



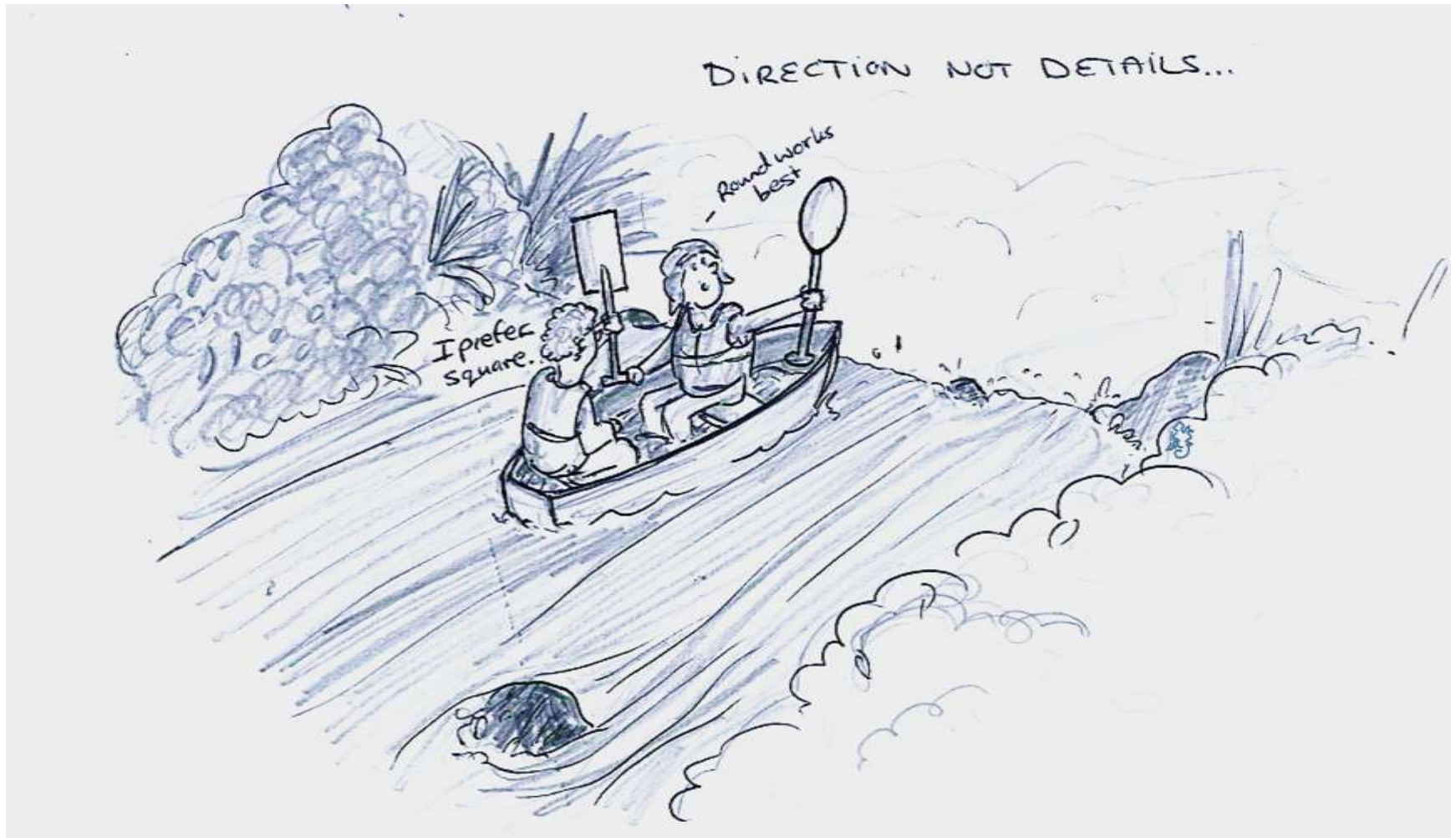
Takaka FMU - Zone Summaries

13 May 2016

Outline

- Water quality management across catchments
 - Philosophies and goals for water quality
 - Key management approaches
 - Remaining questions
- Water quantity management across catchments
 - Philosophies and goals for water allocation
 - Allocation regime approaches
 - Remaining questions
- Process for review of zone summaries and review of management objectives
- Example zone by zone summary
 - Upper Takaka

Is this the right direction to steer the waka?



