



Takaka FLAG – Update to EPC

1 September 2016

Outline

- NPSFM and catchment context
- Summary of **interim** FLAG decisions on water allocation
- Summary of **interim** FLAG decisions on water quality management
- Implications for existing users and environmental outcomes
- Plan change vs implementation plan content
- Proposed process from here

Disclaimer:

- The decisions in this presentation are **draft only**
- The FLAG will be reviewing all decisions as part of the draft plan change review
- The interim decisions do not represent full FLAG consensus
- Costs and benefits yet to be fully identified or scoped

Current Context

- Council must implement **NPS-FM by 2025**
 - Water quantity and quality – avoid/address over-allocation
 - 12 national values, 2 compulsory
- Current **unmet water demand** in Takaka
 - 78 existing take permits, most without cease take provisions
 - Only 1 informal allocation regime (AMA Recharge Zone)
 - 12 registrations on waiting list for more water
- **Water quality generally good**, but risks from land use
 - esp. iconic Te Waikoropupu Springs
 - some areas with localized issues to be addressed
 - riparian habitat degradation – esp. lowland streams
 - 105 discharge permits (45 to water, 60 to land)
- Potential **Water Conservation Order**
 - AMA and Te Waikoropupu

NPS-FM process

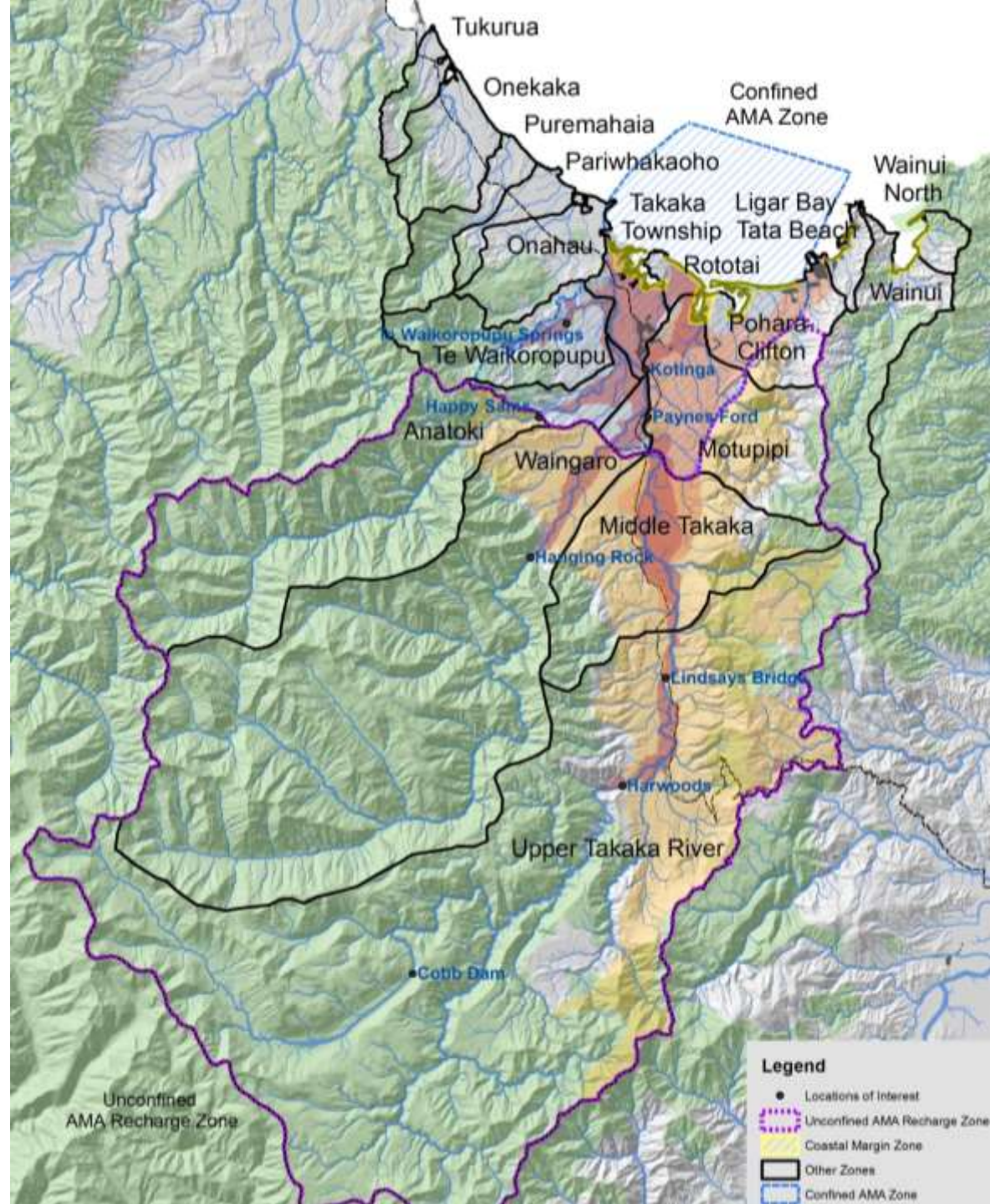
National Objectives Framework (policy CA2) process:

1. Identify freshwater management units (**FMU**)
2. Identify **values** for each FMU
 - considering national values & including compulsory ones
 - any other values having regard to local and regional circumstances
3. Identifying relevant **attributes** for each value
 - eg algae levels for swimming, dissolved oxygen for ecosystem health
4. Assigning an attribute **state** for the attributes (at or above the minimum acceptable state)
5. Formulating **freshwater objectives**
 - numeric and narrative
 - adopting the most stringent for each attribute across the values

Takaka Freshwater Management Unit (FMU) – extent

Extent considered:

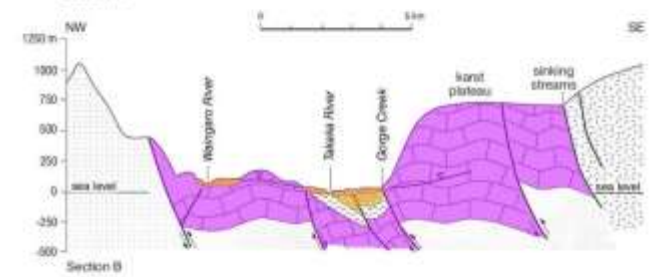
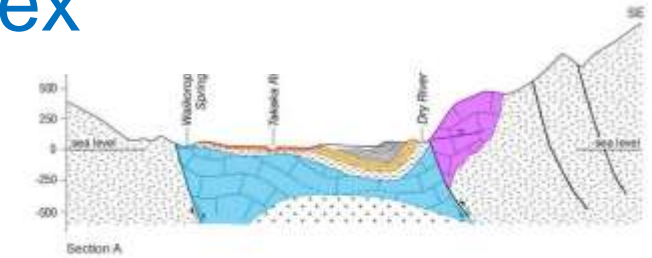
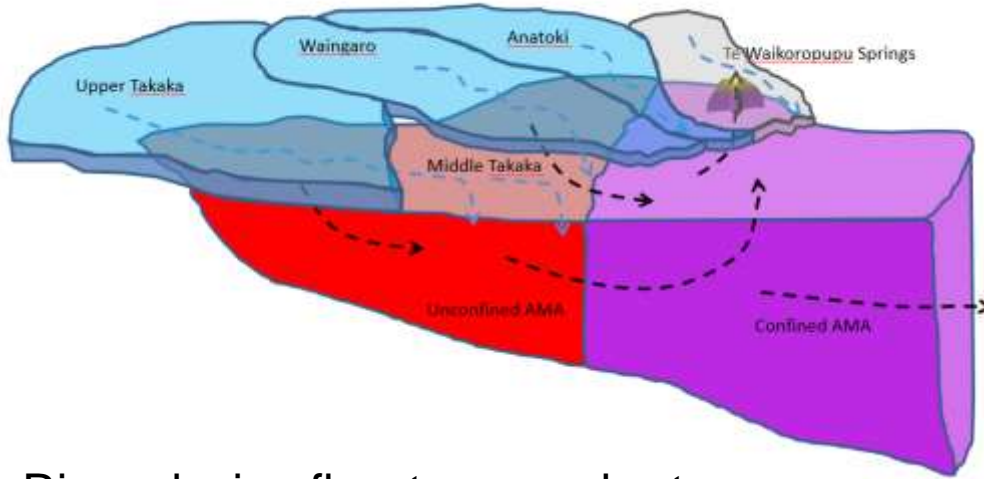
- Surface catchments
- Groundwater-surface water linkages
- Community of interest



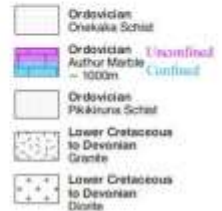
Water demand and use

- Demand for maintaining or improving water quality
 - Swimming and other recreation
 - Cultural and spiritual values (eg Te Waikoropupu Springs)
 - Drinking water (particularly groundwater)
 - Fishing and food gathering (freshwater and coastal)
 - Tourism, aquaculture, hydro-electric
- Demand for consumptive use of water
 - Farming, industry and commercial uses
 - Future potential demands – eg bottled water
 - Urban growth
- Understanding potential conflicts
- Understanding pathways of effect and risks
- Complex water system we don't fully understand

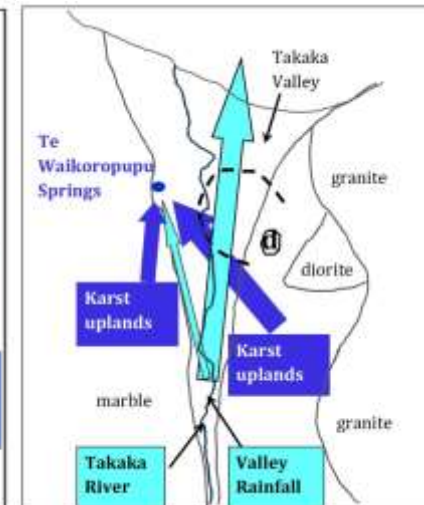
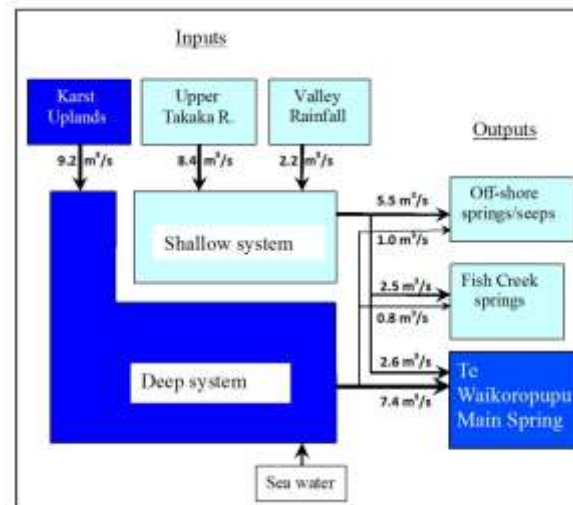
Water resources = VERY complex



ROCK TYPE AND AGE



- Rivers losing flow to groundwater – some dry up completely
- Rivers gaining flow from groundwater
- Very large and small springs
- Unconfined aquifers parts that receive water percolating through land
- Confined parts of aquifers
- Water flow between different aquifers at different locations
- Influence of the Cobb dam releases
- A magical place with lots of unknowns



