



Healthy Rivers
PLAN FOR CHANGE

Wai Ora

HE RAUTAKI WHAKAPAIPAI



RAUKAWA CHARITABLE TRUST
TE POARI MANAAKI O RAUKAWA



TŪWHARETOA
MĀORI TRUST BOARD



Waikato Lowland lakes - Waikare

Presentation to CSG meeting #6

15 September 2014

Presentation outline

- Water quality and ecology (David Hamilton)
- Lake Waikare and surrounding catchment
- Waikare governance arrangements
- Future

Lake Waikare

- Large shallow lowland lake in the Waikato delta
 - Poor condition - many stressors
- Lower Waikato Flood Protection scheme
 - Flood control scheme lake level storage and management
- Area of significance for Waikato-Tainui
- Whangamarino wetland
 - Ramsar
 - Downstream impacts of sediment through the wetland

Lake Waikare

- Catchment land use and sedimentation
 - Large sediment inflow from Matahuru catchment
- Contemporary management issues
 - Fails to meet NPS-FM bottom lines
 - Waikare gate consent compliance review
 - Other consents to discharge to Lake Waikare
- Shallow lakes accord
 - Waikato-Tainui, WDC, DoC, WRC

Lake Waikare water quality

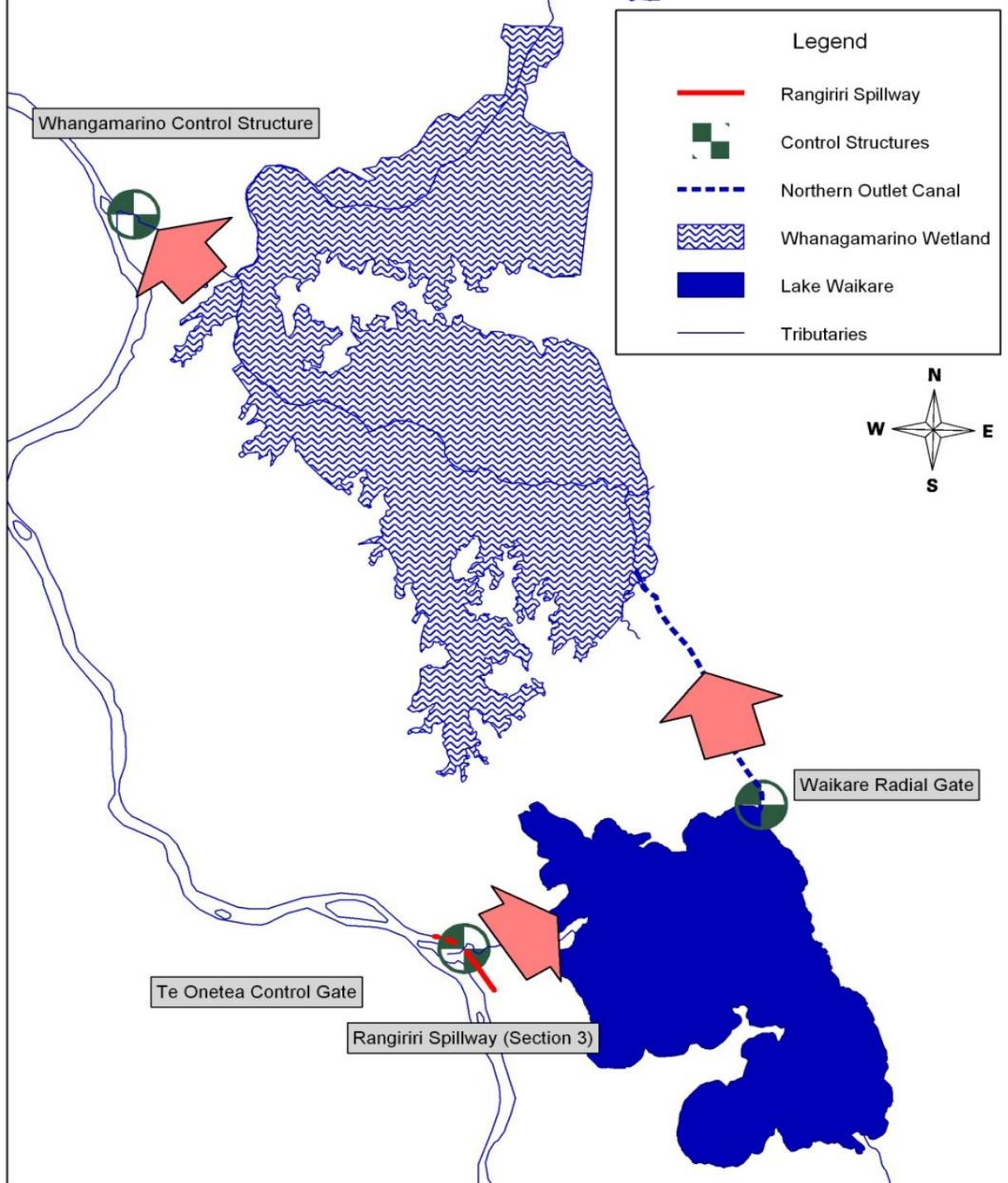
- Nitrogen, phosphorus – promote algal growth
- Sediment (reduced clarity impacts ecology and suitability for contact recreation)
- Wind and pest fish disturb bottom sediments



