

## STAFF REPORT

**TO:** Environment & Planning Committee

**FROM:** Daryl Page, Compliance Officer

**REFERENCE:** C653

**SUBJECT:** **END OF SEASON WATER METERING REPORT 2008 / 2009 - REPORT EP09/08/07** - Report prepared for meeting of 27 August 2009

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### 1. ACKNOWLEDGEMENTS

Thanks to Council staff Vicky Thorn, Mandy Tomlinson, Neil Tyson, and Joseph Thomas, for their input into the 2008 / 2009 water metering project.

### 2. INTRODUCTION

The purpose of this report is to present an overview of the water metering project administration and compliance for the 2008 / 2009 irrigation season.

However, there are some aspects of this report that reflect the larger water portfolio which has water metering project as a component. Examples are workload priorities and budget income/expenditure.

### 3. SUMMARY

- The primary aim of the water metering project is the collection of accurate and timely water use data – an essential tool in managing the District's valuable and limited water resource.
- There was no water rationing during the 2008 / 2009 summer season with consistent rainfall easing any concerns.
- The number of consents administered under the water metering project in the 2008 / 2009 season increased to 740 (from 720 the previous season).
- 67% of returns are now made electronically.
- Staff cost was reduced from the previous year, and general rate was not required to top up income for the programme as a result of the annual Water Meter Charge.
- The objectives for reliable water use data were not consistently achieved. Notwithstanding this, and for the purpose of closure, the water use data for the season is considered complete.

- Increased enforcement action (but still minimal) was required in the 2008 / 2009 season.
- 12% of meters were audited during the 2008 / 2009 season.
- Water use data (by zone) shows that the demand for water was highest January - February.

### 3. 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 in these areas for consent holders 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:

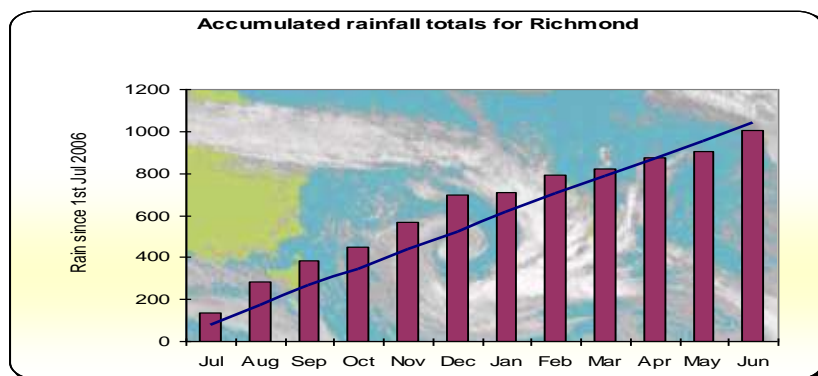
- a) to ensure compliance with permit allocations or allocation limits; or
- b) when there is full allocation of water in a zone; or
- c) when there is a need for water use data to assess effects of abstraction on a water resource or in relation to an allocation limit; or
- d) in any zone where there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

### 4. WEATHER PATTERNS

With good rainfall occurring through to February, the summer irrigation season passed with little drama. This can be seen on the plot below which compares the accumulating rainfall totals in Richmond since July 2008 compared to the average accumulation. March, April and May were drier, but not significantly so.



River levels remained high on the eastern side of the district, and in the Riwaka catchment. The rivers with some exposure to the west dropped to lower levels, with two moderately lower flow periods occurring in the Motueka, Takaka and Aorere river systems.

At the time of writing in early August, rainfall has been plentiful and rivers and groundwater systems are at healthy levels.

## 5. WATER RATIONING

There was no water rationing during the 2008 / 2009 summer season.

## 6. ADMINISTRATION

### 6.1 Water Metering Project

First introduced for 20 users of the Lower Confined Aquifer in the 1980s, the number of meters on the water metering database at the end of the 2008 / 2009 season is now 740 (720 in the 2007 / 2008 season).

While all consents on the database require monitoring at some point during the season, 602 were “active” or in other words, required week by week monitoring during the season. The majority of the remaining 138 were noted as “not irrigating” and others are required to read their meters weekly but only supply these readings annually.

Some water management zones where metering has been identified in the TRMP continue to have a “deferred” status. Appendix 2 shows the status of water metering for zones where water metering has been required.

Water metering provides for the collection and monitoring of water use data during the summer season and the demands within this timeframe continue to increase and now extend over a full year. While a project on its own, water metering is a component within the larger water monitoring portfolio.

## 6.2 Return Method

We continued to encourage consent holders to move to either the webpage or email return method of returns. That 67% (41% webpage, 26% email) of returns are made electronically is very pleasing. It is felt that further movement from the traditional return post card system may be slow and while it has been improved it does add to the administration of both the pre-season and data entry requirements.

## 6.3 Staffing

Daryl Page was the Compliance Officer responsible for the 2008 / 2009 water metering project. In November 2008 Vicky Thorn was appointed to the position of Administration Officer within the Compliance team and has provided administrative support for the water metering project.

Staff resources were stretched to meet the demands of water metering and the larger water monitoring portfolio this season and priorities were established during the season. As such some conflicts did arise between the monitoring of missing returns, overtakes, meter audits and general database requirements of the water metering project. This also impacted on the monitoring of resource consent conditions and water related complaints.

Additional resources for the water monitoring portfolio are desirable in order to meet present and future administration and monitoring (field work) demands within the water metering project, consent monitoring and complaints.

## 6.4 Other Water Metering Project Components

In addition to the collection and monitoring of water use data during the summer season, other tasks include:

- Extensive pre-season and end of season requirements, for example, initiating all records (October) for the upcoming season and providing a summary report and graphical representation of water use (June).
- Frost protection consents extend beyond the summer period,
- Dam storage consents where the release of water for downstream residual flow is a condition of consent,
- Procedures manual,

Of note are the provisions expected to be introduced under a National Environment Standard (NES) which will impact over the next five years. Under the proposed NES it is likely that all water take consent holders will need to install a water meter. The NES has significant staff resource implications. While Council could consider a staged implementation by say 2013, the overall impact is that there are potentially 700 consents which will need to be added to the water metering project database.

Council has also implemented the water metering requirement for (87) deep Moutere domestic water takes (permitted activities). Meters are required to be installed by 1 November 2009.

While it is not the primary driver of the Moutere domestic water metering, the data will also act as a measure of compliance with the permitted activity rules. As Council will obtain annual use data, it is suggested that consideration be given to amending the TRMP permitted activity rule to include an annual use figure (i.e. 1825 m<sup>3</sup>) in addition to the daily maximum of 5 m<sup>3</sup> when the opportunity arises. This would simplify matters should any compliance/enforcement action be necessary e.g. the need for resource consent and/or infringement.

## **6.5 Budget**

Appendix 3 provides a summary of the 2008 / 2009 Compliance Monitoring Water costs for the 12 month period to 30 June 2009.

