# Freshwater Futures Community Group

BAY OF PLENTY REGIONAL COUNCIL TOI MOANA

Kaituna: Workshop 6

# Welcome


**Tiaki pumautia te wai e hoki mai ai ngā rawa ki a tātau katoa**

**Treat the water wisely and it will return to us**


- Fire protocol
- Toilets
- Meals
- Make yourself at home

# Purpose of this group

To help Council implement the National Policy Statement for Freshwater Management:

- confirm values, express preferred objectives
- provide feedback on limits for freshwater quality and quantity within this Water Management Area
- provide input to solutions for managing activities to meet those limits
- advise Council in their decision-making for Plan Change 12

# Agenda

- Welcome
- National Policy Statement for Freshwater Management **2017** update
- Use values
- Catchment modelling
  (reference state, current, future development)
- Management options
- Next steps

**am tea**

**lunch**

# Today

- Consider use values
- Feedback on purpose and assumptions of catchment modelling:
  - Reference state
  - Current land and water use assumptions
  - Future development scenario – land and water use
- Start discussion on possible management options and assessment criteria

# Work Programme

| Phase 2 |
| --- |
| Meet and Greet sessions |
| Scene setting<br>Group values |
| Build knowledge |
| Values Framework<br>Attributes<br>FMUs |

| Phase 3 |
| --- |
| FMUs/Values - aligned<br>Preferred Objectives |
| Scenario/Limits<br>Impact analysis |
| Evaluation: Scenario feedback |
| Develop policy and regulatory framework |
| Consult on framework |

| Phase 4 |
| --- |
| Council notifies<br>Proposed Plan Change |
| Hearings and decisions |
| Environment Court Appeals |
| Environment Court Hearing and Decision |

**Workshop 5**: Aug 17
- Towards objectives
- Use values

**Workshop 6**: Sept 17
- Future Development scenarios
- Use Values (continued)
- Management options & assessment criteria

**Workshop 7**: Dec 17
- Initial modelling results (current and future development)
- Mitigation scenarios

**Workshop 8**: Feb/Mar 18
- Modelling results (mitigation)
- Draft objectives and limits
- Narrowing down management options, towards solution-building

**Workshop 9:** Apr 18
- Management options
- Additional modelling (if required)
- Objectives and limits
- Drafting

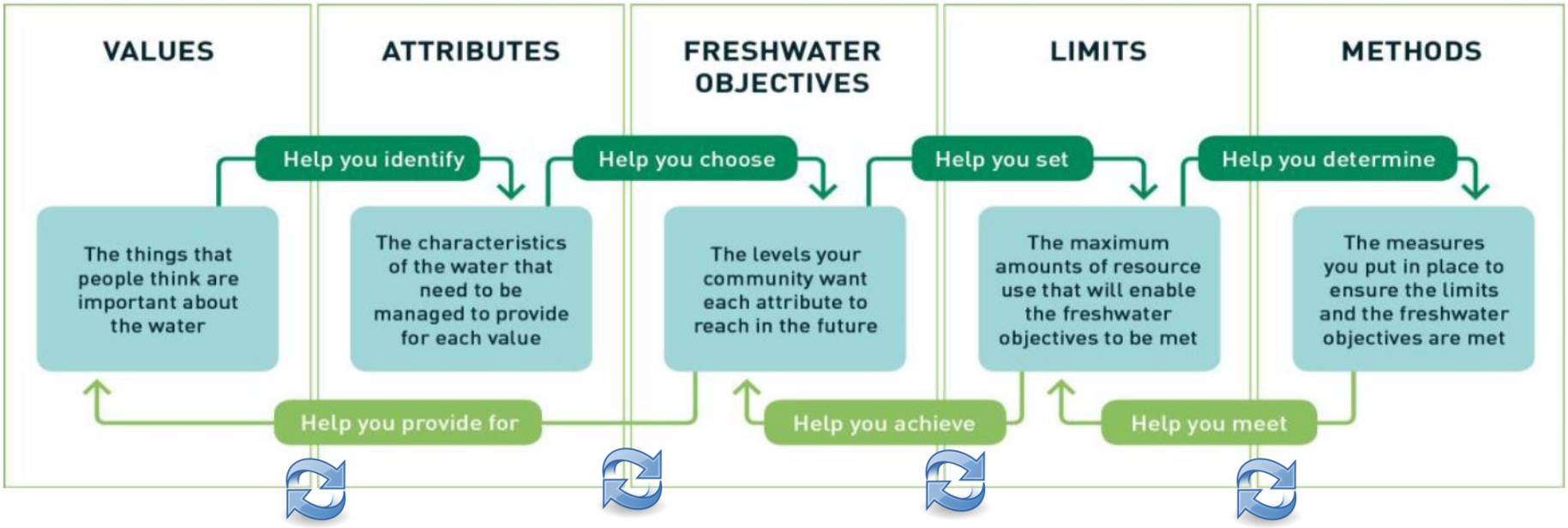
# National update

# National Policy Statement for Freshwater Management 2017

- Te Mana o te Wai
- Suitability for swimming targets and monitoring – regional
- Enable communities to provide for economic well-being within limits
- Discussion with communities
- Monitoring plans
  - Microbial health
  - Macro-invertebrates
  - Mātauranga Māori

# Use values

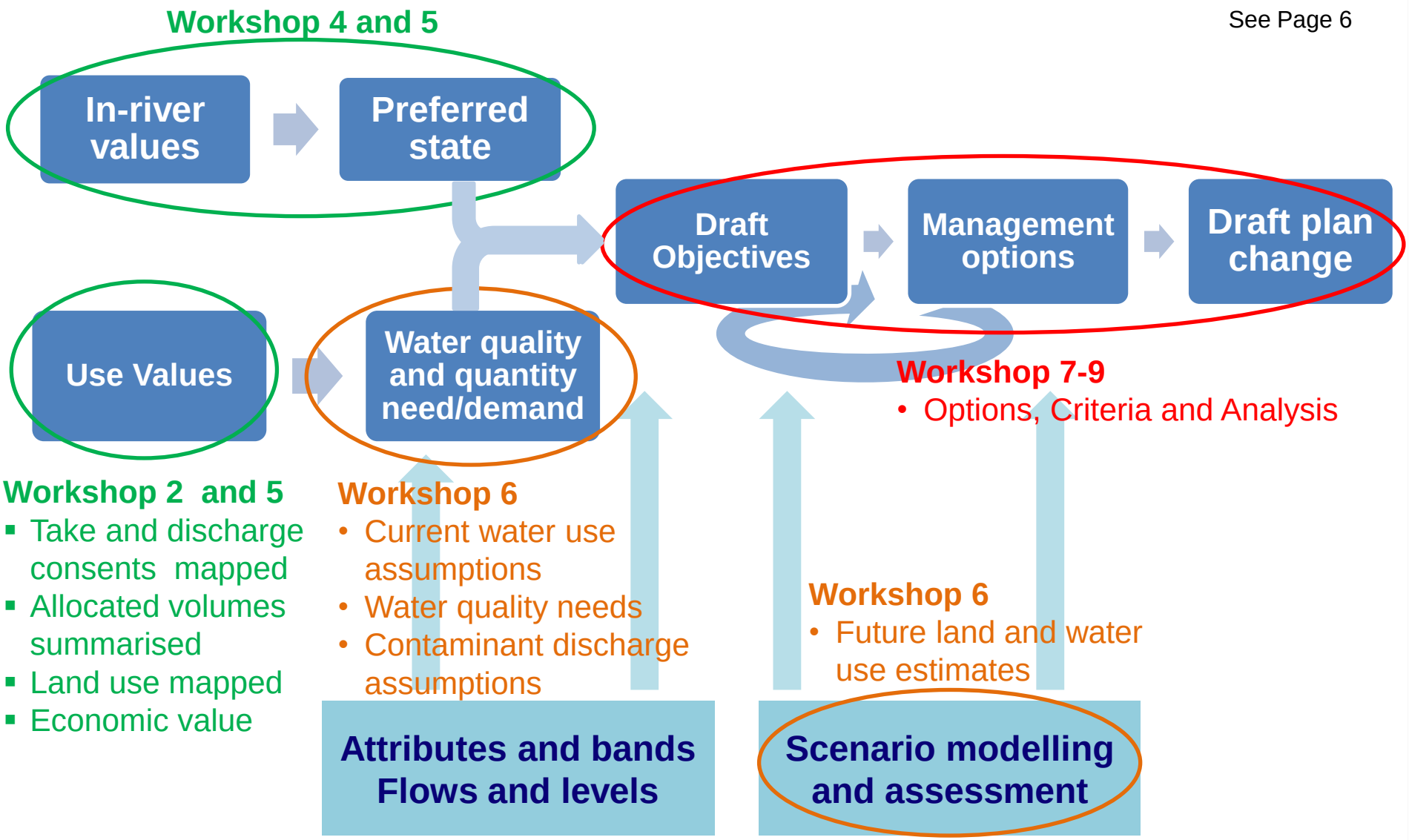
**NPS requirement:** Set *objectives* and *limits* for freshwater quality and quantity that provide for *values* and are given effect through *methods*




| **Example:** | | | | |
|---|---|---|---|---|
| Swimming: "Water continues to be suitable for swimming" | *E. coli* | *E. coli* concentration and percentage of exceedances | | - Fencing & riparian planting<br>- Reduce stocking rates<br>- Etc. |

# Process

See Page 6



# Use values *– workshop 3*

Blue - NPS
Black- Additional values

| Draft Regional Freshwater Value Set – Use Values |
| --- |
| Irrigation, cultivation and food production |
| Animal drinking water |
| Municipal and domestic water supply |
| Treated wastewater discharge |
| Urban storm water drainage and discharge |
| Commercial and industrial use |
| Hydro-electric power generation |
| Flood water conveyance |

# Use values

## Covered so far

- ✓ Identified and mapped consented use values (take, use and discharge), and land use
- ✓ Summarised consented takes and discharges by industry
- ✓ Estimated economic values of those activities