Flood protection scheme



Lower Waikato Flood Protection Scheme

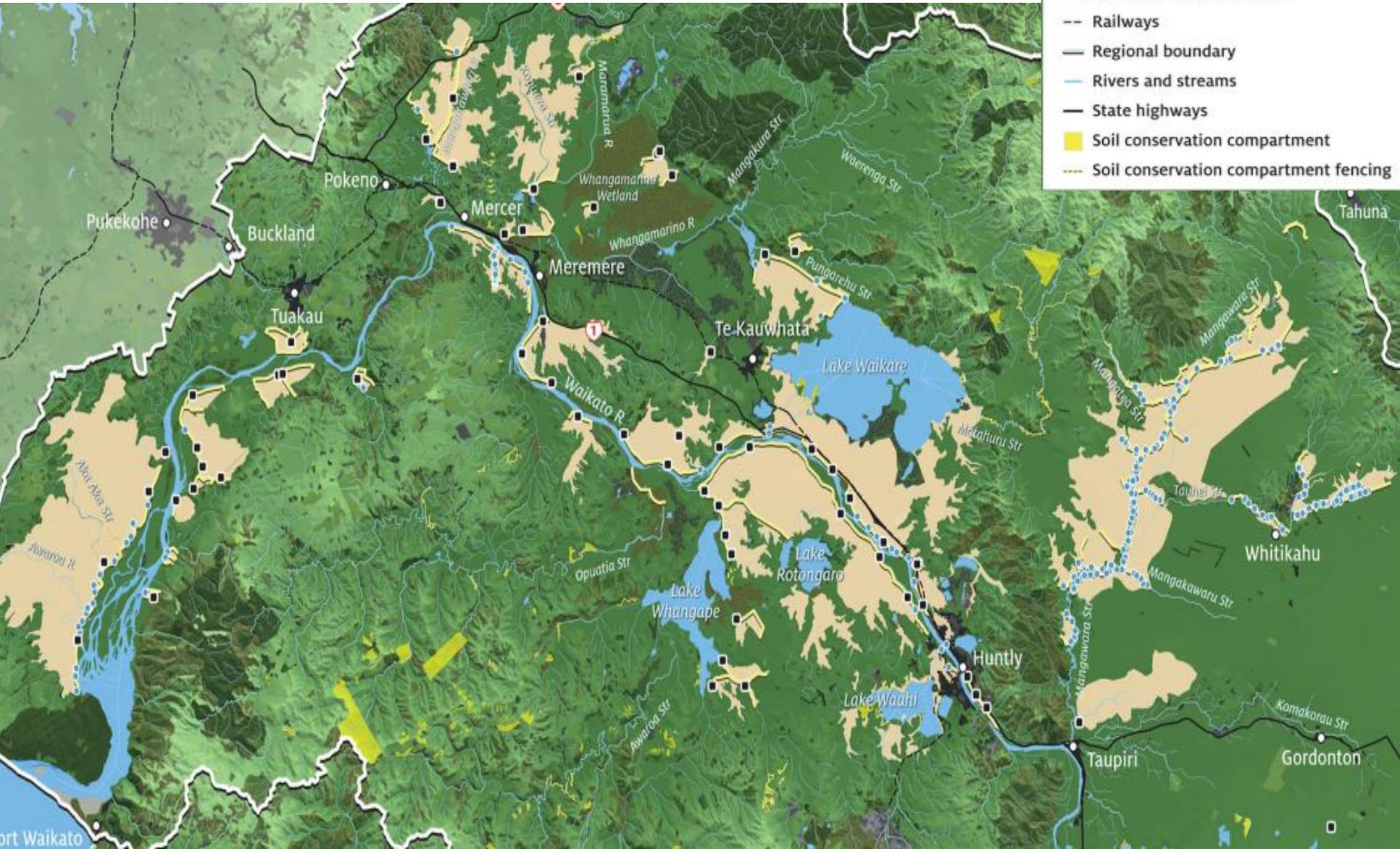




Rangiriri Spillway & 1971 when in operation

Lower Waikato Zone

- Legend**
- Flood protection compartments
 - Floodgates
 - Pumpstations
 - Scheme stopbanks
 - River and catchment zone
 - Railways
 - Regional boundary
 - Rivers and streams
 - State highways
 - Soil conservation compartment
 - Soil conservation compartment fencing



