

9.2 ANNUAL DISTRICT-WIDE WATER MONITORING REPORT

Information Only - No Decision Required

Report To:	Environment and Planning Committee
Meeting Date:	3 August 2017
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1 Summary

1.1 Tasman District Council runs a dedicated programme designed to record and report on the consumption of ground and surface water across the regions water zones, measure compliance with consent conditions, aid in the implementation of water restrictions and oversee the implementation and compliance of the Reporting of Water Takes Regulations 2010.

1.2 Key findings from this season were:

- It was a wet 2016-2017 summer season with regular rainfall throughout the district. As a result only intermittent irrigation was required by most water users.
- The Dry Weather Taskforce convened on one occasion to impose restrictions under Section 329 of the Resource Management Act 1991.
- Consents administered under the water metering project in the 2016-2017 season decreased from 1,486 to 1,461. This was mainly due to consent surrenders and lapses.
- Ninety percent (90%) of all water meter readings are received electronically. Of those 80% are now received via the web page service provided by Council, 9% are received via email, and 4% are received via telemetry. Council has also introduced the ability to provide meter readings through the use of a mobile phone, although still a relatively new method, 7% of water meter readings are now being received this way.
- Construction of a purpose built water-metering database has taken place to address limitations to the current database together with the projected increase in monitoring and compliance demands as a result of the 2010 water meter regulations and Waimea Community Dam outcomes. This new data base will go live in early August 2017.
- 988 meters received an onsite audit during the season, down from 1055 last season.

1.2 Overall compliance was good this season but required significant contact between Council staff and consent holders in order to maintain standards. Due to wet weather conditions there was intermittent irrigation undertaken by most water users. A result was that many users supplied a water usage reading on the week water was used but failed to supply a reading on weeks water was not used due to rain. As the season progressed, a number of

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users became very lax at supplying weekly readings as required and would supply in blocks. Constant contact was required by Council staff to ensure readings were supplied and to maintain database integrity.

- 1.3 Despite the wetter season overtakes did occur, however only one infringement notice was issued for an overtake, as many were the result of missing readings or failed equipment. Each overtake that did occur was investigated and responded to at the level appropriate to the particular circumstances. Seven Infringement notices were issued to water users who, after a number of requests from Council, continually failed to supply water meter readings. Meter audit fees were also applied to five users for staff time required to physically read water meters (up from four last season) due to ongoing failure to supply the required water meter readings after repeated requests. Council staff have now advised many water users that the requirement to supply weekly water meter readings is a consent requirement regardless of use and this will be enforced vigorously during the 2017-2018 summer season.
- 1.4 Implementation of the Resource Management (Measurement and Reporting of Water Takes) Regulation 2010 continues. Last year 319 consented takes of 5 l/s to 10l/s were required to install a complying water meter by November 2016 and to be verified as accurate by June 2017. As at 30 June 63 have no meter installed and require follow up action and 46 were yet to be verified with most of those on a waiting list. Council staff continue to liaise with water users and industry contractors to monitor progress.
- 1.5 It is envisaged that monitoring demands will increase considerably with the changes associated with the Waimea Community Dam proposal, particularly with the potential outcome of stricter water rationing triggers throughout the Waimea water use zones. Further investment in an additional compliance monitoring officer will be necessary to meet the monitoring and enforcement demands and this bid has been presented for consideration in the LTP.
- 1.6 End of water year water summaries are in the process of being sent to all consent holders including graphical representation of their individual water use record and the relevant water management zone. This reporting method was used for the majority of consent holders and is well received despite the time and cost involved.
- 1.7 The administration requirements of the water metering programme continues to increase due to the ongoing implementation of the National Regulations and projects like the Waimea Community Dam plan changes. As the staged implementation of the regulations progresses, the number of affected consent holders grows. Greater numbers submitting readings alongside increased reporting demands all impact on the administration capabilities of the programme.