## Yet to cover (starting today)

Estimates
- Actual and “reasonable” use and discharges
- Water quality needs – in the water body

Scenarios
- Future use and discharges – water quality and quantity needs

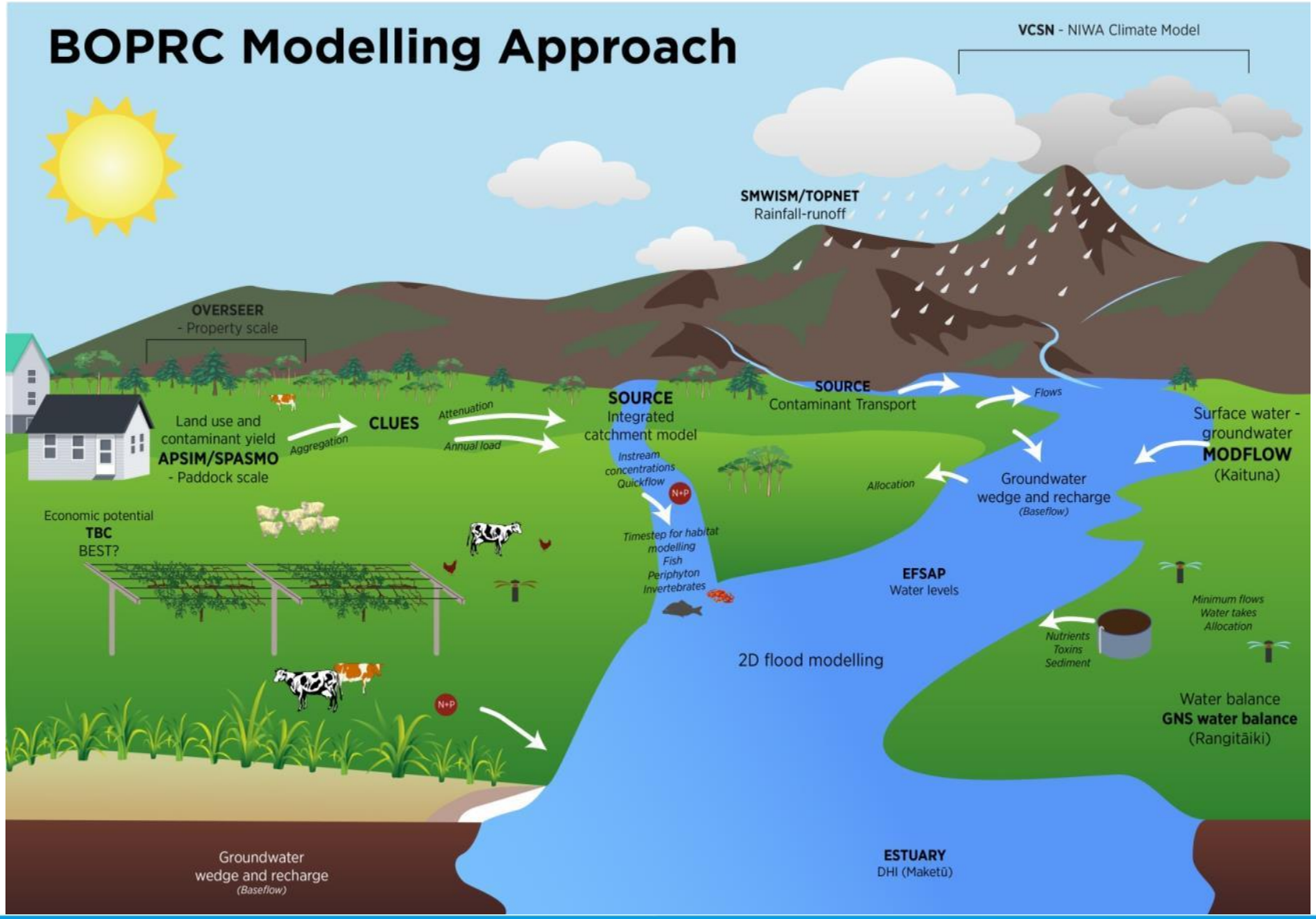
Modelling
- Will water quality and quantity provide for current/future use AND in-river values?
- If not, what needs to change?

# Use values - water quality and quantity needs

| Use Values | Quantity | Quality |
|---|---|---|
| Municipal water supply<br>Domestic water supply | Consents and monitoring<br>Estimates | Drinking water standards |
| Hydro-electric power generation | Consents and monitoring | Consents and monitoring |
| Animal drinking water | NZCP1 for dairy | NZCP1, ANZECC |
| Irrigation, cultivation and food production | Consents and monitoring, model estimates | ANZECC, GAP, NZCP1 for dairy |
| Commercial and industrial use | Consents and monitoring, codes of practice material, modelling estimates | |
| Treated wastewater discharge | | |
| Urban storm water drainage and discharge | | |
| Flood water conveyance *(+ drainage and discharge)* | | |

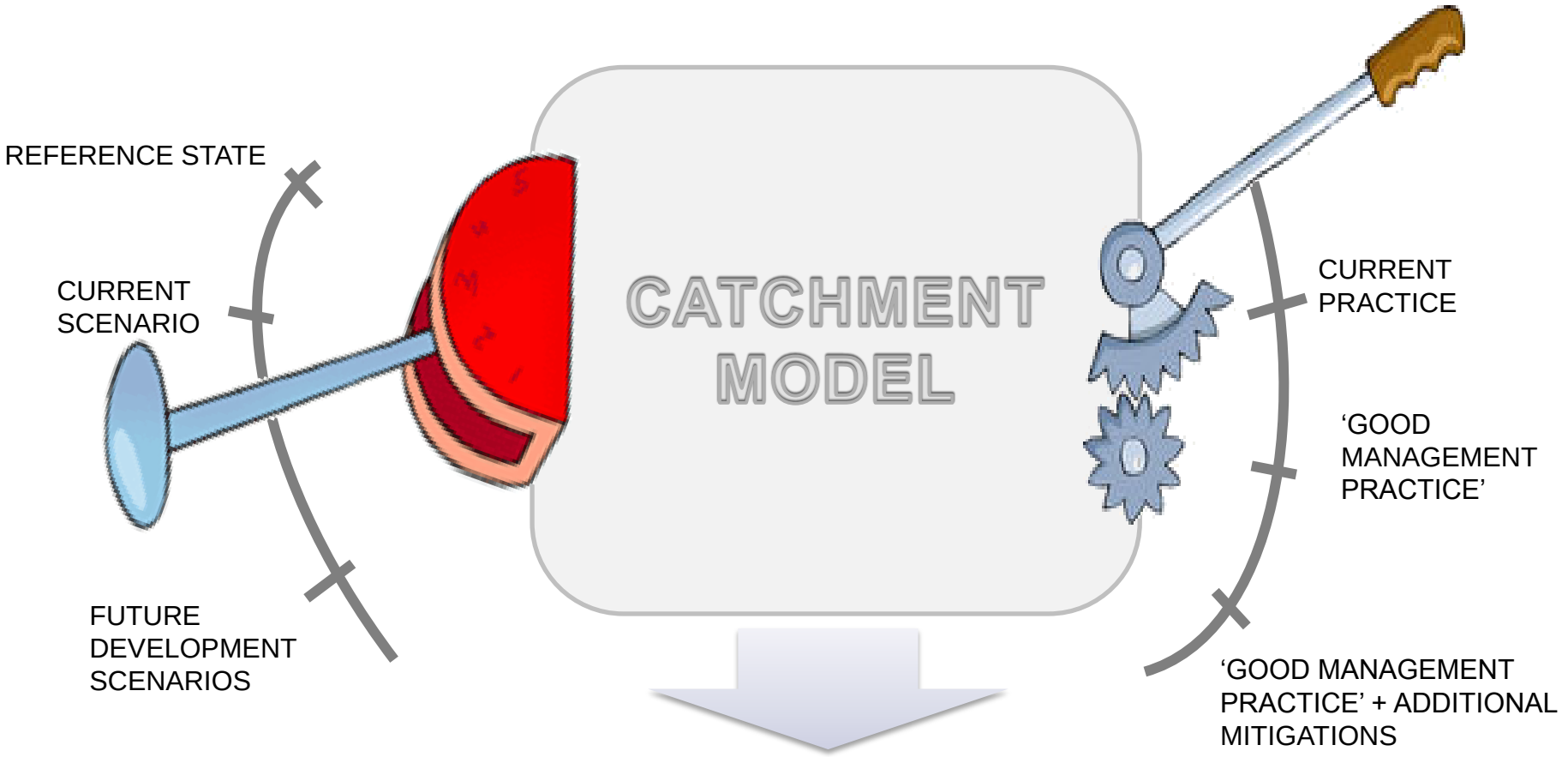
# Catchment modelling - introduction

# Catchment Models



# Land (and water) use

# Management practice



# Reference state & scenarios

| A. Reference state | A | | |
|---|---|---|---|
| | 0<br>Current practice | Mitigation and management | |
| | | 1<br>Good Management Practice (GMP) | 2<br>Good Management Practice plus other mitigation (GMP+) |
| B. Current land & water use | B0<br>(status quo) | B1 | B2 |
| C. Future development land & water use | C0 | C1 | C2 |

# Approach to developing scenarios


**Start from documented growth projections and defined GMPs/options identified, adjusted/narrowed down based on iwi and stakeholder engagement**

