

Educating Customers on Water Consumption

Mackay Regional Council's Demand Management Program

L Roberts, J Stewart, Dr N Davis

ABSTRACT

Mackay Regional Council's social marketing strategy was introduced to enable and support the implementation of a Demand Management Program. The strategy engaged and educated customers in the Mackay Region to understand and minimise water consumption. This was primarily focused on outdoor use and peak water demand to achieve the objective of deferring capital investment for the Mackay Regional Council.

The strategy provided education on water conservation. Additionally, MiWater and *myh2o* applications were implemented and this has opened a two-way conversation with the customer. It also led to a higher level of customer satisfaction and provided more proactive communication from Council. As a result, customer leaks are being fixed quickly, saving both Council and the customer money.

The strategy encouraged residents to sign up to *myh2o*, and by signing up, residents can track their water consumption and expenditure, which means there is less "bill shock" within the community when the water bills are issued every six months.

Keywords: Social Marketing, Direct Marketing, Demand Management, Customer Engagement.

INTRODUCTION

Due to the booming economy and rapid population growth in the Mackay region in the mid 2000's, the costs of delivering water and sewerage services were escalating. A change was required, as "business as usual" was not sustainable and consumption was rising rapidly. This was triggering the requirement for capital investment in a new water treatment plant.

A strategy that concentrated on non-capital solutions was developed and focused on two areas of change – data collection and customer engagement. Two methods were developed to implement the strategy. The first was to

develop an intelligent water network to improve data collection to support better decisions in operational and capital expenditure. The second was a demand management program to minimise water consumption, primarily targeted at outdoor water use.

The start of the Intelligent Water Network resulted in Automatic Meter Reader (AMR) devices being installed on water meters and the rollout of the program has been completed. With access to large volumes of data, it was realised that to extract full value required the building of a software analytical platform, hence MiWater was developed. This allows council to see how much water is being used in real time (Figure 1).

The Demand Management Program included a comprehensive social marketing strategy that consisted of:

- Customer engagement
- Customer education
- Consumption monitoring software including a free customer portal, *myh2o*, that provides customers with information about their water use

A community survey was undertaken in 2011, to understand the audience Mackay Regional Council was communicating with and results of the survey showed:

- 57% of the people living in our region considered Mackay their home, the other 43% were here for work and had no real affinity to Mackay or plans to stay here long term.
- 54% of residents stated that they were not aware of any problem with Mackay's water situation.
- When questioned on the issues facing our region, water was at the bottom of the list.
- Even when prompted on water-related issues 46% still believed that no problem existed.
- Many were unaware of the cost implications for the region and when water bills went up, several residents didn't know why.
- More than half of those surveyed said that they would be prepared to bear the costs rather than change their behaviour.



Figure 1: An example of a near real time data for a property in the MiWater portal.

On a positive note, some things that worked in Mackay Regional Council's favour:

- 98% accepted that they had a responsibility to save water.
- Two thirds believed that they could be doing more.
- Many were largely unaware of the impact of outdoor watering – identifying an opportunity for education.
- 90% believed that Council had a role to play – meaning Council could act as influencers and provide customers with the tools for change.

SOCIAL MARKETING CAMPAIGN

Based on the survey results it was clear, the residents of Mackay needed to be taken on a journey of change and a social marketing strategy was developed to suit. As change doesn't happen overnight, the residents needed to be taken through each stage of change to have the desired outcome.

The five stages of change are:



Figure 2: Five Stages of Change

An audience can start at any one of the five stages of change, depending on the issue.

The results of the survey showed us that our customers were at the first stage of pre-contemplation, which means that they were completely unaware of the situation that existed.

The actions taken to get the residents from pre-contemplation to maintenance were:

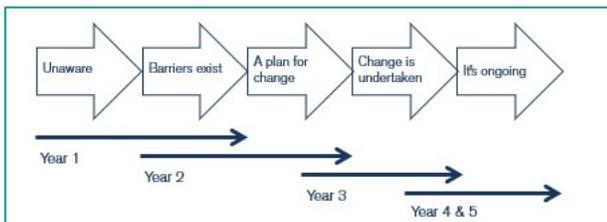


Figure 3: Actions required for change

The key message that came out from the survey was **wasting water wastes a whole lot of opportunities.**

This led to the development of the “watch the flow of your H2O” social marketing campaign.

