



STAFF REPORT

TO: Environment & Planning Committee

FROM: Daryl Page, Compliance Officer

REFERENCE: C653

SUBJECT: **END OF SEASON WATER METERING REPORT 2006 / 2007 - REPORT EP07/07/04** – Report prepared for 12 July 2007 Meeting

1. ACKNOWLEDGEMENTS

Thanks to Council staff David Shaw, Mandy Tomlinson, Neil Tyson, Joseph Thomas, and Bettina Koessler for their input into the 2006 / 2007 water metering project.

2. INTRODUCTION

A mid season summary report as at 30 January 2007 (EP07/02/18) was presented at the 28 February 2007 Committee meeting. The purpose of this report is to present an overview of the water metering project administration and compliance for the balance of the 2006 / 2007 irrigation season i.e. February - May 2007 although some items are repeated to provide clarity and/or an update.

3. SUMMARY

- The primary aim of compliance monitoring is to ensure information on water use is received from water users in accordance with consent conditions. Accurate and timely water meter data is an essential tool in managing the District's valuable and limited water resource.
- Water Rationing in the Waimea Plains was introduced as at 5 March 2007 and continued to the season end of 30 April 2007.
- The number of consents administered under the water metering project increased from 560 in 2005 – 2006 to 686 in 2006 – 2007 mostly due to implementing metering for the Upper Motueka Zone.
- Project growth has placed increased pressure on staff resources and priorities have had to be established regarding the allocation of staff time to specific tasks if the staff resource is not increased. Monitoring functions now extend over the full twelve month period.
- Cost recovery needs to be improved.
- Return rates (albeit retrospective) met the objective for 'reliable' data on water usage and water use data for the season is complete. There is a need to address a traditional decline in return rates during April.

- No formal enforcement action (by way of Infringement Notice – instant fine) was required in 2006 – 2007.
- Only 23% of meters were audited in 2006 – 2007.
- Water use data (by zone) shows that usage never exceeded 65% at any time. Generally, water use was around 40% of the full allocation when demand was highest.

4. THE RMA AND TRMP FRAMEWORK

The TRMP divides the Tasman district into water management zones. Some zones have been identified as traditional water short catchments and it is a requirement to install a water meter and supply meter readings to Council. Appendix 1 lists the TRMP Water Management Zones that are subject to either full or partial water metering.

The policy for the use of water meters is set out in 30.2.11 of the TRMP and states:

- a) to ensure compliance with permit allocations or allocation limits; or
- b) when there is full allocation of water in a zone; or
- c) when there is a need for water use data to assess effects of abstraction on a water resource or in relation to an allocation limit; or
- d) in any zone where there is a rationing trigger

Accurate and timely water meter data is an essential tool in managing the District's valuable and limited water resource. The information is used for:

- Management of the districts water resources and improving/enhancing future understanding of the system;
- Monitor the effectiveness and suitability of the policy provisions within the TRMP and the exercise of resource consents;
- Bona fide review/renewal of existing consents; and
- Compliance with drought restrictions

5. WEATHER PATTERNS

Dry conditions hit the region during February 2007 which resulted in a decline in river flows and groundwater levels. The Moutere Hills and Waimea Basin were the driest places. The dry conditions, below average river flows and groundwater levels continued until late April 2007 when rain relieved the pressure on the districts water resources.

6. WATER RATIONING

Stage one rationing was introduced for six water management zones in the Waimea Plains from 5 March 2007. While stage two rationing for these zones was implemented a week later, this was immediately reduced back to stage one which then continued until to end of the irrigation season (30 April 2007).

Stage one rationing was also introduced for the Upper Motueka Motupiko Water Management Zone from 12 March 2007 but this was uplifted on 14 March 2007.

In addition to water rationing in the Waimea Plains, low (river) flow triggers were at times under scrutiny in the Moutere (Powley Creek) and Golden Bay areas.

7. PROJECT ADMINISTRATION – ADVICE OF A WATER SHORTAGE

Concurrent with the introduction of water rationing, communication of the water rationing was through media statements and Water Shortage Direction notices in the Nelson Mail along with individual letters or email to affected consent holders.

Appendix 2 provides a summary of the individual letters sent. While the efficiency of advising consent holders about water rationing continues to improve (e.g. an increasing number by email) it remains a time consuming process.

8. PROJECT ADMINISTRATION – GENERAL

8.1 Water Metering Requirement

Water metering has expanded steadily within Tasman District since it was first introduced for 20 users of the Lower Confined Aquifer in the 1980s. Metering for the Upper Motueka Zone and for new users in the Wai-iti Dam Service Zone was implemented for the 2006 / 2007 season and increased the number of meters on the water metering database to 686 in the 2006 / 2007 season (compared to 560 in the 2005 / 2006 season). Some water management zones where metering has been identified in the TRMP continue to have a 'deferred' status.

Appendix 3 shows the status of water metering for zones where water metering has been required.

8.2 Project Expansion

The water metering project has progressed from being a strictly seasonal one to increasingly requiring year round resources. While the collection and monitoring of water use data during the summer season remains the primary purpose, other important tasks need to be undertaken. For example:

- Maintenance of the database has continued into June (missing readings).
- Compliance work outside of missing returns and excessive takes generally defaults to the winter months.
- Meter returns for consents issued for frost protection extend beyond the summer period and are being added to the database for inclusion from next season.
- Meter returns for dam storage consent where the release of water for downstream residual flow is a condition of consent.

- Ongoing improvements to the database and project administration including the completion of a procedures manual generally default to the winter months.
- Information (database output) requirements.

8.2 Staffing

Daryl Page was the Compliance Officer responsible for the 2006 / 2007 water metering project. David Shaw's temporary contract for the 2006 / 2007 season finished in the first week of April 2007 – four weeks before the end of the season. Bettina Koessler provided some database entry assistance (approx 3 - 4 hours per week) during April 2007.

The current staff resource is sufficient to simply maintain the project database only. Compliance work and other monitoring (either in the office or in the field) places pressure on staff and ideally resource effort should be increased. No additional staff resource was available this season. As such, priorities have had to be established. For example the majority of monitoring was undertaken in the Waimea Plains where the potential for water shortage (and information on water use) was the greatest.

8.3 Budget

As mentioned earlier, the water meter project now extends over the full year. The majority of costs however still occur during the summer period when monitoring is greatest.

Project costs are theoretically met by an appropriation of the annual (administration) charge levied on water permits holders (\$40,000) and an appropriation from the general rate (\$29,150). Overall, staffing costs for the project exceeded income by \$21,655 (\$26,655 in 05/06).