This past season saw the introduction of the \$90.00 meter charge which removed the need for any general rate funds to be used within the water metering project this year. While the \$90.00 fee did not cover the entire cost, the balance is covered by the annual charges reflecting the wider resource user interest in good water management.

## **6.6 End of Season Summary to Consent Holders**

Appendix 4 is a copy of an end of season summary sent to consent holders.

## **7. COMPLIANCE MONITORING**

### **7.1 Meter Reading Return Rates**

There are two differing objectives in respect to the water meter return programme. The first relates to the end use of the data, with this the aim needs to be that we have at least a minimum return rate of 95% to do effective analysis of the information to undertake effective management of the water resource. The second relates to the compliance monitoring aspect with this the aim must be a return rate of 100%.

Despite regular monitoring during the season and a 100% return rate being obtained for some weeks in some zones, we have not consistently achieved the return rate objectives which does undermine the reliability of water use data. Notwithstanding this, and for the purpose of season closure, the water use data for the season is considered complete.

Return rates (incorporating those received retrospectively) are shown as part of the water consumption graphs (Appendix 5).

There is no data to show the “timely” rate of returns. It would be fair to say however that the majority of returns were on time, and this is an area they we will continue to work on.

### **7.2 Missing Returns Monitoring/Enforcement**

There were 5 consent holders (five for last season) subject to formal enforcement action regarding missing returns and were invoiced the \$175.00 monitoring fee following a site visit to read the meter. These were representative of a situation where there was a failure to respond to reminders and/or many instances of missing

returns. In general, monitoring was confined to the Compliance Flowchart procedure adopted by Council i.e. by giving a chance for the permit holder to respond e.g. making contact by telephone or sending an email.

While reflecting an improvement on previous years the drop off in the return rate (without advice) towards the end of March and in April continues to be an issue which undermines the success of the water management project and involves what could be seen as unnecessary monitoring. We continue to promote the need for consent holders to communicate with Council should water use finish early.

### **7.3 Overtake Monitoring/Enforcement**

All overtake situations were investigated. A number of verbal warnings were given and in general future compliance was the result. Two Infringement Notices (one last year) were issued.

In addition to the two infringements for overtakes, a further three water related infringements were issued where enforcement action followed issues outside the metering programme.

All infringements have been paid and are reflected in the recoveries total in Appendix 3.

### **7.4 Water Meter Audit**

A total of 92 (12%) meter audits were undertaken during the 2008 / 2009 season and apart from 21 being subject to missing return enforcement action, they were undertaken in an unscheduled manner. Even if we acknowledge the difference in resources from the previous season (contractor two days per week), the result is less than ideal. Last season, 386 (54%) meter audits were undertaken. This is an area I will personally be putting more focus on this coming season. We will also explore the options for completing a calibration and meter accuracy check for some zones where meters are old (e.g. Waimea Lower Confined Aquifer) and/or water quality is poor and may affect performance (e.g. the Moutere zones)

General meter audits continue to include a reading of the meter, that the meter is sealed, and an updated (digital) photographic record of the meter.

### **7.5 Fictitious Meter Readings**

Some accuracy inconsistencies continue to be identified as part of the meter audit and were brought to the consent holder's attention. One case received a formal written warning due to a history of problems. We will be taking a harder line on fictitious reading next season and will be reviewing enforcement options available should we encounter it.

### **7.6 Water Consumption Data**

While graphical representation for each water management zone subject to full metering (23 zones) is intended each year, Appendix 5 only includes 20 graphs. Unfortunately there have been some transitional data issues for zones within the Upper Motueka after redefinition during the season.

The graphs show that 16 zones (15 last season) registered a water use greater than 40% of the zone allocation at some point. Nine (six last year) registered water use of 60% or greater late January/early February and at a time when all zones generally showed increased water use. The nine zones are identified on the graphs by an arrow at the 60% mark.

## 8. RECOMMENDATION

1. That Council receive this report.
2. That Council give consideration to and direction on amending the TRMP permitted activity rule to include an annual use figure.



Daryl Page  
**Compliance Officer**

**APPENDIX 1:**  
**Water Management Zones subject to water metering in the TRMP**

**Zones subject to full metering**

<b>Motueka/Riwaka Plains</b>		<b>Consents</b>
MHAU	Hau	(29)
MTRN	Transition	(14)
MKEZ	King Edward	(43)

**Moutere**

OMEG	Moutere Eastern Groundwater	(20)
OMWG	Moutere Western Groundwater	(20)
OMCG	Moutere Coastal Groundwater	(22)
OMSG	Moutere Southern Groundwater	(25)

**Waimea**

WDEL	Delta	(132)
WGHZ	Golden Hills	(30)
WLCA	Lower Confined Aquifer	(26)
WRES	Reservoir	(44)
WUCA	Upper Confined Aquifer	(31)
WWW	Waimea West Aquifer	(22)
WWAI	Wai-iti	(18)
WDSA	Wai-iti Dam Service Zone	(100)
WHAQ	Hope Minor Aquifer	(24)

**Upper Motueka**

UMDO	Dovedale	(12)
UMMS	Motupiko	(15)
UMTP	Tapawera Plains	(45)
UMTS	Tadmor	(2)
UMSB	Stanley Brook	(1)
UMWB	Wangapeka Baton	(2)
UMWS	Wangapeka	(7)

**Zones containing individual water meters**

(includes TDC water supplies)

AA	Aorere/West Coast	(2)
BWLD	Buller/Westland	(9)
MCPZ	Motueka Central Plains	(7)
MLSZ	Motueka Little Sydney	(6)
MMAH	Marahau and Adjoining Aquifers	(2)
MMZ	Middle Motueka	(2)
MRWZ	Riwaka Plains	(3)
MUMU	Umukuri	(5)
ODMG	Waimea – Moutere Gravels	(3)
TTA	Takaka	(5)
TTS	Takaka	(9)
OMOS	Moutere Surface	(3)



**APPENDIX 2**  
**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.

<b>Water Meter Requirements</b>	
<b>Water Management Zone</b>	<b>Zones where Water Meters are Required</b>
<b>Motueka/Riwaka Plains</b>	
<b>30</b>	<b><i>Riwaka Plains Zone – by 3 November 2004</i></b> (three consents involving frost protection are now metered)
<b>23</b>	<b><i>Swamp Zone – by 3 November 2004</i></b>
<b>42</b>	<b><i>Umukuri Zone – by 3 November 2004</i></b>

**2008 / 2009 Compliance Monitoring – Water**

<b>Expenditure</b> (predominately staff time)	<b>2008 / 2009</b>	<b>2007 / 2008</b>
Compliance monitoring of missing returns and overtakes under Water Metering Project plus general monitoring of consent conditions (all potentially recoverable) and complaint response	\$17,733	\$6,840
Preseason, Database Administration, Meter Audits, Permitted Activities, Drought Management under Water Metering Project	\$68,438	\$97,346
<b>Income</b>	<b>2008 / 2009</b>	<b>2007 / 2008</b>
Water Meter Charge	\$58,480	N/A
<b>Recoveries</b>	<b>2008 / 2009</b>	<b>2007 / 2008</b>
Water meter reading fee and infringement related recoveries	\$5,066	1,257

## **Water Metering Monitoring 2008 – 2009 Summer Season**

Thank you to the consent holders who have consistently met their consent conditions. Your co-operation and contribution to the water use database is appreciated. The responsiveness of consent holders and the communication that exists to meet a common purpose continues to strengthen.