Other stressors



Carp-N neutral Project

Turning something bad into something good



New Zealand's
first invasive
fish recycling
facility

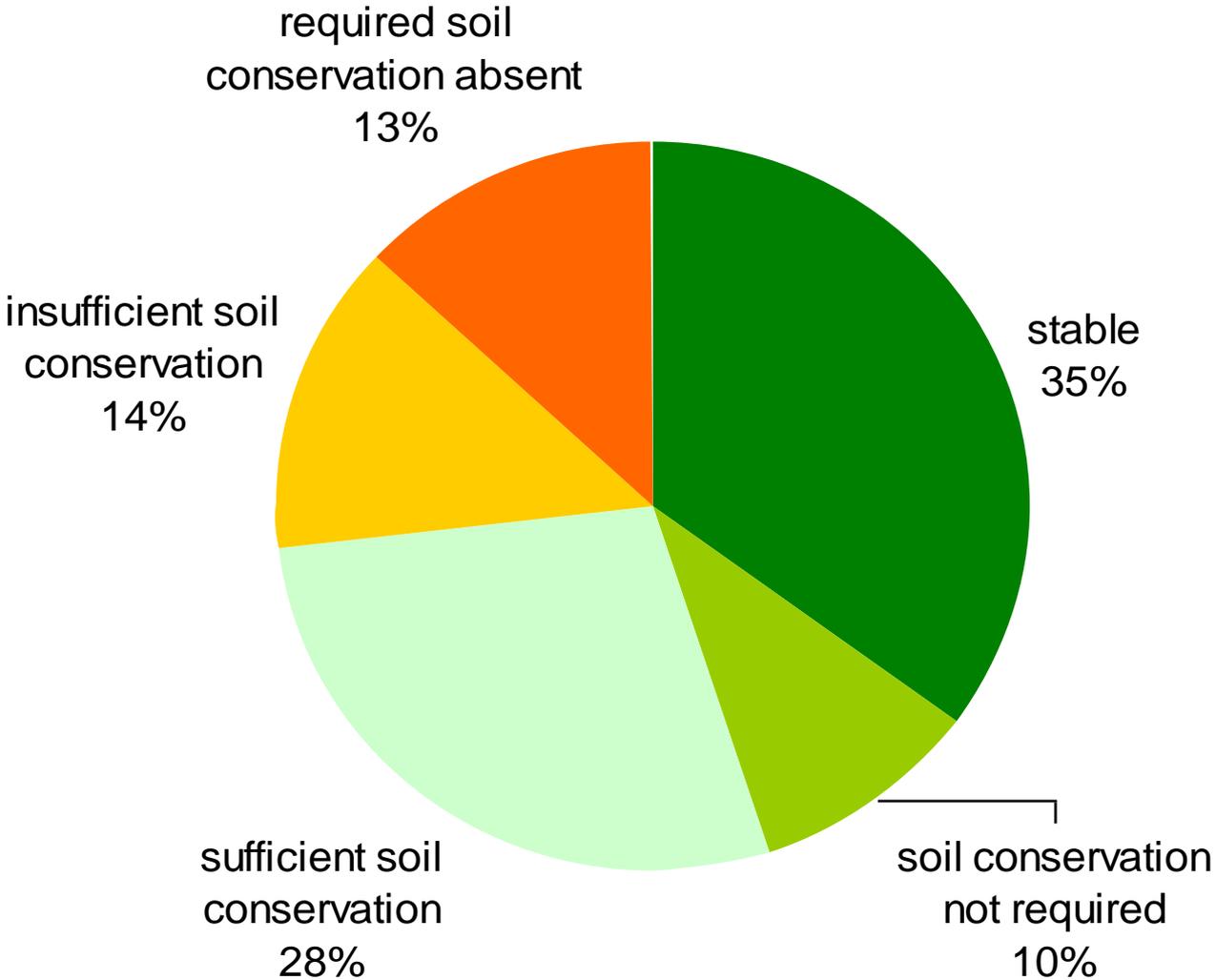


BIOCOSMO
Technologies



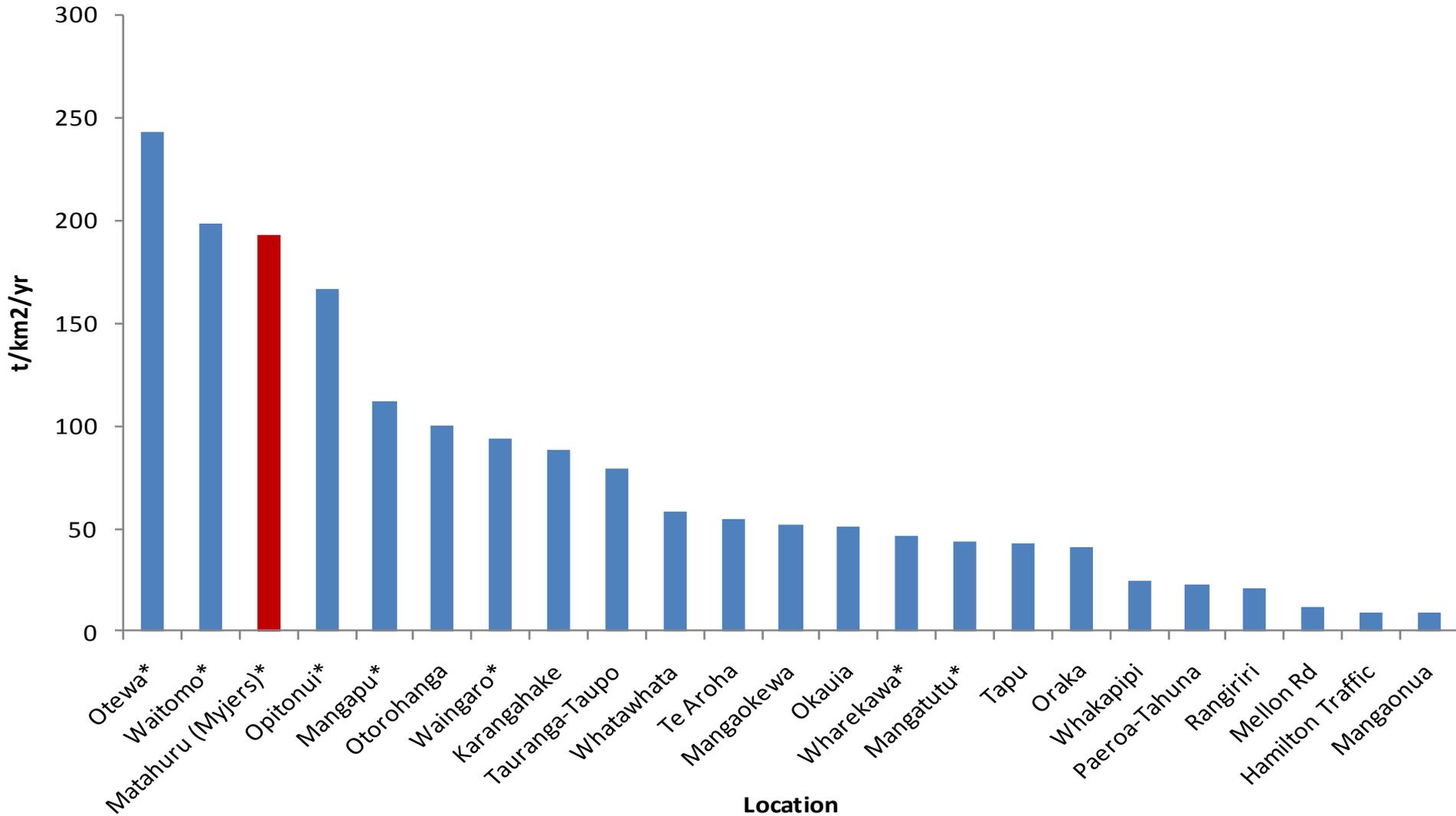


Matahuru Catchment

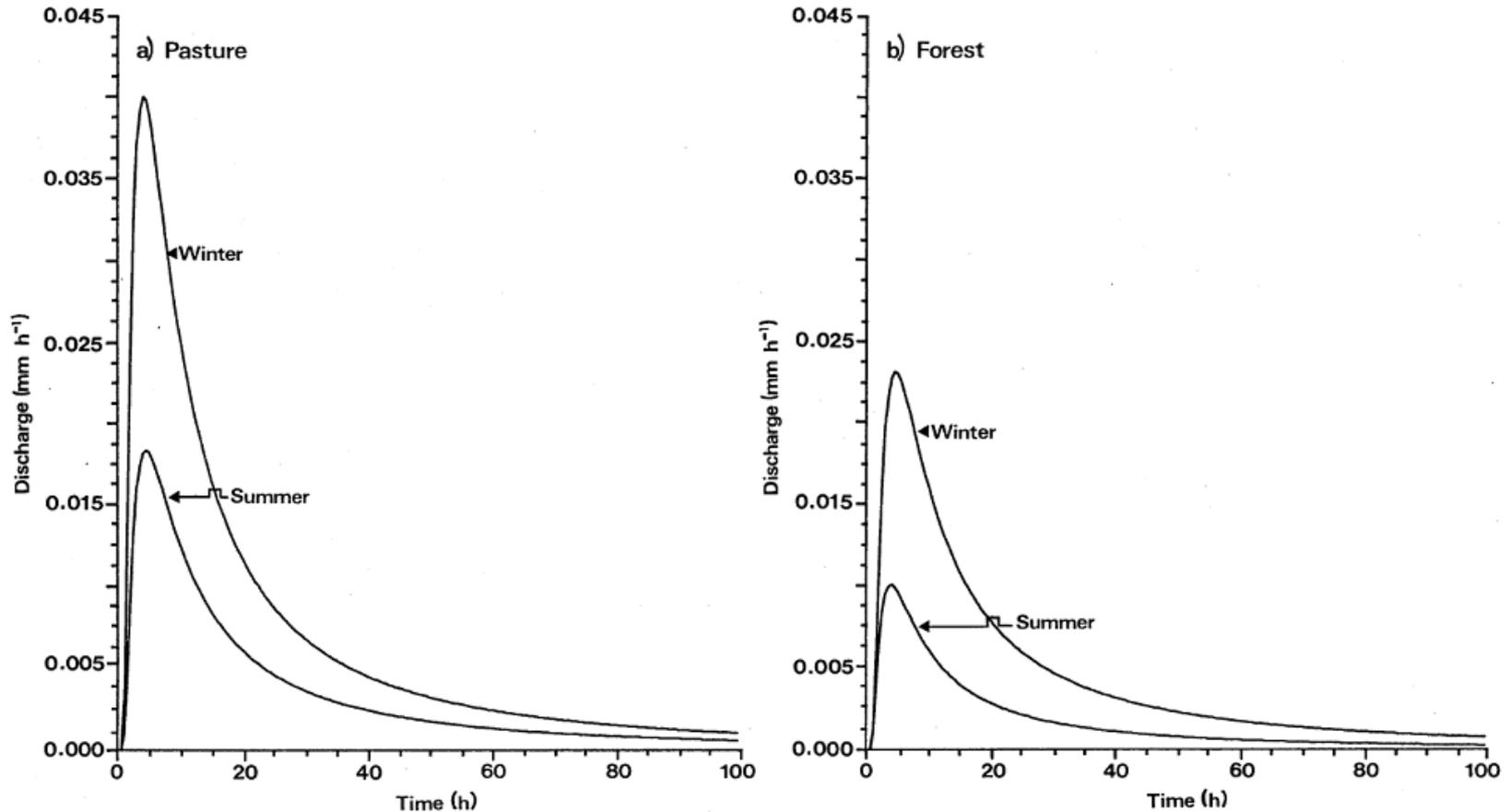


Matahuru Catchment

Regional River Suspended Analysis - Average Annual Specific Yield



Mangawhara/Matahuru Catchment

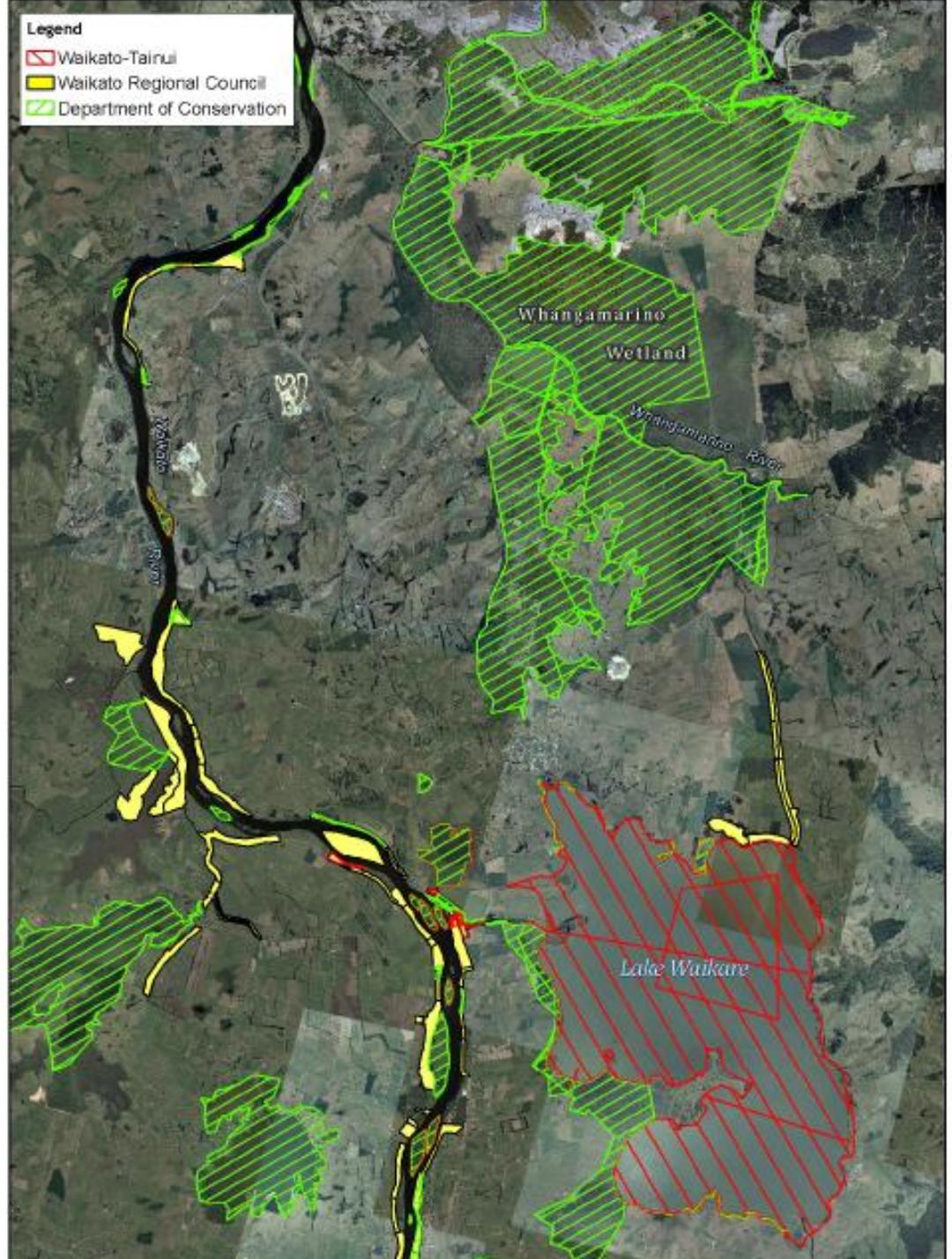