Year one of the strategy focused on taking customers from pre-contemplation to contemplation. This focused on creating awareness of the issue and putting water on people's ‘radar’. This involved starting a mass marketing campaign consisting of:

- TV
- Print
- Mail outs
- Restriction magnets
- Outdoor advertising
- Online; and
- Education program

Year two of the strategy used the same tools that were created for year one, but the focus shifted to outdoor water. Further advertisements were introduced around water restrictions as well as giving away tap timers.

Year three of the strategy again used the same marketing tools that were introduced in years one and two. In year three, radio advertisements were introduced as well as a local plant guide website which focused solely on outdoor watering.

Plantastic Water Saving Guide

WATCH THE FLOW OF YOUR H₂O

Select from the options below to see what plants will work best in your water saving garden.

Mackay REGIONAL COUNCIL

[SHOW ALL](#) (Watering Required)
 [SHOW ALL](#) (Mature Height)
 [SHOW ALL](#) (Soil Type)
 [SHOW ALL](#) (Plant Style)
 [GO](#)

Getting Started

Creating a water saving garden is easy! Simply follow these steps to get started:

1. Select your watering requirements by clicking on the arrows – the more drops, the more watering required.
2. Select your plant size by clicking on the arrows.
3. Select your soil type by clicking on the arrows.
4. Select your style by clicking on the arrows.
5. Click GO – the plant selector will generate a list specific to your requirements! Simply print your list and take it along to your local nursery.

Drops Legend

1 DROP No watering.	1.5 DROPS Water once every few weeks in dry periods.
2.0 DROPS Water once every 2 weeks in dry periods.	2.5 DROPS Watering once a week in dry periods.

If you'd prefer us to pick the plants for your garden then simply click through to our selections below.

Let our Botanic Gardens pick your plants [CLICK HERE](#)

Once you have finalised your selection, print your shortlist, link it with Twitter or login with Facebook to save or share!

[f](#) [t](#)

Permanent Water Conservation Measures are in place

[Click here to find out more.](#)

Figure 4: Local plant guide webpage development in year three of the campaign

By year four of the campaign, 2015, residents were ready for the tools to take action and make the change. This was the year that the *myh2o* portal was launched.

The *myh2o* portal is a free website that customers can sign up to and view their daily water consumption. Alerts can be set up within the system for potential leaks and high consumption. The alerts mean that the customer receives notifications within days of the event occurring, as opposed to waiting for the bill to arrive six months later. This can alleviate “bill shock” when the customers receive their bill at the end of the six-month period.

The *myh2o* portal allows customers to monitor their water consumption at anytime and anywhere and empowers customers to take responsibility for their own water consumption. This includes both property owners and tenants.

The *myh2o* website was launched via a mass marketing campaign with a competition to encourage residents to sign up to the website.

The campaign continued into the fifth year which focused on testimonials from real customers that aired on TV, radio and was also in print media.