Community groups

Tangata whenua

Co-governance fora

Territorial Local Authorities

Major resource users/ environmental NGOs/ industry groups

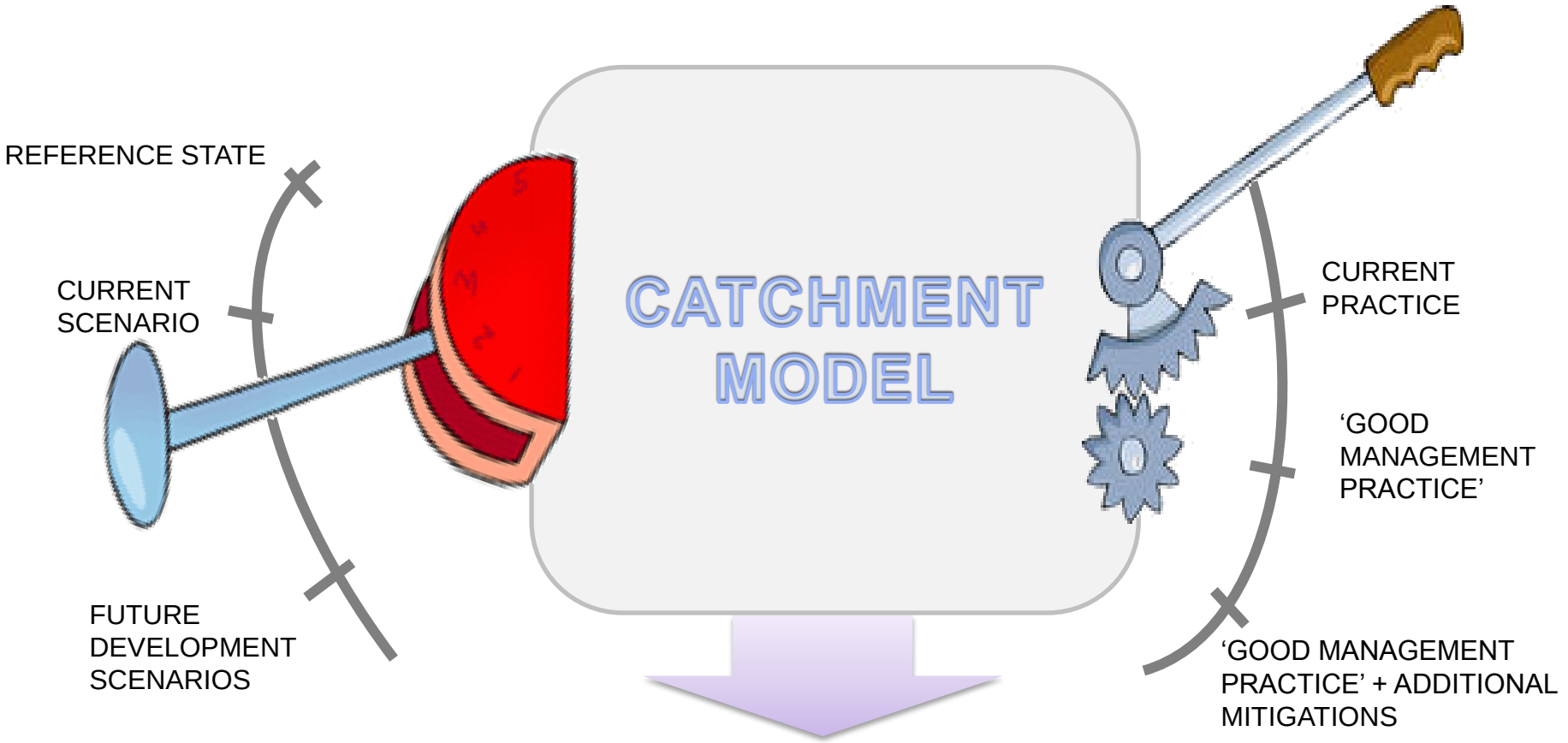

Ministry for the Environment
Manatū Mō Te Taiao

Ministry for Primary Industries
Manatū Ahu Matua

# Reference state

# Land (and water) use

# Management practice



# Reference state

**Assumes no "human induced" discharges or water use**

Used only to check what water quality and quantity we might expect if there were no human sources/takes so:

- we can account for all that is "human induced"
- we set realistic objectives

## Legend

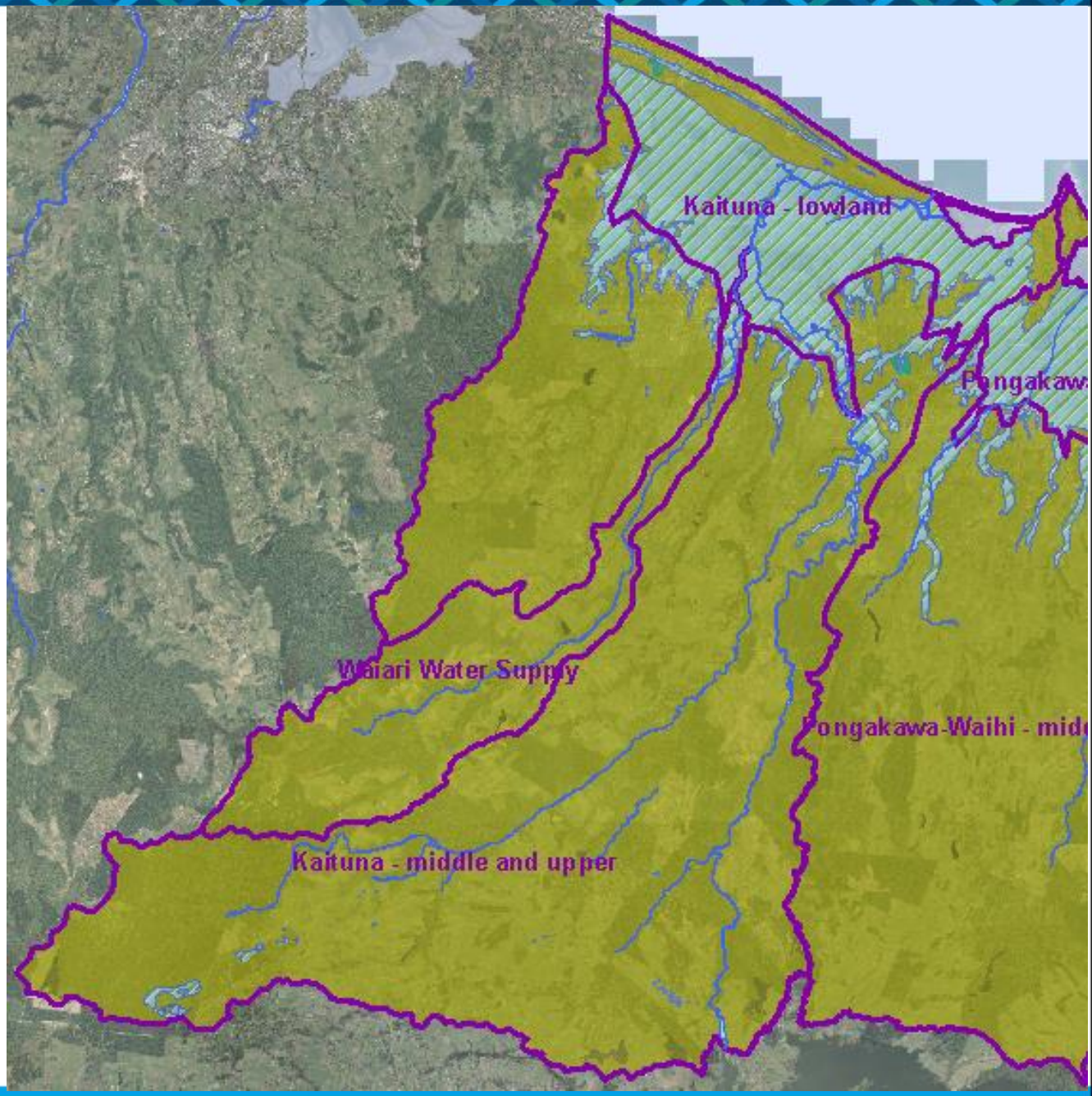
Draft FMU boundary

## Land Use

wetland

forest native

water



Any:

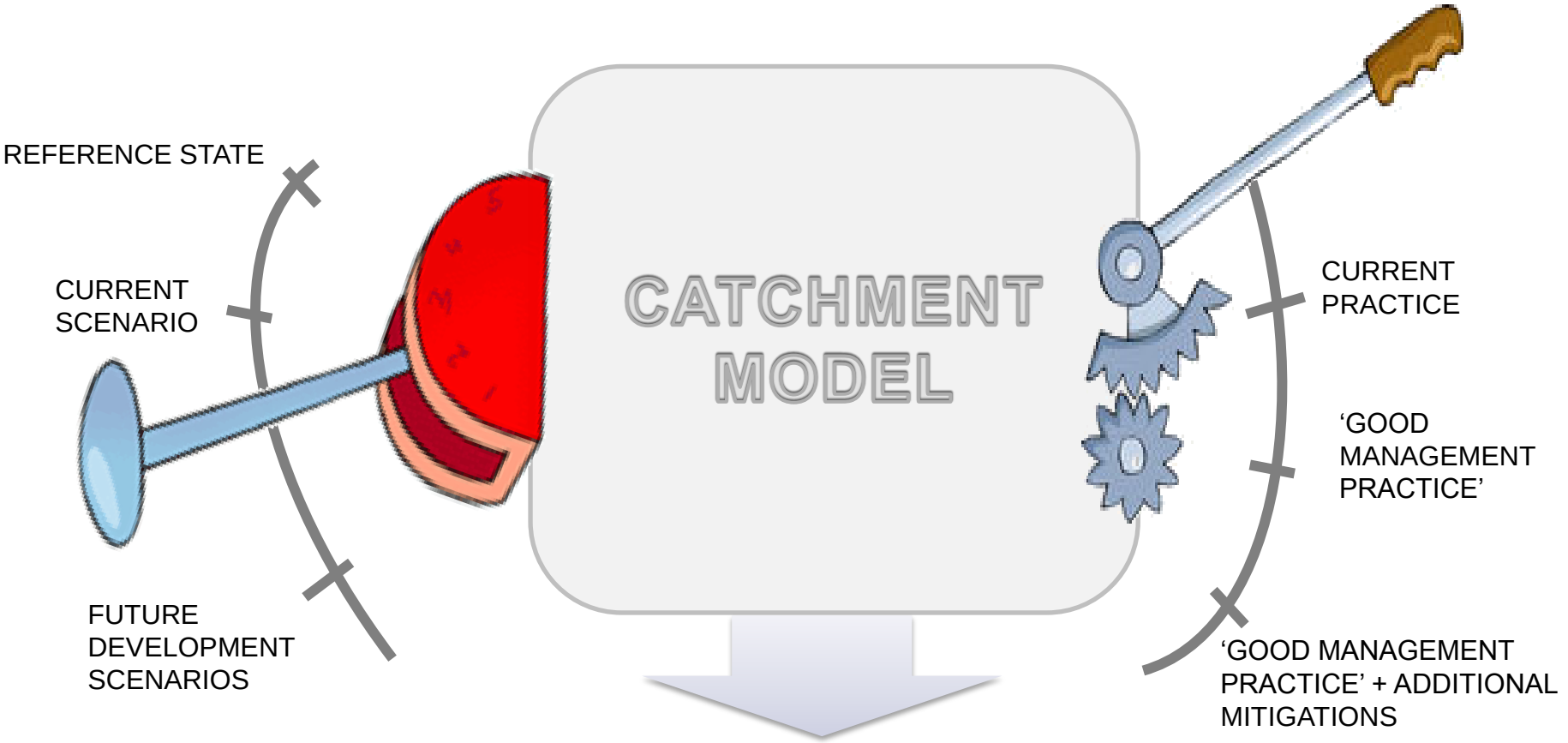
- thoughts
- questions

# Scenario:

## Current land and water use

# Land (and water) use

# Management practice



# Current land and water use

***What will happen to water quality and quantity, and freshwater values if nothing changes?***

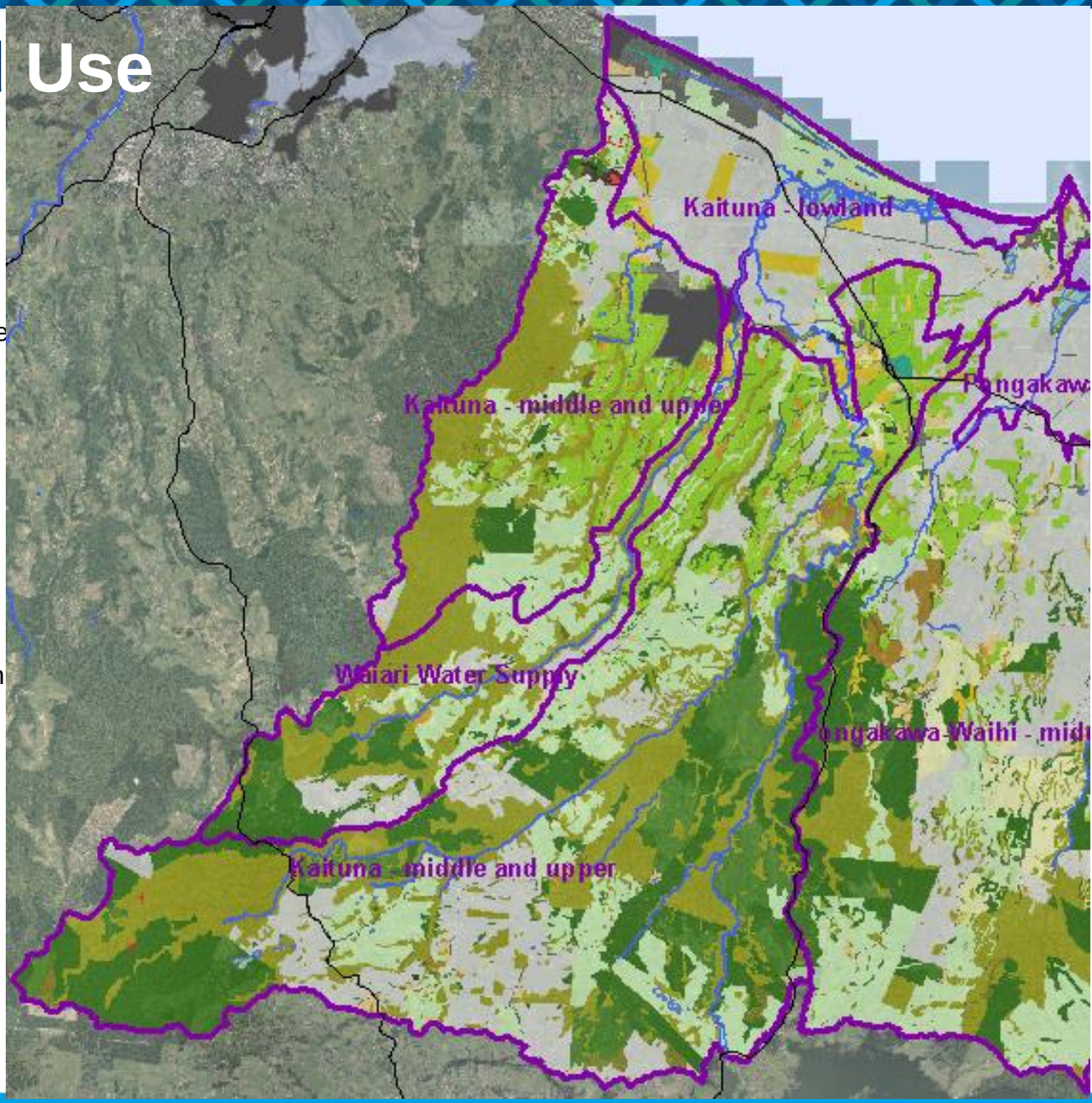
Assumes:

- Land use remains the same
- Water use / demand [remains the same]
- Point discharges  (e.g., from industry) remain the same
- No new rules or other methods to manage fresh water

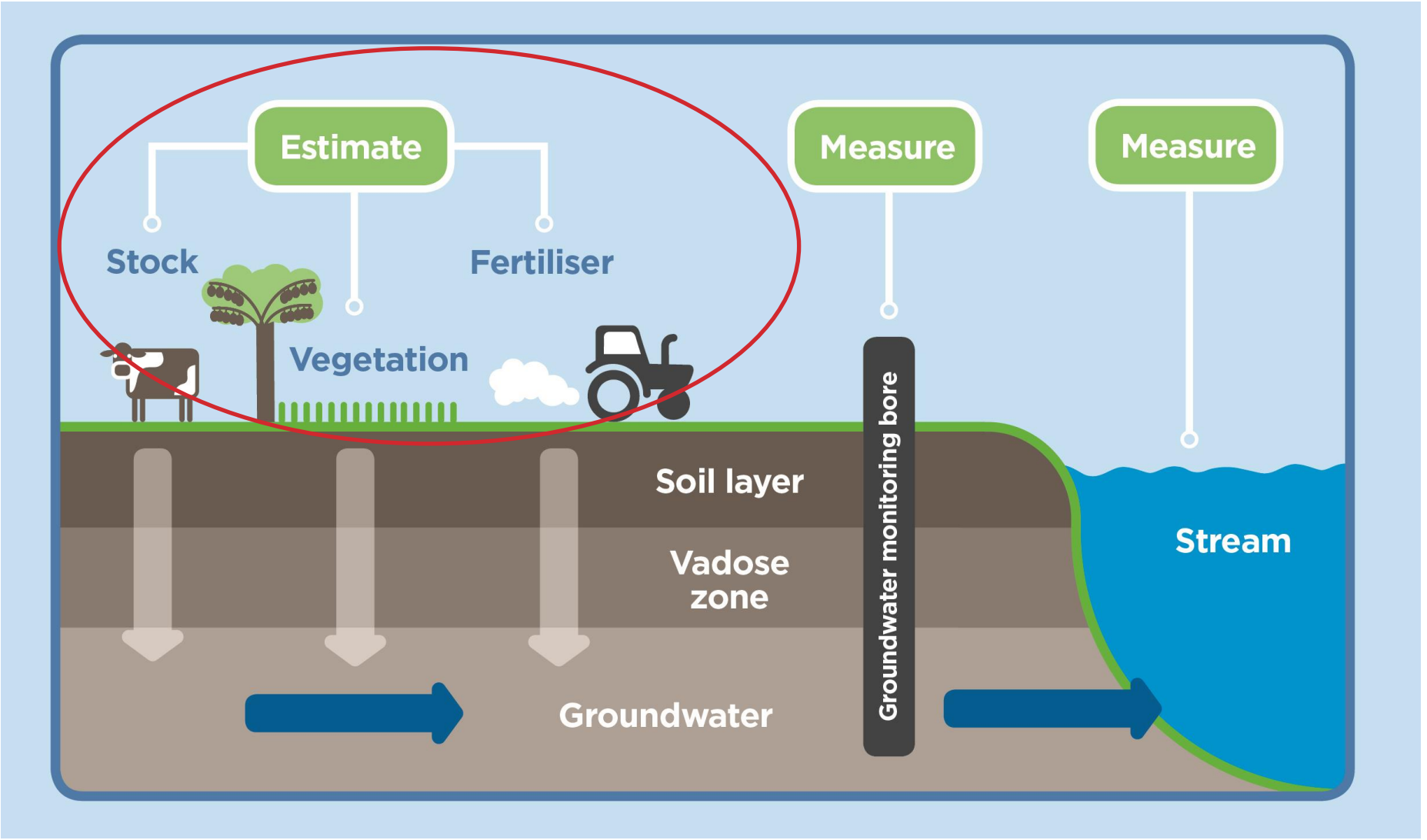
# Current Land Use

## Land Use

- not confirmed
- lifestyle block or mixed landuse
- orchard or permanent horticulture
- kiwifruit
- arable
- dairy
- deer
- forest exotic
- forest native
- high intensity beef or dairy grazin
- water
- other
- parks and reserves
- scrub
- sheep and beef
- urban/road/rail
- vegetables
- wetland



# Estimating nitrogen inputs from land uses



# Activity: Current Land Use Practices

**Process**

1. Break into sector group that you connect with -
   *dairy - sheep&beef - kiwifruit - arable maize - vegetables - other?*
2. If not a grower/farmer then join a group and question/learn
3. Discuss in group - note any changes on worksheet
4. 10 mins at first sector then visit any others you can add to
5. Share back key significant change identified

# Questions:

## In your opinion:

- do the assumptions reflect what is going on in the catchment, **on average**?
  - if not an accurate reflection, then are you able to point us to some information/evidence that will support your opinion?

