The 2020 Queensland Urban Water Industry

Workforce Composition Snapshot Report

Tracking trends in workforce, skills and training issues for the Queensland Urban Water Industry

SNAPSHOT OF THE QUEENSLAND URBAN WATER INDUSTRY 2020

Industry Profile

- **66** local councils outside of SEQ
- **3** local councils in SEQ
- **2** statutory authorities managing water and sewerage for **8** SEQ local councils
- **2** state owned bulk water suppliers
- **2** state owned statutory authorities

75 water service providers in QLD*

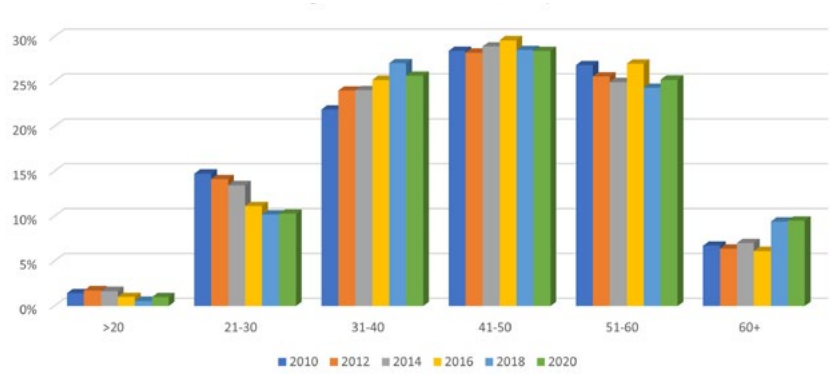
370 water supply schemes

265 sewerage schemes

6686 people employed in the QLD water industry

**75 suppliers supporting drinking water, sewerage and recycled water services for Queensland communities, 180 total registered suppliers.*

Age Profile

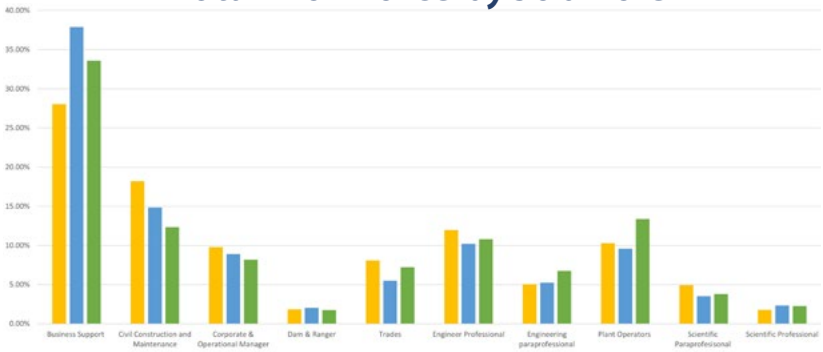


- **35%** of the workforce is aged **over 50** years
- **11%** of the workforce is aged **under 30** years

Gender Profile Trends

In 2020, women form **30%** of the total water industry workforce.

Total Workforce by Job Role



Industry Skills Shortages

Survey participants were asked to indicate whether they had any shortages in key job roles and if they were expecting shortages to occur in the next three years. There are concerns for the following job roles:

Civil Construction and Maintenance Workers:
Potential shortage due to increased civil construction and maintenance activity through COVID stimulus spending.

Plumbing Trades:
Some regions reported advertising for plumbers without success, leading to greater recruitment of apprentices instead. In some regions, there are better salaries offered for plumbing roles by the resources sector.

Engineering Professionals and Paraprofessionals:
In some regions, competition with the resources sector makes it difficult to attract engineers to roles in local councils and it can be challenging to recruit the specific water and sewerage skills needed.

Treatment Plant Supervisors:
This job role has a significant ageing profile with a large cohort approaching retirement. A number of organisations have active programs to attempt to better address workforce planning.

Treatment Plant Operators:
There is a general recognition that it is increasingly difficult to source/attract experienced operators with current water industry qualifications, leaving organisations the option of recruiting and training trainees, or in extreme cases outsourcing roles.

Download the full report at www.qldwater.com.au/Skills_Workforce_Resources_and_Publications

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Cover image by Cameron Bond, Cherbourg Aboriginal Shire Council

***qldwater** is a business unit of the Institute of Public Works Engineering Australasia Queensland (IPWEAQ).*

This document can be referenced as the 'Queensland Urban Water Industry Workforce Snapshot Report 2020'.

1. Overview & Summary

1.1 Snapshot Report Background

Since 2010, ***qldwater*** has produced biennial Workforce Composition Snapshot Reports to track trends in skills and training issues with data gathered from a representative sample of Queensland urban water service providers and a range of other sources.

The 2020 Snapshot Report is the sixth iteration of the Queensland Urban Water Industry Workforce Composition Snapshot Report. While responding organisations have differed for each reporting period and there may be variability in some results, the sample has consistently maintained a good cross-section of responding utilities of different size and geographic variation.

There are currently no national studies which attempt to capture this information, and feedback from industry and government stakeholders has been very positive since the process commenced. While limited in scope, it provides important information to support broad industry workforce planning and investment.

qldwater, through the Water Skills Partnership, intends to continue to improve and publish the report on a 2-yearly basis.

1.2 The Queensland Water Skills Partnership

The Queensland Water Directorate, or ***qldwater***, is a business unit of the Institute of Public Works Engineering Australasia Queensland (IPWEAQ) and is the central advisory and advocacy body within Queensland's urban water industry. Members include the majority of councils, other local and some state government-owned water and sewerage service providers, and affiliates.

qldwater facilitates the Queensland Water Skills Partnership, the only industry-led skills program for the Queensland water industry, and a national leader in strategic water skills development and advocacy. The members of the Partnership range from small local Councils to very large Council-owned distribution/ retail entities and state-owned bulk entities and there are currently 51 subscribers with broad representation from across the State. Members for the 2020-21 financial year are detailed at the back of this publication.

The Partnership performs a number of functions including securing skills and training funding for industry, producing reports and workforce planning documentation, coordinating industry-wide skills/ workforce development projects, piloting training initiatives, information sharing and collaboration opportunities and representation for Queensland on numerous national industry skills committees. Senior representatives from water and sewerage service providers from across the state set the strategic direction for the Water Skills Partnership.

2019-2020 Key Water Skills Partnership Projects

- Ongoing role as an **Industry Skills Advisor** for the Department of Employment, Small Business and Training (DESBT);
- Annual **Queensland Water Industry Skills Forum** held in March with more than 80 industry stakeholders involved in discussions on key skilling and training issues;
- Establishment of the **Fundamentals Webinars series** to build an online resource library of common water and wastewater treatment and network operations and maintenance tasks;
- Development of **Water Industry Foundation Skills Micro-Credentials** in Water Treatment, Wastewater Treatment and Network Operations with funding support from DESBT;
- Launch of the wastewater equivalent of the Aqua Card, the '**Brown Card**', an online training course for people working on or near wastewater or recycled water infrastructure;
- Support for **collaborative training arrangements** in a number of regions;
- Support for the **expansion of the Water Industry Worker program** into the Wide Bay Burnett region and ongoing support for the coordinator employed with funding support through the QWRAP program for roll-out of a second round of training in North Queensland;
- Development of a **Careers in Water web portal** including qualification requirements and career pathways and capturing the experiences of recent trainees through recorded interviews;
- Representation on the **Water Industry Reference Committee** responsible for oversight of the National Water Training Package;
- Secretariat and Chair roles for the **Water Industry Operator Certification Taskforce** (formerly Water Industry Skills Taskforce);
- Representation on the **Technical Advisory Committee** to review the Certificate IV in Water Industry Operations and Certificate IV in Water Industry Treatment qualification and associated Units of Competency to combine them into one qualification;
- Ongoing **partnerships with key agencies** and organisations, such as the Water Industry Operators Association of Australia, Australian Water Association, Water Services Association of Australia, NSW Water Directorate and other state associations; and
- Consultation with Federal and State Governments to **progress key reforms** to improve the VET system including the quality of the VET workforce, the quality of VET training and role of industry engagement.