FLAG recommendations

- Key messages for Council in FLAG recommendations:
 - Where Takaka community want to go
 - How we think this can/should be done (even if we don't have all the details sorted yet)
 - Draft plan change
 - Implementation plan
 - Sec 32 report
 - *What can be put in this time vs signalled for a future change?*
 - Ways to embed the goal, the methods and further work needed into council processes (ie TRMP, LTP) so they are followed through

Water quality - philosophy

- The management approaches for water quality will seek to:
 - Maintain and protect existing good and excellent water quality through managing risks
 - Improve degraded water quality so it meets the relevant management objectives
- How are we protecting or improving our water bodies?
 - By identifying water quality objectives and desired states for key attributes of concern:
 - Eg. Fine Sediment, E.coli, Nutrients (N & P), Riparian shading, clarity, etc
 - By requiring (through regulation) good land and water use practices to avoid or minimise water pollution (both diffuse and point source)
 - By educating, promoting and supporting practices, projects and activities that help enhance or restore water bodies

Water quality - Methods applying to All Zones

- **Good Management Practice** (regulatory)
 - Applies to all land uses – initial focus on primary sectors and urban
 - Requirements to cover: Sediment, *E.coli*, Nutrients (N & P), Riparian management, other Contaminants
 - Use of industry programmes (eg IASM/IEMP) if possible, within framework
 - Seeks to minimize duplication of development, regulation and auditing effort and costs for council, farmers/growers and industry groups

- **Fine Sediment Management** (mix of regulatory and non-regulatory)
 - Parallel process of land disturbance rule review (TRMP Chapter 18.5)
 - Erosion and Sediment Control (ESC) guidelines - initially for land development
 - Nelson-Tasman Land Development Manual
 - Earthworks and Land preparation section links to TRMP and ESC Guidelines
 - Sediment also included in GMP requirements

Water quality - Methods applying to All Zones

- **Continued financial subsidy for stock exclusion and planting** (non-regulatory):
 - Fencing materials
 - Riparian planting – currently limited to erosion control - expand to shading also
 - Review budget size – is it big enough to help achieve goals in desired time?
 - Investigate options to better support and grow community-landowner networks
- **On-site wastewater** (E.coli as indicator of Disease Causing Organisms)
 - Education (non-regulatory)
 - Warrant of Fitness (WOF) in areas with higher risk factors:
 - Karst areas, older systems, areas with known issues
 - Pohara-Clifton and Motupipi Zones
 - Sinkhole areas in other zones?
 - What happens if poorly designed/failing systems have no easy fix?

Water quality management – zone specific methods

Zone	Further investigations and special projects	Riparian planting	Monitoring <i>(focusing on new sites or parameters)</i>
Waingaro		? Lowland accord <10m	New site: Payne's Ford #2 (E.coli, periphyton)
Anatoki		? Lowland accord <10m	New site: One Spec Rd (clarity, E.coli, periphyton)
Upper Takaka & Tributaries		? Lowland accord <10m	New site: Lindsay's bridge (N, DRP, E.coli, Periphyton)
Motupipi	On-site wastewater WOF	✓? Lowland accord <10m, (Tributaries, eg Powell)	Reinstate site at Abel Tasman Dr (full suite). New site Powell Creek (temp)?
Coastal Western Catchments	<i>E.coli</i> source investigation (Tukurua)	? Lowland accord <10m	Existing bathing sites
Takaka Township	CMP project (Te Kakau, Lake Killarney, Upper Motupipi)	? Lowland accord <10m, (Te Kakau)	New sites/baselines at Waitapu Bridge, Te Kakau stream, Haldane Rd and Lake Kiillarney
AMA Recharge (TWS)		? In contributing catchments	Baselines at TWS: NPG, clarity, mauri?
Te Waikoropupu River		? Lowland accord <10m	New site?: U-S Takaka R confluence (clarity, periphyton)
Middle Takaka		? Lowland accord <10m	New site: Payne's Ford #2 (N, DRP)
Pohara-Clifton	On-site wastewater WOF <i>E.coli</i> source investigation (Pohara Creek)	? Lowland accord <10m	Existing bathing sites
Wainui, Wainui North		? Lowland accord <10m	
Rototai		? Lowland accord <10m	
Ligar Bay-Tata		? Lowland accord <10m	
Confined AMA		na	Existing synoptic survey
Coastal Margin		na	Existing salinity monitoring

