NPS-FM 2014
National Objectives Framework 101

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Outline

- NOF= National Objectives Framework – how to implement the NPS-FM
- Key decisions to be made within framework
- Sources of information
- How existing work fits into the national framework
- Conceptual – with examples

NOF in a nutshell

1. What are we managing our water bodies for? (our values and our objectives)

2. What attributes are important for our values/objectives?

3. What state do the attributes need to be?

4. What is the current state of these attributes?

5. How do our desired and current states compare?

6. What are the threats and risks to attributes/objectives?

7. How can we manage the attributes and threats/risks?

8. Can we afford it, will this be effective?

Our Values – it's a Pick and Mix

- NOF has 13 National Values, 2 compulsory:
  - Ecosystem Health (river, lake, wetland or aquifer)
  - Human health for recreation (secondary contact)

- Values in TRMP (Sch. 30A & 30B):
  - ~9-27 categories – many similar to the NOF values
  - 6-9 additional values – may not easily fit into NOF
- Others identified by communities (or FLAGs)
- Pick and mix which values are important for each water body
- Example Values: Swimming and Stock Water

1. What do we want to manage the Takaka WMC water bodies for? Our Values and Objectives

Eg. Takaka River

Values	Swimming	Stock water	Value C	Value D…
Objectives	Water is suitable for Swimming at all times.	Except in times of drought, water quality provides for stock watering.	Except in times of drought, water quality provides for Value C.	Water quality provides for Value D.

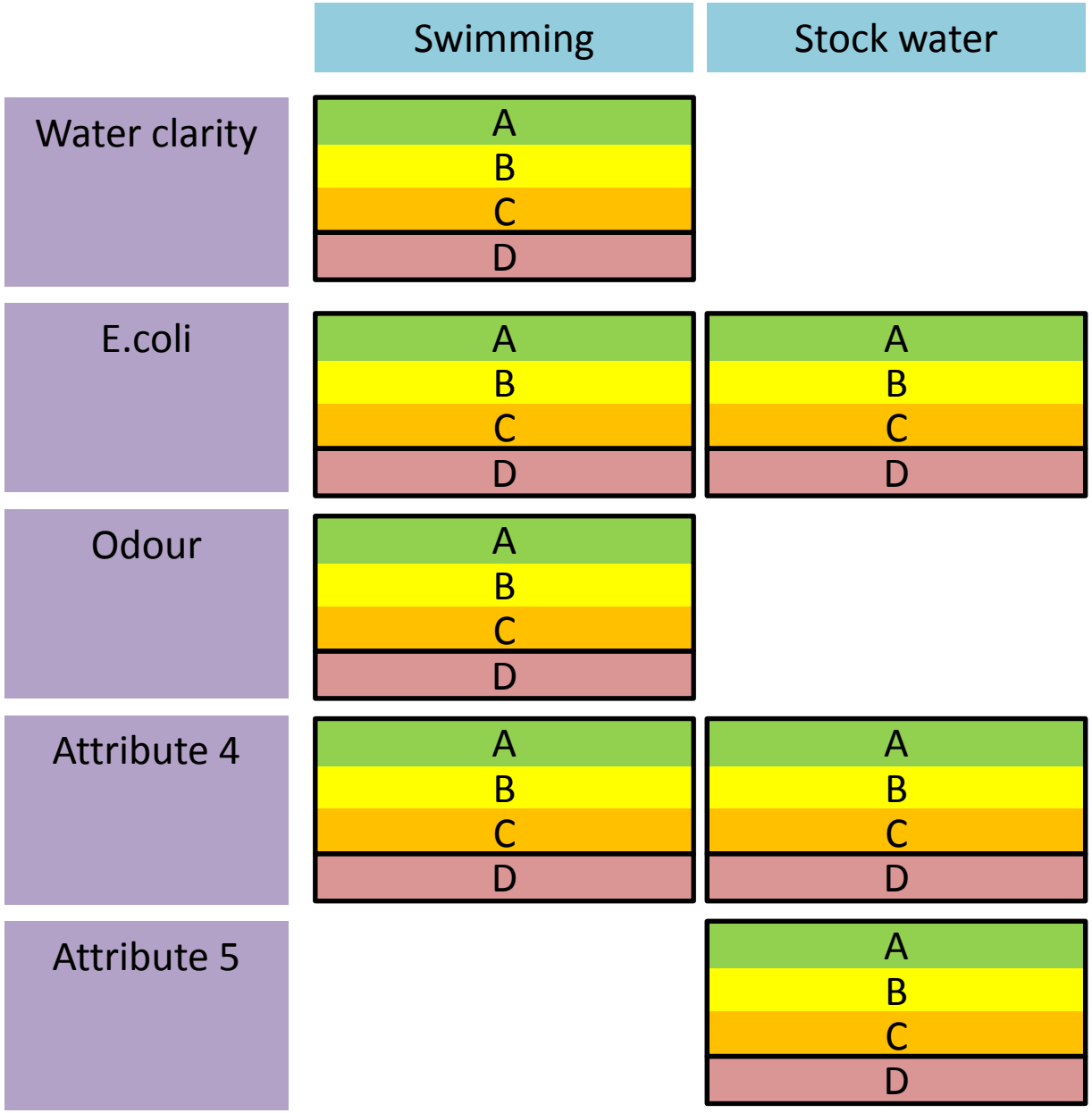
2. What attributes are important for our values/objectives?

