



Takaka FLAG

Zone by Zone – interim allocation summaries

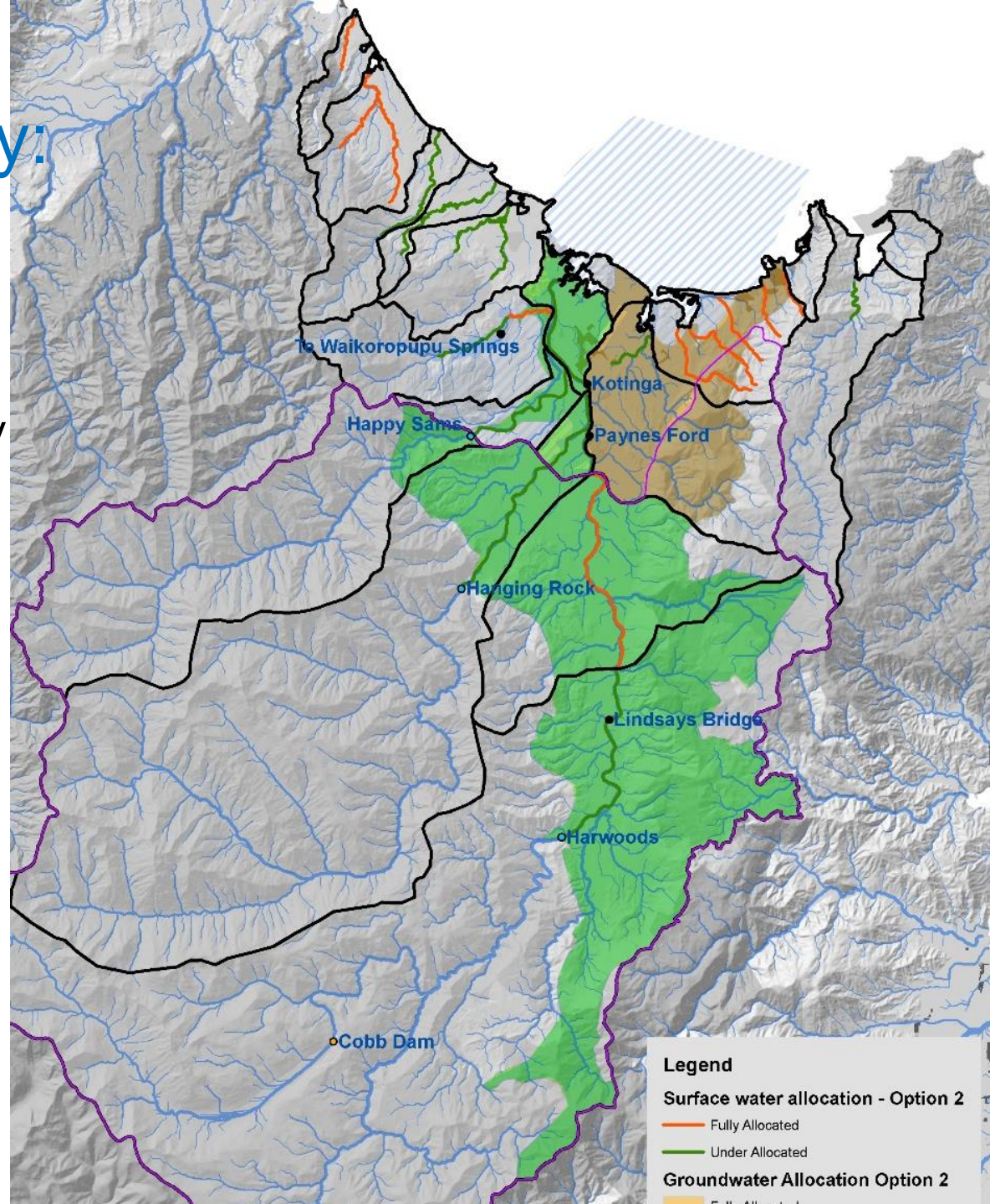
20 October 2016

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

Interim allocation decisions summary:

- 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)	60:10 (ET) & 70:15 (new) [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)

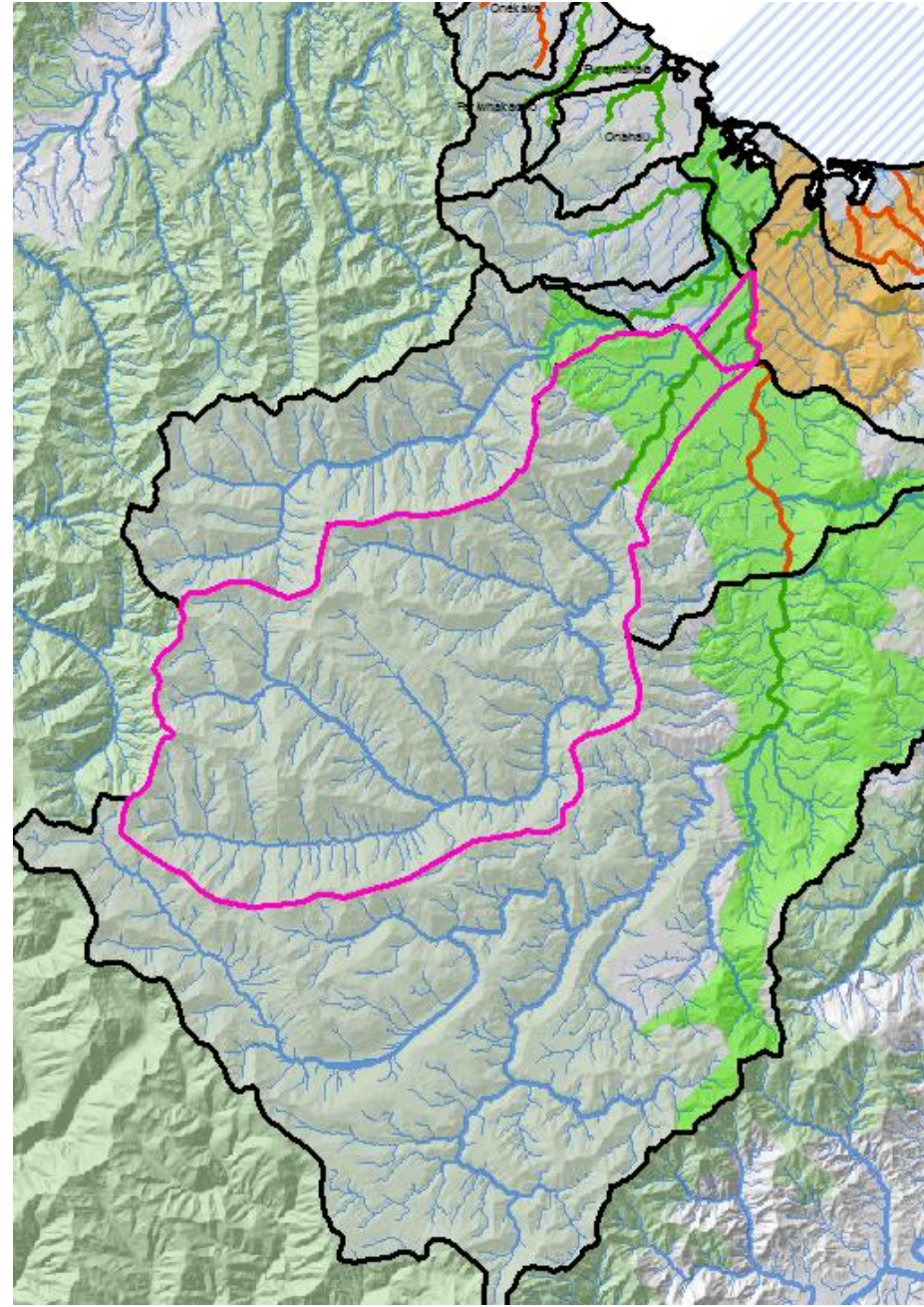
Waingaro Zone - Interim allocation decisions:

Proposal: 80:20 regime

- Existing and new consents:
 - Allocation up to 20 % of MALF (550 l/s) – calculated using MALF at US confluence site
 - Rationing step of a 50% cut at 100% MALF
 - Cease take at 90% MALF for MF of 80%
 - New cease takes at Hanging Rock for existing and new consented takes

Key implications:

- Protection of low flows below 80% of MALF from effects of consented water takes
- 185 l/s more water
- 100% of waiting list met
- New (lower) security of supply level for 14 existing users
- After waiting list, 87 l/s remaining