Remaining Key Questions – Riparian restoration

- **Riparian planting:**

- Not something included within the NPSFM (yet)
 - Next Steps doc acknowledged the benefits, but excluded as high cost of managing is not justified by the benefits in all cases (*but then IS in others?*)
- Necessary to resolve key water quality issues in some areas
- Necessary to achieve ecosystem health

- **Do FLAG want to pursue this as a management method within the recommendations to Council?**

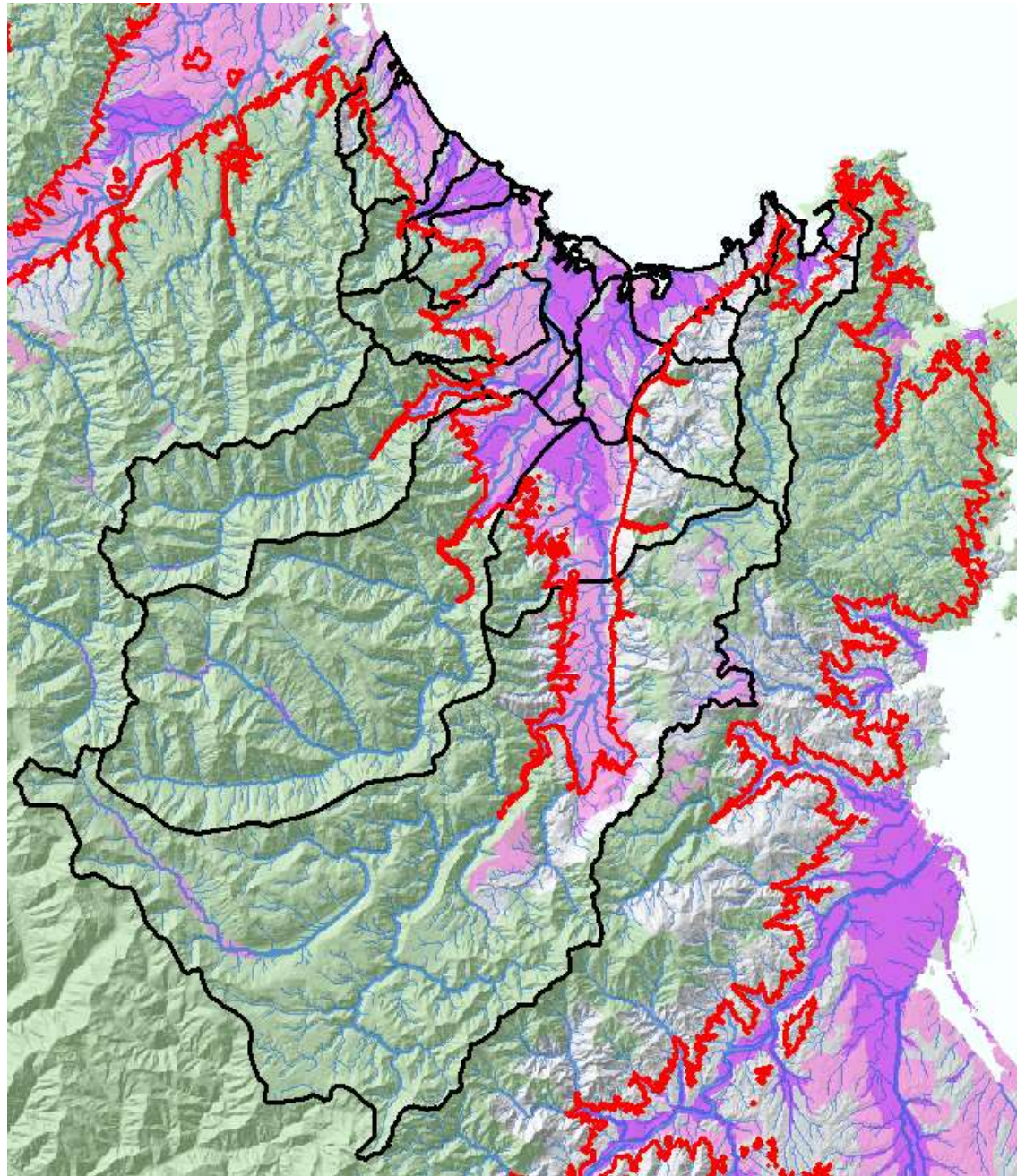
- Non-regulatory? - education, network support and financial subsidy
- Regulatory? - plan rule (with transitional time frames etc)