	Swimming	Stock Water	Value C
Visual Clarity			
E.coli			
Odour			
Attribute 4			
Attribute 5			

Where do the attributes come from?

- Historic – eg ANZECC (Australian & New Zealand Guidelines for Fresh and Marine Water Quality 2000), drinking water standards, MfE guidelines etc
- TDC State of Environment monitoring -based on recognised monitoring methods and programmes
- NPS-FM NOF – gives some for the compulsory values for rivers and lakes
- Water users (FLAG)– what is important for the values identified? (eg. No bacteria for swimming)
- NOF has prescribed a four category grading system for attributes

Attributes Grades



Four Grades A-D

D is below the **national bottom line**

NPS-FM: No water body is to remain a D unless it is a D due to:

a) naturally occurring processes

(eg. Large water bird populations causing elevated E.coli levels)

b) existing infrastructure listed in the NPS-FM

(currently we don't have any of these)

Attributes and Grades - example from NOF

For the NOF value **"Ecosystem health" for rivers**
Attribute: **Nitrate (toxicity)** (mg NO_3-N per litre)

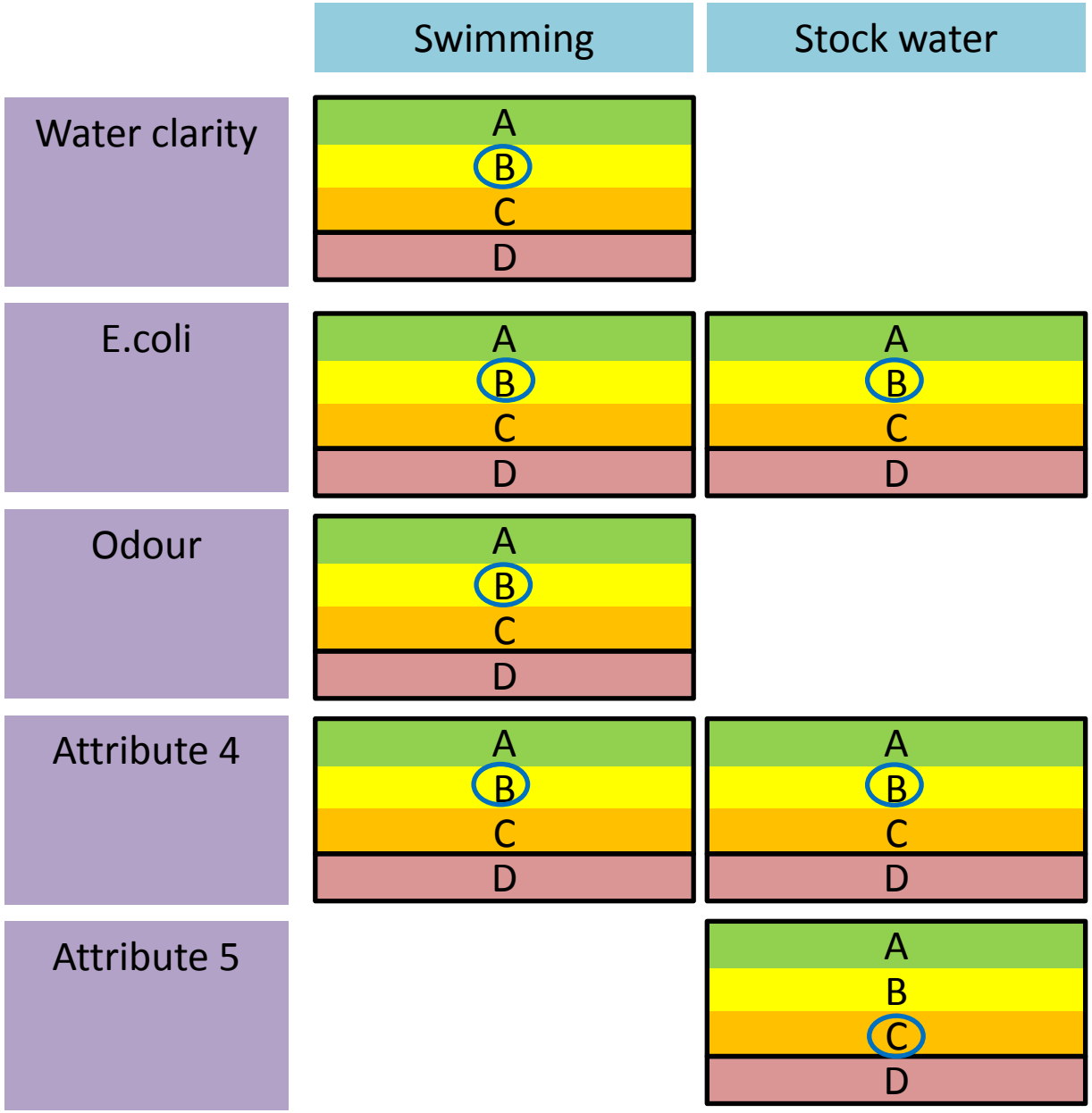
Grade	Annual Median	Annual 95th Percentile	Narrative Attribute State
A	≤ 1.0	≤ 1.5	High conservation value system. Unlikely to be effects even on sensitive species.
B	>1.0 and ≤ 2.4	>1.5 and ≤ 3.5	Some growth effect on up to 5% of species.
C	>2.4 and ≤ 6.9	>3.5 and ≤ 9.8	Growth Effects on up to 20% of species (mainly sensitivity species such as fish). No acute effects.
National bottom line D	>6.9	>9.8	Impacts on growth of multiple species and starts approaching acute impact level (ie risk of death) for sensitive species at higher concentrations (>20mg/L)

The median (middle) of all samples taken in a year are within these values

95% of the time samples are within these values

What the impact will be on the value

3. Attributes States needed to meet our Objectives



Water is suitable for Swimming at all times.