However, there are still those who breached the conditions of their resource consent and required extra monitoring. This extra monitoring is time consuming and it must be said, an avoidable area of work. Those subject to this extra monitoring were invoiced for the costs involved. The two main non complying consent requirements are:

- **The supply of an accurate and timely water meter reading for the whole season i.e. 1 November to 30 April each year, and**
- **Not to exceed the authorised water allocation.**

Where necessary, we have included a handwritten note on your water use graph to indicate non compliance and seek your co-operation to turn these results around next season.

**Water Consumption** On the reverse side you will find two graphs which show water use as a % of the allowable take on a weekly basis. The first graph represents your individual water take during the season; the second graph represents the aggregate water take for the water management zone from which you draw your water.

**Missing Water Meter Returns** No data (i.e. no dark line above the date) on your individual water take graph represents a missing return unless you had told Council you were not using water during the season. The extensive drop off of returns occurring in late March and April continues to be a disappointment and impacts on the success of the water management project. The solution is simple, if you have an early finish to the irrigation season; all you need to do is tell Council to avoid monitoring and additional costs. Please keep this in mind for next season!

Council's monitoring (and recovery of costs) of missing returns this season focused only on those situations where many weeks and/or repeat patterns of non compliance existed. The monitoring of missing readings will continue to gain momentum next season.

**Excessive Takes** If any; they can be seen on your individual graph where the lighter (usage) line extends beyond the dark line. Non complying situations this season were generally dealt with through telephone contact and verbal warnings. However, repeat offenders received more formal enforcement action.

**Monitoring Costs** A portion of annual charges on your consent is allocated to the water metering project and covers the basic administration costs of processing water use data and audit work. For any additional monitoring you will be invoiced for the costs. This season for example, a greater number of missing reading charges (\$175.00) were necessary.

**Water Rationing** Was considered in the Waimea Plains (February) but not applied.

**Water Meter Audit** The 'anytime, anywhere' water meter audit continued.

You will hear from us again in October 2009 as we once again start a pre-season process. If you wish to discuss any matter about the water meter monitoring project, please contact us anytime.

Regards,

Daryl Page

Compliance Officer

Phone: 03 5438425

Email: [daryl.page@tdc.govt.nz](mailto:daryl.page@tdc.govt.nz)

Vicky Thorn

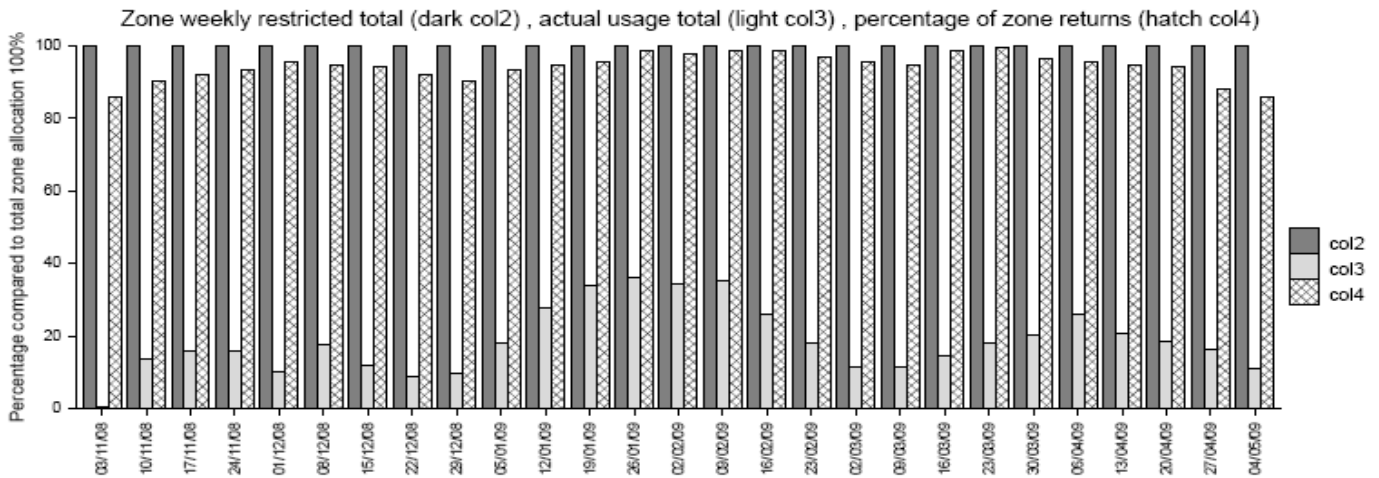
Administration Officer

03 5438567

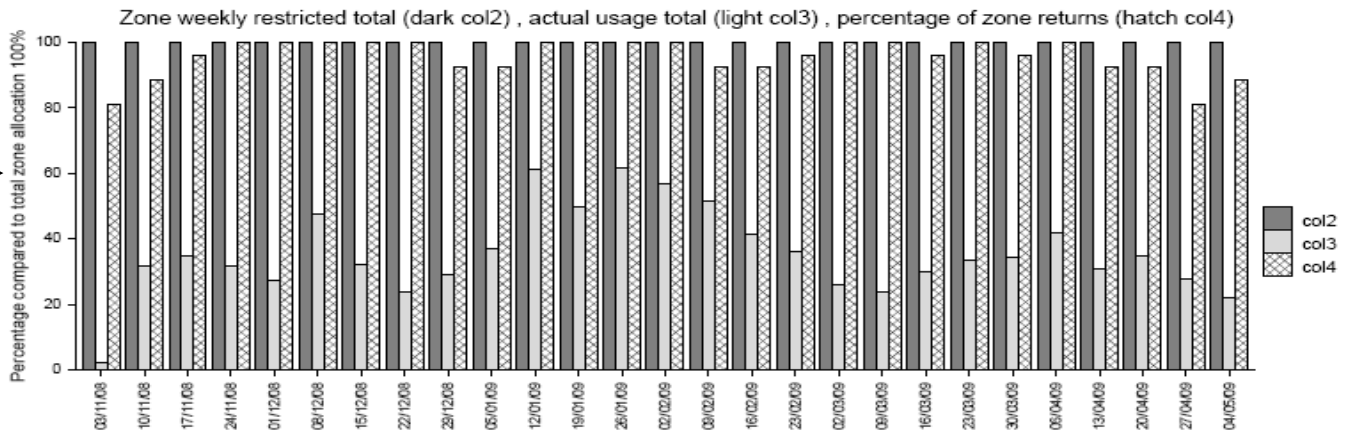
[vicky.thorn@tdc.govt.nz](mailto:vicky.thorn@tdc.govt.nz)

