Demand management status report and scorecard 2020/2021

Responsible Officer: Group Manager Planning & Delivery (Andrew Logan)

Recommendation

That Council:

1. Receive and note the progress and outcomes of demand management deliverables for the 2020-2021 financial year including budget expenditure.

2. Receive and note plans to review, evaluate and prepare a new Regional Demand Management Plan (RDMP) and Drought Management Plan for adoption and execution from July 2022, following the conclusion of the current plans.

Background

This report provides a summary of progress on the delivery of actions against key performance indicators of the Regional Demand Management Plan (RDMP) during 2020/2021. The demand management program continues to progress towards achieving defined actions including most notably, strengthening business partnerships across the region to identify and deliver projects that reduce demand on the potable water supply. The challenges experienced this year remain similar to issues previously raised, as explained below.

1. Demand Management performance scorecard

The following charts are a snapshot of progress of key performance indicators, the actions of the RDMP, from 2018 to the end of June 2021, summarising the first three years of the four-year delivery plan.

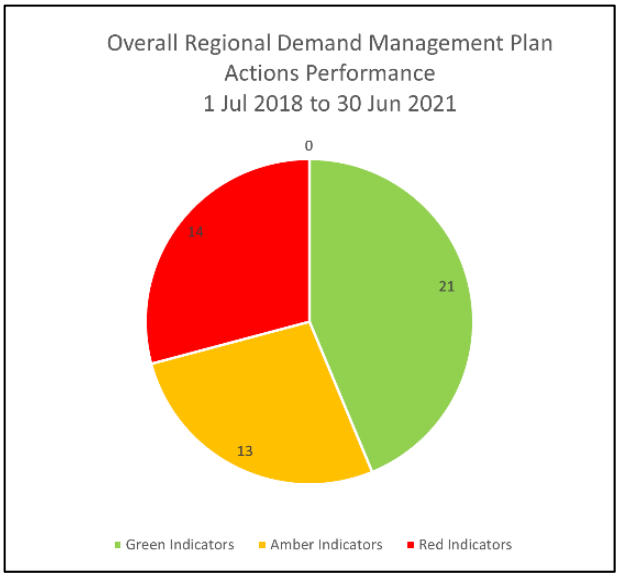

Figure 1: Overall performance including collation of activities with joint responsibility between constituent councils and Rous (48 actions).

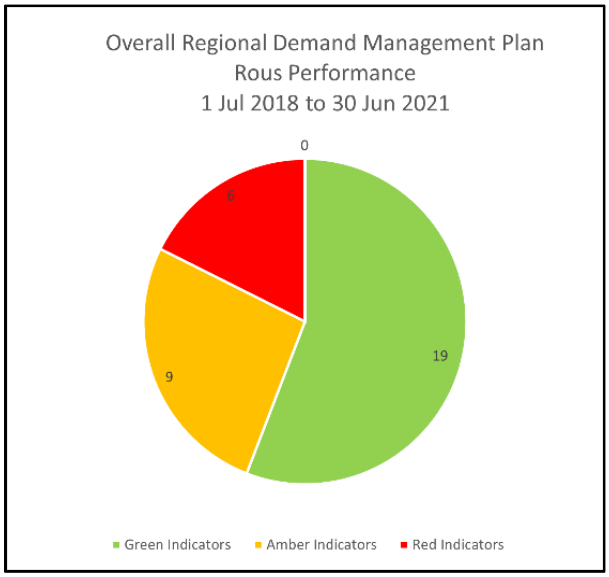

Figure 2: Overall performance of activities led by Rous (35 actions).

Legend

	Nil or little progress / not on track
	Progressing though work remains
	Ontrack or complete

Key points

- There is momentum in delivering actions that are the responsibility of Rous or where Rous is directly involved, including green indicators for:
    - Sustainable Water Partner Program;
    - Residential Rainwater Tank Rebate Program; and,
    - Communication and engagement activities that broadly promote and raise awareness of the value of water, water efficiency and tools and resources available to better understand and reduce household demand.

- Meeting key performance indicators for activities where Rous is not directly involved continues to be a key challenge and recurring issue of the current RDMP.

