Queensland
Water Regional Alliance Program

June 2016

QWRAP Update

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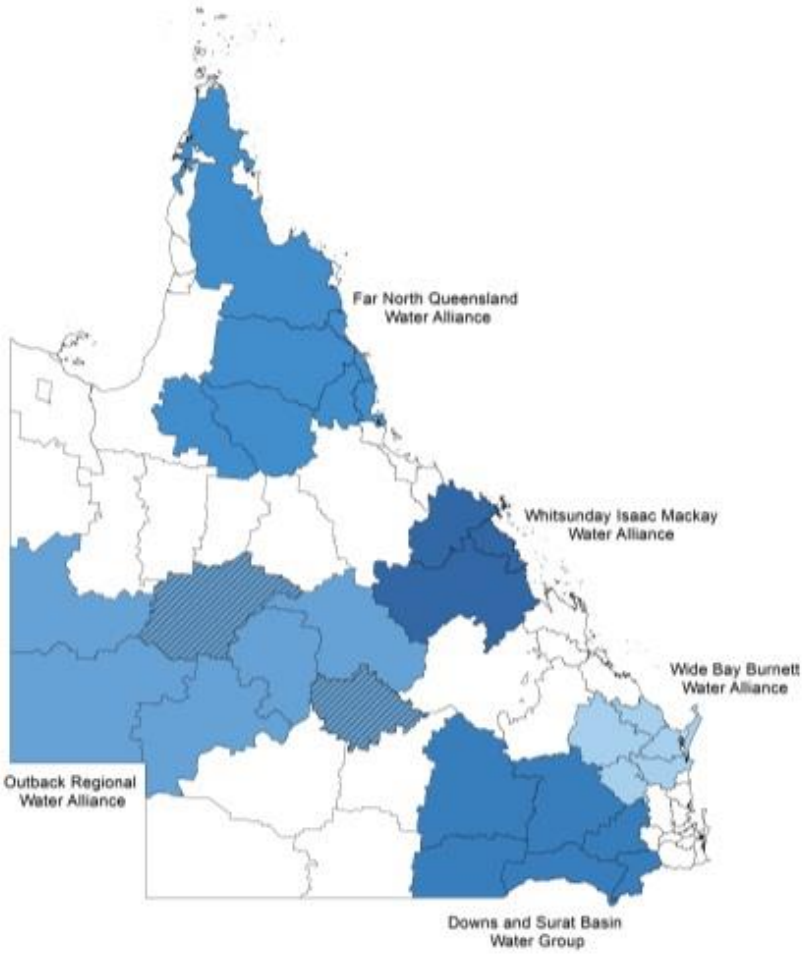
2 Background

In 2011, the Queensland Water Regional Alliances Program (QWRAP) was developed as an industry-led initiative to investigate alternative institutional models for Water and Sewerage Services (WSS) in regional Queensland. The program receives funding from the Queensland Government through the Department of Energy and Water Supply and investment from the Local Government Association of Queensland, Queensland Water Directorate (***qldwater***) and 28 participating councils. QWRAP was created to assist councils to explore alternative regional approaches taking into account the different drivers and extrinsic factors impacting each area. A key benefit has been initiating meaningful discussion and cooperation on water and sewerage at both political and managerial levels in each of the participating councils.

3 QWRAP Regions

To date, QWRAP has assisted councils in five self-selected regions to work together to investigate alternative governance models. In each region, groups have been established at both managerial and political levels and the program has progressed over four years to encompass 28 municipalities in five regions representing over 60% of the regional population and over 50% of the area of Queensland.

Each region as progressed along two concurrent paths. The first seeks immediate, no-regrets projects that demonstrate the benefits of regional collaboration. All regions have derived demonstrable savings and customer service benefits from cooperative projects with a common advantage being focussed strategic management and planning. The second investigates potential benefits and costs of regional institutional reform. Groups have considered alternative models ranging from informal alliances to regional corporatised entities. Following these investigations, three of the four initial QWRAP regions have developed a formal regional alliance and one is close to forming one.



Only one of the Alliances (the Outback Regional Alliance) has discarded the idea of progressing beyond the alliance model (because the costs would outweigh the benefits in this region). The remaining three regions have determined against a single entity in the short-term, primarily because of the differential costs and benefits across

their communities, but are continuing to consider possible pathways to broader reform. A fifth region (Downs and Surat Basin area) has only recently joined QWRAP and is commencing investigations. All regions have acknowledged the potential benefits of regionalisation and are working towards balancing these against the significant costs and risks of reform.

