

Casting the Net Wider: Reeling in Talent from Unexpected Waters

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Abstract

Like much of the water industry, Gympie Regional Council has felt the pressure of ongoing skills shortages. Rather than waiting for the “right” candidates to surface, we chose to cast the net wider. Over the past two and a half years, we’ve taken a broader, more holistic approach to recruitment, focusing less on direct industry experience and more on the transferable skills that underpin good operators. Many of the capabilities we rely on include water quality management, system monitoring, data interpretation, problem-solving and working within regulated environments that exist beyond the traditional water sector. This paper explores that approach, including a practical example of transitioning professionals from an aquatic zoological background into water treatment roles. Moving between these environments presents challenges such as adapting to differences in scale, automation and navigating different regulatory frameworks. However, the results show that with the right support, these transitions can be successful. Rather than letting skills shortages persist, this approach demonstrates how organisations can turn challenge into opportunity by building more adaptable, resilient teams through recognising capability over background. Attendees will gain practical insight into how casting the net wider can uncover untapped talent and support a more sustainable, future-ready workforce.

Introduction

Gympie Regional Council supplies more than 3700 megalitres of drinking water and treats over 3300 megalitres of sewage annually across the region. The Water Branch operational team consists of 16 operators responsible for seven sewage treatment plants, eight water treatment plants, and associated pump stations. Historically, direct water industry experience was considered essential for successful candidates. However, ongoing shortages of trained operators across Australia have highlighted the need to look beyond traditional recruitment pathways to support a sustainable and future-ready workforce. There is increasing recognition that industries such as aquaculture, food processing, mining, trades, and aquatic zoological operations may provide candidates with many of the foundational skills required for water operations. Since April 2024, five individuals from the aquatic zoological industry have successfully transitioned into operational and advisory roles within the Water Branch. Drawing from personal experience, this discussion provides a practical example of transitioning professionals from aquatic zoological backgrounds into water treatment roles.

Discussion

1.0 Hiring history

Since 2022, only 30% of hires include qualified individuals, i.e. those that hold a Certificate III in Water Industry Operations. In March 2024 Gympie Regional Council committed to supporting the professional development of new employees through enrolment in the

Certificate III in Water Industry Operations to boost application numbers for water treatment plant operator roles as qualified applicants were few and far between. This broader, holistic approach has allowed Gympie Regional Council to acquire and develop individuals into qualified Water Industry operators by building upon their transferable skills and capabilities.

2.0 Transferable skills

Reviewing recruitment criteria alongside the skills and experience of individuals from the aquatic zoological industry highlights a strong overlap in the core capabilities required for success. While the technical contexts differ, many of the underlying competencies are highly transferable, including attention to detail, adherence to procedures, problem solving, risk awareness, communication, teamwork and adaptability (Table 1).

Table 1 Competencies and examples from individuals in the aquatic zoological industry

Competencies	Example
Attention to detail	- Recognise subtle changes in animal behaviour that could indicate early health or environmental issues
Adherence to procedures	- Operate within established protocols for food preparation, medication administration, animal handling and emergency response
Problem solving	- Adapt training and enrichment (games and toys) strategies to suit changing animal behaviours and changing operational conditions
Risk awareness	- Identify potential hazards that may impact animal welfare, infrastructure, staff or the public
Communication	- Deliver educational presentations and interact with the public
Teamwork	- Contribute to a team environment where communication, trust and consistency are essential for both animal welfare and staff safety
Adaptability	- Adapt to unpredictable situations including severe weather, equipment failures, veterinary emergencies and changing operational schedules

Experience in the aquatic zoological industry also demonstrated practical exposure to water quality management, water treatment systems, routine monitoring, data recording and responding to changing conditions. All of which align closely with the operational requirements of water treatment operator roles (Figure 1).