2 Draft Resolution

That the Environment and Planning Committee receives the Annual District-Wide Water Monitoring Report REP16-07-04.

ANNUAL DISTRICT-WIDE WATER MONITORING REPORT**3 Purpose of the Report**

- 3.1 Tasman District Council runs a dedicated programme designed to monitor and report on ground and surface water consumption across the regions water zones, measure compliance with consent conditions and to aid in the implementation of water restrictions. In recent years, the programme has expanded to oversee the implementation and compliance of the provisions of the Central Government Reporting of Water Takes Regulations 2010.
- 3.2 At the end of each water metering season, the Compliance Department presents a summary of performance against the various activities managed under the programme and the purpose of this report is to present a summary for the 2016-2017 water year.

4 Water Take Compliance

- 4.1 The total number of meters on the database at the end of the 2016-2017 water year is 1,461, a decrease from 1,486 last water year (consents were surrendered or not renewed) This number of meters comprises the following:
- 1,348 Consented meter takes
 - 113 Moutere domestic (permitted activity) metered takes.

Of the consented metered takes the following applies:

- 858 were deemed active and required to file weekly returns. These were the consent holders irrigating that season. Up from 814 last water year
- 100 were deemed non-active and not required to file weekly returns. These were consent holders not irrigating that season
- 390 are on future implementation.

Of the permitted activity takes the following applies:

- 101 are deemed active and filing six monthly returns
- 12 are not being used.

Return Method

- 4.2 90% of all meter reading returns are being received electronically including domestic takes. The remainder still provide their information through weekly card returns.
- 4.3 Of the electronic methods this season, webpage returns make up 80% of all returns coming in. Email returns are at 9%, telemetry data remains steady at 4% and Council's new mobile app makes up 7%.

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4.4 The 10% of weekly returns not filed electronically are using the pre-paid card posted through the mail or via fax.

Telemetry (Presented by Council Environmental Monitoring Officer Brenda Clapp)

- 4.5 Council now has 38 telemetered water meters provided by five different telemetry hosts, with three of these new in the last year. Data transfer from the telemetry host to us has been running smoothly. There has been a few instances of problems with the connection between the water meters and telemetry. These problems have caused missing or erroneous data, and have been due to equipment malfunction or mischievous livestock. When these sites have not been working, an effort has been made to get the service providers or consent holder to provide manual readings until the problem is fixed.
- 4.6 The aligning of the telemetered water meter data with other hydrological data collected by the Environmental Monitoring section continues. With pre-season and post-season checks provided by the consent holder, and mid-season meter audits, the data is being archived and quality coded to the National Environmental Monitoring Standards (NEMS), and comments are logged when issues have occurred. To meet NEMS, the accuracy of the data between the telemetry and water meter needs to be within +/- 1%.

Compliance Summary

- 4.7 At present, the different water management zones in this district have either a full or partial metering requirement on abstractive takes imposed through the TRMP. For the actively metered zones consent holders are required to furnish weekly usage readings over the water metering period (now 1 July to 30 June). This forms the basis of the compliance monitoring programme and has three primary objectives:
- Ensuring compliance with the obligations imposed in consent conditions and responding to non-compliance accordingly. This is a statutory requirement and underpins all monitoring programmes.
 - Ensuring comprehensive usage data is available for the purpose of sound water resource management and policy setting.
 - Ensuring ability to provide accurate usage data to central government agencies in meeting national reporting objectives.
- 4.8 With the introduction of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, the duties imposed through this have also been built into the programme as a dedicated project, interlocking with the current consent management framework. The monitoring, enforcement and reporting on performance for these regulations are significant and an important function for this Council to manage alongside consent monitoring.
- 4.9 The 2016-2017 water year performance is reported as follows:

Missing Readings

- 4.10 Overall performance in respect to returns for active meters was not as good as in previous seasons.