More information about Water Skills Partnership initiatives is available at: https://qldwater.com.au/Skills_and_Training.

1.3 Report Methodology

Data gathered for this report used a modified version of the 2018 Snapshot Report data template. The template was distributed via Excel format to Water Skills Partners to collect information on job roles, number of employees, age, gender and qualifications held. For this report, in response to COVID-19 impacts and to attempt to build better anecdotal information in the absence of readily available turnover and other HR data to support workforce planning, we sought to gather additional information on current and predicted skills gaps.

A total of 16 responses were received from water services providers, and whilst there have been some changes to the participating organisations for each report, the sample for 2020 is representative of the diversity of the industry in relation to organisation size and location.

Due to a HR system change at the time of reporting, updated data was not available from Urban Utilities. Given the size of their workforce (1,139 FTEs) and inclusion in previous reports, it was agreed to include modelled data to allow for consistent reporting of trends. The Urban Utilities data used in this report is therefore based on 2018 data with an adjustment factor for ageing.

The responses received along with the modelled data for Urban Utilities, represents 4075 employees, which is 61% of the total Queensland water industry workforce. Data from the following organisations is included in the 2020 report:

- Banana Shire Council
- Barcaldine Regional Council
- Central Highlands Regional Council
- City of Gold Coast
- Cook Shire Council
- Fraser Coast Regional Council *
- Goondiwindi Regional Council
- Gympie Regional Council *
- Isaac Regional Council *
- Logan City Council
- Mackay Regional Council
- Maranoa Regional Council *
- North Burnett Regional Council
- Seqwater
- Unitywater
- Urban Utilities (modelled data)
- Winton Shire Council

** New in 2020*

A number of respondents have provided data for the past three surveys (2016, 2018 and 2020) and these have been a specific focus for reporting of trends within this report. These include:

- Banana Shire Council
- Central Highlands Regional Council
- Gold Coast City Council
- Logan City Council
- Mackay Regional Council
- North Burnett Regional Council
- Seqwater
- Unitywater
- Urban Utilities

2. Size and Scope of the Qld Water Industry

The Queensland water industry provides safe, secure and sustainable urban water and sewerage services to just over 5 million constituents. The industry has an asset base worth almost $40 billion and employs just over 6,500 workers.

2.1 Queensland Urban Water Industry Employers

As of November 2020, there were 75 publicly owned water service providers, excluding private providers, directly providing water and sewerage services to Queensland's communities.

- 66 are local councils outside of South-East Queensland, fifteen of these are Aboriginal councils and two are Torres Straight Island councils.
- The water distribution/sewage collection and retail services for another eight SEQ local government areas are managed by two statutory authorities, owned by the relevant councils.
- The remaining three SEQ councils are directly responsible for water distribution/sewage collection and retail services.
- There are also two very large, state-owned entities responsible for bulk water supply and transport (along with treatment in SEQ and limited other areas of the state) and an additional two state-owned commercialised statutory authorities (Water Boards) operating in Mount Isa and Gladstone.

Some of these organisations outsource part of their day-to-day operations to private companies. Approaches to these organisations to contribute data to Snapshot reports have been unsuccessful.

The workforce typically comprises water operators (civil, treatment and dams with some irrigation), engineers, trades, trade waste, paraprofessionals, science/technical professionals, management and business support functions.

The sector's workforce faces complex challenges including ageing, issues attracting and retaining staff, competition from other industries (particularly resource industries) and general skills and labour shortages. It is highly dispersed and very diverse with different key drivers in each region. More than 50% of Queensland's ~370 water supply schemes service communities of fewer than 500 people (Statewide Water Information Management System, 2020).

In many parts of Queensland there is a growing shortage of qualified water and wastewater treatment plant operators with the issue more pronounced in regional areas.

Trends towards increasing technology, community expectations, outsourcing contracts and legislative reform emphasise the need to address workforce challenges and ensure water industry personnel are appropriately skilled and experienced to provide quality drinking water and manage sewerage systems to protect public and environmental health.

2.2 COVID-19 Workforce Impacts

During the first stage of lockdowns in Queensland from April 2020, ***qldwater*** worked with other stakeholders including the drinking water regulator to make contact with service providers state-wide to investigate risks including supply chain disruption. Access to skilled staff in the event of travel restrictions was frequently raised, and eighteen councils were evaluated as being significantly vulnerable. While awareness of the risks has grown, the underpinning issues likely remain in most of the vulnerable locations.

2.3 Total Size of the Queensland Urban Water Industry

It is estimated there are 6,686 people employed in the Queensland Urban Water Industry. The 2018 Snapshot Report showed there were 6,153 employees, up from 5,975 in 2016. This increase is more likely due to improved data capture through the Queensland Government KPI Framework, than a real increase.

Table 1 summarises the number of employees that make up the broader Queensland Water Industry.

The employee numbers for local council service providers in Table 1 are those reported via the 'employees indicator' QG1.20, through the Statewide Water Information Management system (SWIM). (Queensland Water Directorate, 2020)

Employee numbers for bulk water and state-owned water boards have been obtained from published annual reports for each entity. (Mount Isa Water Board, 2020) (Gladstone Area Water Board, 2020) (Seqwater, 2020) (The State of Queensland (Sunwater Ltd), 2020).

The number of employees working in private organisations has been estimated based on what is known about current outsourcing arrangements and previous data collected.

Table 1: Number of employees working in the Queensland Urban Water Industry

Organisation	Size of the Workforce
Total SEQ local government-owned employers (includes 3 council service providers, Queensland Urban Utilities, Unitywater)	2,591 employees
Local Government service providers outside SEQ	2,432 employees
Bulk water providers	1,350 employees
Private and other organisations	200* employees
Gladstone and Mt Isa state-owned water boards	113 employees
TOTAL	6,686 (including vacancies)

***This estimate includes operations employees only, not capital project employees.**

In Queensland, there appears to be a strong correlation between size of the operations workforce and the number of water connections across the local government-owned utilities (Figure 1).

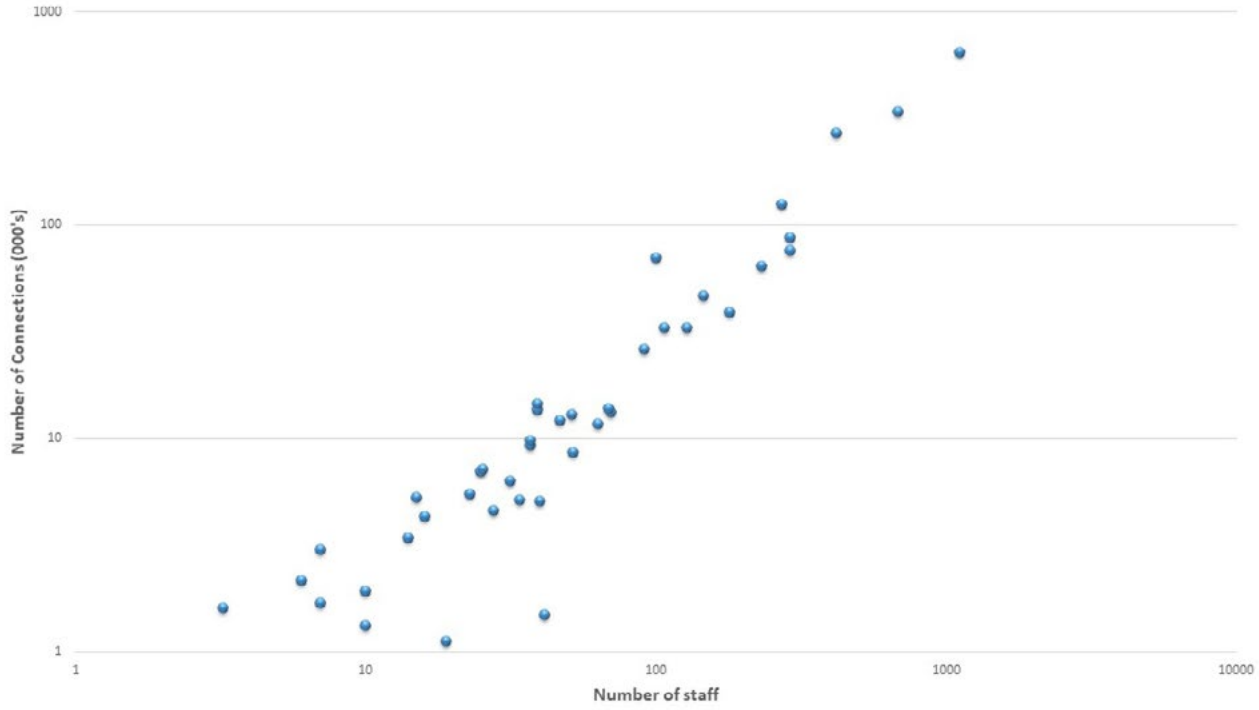

Figure 1: Number of operations staff by number of water connections (000s)