Waingaro Zone – security of supply



Waingaro - 80% MALF & 20% Allocation

Waingaro at Hanging Rock Data record: 1986 - 2015	Flow (l/s)	AVERAGE /Count	Days Below Flow (l/s) Per Hydrological Year (August to July)															
			1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Lowest 7 Day recorded flow (l/s)			4047	2752	3608	3388	4434	3145	3120	3530	3315	2895	2473	3466	3768	3025	2956	2987
Return Period for lowest 7 day recorded flow (years)			<1	65	<1	2.2	<1	3.5	4.0	1.5	2.5	8.5	>100	2.0	<1	5.0	6.5	6.0

Based on 15min interval instantaneous flows

Rationing Step 1 (50% cut) - number of days below (total)	3418	14.2	0.0	58.7	0.0	4.5	0.0	11.0	23.5	1.2	6.8	20.5	52.4	1.9	0.0	16.8	16.4	14.0
Cease Take - number of days below (total)	3143	8.6	0.0	47.5	0.0	0.0	0.0	3.5	8.0	0.0	1.8	13.5	39.3	0.0	0.0	7.6	9.3	7.1
Cease Take - # of times > 3 days in a row below 3143 l/s	3143	7	0	3	0	0	0	0	1	0	0	2	4	0	0	1	1	1
Cease Take - longest consecutive # days below 3143 l/s	3143	13	0	17 days	0	0	0	0	3.5 days	0	0	7 days	18 days	0	0	7 days	9.3 days	7.1 days
Cease Take - # of times > 5 days in a row below 3143 l/s	3143	6	0	3	0	0	0	0	0	0	0	2	4	0	0	1	1	1
Cease Take - longest consecutive # days below 3143 l/s	3143	12	0	17 days	0	0	0	0	0	0	0	7 days	18 days	0	0	7 days	9.3 days	7.1 days
Number of days less than minimum flow	2868	3.8	0.0	29.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	26.9	0.0	0.0	0.0	1.0	0.0

NOTE: MALF based on upper site Hanging Rock, allocation based on lower site u-s Confluence

14 existing takes – affected by cease take provision

Regime	Rationing/ Cease Take (CT) Trigger	Minimum flow protected	Security % above CT Nov-April	Security % of years with CT>3days (longest CT)	Security % of years with CT>5days (longest CT)
Current	None	None	na	na	na
80:20 rationing step (50% cut)	3418 l/s	na	95.7%	na	na
80:20 Cease Take	3143 l/s	2868 l/s (80% of MALF)	97.6%	13 CT in 7 of 16yrs (longest: 18 days)	12 CT in 6 of 16yrs (longest: 18 days)

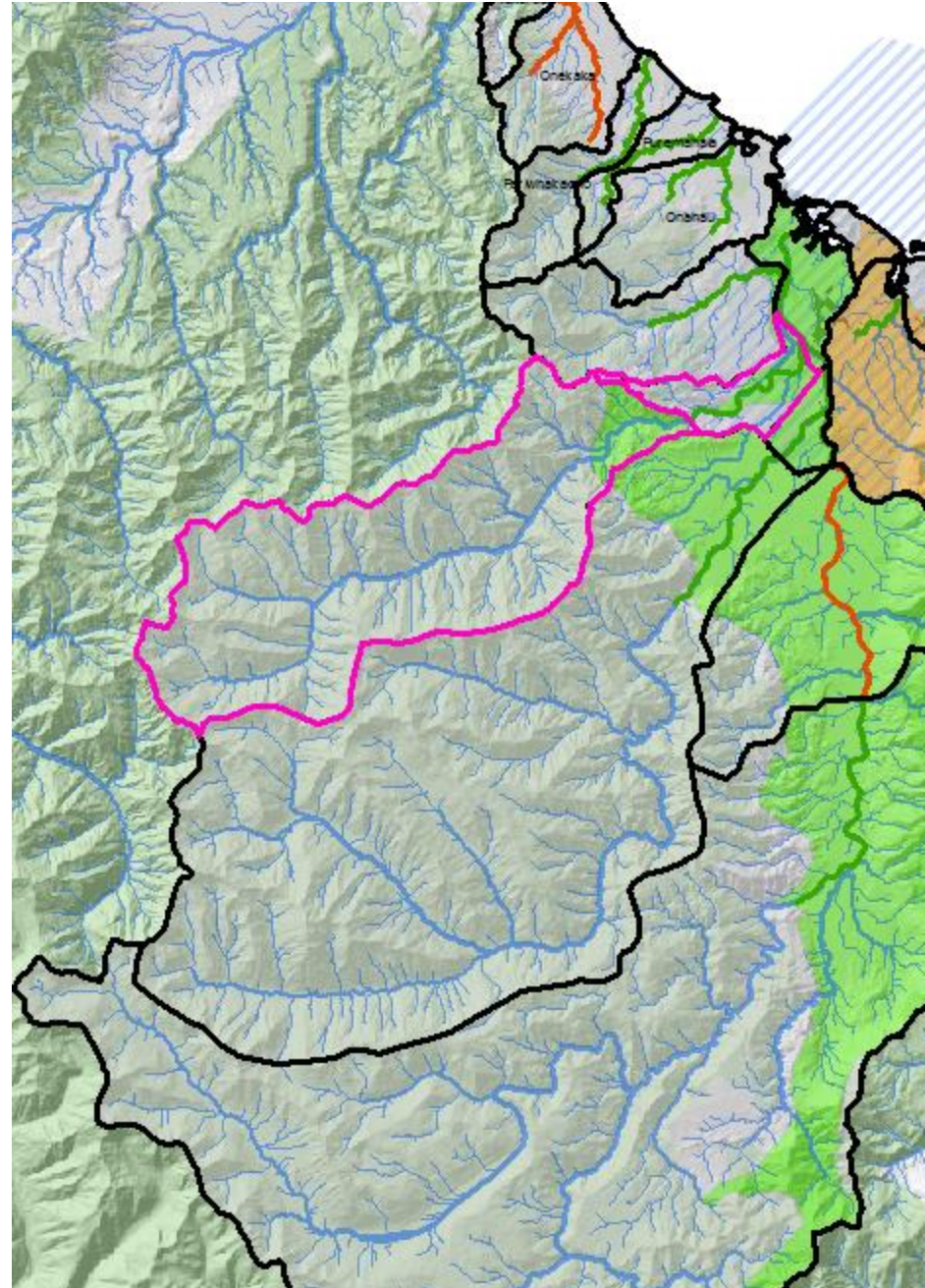
Anatoki Zone -Interim allocation decisions:

Proposal: 90:10 regime

- Existing and new consents:
 - Allocation up to 10 % of MALF (171 l/s) – calculated using MALF at One Spec (lower)
 - Rationing step of a 50% cut at 100% MALF
 - Cease take at 95% MALF for MF of 90%
 - New cease takes at Happy Sam's for existing and new consented takes

Key implications:

- Protection of low flows below 90% of MALF from effects of consented water takes
- 92 l/s more water
- New (lower) security of supply level for 4 existing users



Anatoki Zone – Security of supply



Anatoki - Scenario 1 - FLAG Option - 90% MALF & 10% Allocation

Anatoki at Happy Sams Data record: 1986 - 2015	Flow (l/s)	Average /Count	Days Below Flow (l/s) Per Hydrological Year (August to July)															
			1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Based on 15min interval instantaneous flows																		
Rationing Step 1 (50% cut) - number of days below (total)	2111	16.7	0.0	71.0	0.0	6.0	0.0	13.0	40.0	11.0	10.0	6.0	33.0	14.0	0.0	17.0	14.0	15.0
Cease Take - number of days below (total)	2025	13.1	0.0	66.0	0.0	3.0	0.0	11.0	34.0	5.0	5.0	0.0	27.0	7.0	0.0	15.0	10.0	13.0
Cease Take - # of times > 3 days in a row below 2025 l/s	2025	10	0.0	5.0	0.0	1.0	0.0	2.0	5.0	1.0	1.0	0.0	3.0	0.0	0.0	1.0	1.0	1.0
Cease Take - longest consecutive # days below 2025 l/s	>3 2025	21	0.0	21 days	0.0	3 days	0.0	8 days	9 days	3 days	5 days	0.0	16 days	0.0	0.0	15 days	10 days	13 days
Cease Take - # of times > 5 days in a row below 2025 l/s	>5 2025	8	0.0	4.0	0.0	0.0	0.0	1.0	3.0	0.0	1.0	0.0	2.0	0.0	0.0	1.0	1.0	1.0
Cease Take - longest consecutive # days below 2025 l/s	>5 2025	14	0.0	21 days	0.0	0.0	0.0	8 days	9 days	0.0	5 days	0.0	16 days	0.0	0.0	15 days	10 days	13 days
Number of days less than minimum flow	1940	9.7	0.0	60.0	0.0	0.0	0.0	9.0	28.0	1.0	3.0	0.0	22.0	3.0	0.0	12.0	8.0	9.0