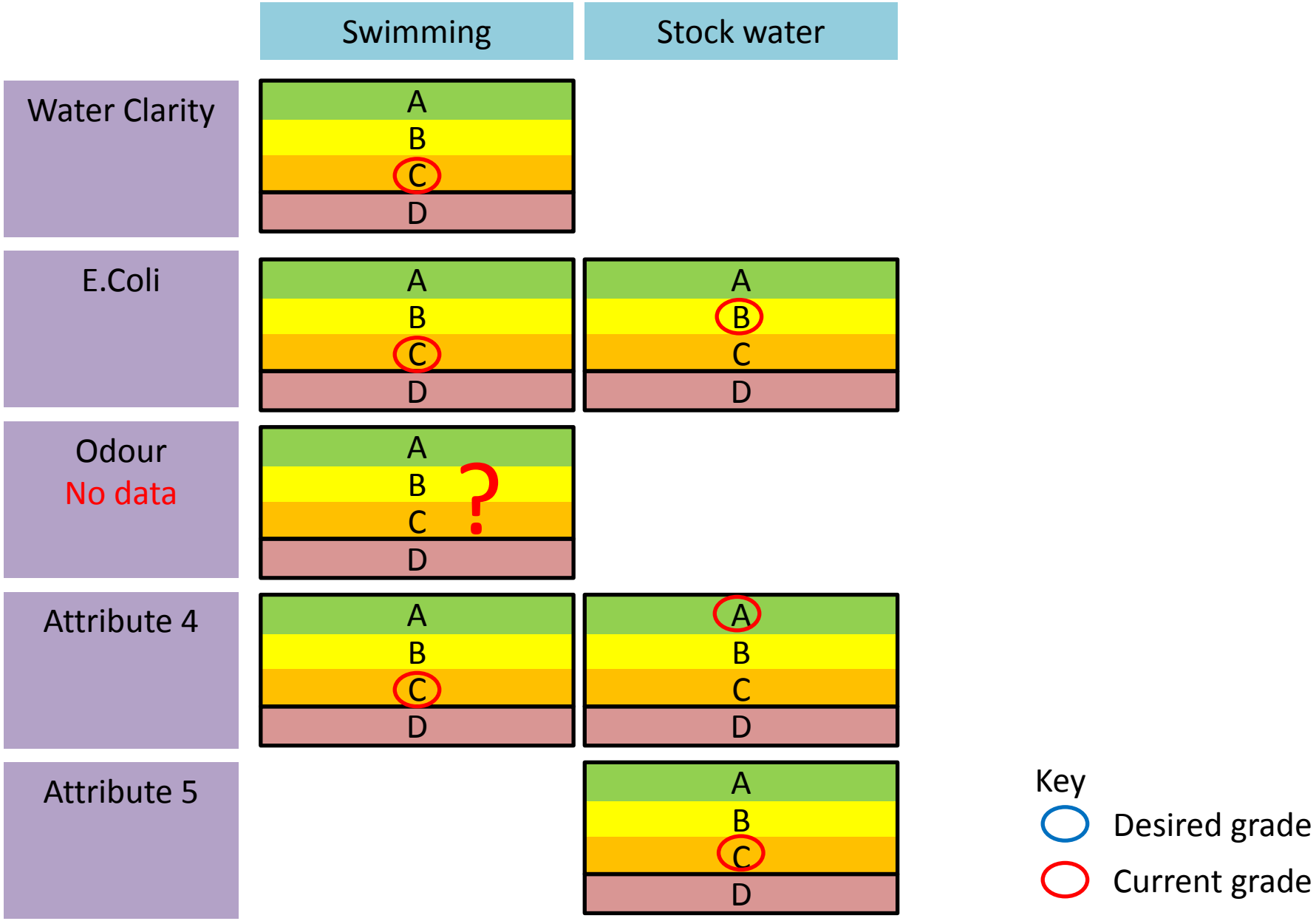
Except in times of drought, water quality provides for stock watering.