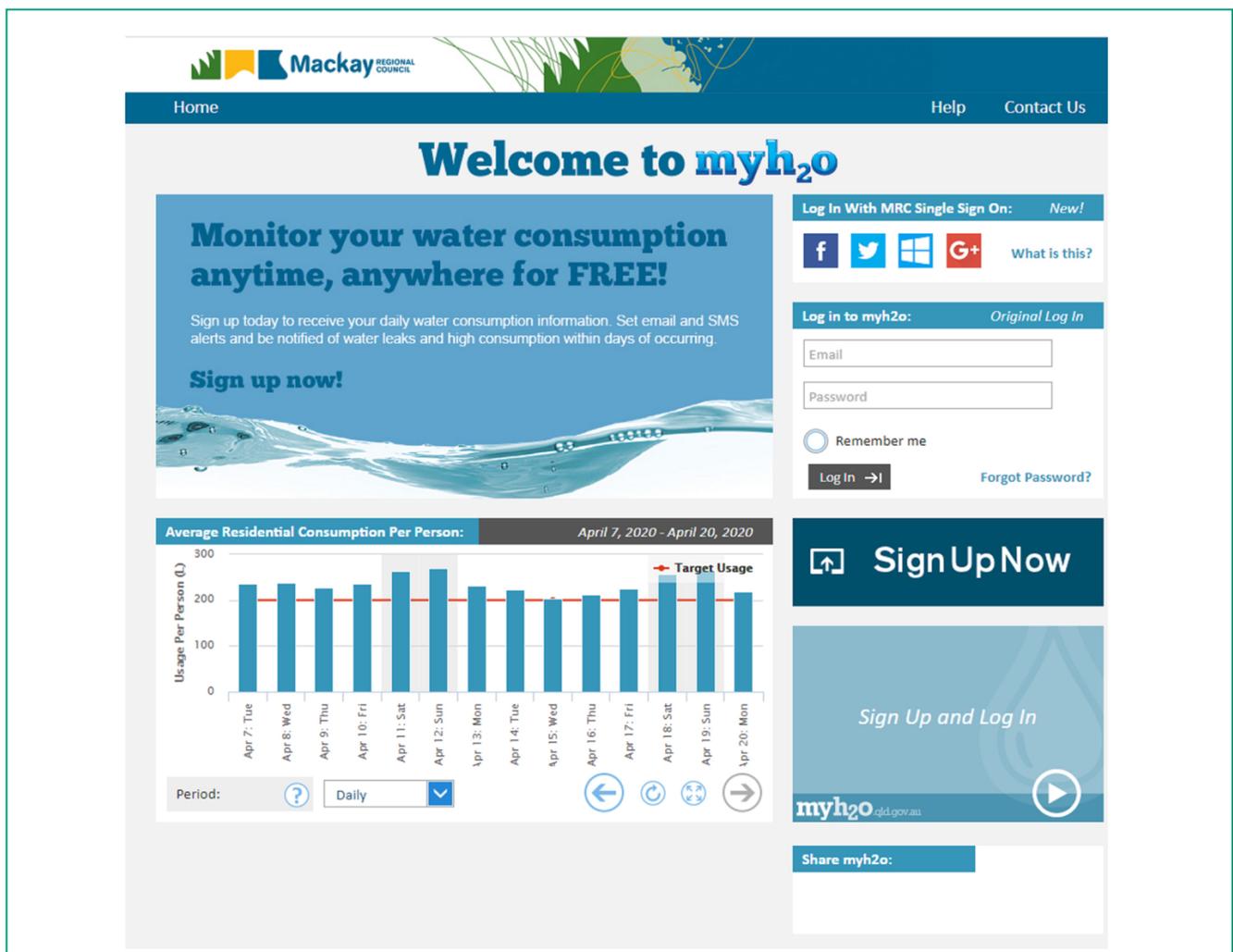


Figure 5: The myh2o website

DIRECT MARKETING

In conjunction with the social marketing strategy, a direct marketing strategy was developed. This strategy utilised the real-time consumption data captured from the AMR devices which is stored in our internal data management system, MiWater. The data is then analysed to be able to better target different segments of the community.

MiWater allows the Council to create customer profiles using the demographics collected through the registration process. The data can also be analysed to identify those properties that have pools and automatic sprinkler systems, and to understand the water habits of residents through usage patterns.

Creating customer profiles enables Council to accurately target our customers with information that matches their behaviours. For example, we now know that people with pools use around 20% more water than people without. Using this information, we can directly target different groups of people with relevant and useful information, rather than using the mass marketing technique and sending one message to all residents, which may only be relevant to a few residents.

To date, we have used the data to directly target the following customer profiles:

- Properties with leaks
- The top 50 residential and commercial water users
- Community housing
- Schools
- Property Managers

TODAY

Today, being able to provide customers with near real time and relevant data can improve the customer experience and *myh2o* is the platform that allows Mackay Regional Council to interact with its customers and provide near real time data.

There are currently 15,419 customers registered to the *myh2o* website which allows customers to see their water usage, approximate cost. It also allows customers to contact Council with any concerns as and when an issue occurs, without having to wait until the bill is received every six months.

The *myh2o* portal allows owners, agents and tenants to sign up. Agents and tenants require the permission of the owner before they can sign up. This is all completed via the *myh2o* website.

When customers sign up their properties to the *myh2o* website, they are requested to answer several questions to create their property profile.

Some of the questions are:

- Does <address> use a rainwater tank?
- Does <address> use a water bore?
- Does <address> have a pool?
- How many people regularly live at <address>? Adults, school-aged children or pre-school?
- What kind of property is <address>?
- How do you water your lawn?