…on average

- is practice in one part of the catchment **so different** from another part that we should have two different sets of assumptions for the same land use?

…needs different

# Feedback

Share back the major changes identified for your sector

# Actual Water Use Estimates

- Horticulture and agriculture irrigation
  - modelled estimates and metered data
- Commercial/industrial
  - metered data
- Municipal water supply
  - metered data
- *Stock drinking*
  - *est. stock number x volumes*
- *Dairy shed wash down*
  - *metered and est.*
- *Domestic drinking*
  - *est. volume x people (excluding municipal supply)*

Any:

- general comments
- questions

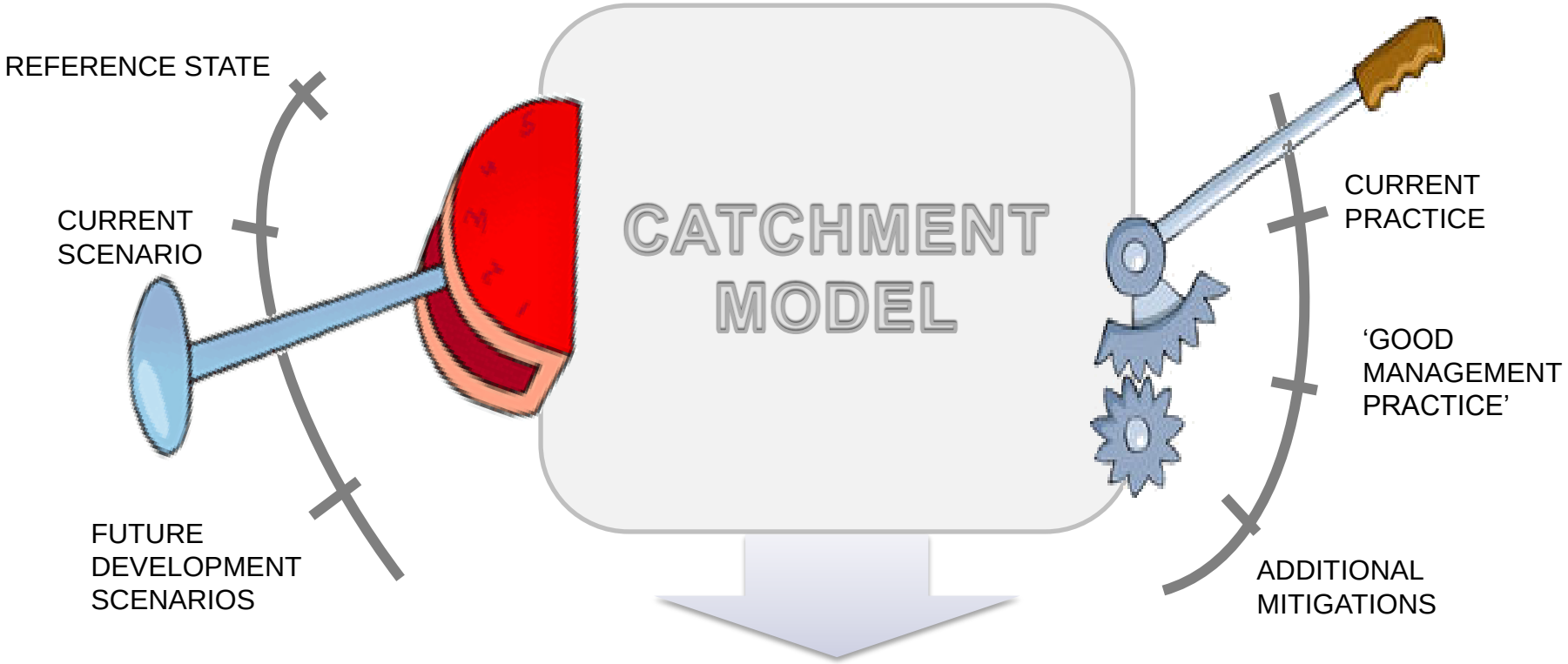
# Scenario:

## Future development

# Scenarios: exploring alternative futures

**Land (and water) use**

**Management or mitigation practices**




*Water quality, flow and resource use estimates*

# Future Development Scenario

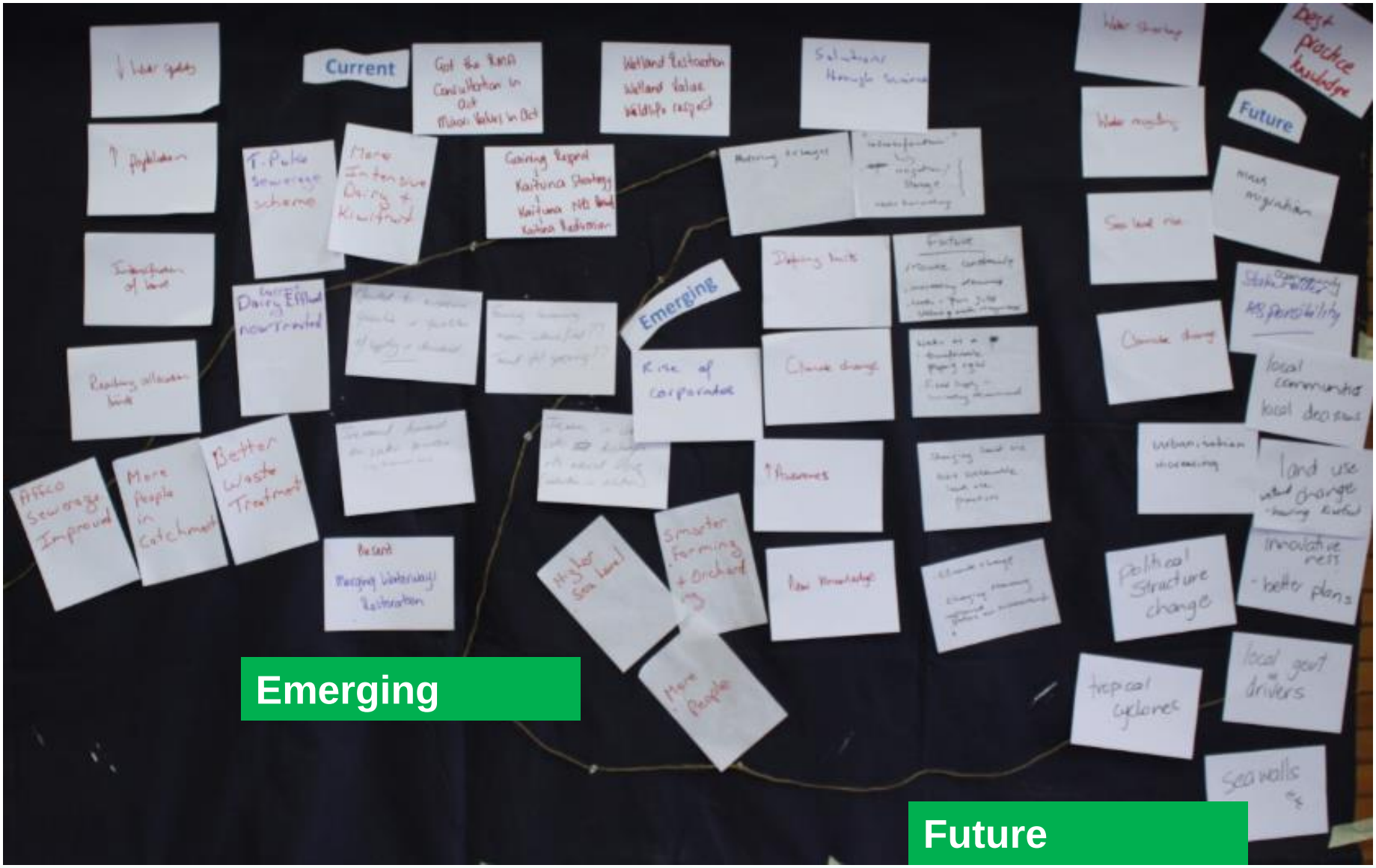
Used to test ….

*what will happen to water quality and quantity,*

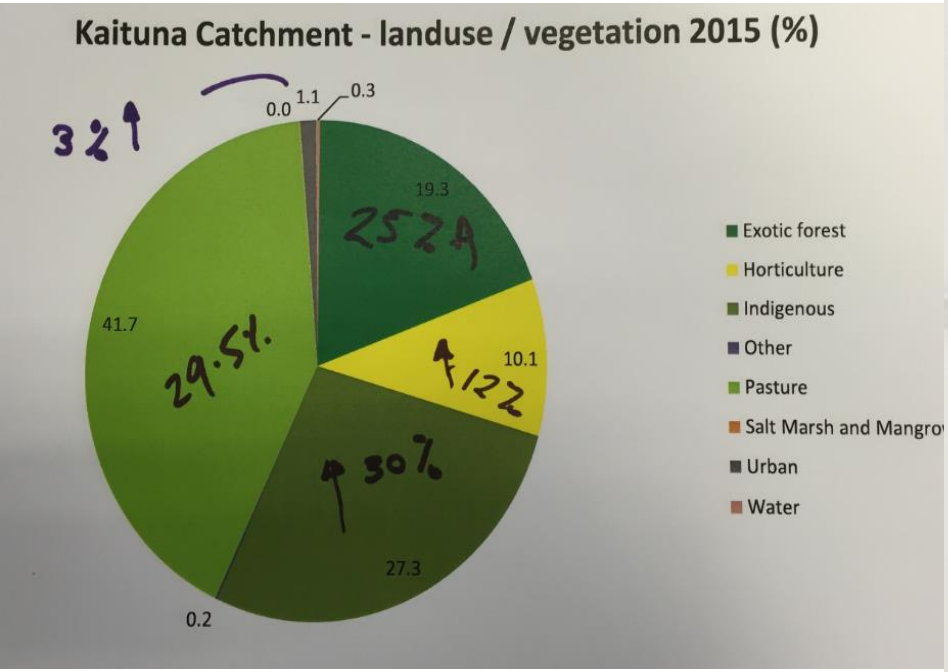
*and our values in the future if "likely/credible"*