- **What is the goal?**

- Eg. all lowland 'accord' streams up to 10m wide are vegetated?
 - Perennial streams >30cm deep, 1-10m wide, below 150m elevation
 - These are the stream types that benefit most from riparian cover and where there is often high biodiversity to protect / enhance

Lowland streams

- Streams north of the red line (~150m contour)
- Smaller perennial streams and tributaries (1m-10m wide)
- Purples on map show stock exclusion areas (by slope) proposed in Next Steps (NPS-FM) document
- For dairy land in Takaka, under the accord – these streams are already stock excluded (permanently, temporarily or naturally)
- Fonterra working to gather data on planted areas



Remaining Key Questions – Riparian restoration

- **What gets done where and when - prioritisation for support?**
 - Sites with known issues from lack of shading
 - ie temperature, nuisance plant growth and DO issues
 - Upstream to downstream? etc
- **Widths and kinds of vegetation?**
 - Dependent on slope and stock exclusion methods, planting and maintenance strategies, specific goals - shading, biodiversity, etc
- **Who pays? Who does? – and what is council's role?**
 - Establishment and maintenance costs, ongoing pest control costs
 - Council support of community-farmer partnerships?
 - Offset mitigation funds??
 - Other??

Remaining Key Questions:

- Effects on Mauri
 - Requires hui with iwi
 - Where and how is mauri degraded or healthy?
 - Baseline measurement using CHI?
 - How can degraded mauri be improved?
- How do methods and approaches fit in the context of Maturanga maori? (maori understanding and knowledge)

Thoughts on quality management?



Water quantity - allocation philosophies

- Water minimum flow and allocation regimes aim to protect in-stream ecology during droughts from the effects of consented water takes
 - By using expert freshwater ecologist advice to:
 - identify **minimum low flows** that will protect the instream ecological values of each river
 - set **allocation limits** that take only part of the river flow and avoid rivers sitting at, or near, minimum low flows for extended periods
 - By stopping consented water takes before rivers reach the minimum low flows using **cease take** triggers
- Water allocation regimes seek to provide an acceptable security of supply for water users, within ecologically sustainable limits
 - If necessary, allocation limits are reduced to improve security of supply
- Meeting the ecological instream values meets all other values' in-stream requirements, except possibly the cultural and spiritual values
 - These may have more sensitive requirements in some locations

Allocation regimes summary

Zone	Recommended ecologically sustainable allocation regimes	Alternatives proposed	Interim Regime Selected
Waingaro	80:20	none	80:20
Anatoki	80:20	90:10	90:10
Upper Takaka	70:20 >70:15	70:15	70:15
Motupipi	80:20	none	80:20
Pariwhakaoho, Onahau, Puremahaia	90:10	(Pariwhakakoho: 100:10 , No allocation)	90:10
Onekaka	90:10 >> Existing takes (90:12)	90:10 (with ET reduction)	Existing takes (90:12)
Tukurua	90:10 >> Existing takes (90:23)	90:10 (with ET reduction)	90:10 (with ET reduction)
Takaka Township	80:10	90:05	No consensus
AMA Recharge (TWS)	90:10	90:6.5 (Existing Takes)	No consensus
Te Waikoropupu River (& Campbell Creek)	TW River: Existing takes Campbell Creek: 90:10	None	Not discussed yet
Middle Takaka, Upper Takaka Tributaries	No regime specified - covered by AMA Recharge regime		
Pohara-Clifton	Existing takes	none	Existing takes
Wainui	90:10	none	90:10
Rototai	Existing takes	none	Existing takes
Confined AMA	50 l/s (<1% of estimated flow to sea) and 1km exclusion around TWS	Existing take	Not discussed yet
Wainui North, Ligar Bay-Tata	No regimes specified - general policy applies (very small streams, no takes or demand)		

Water quantity - Methods applying to All Zones

- **Low flow Cease Take provision** (regulatory)
 - All existing and new consented takes – except:
 - Consented community water supplies
 - Consented water for domestic or stock drinking water
 - Groundwater takes - where groundwater resources are abundant, groundwater takes do not affect surface water body flows, and groundwater is not affected by salt intrusion
 - *Council can also use S329 of RMA to issue water shortage directions for these exceptions*
 - Cease Take triggers typically set at MALF – except:
 - 85% of MALF in Upper Takaka River
 - 85% of MALF in Lower Takaka River – due to a rationing step of 50% cut at 90% of MALF
 - 90% in the Waingaro River – due to rationing step of 50% cut at MALF
 - 95% in the Anatoki River – due to rationing step of 50% cut at MALF
 - Consented takes in the Arthur Marble Aquifer Recharge Zone would also be subject to cease take based on flows at Te Waikoropupu Main Spring (at MALF)
 - For rivers without telemetered gauges, cease take triggers are correlated to an appropriate telemetered gauge elsewhere to allow online, real time review
- **Salt intrusion Cease Take provision** (regulatory)
 - All existing and new consented takes affected by salt intrusion risks
 - Would apply to all takes in the Coastal Margin Zone
 - Affects all takes regardless of use – ie would still apply to drinking water sources