- The role of Rous as the bulk supplier and constituent councils who have direct access to the majority of the region's customer base has influenced progress of activities including expanding recycled water connections (and supporting this through rebates, administered by Rous) and implementing a regional smart metering approach (red indicators).

- Improving monitoring, reporting and evaluation by developing standardised definitions of connection types across the region also remains an outstanding action. This work involves intensive review and understanding of financial, billing, and administrative operations within each constituent council. Given the complexities of this, this project will most likely require a dedicated temporary resource and agreement and coordination with each constituent council and all relative departments. It is a key issue identified for inclusion in the new RDMP and Drought Management Plan.

2. Budget v actuals 2020/21 to 2018/19

Table 1: Program area budget versus actual for 2020/21 to 2018/19

Program Area	2020/2021			2019/2020			2018/2019		
	Actual	**Budget**	**% Spend**	**Actual**	**Budget**	**% Spend**	**Actual**	**Budget**	**% Spend**
DM General Program	Nil	$2,900	0%	$29,286	$9,300	315%	$4,362	$8,900	49%
DM Monitoring, Reporting & Evaluation	Nil	$30,000	0%	Nil	$10,000	0%	Nil	$10,000	0%
DM Recycled Water (residential only - Byron & Ballina)	Nil	$30,000	0%	Nil	$20,000	0%	$20,000	$20,000	100%
DM Residential Rainwater Tank Rebate Programs	$107,685*	$90,000	120%	$115,067	$65,000	172%	$73,739	$65,000	113%
DM Com. Education Program	$43,438	$48,900	89%	$8,862	$47,700	19%	$41,025	$42,000	98%
DM Smart Metering	Nil	$10,000	0%	$6,400	$48,200	13%	$26,777	$30,000	89%
DM Sustainable Water Partner Program	$68,819	$82,000	84%	$5,392	$80,000	7%	$16,406	$55,500	30%
DM Water Loss Program Leakage	Nil	Nil	NA	$40,003	$40,000		$58,000	$50,000	
TOTAL DM Programs ONLY	**$219,942**	**$293,800**	**75%**	**$205,010**	**$320,200**	**64%**	**$240,309**	**$281,400**	**85%**
Administration costs not included in projects	$53,354	$31,500	169%	$26,376	$79,800	33%	$75,730	$92,900	82%
TOTAL including administrative costs	**$273,296**	**$325,300**	**84%****	**$231,386**	**$400,000**	**58%**	**$316,039**	**$374,300**	**84%**

** The total* Rous *expenditure for the Residential Rainwater Tank Rebate Program was $107,685. Income received from constituent councils (in the form of rebates from outside the* Rous *supply footprint, mainly Mullumbimby and Casino) equalled $11,890. This is the equivalent of 11% of total program costs for 2020/2021.*

*** Overspend on Administrative costs (i.e., salaries) skews the overall total percent spend. Individual demand management projects do not include salaries, hence this is captured as a separate line item and calculated separately to the demand management programs.*

The key points of the 2020/2021 demand management budget included:

- Nil expenditure against program areas where challenges meeting key performance indicators exist including monitoring, reporting and evaluation; recycled water and smart metering. For recycled water and smart metering, this lack of expenditure is not a true reflection of work in these areas. Further planning as to how these actions are to progress in the context of broader organisational and regional projects is required.
- The second highest historical spend on rainwater tank rebates, a total of over $107,000, representing a 20% overspend against this budget. This total reflects received and approved rebate applications for 2020/2021.
- Positive progress made with Sustainable Water Partner program, Residential Rainwater Tank Rebate program and communications and engagement activities.
- Overspend against administrative costs (i.e. Salaries). This is reflective of the true costs of program delivery for 2020/21. The costs for 2020/21 reflect the Water Sustainability Officer in a part-time capacity. This cost will increase for 2021/22 as the role has been filled in a fulltime capacity.

Further explanation and commentary is provided against each Program Area in the following item.

3. 2020/21 Program area commentary

General Demand Management program

There was an underspend against this minimal budget amount for 2020/21. Planning for 2021/22 has included this general budget to supplement the delivery of other key demand management program areas.

Monitoring, reporting and evaluation

Although a standard procedure for reporting of RDMP action status and key performance indicators has been developed by Rous, implemented, and is continuously updated to measure and evaluate progress, this action and relevant funding is largely to support the development of standardised definitions of connection types across each local water utility (LWU) – a much larger project than simply monitoring and reporting the progress of RDMP actions.