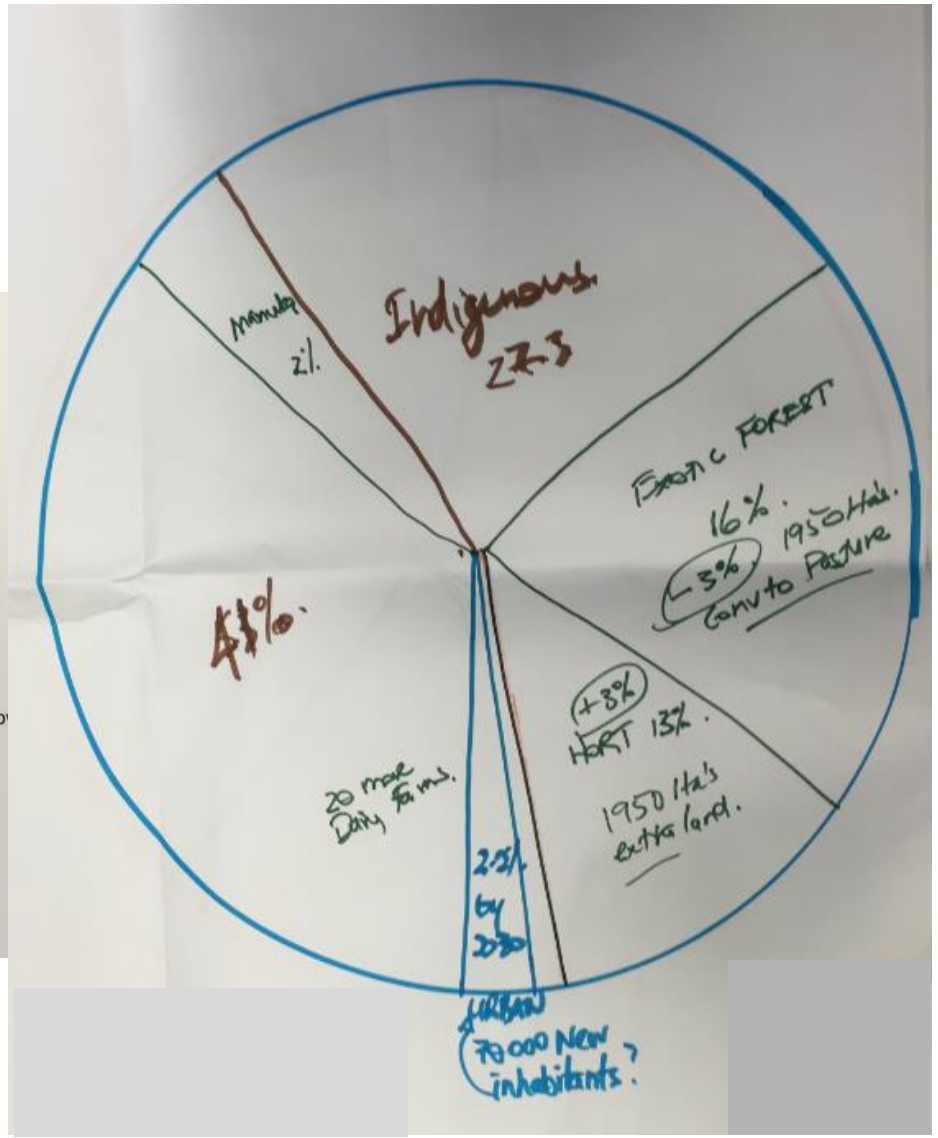
*future land and water use change*

# Workshop 1: Credible futures Kaituna/Maketū

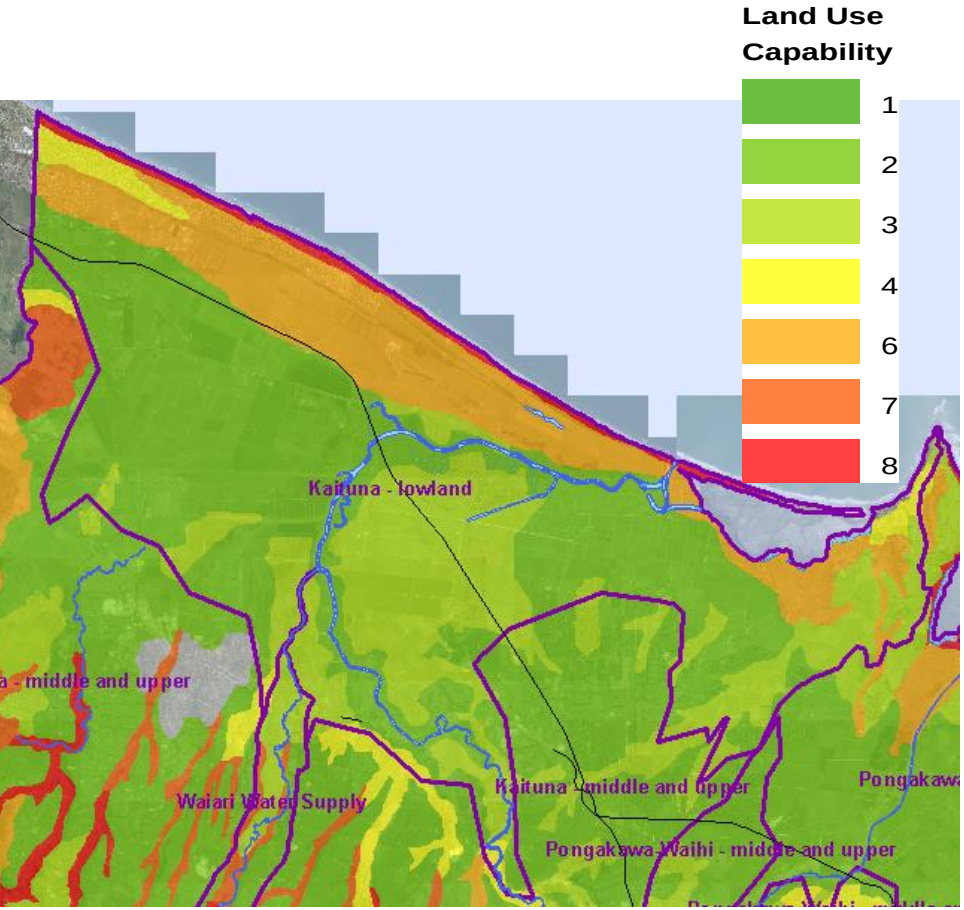


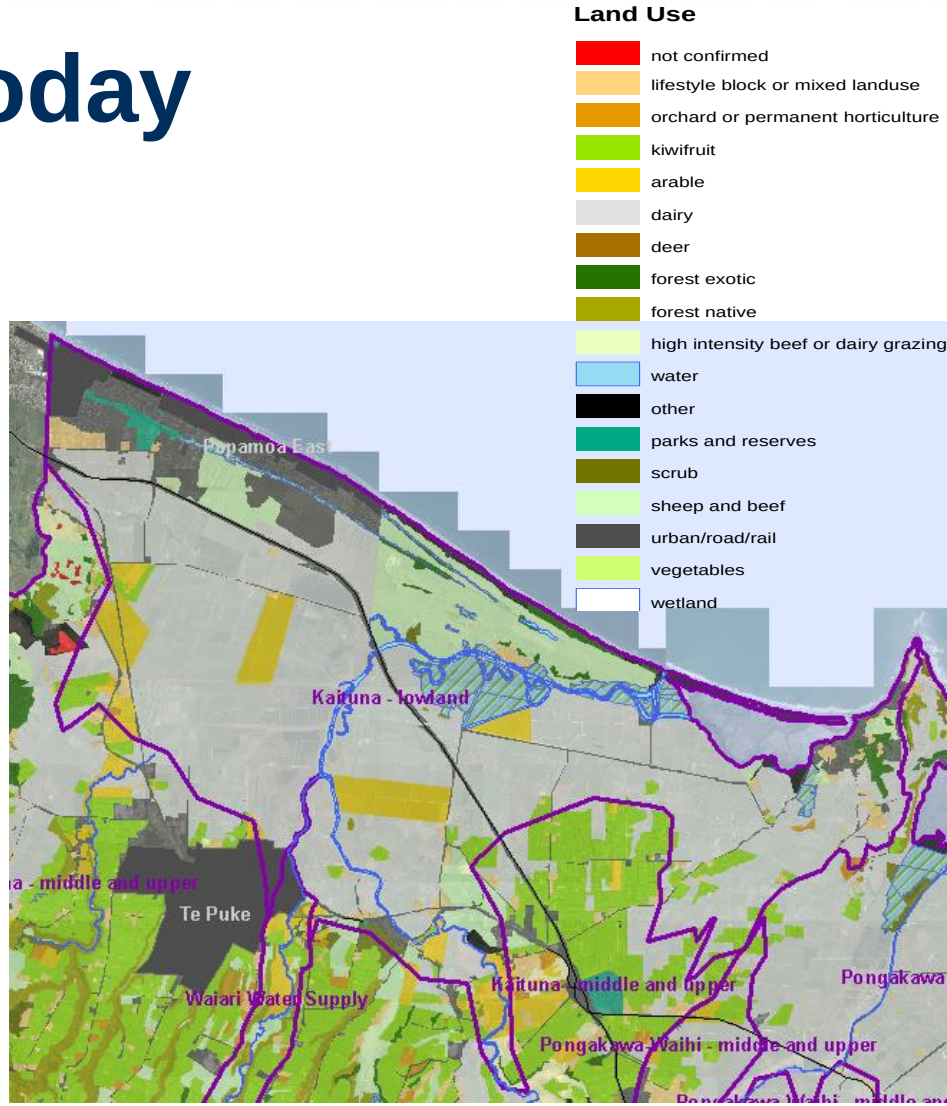