# APPENDIX 5 Water Consumption Data

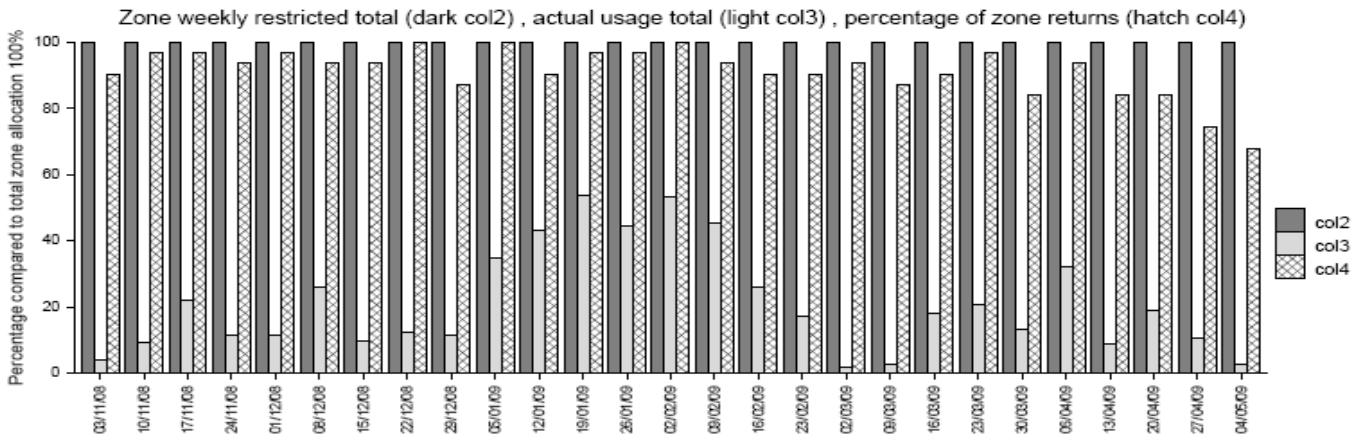
## Waimea Delta Zone



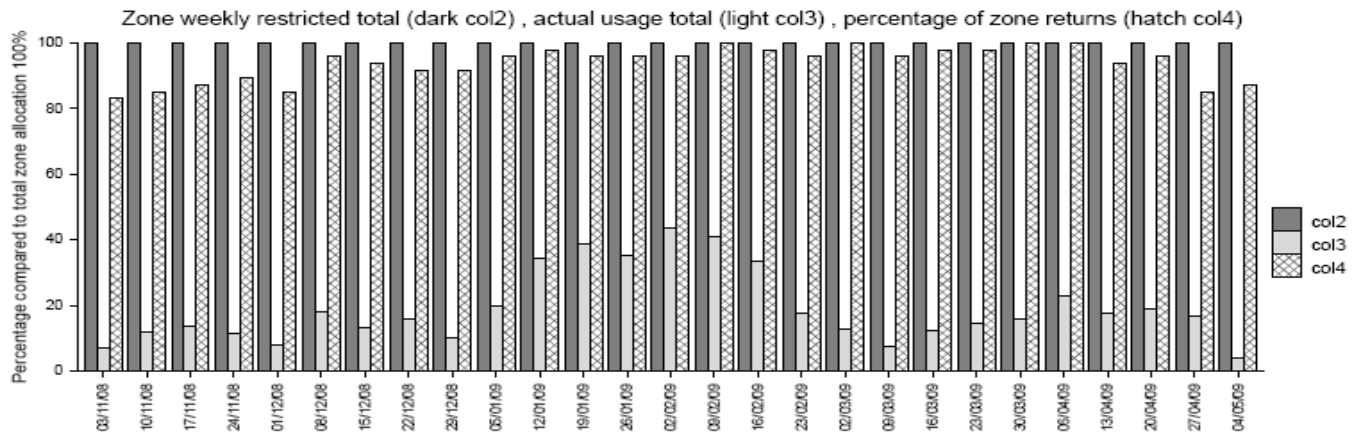
## Waimea Lower Confined Aquifer



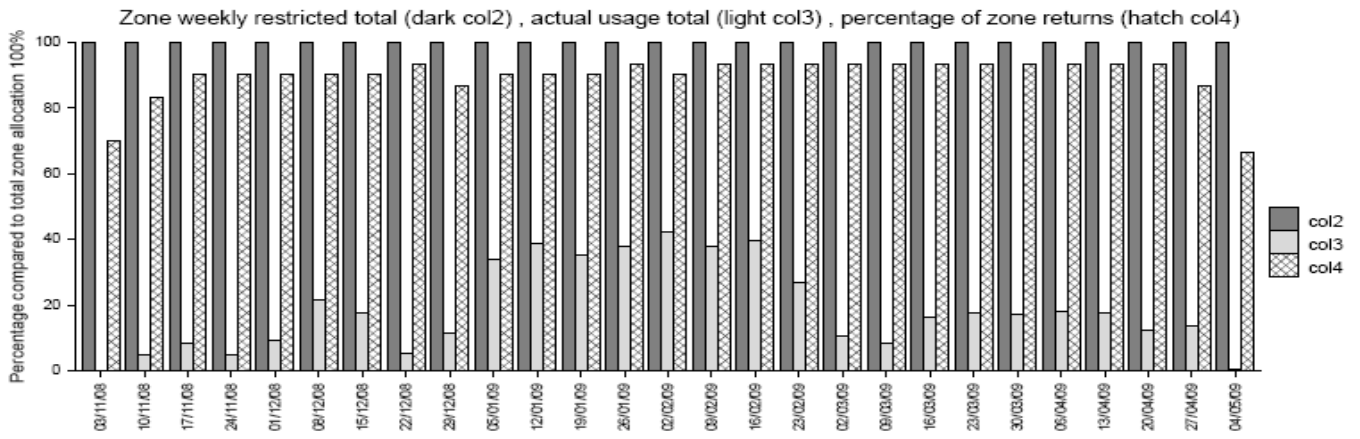
## Waimea Upper Confined Aquifer



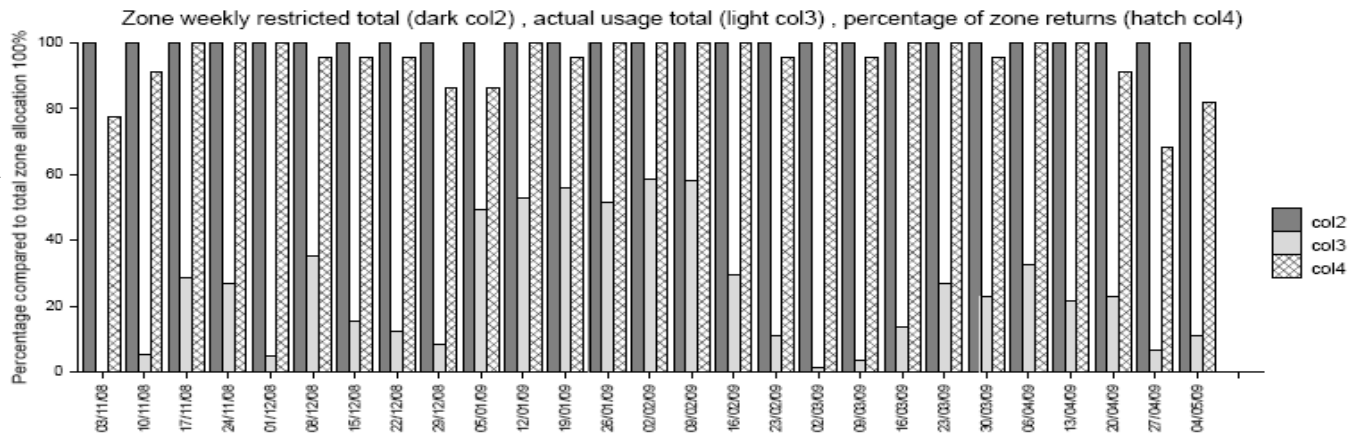
