Takaka FLAG – Update to EPC
6: Water quality issues and management approaches

23 March 2016

tasman district council

Outline

- Water quality context
- Water quality attributes of concern
- Management approaches being considered
- Water quality status in catchments

Water quality context

- **Generally water quality is good** – is some places it is outstanding, however in others it is below the national bottom line

- Areas where there are known water quality issues that need improving
  - eg Te Kakau Stream

- Features or areas of excellent or good quality that need ongoing protection
  - eg Te Waikoropupu Springs

- Areas where there are anticipated risks that may threaten the future state of water quality
  - eg land use intensification in the AMA recharge area

Iconic water quality to be protected…

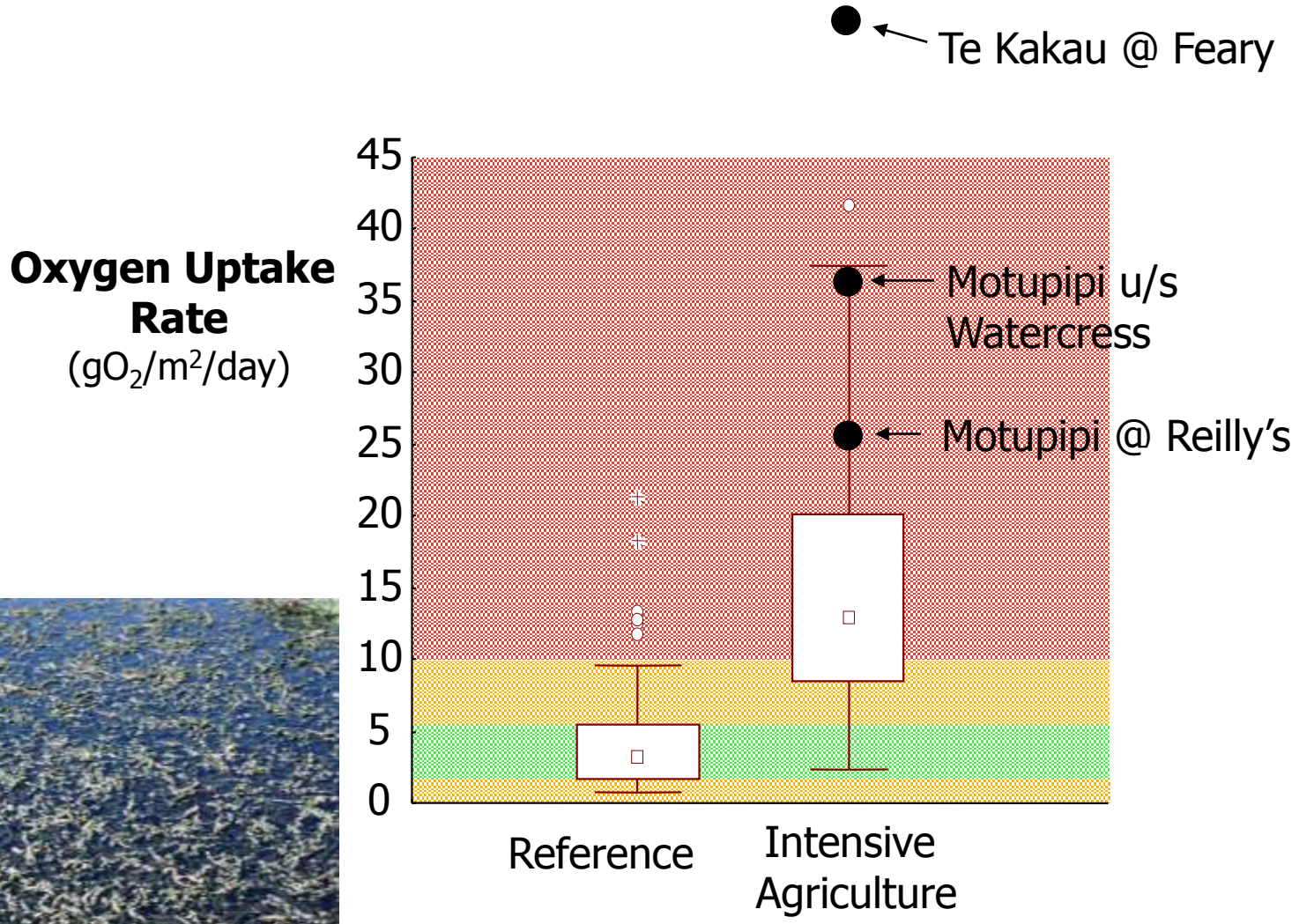
Te Waikoropupu Springs

Located in Takaka area in the Nelson/Tasman region

Te Waikoropupu Springs are the largest freshwater springs in New Zealand, the largest cold water springs in the Southern Hemisphere and contain some of the clearest water ever measured.