# Workshop 4: Credible futures 2030



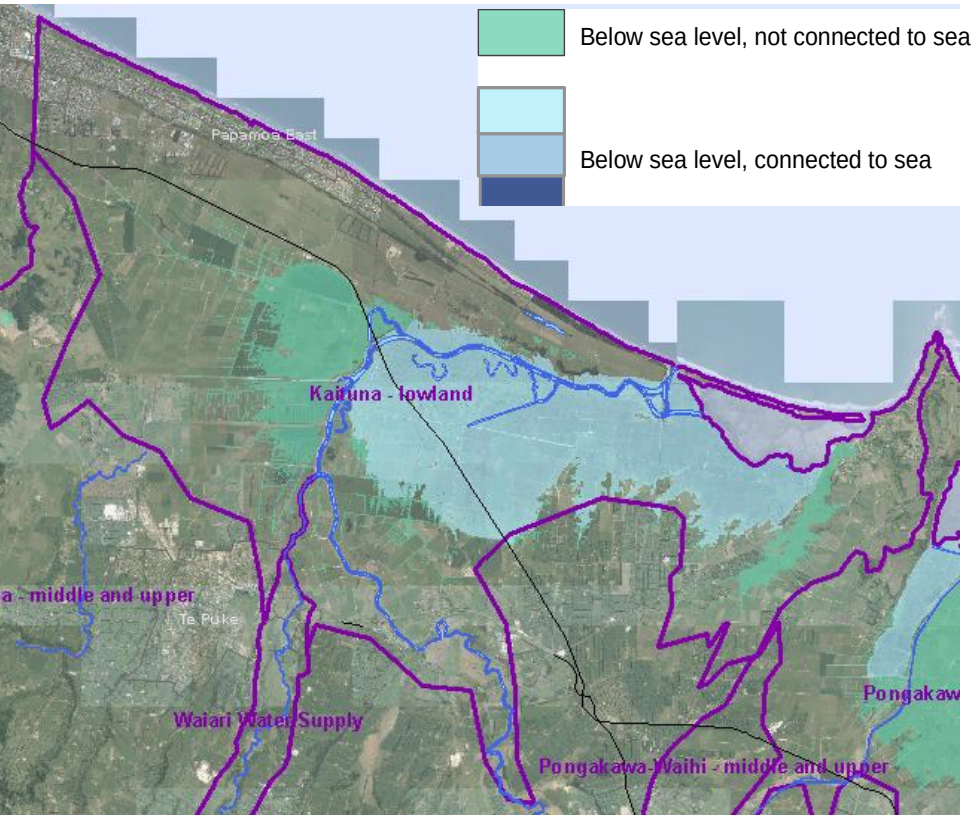



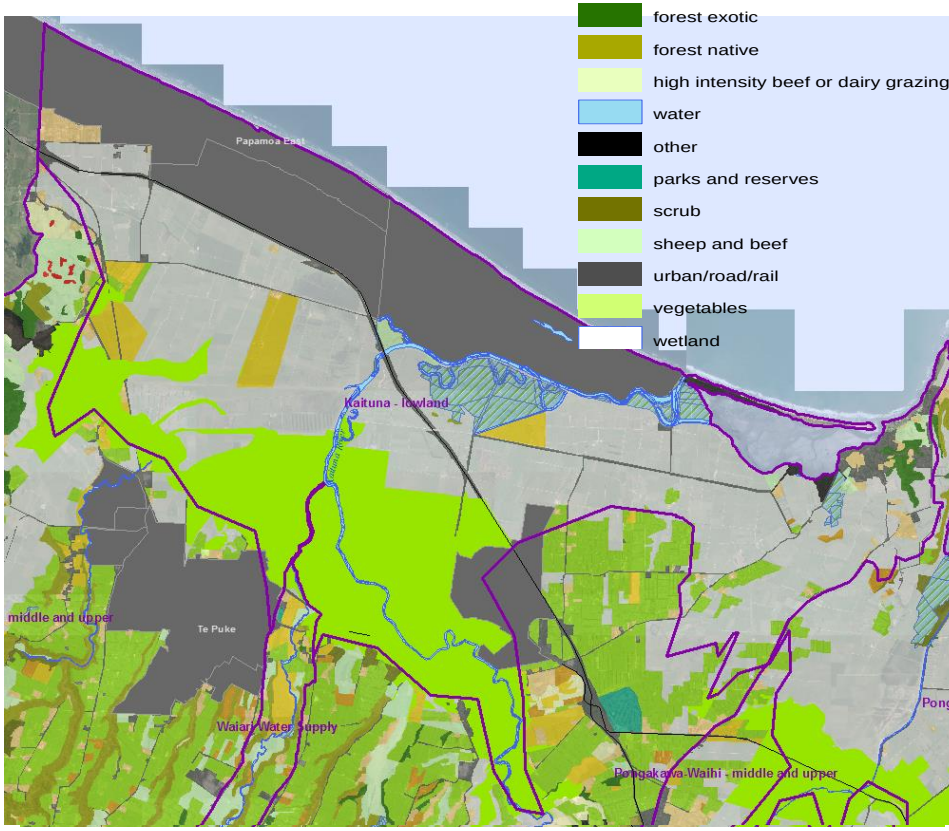
# Kaituna lowland - today



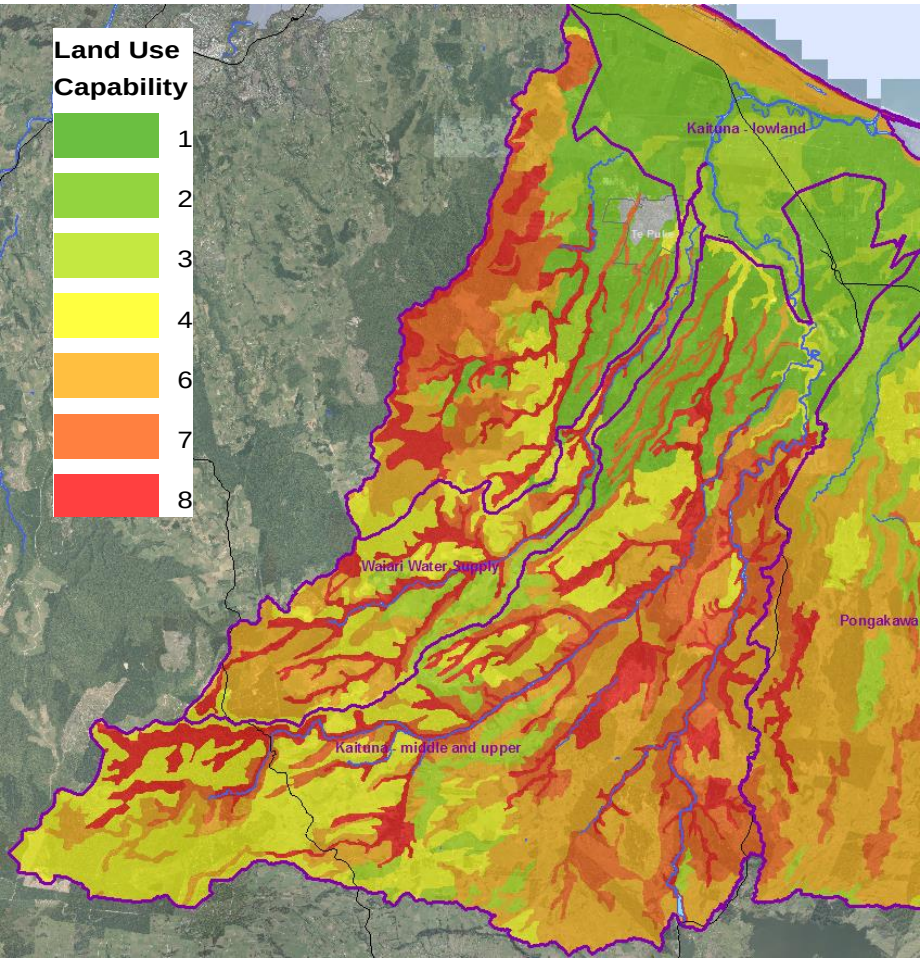



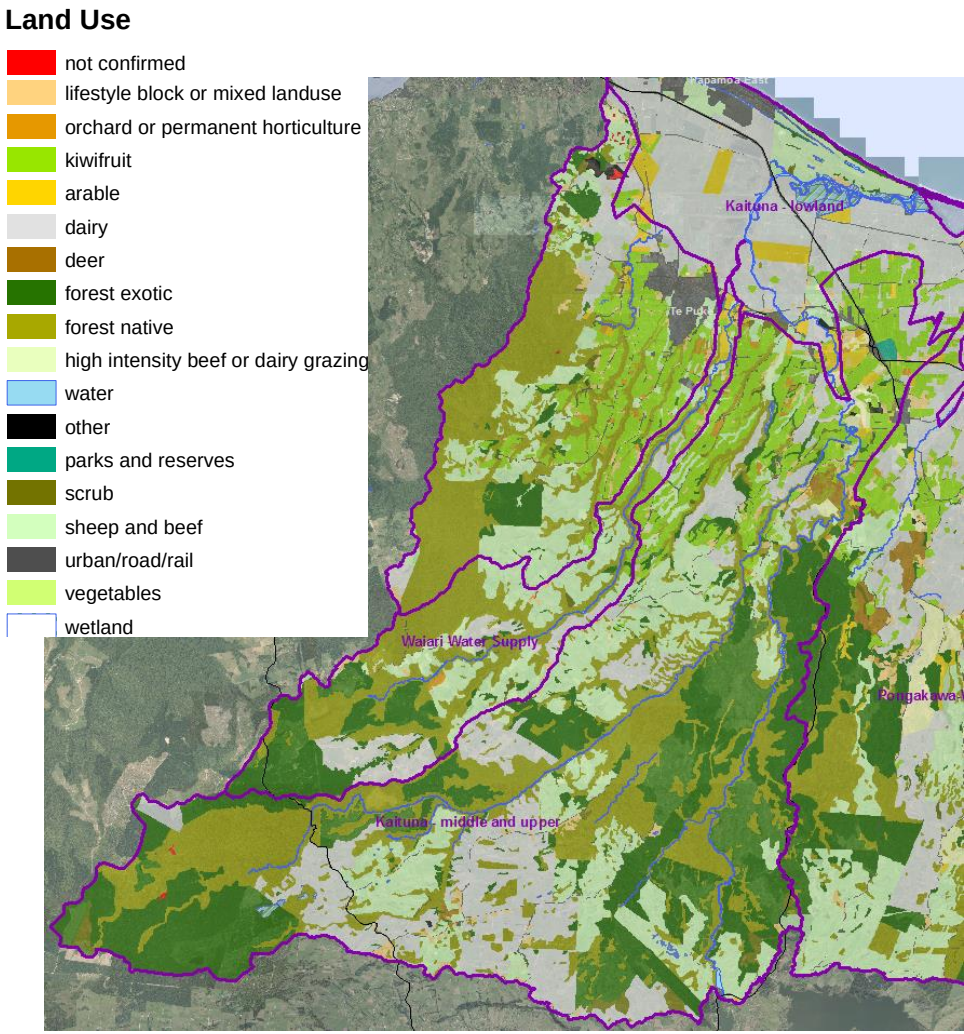
# Lower Kaituna - circa 2050?