4 existing takes – affected by cease take provision

Regime	Rationing/ Cease Take (CT) Trigger	Minimum flow protected	Security % above CT Nov-April	Security % of years with CT>3days (longest CT)	Security % of years with CT>5days (longest CT)
Current	None	None	na	na	na
90:10 rationing step (50% cut)	2111 l/s	na	94.7%	na	na
90:10 Cease Take	2026 l/s	1940 l/s (90% of MALF)	95.8%	21 CT in 10 of 16yrs (longest: 21 days)	14 CT in 8 of 16yrs (longest: 21 days)

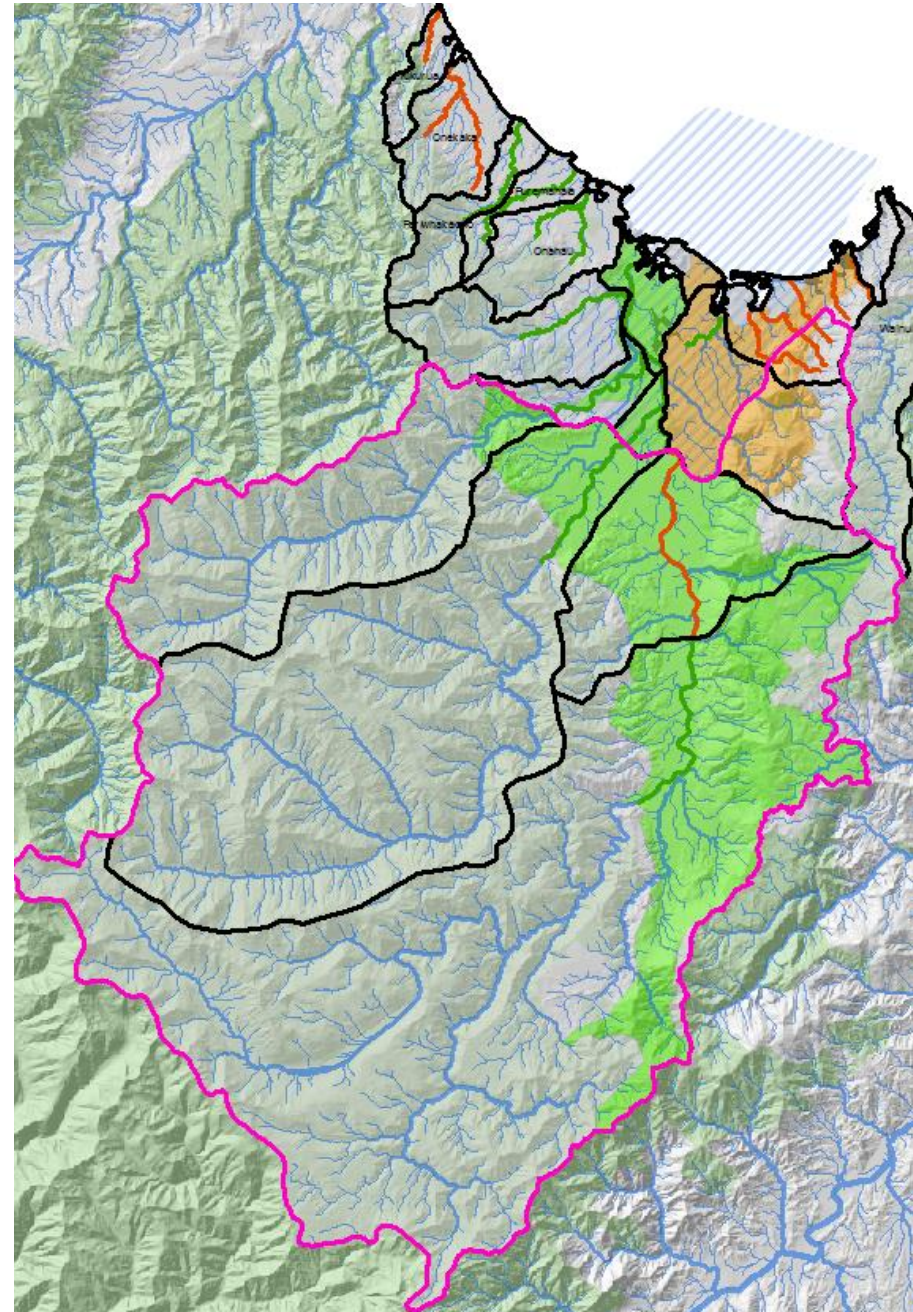
AMA Recharge Zone Interim allocation decisions:

Proposal: 96:10 regime

- Accounting change: 8% (vs 100%) of Waingaro takes
- Surface and groundwater
- Existing and new consents:
 - Allocation up to 10 % of MALF (766 l/s)
 - Cease take at 96% of MALF for MF of 96%
 - Cease take for existing and new consented takes in contributing catchments without their own regime cease takes

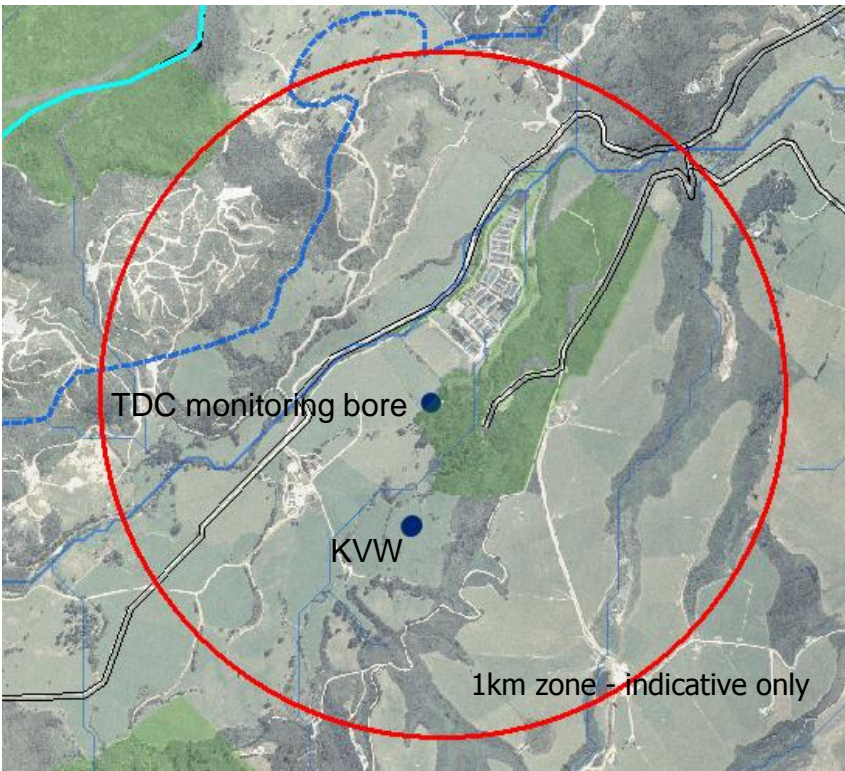
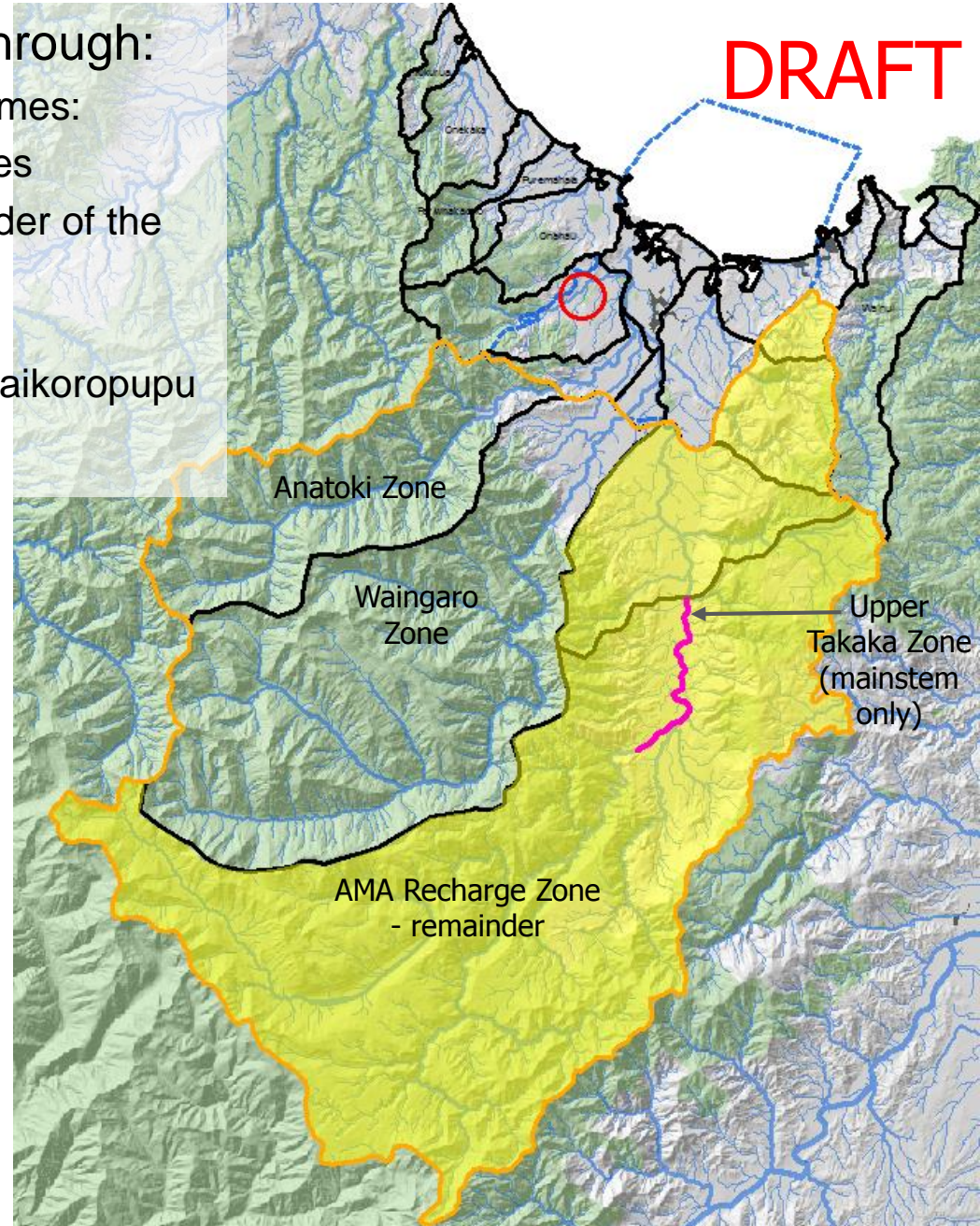
Key implications:

- Protection of low flows below 96% MALF from effects of consented water takes
- 356 l/s more water
- New (lower) security of supply level for 7 existing users subject to cease take
- After contributing regimes accounted, 223 l/s remaining
 - Staff recommending this only come from Unconfined AMA in Middle and Upper Takaka areas (physical access permitting) to avoid effects on surface waters



AMA Recharge Zone - Cease Take application

- Protection of spring/aquifer 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





AMA Recharge Zone – security of supply

96:10 - AMA Recharge at TWS

Te Waikoropupu Springs

GW 6013 Data - 1999 to 2016	Flow (l/s)	Days Below Flow (l/s) Per Hydrological Year (August to July)																	
		1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
<i>Based on 15min interval instantaneous flows</i>																			
Cease Take 7350 l/s (Level: 14820 mm)	Average:																		
Cease Take - number of days below (total)	7350	7.7	0.0	20.0	0.0	0.0	2.5	1.0	58.0	0.0	0.0	0.0	28.5	0.0	0.0	0.0	4.5	2.5	14.0
Cease Take - # of times > 3 days in a row below 7350 l/s	7350	4 years	>3	2.0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	1.0
Cease Take - longest consecutive # days below 7350 l/s	7350	7 times		10.5 days	0	0	0	0	30 days	0	0	0	18.5 days	0	0	0	0	0	14 days
Cease Take - # of times > 5 days in a row below 7350 l/s	7350	4 years	>5	2	0	0	0	0	2	0	0	0	1.0	0	0	0	0	0	1.0
Cease Take - longest consecutive # days below 7350 l/s	7350	6 times		10.5 days	0	0	0	0	30 days	0	0	0	18.5 days	0	0	0	0	0	14 days
Cease Take - # of times > 1 day in a row below 7350 l/s	7350	7 years		20	0	0	2	0	28	0	0	0	21	0	0	0	3	1	13.0
Cease Take - longest consecutive # days below 7350 l/s	7350	88 times		10 days	0	0	2 days	0	28 days	0	0	0	18 days	0	0	0	1 day	1 day	13 days

Duration (for all record):
 Flow was greater than 7350 l/s 97.8% of the time between August 1999 and August 2016 (all year)
 Flow was greater than 7350 l/s 95.9% of the time between August 1999 and August 2016 (Nov-Apr incl)

7 existing takes – affected by cease take provision (4 Middle Takaka, 3 Takaka Tributaries)

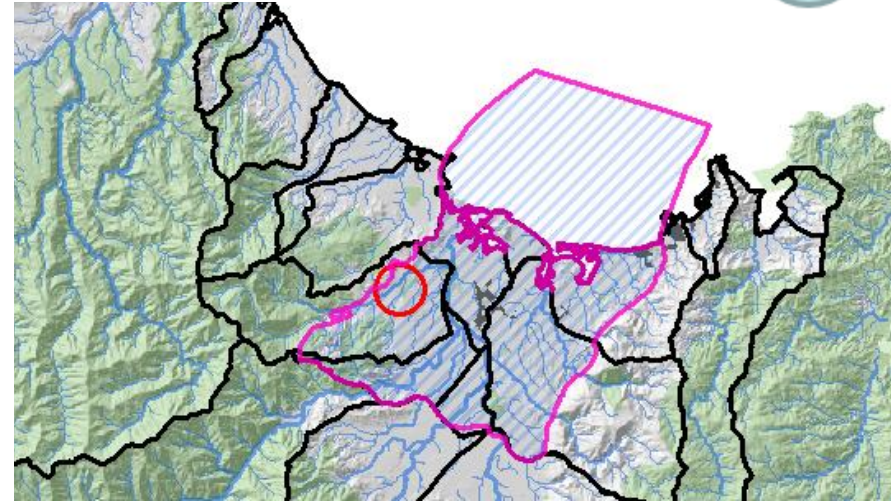
Regime	Cease Take Trigger	Minimum flow protected	Security % above Nov-April	Security No. of CT/ylrs >3day	Security No. of CT/ylrs >5day
Current	none	none	na	na	na
96:10	7350 l/s	7350 l/s (96% of MALF)	95.9%	7 CT in 4 of 17ylrs (longest: 30 days)	6 CT in 4 of 17ylrs (longest: 30 days)
Comparison with Upper Takaka A permits	1657 l/s	1417 l/s (60% of MALF)	95.9%	2 CT in 2 of 17ylrs (longest: 5 days)	1 CT in 1 of 17ylrs (longest: 5 days)

Confined AMA- Interim allocation decisions:



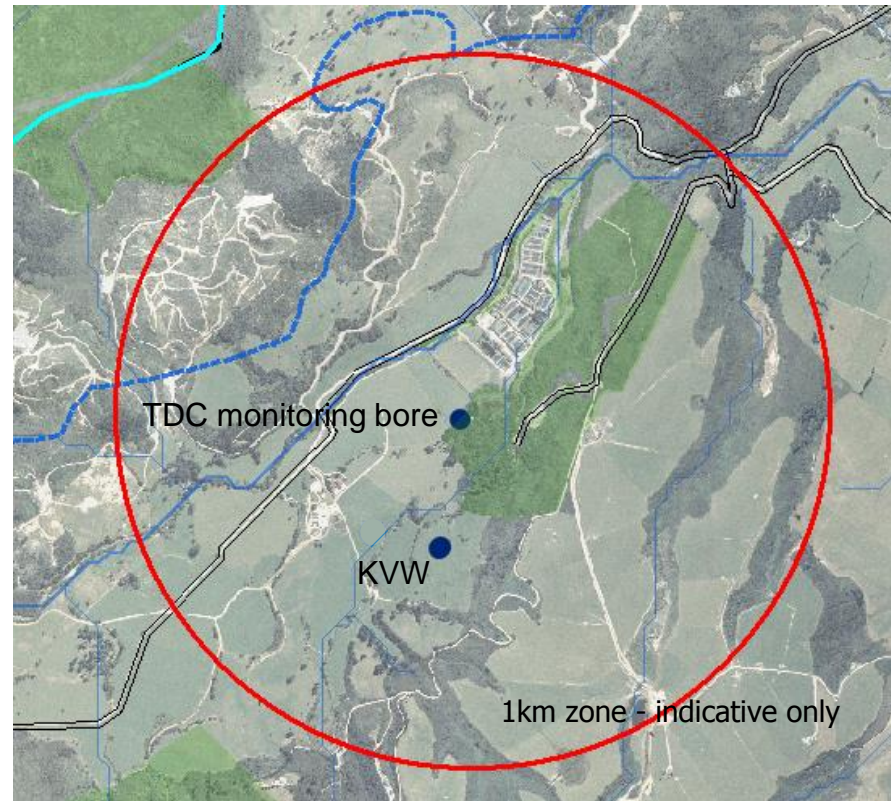
Proposal: 50 l/s allocation

- Based on less than 1% of estimated flow to the sea (~6500 l/s)
- No cease take proposed
- Potential 1 km exclusion zone around Te Waikoropupu
 - No new bores or takes
 - Yet to be fully discussed