Remaining Key Questions – Water quantity

- What are the FLAG thoughts on [proposed regimes](#) for:
 - **Waikoropupu River and Campbell (Bell) Creek**
 - Waikoropupu River – grandfather existing takes so allocation limit is 57.3 l/s
 - Campbell Creek – 90:10 regime with an allocation limit of 35.3 l/s (no existing takes in this area)

Te Waikoropupu Zone Consents & Flow Statistics

- Surface Water Consents
- Groundwater Consents
- Hydro Electric Consents
- Flow Sites
- Gauging Locations

Total Allocated (l/s)	
Surface Water	46.8
Groundwater	17.2
Total:	64.0

7 DAY ESTIMATED FLOW STATISTICS (l/s)			
River	MALF	5 year	10 year
Waikoropupu at u-s Takaka Confluence	8231	7593	7376

7 DAY ESTIMATED FLOW STATISTICS (l/s)			
River	MALF	5 year	10 year
GW 6013 - Te Waikoropupu Main Spring	7661	6806	6515

GW 6013 - Te Waikoropupu Main Spring

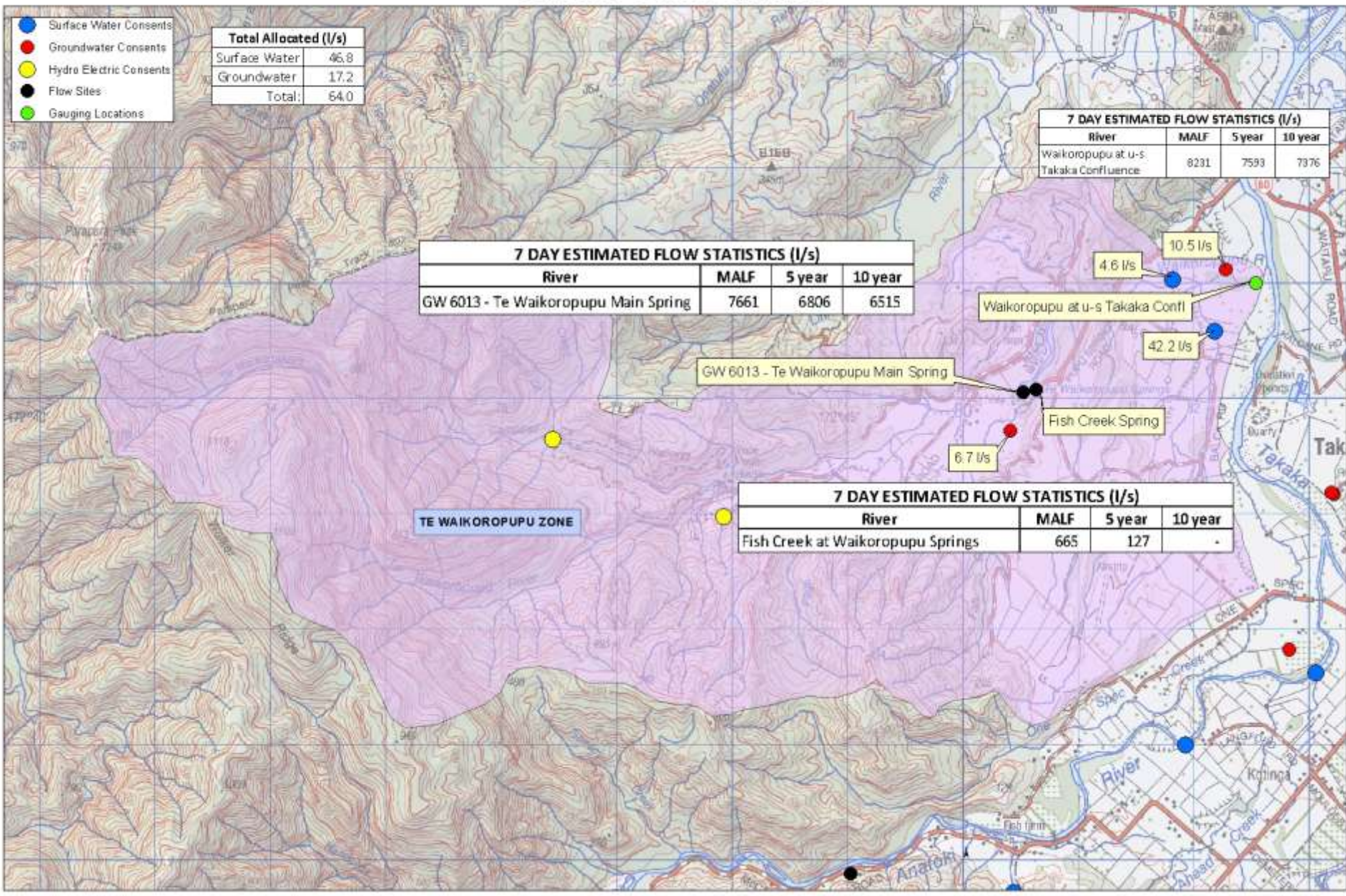
4.6 l/s
10.5 l/s
42.2 l/s
Waikoropupu at u-s Takaka Confl