While this reduced deficit is encouraging, Council is again reminded of an earlier comment about the need to set priorities i.e. much of the intended monitoring work and/or undertaking the required monitoring consistently over the whole of the database has not been achieved.

In the course of preparing the 2007/2008 budget, Councillors did not accept a specific water metering charge and instead resolved to cover the costs through the current mechanisms. However, better cost recovery is an area that requires further thought outside the parameters of this end of season report and will be subject to a separate report to Council at a later date.

Appendix 4 provides a summary of the 2006 / 2007 Compliance Monitoring Water costs to 30 April 2007.

8.4 End of Season Summary to Consent Holders

Appendix 5 is a copy of an end of season summary sent to consent holders in the Waimea Plains. Similar summaries have been sent to consent holders in other areas.

9. COMPLIANCE MONITORING

Staff resources (as full time equivalents) were lower than the previous season. As a consequence, the level of compliance monitoring was dictated by the available staff resource.

9.1 Meter Reading Return Rates

There are two key objectives in respect to water meter return rates. The first relates to the end use of the data and the aim is to have a minimum return rate of 95%. The second relates to compliance monitoring and the aim must be a return rate of 100%.

Notwithstanding the need for timely returns, actually receiving the information so reliable data on water usage is obtained is the bottom line. With this in mind and subject to focused monitoring during the month of May 2007, **the water use data for the season is complete.**

Unfortunately, there is no data to show the 'timely' rate of returns. However the return rate (without monitoring) between December 2006 and March 2007 was high. Unfortunately extra monitoring, in April and May 2007 has once again been required to ensure returns (by way of a final reading in most cases) were obtained through to the 30 April 2007.

Return rates (incorporating those received retrospectively) are shown as part of the water consumption graphs (Appendix 6). In respect to the Waimea Plains and Motueka/Moutere Water Management Zones, the objective for reliable data was achieved in the majority of weeks.

9.2 Missing Reading Enforcement

No formal enforcement action on missing returns was taken i.e. there were no site visits for the purpose of obtaining a meter reading. This was in contrast to last season where the pressure of work during times of water rationing meant that 36 water users were invoiced a \$150.00 monitoring fee due to a site visit being necessary. This is not to say that there was no need to do treat missing readings in this way but more a reflection of how work was prioritised.

The number of water users who ceased to make returns at one stage or another towards the end of the season was disappointing. These missing readings were actively pursued during April and May 2007 in terms of the Water Metering Compliance Flowchart by making personal contact (by telephone/email). Many responded by confirming they had ceased use – some said that it had rained and thought they did not have to send a return. A number of water users were contacted two to three times before retrospective readings were received. This 'extra' work was very time consuming and effectively a non recoverable cost.

In fairness to water users who consistently make returns over the whole season, water users who do not make returns must take a greater responsibility to the accuracy of the information held on the database and bear the cost of this monitoring work.

Looking ahead to next season and hopefully as a consequence of database management improvements (but still subject to staff resources), the ability to address missing readings on a timely basis may mean that a site visit and the assignment of costs will happen following one telephone contact and where a reading is not received immediately.

9.3 Overtake Enforcement

All overtake situations were investigated. No formal enforcement action by way of an Infringement Notice was necessary this season. A number of verbal and six written warnings were issued.

9.4 Water Meter Audit

As reported in EP07/02/18 (mid season summary at 30 January 2007) the intention of making a visit to all water meters during the summer season was not going well. At that stage only 88 (of 686) meter audits had been completed. This situation did not improve with a total of 163 (just 23%) meter audits being achieved for the season.

This is disappointing, especially when compared to the previous two seasons where a 70% audit was achieved. The increased number of meters on the database and the inability (time) for staff to complete this work contributed to this poor outcome.

One positive aspect however was that meter audits were undertaken in zones where none had been done previously. For example, Takaka and the Upper Motueka. In respect to Upper Motueka (in its first season of metering) a 63% audit was completed which represented nearly all of the water users who had commenced irrigation pursuant to their consent.

The meter audit continues to include a (digital) photographic record of the meter, reading and checking the meter and new this season was producing a (electronic) location map for future use in the field. The administration component of the audit takes around 20 minutes per meter.

9.4 Fictitious Meter Readings

Notwithstanding the low percentage of meter audits, a few discrepancies between a meter reading supplied by a water user and the actual reading were evident. These cases were dealt with and no formal enforcement was required.

9.5 Water Consumption Data

Appendix 6 provides graphical representation for each water management zone subject to full metering.

The graphs show that nine zones (of 17) registered a water use greater than 40% of the zone allocation. Of these nine zones, three registered water use greater than 60% at certain times. The trend across all zones was that the demand for water was highest in late December, February and early March.

10. GENERAL COMMENT

Records show that in the zones new to water metering this season i.e. Upper Motueka and the Wai-iti Dam Service, approx 73% and 66% (respectively) of water users were 'active' or using water/making returns. This is a good indicator of the level of compliance regarding meter installation.

11. RECOMMENDATION

That Council receive this report.

Daryl Page
Compliance Officer

Water Management Zones subject to water metering in the TRMP

Zones subject to full metering

<u>Motueka/Riwaka Plains</u>		Consents
MHAU	Hau	(29)
MTRN	Transition	(14)
MKEZ	King Edward	(43)
MSZ	Swamp (implementation deferred)	
MUMU	Umukuri (implementation deferred)	
MRWS	Riwaka Surface (implementation deferred)	
<u>Moutere</u>		
OMEG	Moutere Eastern Groundwater	(67)
OMWG	Moutere Western Groundwater	(19)

Note: Metering of permitted activity takes from deep Moutere Gravel bores in the Moutere is required under the TRMP but implementation has been deferred.

<u>Waimea</u>		
WDEL	Delta	(128)
WGHZ	Golden Hills	(31)
WLCA	Lower Confined Aquifer	(25)
WRES	Reservoir	(42)
WUCA	Upper Confined Aquifer	(30)
WWW	Waimea West Aquifer	(23)
WWAI	Wai-iti	(14)
WDSA	Wai-iti Dam Service Zone	(101)
WHAQ	Hope Minor Aquifer (partly implemented)	(9)

<u>Upper Motueka</u>		
UMUM	Upper Motueka	(18)
UMMS	Motupiko	(15)
UMTP	Tapawera Plains	(43)
UMTS	Tadmor	(2)
UMWS	Wangapeka	(8)

Zones containing individual water meters

(includes TDC water supplies)

AA	Aorere/West Coast	(2)
BWLD	Buller/Westland	(3)
MCPZ	Motueka Central Plains	(7)
MLSZ	Motueka Little Sydney	(5)
MRWZ	Riwaka Groundwater – Motueka	(3)
ODMG	Waimea – Moutere Gravels	(3)
TTA	Takaka	(4)
TTS	Takaka	(5)
OMOS	Moutere Surface	(3)