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- 4.11 Weather patterns this season resulted in regular rainfall over the summer season. The dry weather task force was convened only once with stage 1 rationing required in the Waimea's. However, this period of rationing lasted less than a week. Because of the wet season, irrigation was intermittent and overall water use low. Unfortunately, water users across the district were lax in supplying water meter readings each week (regardless of actual use) as required. Many water users had obtained weekly water meter readings but supplied these in batches either fortnightly or every three to four weeks. Regular contact was required seeking missing water meter readings. A number of water users received infringement fines for failing to supply weekly water meter readings in spite of regular requests from Council staff. A number of others were invoiced for second or subsequent audits that were undertaken due to missing readings. My impression was that water users gave reporting of weekly water use a low priority as they were using little water and probably assumed Council would place little importance on the regular reporting due to the obvious rainfall.
- 4.12 It is unfortunate but inevitable that the Compliance Department are now going to be required to take a more stringent approach to missing readings over the coming 2017-2018 irrigation season. Last year the approach to missing readings was based around increased verbal contact and encouragement with an attempt to rely less on punitive enforcement. This year regular rainfall and overall low use meant that there was little adverse environmental affect from the late reporting of water use, so again Staff relied on regular contact to encourage weekly water meter readings to be submitted, rather than punitive methods to achieve compliance. These users absorbed a lot of precious staff time.
- 4.13 There was also a core group of repeat offenders who, despite being given every opportunity, failed to comply. There was some suspicion that although (through the audit process) no overtake occurred, a number of water users were simply making up the missing weekly water meter readings because they were not actually read each week. The increase in staff time spent following up on missing readings didn't prove productive in ensuring water users complied with this requirement; this indicates a firmer enforcement position regarding missing readings (including the use of \$500 infringement fines) will be required for next season to re-enforce water user responsibility and obligations. Despite this, during this reporting period a number of formal warnings were issued and recorded; seven (7) Infringement notices were issued; five (5) audit fees for staff time were issued and two (2) Abatement Notices were issued for failing to supply weekly water meter readings as required.

Excessive Water Use

- 4.14 There were a number of excessive water takes encountered this year, however, genuine overtakes were relatively small in number and many were within the 5% tolerance. A common theme for most recorded overtakes however was simply poor history of providing readings during consumption periods. Two water users had excess water use over a number of weeks due to breaks in the individual onsite reticulated systems. Both had contractors searching for the breaks and undertaking repairs but it took the contractors a number of weeks to test, locate and repair the breaks. Regular contact with the water users took place over this period and it was not during a time (due to weather conditions) when water resources were under stress.

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- 4.15 All excessive water use situations were investigated and responded to in accordance with Council's enforcement policies. For minor overtakes or if appropriate for the first instance of non-compliance; warnings were used as a means of addressing the non-compliance and gaining future compliance. Past warnings (should they exist) are considered in determining enforcement options for non-compliance. One (1) overtake infringement notice and one (1) abatement notice were issued for excess water abstraction this season.
- 4.16 Telemetered water use data over takes were either due to or obscured by system errors or failures.

Water Meter Audit

- 4.17 A total of 988 meters were audited during the water year, down from 1055 last year as there was only one student employed. Meter audits continue to include a reading of the meter dial, ensuring integrity of the seal and obtaining an updated (digital) photographic record of the meter. Where a reading discrepancy is found these were followed up.

Fictitious Meter Readings

- 4.18 Some reading discrepancies were identified through the audit process and all were followed up. These were the result of human error or what staff perceive as a lax attitude toward actually reading the meter. On a number of occasions (for a small number of water users) when on receipt of a batch of readings the audit process confirmed the due reading supplied to be correct but staff suspect the late readings that were included were fictitious. It was confirmed through the audit process that two 'lifestyle block' water users supplied a false water meter reading as they did not bother to read their meters. Water use was extremely low and both were new to the requirement so this was noted and both were warned that Council may prosecute any further instances.

