



# Water Quality Attributes of Concern: Causes, threats and effects

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# 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? ←

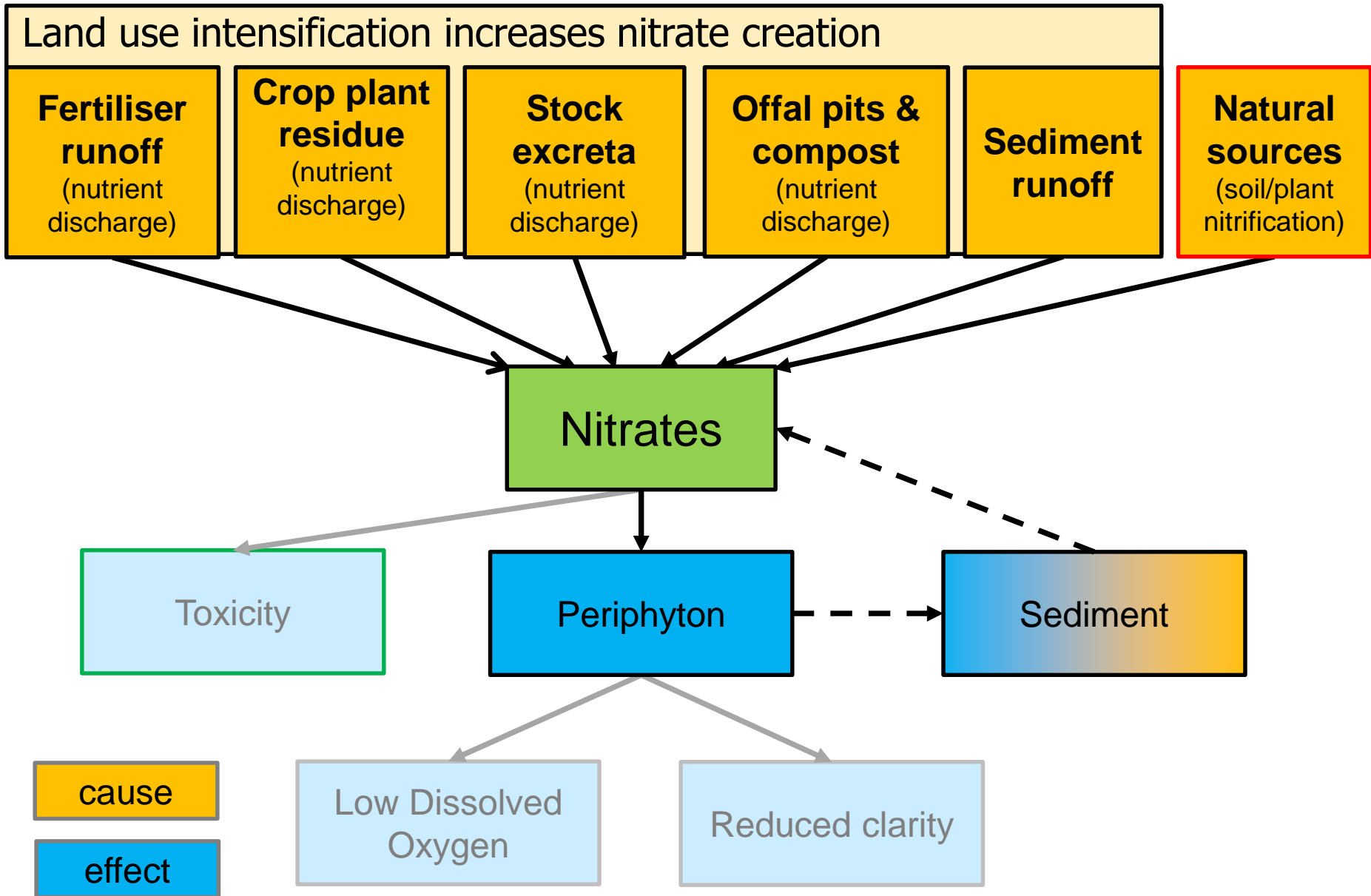
8. Can we afford it, will this be effective?