Key implications:

- Allocation regime defined
- No change for existing consent
- 43 l/s more water
- New takes from confined AMA to be outside exclusion zone

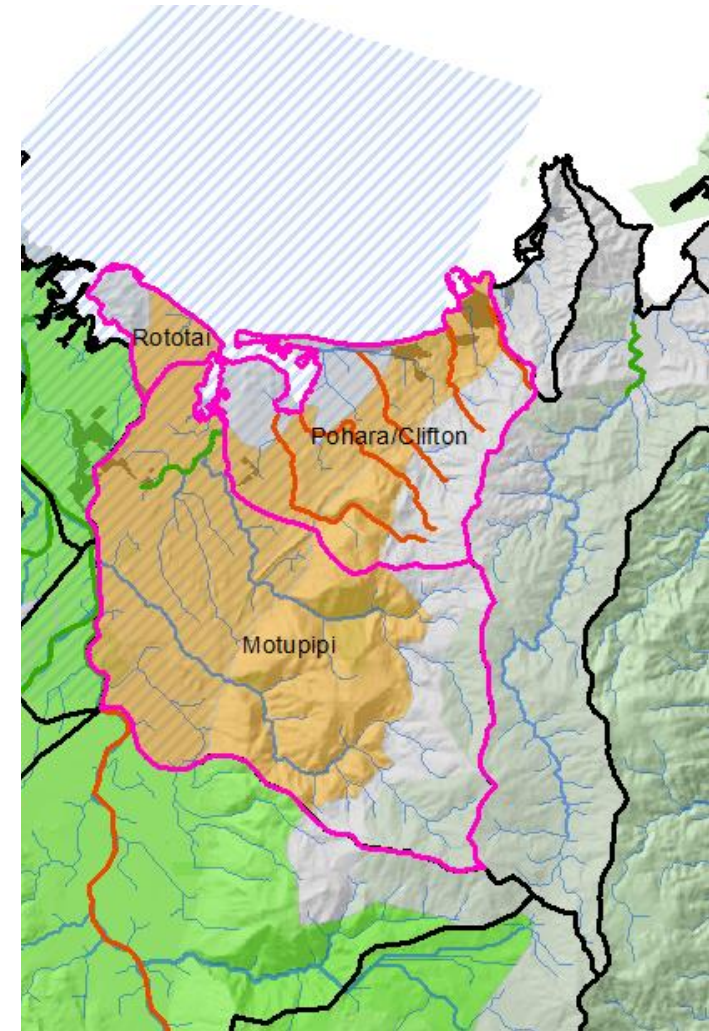


Motupipi, Pohara/Clifton, Rototai – Interim allocation decisions:

- **Motupipi zone: 80:20 (surface water)**
 - Regime for surface water only
 - Almost fully allocated: ~2 l/s more water
 - Rationing and cease take applies to surface water takes (1 existing take)
 - Existing (6) groundwater takes grandfathered
- **Pohara/Clifton zone: Existing Takes**
 - Existing (10) surface and (3) groundwater takes grandfathered
 - Cease take provisions to be addressed in consents
- **Rototai : Existing Takes**
 - Groundwater only, 2 existing consents grandfathered
 - Cease take provisions to be addressed in consents
- No waiting lists in any of these zones

Implications:

- Some river low flow protection with cease takes
- Lower security for some existing users due to new cease takes
- No new water available in Pohara/Clifton or Rototai
- ~2 l/s more water available in Motupipi River





Motupipi - 80% MALF (GW 23648 - Takaka Fire 2)

GW 23648 - Takaka Fire 2 record: 2011 - 2016	GW Level (mm)	Average /Count	Days Below Level (mm) Per Hydrological Year (August to July)				
			2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
<i>Based on 15min interval groundwater levels</i>							
Rationing Step 1 (50% cut) - number of days below (total)	6824	33.2	15.7	38.2	27.8	33.6	50.6
Cease Take - number of days below (total)	6783	17.1	0.0	11.6	22.7	17.6	33.7
Cease Take - # of times > 1 day in a row below 6783 mm	6783	4	0.0	1.0	1.0	1.0	5.0
Cease Take - longest consecutive # days below 6783 mm	6783	8	0.0	11.6 days	22.7 days	17.6 days	15 days
Cease Take - # of times > 3 days in a row below 6783 mm	6783	4	0.0	1.0	1.0	1.0	3.0
Cease Take - longest consecutive # days below 6783 mm	6783	6 > 3	0.0	11.6 days	22.7 days	17.6 days	15 days
Cease Take - # of times > 5 days in a row below 6783 mm	6783	4	0.0	1.0	1.0	1.0	2.0
Cease Take - longest consecutive # days below 6783 mm	6783	5 > 5	0.0	11.6 days	22.7 days	17.6 days	15 days

NOTE: Based on Takaka at Fire2 Groundwater site, correlated with Motupipi at Reilly's Bridge

	Motupipi Flow (l/s)	Fire 2 Level (mm)
7 Day MALF	231	6824
80% MALF	185	6742
50% Cut	231	6824
Cease Take	208	6783

Motupipi correlated to Takaka Fire 2 bore

Motupipi correlated to TDC office bore (GW6339) (longer record of data)



Motupipi - 80% MALF (GW 6339 - TDC Office)

GW 6339 - TDC Office record: 1999 - 2016	GW Level (mm)	Average /Count	Days Below Level (mm) Per Hydrological Year (August to July)																	
			1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2014/ 2015	2015/ 2016	
<i>Based on 15min interval groundwater levels</i>																				
Rationing Step 1 (50% cut) - number of days below (total)	6484	21.4	0.0	17.2	0.0	10.3	0.0	4.7	45.8	29.2	33	0.0	32.0	24.5	16	40.9	26.1	35.1	49.8	
Cease Take - number of days below (total)	6446	9.4	0.0	0.0	0.0	0.0	0.0	0.0	11.6	7.3	19.1	0.0	12.2	14.2	3.3	11.1	19.1	25.6	35.6	
Cease Take - # of times > 1 day in a row below 6446 mm	6446	10	0.0	0.0	0.0	0.0	0.0	0.0	2	2	2	0.0	2	1	1	1	1	2	4	
Cease Take - longest consecutive # days below 6446 mm	6446	18	0.0	0.0	0.0	0.0	0.0	0.0	8.5 days	4.8 days	18 days	0.0	6 days	14.2 days	3.3 days	11.1 days	19.1 days	22.5 days	16.5 days	
Cease Take - # of times > 3 days in a row below 6446 mm	6446	10	0.0	0.0	0.0	0.0	0.0	0.0	2	1	1	0.0	3	1	1	1	1	2	3	
Cease Take - longest consecutive # days below 6446 mm	6446	16	0.0	0.0	0.0	0.0	0.0	0.0	8.5 days	4.8 days	18 days	0.0	6 days	14.2 days	3.3 days	11.1 days	19.1 days	22.5 days	16.5 days	
Cease Take - # of times > 5 days in a row below 6446 mm	6446	8	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1	0.0	1	1	0.0	1	1	1	2	
Cease Take - longest consecutive # days below 6446 mm	6446	9	0.0	0.0	0.0	0.0	0.0	0.0	8.5 days	0.0	18 days	0.0	6 days	14.2 days	0.0	11.1 days	19.1 days	22.5 days	16.5 days	

NOTE: Based on Takaka at TDC Office Groundwater site, correlated with Motupipi at Reilly's Bridge

	Motupipi Flow (l/s)	TDC Office Level (mm)
7 Day MALF	231	6484
80% MALF	185	6407
50% Cut	231	6484
Cease Take	208	6446