4 Outback Regional Water Alliance

The Outback Regional Water Alliance (ORWA) was formed through QWRAP in 2014. QWRAP investigation stage showed that, with an area larger than that of Victoria but with less than 1% of Queensland's regional population, costs of forming a regional entity far outweigh the projected benefits. In the ORWA model each council contributes to the costs of a regional coordinator (with additional QWRAP funding) to review and align regional needs and mange joint activities. With one third the revenue of the smallest regional water corporation in Victoria, the ORWA region is much smaller than a minimum size required to create a sustainable water corporation. Remoteness and size means that some of the small isolated communities in the region will never be financially sustainable.

However, the Alliance model has demonstrated that collaboration can improve safety and customer service far more affordably than the councils acting individually. Moreover, some of the joint activities undertaken by the Alliance would not have proceeded in each council without QWRAP because of they lack capacity to focus on WSS. Examples of such projects in the current reporting period include joint reservoir cleaning, joint investigation of drinking water disinfection and the regional framework for Asset Management that has recently commenced. As well as individual projects, the group is developing a strategic plan that articulates with the Corporate Plan of each participating council to drive reform over the coming decade.

The Alliance is driven by a technical group (the Outback Regional Water Technical Group) of WSS managers from each council and overseen by a committee comprising mayors and CEOs of each council (The Outback Regional Alliance). A constitution developed by the group provides for governance arrangements and specifies a funding model developed during the QWRAP investigation which sees a pro-rata contribution from each council. These arrangements also allow for appointment of a Regional Coordinator who is partly subsidised by QWRAP (up to $30,000 annually). QWRAP funds are contributed for key projects based on a competitive application process but must be matched with council investment.

5 Far North Queensland Regional Organisation of Councils

The FNQROC region which commenced in 2012 has a very large area, with most of the 50 serviced communities clustered near the coast. A key challenge for this region is the number of councils involved. When the QWRAP investigations commenced, six councils participated (Cairns, Cassowary, Cook, Croydon, Etheridge and Tablelands) but 'de-amalgamations' in 2014 impeded collaboration in the region and created two new members (Douglas and Mareeba councils).

Despite these setbacks, a number of projects have been completed successfully within these broad areas of investigation (Table 5) and the group has focussed on options that can provide immediate benefits to all participating councils. Projects in the current reporting period include a review of automatic metering opportunities at a regional scale, establishment of a biosolids management review sub-committee with initial investigation of alternative regional disposal options and commencement of joint training using a regional hub model.

The group is currently considering forming a regional Alliance and is formalising collaboration through a Terms of Reference and establishment of a work plan for the current regional coordinator as part of the FNQROC. This plan will include re-consideration of

alternative regional models given the election of a majority of new councillors in many of the local governments.

6 Whitsunday-Isaac-Mackay Water Alliance

With only three local governments, 22 serviced communities and supported by strong local leadership, this region has progressed fastest of all of the QWRAP regions forming a Water Alliance within little over a year of commencing investigations in 2013. The group established a Formal Alliance in 2015 with a Terms of Reference agreed by the Whitsunday, Isaac, Mackay Regional Organisation of Councils (WIMROC) and each of the councils.

The Alliance has proceeded with a number of regional projects with a key aim being sharing information and technologies across the three councils. This included a review of automated metering which saw the technology which has been championed by Mackay trialled in each of the other two councils with data being collated centrally and available to all councils online. This is the first case of neighbouring councils jointly managing data and collaborating on metering technologies. A similar project saw the three councils share laboratory services and develop an existing system managed by Mackay to provide analytical results in real time through the web.

Each of the organisations are on ambitious paths to build their individual WSS and so a key QWRAP aim is to align and standardise processes. This work is being facilitated through a technical steering group which meets regularly to review current work and plan future projects. The group is facilitated by the Whitsunday, Isaac, Mackay Regional Organisation of Councils and is currently seeking to appoint a dedicated regional coordinator focussed on QWRAP.

7 Wide Bay Burnett Water Alliance

Wide Bay and Burnett Regional Organisation of Councils (WBBROC) formed a QWRAP region in 2013 incorporating Bundaberg, Fraser Coast, Gympie, North Burnett, and South Burnett Regional Councils. This led to the group forming a regional alliance in 2015. The group employed a part-time QWRAP regional coordinator in late May and are developing a work-plan and KPIs for the coming 12 months. QWRAP funding of $30,000 per year will be contributed to this role subject to agreement on a regional work-plan with appropriate milestones and KPIs.