Key

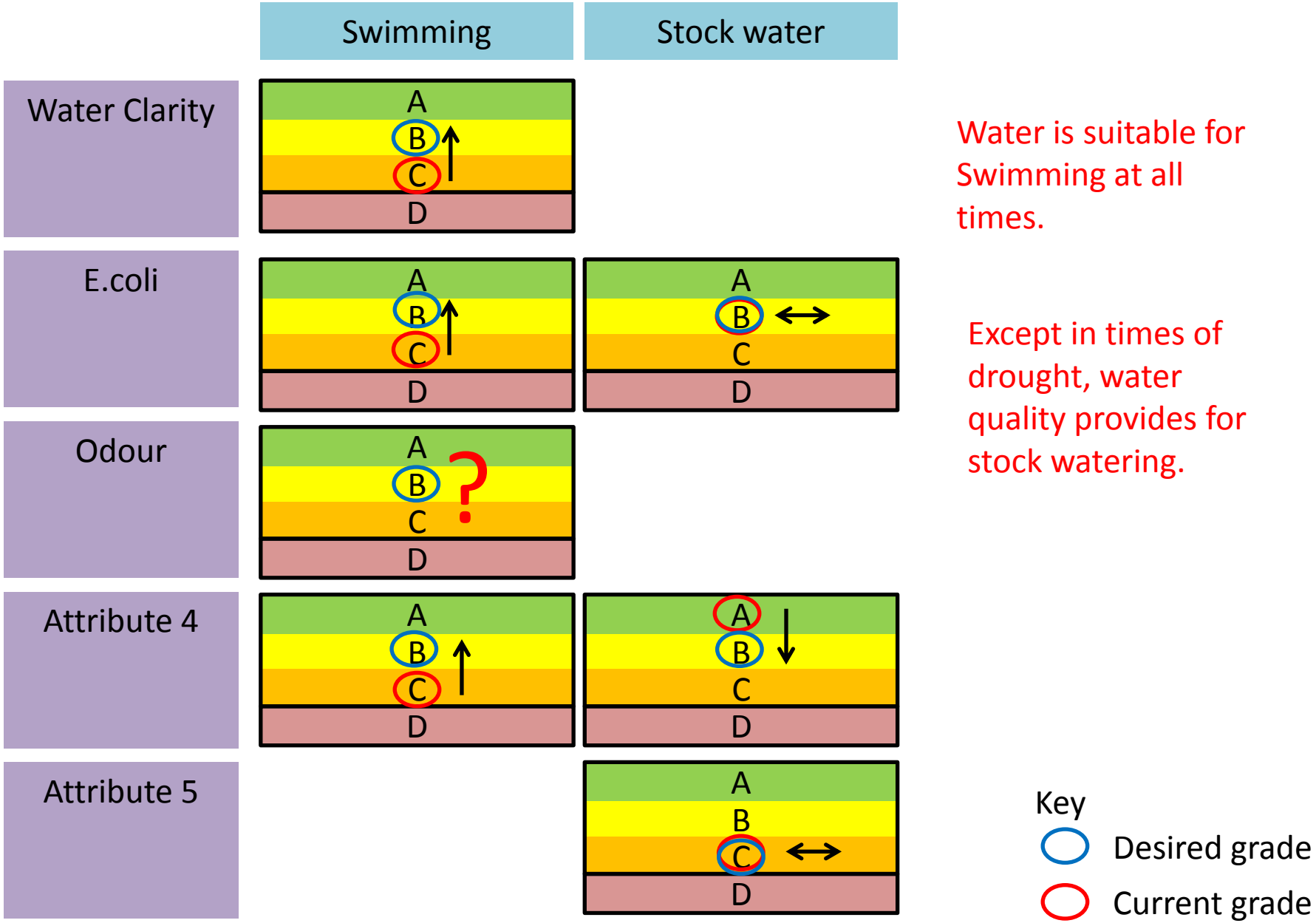
Desired grade

Current grade

4. How are things now? Current attribute states



5. How does were we are compare to where we want to be?



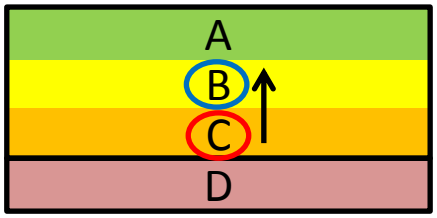
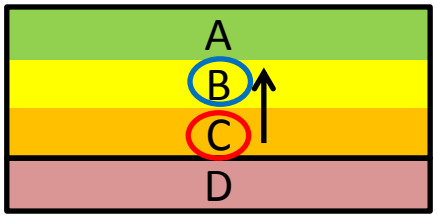
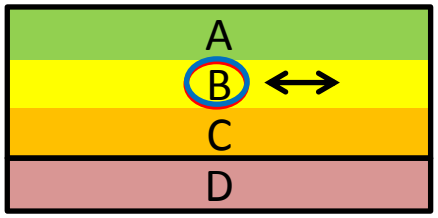
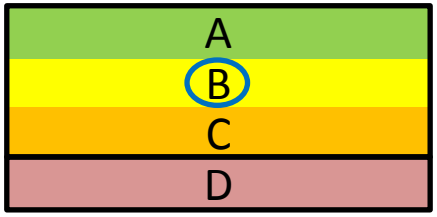
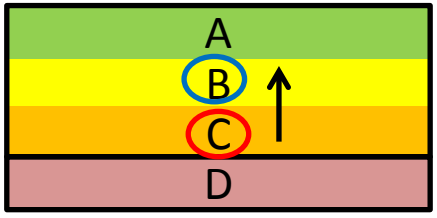
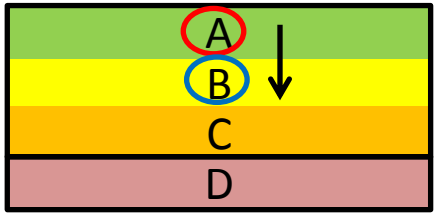
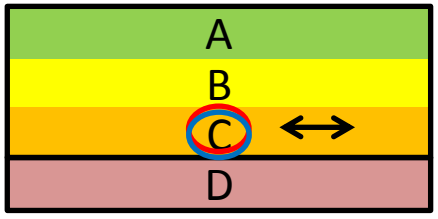
6. Threats & risks to attributes & objectives

- What is/will affect management objectives?
  - Current land use impacts
  - Land use changes – intensification
  - Uncertainty
  - Population changes
  - Interaction and relationships between different uses/values