# Summary

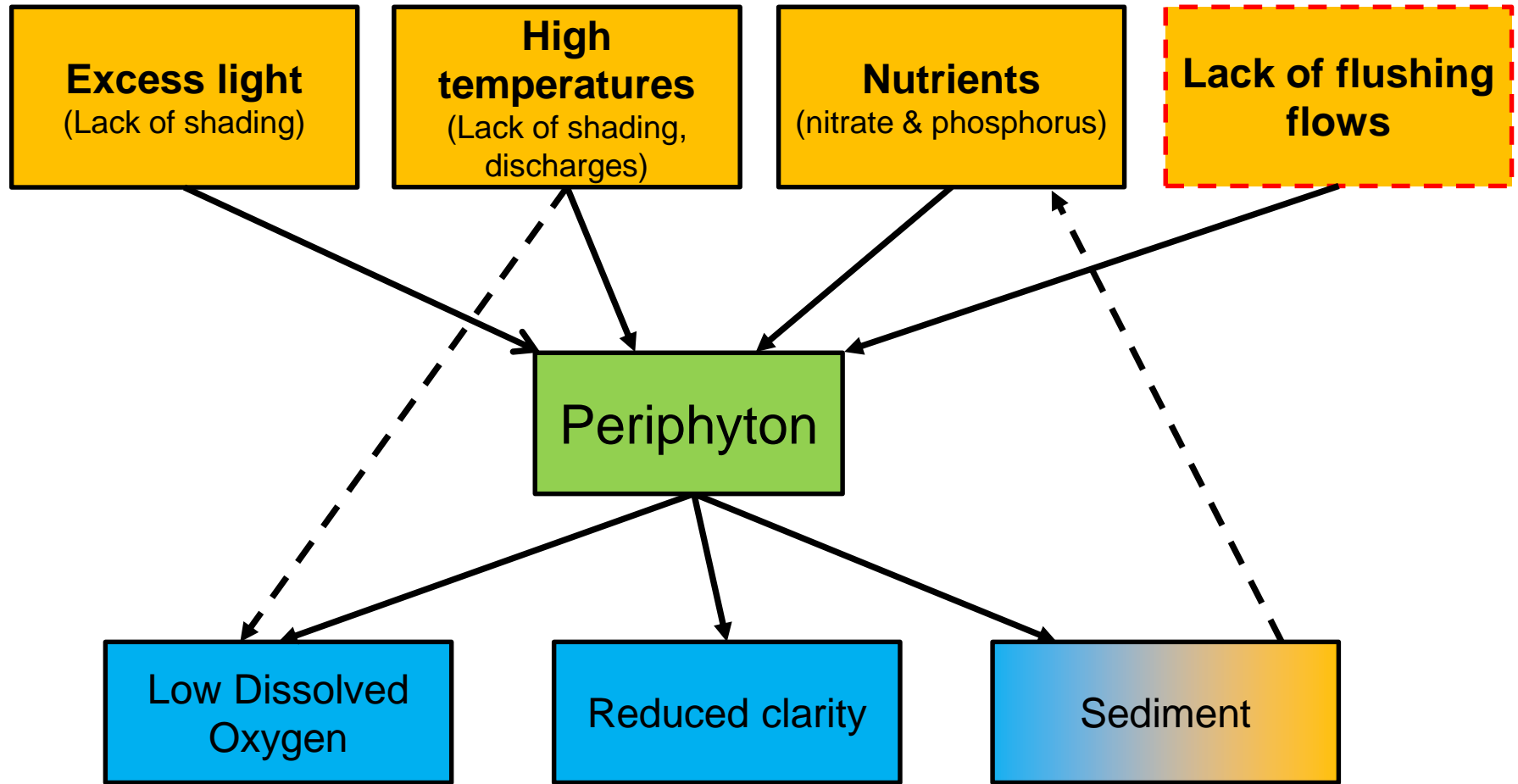
- Part 1 - Attributes of concern:
  - Nitrates
  - Periphyton
  - Sediment
  - E.coli
  - **Habitat loss** (ecosystem health – instream & riparian)
  - Can result from multiple sources or causes
  - Can create further issues with other attributes
  - Relationships have been simplified – often there are feedback loops that haven't been shown
- Part 2 – Intro to planning framework