APPENDIX 2
Rationing Letter Summary

Merged letters 2006-2007
Water Rationing

Letter Date	Affected Zones	Reason	Effective From
1/3/2007	WDEL, WLCA, WGHZ, WRES, WUCA, WWW	Step 1	5/3/2007
8/3/2007	WDEL, WLCA, WGHZ, WRES, WUCA, WWW	Step 2	12/3/2007
9/3/2007	UMTS, UMUM, UMWS	Signal potential Step 1	
9/3/2007	UMMS	Step 1	12/3/2007
14/3/2007	UMMS	Rationing removed	14/3/2007
14/3/2007	WDEL, WLCA, WGHZ, WRES, WUCA, WWW	Step 1 (step 2 removed)	14/3/2007

APPENDIX 3
Water Meter Requirements

The following table (formed from Schedule 31.1B in the TRMP) shows those zones (*highlighted*) where water metering implementation has been deferred and zones subject to water meter implementation in the future. The number on the left hand side represents the *highlighted* number of consents involved.

Water Meter Requirements	
Water Management Zone	Zones where Water Meters are Required
Motueka/Riwaka Plains	
30	<i>Riwaka Plains Zone – by 3 November 2004</i>
23	<i>Swamp Zone – by 3 November 2004</i>
42	<i>Umukuri Zone – by 3 November 2004</i>
Moutere	
50-80 Domestic takes. (Irrigation already metered).	<i>Moutere Eastern and Western Groundwater zones</i>
Waimea	
26 Hope Aquifer consents. (All other Waimea Zones are fully metered)	<u>All zones unless the water supply would have failed at the onset of rationing</u>

2006 / 2007 Compliance Monitoring – Water

Recoverable Costs

Description	Staff Cost 06/07 (05/06)	Recovery 06/07 (05/06)	Shortfall 06/07 (05/06)
Compliance Monitoring including Missing Return and Excessive Take Enforcement	\$13,998 (\$20,925)	Nil (\$15,409)	\$13,998 (\$5,516)

Non Recoverable Costs

Description	Staff Cost 06/07 (05/06)
Permitted Activity	\$1,352 (\$6,951)
Database Administration	\$56,000 (\$69,407)
Meter Audits	\$9,362 (\$6,920)
Pre-Season	\$3,793 (\$10,130)
Drought Management	\$2,414 (\$9,900)
Misc	\$3761 (\$3,391)
Total	\$76,682 (\$106,699)

Funded by:

Annual Charge levy	General Rate Appropriation	Shortfall
\$40,000 (\$43,000)	\$29,150 (\$42,560)	\$7,532 (\$21,139)

Water Metering Monitoring in the 2006 – 2007 Summer Season – Waimea Plains

Project administration continues to improve largely because of the responsiveness of the majority of consent holders. For those consent holders who now send in the meter reading electronically (by email or on Council webpage), thank you. As the number of consents subject to water metering grows, electronic returns have made the processing of information much easier. Unfortunately, the effort required in chasing missing readings – in particular for April, was disappointing.

Water Consumption On the reverse side you will find two graphs which show water consumption as a % of the allowable take at any given time. The first graph represents your individual record; the second graph represents the water management zone from which you draw your water.

Water Rationing Dry conditions hit the region during February 2007 and as you will know, water rationing in the Waimea Plains was introduced from 5 March 2007 and continued until the season end of 30 April 2007.

Water Meter Returns The primary aim of water metering is to receive accurate and timely information about water usage through users making water meter returns. I am pleased to say the majority of consent holders supplied accurate and timely water meter returns – thank you. However, there is a need to ensure returns are made for the whole season i.e. 1 November to 30 April each year. This season was similar to previous ones where the return rate is good between December and March only. This means important information is missing and extra monitoring effort is required.

Missing Readings In fairness to the consent holders who consistently make returns on time and over the whole season, consent holders who are subject to missing readings monitoring will be invoiced the cost of this work directly. Currently, the cost of chasing up returns (outside of a site visit to read the meter) is borne by all consent holders via the annual charge paid. Consent holders at fault in the past will know who they are.

Water Meter Audit An ‘anytime, anywhere’ water meter audit continued. This involves obtaining an up to date record of the meter and its location plus a check of the current reading. While only relevant to a small number of meters, some fictitious readings were identified during this process which is a concern to Council and a breach of consent conditions.

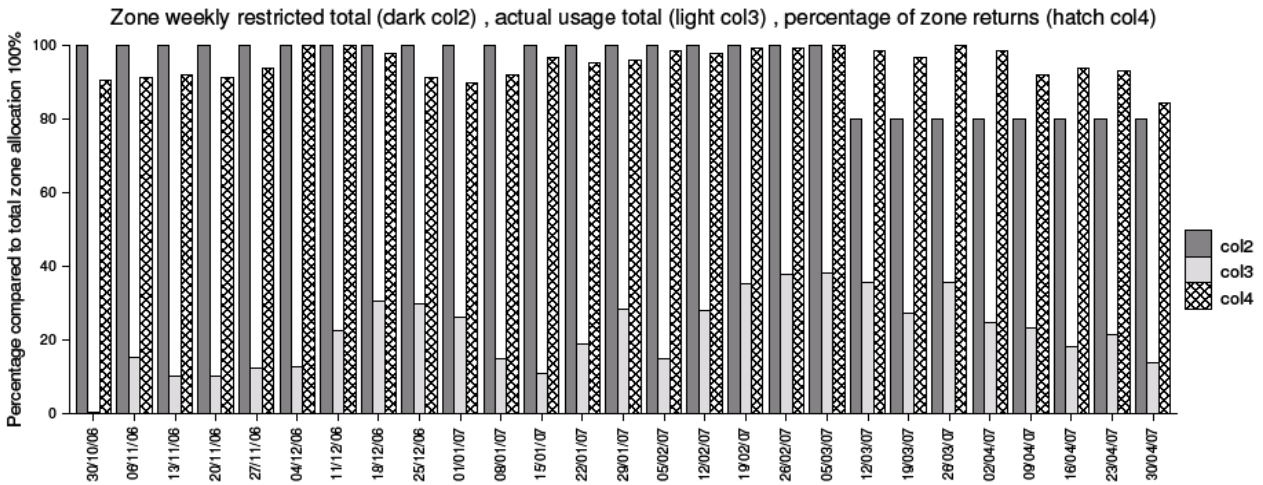
Excessive Takes The consideration of enforcement action for excessive takes was consistently applied. No enforcement action was taken during the season.