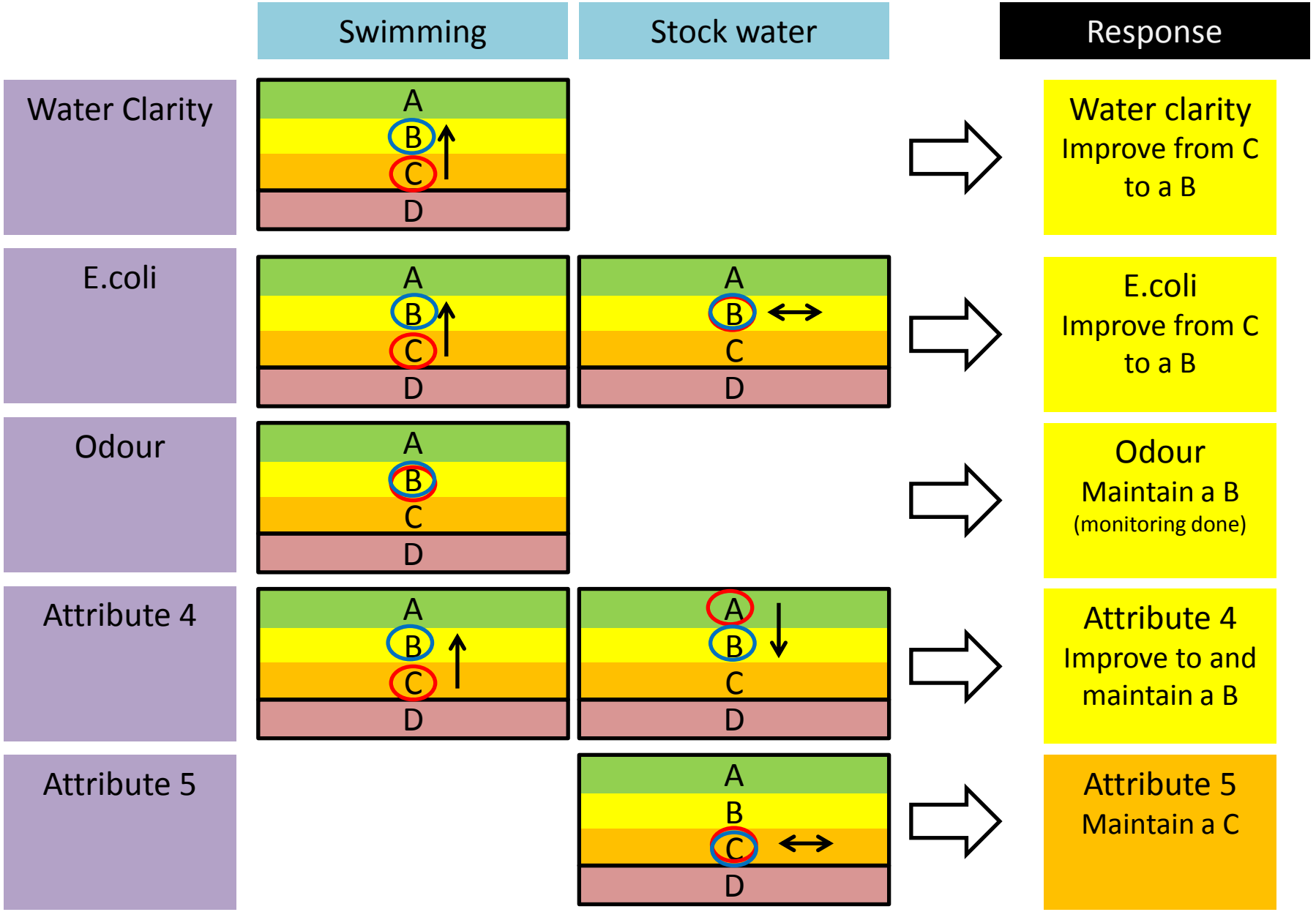
6. Threats & risks to attributes & objectives

- Measuring the impacts
  - Modelling current and potential future nutrient loads and effects of land use changes
  - Provide for uncertainties in models
- Have regard to time lags
  - Effects of different riparian land management
  - Aquifer nitrate dynamics
  - Farm/industry systems change processes/transition
- Ability to influence – TDC, other stakeholders
  - Eg. A Value of Blue Duck habitat affected by predator control or public access for recreation