# Nitrate causes and other attribute effects



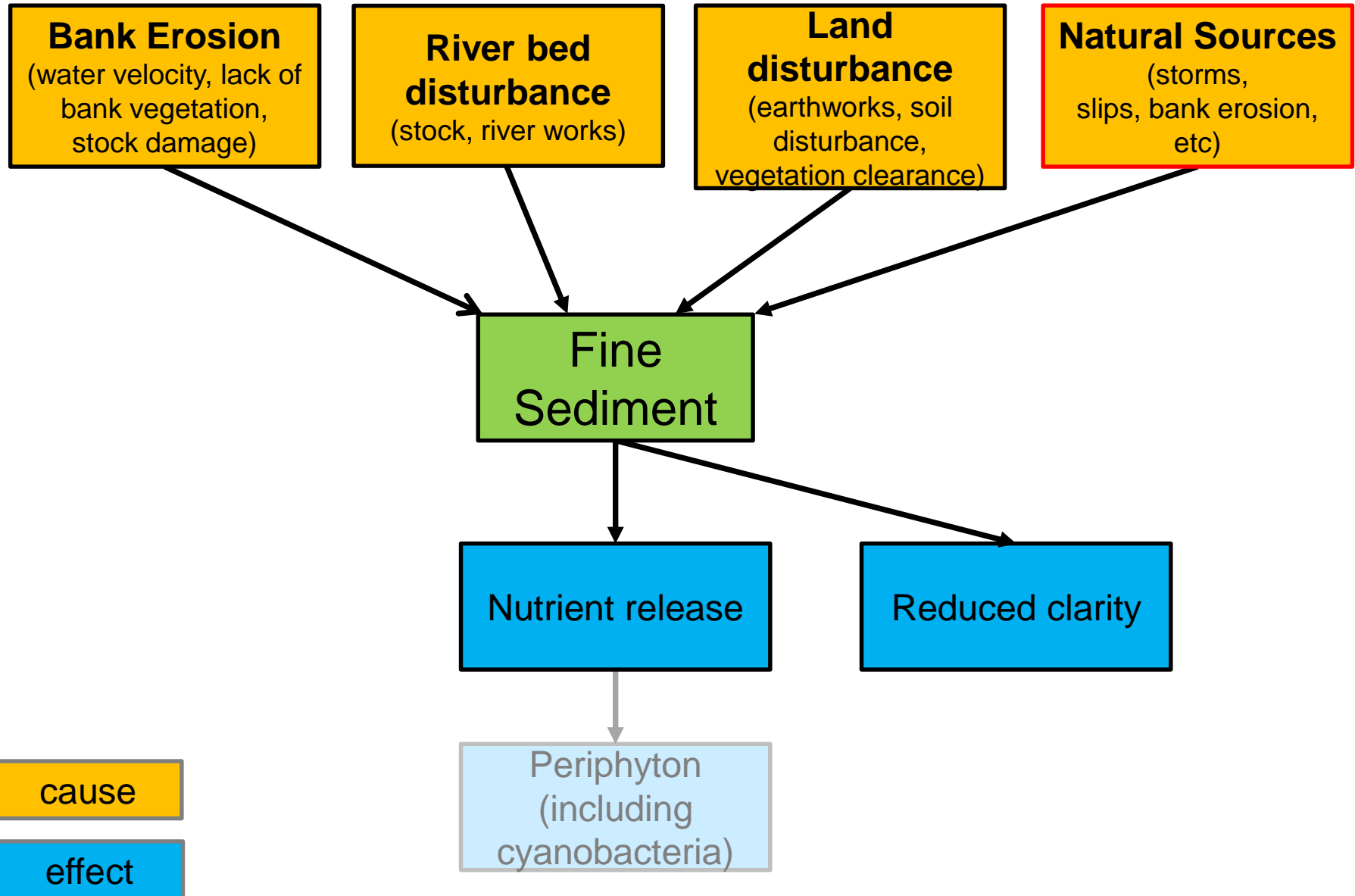
# Periphyton causes and other attribute effects