2.4 Queensland Water and Sewerage Schemes

Figure 2 shows property connections by local government area in Queensland as well as the water supply scheme locations. This demonstrates the significant diversity in density of Queensland communities and large geographic separation which contribute to the challenge of providing services. As a result, financial sustainability is an issue for many service providers, as is sourcing skills staff and delivering face to face training for technical and operations roles.

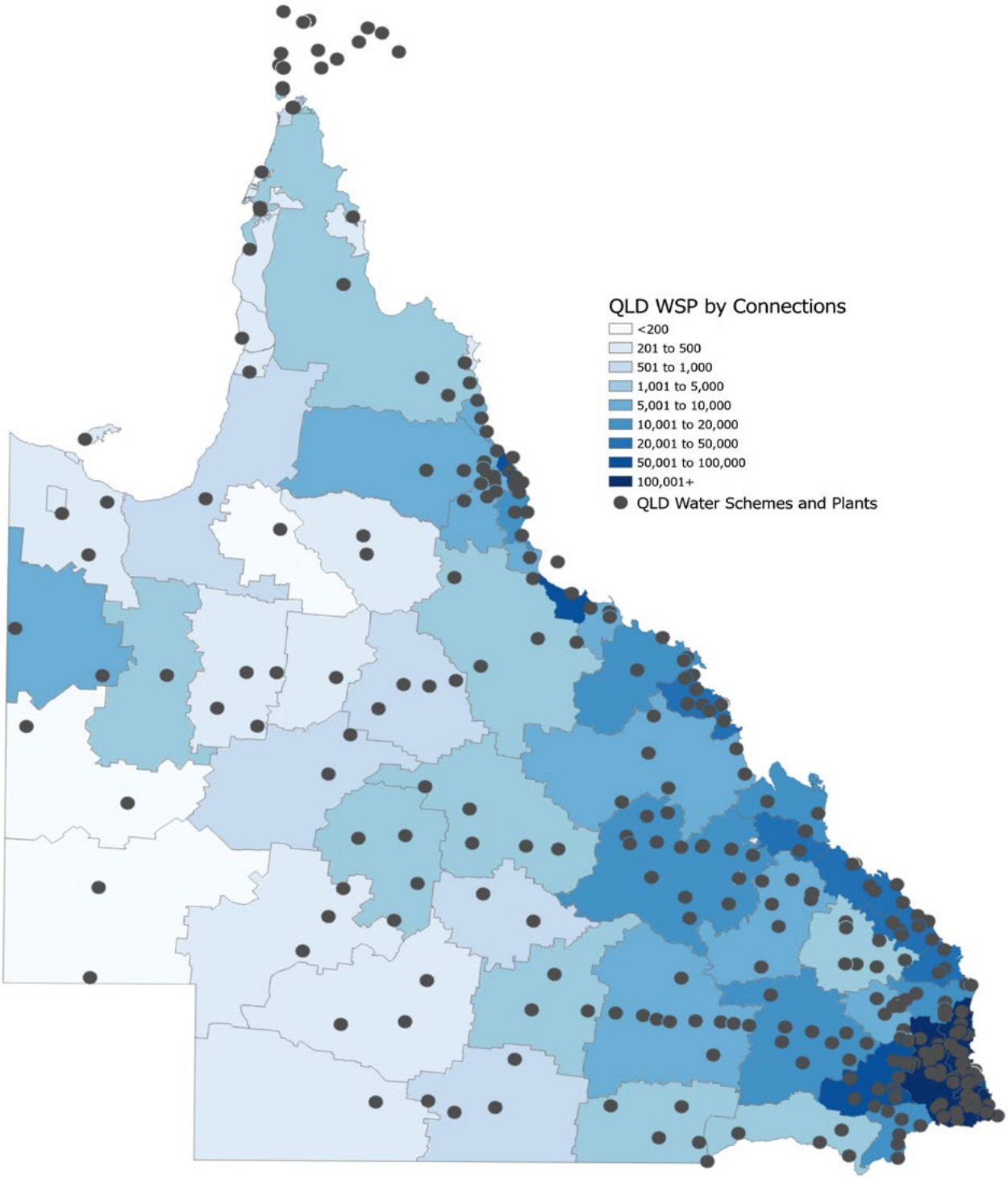

Figure 2: Queensland Potable Water Schemes and Property Connections by Local Government Area

3. Workforce Statistics & Trends

3.1 Job Families and trends

Figure 3 represents the proportion of the total water industry workforce employed within each Job Family in 2020. For 2020, Business Support was the largest job role category (34%) which is consistent with previous surveys (35% in 2018, 29% in 2016). The Job Family includes all support functions such as finance, human resources, communications and IT professionals and also includes an estimate of full-time equivalent staff for local government providers that access these services through departments within a larger council structure.

The next largest combined Job Family category, at 27%, is the Water Operations job roles which includes Water Operations – Civil (12%), Water Operations – Treatment (13%) and Water Operations – Dam (2%). The grouped category is largely consistent with 2018, however there are differences in the underpinning Job Families with a small increase in Treatment and decrease in Civil. This is most likely related to a number of different participating entities rather than any systemic change in workforce composition.

There are no other notable changes.