Takaka Township - Interim allocation decisions:

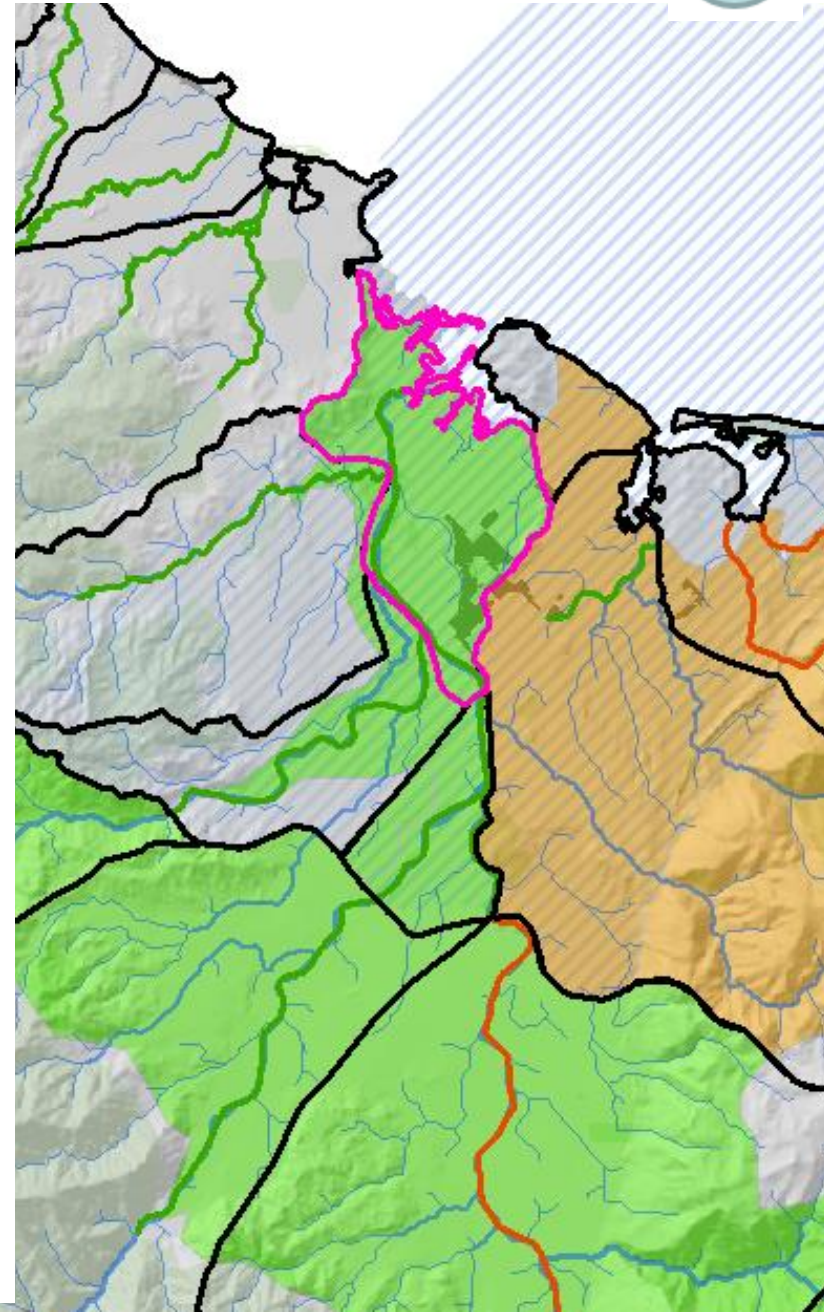


No consensus on proposal as yet:

- Two options discussed:
 - 80:20 recommended as ecologically sustainable
 - 90:05 alternative raised by FLAG
 - Concern over opportunity cost
- Cease take to apply only to surface water takes

Key implications:

- Protection of river low flows below 80 or 90% of MALF from effects of consented surface water takes
- Large amount of water available:
 - 135 or 405 l/s more water
 - surface and groundwater combined
- No change to existing users security of supply



Coastal catchments- Interim allocation decisions:

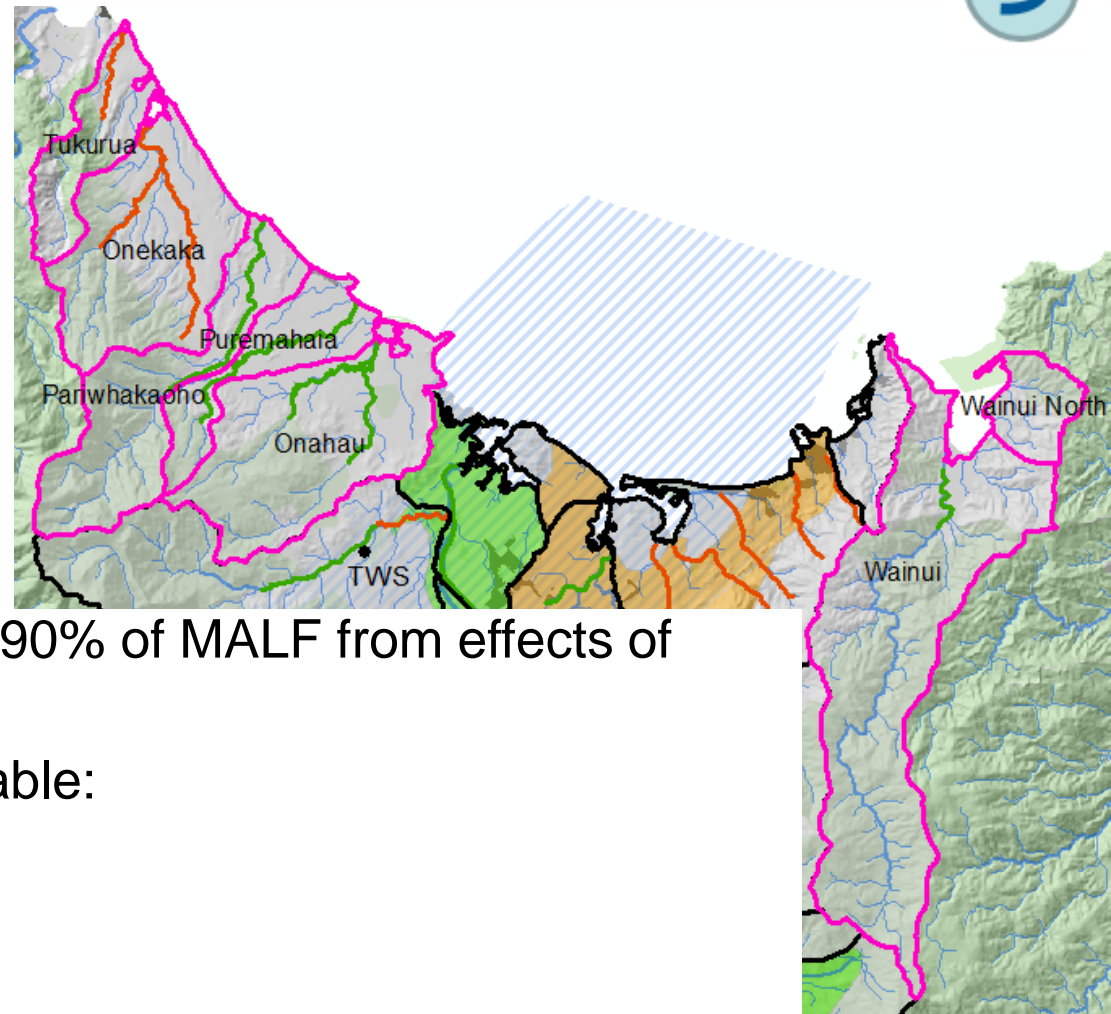


Proposal: 90:10 regimes

- Existing and new consents:
 - Allocation up to 10 % of MALF
 - 2 to 61 l/s
 - Cease take for minimum flow of 90% MALF
 - New cease takes for 2 existing and new consented takes

Key implications:

- Protection of low flows below 90% of MALF from effects of consented water takes
- Small amounts of water available:
 - Pariwhakaoho: 19.5 l/s
 - Puremahaia: 2.3 l/s
 - Onahau 6.7 l/s
 - Wainui 61.3 l/s (31.5 l/s more water)
 - Wainui North (yet to be confirmed - existing take 1.9 l/s)
- No further water in:
 - Tukurua (over-allocated under 90:10)
 - Onekaka (existing take grandfathered at equivalent of 90:12)
- Reduced security of supply for 2 existing consents