cause

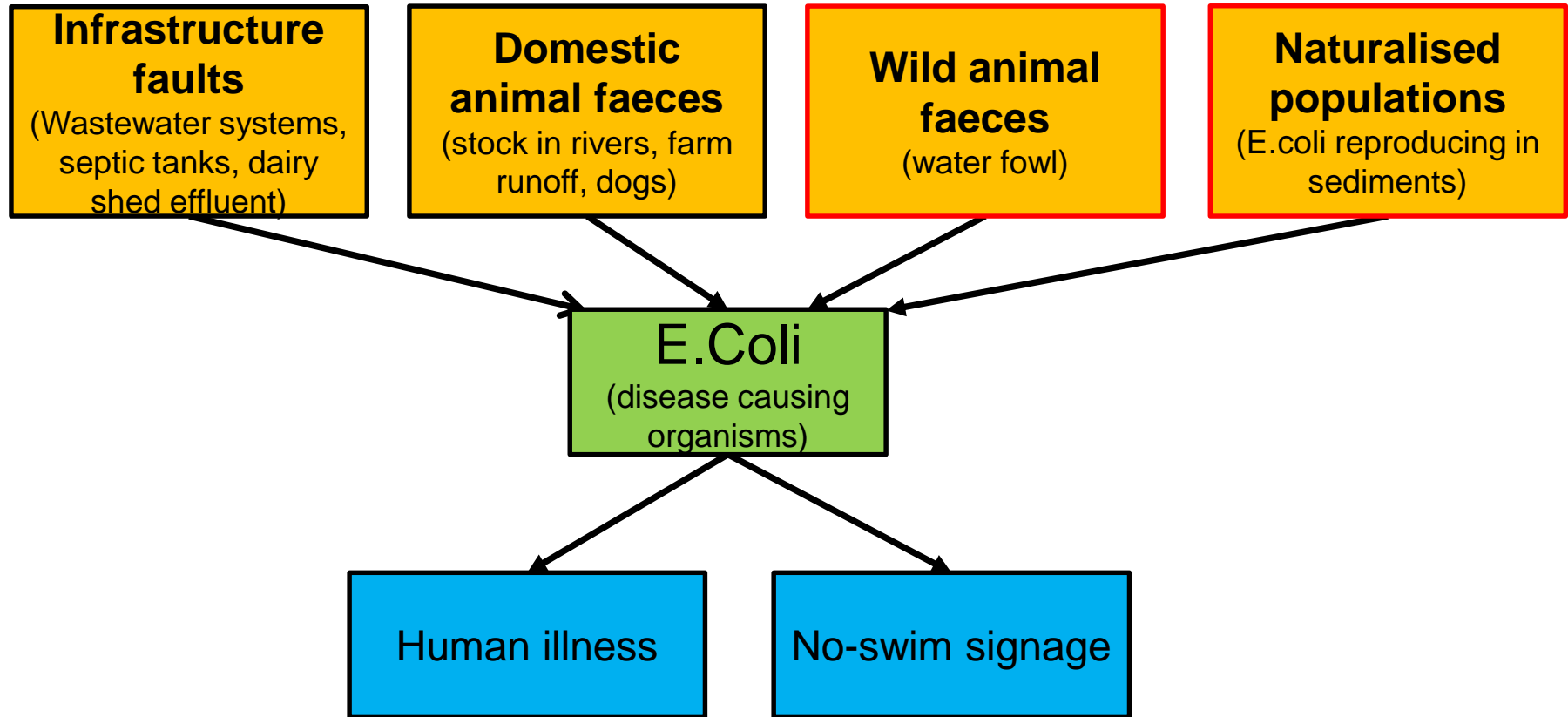
effect

# Sediment causes and other attribute effects



# Disease causing organisms (E.Coli as indicator)

## - causes and other attribute effects

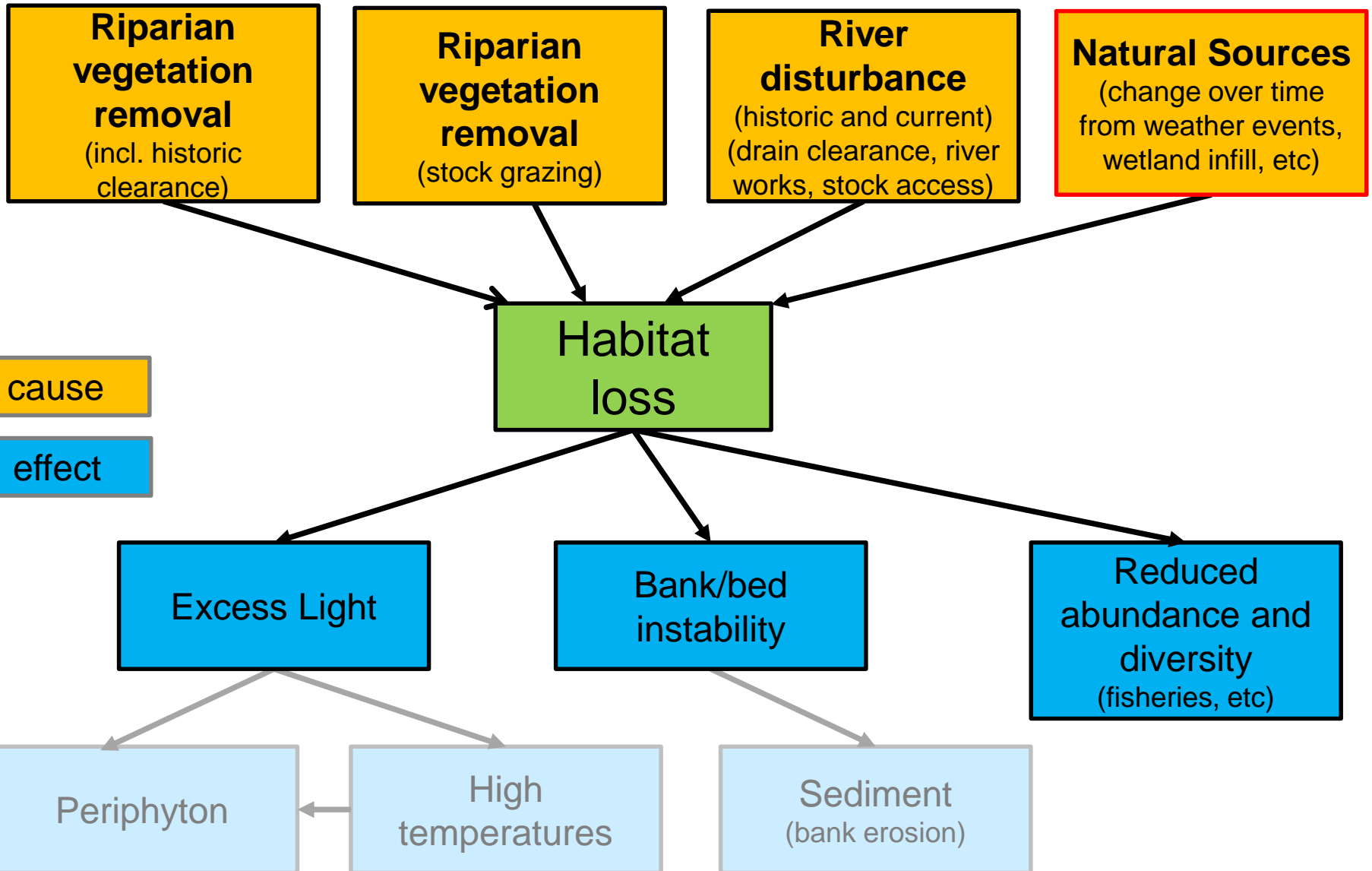


cause

effect

# Habitat loss (instream and riparian)

## - causes and other attribute effects





# Drivers for planning responses (causes):

- Discharges (point source and **diffuse**):
  - Nutrients (nitrate and phosphorus)
  - Sediment
  - Disease causing organisms (E.coli)
- **Land intensification** potential to increase discharges
- Lack of waterbody shading (**vegetation loss**)
- Lack of flushing flows (where exacerbated by abstraction)
- River disturbance
  - **Stock access**
  - Vehicle access
  - Flooding and drainage management
    - **Channel/drainage clearing**, infilling, diversions, berm management, etc



Questions / comments from Part 1?





## Part 2 - Planning Framework intro

# Scope/content of FLAG recommendation to EPC

- Water values and management objectives
- Overview of issues and risks to be addressed
  - Which are the key attribute issues that need active management?
- For each zone/sub-catchment group and for general policy:
  - **Water quantity:**
    - Methodology for minimum flow and allocation limits
    - Rationing and cease take methodology
    - Methods for promotion of water storage, efficiency and resilience
  - **Water quality**
    - Issues to be addressed through:
      - Regional land use rules
      - Regional discharge rules
      - Regional river bed rules
      - Regional take rules
      - Non-regulatory means