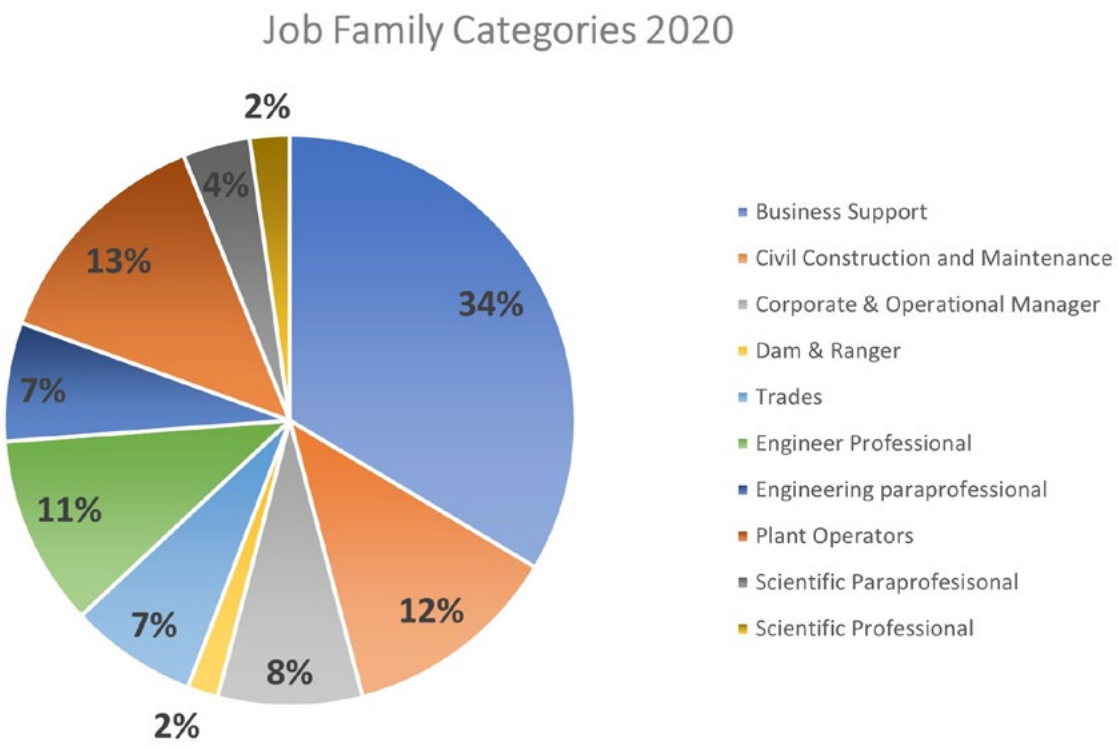

Figure 3: Job Family Categories 2020

Figure 4 provides an analysis of the proportion of employees employed within each Job Family Category across the past three reporting periods, 2016, 2018 and 2020 respectively. Previous reports have included comparisons dating back to 2010, however the charts would be too cluttered to include six reporting periods, so we have included data from the past three surveys only. Whilst there are potential inconsistencies in data reporting due to differences in participating organisations and some classification issues, the data does demonstrate likely changes to workforce composition.

There appears to have been an adjustment in business support roles, after a sharp rise in 2018 which was reported previously as relating to significant recruitment in temporary roles for large scale IT and other projects in some larger responding organisations.

There is a continued decline in civil construction and maintenance roles suggesting continued outsourcing of these roles.

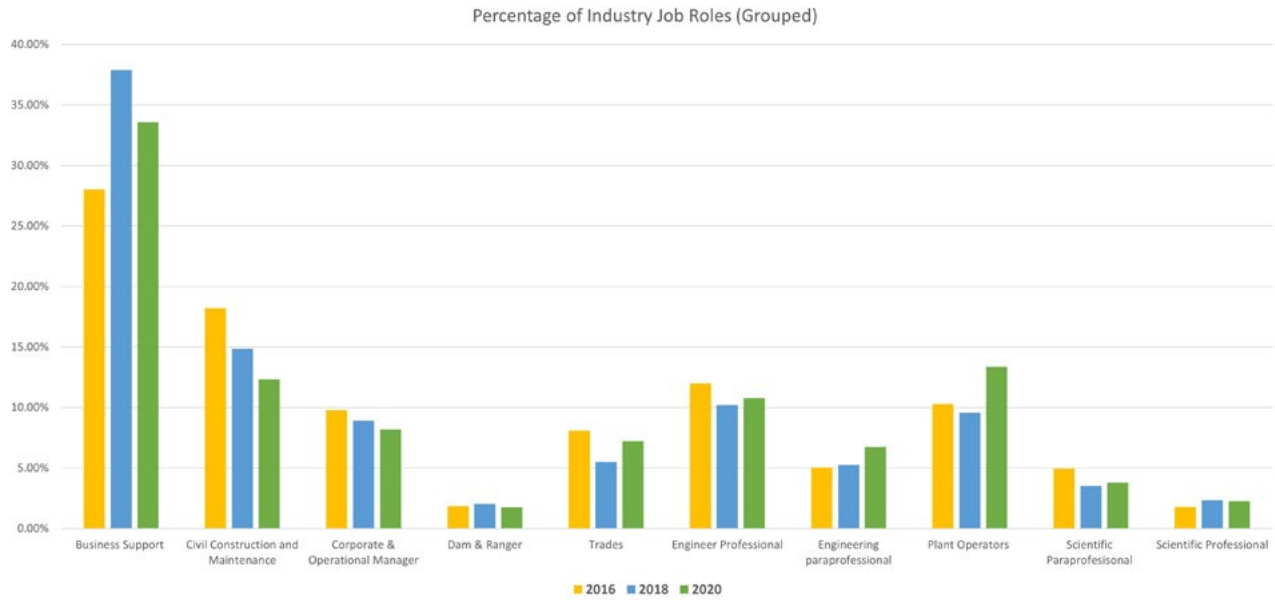

Figure 4: Job Family Category Trends 2016 – 2020

The previous trades and operations chart has been removed from the 2020 Snapshot Report due to one of Queensland's largest utilities changing how they classify these roles. The role classification change would result in a misinterpretation of the graph.

3.2 Age Profile

The Age profile chart presented in past reports has been commonly cited in other reports as it not only presents a visual of a clearly "aged" workforce, but also a progressing trend over capture periods towards growing "ageing" (with the proportion of workers in the younger two age groups steadily declining while that of older workers continuing to grow).

Figure 5 outlines the age profiles across six Snapshot Reports from 2010 to 2020. Noting that data for Urban Utilities is modelled in 2020, the ageing workforce trend continues with 35% of the workforce aged over 50 years in 2020 (34% in 2018) and 11% of the workforce aged under 30 years.

When respondents were presented with follow-up questions, the following points were noted:

- Attempts at offering more traineeships and early career opportunities appear to have increased;
- These are often hindered by the inability for many organisations to offer permanent roles on completion of those traineeships. In a recent ***qldwater*** survey of water service providers, 100% of respondents indicated they are unable to guarantee permanent roles on completion of traineeships, unless a vacancy happens to exist at that time within their FTE count – or the limit applied by many employers on total number of staff;
- Irrespective, many reported a low success rate in retention of school leavers, and better results when targeting hiring towards young people who had some workforce experience and were more likely to be attracted to positive aspects of working in the water sector, including challenging job roles with the chance to learn and trouble-shoot, as well as a sense of performing an essential community service. Some organisations actively sought to recruit employees with existing trade qualifications, whether that trade was directly relevant to a water operations role or not.

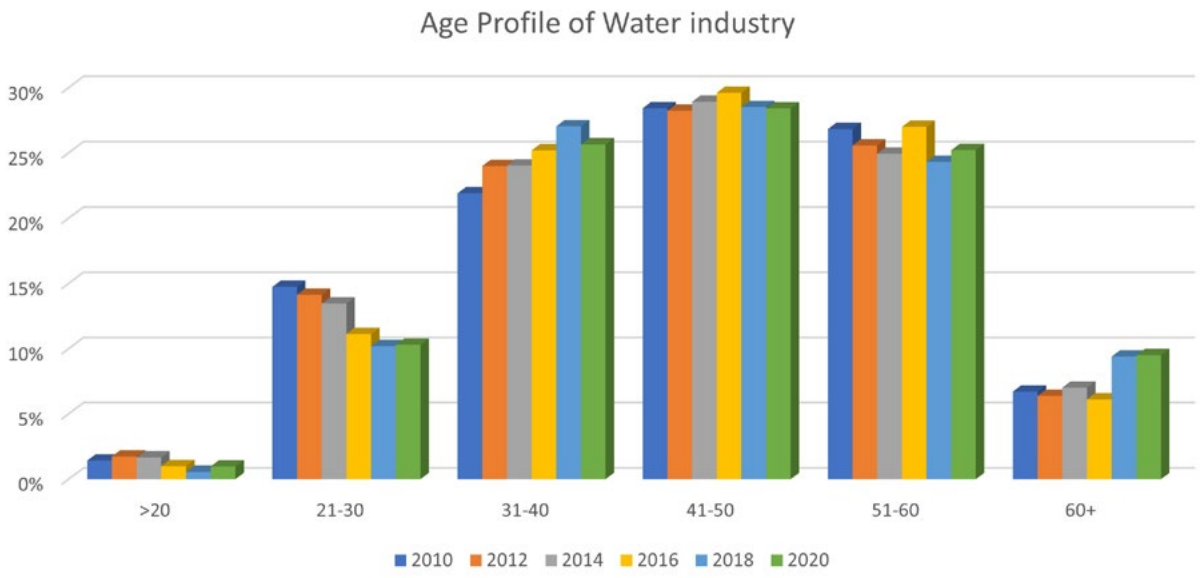

Figure 5: Age profile of Queensland Water Industry - comparison of 2010, 2012, 2014, 2016, 2018 and 2020 Snapshot Reports

3.3 Age Profile and Job Role Category

Past report narratives have focussed on job roles with high proportions of ageing staff or low proportions of younger staff, assuming that these things represent risks or potential advantages.