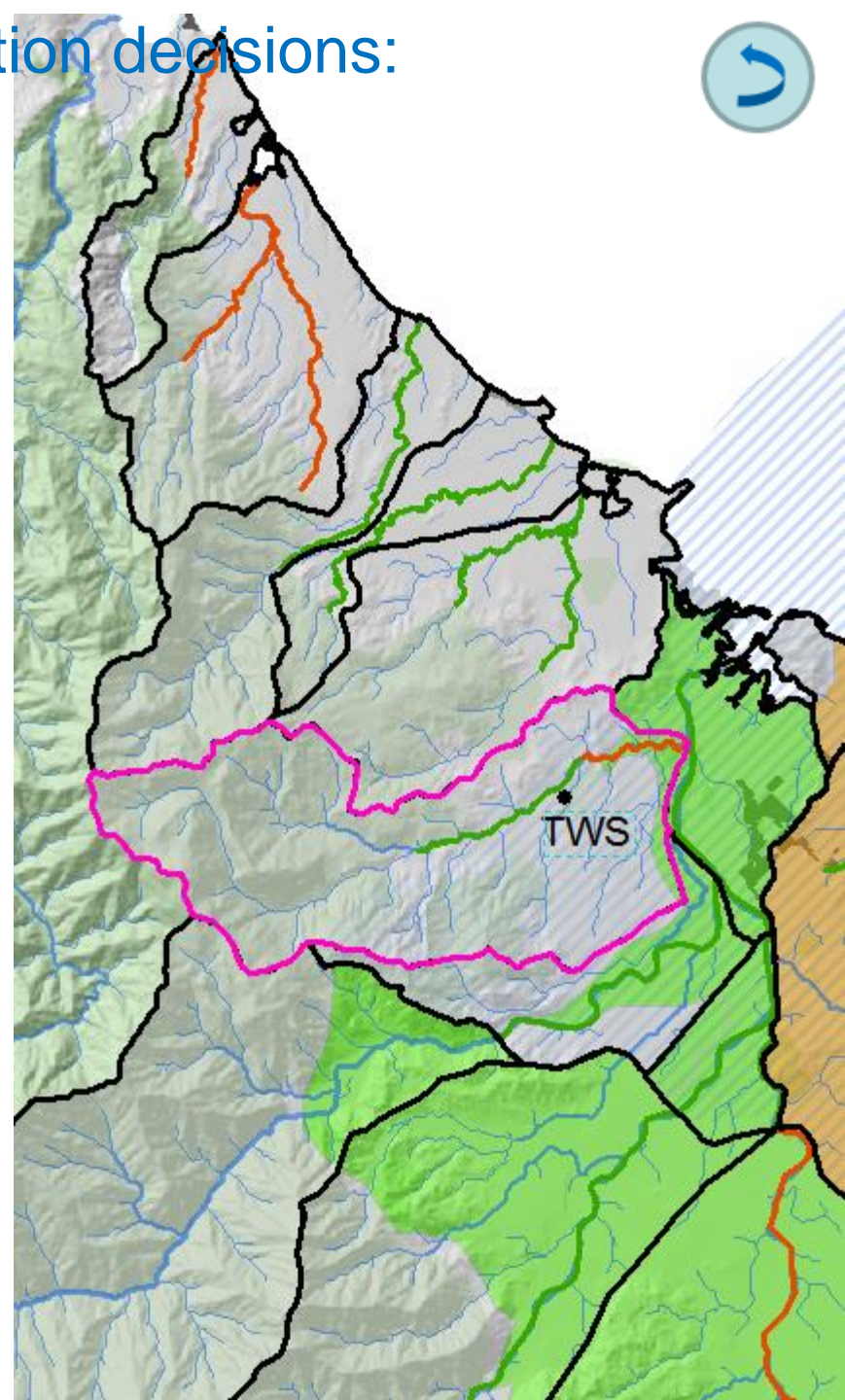
Waikoropupu River - Interim allocation decisions:



- **Campbell Creek: 90:10**
 - Allocation up to 10 % of MALF (35 l/s)
 - Cease take for minimum flow of 90% MALF
- **Waikoropupu River: Existing Takes**
 - Existing 3 takes grandfathered
 - No cease take proposed due to water available

Key implications:

- Protection of low flows:
 - in Campbell Creek below 90% of MALF from effects of consented water takes
 - In Waikoropupu by consent provision
- 35 l/s available in Campbell Creek
- No further water in Waikoropupu river area
- Lower security of supply for existing consumptive takes



Ligar Bay-Tata - Interim allocation decisions:

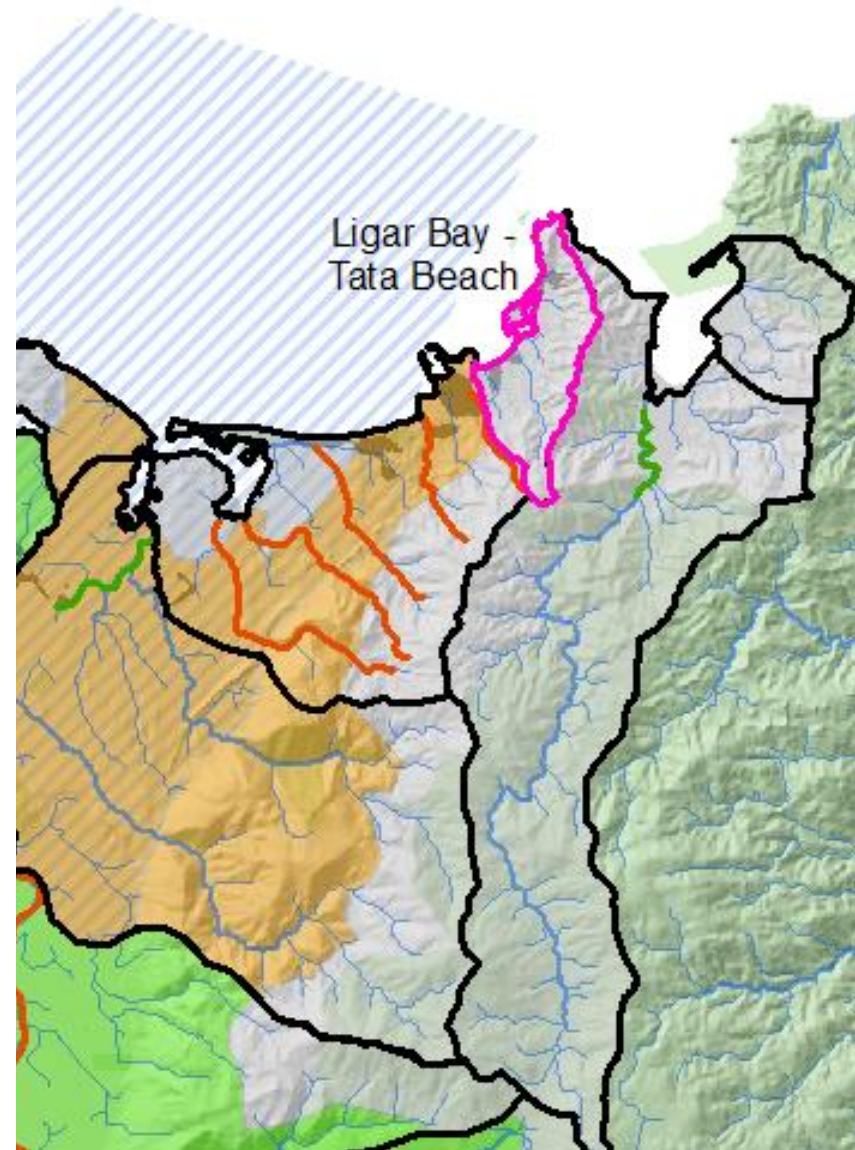


No regime proposed as yet

- A 90:10 regime may be applicable
- If no regime, default allocation policy applies
- Upper extent of current default allowance (33% of 5yr 7day low flow) typically not ecologically sustainable in Takaka

Key implications:

- No change to current situation
- Possible 90:10 regime, but little available water.