While these questions are not compulsory, it does allow Mackay Regional Council to analyse the properties and place them into different customer segments to better target the water usage message.

Once signed up, the users are shown their own specific details and can see their water usage for the last three weeks initially, but are able to change search parameters as required.



Figure 6: myh2o detailed property view

The users are provided with options to view the different report types, i.e. water usage, water cost, usage per person or cost per person.

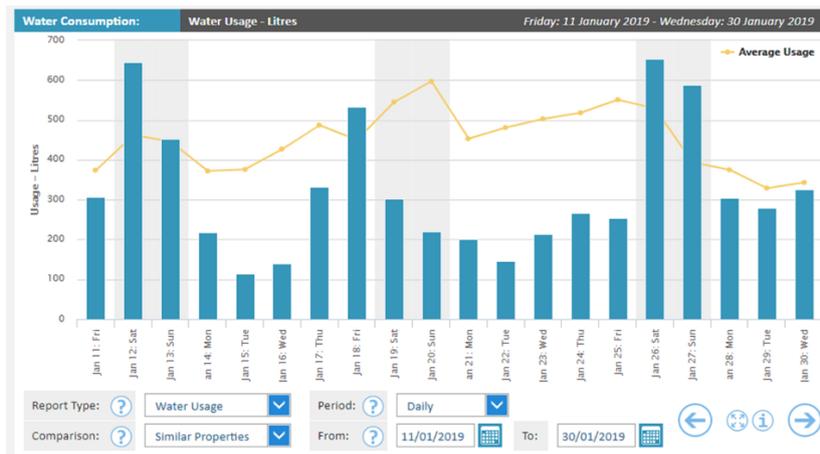


Figure 7: Water usage

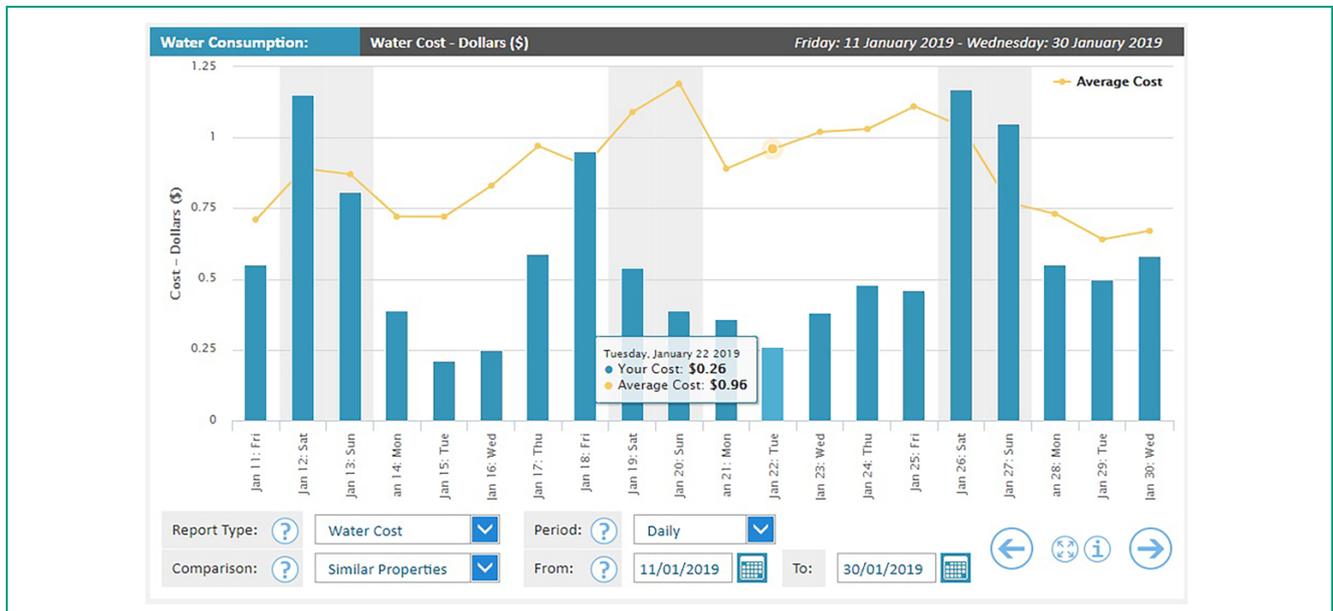


Figure 8: Water Cost

By using the Property Profiles that the customers complete, they can view their usage compared to properties that have similar demographics, or to those in their street, or suburb, and even compared to the whole network across the Mackay region. Customers are also able to see their high usage days and modify their water usage if they choose.