Recent joint activities include a joint sewer relining contract which is currently out for tender. The group has also established a specialist sub-group undertaking activities to develop regional SCADA standards and build capacity across the region which has undertaken several capacity-building and training activities. In April, the group formed a second sub-group focussed on environmental management which has met once and is currently scoping its future operations.

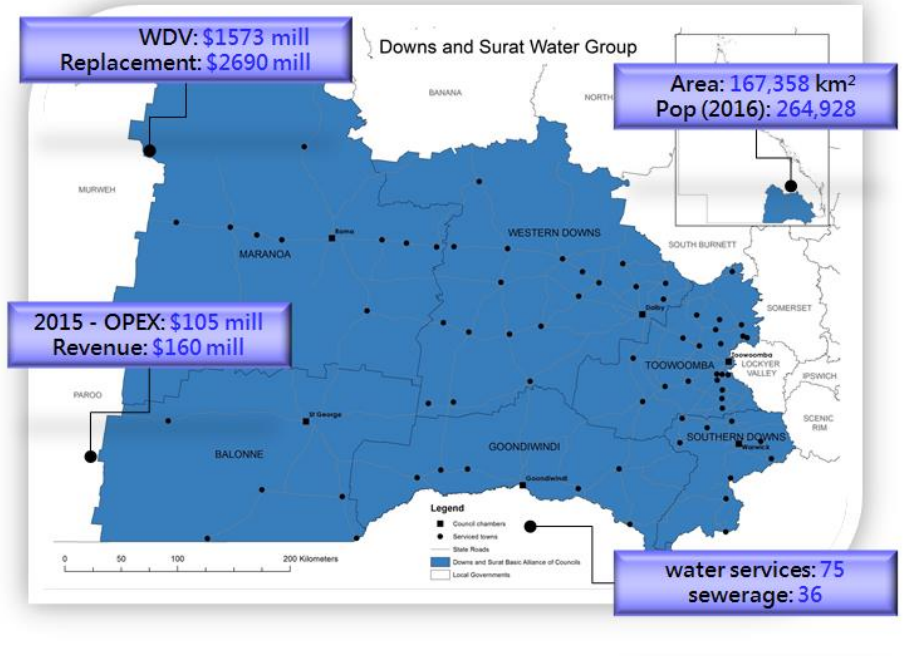
8 Downs and Surat Basin Region

The most recent of the QWRAP regions commenced discussions in late 2015 and includes Balonne, Goondiwindi, Maranoa, Southern Downs, Toowoomba and Western Downs Councils. A formal decision on the direction of the program in the region was delayed by local government elections in early 2016 and is expected by the middle of the year. The group has developed initial cooperative projects and a draft Terms of Reference to scope further council investigation and consideration of regional approaches.

A striking feature of the region is the large number of small communities with 75 water and 36 sewerage services. Maintaining these schemes which often service very small communities is a

difficult task particularly with constantly improving standards and expectations. It is hoped that commonalities among some of the small schemes may yield economies of scale despite the lack of density. The joint activities initially planned by the group include building a stronger region-wide relationship with the DEWS regulator particularly in terms of requirements for Drinking Water Quality Management Plans and mandatory performance reporting. Joint skills development is also being considered as is a program for determining whether planned maintenance and upgrade programs for similar infrastructure across the region can be further optimised through joint approaches.

The group has a focus on water security and demand management and have commenced a program to explore and share knowledge and experience on water efficiency measures for the benefit of neighbouring councils and for other regions.



9 Regional collaboration in other parts of Queensland

The success of QWRAP has raised interest in other Queensland councils in regional approaches. Following recent local government elections, councils in Central Queensland have requested a briefing opportunities for facilitated discussion on regional collaboration and councils in North Queensland (e.g. Townsville, Hinchinbrook and Burdekin) have expressed interest in commencing collaboration and development of joint projects. These groups can take significant time to come together and develop trust at political, managerial and operational levels to allow cooperation to take place in a meaningful way. Although these regions are not currently part of QWRAP, the LGAQ and ***qldwater*** have committed to working with them and help facilitate cooperation and joint projects if they are agreed by each council within the region.