    - Methods to promote good and best industry practice
- Links with Waimea FLAG and district wide application

# Existing places in TRMP for topics

- **Water quality:**

- **Values and objectives:** Schedule 30B
- **Water attribute requirements:** Schedules 36(A-C): currently for water classes under RMA
- **Issues, Objectives, Policies:** Chaps 6-8,10, 12 (land use), 27(rivers), 33(discharges)
- **Rules:** 16-18 (zones/special areas), 28(rivers), 36(discharges)

- **Water quantity:**

- **Values and objectives:** Schedule 30A
- **Allocation limits and rationing:** Chapter 31 (tables)
- **Issues, Objectives, Policy:** Chapter 30
- **Rules:** Chapter 31

# Existing TDC rules/methods

- Already have TRMP rules/policies around:
  - Point discharges (to water, air and land)
  - Stock and vehicle disturbance of river beds
  - Land disturbance (fine sediment control)
  - Promotion of storage and water transfer
  - *but are these ok?*
- No specific rules to address diffuse discharges
- No regional land use rules
- Some rules on vegetation clearance, but not specific to riparian vegetation
- No aspects covering flushing flow protection
- Waimea FLAG moving towards good practice promotion through industry self auditing programs



# Next steps

- Need to short-list issues and attributes that need active management
- Determine whether these need a regulatory or non-regulatory approach
- Staff summarising what methods other councils are using:
  - Gisborne
  - Hawke's Bay
  - Canterbury
  - Horizons
  - Waikato
- Waimea FLAG moving towards good practice promotion through industry self auditing programs