This project requires involvement and engagement of each Council and relative internal departments, including finance, billing, customer service and administration, that will be impacted by any changes. This project requires further development and engagement of all Councils to determine and agree the best approach moving forward.

Given the complexities and breadth of this work, it is a key item for consideration in the development of the new RDMP. If this project and related activities is determined to be a priority for inclusion in the new RDMP, it is recommended that an achievable delivery model with adequate resourcing be identified through the planning and preparation process.

Recycled water (Ballina and Byron Shires)

Although Byron and Ballina Shire Councils continue to expand recycled water connections to new developments, challenges that reduce the feasibility of retrofitting existing properties has subsequently resulted in a lack of expenditure in this area. As advised at the July 2020 Council workshop, residential targets to expand recycled water to existing suburbs are difficult to achieve, given the high cost of connection.

The budget for recycled water under the RDMP was initially intended to incentivise (through rebates) retrofitting of recycled water to existing residential properties. However, following investigation, required plumbing approvals and inspections to retrofit recycled water to existing residential premises alone, is too costly in comparison to available rebates. In addition to these expenses, the location of the property in relation to the recycled water main, size of the connection and work required to achieve the connection, further influence the total cost of works and therefore the feasibility of such projects.

These challenges have driven recommendation and agreement by relevant members of the Regional Liaison Committee to continue to focus on expanding connections to new residential builds and reallocate rebates for recycled water (provided by Rous) to support business connections through the Sustainable Water Partner Program. It was agreed that this approach, targeting high water consuming businesses, is more strategic as the return on investment (including rebate amount) to retrofit recycled water is potentially more attractive, considering potable water consumption and the associated costs charged to businesses.

Expenditure by Rous to support recycled water connections in Byron and Ballina Shires, local government areas outside our immediate jurisdiction, is however dependent on the progress of engagement by the respective Council with suitable commercial businesses. The time required to identify, develop and build-up these projects with local business is the primary reason for the nil expenditure reported against recycled water for Byron and Ballina during 2020/2021. It should be noted that this lack of expenditure does not, however, truly reflect progress and achievements in this space for this financial year.

Early in 2021 the Byron Beach Hotel connected to recycled water, a project supported by Rous, that will reduce demand on the potable water supply by over 4 megalitres annually. This outcome is the result of close to three years engagement with the Hotel (including a change in ownership) through the Sustainable Water Partner Program (SWPP). As this project was initiated and delivered through the SWPP, related expenditure is accounted for in the SWPP budget rather than recycled water allocation.

The planning, engagement, and final completion of this project, taking place over several years, highlights the potential time required to deliver projects in partnership with local business, from concept to completion.

Byron Shire Council continue to approach businesses with similar needs to the Beach Hotel as well as businesses who are near the recycled water main. Whereas Ballina Shire Council are investigating options with businesses in west Ballina to establish their interest and barriers to connecting. To increase uptake of recycled water, it is intended that the outcomes of this work will identify businesses that have expressed interest in the respective schemes and will benefit from the financial assistance of a rebate.

Rainwater Tank Rebate program

Expenditure reflects the number of approved rainwater tank rebate applications for 2020/21.

The Rainwater Tank Rebate Program received slightly fewer applications in comparison to the previous year with 116 applications compared with 139 in 2019/20 (a drought year). This year however, represented the second highest expenditure against the program.

Table 2: Comparison of rainwater tank rebate data for 2017/18 to 2020/21

Year	Applications received	Applications approved	Volume storage approved	Rebate amount approved
2020/2021	116	104	0.937 ML	$107,685
2019/2020	139	125	1.142 ML	$115,067
2018/2019	74	69	0.391 ML	$73,739
2017/2018	40	36	0.588 ML	$39,936

Internal connections for 2020/21 remain on trend from previous years with just over one third of applications opting to connect internal fixtures including toilets and washing machines.

Communications and engagement

In relation to demand management communications and engagement, actual spend reflects expenses associated with key engagement resources and promotions including, though not limited to:

- Enhancing web-based water efficiency resources, tools and collateral through our partnership with leading water education group, Smart Approved Watermark (founded by WSAA);
- Regional promotions and relevant campaigns; and,
- Attending immersion events for schools and the broader community.

