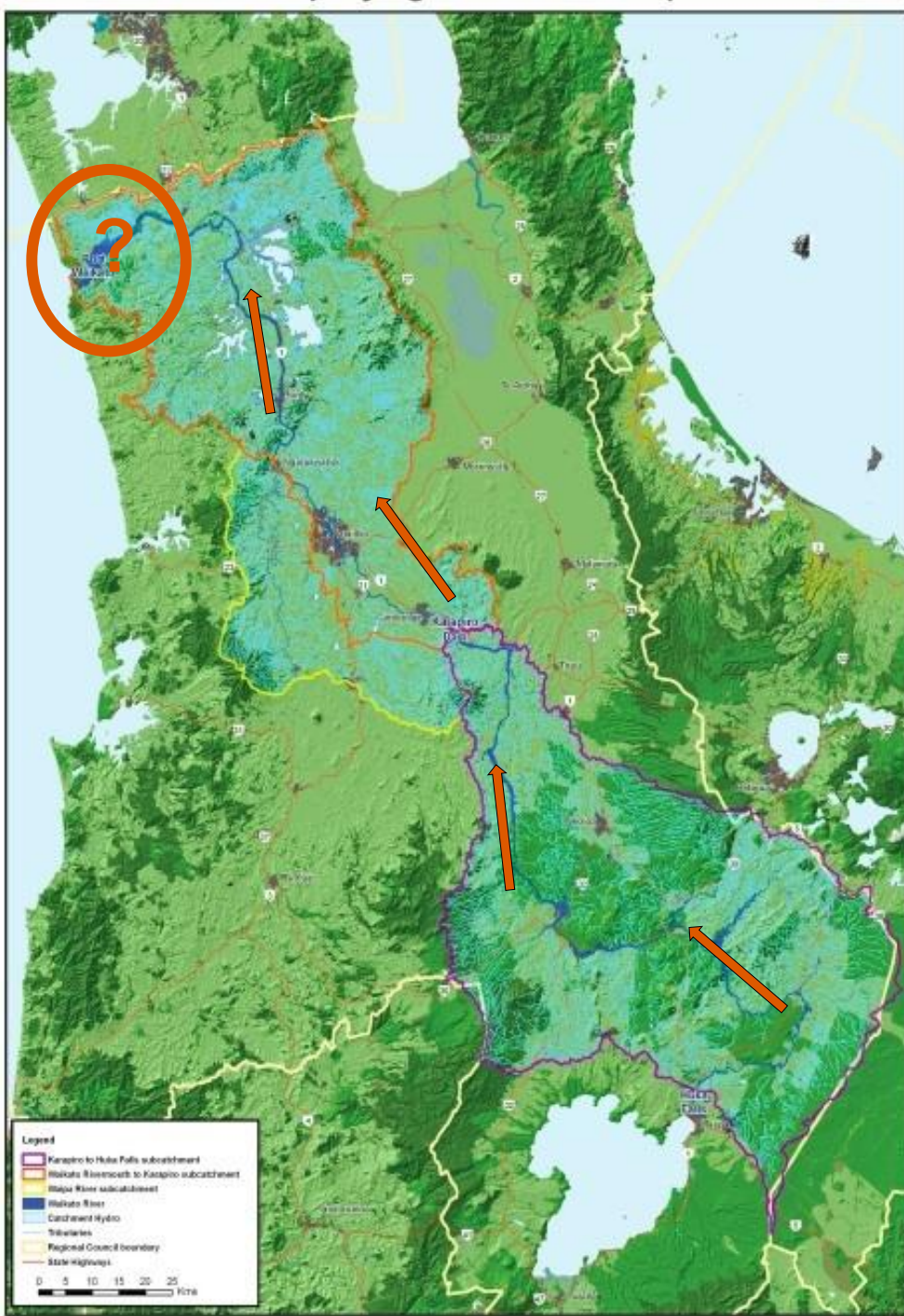


State of Waikato River Estuary

2017 - unsatisfactory turbidity about 75% of time, worst of 7 sites sampled

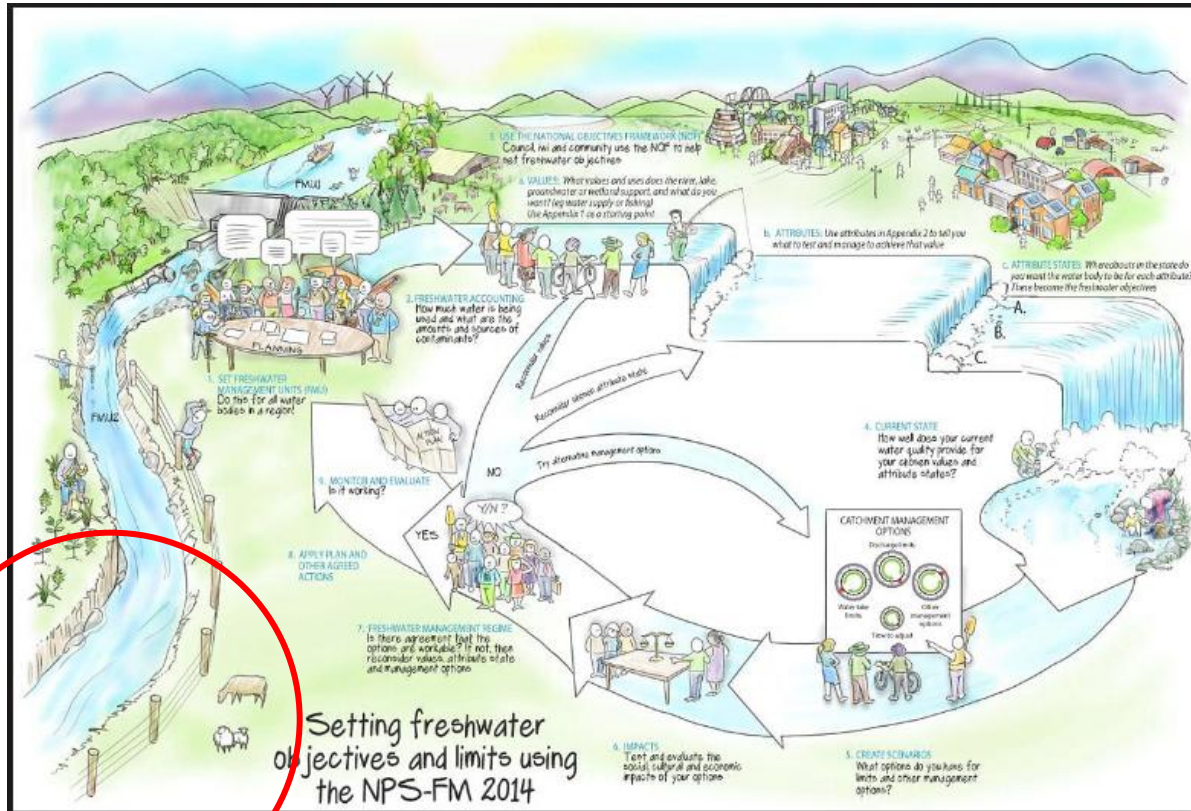


Current monitoring – faecal bacteria only



Map: Science Learning Hub
 Images: Te Ara, Heartland Springs

Adaptive management & managing upstream



Adaptive management & managing upstream

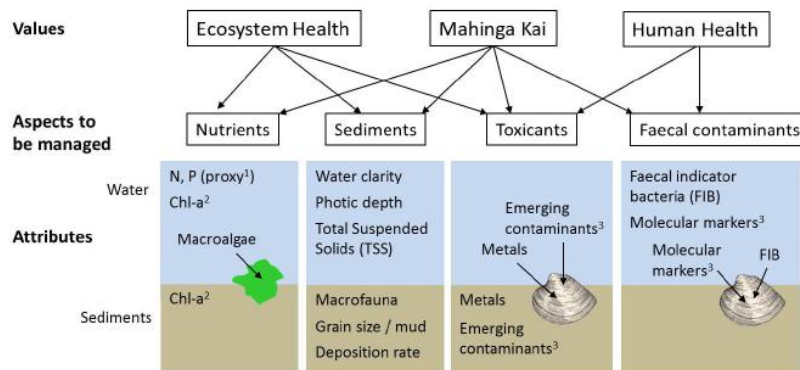
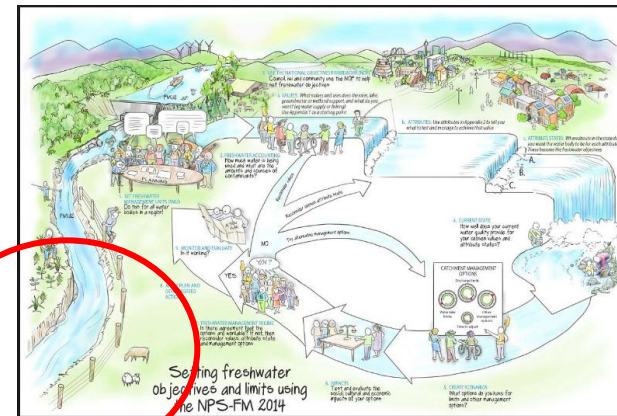


Figure 1-1. Variables recommended for further consideration as attributes in the Stage 1A report. ¹For nutrients such as nitrogen (N) and phosphorus (P), a proxy, such as modelled potential nutrient concentrations may be used. ²Chl-a is a proxy for phytoplankton in the water and microphytobenthos (small algae) in the sediments. ³The inclusion of emerging contaminants and molecular markers for faecal bacteria and pathogens is intended to mark their potential role in managing and monitoring estuaries following further research and development. It is unlikely these would be developed into attributes within this project.

Conclusions & recommendations

- The Waikato River Estuary ecosystem is already showing signs of degradation
- PC1 needs specific objectives to address the 'mountains to sea' nature of catchments & interdependencies
- Integrated approach to developing targets, plus monitoring and reporting