You will hear from me again in October 2007 as we start the pre-season process. If you wish to change from the pre-paid (post) return system or discuss any matter about the water meter monitoring project, you can contact me anytime.

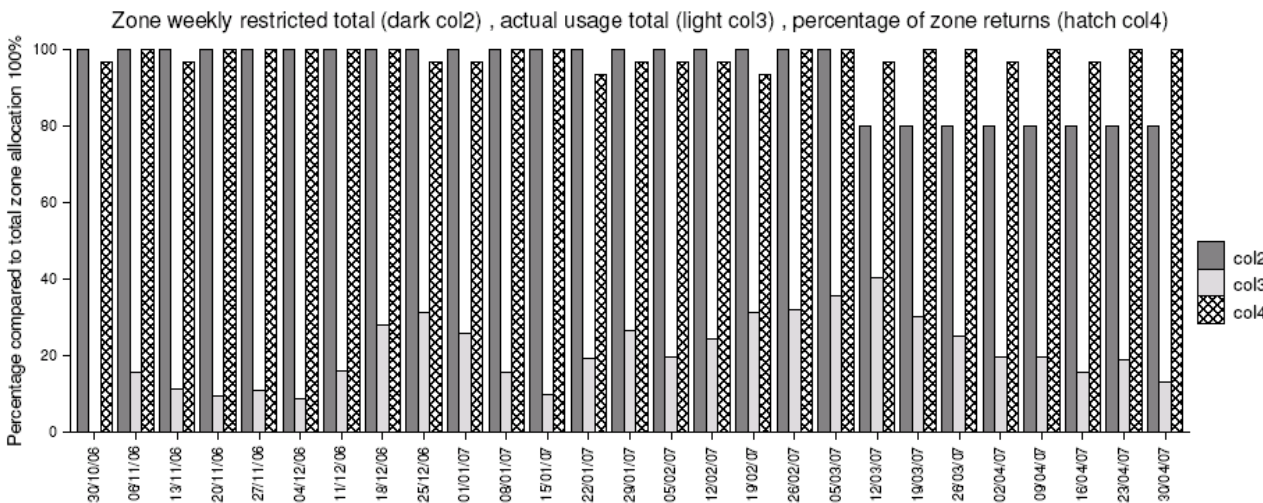
Regards,
Daryl Page Phone: 03 5438425 Email: daryl.page@tdc.govt.nz
Compliance Officer – Water Metering Project