### Waimea Reservoir Zone



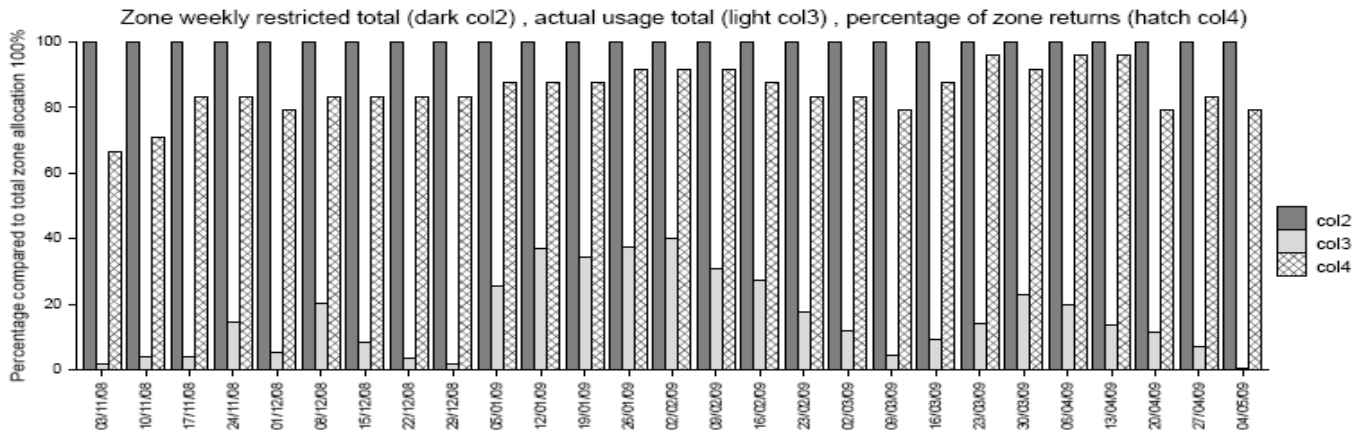
### Waimea Golden Hills Zone



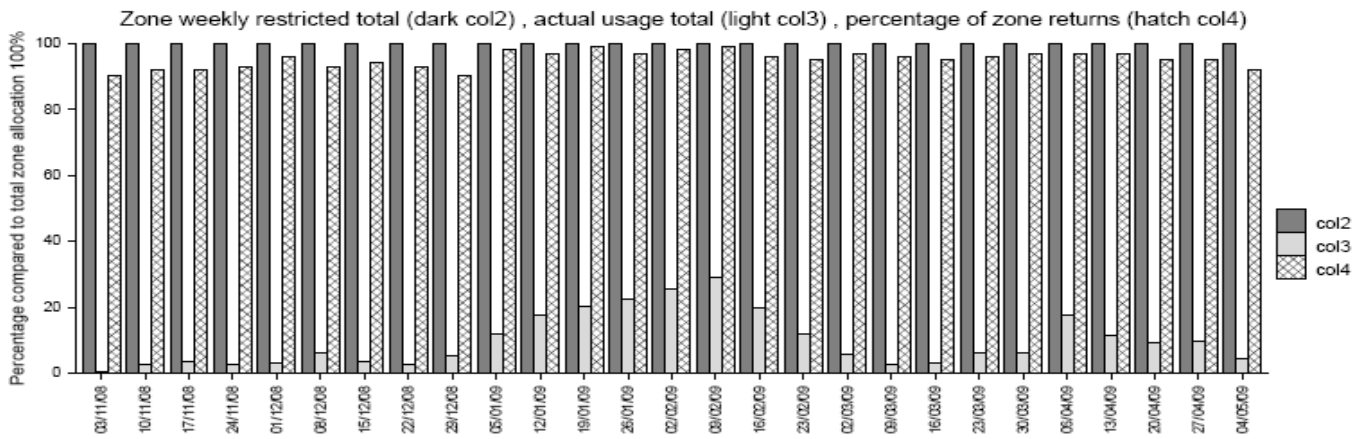
### Waimea West Zone



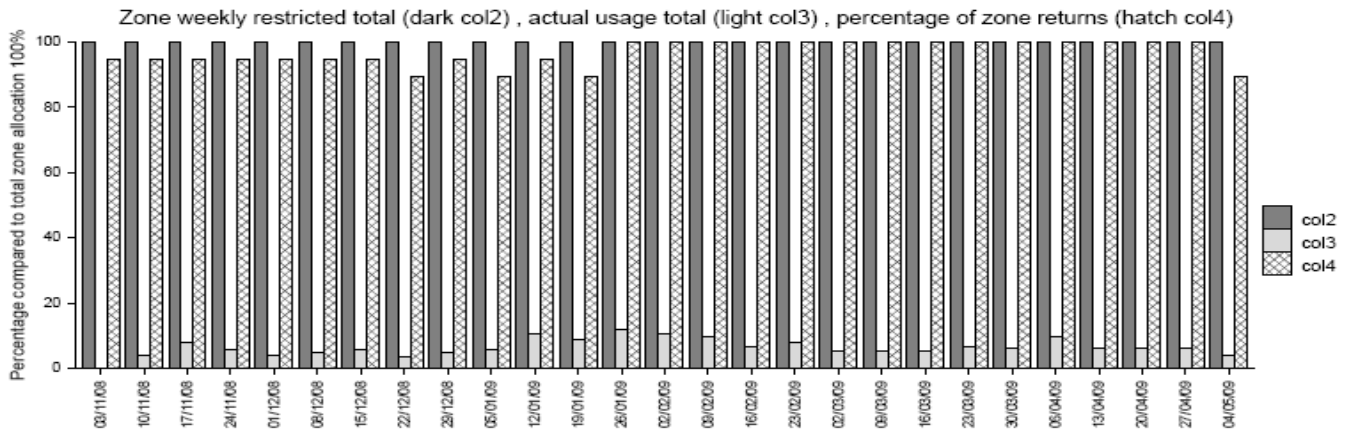