Values and Uses of water – Takaka FMU

- Cultural and Spiritual Values
- Ecosystem Health
- Municipal and Domestic Water supply
- Fishing and Food Gathering - incl. kai safety, mauri
- Livelihood and Economic Use – incl. tourism and production uses
- Natural Form and Character
- Recreation (minimum of contact recreation - ie swimming, child play)
- Hydro-Electric Power Generation

- National value of Transport and Tauranga Waka or navigation not included
- Management objectives for each value also identified by FLAG

Key attributes across all values

- Mauri (to be discussed with iwi)
- Water clarity
- Fine sediment
- Riparian and aquatic habitat (incl. loss of shading, loss of habitat)
- Dissolved oxygen and dissolved organic carbon
- Nutrients- nitrates and phosphorus
- Nuisance aquatic plants (macrophytes, periphyton, phytoplankton)
- E.coli (as an indicator of disease causing organisms)
- River and spring flow
- Groundwater level
- Security of supply
- Other economic indicator – yet to be defined

In a nutshell – Water Allocation Benefits

- **Low flows and ecological values** for rivers and springs are protected from the effects of water takes during dry periods to minimum flow levels
 - Typically 80 or 90% of MALF as recommended by freshwater ecology expert
- Greater **certainty for water users** on water availability & security of supply
 - New take applications go from RDA to CA if within allocation limits
- **More water is available** for use in many zones, and 100% of waiting lists for water can be met by allocation regimes
- **Meets requirements of NPS-FM** to avoid and address over-allocation

In a nutshell – Water Allocation Costs

- Most existing consents will have **new cease take triggers**
 - Results in a **lower security of supply** (ie no cease take currently)
 - Security can be increased by use of storage or reduction of allocation limits
- Some zones are at **full allocation** - no further water available
- One zone may be **over-allocated**, potentially resolved at consent renewal

In a nutshell – Water Quality Benefits

- Improved water quality through targeted projects in areas with issues
- Adaptive management approach to managing risks to good water quality
- Avoids over-regulation & allows for changes to management if monitoring identifies undesirable trends or issues
- Improved aquatic ecology through support of enhancement projects
- Greater protection and respect given to water bodies, such as Te Waikoropupu Springs
- Meets requirements of NPS-FM to avoid and address over-allocation

In a nutshell – Water Quality Costs

- Changes will be needed for higher-risk land use practices:
 - Some may have little direct cost, requiring only behavior changes
 - Some may impact on-farm operating costs or require new investment
 - Compliance monitoring costs for council and industry groups
- Enhancement efforts such as riparian restoration require funding, and also ongoing commitment from owners
- Some additional monitoring and one-off investigation projects will add costs to the monitoring budget

In a nutshell – remaining work

- Developing **drafting plan change** and **implementation plan**
- **Sec 32** analysis of methods: cost-benefit, economic implications
- Merging **good land use practice** with a regulatory framework
 - New approach to water quality management, being grappled with nationally
- Addressing FLAG **uncertainty and non-consensus**
 - Review of interim decisions in context of draft plan change

In a nutshell – remaining work

- Scoping and costing of non-regulatory methods
- Understanding opportunities for Council to support local networks and restoration projects - without more rates funding
 - How can Council help speed up the rate of achieving community goals?
 - *eg: economies of scale, external funding, new funding models, targeting funding gaps, partnerships, administration support, specialist advice, etc*
- Gaining input from iwi on proposals to inform FLAG recommendations and EPC decisions
- Gaining input from stakeholders and public

Water Quantity Management (Allocation)



Water allocation (quantity) management

- Approach seeks to:
 - Meet the management objectives identified by FLAG
 - Address the lack of protection of river and spring low flows
 - Very few consented takes have cease take provision
 - Address lack of formal allocation regimes in FMU
 - Take applications addressed consent by consent
 - Informal AMA Recharge zone fully allocated - unmet demand
 - No protection for those on informal waiting list (ie queue jumping avoided by prohibited activity status for lists in TRMP)

Water allocation approach

- Seeks to protect instream ecological values
- Assumption that this will also protect other values
(cultural/spiritual to be discussed with iwi)
- FLAG has received expert freshwater ecology advice from Dr Roger Young (Cawthron)
- Uses the Historic Flow Method (% of $M_{\text{ean}}A_{\text{nnual}}L_{\text{ow}}F_{\text{low}}$)
 - Nationally recognized
 - Considered best approach for the information we have

Water allocation approach - Historic Flow Method

- Uses a percentage of MALF (historic low flows):
 1. Identifies a **Minimum Flow (MF)** to be protected:
 - High ecological value sites: 90-100% of MALF
 - Lower ecological value sites: 70-80% of MALF
 2. Identifies an **Allocation Limit (AL)** -water that can be taken
 - High ecological values sites: 10-20% of MALF
 - Lower ecological value sites: 30-50% of MALF
 3. **Cease Take (CT)** triggers for dry periods
 - Only apply if takes would impact on ecological values in rivers
 - Do not apply to community water supplies, or permitted domestic takes and stock water (human and animal health)
 4. Acceptable **Security of Supply** (by reducing allocation)

Water allocation approach - terminology

- Regimes referred to by their Minimum Flow and Allocation Limit percentages eg:
 - **90:10** = minimum flow at **90%** of MALF, allocation at **10%** of MALF
 - **70:15** = minimum flow at **70%** of MALF, allocation at **15%** of MALF

Example **Waingaro 80:20**

Hanging Rock statistics:

Median flow = 10,520 l/s

(half of measured flows above and below this)

MALF = 3585 l/s for minimum flow

U-S confluence site statistics:

MALF = 2751 l/s for allocation

Median flow = 10,520 l/s

Allocation limit = 550 l/s

MALF = 3585 l/s

Minimum flow = 2868 l/s

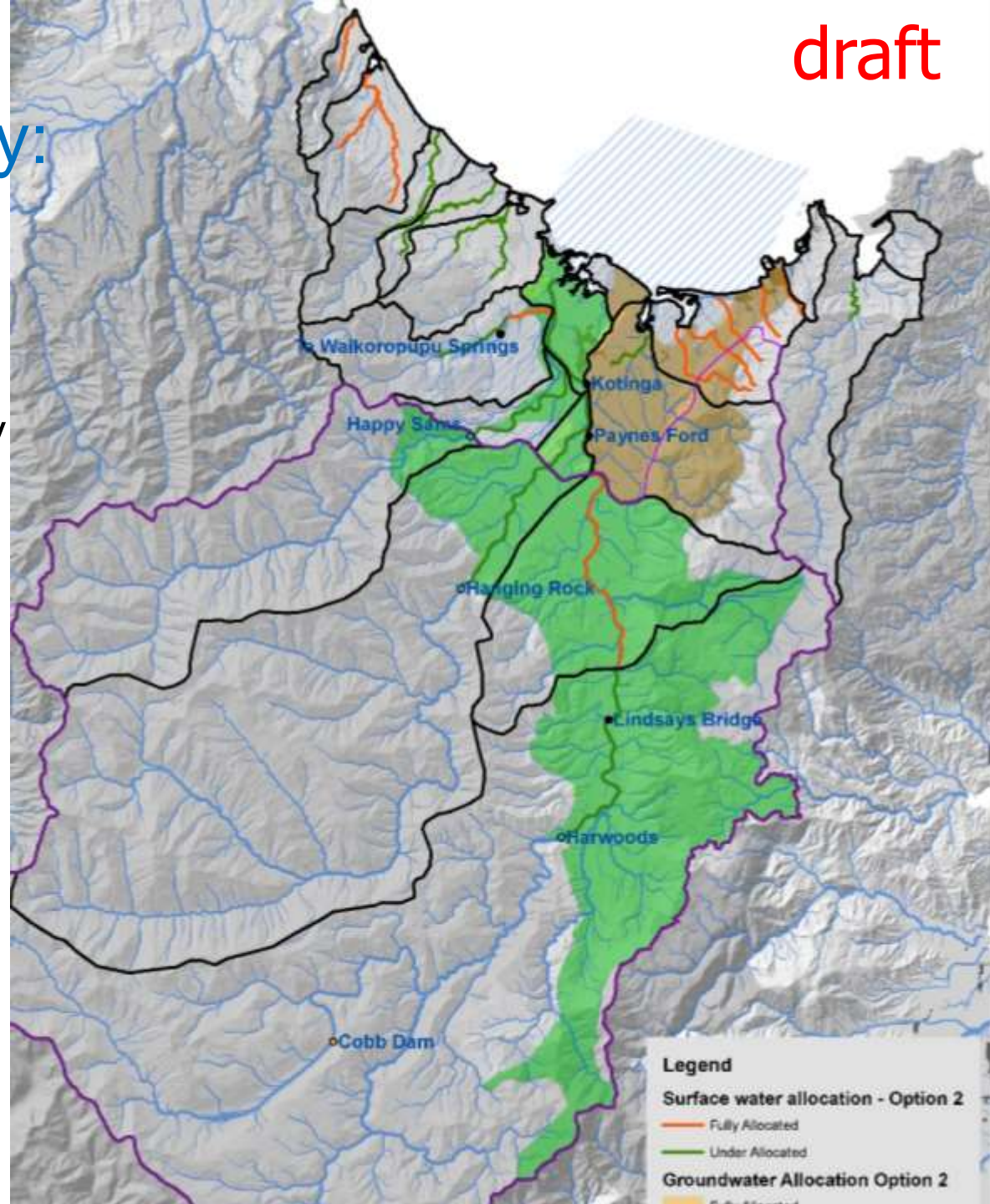
Water allocation approach – remaining concerns

- Some on FLAG concerned not conservative enough
 - Alternative method of defining minimum flow at MALF for all rivers
 - Concern over regimes identified for some water bodies
 - Upper Takaka, Anatoki, Pariwhakaoho, TWS
 - Staff consider the method used to be very conservative – if more detailed methods were used - likely more water would be allocated
- Uncertain if “ecologically sustainable” regimes also meet cultural/spiritual requirements
 - Seeking iwi input on this
- Security of supply concerns from existing consent holders – application of interim regime to all takes
- Review of water quantity decisions in context of water quality methods in draft plan change

Interim allocation decisions summary:

draft

- Rivers reaches shown as lines, groundwater (aquifers) as polygons
- Additional water potentially available in **green** areas
 - subject to physical access
 - irrigable area not shown
- No further water in **orange** areas
- Tukurua:
 - Potential 'over-allocation' relative to recommended regime
 - Community water supply