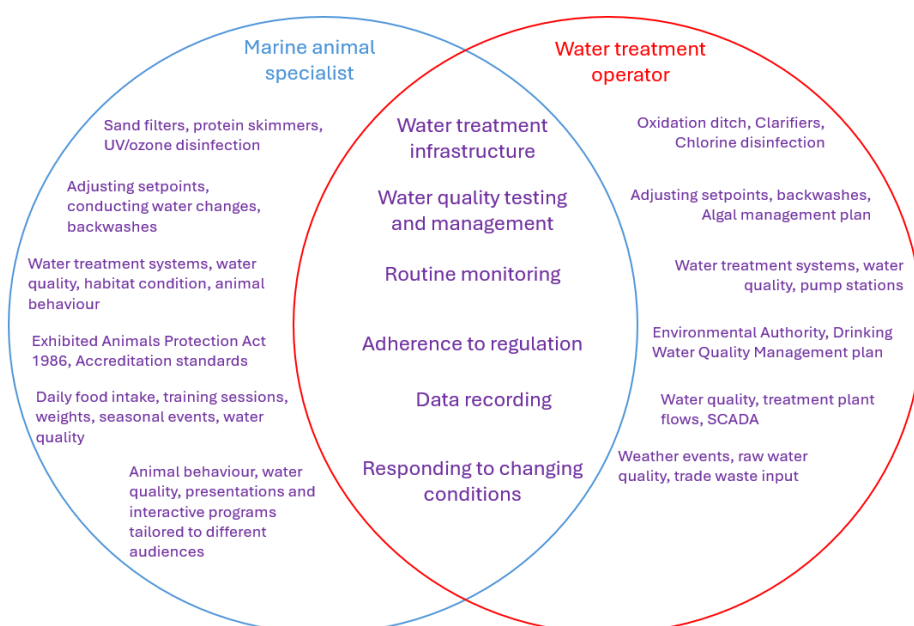


Figure 1 Examples of overlapping competencies and examples from each role

3.0 Challenges in the transition

While core capabilities will benefit an individual transitioning into a water treatment operator role, there are knowledge learning curves, adjustments and development of technical skills that need to take place to successfully integrate into the role.

3.1 Scale and complexity

Marine life support systems are often smaller and more specialised (Figure 2) whereas water and wastewater treatment plants involve large-scale chemical dosing systems, pumps, SCADA systems, mechanical assets, and multiple interconnected treatment processes (Figure 3). In aquatic zoological environments, adjusting water quality parameters is managed manually and onsite. In contrast, modern treatment plants commonly utilise automated control systems, remote monitoring, telemetry and automated dosing processes that require operators to interpret trends, alarms and data rather than solely relying on physical observation and water quality results.

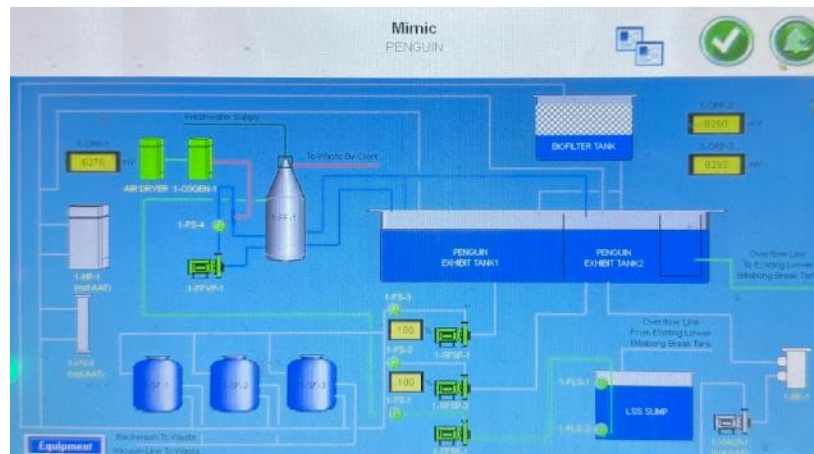


Figure 2 – An example of a small-scale aquatic life support system interface at an aquarium