Figure 6 shows the age profile for each job role category. For this report, we have presented the data differently from previous Snapshot reports to provide more detail on ageing profiles by job role to better inform workforce planning.

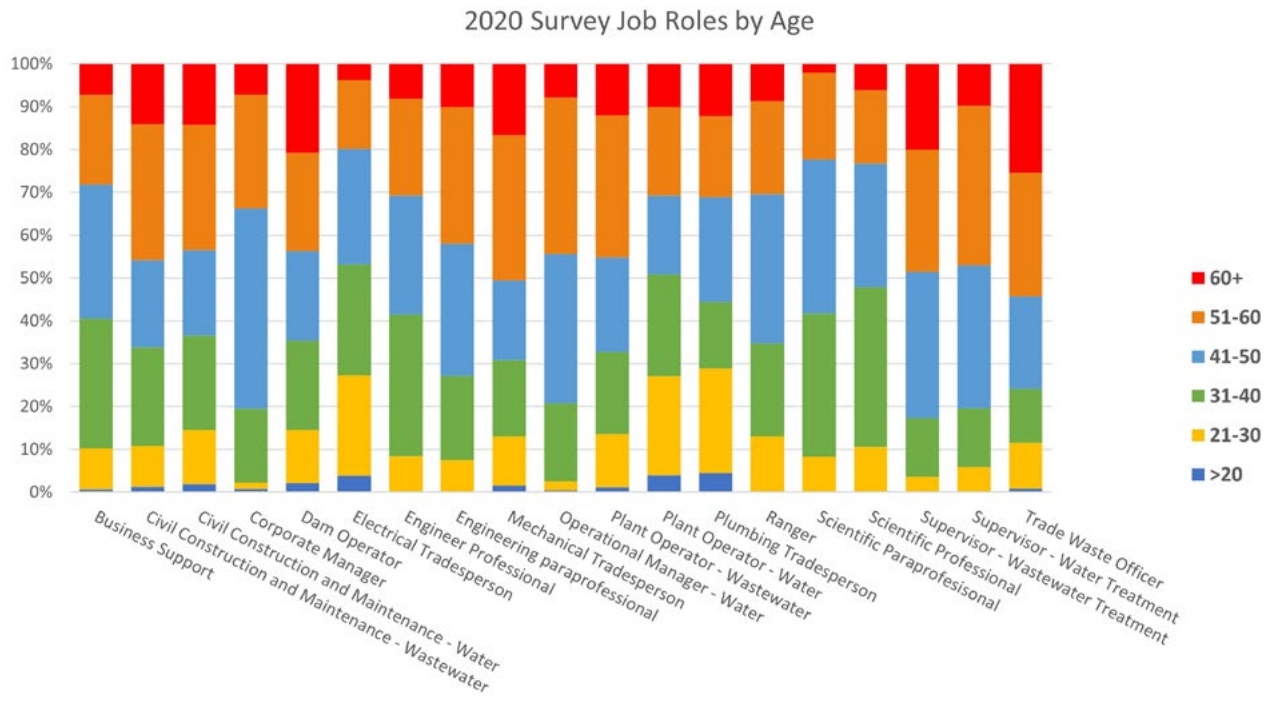

Figure 6: Age Profile by Job Role Category

Previous reports have shown there is a high proportion of Water Treatment and Wastewater Treatment Supervisors aged over 50 (47% in 2018) and this has continued with 47% of Water Treatment Supervisors and 49% of Wastewater Treatment Plant Supervisors aged over 50 in 2020.

In 2020, there was a small decline in the proportion of Wastewater Treatment Plant Operators aged over 50 (45%), down from 52% in 2018. 31% of Water Treatment Plant Operators in 2020 are aged over 50, up from 27% in 2018.

Dam Operators have seen an increase in the proportion of those aged under 30 years along with an increase in the proportion aged over 50, noting there are 48 employees captured by this data survey.

The Trade Waste Officer category has the highest percentage of employees over 50 (54% in 2020), down from 60% in 2018, noting that it is a highly specialised role with 37 employees reported within this category.

Compared with data from the 2018 Snapshot Report, there are a number of changes that can be observed in the age profiles for a number of job role categories. Table 2 describes whether there have been changes for each age group across all job roles.

Within Table 2, an equalise sign represents where there has been less than a 5% increase or decrease between proportion of workers in that age group between the 2018 and 2020 reports, a downwards facing arrow shows a decline in the proportion of workers in that age group and an up arrow shows an increase in the proportion of workers in that age group for that job role.

Table 2: Change in the proportion of staff in each age group by job role between 2018 and 2020

Job Role	>30 years	31 - 50 years	51+ years
Business Support			
Civil Construction and Maintenance – Wastewater			
Civil Construction and Maintenance - Water			
Corporate Manager			
Dam Operator			
Electrical Tradesperson			
Engineer Professional			
Engineering Paraprofessional			
Mechanical Tradesperson			
Operational Manager - Water			
Plant Operator – Wastewater			
Plant Operator – Water			
Plumbing Tradesperson			
Ranger			
Scientific Paraprofesisonal			
Scientific Professional			
Supervisor - Wastewater Treatment			
Supervisor - Water Treatment			
Trade Waste Officer			

3.4 Gender Profile

Figure 7 shows the proportion of male and female employees and how it has changed over time. The change in gender balance between 2018 and 2020 is not significant.

For this report, Queensland data was gathered from the Australian Bureau of Statistics to compare water industry gender balance to all industries, and this is reflected in Figure 7 as a trend line. While the water industry remains male-dominated, the balance is becoming more equitable over time, and at a slightly faster rate than the all-industry trend, with women representing 30% of the workforce in 2020 compared with 22% in 2010.