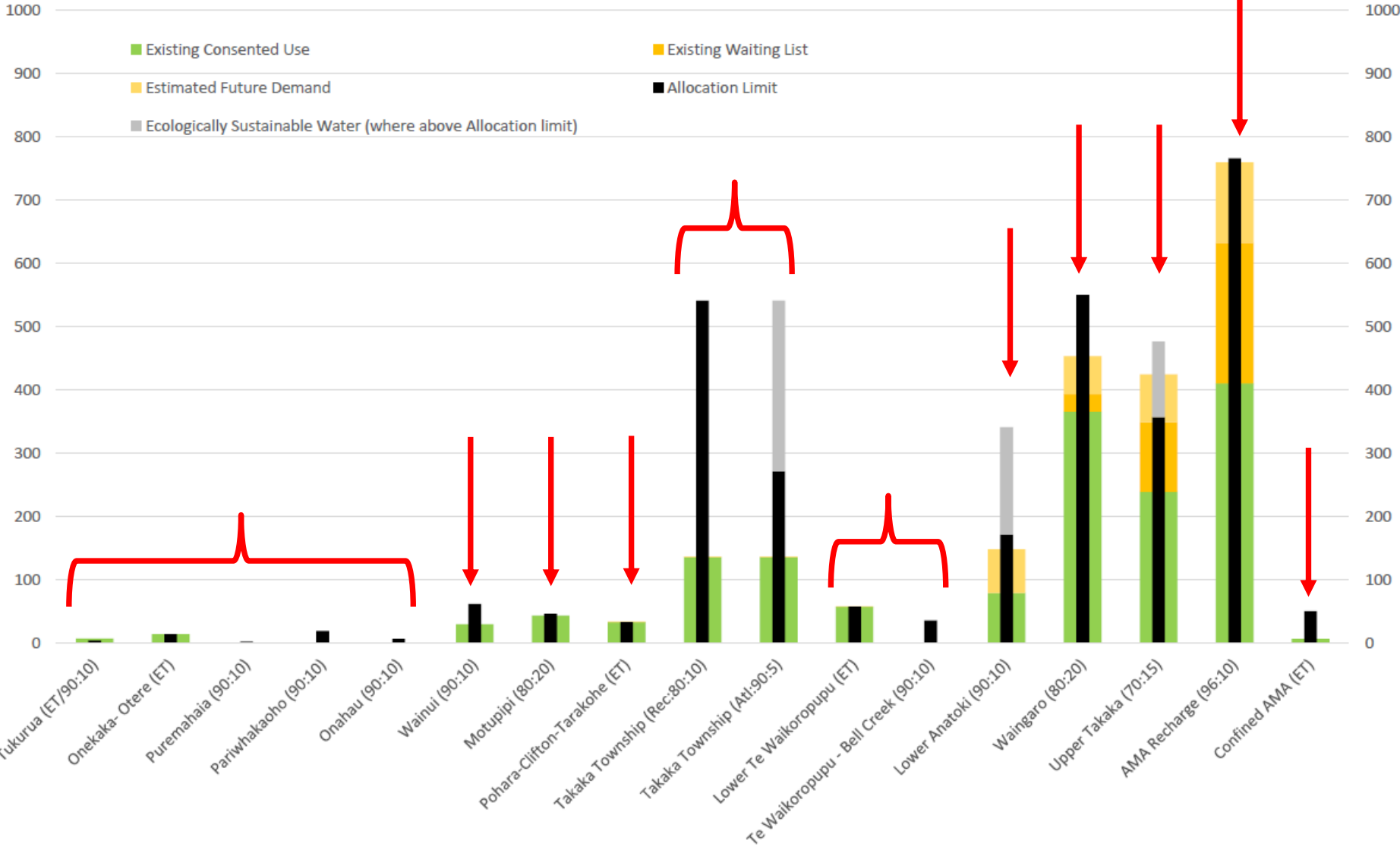


Interim allocation decisions:

Zone	Regime	Additional Water Available	Security of Supply change for <u>existing</u> takes affected by cease take
AMA Recharge (TWS)	96:10 [90:10]	355	Lower as no cease take currently (4+3)
Waingaro	80:20	184	Lower as no cease take currently (14)
Upper Takaka (main stem only)	70:15 [70:20]	118	No change for existing takes (3)
Anatoki	90:10 [80:20]	91	Lower as no cease take currently (4)
Takaka Township	No consensus [80:10] (90:05)	135 or 405	No existing surface water takes (0) No change for groundwater takes (11)
Motupipi (surface water only)	80:20	2	Lower as no cease take currently (1)
Pariwhakaoho	90:10	19	No existing takes (0)
Onahau	90:10	6	No existing takes (0)
Puremahaia	90:10	2	No existing takes (0)
Onekaka	Existing takes (90:12) [90:10]	0	Lower as no cease take currently (1)
Tukurua (surface water only)	90:10 {ET:90:23}	-3	No change as existing take is a community water supply (0)
Waikoropupu River	Existing takes	0	Lower as no cease take currently (3)
Campbell Creek	90:10	35	No existing takes (0)
Wainui and Wainui North	90:10	31	Lower as no cease take currently (1)
Pohara-Clifton	Existing takes	0	Consent specific – lower as no cease take currently (9)
Rototai	Existing takes	0	Consent specific – lower as no cease take currently (2)
Confined AMA	50 l/s	43	No change for existing takes (1)
Ligar Bay-Tata	General allocation policy applies	0	NA (0)