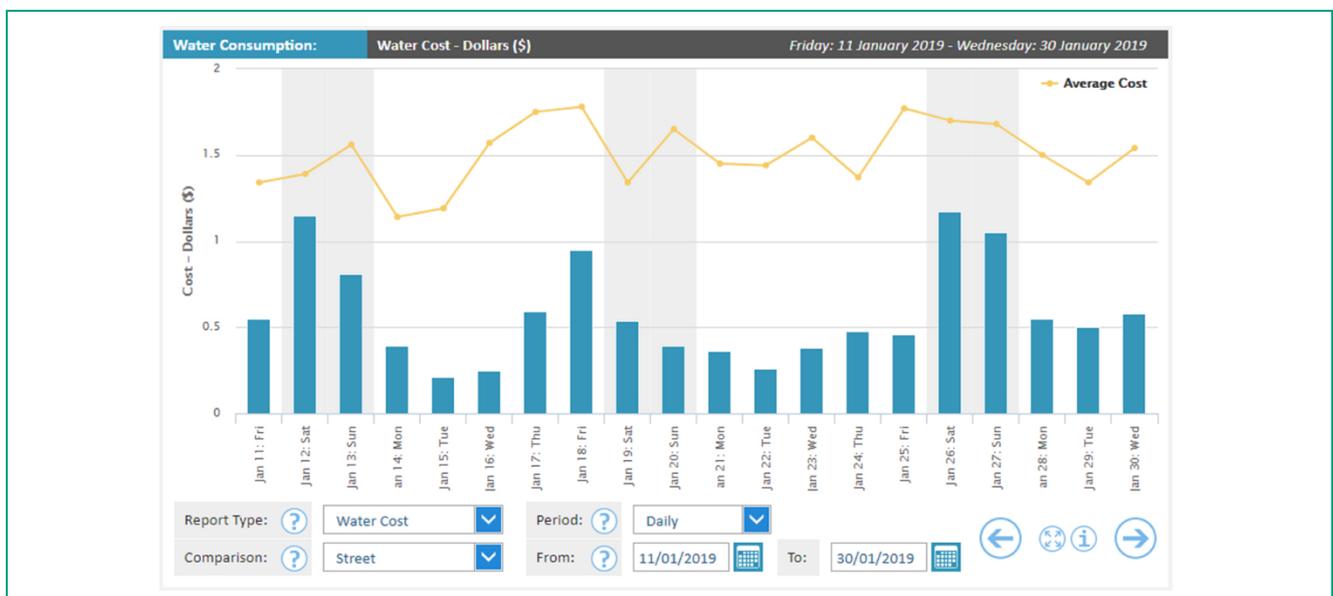


Figure 9: Comparison of water usage with other properties in the street

The myh2o portal has several alerts that the customers can activate to receive notifications of potential leaks or high water consumption when they occur. Weekly or monthly consumption reports can also be sent to the customers via email depending on their selected preference.

For example, if residents are heading away on holiday, the consumption threshold can be set lower to 3L per hour or 5L per hour, as the expected usage should be 0L per hour. The alert will be received promptly, and the potential leak can be rectified sooner.

Another example of residents changing their preferences in myh2o is when there is a constant small leak of about 5-15 L/hr, which the resident has been notified of. The resident has attempted to find and fix the leak, but the source cannot be identified. In this example, the resident has made a conscious decision to keep the leak, as the cost to identify and fix it far outweighs the cost of the “leaking” water. Therefore, the user can set their alert preferences to a higher level, i.e. 20L per hour, so that the resident is only identified if the leak grows.