### Waimea Hope Minor Aquifers



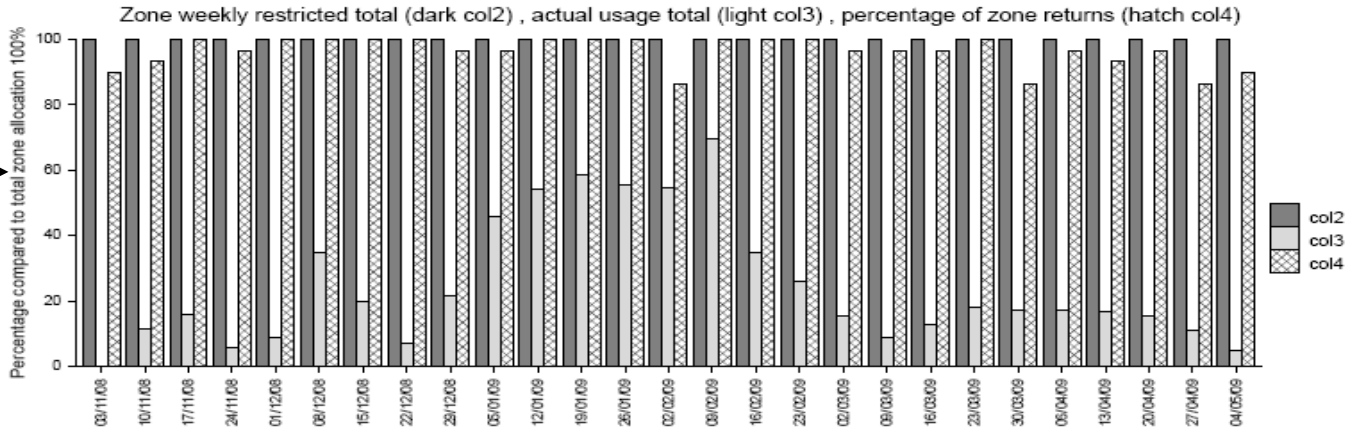
### Wai-iti Dam Service Zone - Waimea



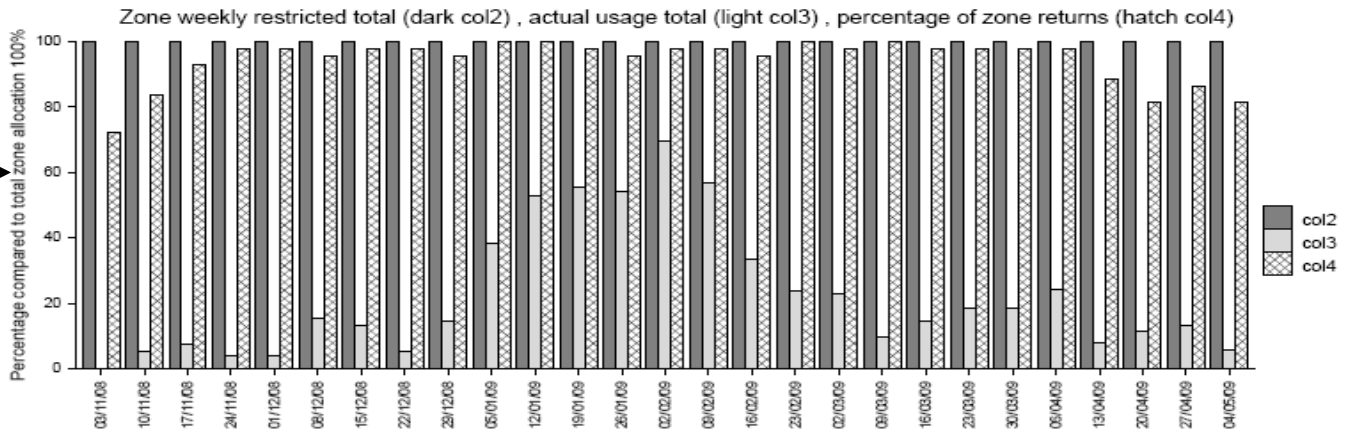
### Wai-iti Zone



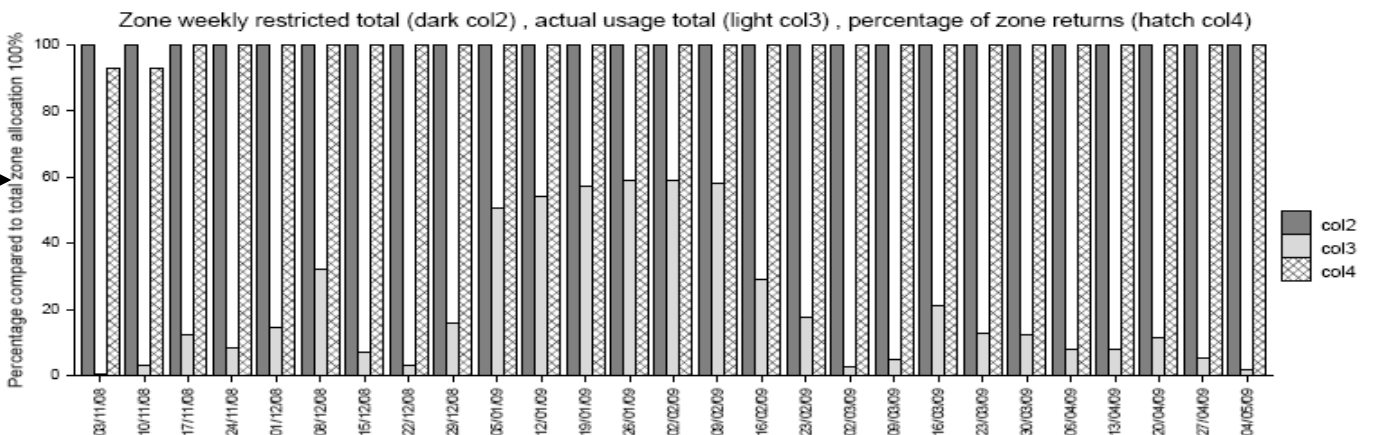
### Motueka Hau Zone



### Motueka King Edward Zone

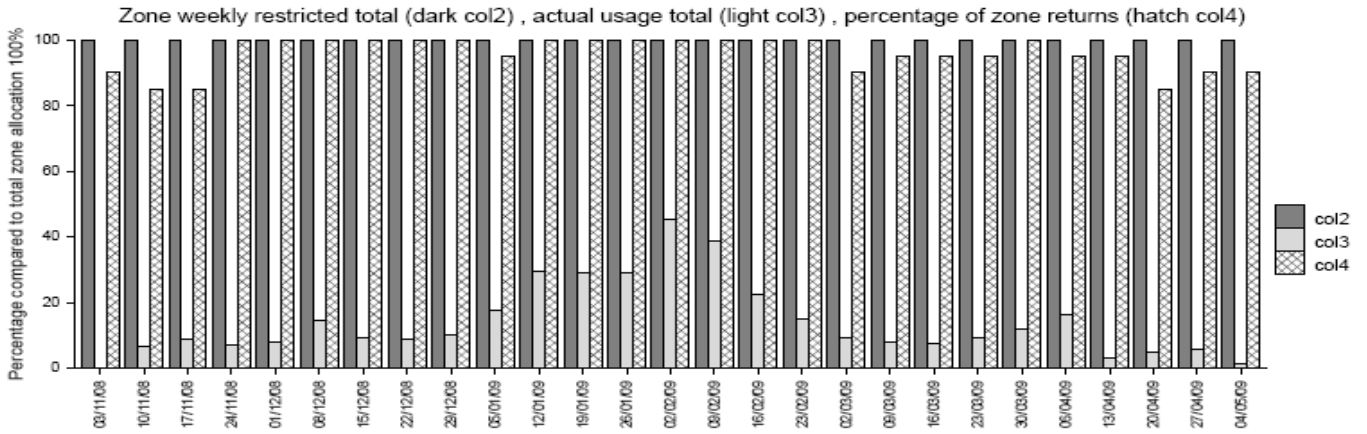