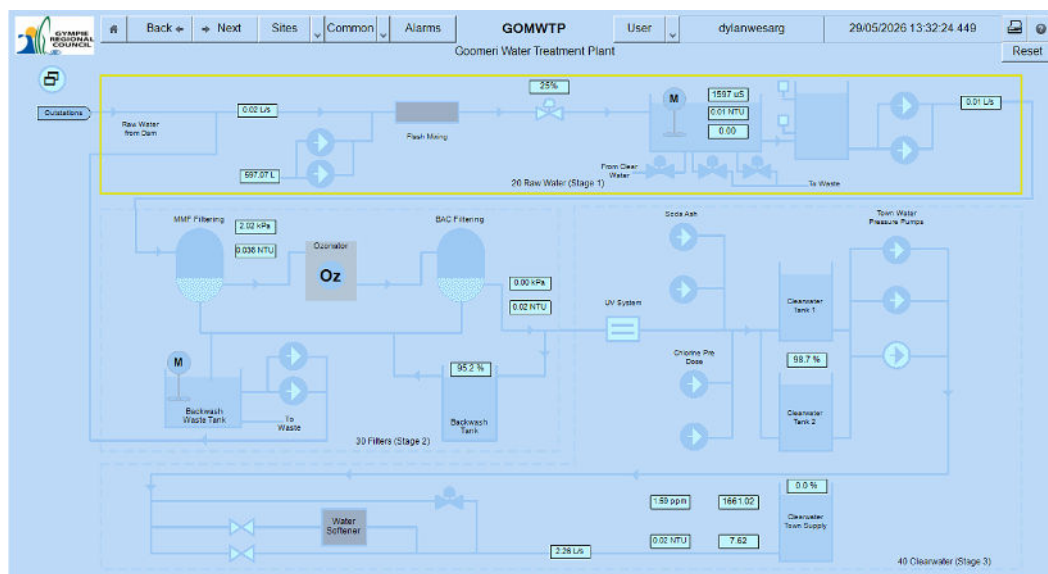


Figure 3 – Goomeri Water Treatment plant SCADA interface

3.2 Adapting from animal focused outcomes to compliance and process driven operations

While both industries prioritise water quality, water treatment operations place a much stronger emphasis on regulatory compliance, public health risk management, documentation, and meeting strict licence conditions. Developing an understanding of regulatory frameworks and operational reporting requirements can take time. Water industry operators are required to work within formal legislation, Australian Drinking Water Guidelines, environmental authorities, safety systems, and incident reporting frameworks that may be unfamiliar to someone entering from an aquatic zoological background.

3.3 Building on existing water chemistry knowledge

Individuals from the aquatic zoological industry often possess strong practical understanding of water quality parameters such as temperature, pH, nitrogen compounds, chlorine, dissolved oxygen, salinity, and filtration performance due to their importance in aquatic animal health and life support systems. However, water treatment operations require a broader understanding of how these parameters interact within large-scale biological and chemical treatment processes, particularly in relation to nitrogen and phosphorus cycling. While an understanding of ammonia toxicity and nitrification within aquarium systems is already established, wastewater treatment operations require additional knowledge of processes such as denitrification, sludge age management, nutrient removal, phosphorus management, and environmental compliance. Understanding how treatment performance influences receiving waterways at a catchment scale can therefore require substantial additional learning.

4. Support in the transition

Many of the challenges associated with transitioning from the aquatic zoological industry into water treatment operations can be reduced through structured onboarding, mentoring, certification and practical exposure to treatment processes. Site onboarding helps transitioning employees understand industry terminology, regulatory obligations, treatment objectives, and operational expectations early in their employment. At Gympie Regional Council, new operators are paired with experienced mentors to build confidence in plant rounds, alarm response, process adjustments, SCADA interpretation, and compliance reporting.

Targeted training and formal qualifications also help bridge technical knowledge gaps. While individuals from the aquatic zoological industry often possess practical understanding of water chemistry and filtration systems, additional training in coagulation, disinfection, sludge handling, environmental compliance, and Drinking Water Quality Management Plans supports transition into municipal treatment operations.