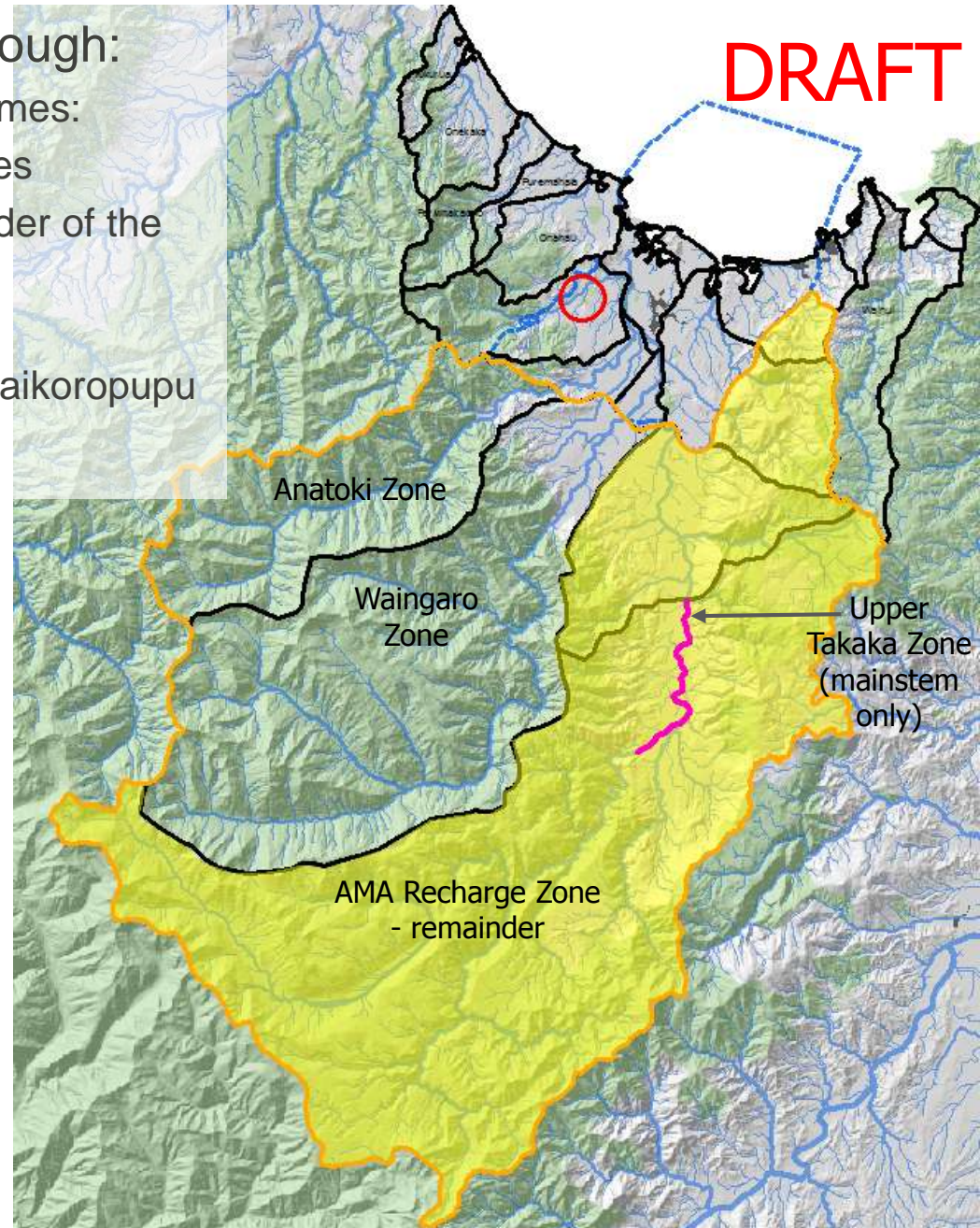
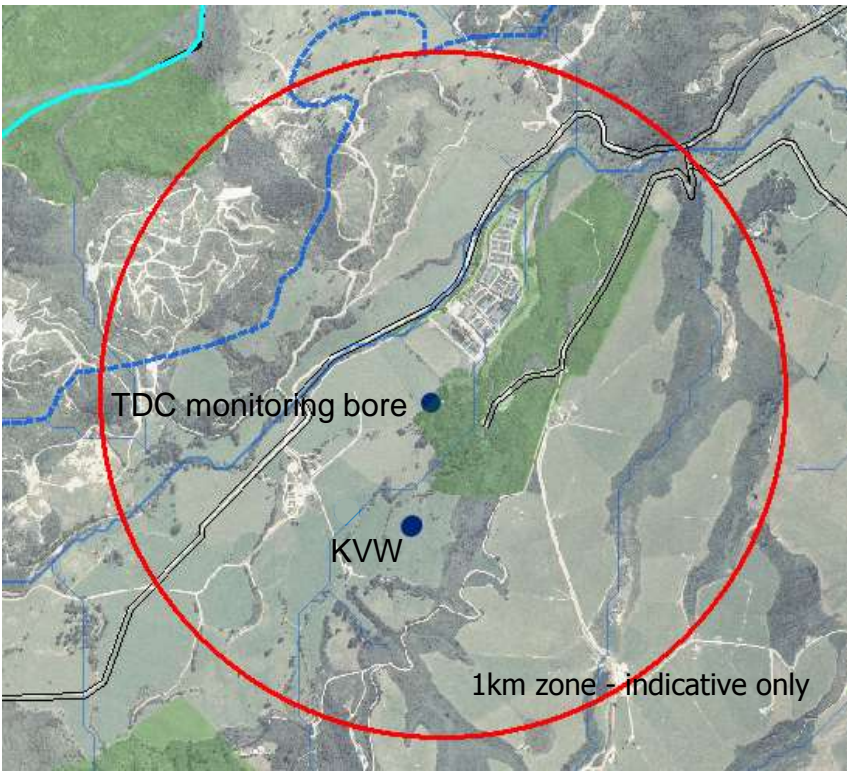
Interim allocation decisions:

Takaka Water Management Catchments - Potential Demand comparison to Allocation Limit



AMA Recharge Zone - Cease Take application

- Need protection of TWS flow - through:
 - Cease takes in contributing catchment regimes:
 - Anatoki, Waingaro, Upper Takaka Zones
 - Cease take (measured at TWS) for remainder of the AMA recharge area (ie yellow in map)
 - Potential 1km exclusion zone around Te Waikoropupu - no new bores/takes from Confined AMA