### Motueka Transition Zone

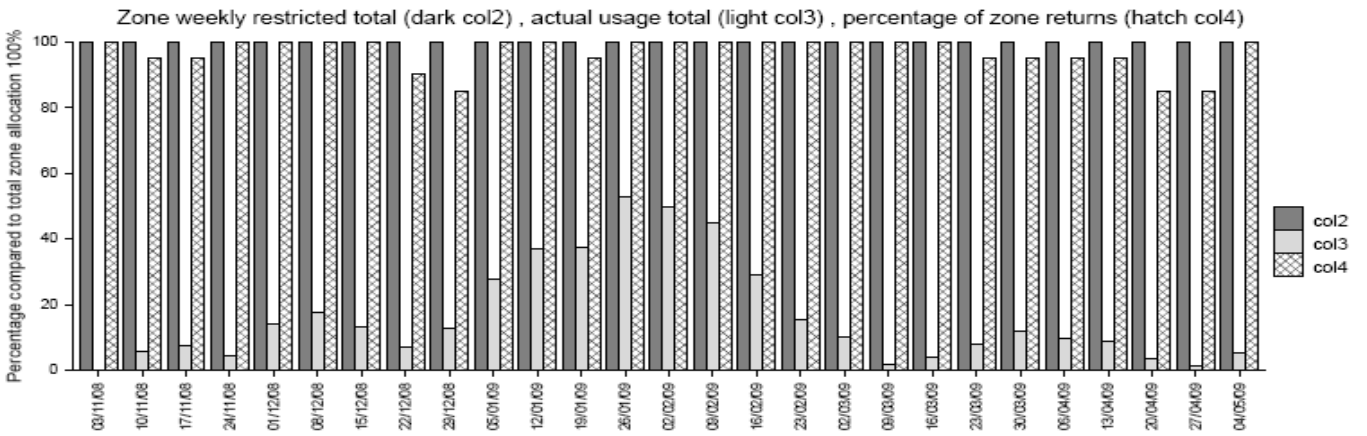




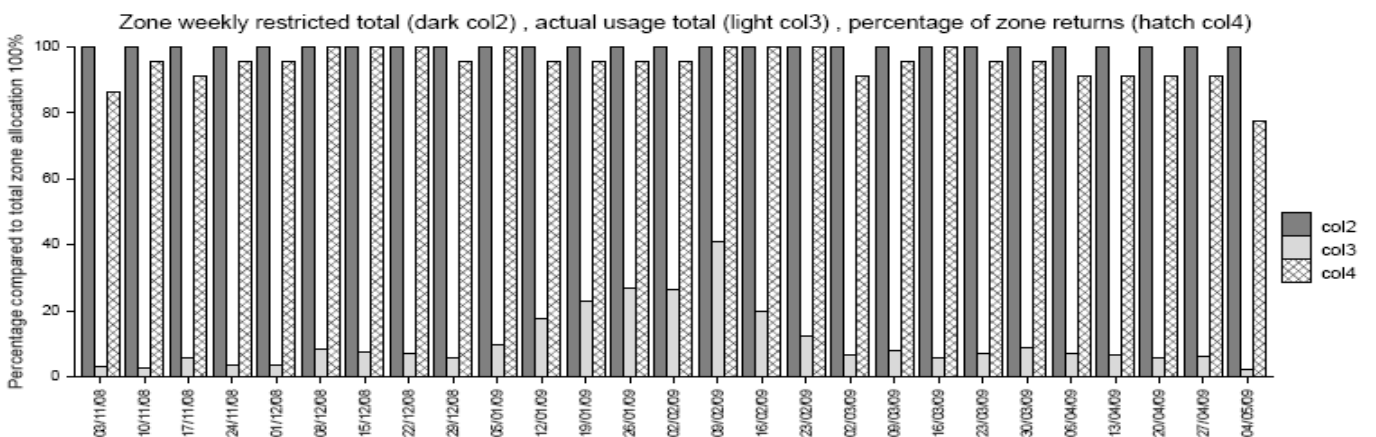
### Moutere Eastern Groundwater Zone



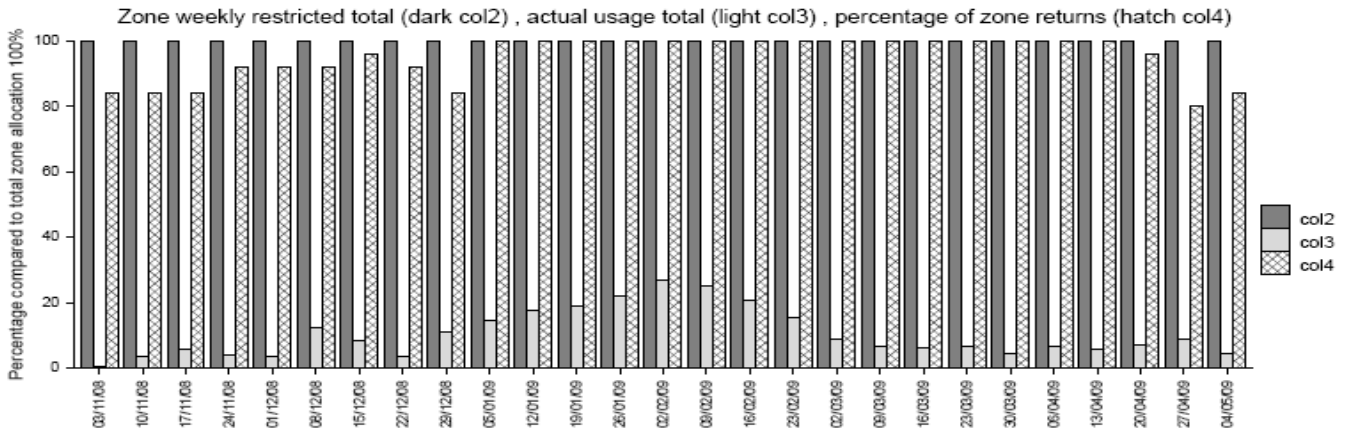