Gradual exposure to increasingly complex responsibilities further improves confidence and retention. Employees are initially assigned to either sewage or drinking water operations, focusing on routine sampling, laboratory testing, and process monitoring before progressing to chemical dosing optimisation, troubleshooting and independent alarm response. Once established, employees may then develop across additional treatment sites or transition

between sewage and drinking water operations, supporting broader operational capability and workforce flexibility.

5.0 Benefits

5.1 Increased applicant pool

Expanding recruitment beyond traditional water industry candidates significantly increases the number of potential applicants. Industries such as aquaculture, zoological operations, food processing, mining and trades often contain individuals with highly relevant operational experience and technical capability. Of the past 14 recruits into the Gympie Regional Council's Water Branch, 10 have been unqualified and/or moved from another industry.

5.2 Improved workforce resilience

Recruiting individuals from varied backgrounds introduces diverse experiences, perspectives and problem-solving approaches into operational teams. This diversity can strengthen team adaptability and resilience when responding to operational challenges.

5.3 Strong transferable operational skills

Many candidates from outside the water industry already possess capabilities critical to water operations as seen in Table 1 and Figure 1. These foundational skills can reduce the time required to develop competent operators.

5.4 Encourages knowledge sharing and mentoring

Integrating staff from different industries encourages the sharing of practical knowledge, experience and mentoring skills across operational teams. This can strengthen team culture, support succession planning and help retain valuable operational knowledge within the organisation. At Gympie Regional Council, two operators who entered the water industry from non-traditional backgrounds more than 20 years ago now play key mentoring roles, supporting and guiding newer employees transitioning into the industry through similar alternative pathways.

5.5 Development of long-term operators

Providing opportunities for individuals without traditional water industry backgrounds can improve employee engagement and retention. Candidates entering through traineeships or transition pathways often demonstrate strong motivation to learn and build long-term careers within the industry. This is reflected within the Gympie Regional Council, where the two operators mentioned above have gone on to build successful and ongoing careers in water treatment operations.

5.6 Supports future workforce sustainability

As workforce shortages continue across regional and remote areas, broadening recruitment pathways can help create a more sustainable pipeline of future operators. Transitioning employees into treatment roles also creates long-term workforce development opportunities within the broader Water Branch. Through operational experience in treatment processes, water chemistry, compliance monitoring, incident response, and environmental management,

operators build strong foundational knowledge that can support progression into specialist and technical roles. For example, two operators at Gympie Regional Council later transitioned into Water Quality Scientist and Environmental Officer positions. Developing internal career pathways in this way supports employee retention, professional development, and a more adaptable workforce with strong operational knowledge across multiple areas of the water industry.

6. Conclusion

The ongoing shortage of qualified water industry operators continues to challenge utilities across Australia and requires organisations to rethink traditional recruitment approaches. Gympie Regional Council's experience demonstrates that broadening recruitment criteria to focus on transferable skills and capability, rather than direct industry experience alone, can successfully uncover new talent pathways and strengthen workforce resilience.

The transition of professionals from the aquatic zoological industry into water operations highlighted that many of the core competencies required in modern water treatment environments already exist outside the traditional water sector. Skills such as attention to detail, problem solving, risk awareness, teamwork, communication and experience working within regulated environments proved highly transferable and provided a strong foundation for success within operational roles.

While challenges existed in adapting to larger scale systems, increased automation, and different regulatory and operational frameworks, these barriers were effectively addressed through structured onboarding, mentoring, and practical training.

Casting the net wider has proven to be more than a recruitment strategy; it is an investment in the long-term sustainability and resilience of the water industry's workforce.

Acknowledgements

The authors would like to acknowledge the support of the Water Branch at Gympie Regional Council, particularly the operational staff and mentors who have supported employees transitioning into the water industry from non-traditional backgrounds through knowledge sharing, guidance and practical training. The authors also acknowledge SEA LIFE Sunshine Coast for providing the foundational industry experience that supported successful transitions into water operations.

References

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