Water Quality Management



Water quality management

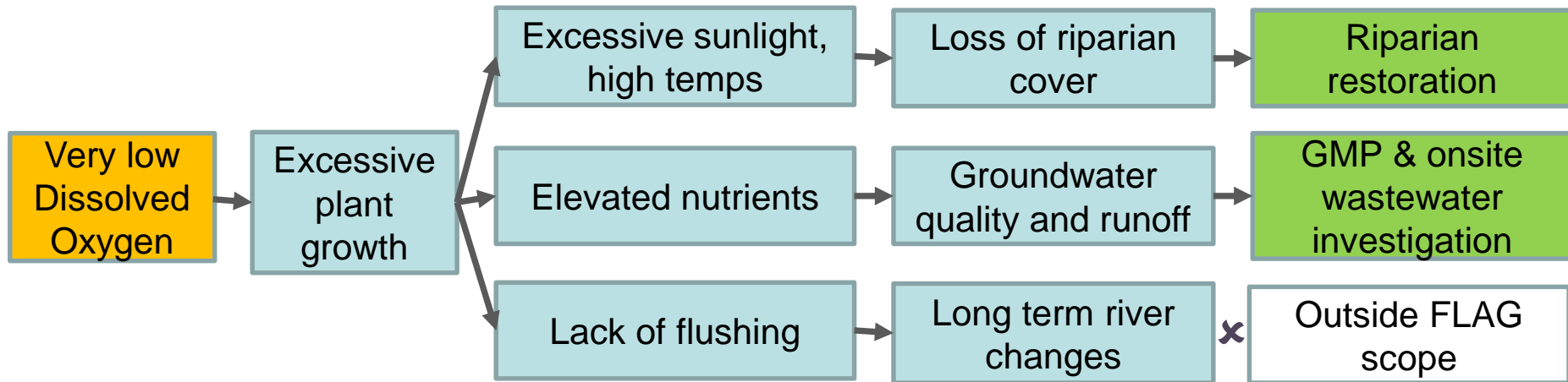
- Approach seeks to:
- Meet the management objectives identified by FLAG
- Address known water quality issues
 - Sites/reaches with specific water quality issues to address
 - General issues across all zones
- Address future potential risks to water quality
 - Protecting current good or excellent quality
 - Identify attributes to be maintained in current ranges
 - Identify land uses and practices that pose risk

Water quality approach

- FLAG reviewed available water quality data
 - Advice from Trevor James and Joseph Thomas on key issues from SOE
 - Modelling by Aqualinc and Landcare Research
- Further data has been gathered for some attributes
 - Some by staff where this could be absorbed by current budgets
 - Friends of Golden Bay also funded FLAG members to monitor weekly at Te Waikoropupu since Feb 2016
 - Further sampling identified for inclusion in recommendations to Council
- Adaptive management approach proposed
 - Key attribute triggers>monitor>thresholds breached>actions
 - Actions could be further investigations, consent review, activity status change
 - To be looked at in plan change drafting

Water quality approach

- Possible causes for water quality discussed
- Likely root causes for management options identified
- eg:



Water quality approach – remaining concerns

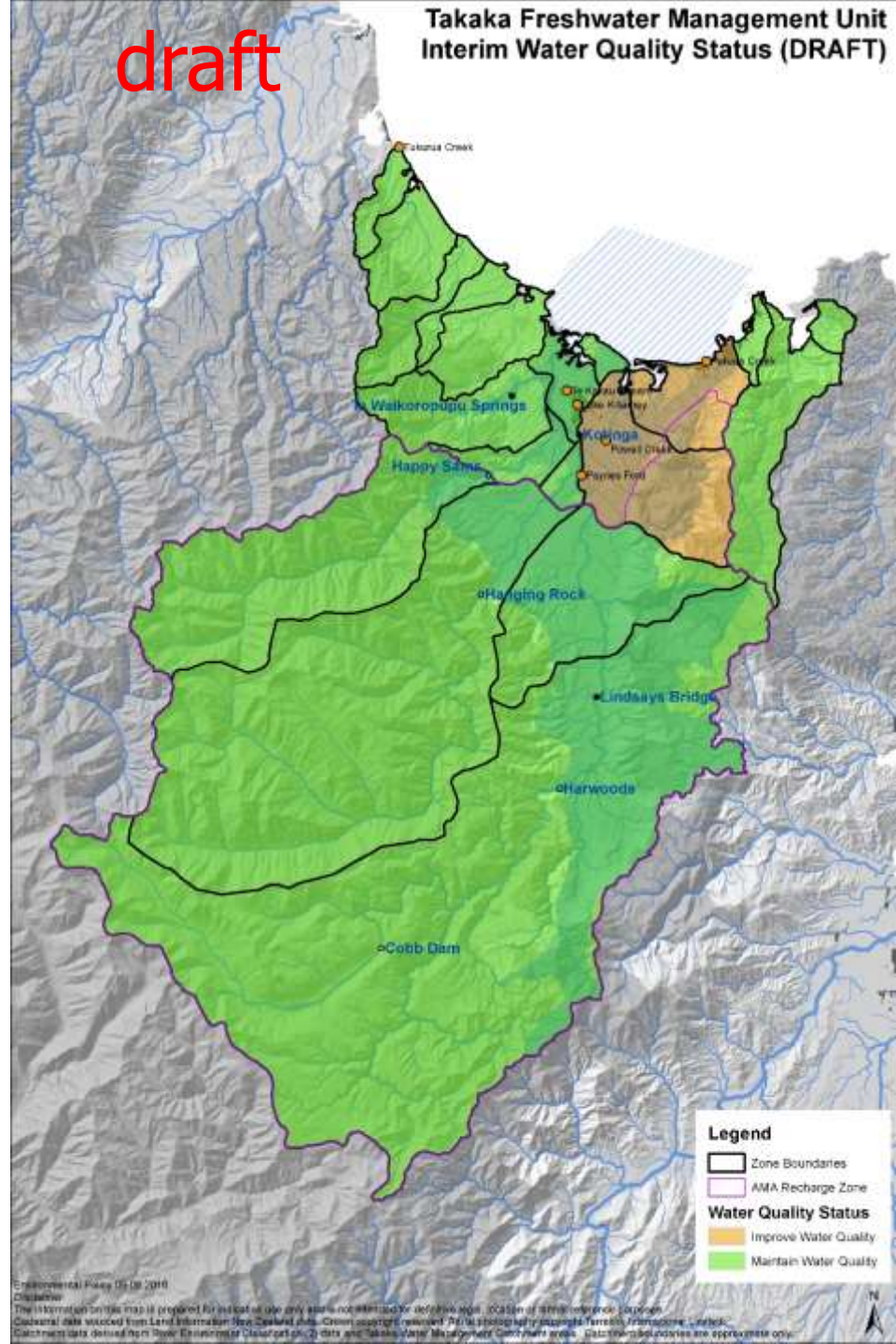
- Some on FLAG concerned not precautionary enough
- Two generalised views on AMA water quality in FLAG:
 1. Water quality is in a maintain state, further allocation is unlikely to significantly affect this given proposed controls and adaptive approach
 2. Water quality has increased to thresholds of concern and further allocation is likely to affect this