Existing Governance Arrangements



Land administered by DOC, WRC & Waikato –Tainui near Lake Waikare & Whangamarino Wetland



Governance Arrangements

- Waikato District Council
 - Land use planning
 - Consent to discharge (Te Kauwhata waste water)
- Waikato Regional Council
 - RMA - Effects of land use, Healthy Rivers – Wai Ora, Water allocation V6
 - Lower Waikato Liaison subcommittee
 - Lower Waikato Flood Protection Scheme and associated consents
 - Project Watershed – Integrated catchment management
 - Co-management (JMAs and co-managed lands)

Governance Arrangements

- Joint management
 - Co-management
 - Waikato District Lakes Memorandum of Agreement
- Waikato Tainui
 - Co-governors and owners of lake bed
 - Co-managed lands / Sites of significance
- DoC
 - Wetland and Biodiversity management
- Fish and Game
 - Wetland and game bird management

Future

- Impediments to lake restoration
 - Scale of issues
 - Remediation costs
 - Diverse expectations - land owners, public, iwi
 - Significant infrastructure
 - Management of land drainage
 - Management of the flood protection scheme
 - 1500 ha around lake, 17,000 ha other land depends on scheme
 - National infrastructure – SH1 protection
 - Lake Waikare an important part of the scheme

Future

- Challenge:
 - Improving lake water quality
 - Protecting biodiversity
 - Enhancing cultural values
 - Maintaining land drainage
 - Maintaining viable flood protection scheme
 - Managing future demands for water

Future

- Solutions
 - Management of upper catchment (soil conservation and water quality)
 - Habitat enhancement of margins – ephemeral wetlands
 - Management of lake depth – WQ/sediment re-suspension, irrigation
 - Pest fish (koi) and plant pests (yellow flag, alligator weed)
- All parties act effectively toward a common goal