Moutere Domestic Metering

- 4.19 The TRMP also requires Moutere domestic (permitted activity) takes to install meters and provide a single reading in April and then in November.
- 4.20 As at 30 June 2017 a total of 113 Moutere domestic bores have been identified and registered on the database. While that is the total registered, not all have installed the required meters and 12 bore owners remain unmetered due to non-use.
- 4.21 In respect to these domestic meters the water use data readings are required April and November each year. As at 30 June 2017 98% of readings had been received or obtained during audit for those respective meters.

5 Water Rationing and the Dry Weather Task Force

- 5.1 Due to the prevailing wet weather patterns occurring in the district over the summer the Dry Weather Taskforce was required to convene on one occasion to consider and impose rationing restrictions under Section 329 of the Resource Management Act 1991.

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- 5.2 The period of rationing imposed under section 329 of the Resource Management Act 1991 lasted less than a week.

6 Other Administrative Requirements
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- 6.1 In addition to the ongoing collection, monitoring and reporting of water use data during the season, other critical water monitoring administrative tasks placing high demand on staff time and resources include:
- Pre-summer season set up. Considerable staff time is dedicated to preparation for the upcoming summer. This is typically reviewing and uploading new consents and renewals, database and data integrity audits, alerts to water users of the pending start and contacting those not using water for confirmation that the non-use situation remains.
 - End of water year reporting. This is an important feedback mechanism to water users and forms an integral part of the overall reporting process. While this occupies a considerable amount of staff time and receives occasional complaint from particular users, it is considered to be well worth the effort and is typically well received by the users. The reporting consists of a summary letter, graph of the individual and wider zone usage, commentary on consent condition performance together with any identified deficiencies. This water year the graphs were altered to enhance clarity. For those that find offence with this feedback loop, there is an opt-out clause and two are currently on this list.
 - Electronic records. There are 35 consents now supplying readings via telemetry. The supply of electronic data in this format is likely to increase as a result of the Regulations. Council processes to manage this form of data continue to develop to meet this change. (Refer to telemetry comments for further comment). It is important to note there is still a requirement for active staff involvement with telemetered sites to maintain the integrity of information received.
 - NCS database changes. The rapid changes occurring in the management and reporting of water use has meant the demand for increased database functionality. The implementation of the Regulations and their reporting requirements has certainly compounded this. Council is currently in the process of constructing a new water monitoring database. Efficiency with reporting and mail out merging for multiple consent information to single holders is a priority to reduce staff time on certain aspects of the water metering programme.
- 6.2 Water Zone graphs are available on request.

7 Resource Management (Measurement & Reporting of Water Takes) Regulations 2010
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- 7.1 Overall administration requirements of the water metering programme continue to increase due to the ongoing implementation of the National Regulations. As the staged implementation of the regulations progress, greater numbers of affected water users are

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required to have meters installed, verified as accurate and supply Council with weekly water meter readings.

- 7.2 The current stage of implementation for the regulations is >5 litres/second but <10 litres/second (third of the staged implementation) and applies to 319 water takes. These water takes were to have a water meter installed by 10 November 2016, with the water meters verified as accurate by 30 June 2017.
- 7.3 Of those 319 water takes, 210 are fully compliant with 46 that have failed to ensure the meters have been verified by the 30 June deadline. 63 are yet to install. Of those 109 currently noncompliant water takes, most are waiting on service providers.
- 7.4 Pursuant to section 7 (3) of the Resource Management (Measurement and Reporting of water Takes) Regulations 2010 all water takes over 20L/S which were verified as accurate in June 2013 and will require verification that the meters are accurate once again by June 2018.