10 Common QWRAP Activities

Review of International Models

The QWRAP review of institutional arrangements for WSS in OECD and G20 countries showed there is no agreed optimal structure or size for urban service providers despite significant discussion in the literature and strong opinions on all sides. Common findings are that privatisation is seldom successful, while aggregation, corporatisation and increased outsourcing to the private sector often provide long-term benefits. Regionalisation through horizontal aggregation of services is a common trend across OECD and G20 countries through a range of mechanisms. Regionalisation almost always co-occurs with commercialisation or corporatisation. This is virtually universal internationally for state or national utilities is common for council owners (e.g. in Denmark, Estonia, Flanders, Italy, Japan, Lithuania, the Netherlands, Poland, SEQ, Spain, Tasmania and the US).

Corporatisation is often viewed with suspicion and the fear that "formation of public enterprises can be considered an intermediate phase on the way towards the probable ultimate […] privatisation of most publically owned utilities".[18] In many jurisdictions this has resulted in mandatory local government oversight of expertise-based corporate boards. For example, in Denmark regional corporations were mandated in 2009 with council ownership, and in Italy corporatisation (with mixed public and private ownership) was mandated in 1994, but community dissatisfaction led to a referendum in 2011 with the result that corporatised entities must be publically owned and 'not-for-profit'. [19]

Another common feature in many stable jurisdictions, regardless of institutional model, is broad-based economic regulation. Good regulation of WSS has been argued to (1) ensure consistent services in spite of variability in size and structure of service providers, (2) balance independence and industry knowledge, (3) balance competing regulatory and customer externalities (4) provide an appropriate environment for effective private sector participation and (5) maintain effective and efficient performance monitoring for benchmarking.[0] The regulatory framework across Queensland has changed dramatically over the past decade and is still maturing and the importance of better regulation has been acknowledged nationally but must be carefully implemented to ensure appropriate industry knowledge and avoid excessive costs.

Research Project - Demand Modelling

A predictive model has been developed by Mackay Regional Council to explore the relationship of daily water use and rainfall/ evapotranspiration (ETo). To date the model has been calibrated using ETo against water data from two widely separated sites in regional Queensland providing reasonable predictive power (Figure 5). If the model can be applied to other regions, it could provide useful information on water use habits in each of the communities and also potential to predict future peak and average use based on demand and climate projections. A QWRAP research project was funded $20,000 to analyse the relationship between climate and water demand in different communities/climate zones across Queensland focusing on QWRAP regions. This will include elucidation of the drivers of demand in regional areas of the state to inform the design of demand management programs, and the ability to predict average and peak demand using climate information which could facilitate future planning of water supply schemes particularly in light of projected climate change. This understanding will provide underpinning information for future water security management and planning in regional Queensland.

Research Project - Water Security Management
Significant research has been undertaken in recent years providing solutions for managing water security, but there is a need for greater understanding of how technologies, and in particular customer engagement, can be enhanced in regional Queensland. To date key information and technologies have been taken up to different degrees by regional councils.

The extent to which water security management enters into council interactions with their customers can be reflected in many ways, but a good surrogate of this interaction is their websites. A preliminary survey of QWRAP councils showed that relevant information and tools fill many pages for some, but is absent for others. Tellingly, there was variation in referencing State-developed 'Waterwise' materials with some councils not using these highly-regarded and free resources.