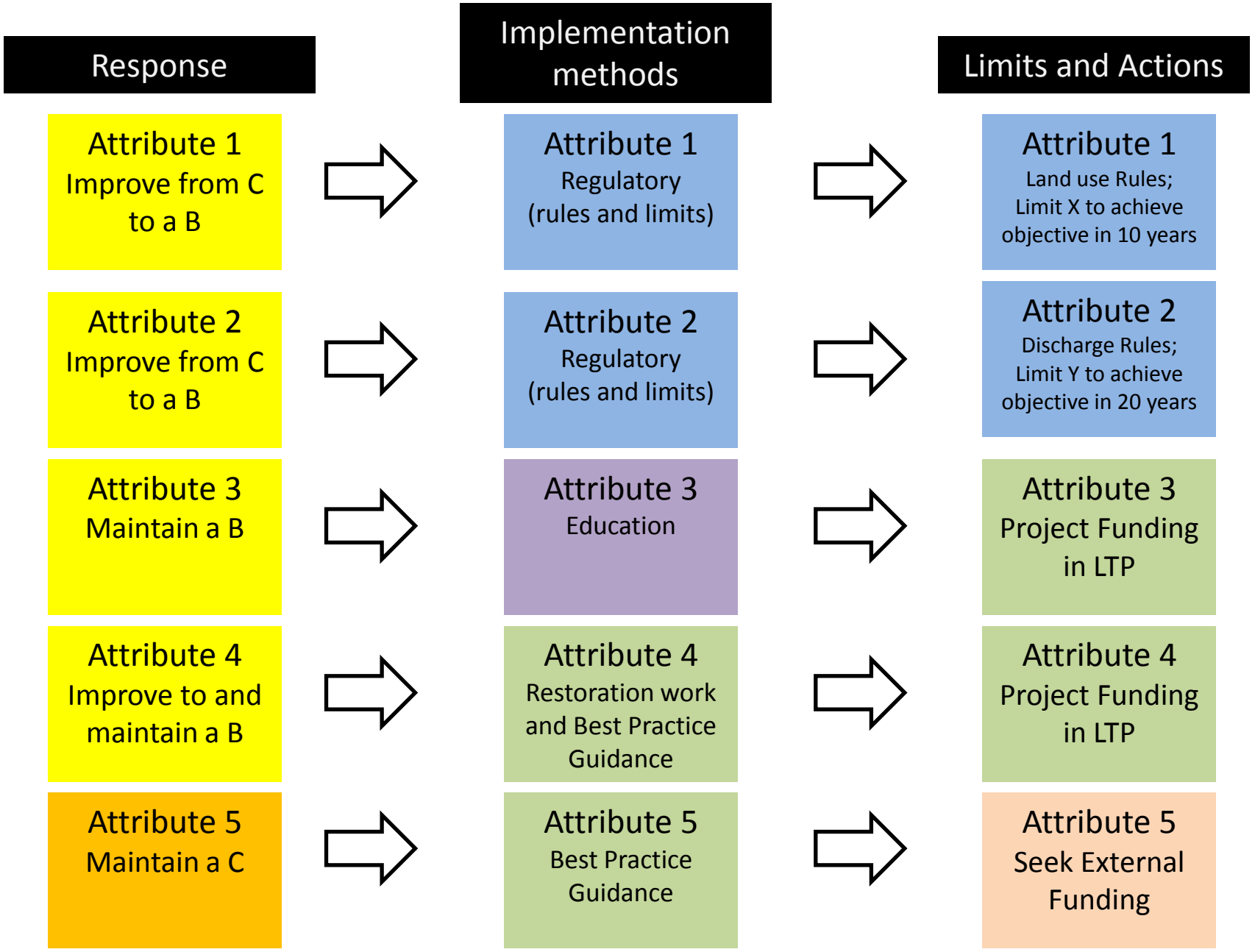
7. What do we need to do to achieve the desired attribute grade?