### Moutere Western Groundwater Zone



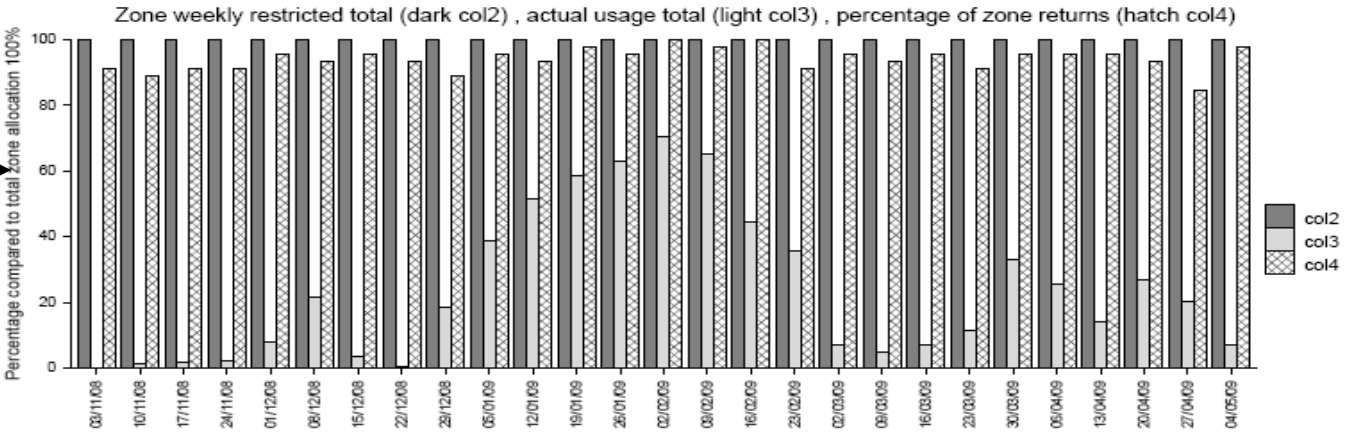
### Moutere Coastal Groundwater



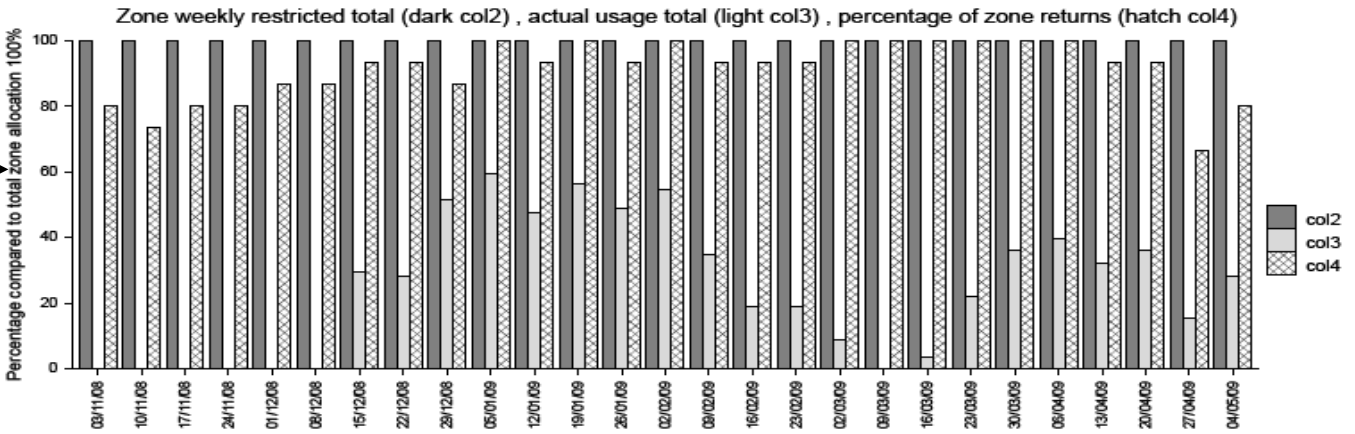
### Moutere Southern Groundwater



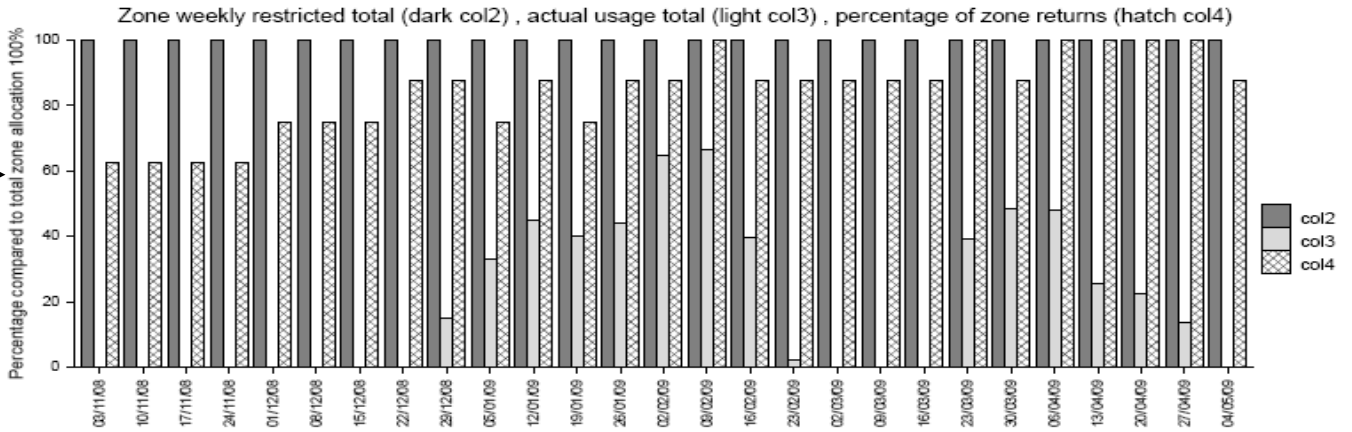
### Tapawera Plains



### Motupiko



### Wangapeka



### Tadmor