APPENDIX 6 Water Consumption Data

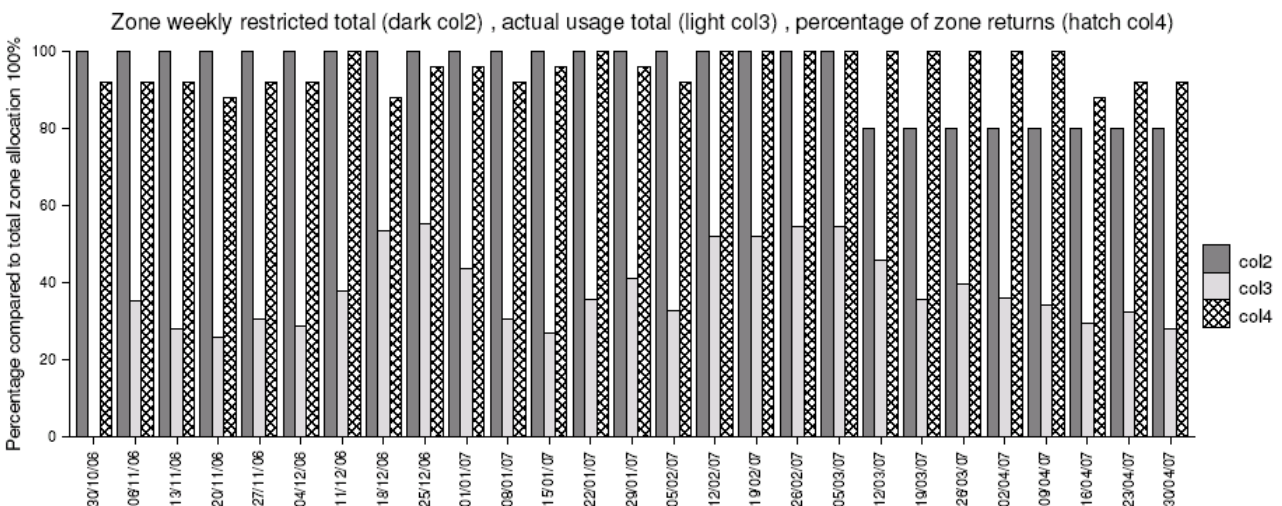
Waimea Delta Zone



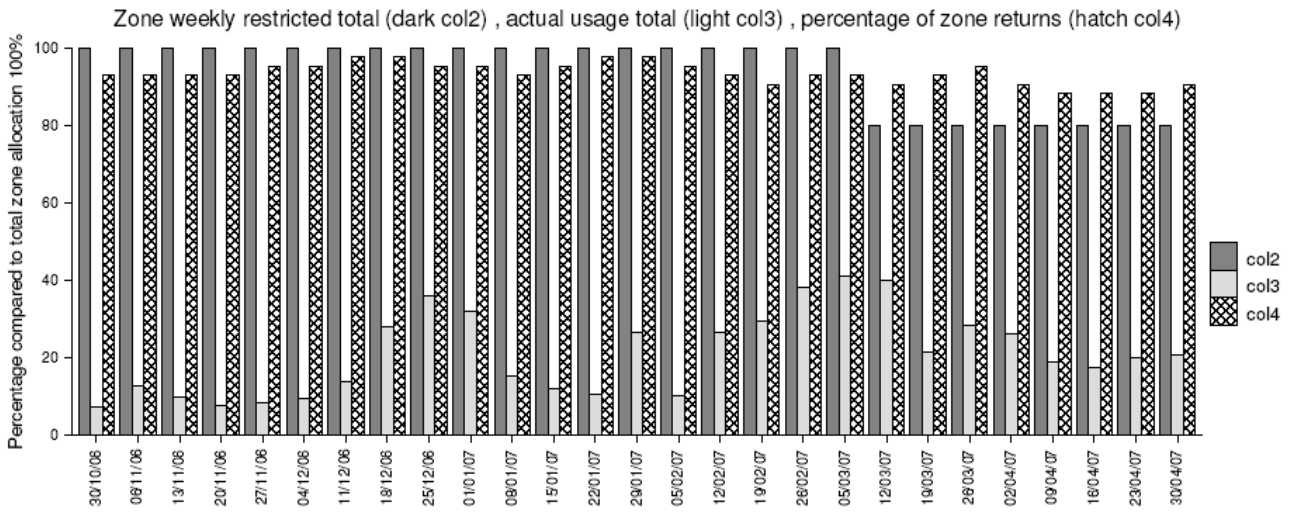
Waimea Golden Hills Zone



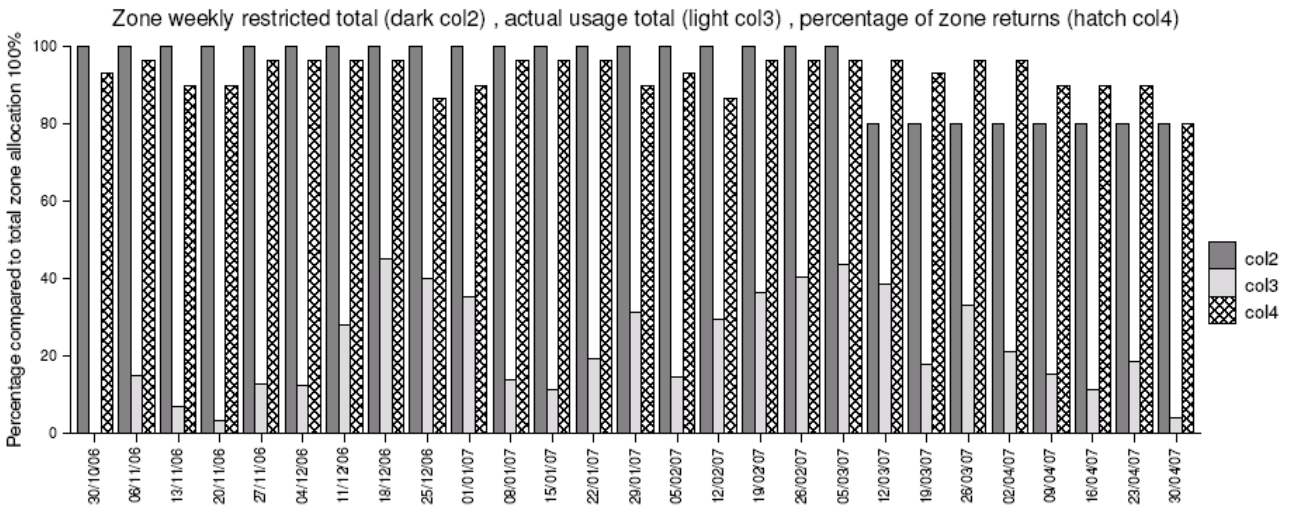
Waimea Lower Confined Aquifer



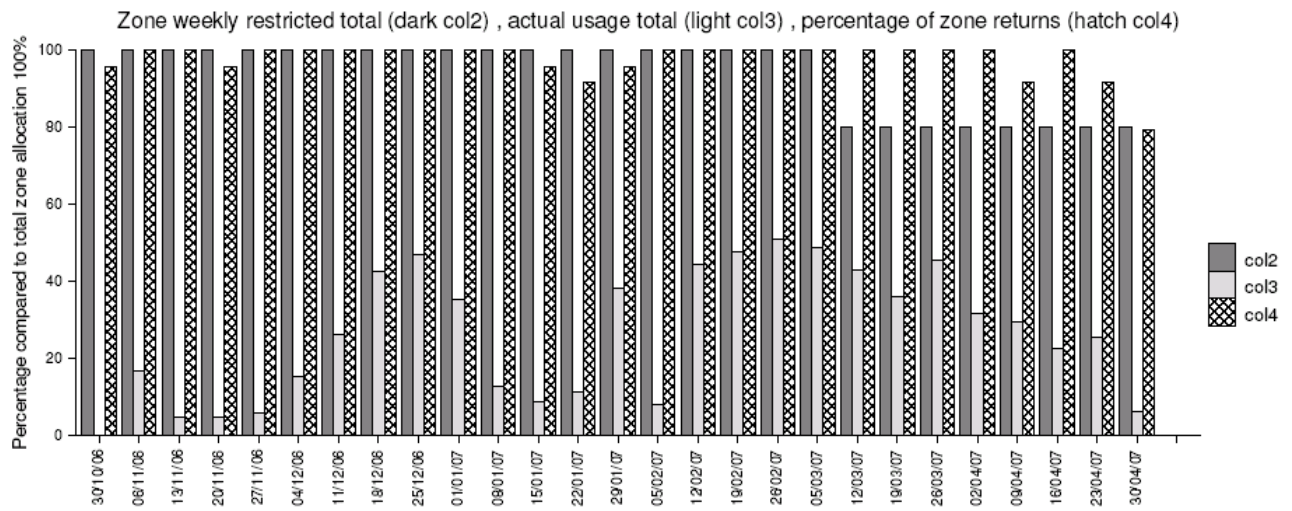