Communication, engagement and education has focused on water literacy, increasing awareness of water efficiency and resources available to better understand household demand, have been delivered through both targeted and broad campaigns, covering the reach of the Rous supply footprint.

Summary of demand management communication and engagement activities 2020/21

- Published online water saving tool kit including custom-built online water calculator tool. This content, published in partnership with Smart Approved WaterMark, has formed the foundation for social media and advertising campaigns. The toolkit is presented across Rous and constituent council websites. A QR Code developed for the water calculator has received 80 scans.
- To better understand the primary drivers and barriers in relation to installing rainwater tanks, a digital customer survey was sent directly to recipients of the Rainwater Tank Rebate Program. Complementary to this, each of the 230 customers who received the electronic survey also received a package of water efficiency information available on the Rous website and the online home water calculator tool. Expressions of interest were also sought from customers seeking a snapshot of their water consumption by providing Council consent to access their water meter data. For these customers, staff were able to chart their water use before and after installation of their rainwater tank and provide them an opportunity to ask questions directly to the Water Sustainability Officer.
- Bus shelter advertising and Flush Media (advertising in public bathrooms of locations frequented by residents including cinemas, cafes and restaurants) and a local radio campaign covering our four local government areas, promoting rainwater tank rebates and the online water calculator tool.
- School education and community engagement opportunities coinciding with the Green Innovation Awards Mentorship Program and Innovations Day held at Southern Cross University, PRIMEX and five school immersion activities with the catchment trailer (delivered as staff resourcing allowed).
- Web articles and media releases (total of five) published in local newspaper with a readership of more than 53,000. This is complementary to an ongoing social media campaign promoting both commercial and residential water saving projects and water saving advice. A highlight was an inhouse produced short video focused on detecting and fixing a leaking toilet which received over 8.3K views on Facebook.
- Discussions with the Dorroughby Environmental Education Centre (DEEC) with the intention to expand school engagement with active promotion, uptake and delivery of water education modules. Although there are limited opportunities to expand current activities, Rous will continue to liaise with DEEC.

Rous is partnering with Smart Approved WaterMark for Water Night 2021, coinciding with National Water Week in October. Rous was a supporter in 2020 along with many other utilities, groups and industry leaders.

The communications and engagement budget has been planned and forecast to ensure maximum expenditure and outcome delivery for 2021/22.

Smart metering

A lack of expenditure against the budget for smart metering reflects the broader intention to rollout smart metering to Rous' direct customers during 2021/22. Discussions with Richmond Valley, Byron and Ballina Shire Councils regarding smart metering roll-out to their customers will continue during 2021/22.

This work is progressing outside the annual smart-metering budget allocation in the RDMP.

Sustainable Water Partner Program (SWPP)

The 2020/21 spend for the SWPP reflects progress of projects delivered in partnership with large water consuming businesses, across the Rous supply footprint. It was planned that the full allocated budget would be exhausted however, delays with monitoring equipment lead times as well as significant impacts to business operations due to the pandemic delayed progress and subsequently impacted expenditure.

Progressing engagement with high water consuming businesses (using more than 5 megalitres annually) and continuing to drive industry involvement in water saving projects has been a focus of demand management activities during 2020/21. Table 3 outlines the key achievements and activities during this financial year.

Table 3: Completed water saving projects and potential water savings supported through the Sustainable Water Partner Program 2020/2021

Target business	Regional ranking based on water consumption	Potential potable water saving (megalitres annually)	Project summary
Southern Cross University (SCU)	7	10 – 17 *	Installation of a freshwater chlorinator for the pool to reduce volume of wastewater through backwashing.
Ballina Discovery Park	18	0.506	Smart metering and tap upgrades.
Byron Bay High School	36	0.534	Irrigation upgrade.
The Beach Hotel	37	4.38	Recycled water connection to service toilets and garden irrigation.
Summit Sports and Fitness Centre	N/A	0.7	Installation of a freshwater chlorinator for the pool to reduce volume of wastewater through backwashing.
		16 - 23	

** Assumption: Variation exists in the range of potential water savings achieved due to factors including patron numbers, servicing requirements and leak detection. Therefore, a range is provided, verified by a specialist water consultant. This estimate is being assessed against smart metering data retrieved monthly over a full 12-month period.*

To support the completion of this work, Rous provided rebates to the value of $44,974 during 2020/21. This represents 21% of the total project costs, with the remaining $167,524 contributed by the participating businesses.