	Swimming	Stock water	
Water Clarity			Needs active management to improve for swimming
E.coli			Need active management to improve for swimming
Odour			Need to monitor what is current state to identify management
Attribute 4			Needs active management to improve for swimming
Attribute 5			Needs active management to maintain for stock water

7. Overall Management Responses



7. Implementation Methods

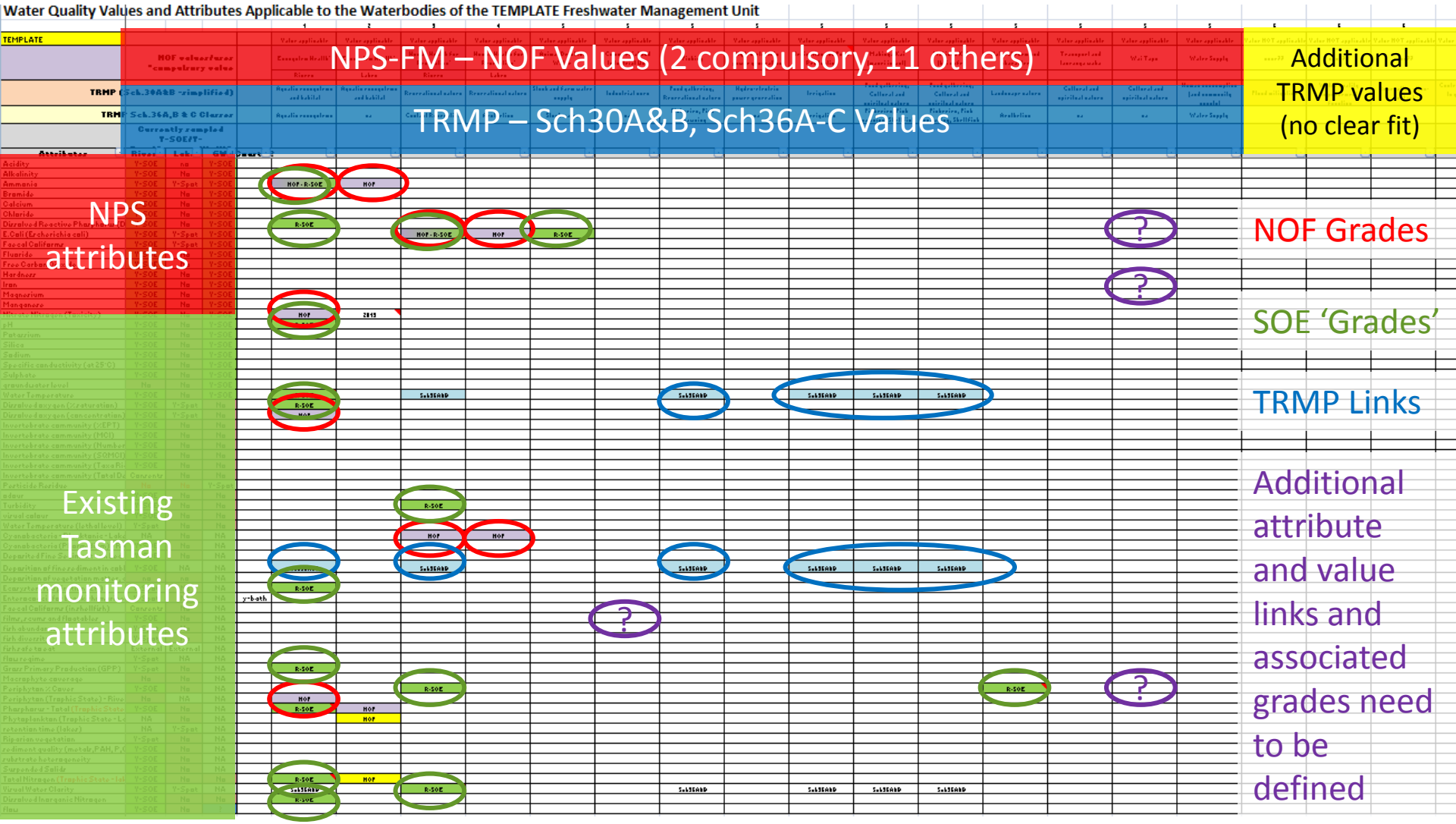


8. Review affordability & effectiveness

- Opportunity costs / trade-offs
  - Eg. effects on farm profitability
- Implementation costs
  - Eg. expensive technology needed
- Time requirements
  - Eg. results will only be seen in 60 years

- If affordable, effective and acceptable = ☺ yahoo!
- If not = ☹ back to looking at values/objectives

Where are we at? - Fitting existing work into NOF



Keep calm!

Questions?