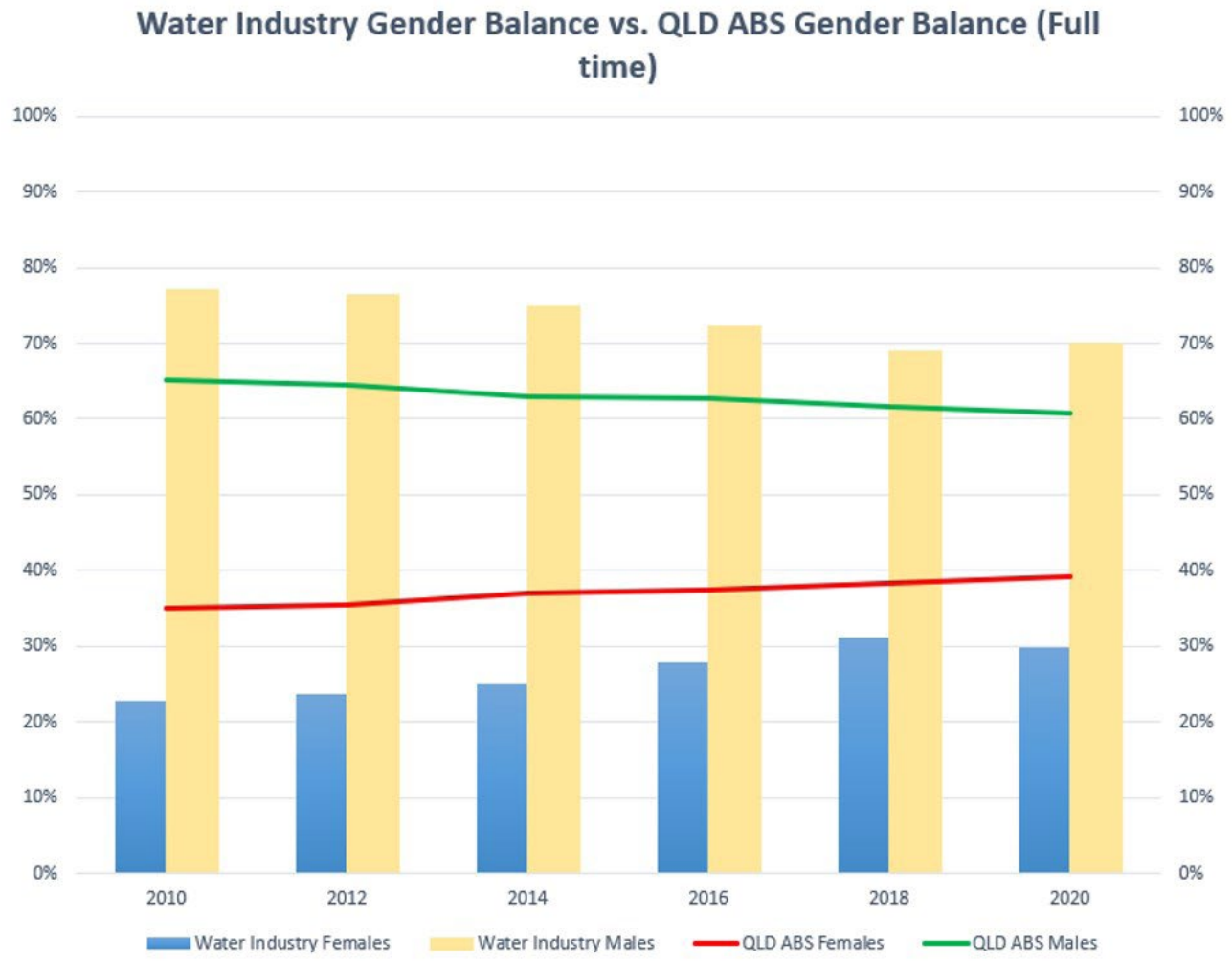

Figure 7: Comparison of 2010, 2012, 2014, 2016, 2018 and 2020 gender data

In line with current community trends, the next report in 2022 will seek to include those who identify as non-binary in gender statistics, where that information is collected by employers.

Figure 8 shows the portion of female and male staff in each job family. Previous reports have included comparisons dating back to 2010, however, the charts would be too cluttered to include 6 reporting periods and the data has not changed substantially for each reporting period. For ease of reading, the graph shows job families matching those from the 2018 report.

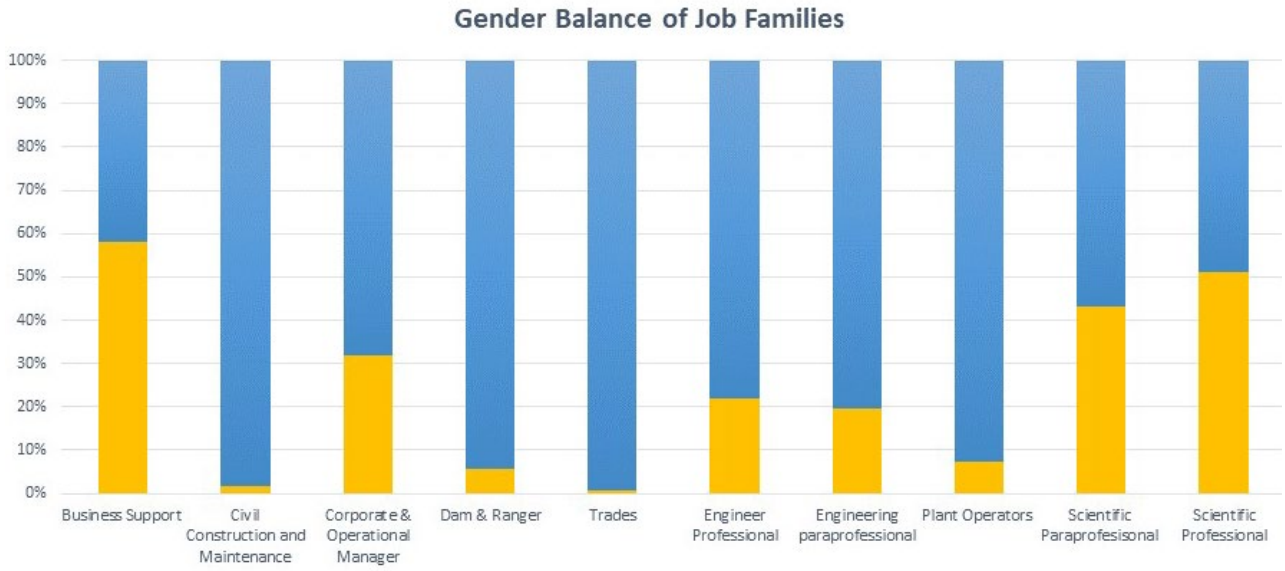

Figure 8: Number of males and females in each job family as a % of total

Whilst some roles have been skewed slightly as a result of internal reporting definitions, the industry continues to remain male dominated in trades, rangers and civil construction and maintenance roles.

There has been a downward adjustment in the proportion of women in operational roles, following a spike from 2016 to 2018. This may be a result of classification issues with the data in 2018 and/or 2020, as a number of utilities report having pursued targeted campaigns to attract and retain female talent in recent years.

Females in Corporate and Operations manager roles have increased by 3% to 33% since the previous 2018 report and there have been small increases in the number of females in professional and paraprofessional roles for engineers and scientists.

3.5 Job Categories and Qualification Levels

Qualifications data across all job roles has typically been difficult to obtain over time so this report has focused on the qualifications for key industry job roles relating to qualifications from the National Water Training Package (NWP), which is the main vocational training package used for the sector. Figure 9 shows all NWP qualifications held by Water and Wastewater Treatment Plant Operators and Supervisors.

The NWP includes four qualifications with 165 units of competency:

- Certificate II in Water Industry Operations
- Certificate III in Water Industry Operations
- Certificate IV in Water Industry Operations
- Diploma of Water Industry Operations

All NWP qualifications have been reviewed in the past three years to ensure they are fit for industry's current and future skilling needs. Reviews were conducted by Australian Industry Standards, on behalf of the Water Industry Reference Committee, on which ***qldwater*** holds a position. ***qldwater*** was a participant in each of the Technical Advisory Committees reviewing the qualifications and facilitated opportunities for Queensland stakeholders to provide input to the reviews.

The Certificate III in Water Industry Operations is the most widely used qualification in the training package and the generally accepted minimum standard for water/wastewater treatment operators operating conventional treatment systems. Both the Certificate II and III qualifications currently receive Priority One funding from the Department of Employment, Small Business and Training under the User Choice program and are also supported by the Certificate 3 Guarantee program.

In 2020, 65% of Wastewater Treatment Plant Operators and 59% of Water Treatment Plant Operators from organisations that responded to the survey hold a Certificate III in Water Industry Operations. It is worth noting that the seventeen organisations that responded to this survey are all members of the Water Skills Partnership and involved in ongoing skilling initiatives for their workforce. Anecdotally, the coverage of these qualifications in remote areas is more variable, with small organisations often having operators with many other roles including plumbing.