Almost perfect clarity
PHOTO: Shellie Evans ©

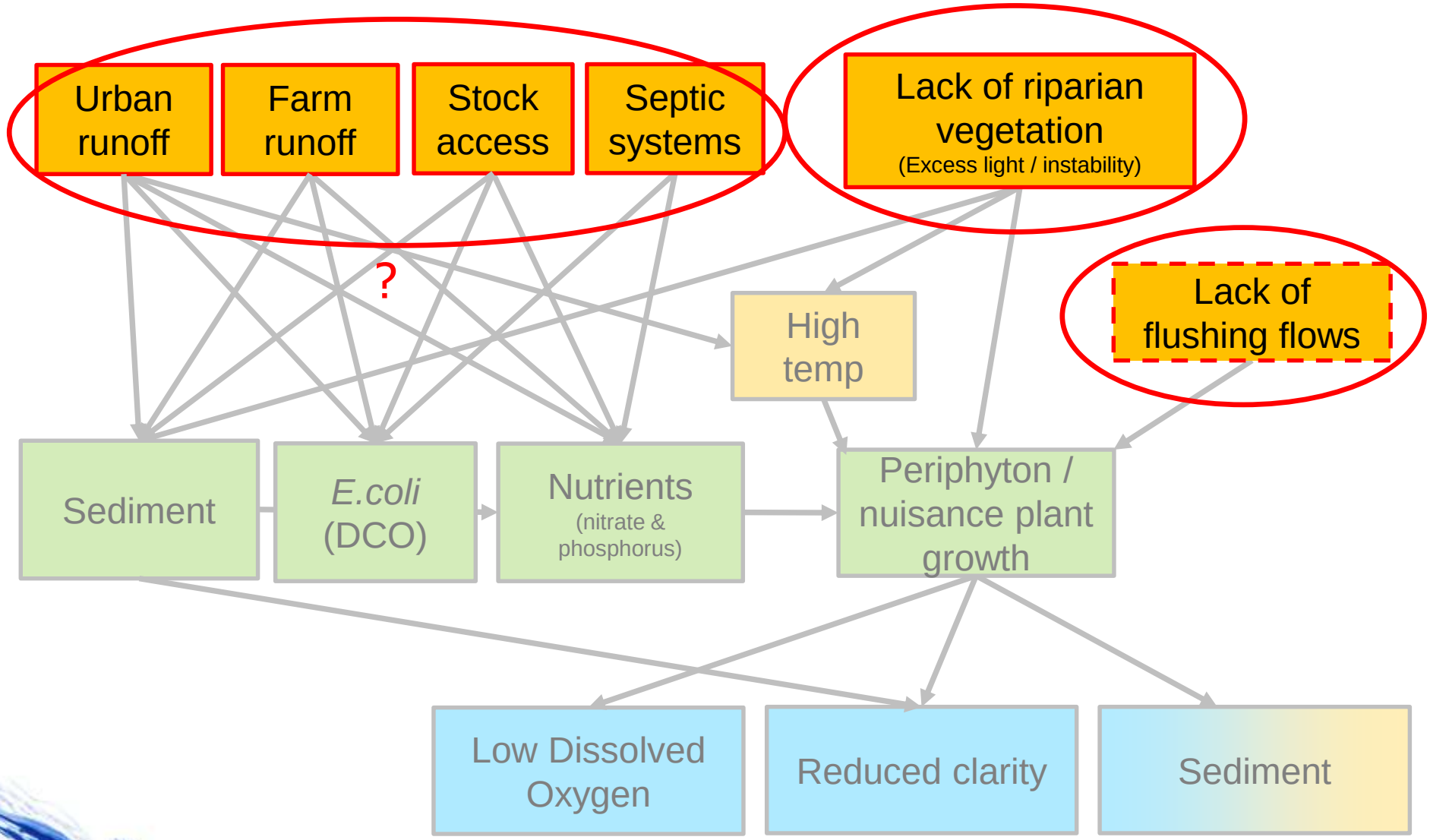
Spots with some of the worst water quality in the district (world)…