Setting	Value
Alert ACTIVE?	<input checked="" type="checkbox"/>
Warning Threshold	10L per Hour
Alert Threshold	60L per Hour
Emails and SMSes Suspended After Alert	3 Days
Alert Method	SMS Only
When to send SMS?	<input checked="" type="radio"/> Only during business hours
	<input type="radio"/> Immediately (Including at night)
	<input type="radio"/> Specific time:

Figure 10: System generated leak detection preferences in myh2o

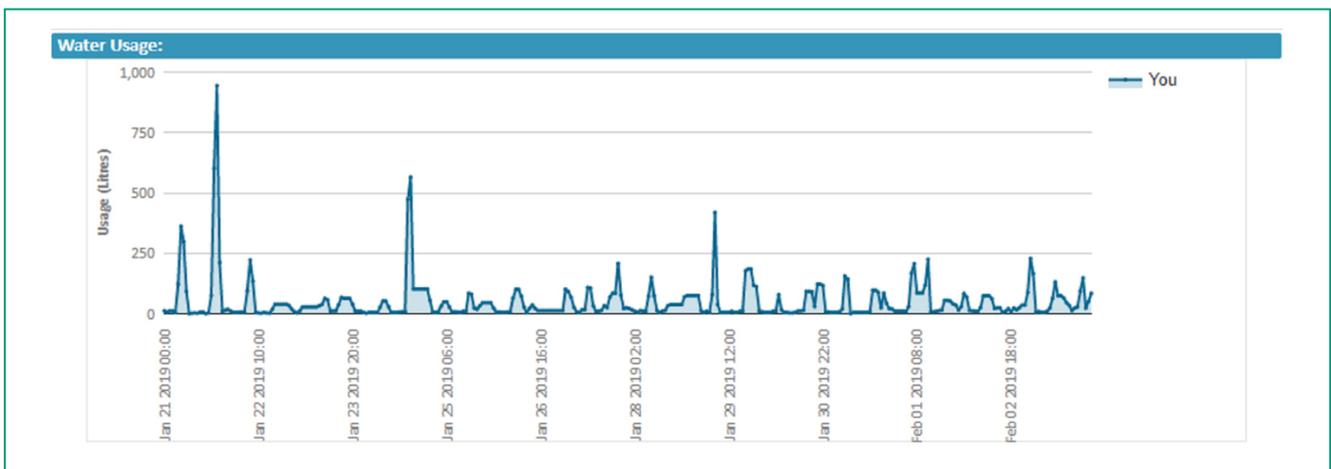


Figure 11: Example of a property that has a small leak

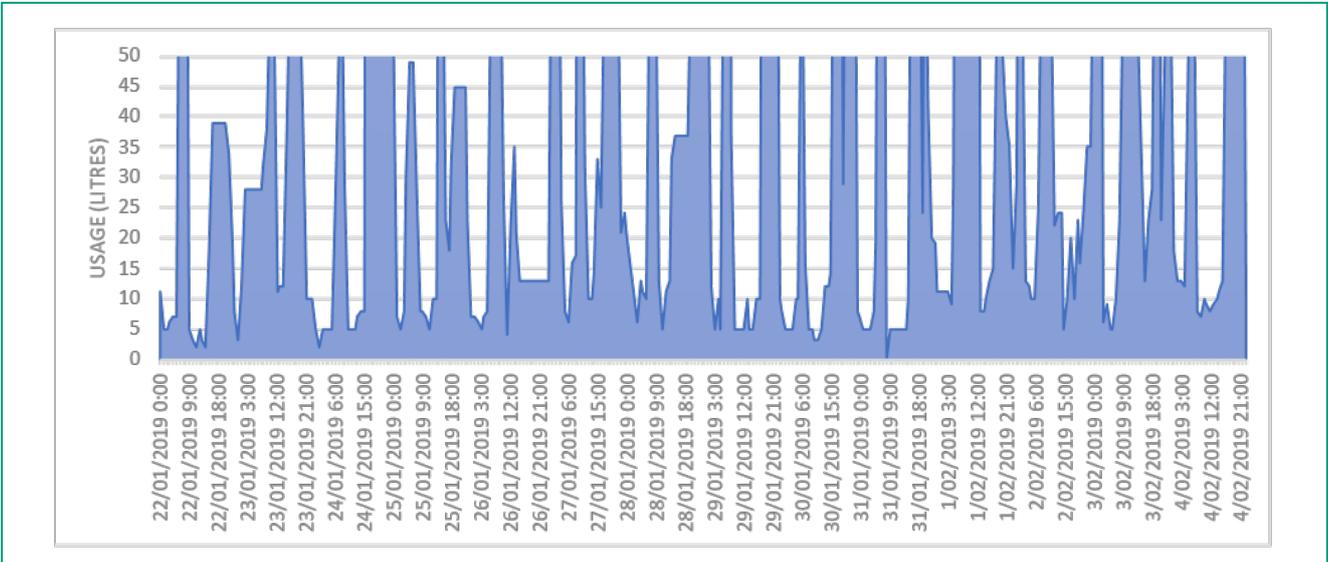


Figure 12: Property above showing on a smaller scale

Leak Detection Preferences: ✕

Alert ACTIVE?	?	<input checked="" type="checkbox"/>	
Warning Threshold	?		20L per Hour ▼
Alert Threshold	?		40L per Hour ▼
Emails and SMSes Suspended After Alert	?		2 Days ▼
Alert Method			SMS Only ▼
When to send SMS?	?	<input checked="" type="radio"/> Immediately (Including at night) <input type="radio"/> Only during business hours <input type="radio"/> Specific time:	

↶ Cancel
🏠 Apply to All Properties
💾 Save

Figure 13: Example of a user setting their preferences to a higher level