Waimea Reservoir Zone



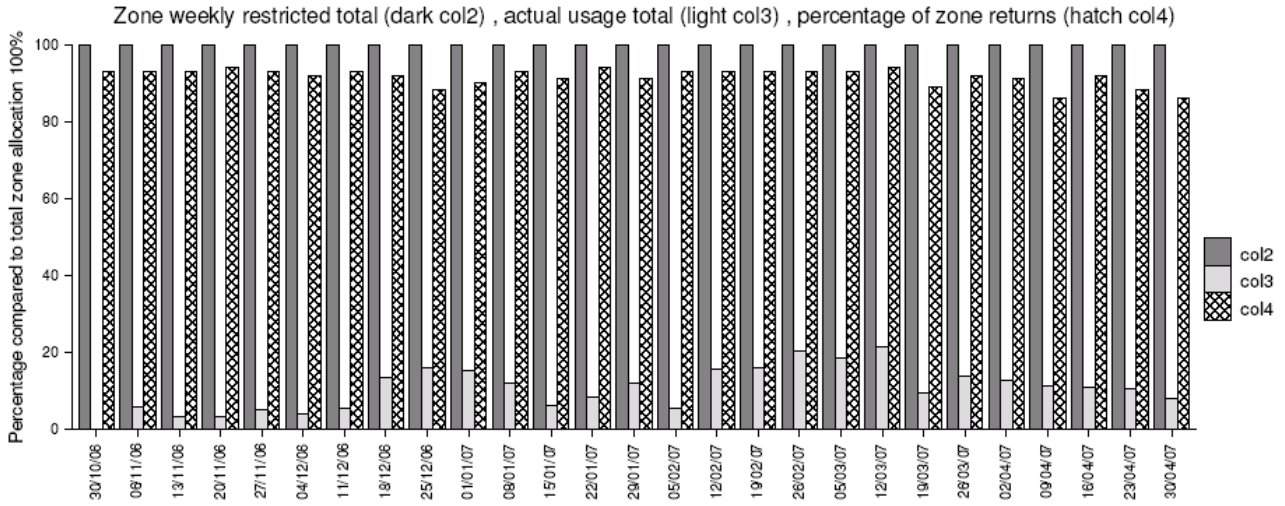
Waimea Upper Confined Aquifer



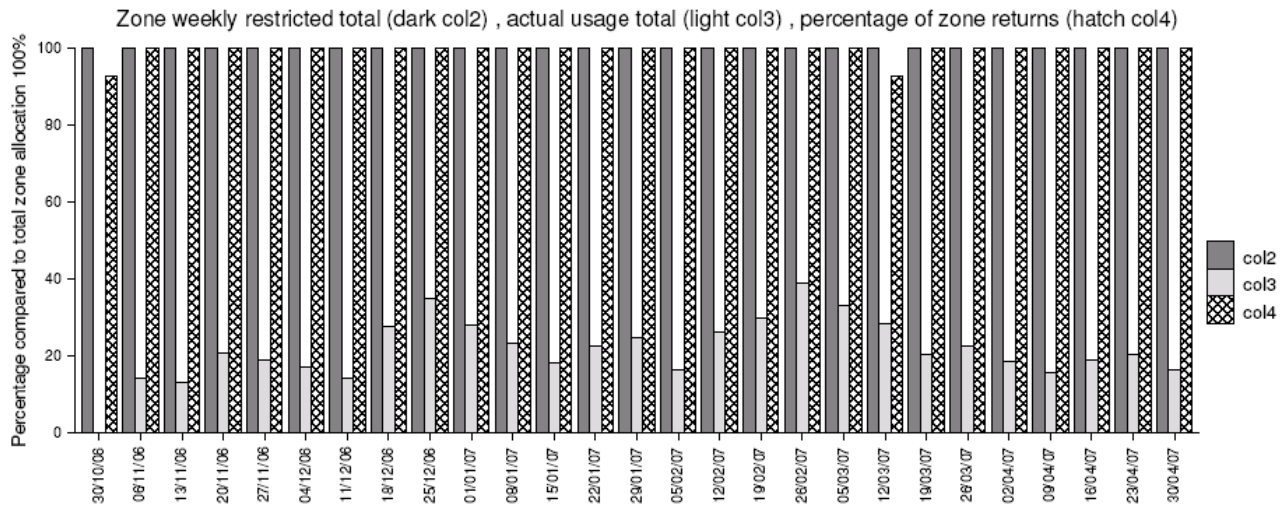
Waimea West Zone



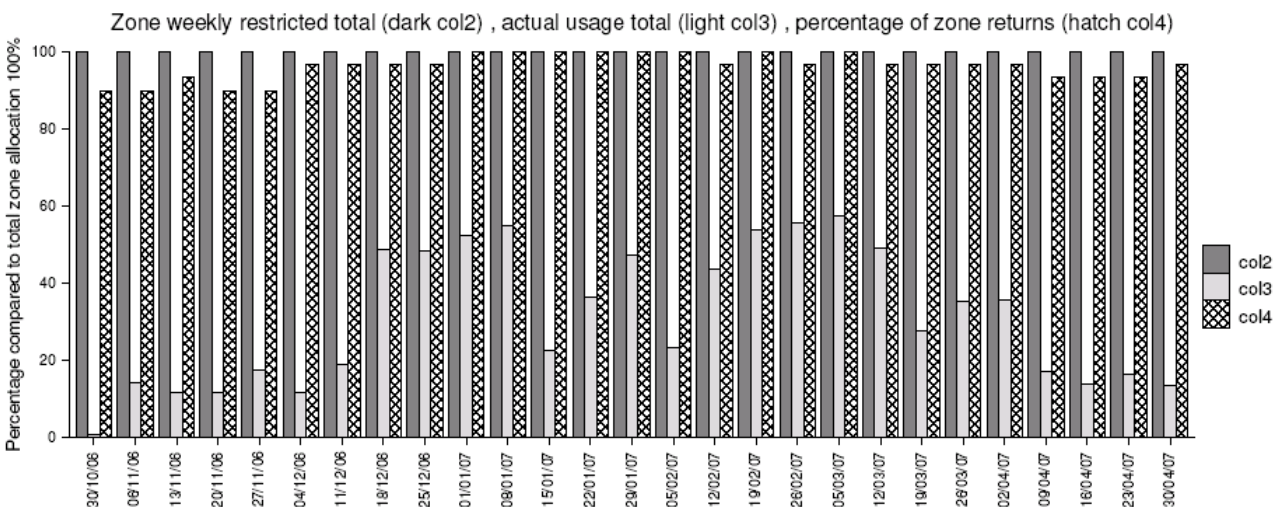
Wai-iti Dam Service Zone - Waimea