Sustainable Water Partner Program (SWPP) analysis

The equivalent cost per megalitre saved based on provided rebates was $1,955 per ML, based on a maximum potential water savings of 23 megalitres. Inclusive of consulting costs (total expenditure inclusive of consulting costs and project rebates - $68,819), the equivalent cost per megalitre saved is approximately $3,000 per ML.

If the calculation is based on the minimum potential water savings (16 ML) and the total program costs of $68,819, the equivalent cost per megalitre saved is closer to $4,300 per ML. This remains in the relative range of what is recommended in the SWPP guidelines at $3,500 per megalitre saved.

Furthermore, an underground water leak was detected through temporary smart-metering installed to inform a water saving plan for Reflections Holiday Parks. The specialist water consultant engaged for this project verified the leak to be 60 litres per minute resulting in potentially 7.8 ML of wasted water per quarter (the leak was detected at the beginning of the quarterly billing cycle). The consultant noted it was by far the most significant leak detected in his working experience.

The planned activities in the SWPP area for 2021/2022 will concentrate on implementing water saving projects informed by prepared water saving plans with the following businesses:

- Reflections Holiday Parks (across eight separate Parks, five of which rank in the top 100 regional users) – extensive smart metering is recommended as well as tap and shower fixture upgrades. The Reflections Management Board has agreed to adopt and implement the full set of recommendations outlined in the water saving plan.

- Norco (ranked 2) – water saving projects identified through wastewater capture and reuse with a potential water saving of over 3 ML. There is also an opportunity to investigate a future project focused on cooling towers and associated water efficiencies. This will be considered for inclusion in the new Demand Management Plan for commencement from July 2022.

During 2022, continued focus will be placed on the completion of a comprehensive water saving plan for the Broadwater Sugar Mill and Cape Byron Power cogeneration plant. This working partnership with two top order water consuming businesses (ranked 3) with complex operations, integrations and water needs is a flagship project of the Sustainable Water Partner Program. The planning of this project is being delivered in two phases, with the initial work to focus on the implementation of an extensive smart-metering program and the analysis of real-time data to inform the identification and delivery of water saving projects. Preliminary works with both the Mill and Cape Byron Power have identified opportunities that will reduce demand on the potable water supply by 10-30 megalitres annually. Actual water savings will be determined upon data collation, analysis, identification and agreement of feasible water saving projects.

Water Loss Leakage program

As resolved in the December 2020 Council meeting, implementation of the Rous Water Loss Management Plan (WLMP) was adopted as an immediate action. A comprehensive program has been developed within the Rous WLMP for implementation over four years with a total project estimate of $1.9M. Given the significance of this work, it is progressing outside the budget allocation of the RDMP. The 2020/21 RDMP had nil budget for this item.

Administrative costs

This expense is the salary of the Water Sustainability Officer (WSO), employed on a 0.6 FTE for the majority of 2020/21. This amount of $53,354 is reflective of the cost of program delivery for this period. Administrative costs are forecast to increase in 2021/22, as the WSO position is fulltime.

4. New work – Development of a new Regional Demand Management Plan and Drought Management Plan

Rous' current RDMP expires in June 2022 and requires review and update for the subsequent four-year term. The Drought Management Plan is also due for review and update following its adoption in August 2016.

Opportunities

To inform the new plans, staff are looking to incorporate the following pieces of work:

- Literature review of best practice demand management initiatives – what are others achieving well in this space and can we take on similar actions.
- Demand management behaviour change program of activities.
- Secure yield assessment of our current water sources.
- Gap analysis and evaluation of response to the 2019 drought - operational readiness, coordination and implementation.

Timeframe

It is intended that the draft Demand Management and Drought Management Plans will be prepared by the end of 2021 calendar year in consultation with constituent councils, staff and relevant stakeholders. Following the incorporation of stakeholder feedback, the plans will be presented at a March 2022 Council workshop. A public exhibition period, in conjunction with the new Integrated Planning and Reporting Framework is planned, with the final draft plans presented for adoption at the June 2022 meeting.