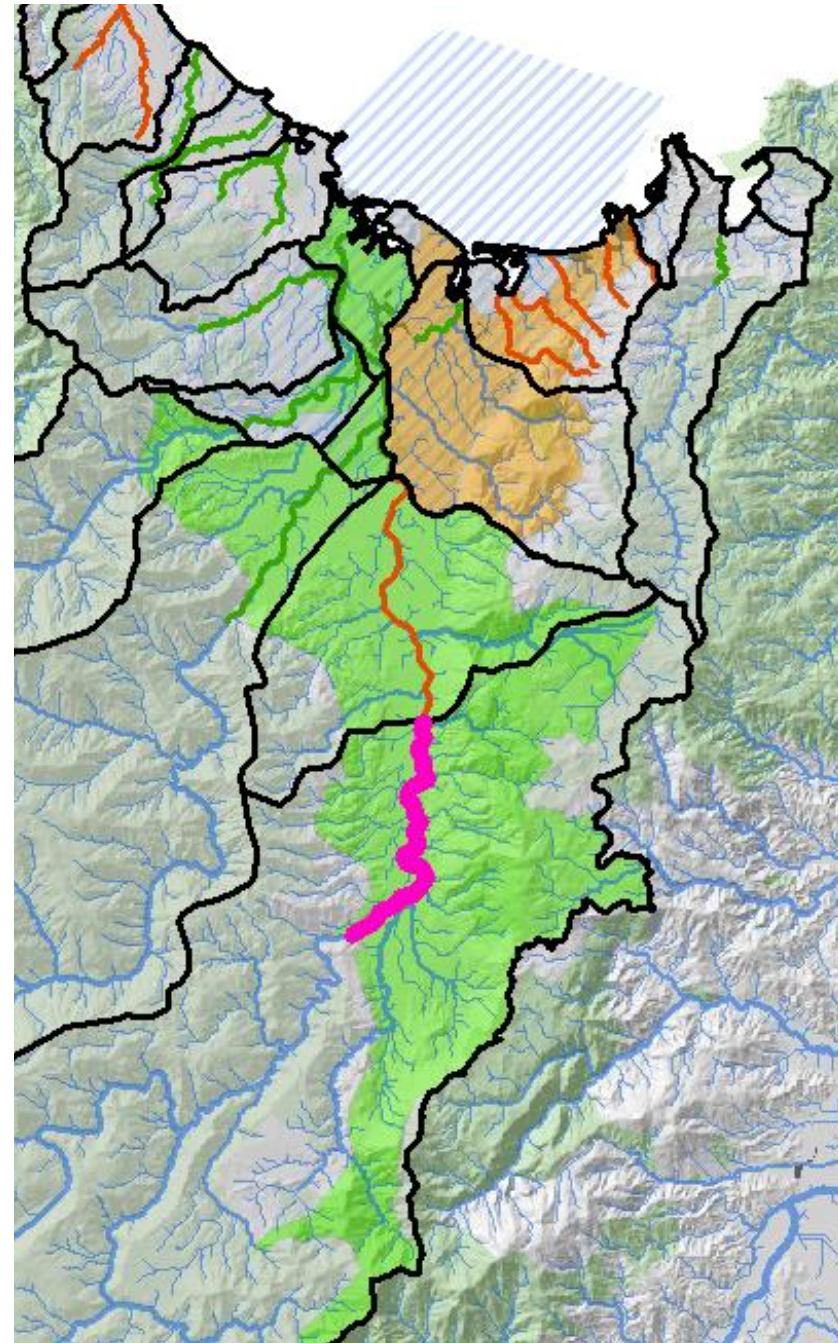
Upper Takaka (mainstem) Interim allocation decisions:

Proposal: 70:15 regime (A+B tiered)

- Allocation up to 15 % of MALF (357 l/s)
- A and B class permits
- Existing consented takes (class A):
 - Grandfathered for at least one renewal period
 - Same allocation (~10%), same cease take trigger
 - No initial change to security – potential to signal change to 'B' class in future
- All new takes (class B)
 - Allocation up to 5% of MALF
 - Cease take for minimum flow of 70% of MALF
 - Lower security than 'A' takes

Key implications:

- Ecologically = status quo. Water take effects on low flows would be as they are currently (60% MALF)
- No change initially for existing 3 consented users
- 118 l/s more water
- 100% of waiting list met, but new takes at a lower security of supply than existing takes
- After waiting list, 8 l/s before at full allocation



Upper Takaka (mainstem) security of supply:

Existing takes (A permits) ~60:10

Upper Takaka Status Quo -1657 l/s

Takaka at Harwoods Data record: 1975 - 2015	Flow (l/s)	Days Below Flow (l/s) Per Hydrological Year (August to July)																		
		1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16		
Based on 15min interval instantaneous flows																				
Cease Take 1657 l/s - Minimum Flow	Average:																			
Cease Take - number of days below (total)	1657	7.8	0.0	0.5	0.0	0.0	0.0	0.0	0.2	22.0	2.8	18.6	9.2	21.8	7.2	0.0	12.3	4.2	10.6	23.5
Cease Take - # of times > 3 days in a row below 1657 l/s	1657	2 times	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Cease Take - longest consecutive # days below 1657 l/s	1657	2 years	0	0	0	0	0	0	0	0	0	0	0	5 days	0	0	0	0	4.5 days	0
Cease Take - # of times > 5 days in a row below 1657 l/s	1657	1 time	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Cease Take - longest consecutive # days below 1657 l/s	1657	1 year	0	0	0	0	0	0	0	0	0	0	0	5 days	0	0	0	0	0	0
Cease Take - # of times > 1 day in a row below 1657 l/s	1657	29 times	0	0	0	0	0	0	6	0	2	1	4	1	0	4	1	5	5	5
Cease Take - longest consecutive # days below 1657 l/s	1657	9 years	0	0	0	0	0	0	2 days	0	2 days	1 day	4 days	1 day	0	1 day	1 days	4 days	2 days	2 days
Cease Take - # of times > 12 hours in a row below 1657 l/s	1657	111 times	0	1	0	0	0	0	14	2	14	8	16	3	0	11	3	13	26	26
	1657	11 years																		
% of time flow is above cease take trigger 1657 l/s		(based on data from 1975-2016, Nov-Apr inclusive)							95.9%											

New takes (B permits) 70:15

Upper Takaka FLAG Trigger - 70% MALF & 15% Allocation

Takaka at Harwoods Data record: 1975 - 2015	Flow (l/s)	Days Below Flow (l/s) Per Hydrological Year (August to July)																		
		1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16		
Based on 15min interval instantaneous flows																				
Cease Take 2023 l/s (Min Flow + Allocation)	Average:																			
Cease Take - number of days below (total)	2023	15.8	0.0	12.5	0.0	6.3	10.1	9.6	37.4	11.2	31.5	18.9	33.3	14.6	0.0	18.7	6.2	18.1	40.0	
Cease Take - # of times > 3 days in a row below 2023 l/s	2023	6 years	0	1.0	0	0	0.0	0	0.0	0	0	1.0	1	1.0	0	0	0	0	1	2
Cease Take - longest consecutive # days below 2023 l/s	2023	7 times	0	4.5 days	0	0	0.0	0	0	0	0	4 days	3 days	5 days	0	0	0	0	4.8 days	4 days
Cease Take - # of times > 5 days in a row below 2023 l/s	2023	1 year	0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
Cease Take - longest consecutive # days below 2023 l/s	2023	1 time	0	0	0	0	0	0	0	0	0	0	0	5 days	0	0	0	0	0	0
Cease Take - # of times > 1 day in a row below 2023 l/s	2023	56 times	0	5	0	0	2	1	7	1	5	3	8	3	0	4	2	6	9	9
Cease Take - longest consecutive # days below 2023 l/s	2023	13 years	0	3 days	0	0	2 days	1 day	2 days	1 day	3 days	2 days	4 days	2 days	0	1 day	1 day	4 days	3 days	3 days
Cease Take - # of times > 12 hours in a row below 2023 l/s	2023	264 times	0	16	0	4	10	9	32	11	36	17	27	13	0	19	5	20	45	45
	2023	14 years																		
% of time flow is above cease take trigger 2023 l/s		(based on data from 1975-2016, Nov-Apr inclusive)							92.6%											

Upper Takaka (mainstem) security of supply:



3 existing takes – no change to security in next consent period (~15yrs)

Regime	Cease Take (CT) Trigger	Minimum flow protected	Security % above CT Nov-April	Security % of years with CT>3days (longest CT)	Security % of years with CT>5days (longest CT)
A+B (70:15)					
Existing Takes A permits 60:10 [status quo]	1657 l/s	1417 l/s (60% of MALF)	95.9%	2 CT in 2 of 17yrs (longest: 5 days)	1 CT in 1 of 17yrs (longest: 5 days)
New takes B permits 70:15(5) (remainder)	2023 l/s	1666 l/s (70% of MALF)	92.6%	7 CT in 6 of 17yrs (longest: 5 days)	1 CT in 1 of 17yrs (longest: 5 days)