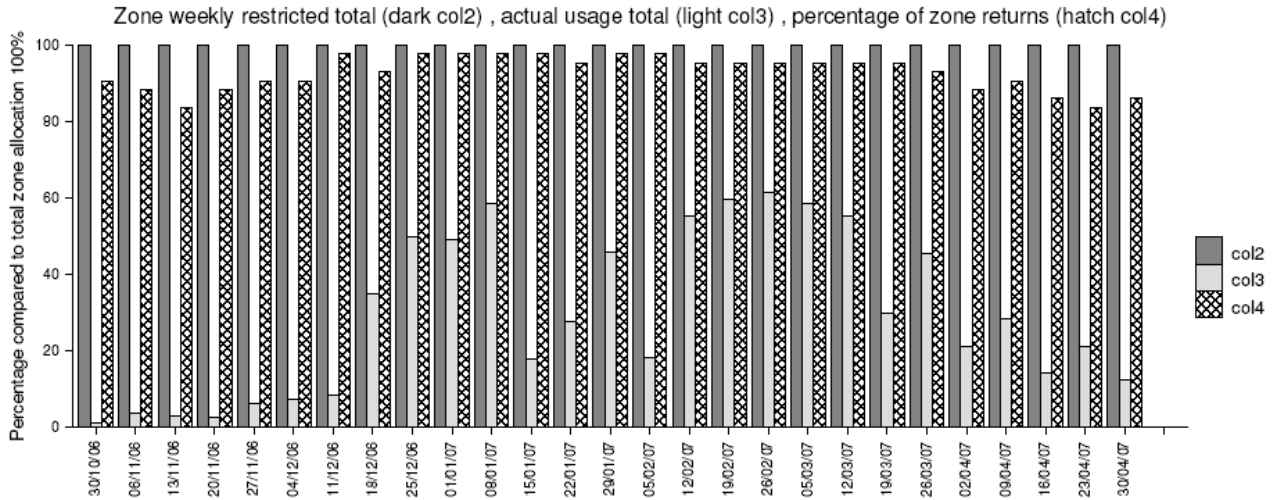
Wai-iti Zone



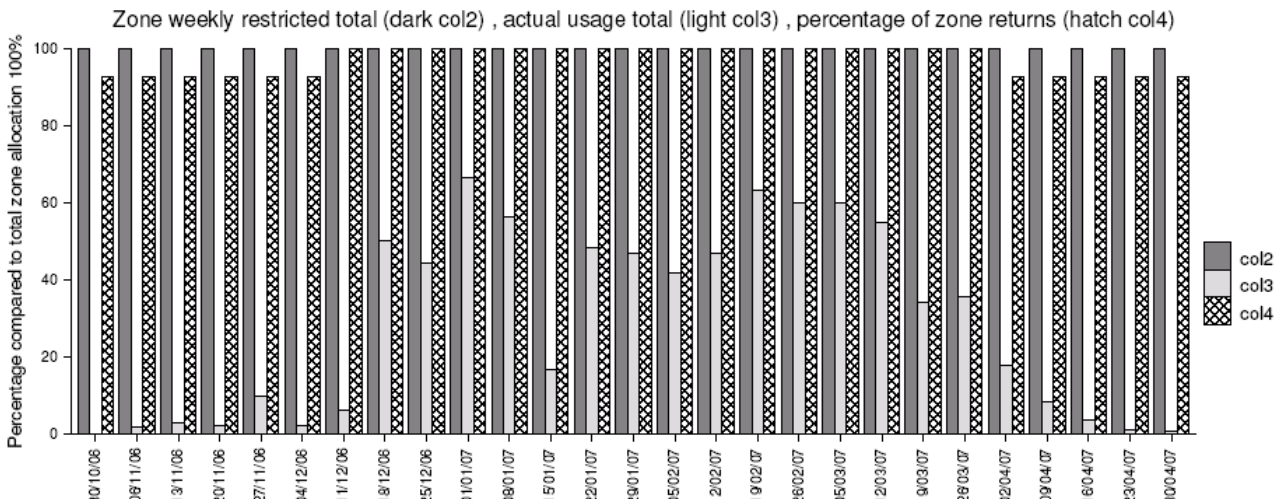
Motueka Hau Zone



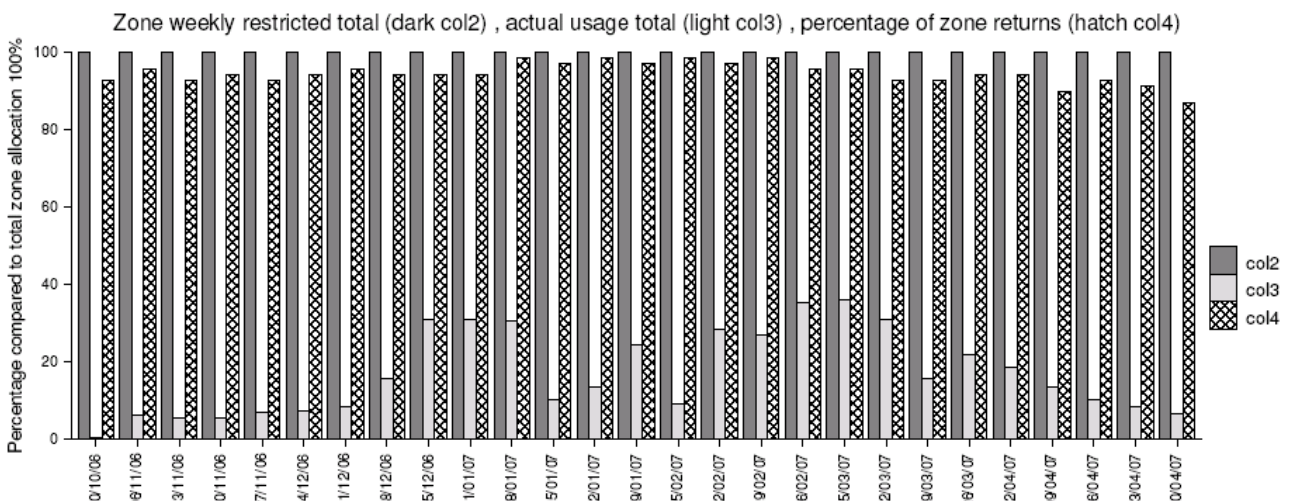
Motueka King Edward Zone



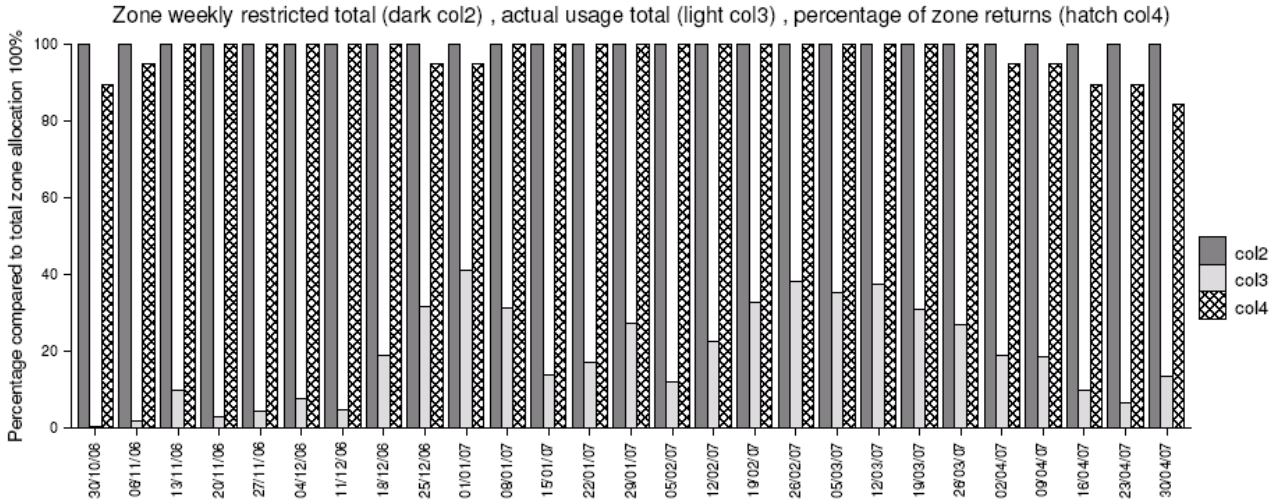
Motueka Transition Zone