Fish Creek Spring

6.7 l/s

TE WAIKOROPUPU ZONE

7 DAY ESTIMATED FLOW STATISTICS (l/s)			
River	MALF	5 year	10 year
Fish Creek at Waikoropupu Springs	665	127	-



Remaining Key Questions – Water quantity

- What are the FLAG thoughts on **proposed regimes** for:
 - **Waikoropupu River and Campbell (Bell) Creek**
 - Waikoropupu River – grandfather existing takes so allocation limit is 57.3 l/s
 - Campbell Creek – 90:10 regime with an allocation limit of 35.3 l/s (no existing takes in this area)
 - **Confined AMA:**
 - Allocation limit = 50 l/s which is < 1% of the estimated flow in the aquifer that goes out to sea
 - **Cease take provision?**
- Have any FLAG members changed their positions regarding:
 - **Takaka Township (Lower Takaka River)**
 - AMA Recharge (TWS) – to be discussed separately at next FLAG meeting

Remaining Key Questions – Water quantity

- The allocation regimes, including cease take provisions, have been developed with the intent to protect in-stream ecological values during droughts from the effects of consented water takes
- Are FLAG members comfortable that the proposed regimes and cease take provisions will achieve this?
 - Are there any proposed regimes members cannot live with?
 - Proposed numbers will be put into the plan framework for FLAG review in July

Remaining Key Questions – Water quantity

- **Default river allocation policy:**

- Applies where no minimum flow or allocation limit has been specified in Plan or a WCO
 - Is there **nationally or regionally significant aquatic habitat value** in Schedule 30A (V&MO)?
 - Yes – abstraction no more than 10% of 5 year 7-day low flow
 - No - can **cumulative effects** be avoided, remedied, mitigated:
 - » No – 10% of 5 year 7 day low flow
 - » Yes – up to 33% of 5 year 7 day low flow

- Eg

Allocation limit comparison - by % of MALF and by default policy						
	7d MALF	5yr 7d Low flow	Ecologically Sustainable % of MALF	AL based on % of MALF l/s	AL based on 10% of 5yr LF	AL based on 33% of 5yr LF
Pariwhakaoho River	195	166	10%	20	17	55
Upper Takaka River	2380	1646	20%	476	165	543
Te Waikoropupu Springs	7661	6806	10%	766	681	2246

- 10% of 5yr 7d low flows are more conservative than the % MALF approach, but percentages above this could be above ecologically sustainable levels
- Assuming interim decisions proceed, default policy would apply to any future applications for takes in Wainui North and Ligar Bay/Tata, and any other rivers in the other zones not specifically covered by the allocation regime
- Should default allocation policy be amended?
- Should this be tied to a default cease take provision?

Remaining Key Questions – Water quantity

- **Community use reservations**

- Methodology for urban estimates very rough – relatively small volumes compared to other uses
 - Ie By zone, number of valuation references multiplied by typical household use of 1.3m³/day
- Difficult to put a number on industrial and commercial uses

- **‘Cultural use’ reservations**

- Requires hui with iwi – idea raised at initial engagement discussions

Thoughts?



Where to from here?