Water quality attributes of concern

- Nutrients
  - Nitrates and phosphorus – nitrates regularly over trigger levels in places, affects plant growth
- Nuisance Plant Growth
  - Periphyton (attached), Phytoplankton (in water column) and Macrophytes (rooted in bed eg *Lagarosiphon*)
    - Nuisance at some swimming sites, especially during dry periods
    - Causing dissolved oxygen issues in some areas
- Fine Sediment
    - Affects water clarity and bed habitat
- Disease Causing Organisms
  - *E.coli* are key indicator species – regularly over guidelines in places
- Riparian and Instream Habitat Loss causing:
  - Excess light and high temperatures on small streams
  - Bank instability
  - Habitat and in-stream food loss

Key attribute drivers

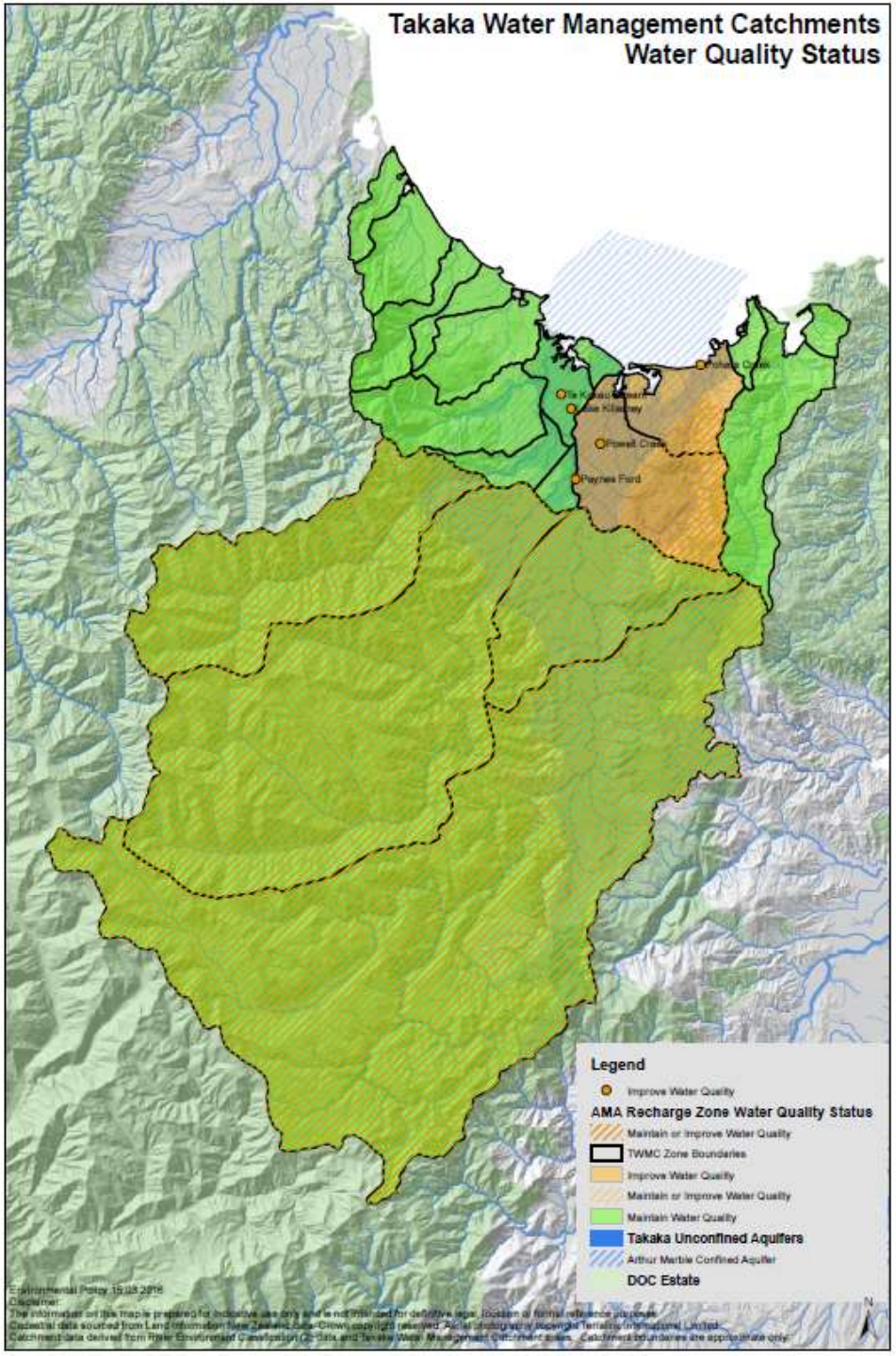


Attributes of concern – sources and risks

- Issues can result from multiple sources or causes
- Some attributes can create further issues with others
  - Eg excess light and high temperatures from no riparian shading can cause excess plant growth which can cause dissolved oxygen issues
- Sources:
  - Natural (storms, biological/physical processes, wildfowl, etc)
  - Urban and farm runoff (crops and stock, offal pits, composting, silage)
  - Land and river bed disturbance and erosion
  - Vegetation loss from grazing or clearance
  - On-site wastewater (septic) systems
  - Infrastructure faults
- Some sources are not able to be addressed
  - Lack of flushing flows from historic changes, natural effects, etc
- Solutions will need effort from land owners, community and Council

Water Quality Status

- Generally water quality is good and FLAG want to keep it that way
- Especially TWS and AMA Recharge zone
  - Still discussing maintain vs improve
- Motupipi and Pohara-Clifton Zones issue of nitrate in the Takaka Limestone Aquifer
- Sites/reaches with issues:
  - Te Kakau Stream
  - Lake Killarney
  - Swimming holes (eg Payne's Ford)
  - Pohara Creek & beach, Tukurua
  - Tributaries (eg Powell Creek)



Water quality – Potential Management options

- Education and WOF of on-site wastewater systems
- Review of urban stormwater runoff issues as part of Takaka Catchment Management Planning (~2016-17)
- Riparian planting for shading and bank stability
- Stock exclusion from rivers
- Good land use practice - including potentially:
  - Nitrate and phosphorus management
  - Sediment management
  - *E.coli* management
  - Efficient irrigation use
  - Stock exclusion
  - Riparian restoration and management
- Investigation projects and ongoing monitoring
- River bed restoration projects (eg sediment removal)

Continuing support of existing good work:

- Examples of good practice and positive efforts occurring across catchment
  - Stock exclusion
  - Riparian planting and willow control
  - Septic tank repair and upgrade
  - Existing council education, advice and subsidy programmes
  - Existing industry education and support programmes
  - Community and landowner driven restoration and monitoring projects
  - etc
- May not see benefits of some of these efforts for years to come
  - eg riparian planting

Promoting Good Land Use Practice

- Staff and FLAG discussions with Fonterra staff
- Fonterra keen to design a new Industry Environmental Management Programme (IEMP)
  - In conjunction with Council and landowners
  - To be used as an on-farm AND regulatory tool to promote good land use practices
- Keen to use Takaka Catchments as a pilot project as a large percentage of plains land use is dairy
- Waimea FLAG also keen to see the use of industry audit and support networks used in regulatory framework
  - Avoids duplication of audits/work for farmers
  - Avoids council need to consent and then audit compliance on all farms

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Water Quality: FLAG remaining decisions / work

- Decisions required for:
  - Desired states for attributes of concern in each zone
  - AMA Recharge Zone - maintain vs improve water quality in TWS – expecting science caucus advice in May
- Agreement on water quality issues and approaches
  - What is regulated vs non-regulatory approaches
  - Review of potential options for including good land practice requirements in TRMP
  - Further discussions with Fonterra using Takaka as a pilot site
- Review of all interim decisions – including allocation

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Questions?

Eg. Discharges

- Consented point source:
  - 45 to water
  - 60 to land
  - Not always contaminated or occurring all the time
- Potential point source
  - Onsite wastewater (~960)
- Non-point sources
  - Land use runoff and leaching