Conclusion

This report is presented as an update on the status of demand management initiatives and the outcomes delivered for the 2020/21 financial year.

In summary, there is momentum in delivering actions that are the responsibility of Rous or where Rous is directly involved including the Sustainable Water Partner Program; Residential Rainwater Tank Rebate Program; and communications and engagement activities.

A key highlight of 2020/21 has been progressing engagement with top-order, high water consuming businesses (using more than 5 megalitres annually) and continuing to drive industry involvement in projects that reduce demand on our potable water supply. This work will continue to be a focus for 2021/22 including a cornerstone partner project with the Broadwater Sugar Mill and Cape Byron Power cogeneration plant.

For areas where expenditure is lacking, this reflects challenges of meeting key performance indicators for activities where Rous is not directly involved. These activities highlight challenges associated with roles and authority, Rous being the bulk supplier and constituent councils who have direct access to the majority of the region's customer base and authority over the local network and water supply infrastructure.

These challenges continue to be a key reoccurring issue of the current RDMP, specifically impacting progress of activities including expanding recycled water connections (and supporting this through rebates, administered by Rous) and implementing a regional smart metering approach (red indicators). There has however, been progress made in these areas that is not reflected in the budget expenditure for these specific budget items.

For remaining activities where little progress has been made, specifically monitoring, reporting and evaluation, this is a result of the complexities of developing standardised definitions of connection types across the region. This work involves intensive review and understanding operations within each constituent council. Given the complexities, this project will most likely require a dedicated temporary resource and agreement and coordination with each constituent council and all relative departments. It is a key issue identified for inclusion in the new RDMP and Drought Management Plan.

For areas of the current RDMP that continue to experience delivery challenges, it is expected that the intended outcomes and challenges for each action be identified with solutions proposed and included in the preparation of the new Demand Management Plan.

The preparation of both the new Demand and Drought Management Plans will be a key focus of the 2021/22 financial year. This work will run concurrently with the delivery of remaining months of the current RDMP to the end of June 2022.

Attachment

1. Showcase of demand management activities, media, and promotions

Showcase of demand management activities, media, and promotions 2020/21

Figure 1: Media article printed in The Echo's Sustainability Supplement 2021

Figure 2: Innovations Day at SCU. RCC assisted developing water conservation and sustainability projects with students.

Figure 3: Example case study showcasing the completion of a water saving project with Southern Cross University

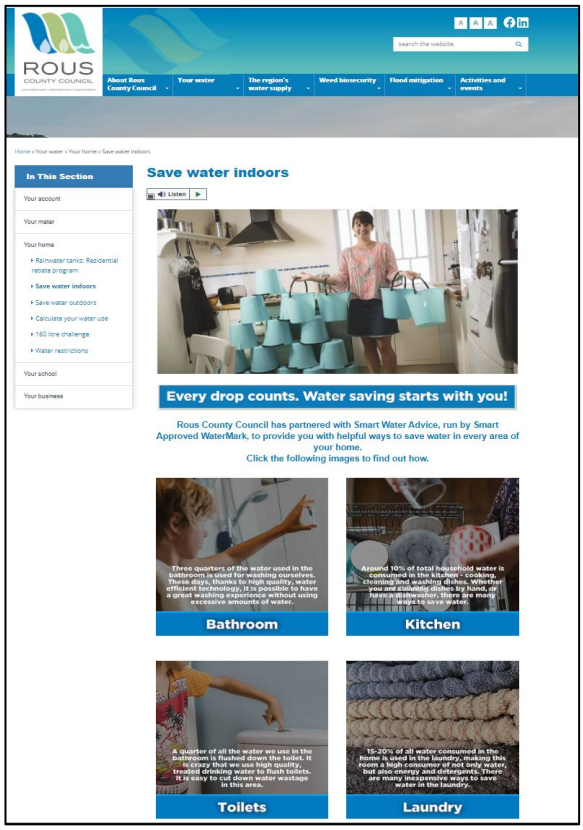

Figure 4: Saving water indoors webpage published on RCC's website