Process for assessing zone summaries

- Staff will email out zone summaries
- Re-read the values and management objectives
- Read the zone summaries
- Read the meeting notes when interim decisions were discussed
- Ask yourself:
 - Has your thinking changed or clarified since the interim decisions were made?
 - Would you change anything in the values and management objectives?
 - Do you think the allocation regime and water quality management methods identified will meet the management objectives for this zone?
- Fill out the management objectives section at the end of each zone summary and send back to staff
- Staff will analyse and collate to report back at the next meeting

PC content vs Implementation Plan content

- **Regulatory methods:**

- Allocation regimes
 - minimum flows
 - allocation limits
 - cease take and rationing triggers
- Good Management Practice requirements (new section in plan)
- Non-regulatory methods listed in methods section of relevant chapters

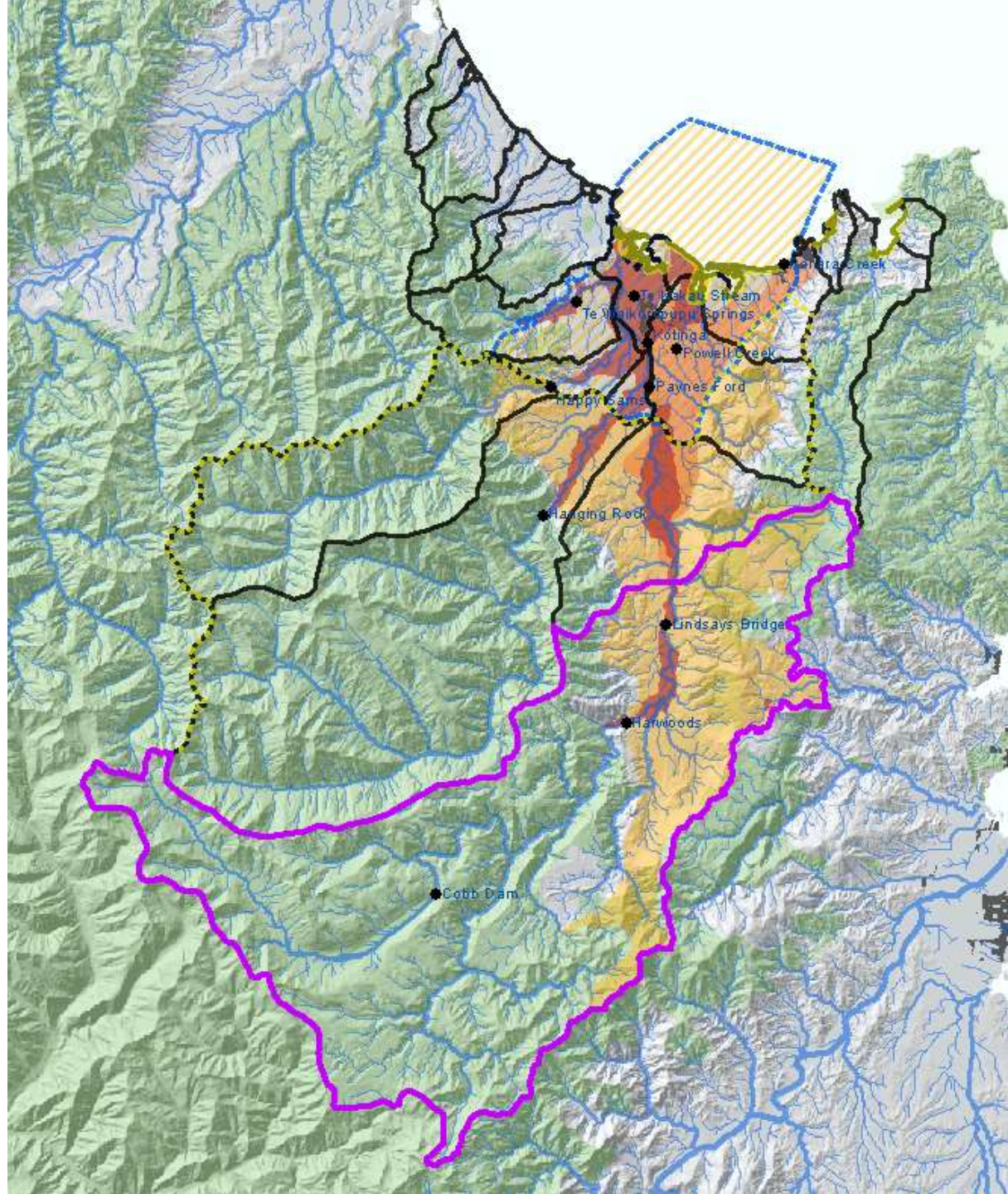
- **Implementation plan:**

- Investigations and special projects requiring one-off funding
- New monitoring requiring new ongoing funding
- Education programs requiring staff time and funding
- Subsidy programme scope and funding needs
- Any future plan change projects needed to complete the process and associated development projects
- Anything else not covered in the plan change!