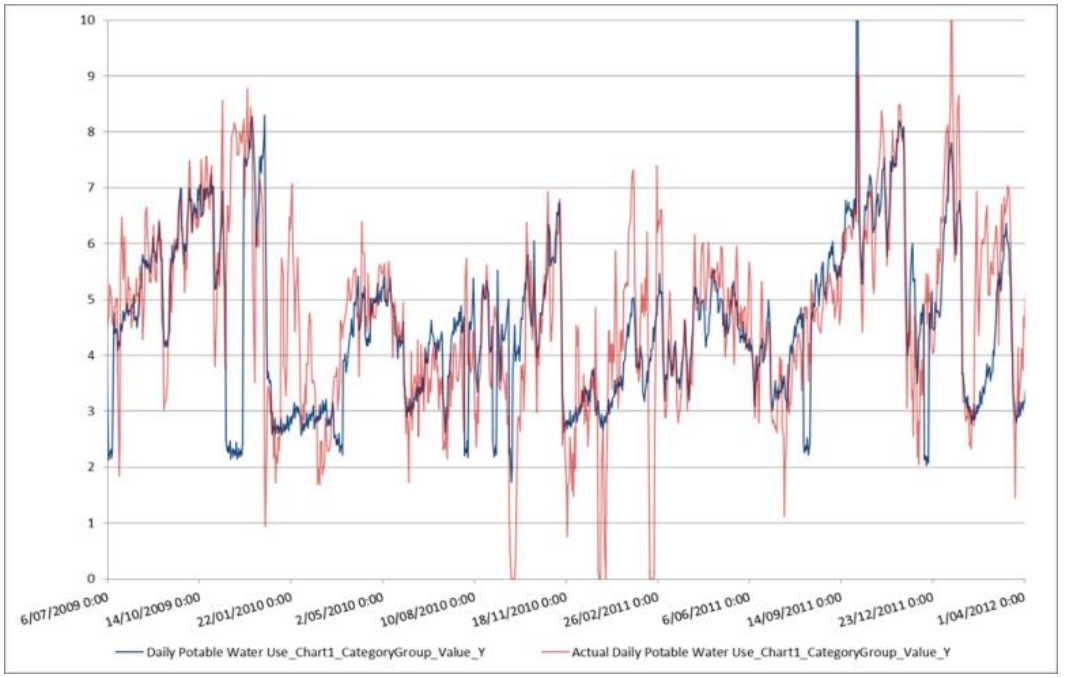


Figure 5: Modelled water use based on evapotranspiration (blue) and actual 3-day average water use (red) over 3 years.

The presence of online material does not necessarily reflect all demand management activities of a council and the mere presence of online information may not indicate effective engagement and management. However, provision of accurate and contemporary information tailored for local audiences is an essential (though not sufficient) element for efficient water use and is this focus of this research which will review and recommend fit-for-purpose regional approaches incorporating existing knowledge as well as case studies of successful adoption in regional communities. This project links to the development of predictive modelling of water use and will underpin future actions aimed at increasing water efficiency in regional communities. The research forms part of a broader initiative for optimising management of water security in regional Queensland.

11 Future directions for QWRAP

QWRAP has demonstrated benefits of cooperation in all trial regions at the expense of initial transaction costs of building trust and governance oversight, demonstrating that economies of scale are possible even where communities are too numerous and isolated to be physically interconnected. However, a tacit rationale for regionalisation of WSS is to incorporate small communities within a larger domain to allow cross-subsidisation and spread risk of services that are not self-sustainable.[22] Unfortunately, costs to sustain small isolated WSS remain high regardless of the model adopted and can exceed the value of even the most optimistic projections of efficiency improvements from economies of scale. Unplanned regionalisation merely transfers costs to neighbouring communities which may themselves be marginally sustainable. Equally troubling are detrimental impacts to individual councils when WSS services are removed to a regional entity.

A staged approach to regionalisation is common in most jurisdictions and allows groups to aggregate the numerous small marginal benefits of cooperation while avoiding risks.[23] A common evolution sees cooperation followed by formal alliancing leading to regional entities with each stage followed by a period of reflection where participants consider the benefits accrued and the likely future costs and determine whether to continue the process (Fig 8). These decision points are common points of failure when participants question their contribution to region-wide benefits which may not be equitable. Many of the QWRAP groups are at Decision Point 2, having considered a regional council controlled entity (CCE) and found that it presents too great a risk or cost for some of the participating councils. Further effort is needed to demonstrate that net regional benefits can be shared equitably among all participants.

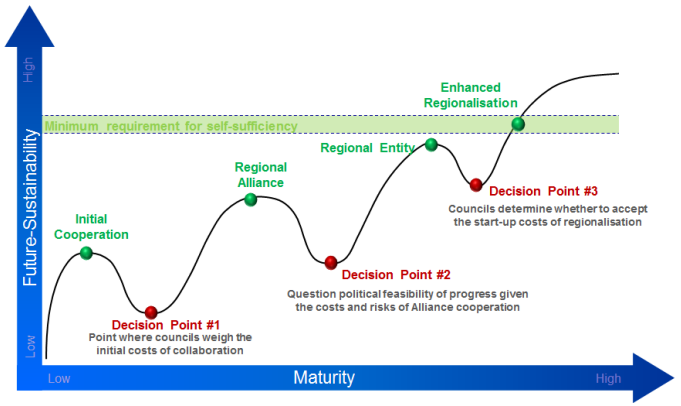


Figure 8. Evolution of regionalisation showing decision points where individual participants are most likely to withdraw because of inequitable sharing of costs and benefits.

The future focus of QWRAP is to bring additional regions into the program while facilitating the further development of existing regions, in particular towards considering a regional CCE that incorporates oversight of CAPEX. This is because optimising capital investment generates the greatest long-term returns because of its ongoing impact on fixed costs and the enduring nature of WSS assets.