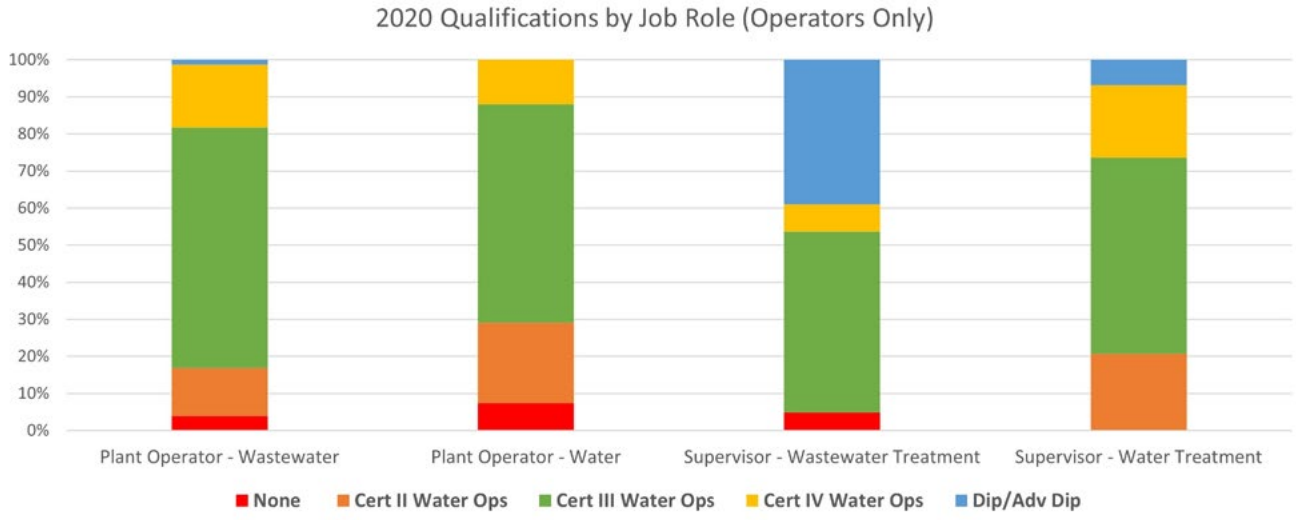

Figure 9: NWP qualifications held by water/wastewater treatment operations employees (for responding organisations)

Data provided by the Department of Employment, Small Business and Training has shown that take up of the Certificate III qualification has been steadily increasing in the past few years thanks to generous User Choice subsidies and improvements to the qualification through its review.

In a workshop of Water Skills Partners during 2020, employers indicated that the higher-level qualifications, particularly the Certificate IV, are an important vehicle for moving staff from operational roles into supervisory and manager level positions. The 2020 qualifications data shows that 46% of Wastewater Treatment Plant Supervisors and 27% of Water Treatment Plant Supervisors hold a higher-level qualification (Certificate IV or Diploma). Whilst there are existing subsidies that apply to the Certificate IV and Diploma, Water Skills Partners have expressed a need for these to be increased to provide higher subsidies to support providers challenged by tight training budgets to upskill their operators into supervisory roles. ***qldwater*** is progressing those discussions with the Department.

There are three main RTOs delivering the NWP for urban water service providers in Queensland, two of which are Queensland-based. The small size of the training market and highly specialised nature of water industry qualifications present challenges for RTOs in ensuring they have appropriately qualified trainers to meet industry demand and the limited availability of RTOs and trainers is a growing problem for the industry. Over the past few years, there has been a reduction in the number of RTOs actively delivering the NWP in Queensland along with a reduction in the scope of delivery by some RTOs. Current offerings are listed at: https://qldwater.com.au/Skills_Vocational_Education. Prior to the NWP15 release, there were seven RTOs actively delivering NWP training in Queensland.

The practical nature of the qualifications has traditionally driven a preference for face-to-face training delivery; however, the remote nature of many service providers means there are limited opportunities to access face to face training or it is prohibitively expensive, often with additional travel and accommodation charges and additional administrative overheads applied. ***qldwater***, through the Queensland Water Regional Alliance Program (QWRAP) helps facilitate training cohorts of operators from a range of councils within a region and this has been successful on a number of occasions in reducing training costs. In addition, COVID-19 created an opportunity for the industry to engage in virtual skilling and training methods and there have been ongoing efforts by training providers to improve the quality of online training resources and engagement tools. These efforts and initiatives by organisations such as ***qldwater*** to provide alternative delivery methods for training and upskilling has allowed for greater engagement from staff in remote and regional councils and continues to encourage innovation in this space.

4. Skills Shortages in Specialised Occupations

After several surveys attempting to track skills shortage questions including tracking turnover and outsourcing (with few organisations able to provide responses) the 2020 survey took a different approach, seeking qualitative data on expected shortages.

Figure 10 shows whether employers are currently experiencing a shortage of skills across each job role. Figure 11 provides employers' predictions about the job roles that are likely to experience a shortage of skills in three years' time. Red and orange responses suggest areas for further analysis and consideration.