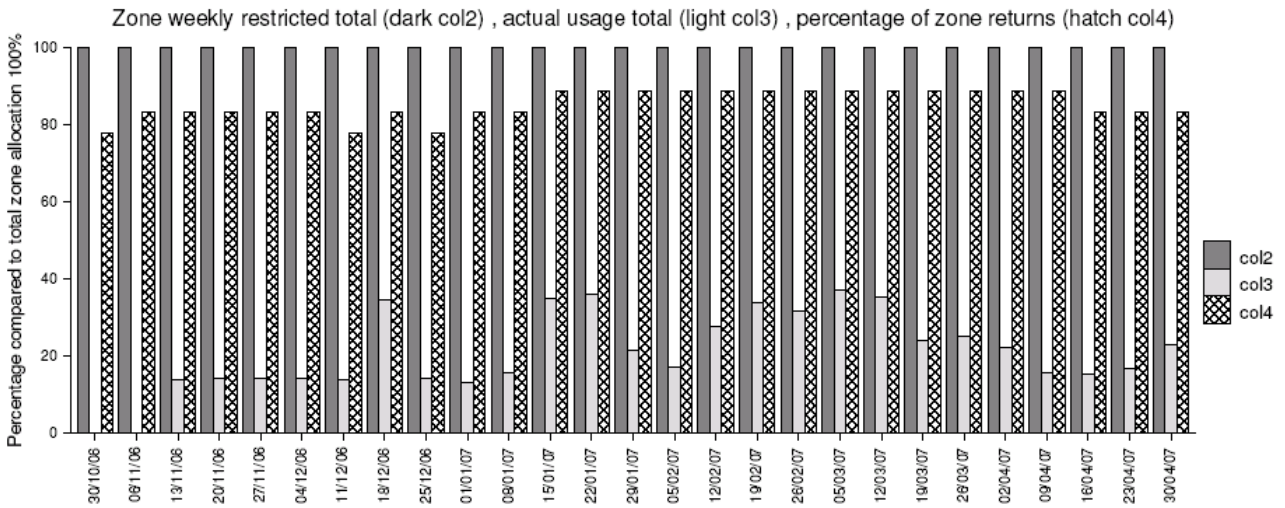
Moutere Eastern Groundwater Zone



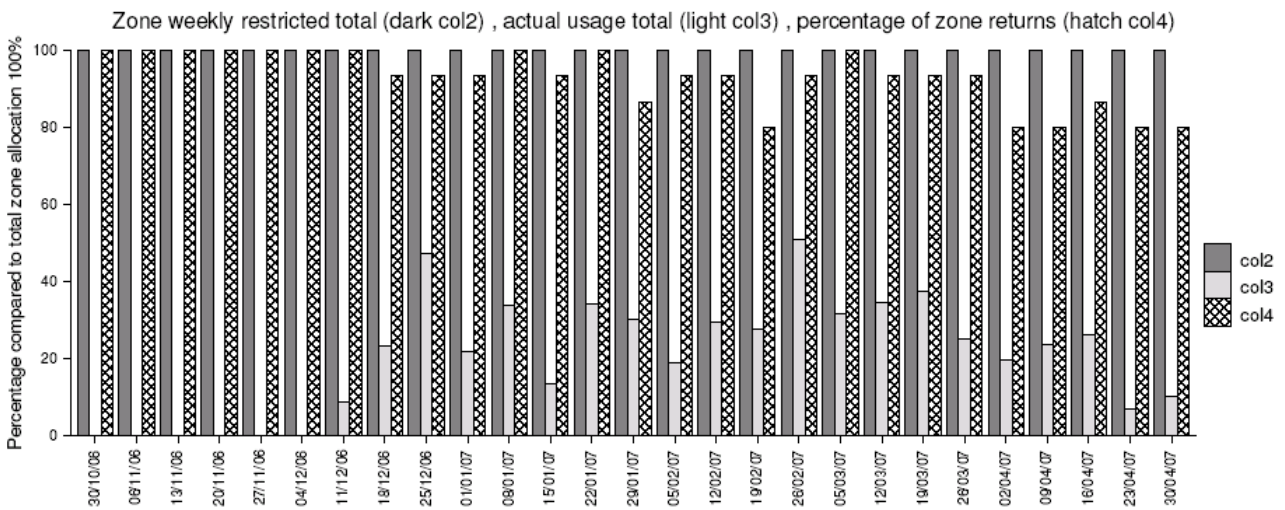
Moutere Western Groundwater Zone



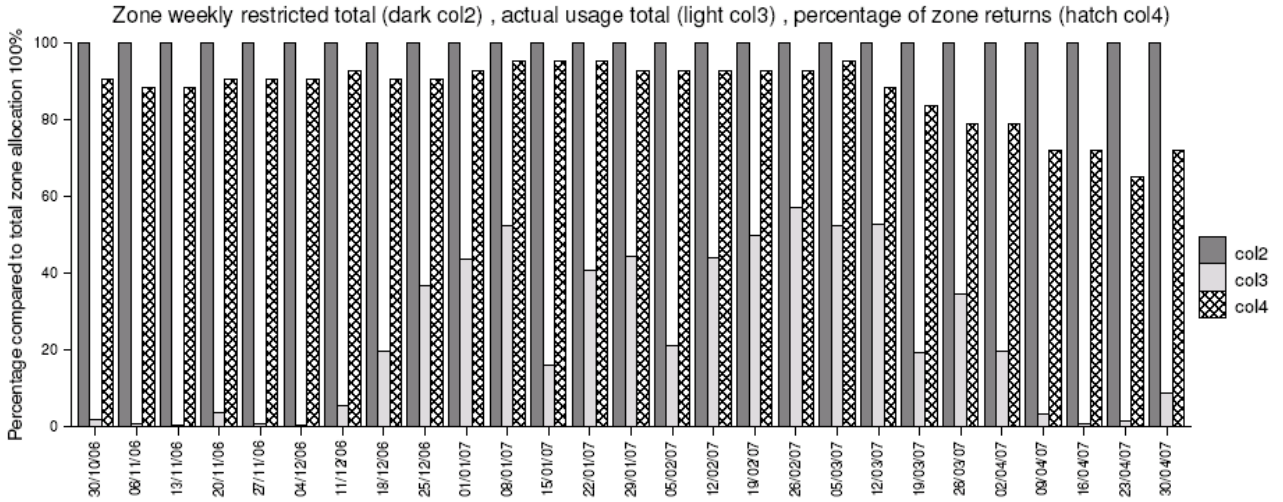
Upper Motueka



Motupiko Subzone



Tapawera Plains



Wangapeka Subzone