8 Policy/Legal Requirements/Plan

- 8.1 One of the main objectives of the water metering programme is to provide Council, resource users and the community, data on the consumptive use of water in the individual management zones and the compliance behaviour of the users. This data provides information on the volumes, pattern of use, return rates and the stages and effects of rationing in the individual zone. Presentation of this information in an annual summary report is an essential part in Council meeting this requirement. Graphical representation of each water management zone and the report is also provided on the Council's website <http://www.tasman.govt.nz/one-water-usage-graphs/> for public viewing.
- 8.2 Council also has an obligation to report to the Ministry for the Environment (MfE) on the districts performance with respect to implementation of the Resource Management (Measurement & Reporting of Water Takes) Regulations 2010. This occurs annually as and when it receives the request. At present this is done through spreadsheets as there is no data share mechanism however the new water meter database will have greater reporting capacity.
- 8.3 Section 31.1.2.2 (k) Schedule 31B of the TRMP requires all water takes above 0.05L/S and below 4.99L/S to install water meters by November 2018.

9 Consideration of Financial or Budgetary Implications

- 9.1 A summary of the Compliance Monitoring Water income/costs for the 12-month period ending 30 June 2017 is as follows.

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- 9.2 Budgeted income for the 2016/17 year was \$245,906, whereas actual income was \$240,489; this was due to a budgeted income from infringements of \$5,217 not being received. Budgeted expenditure for the period was \$262,484; actual expenditure for the period was \$223,627. This left a surplus of \$16,862 and was mostly due to a small increase in metered take revenue coupled with reduced expenditure over the period.
- 9.3 The programme was approximately 54% water user funded this year. The target remains for this activity to be 100% user funded over time.
- 9.4 It is envisaged that compliance demands will increase considerably with the implementation of rules associated with the Waimea Community Dam plan change. Further resourcing will be required to meet this need.

9 Conclusion

- 10.1 Water user compliance requires a significant Council administrative and field effort. Significant interaction between consent holders and Council staff is required to achieve consistent compliance every season.
- 10.2 Non-compliance with meter returns was prominent this year as discussed. As always compliance staff assess each case of non-compliance and where possible place emphasis on education and encouragement to achieve compliance. Unfortunately, this was not so successful this season and as a result next season a harder line will be taken early on poor performance.
- 10.3 Few genuine overtakes were encountered this season. Invariably the majority were errors in meter readings or inconsistent returns. Council staff exercise discretion in these cases and worked with the consent holder with no enforcement action required. Two water meter returns were confirmed as fraudulent however, these were not industry related users and was a result of a lax attitude rather than undertaken to obtain any gain.
- 10.4 Use of the mobile phone application is growing and the application appears to be working well. There are a number of consent holders who for various reasons lack the ability to utilise electronic technology to provide returns. As a result, the old paper system still remains however, every effort will be made to move users to electronic reporting when that option becomes available to them. This will save some cost to Council in time and resources.
- 10.5 Maintaining this momentum for future seasons is critical and ongoing success relies on sufficient staff resources due to the high degree of customer contact required. The new Water Metering & Resources Environmental Monitoring Officer position fills an important technical role, alleviating some technical data management pressures with the Regulations. The recent employment of a Regulatory Administration officer will also assist at times of high demand in this programme.

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- 10.6 The expanding water programme and regulations have a significant impact on Council database requirements. The demand to capture meter verification data, year round monitoring and greater reporting requirements means the old database has reached the end of its useful life. Compliance staff in conjunction with IT Services have now developed a new database which is due to go live at the start of the 2017-18 season.
- 10.7 The Waimea Community Dam and plan change proposals remain prominent due to its potential impacts on the water metering programme. The Compliance Department continues to work on its strategies for the future implementation of this proposal.
- 10.8 Telemetry (especially considered as a monitoring tool for the Waimea catchment) is a growing monitoring method, however, as it stands it does not provide a “silver bullet” to monitoring water use. Issues with technology and third party providers continue.
- 10.9 The Tasman District Council appears to be positioned well in comparison to other councils with regard to monitoring water consumption throughout the District, together with the implementation of the Central Government Measurement and Reporting of Water Take Regulations.

10 Attachments

Nil