# Mid-upper Kaituna/Waiari - today

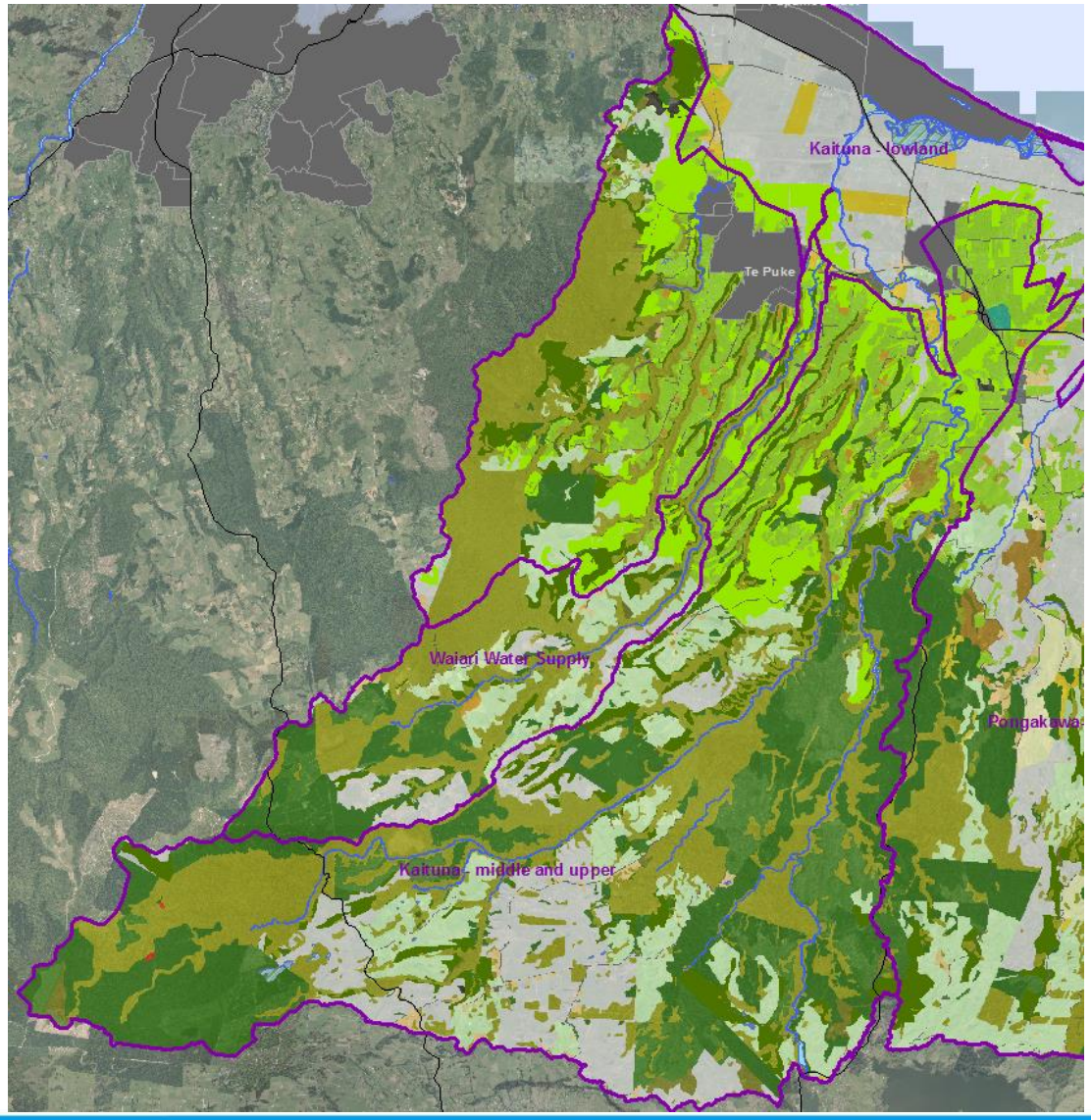


# Mid-upper Kaituna/Waiari - circa 2050?

## Land Use

- not confirmed
- lifestyle block or mixed landuse
- orchard or permanent horticulture
- kiwifruit
- arable
- dairy
- deer
- forest exotic
- forest native
- high intensity beef or dairy grazing
- water
- other
- parks and reserves
- scrub
- sheep and beef
- urban/road/rail
- vegetables
- wetland



# Activity: Future Development Scenario

*The maps show future land use expected in 2050*
*(based on current policy and trends).*

**Which future land uses should be changed and why?**

Activity:

1. In pairs/trios - go to 'your' FMU
2. Check maps **Lower Kaituna** **Mid-Upper Kaituna/Waiari**
3. Use maps, discuss and note any **credible future changes** on worksheet *(geographically and assumptions)*
4. Share back any key significant changes

Feedback…
any key changes


# Management options & criteria

# Management Options

*SEDIMENT - NUTRIENTS - QUANTITY - PATHOGEN*

- Based on the criteria, which options should:
  - definitely **BE** considered
  - perhaps **NOT BE** considered

| | √one per row | | √one per row | |
|---|---|---|---|---|
| | **BE** considered | **NOT BE** considered | **GMP** | **GMP +** |
| etland | | | | |
| | √ | | √ | |
| | | | | |

- Which options should be:
  - standard/expected practice (e.g. **GMP**) and
  - or possibly beyond standard practice (e.g. **GMP+**)?

# Proposed assessment criteria

| | |
|---|---|
| 1. | Effectiveness – environmental outcomes |
| **2.** | Effectiveness – socio-economic outcomes |
| **3.** | Distribution of costs and benefits |
| **4.** | Practicality |
| **5.** | Adaptability for landowners |
| **6.** | New entrants, and development by existing users, allowed for within environmental constraints |
| **7.** | Tangata whenua assessment |
| **8.** | Consistency with other initiatives and obligations |
| **9.** | Resilience to climate change |
| **10.** | Administrative/staff resourcing costs |

# What’s next?

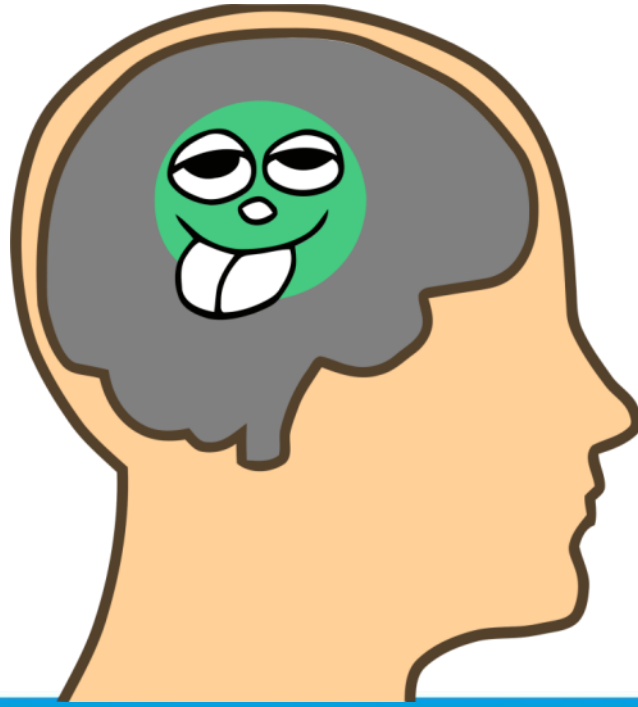
# Next steps

- Catchment model outputs
  - Water quality now and future
  - Water quantity now and future
  - Contaminant sources now and future
  - Water users now and future
- What does this mean for in-river and use values?
- Mitigation scenarios
  - aim to serve all values
  - in reality, there will be costs and benefits to weigh up

# Summary

Today we have…..

Any burning questions still unanswered?

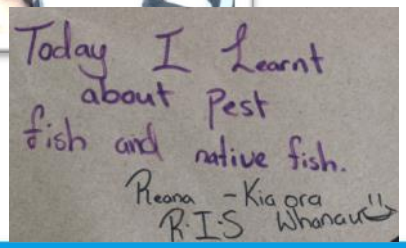


# Hands on Water *All welcome*

Thursday 9 November between 11.00 - 2.00

Redwood Valley, Allport Rd, Pongakawa

RSVP kerry.gosling@boprc.govt.nz


# Thanks once again

- In closing…
  - Any feedback to us on this session?
- Next session early December
- Talk to others ……
  - The key highlight/achievements from this session
  - Ask - what would they have added to the session?