Mackay Regional Council also engages with customers who have not signed up to *myh2o*. These customers are sent potential leak notifications each month. In an average month, 497 email leak notifications, 203 SMS leak notifications and 822 letter notifications are sent to customers who are not signed up to *myh2o*, including property owners and tenants.

Mackay Regional Council is continuing to use social media to provide messages to the Facebook community on items such as the best water-saving plants for your garden,

along with providing details of new water refill stations located in areas where residents undertake significant physical activity (e.g. on a path near the botanical gardens used as a “park run” location) in the region that can be used. Pamphlets and reminders to sign up to *myh2o* are also sent out to residents as part of the billing cycle.

It is the reminders sent with the water notice which is currently providing the greatest sign up trigger for new customers on the *myh2o* portal.

Demand Management



Figure 14: Example of a Facebook post on water-saving tips



Figure 15: Example of a recent Facebook post on signing up to myh2o

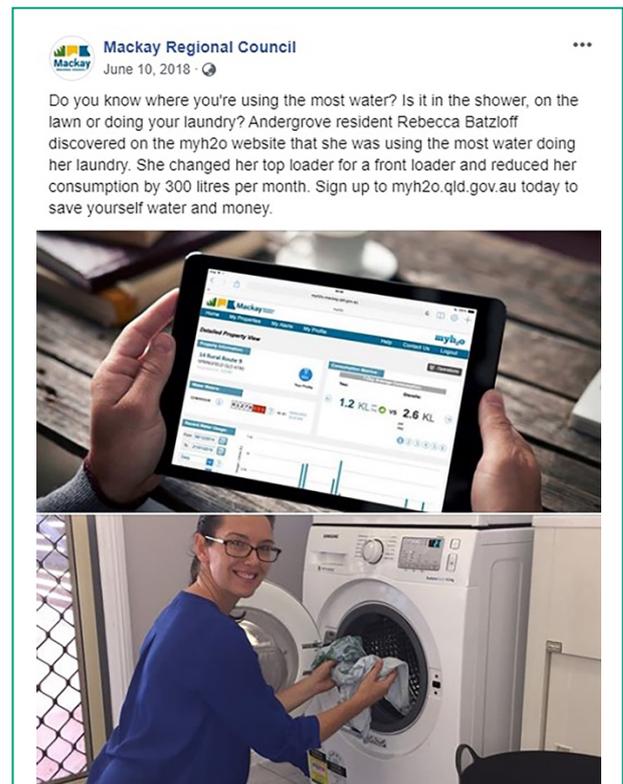


Figure 16: Example of a Facebook post on signing up to myh2o and water saving tips