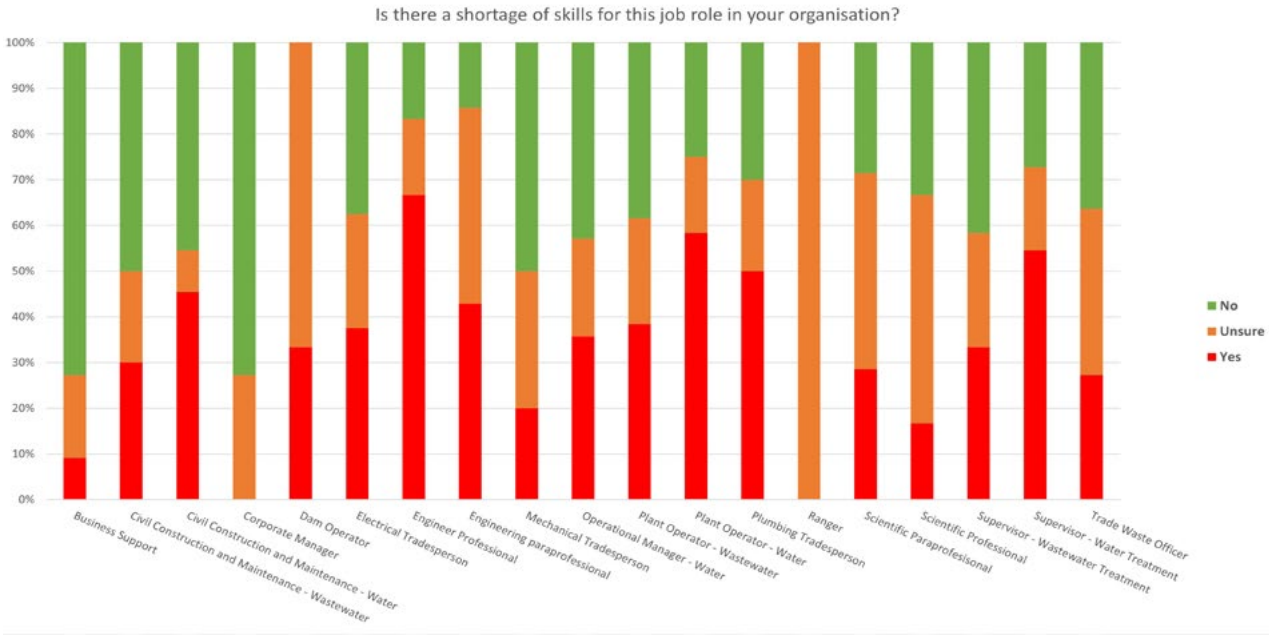

Figure 10: Current Skills Shortages by Job Roles

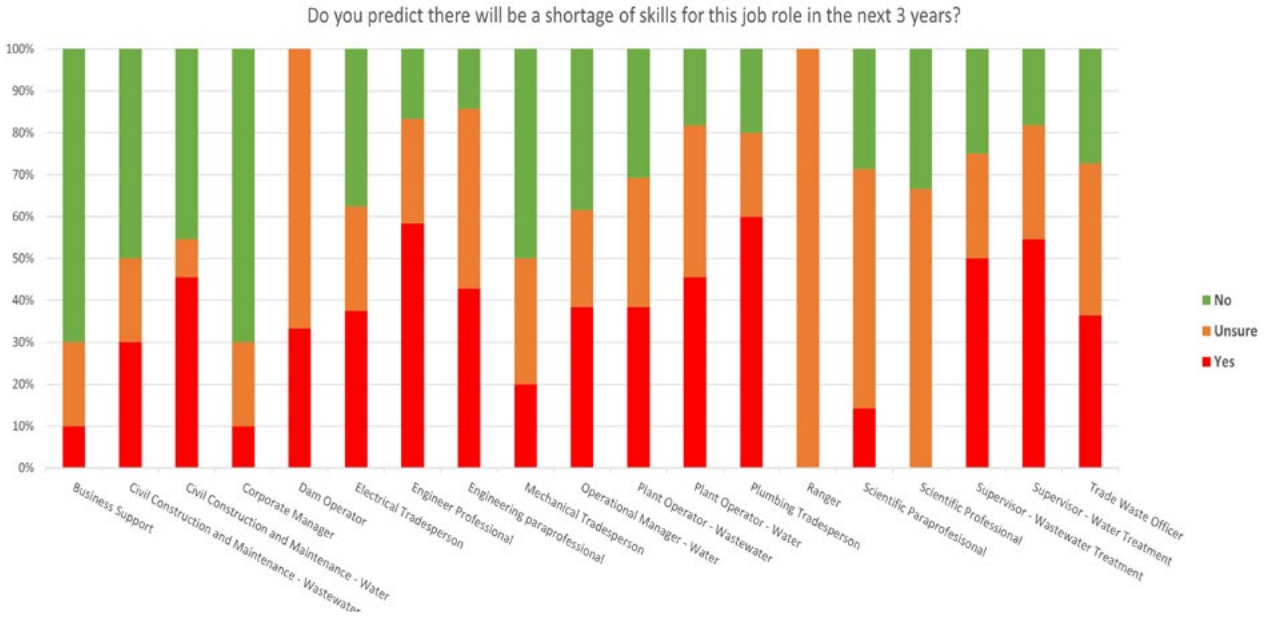

Figure 11: Expected Future Skills Shortage by Job Role

Follow up interviews were conducted with respondents to establish what potential causes might be with a focus on job roles with larger numbers of staff. The following summarises the responses.

Civil Construction and Maintenance Workers

The shortage of Civil Construction and Maintenance Workers may be as a result of increased civil construction and maintenance activity through COVID stimulus spending. The challenges of recruitment and retention in some regions (particularly resource regions with higher salaries and different conditions in some sectors) is well-documented.

Plumbing Trades

Some regions reported advertising for plumbers without success, leading to greater recruitment of apprentices instead. Again, in some regions, there are better salaries offered for plumbing roles by the resources sector. Opportunities for qualified plumbers differs significantly by organisation. Smaller councils are more likely to have plumbing roles with broad responsibilities. Some larger utilities have restructured activities to focus on a non-trade development pathway. It is increasingly difficult for a discrete water utility to provide the scope of work experience necessary to engage a plumbing apprentice.

Engineering Professionals and Paraprofessionals

Feedback suggested a lack of experienced engineers in regional areas. In some regions, competition with the resources sector makes it difficult to attract engineers to roles in local councils and it can be challenging to recruit the specific water and sewerage skills needed. In some cases, this is being addressed by recruiting from other industries and providing the necessary training to skill up in water and sewerage. Note that at the time of data capture, there had been a focus on Registered Professional Engineer Certification by the Crime and Corruption Commission with some councils receiving notices suggesting non-compliance. This may have influenced responses.

Treatment Plant Supervisors

Feedback suggested (and age data responses demonstrated) a significant ageing profile with a large cohort approaching retirement. While there is typically a career progression for these roles with operators transitioning to supervision/management, an identified risk was staff being forced to take up these roles without suitable experience. This topic has been explored through a number of events including ***qldwater*** Water Skills Forums and a number of organisations have active programs to attempt to better address workforce planning.

Treatment Plant Operators

The shortage of Water and Wastewater Treatment Plant Operators have been an expressed concern for some time. There is a general recognition that it is increasingly difficult to source/attract experienced candidates with current water industry qualifications, leaving organisations the option of recruiting and training trainees, or in extreme cases outsourcing roles. The industry is not seen as attractive to school leavers with some reporting greater success in retaining older staff (25+) who have other trade or operational experience. The need for organisations, particularly councils, to be able to have flexibility to offer permanent roles upon completion of a traineeship, has been a focus area and the subject of an industry fact sheet.

More analysis is necessary to tease out the responses to the skills shortage questions to understand impacts on individual responding organisations and what other regional workforce conditions might be contributing to the perceived risks.

5. Conclusion

The 2020 Snapshot Report has presented data highlighting trends in the water industry workforce over the past ten years and some predictions of future skilling and workforce challenges. There are a number of continuing trends, such as an ageing employee profile and continued male domination of the workforce.

qldwater through the Water Skills Partnership will continue to work with water service providers to better understand the potential risks and impacts of their skilling and workforce challenges and work collaboratively to address them.

qldwater's ongoing roles with the national Water Industry Reference Committee and Water Industry Operator Certification Taskforce are aimed at ensuring that all work undertaken complements and enhances other industry workforce studies.

Special thanks to each of the organisations who contributed data to this study including the time taken in following up queries in interpreting reported data.

References

Gladstone Area Water Board. (2020). *Gladstone Area Water Board Annual Report 2019-20*. Queensland: Gladstone Area Water Board.

Mount Isa Water Board. (2020). *The State of Queensland (Mount Isa Water Board) Annual Report 2019–20*. Queensland: Queensland Government.

Queensland Water Directorate. (2020). *Statewide Water Information Management System*. Queensland: Queensland Water Directorate.

Seqwater. (2020). *Seqwater Annual Report 2019-20. Queensland*: Queensland Bulk Water Supply Authority 2020.

The State of Queensland (Sunwater Ltd). (2020). *Sunwater Annual Report 2019-20*. Queensland: Sunwater Ltd.

Queensland Water Skills Partnership Subscribers 2020/21

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- Balonne Shire Council
- Banana Shire Council
- Barcaldine Regional Council
- Barcoo Shire Council
- Boulia Council
- Bulloo Shire Council
- Bundaberg Regional Council
- Burdekin Shire Council
- Burke Shire Council
- Cairns Regional Council
- Carpentaria Shire Council
- Cassowary Coast Regional Council
- Central Highlands Regional Council
- Charters Towers Regional Council
- Cook Shire Council
- Croydon Shire Council
- Diamantina Regional Council
- Douglas Shire Council
- Etheridge Shire Council
- Fraser Coast Regional Council (Wide Bay Water and Waste Services)
- Gladstone Area Water Board
- Gladstone Regional Council
- Gold Coast City Council
- Goondiwindi Regional Council
- Gympie Regional Council
- Hinchinbrook Regional Council
- Logan City Council
- Longreach Regional Council
- Mackay Regional Council
- Maranoa Regional Council
- Mareeba Shire Council
- McKinlay Shire Council
- Mount Isa City Council
- Mornington Shire Council
- North Burnett Regional Council
- Paroo Shire Council
- Queensland Urban Utilities
- Redland City Council
- Richmond Regional Council
- Rockhampton Regional Council
- Seqwater
- South Burnett Regional Council
- Southern Downs Regional Council
- Tablelands Regional Council
- Toowoomba Regional Council
- Townsville City Council
- Unitywater
- Western Downs Regional Council
- Whitsunday Regional Council
- Winton Shire Council
- Woorabinda Aboriginal Shire Council

About *qldwater*

The Queensland Water Directorate (***qldwater***) is the central advisory and advocacy body within Queensland's urban water industry and represents members from Local Government and other water service providers across Queensland.

The Directorate actively promotes collaboration and development across the industry. One major area of focus for ***qldwater*** has been to help identify and understand as well as guide the development of industry-wide strategies to aid the industry's significant skill development, attraction and retention challenges across the state.

qldwater will continue to work with industry to further develop its workforce and improve and retain valuable skills unique to the industry.

Further information about this and other programs is available at **www.qldwater.com.au**.

Special thanks to each of the organisations who contributed data to this study including the time taken in following up queries in interpreting reported data.

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