Water quality approach – remaining concerns

- Further assessments needed for key attributes to establish current vs desired states
 - Eg. water clarity, dissolved oxygen, mauri at TWS
- Uncertainty over methods for controlling land use and practices - to be reviewed following plan change drafting
- Review of quantity decisions in light of quality controls in PC
- GMP and diffuse pollution management etc, being grappled with nationally – output time frames not well synced for FLAG

Water Quality Status

- Green areas in a maintain state, orange in an improve state
- Generally water quality is good and FLAG want to keep it that way
 - Especially at Te Waikoropupu
- **Motupipi and Pohara-Clifton Zones:**
 - Takaka Limestone Aquifer - potentially elevated nitrate
- **Sites/reaches with concerns:**
 - Te Kakau Stream
 - Lake Killarney
 - Motupipi river and tributaries
 - Swimming holes (eg Payne's Ford)
 - Pohara and Tukurua Creek/Beach
- **General FMU wide concerns:**
 - Risks from sediment, *E.coli*, nutrients
 - Loss of riparian cover/habitat – esp. lowland streams, close to coast



Water quality management options discussed:

- Requirement of **good land use practice** throughout all zones:
 - Discussions with Fonterra staff about how this might work in practice
 - Takaka township - urban stormwater catchment management plan
 - Land disturbance rule review (sediment management)
 - Stock exclusion from waterways (may be national direction on this ~2017/18)
- **Investigations** into potential sources of contaminants
 - Eg. Bacteria *E.coli* – onsite wastewater, farms or naturalized populations
- Ongoing **monitoring** and additional monitoring to identify future issues
 - Eg. Water clarity in Te Waikoropupu Springs
 - Eg. Friends of GB monitoring of Te Waikoropupu and Fish Creek Springs
 - Adaptive management if changes observed
- **Education, support and promotion of projects** that help improve water quality and ecosystem health
 - Stream replanting – focus on lowland streams 1-10m wide
- **Work still to be done on scoping and costing these aspects for inclusion in the implementation plan and section 32 analysis**

Outputs: Plan change vs Implementation Plan

Draft Plan change	Implementation Plan (non-regulatory)
<p>Allocation regimes including:</p> <ul style="list-style-type: none">• Minimum Flows• Allocation Limits• Cease Take and Rationing triggers • Land use and practice controls (possibly new special areas section in TRMP)• Discharge controls (focus on diffuse and point sources not already covered)	<ul style="list-style-type: none">• Investigations proposed• New ongoing monitoring proposed• Education projects proposed• Council Subsidy review and proposals• Options for support, promotion and funding of restoration projects / networks• Future plan changes proposed
<ul style="list-style-type: none">• Section 32 analysis	

Engagement processes - iwi

- Four iwi with interests in Takaka catchment and adjacent coastal areas
 - Ngati Tama
 - Te Atiawa
 - Ngati Apa
 - Ngati Kuia
- Another four iwi with potential interests in CMA including estuaries
- Hui dates being found for Sept
- Separate hui likely
- FLAG keen to obtain input from iwi before providing recommendations to Council



Engagement processes - stakeholders/public

- FLAG members have been discussing process/outcomes with their respective sector groups and the general public throughout process
 - Liaison with local irrigator group
- Release of draft values and management objectives in May 2015
- Release of community update summary in May 2016
- FLAG meeting info on webpages (staff working on updating this for 2016)
- FLAG keen to obtain input public and sector groups on draft PC before providing recommendations to council
 - Open day with presentations
 - Sector meetings



Next Steps for the FLAG process

- FLAG members have discussed summary of interim findings and draft solutions package - end of August
- Seeking further iwi involvement to identify interests, expectations, ideas and how iwi wish to be involved in process
 - Potential for separate iwi hui through Sept-Oct
- Staff to prepare draft plan change based on FLAG outputs (Sept-Nov)
 - Include interim FLAG decisions to date (allocation regimes, non-regulatory options)
 - Developing proposed framework for land use controls to protect water quality
 - Include options where there has been no consensus reached
- FLAG review draft plan change and implementation plan – late 2016
- FLAG keen to have both iwi and public/sector feedback on draft PC before recommendations made
- FLAG recommendations to be put to new Council in early 2017?



Questions?