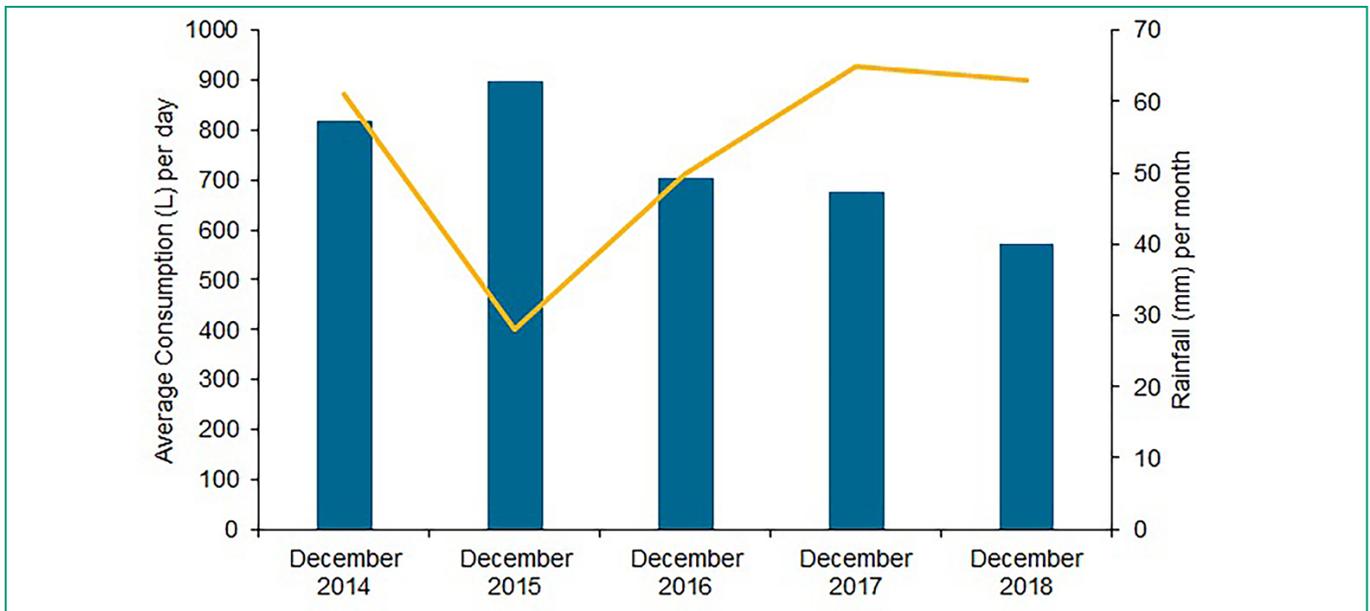


Figure 17: Average Daily Consumption vs Rainfall for the months of December from 2014 – 2018

The graph in Figure 17 above shows the Average Daily Consumption for the suburb of Glenella and the monthly rainfall for the month of December from 2014 to 2018. This shows that for 2014, 2016, 2017 and 2018, the rainfall was between 50 mm and 65mm for the month, and the average daily consumption has generally decreased. The exception of course is December 2015, when only 28mm was received and the consumption was higher. This is discretionary water use or outdoor water use.

HIGHLIGHTS

From the launch of the strategy, Mackay Regional Council has seen and continues to see several positive outcomes, including:

- Online customer portal *myh2o* to manage water use (near) real time
- All customers have smart metering and can sign up to the online customer portal
- A 10-fold increase in proactive engagement
- Drop in concession for concealed leaks
- High level of customer satisfaction

CONCLUSION

The implementation of smart metering, and the associated marketing and engagement strategy for Mackay Regional Council, has resulted in a significant increase in awareness of the importance of water in the region.

It has also resulted in reduced consumption and has led to a two-way interaction between customers and Council. This interaction can only be beneficial as the region continues to remain focussed and committed to water conservation.

ACKNOWLEDGEMENT

The authors would like to acknowledge the following current and previous Mackay Regional Council staff for their support and contribution to the success of MiWater and *myh2o*: David Brooker, Stephen Fernando, Kylee Gilbank, Andrea Thayer, and Rebecca Batzloff.

THE AUTHORS



Jacqueline Stewart

Jacqueline Stewart is a Project Lead Officer with Mackay Regional Council. Jacqui's roles have entailed working with MiWater/myh2o and Assetic applications, to determine how best to apply the systems to ensure customers (internal and external) have the most up to date and accurate data.



Dr Nicole Davis

Dr Nicole Davis is the Chief Operating Officer for Water and Waste with Mackay Regional Council. A water industry professional, her 25 year+ career has involved water reforms in SEQ, private sector consulting on water, environment and reports for government and a stint at Queensland Health.



Linda Roberts

Linda Roberts has over 10 years of experience in the Water Industry, with 5 of those years as the Manager of Planning and Sustainability at Mackay Regional council. She led the commercialisation of the MiWater software in 2019. More recently joining Isaac Regional Council as Manager of Planning and Projects.