Questions?



Upper Takaka Zone



Water Allocation Regime – Upper Takaka Zone

Current Use
240 l/s

Ecologically sustainable water available
476 l/s

Allocation Limit
357 l/s

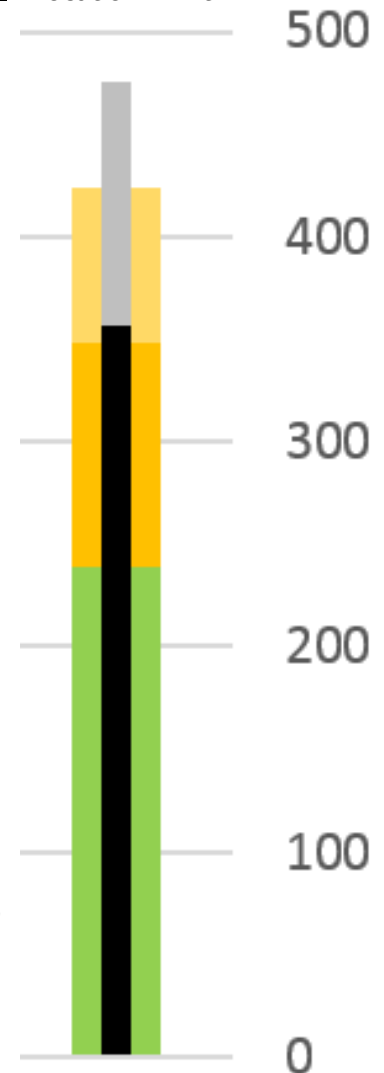
New allocatable water
117 l/s

Estimated Future Demand
>175 l/s

Future Supply - Demand Status
- 58 l/s
Water short

- **Existing Demand:**
 - Existing consented takes = 240 l/s
 - Current waiting list = 110 l/s
- **Other Estimated Future Demand**
 - Future irrigation = 65 l/s
 - No identified community use reservation
 - Unknown 'cultural use' reservation
- **7 day MALF = 2380 l/s**
- **Median flow for take to storage = 10,100 l/s**
 - above 52% of time, 298 million m³/yr
- **Ecologically Recommended Regime 70:20**
- **Selected Allocation Regime 70:15:**
 - 70% of MALF minimum flow = 1666 l/s
 - 15% of MALF allocation limit = 357 l/s
 - 85% of MALF cease take trigger = 2023 l/s
 - Cease take applies to all existing and new takes
 - Security of supply = 92.9%

- Other Estimated Future Demand
- Current Waiting List
- Existing Consented Takes
- Ecologically Sustainable water
- Allocation Limit



Water Quality Management – Upper Takaka Zone

- **Key issues/objectives**

- Maintain existing good water quality in Upper Takaka River
- Minimise risk of nuisance plant growth exacerbated by nutrients in surface waters
- Minimise risk of nutrient discharge to AMA recharge

- **Attributes of concern and potential human activity sources**

- Nitrate - from productive land uses and onsite wastewater
- Dissolved Reactive Phosphorus (DRP) - from productive land uses and onsite wastewater

- **Management methods:**

- Good Management Practice required for all land uses in zone (new reg)
- Education for onsite wastewater in zone (new non-reg)
- Monitor trends in surface water (new non-reg)
- Monitor trends in groundwater (existing synoptic survey every 10 years)
- Other potential methods (in future):
 - WOF for onsite wastewater in zone (new non reg)

- **Monitoring methods:**

- Monthly surface water monitoring at Lindsay's bridge: incl. N, DRP & periphyton (new)
- Existing 10 year synoptic groundwater SOE monitoring (existing)

Remaining Questions - Upper Takaka Zone

- Water allocation
 - Hui with iwi (eg cultural reservation)
 - Demands may exceed available water in future
- Water quality issues and management
 - Hui with iwi (mauri, matauranga maori)
 - Are there swimming sites below Harwoods for which E.coli might need to be monitored?
- Questions significantly affecting plan drafting:
 - None

The End...
of the beginning