Australian Centre for Career Education

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Melbourne Water

Careers in the WATER INDUSTRY

A collaboration between ACCE, Melbourne Water and VicWater

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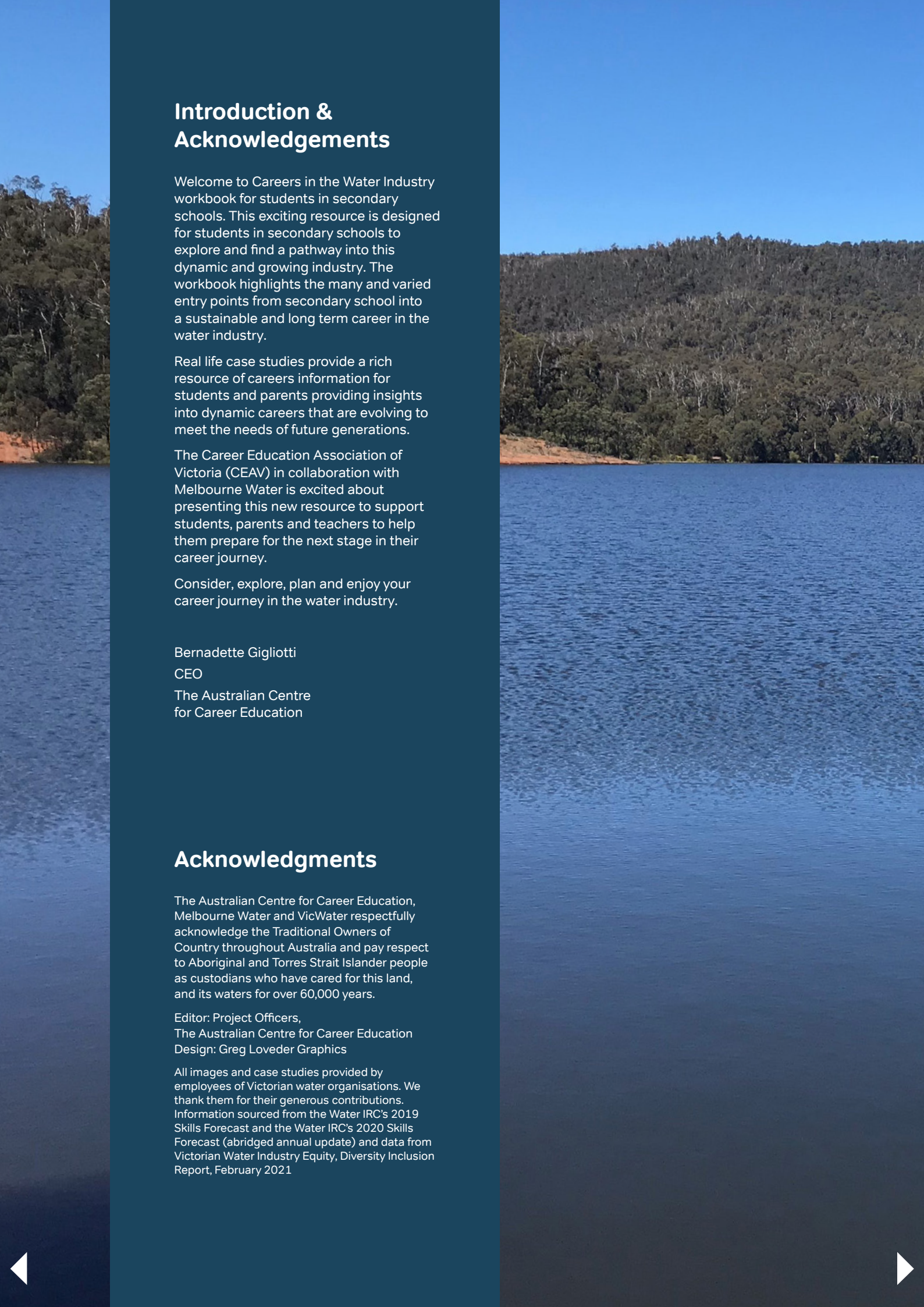
LIVE WEBINARS for Students and Educators!
Learn about careers in the water industry and hear from current water industry professionals

Click to watch

EDUCATORS: CAREERS IN THE WATER INDUSTRY WEBINAR

STUDENTS: CAREERS IN THE WATER INDUSTRY WEBINAR



Introduction & Acknowledgements

Welcome to Careers in the Water Industry workbook for students in secondary schools. This exciting resource is designed for students in secondary schools to explore and find a pathway into this dynamic and growing industry. The workbook highlights the many and varied entry points from secondary school into a sustainable and long term career in the water industry.

Real life case studies provide a rich resource of careers information for students and parents providing insights into dynamic careers that are evolving to meet the needs of future generations.

The Career Education Association of Victoria (CEAV) in collaboration with Melbourne Water is excited about presenting this new resource to support students, parents and teachers to help them prepare for the next stage in their career journey.

Consider, explore, plan and enjoy your career journey in the water industry.

Bernadette Gigliotti

CEO

The Australian Centre
for Career Education

Acknowledgments

The Australian Centre for Career Education, Melbourne Water and VicWater respectfully acknowledge the Traditional Owners of Country throughout Australia and pay respect to Aboriginal and Torres Strait Islander people as custodians who have cared for this land, and its waters for over 60,000 years.

Editor: Project Officers,
The Australian Centre for Career Education
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All images and case studies provided by employees of Victorian water organisations. We thank them for their generous contributions. Information sourced from the Water IRC's 2019 Skills Forecast and the Water IRC's 2020 Skills Forecast (abridged annual update) and data from Victorian Water Industry Equity, Diversity Inclusion Report, February 2021

Letter of Introduction

VicWater is the peak industry association for Victorian water corporations, and we are pleased to partner with CEAV in presenting the Victorian water industry as a vibrant and diverse place for you to pursue your future career.

While many of our members have contributed to this workbook and associated resources, we especially acknowledge Melbourne Water for leading and sponsoring this initiative.

The Victorian water industry is so much more than just pumps and pipes. While there are many jobs that require 'hands on' involvement with water supply and sanitation operations, there are also many jobs that perhaps don't readily spring to mind, such as natural resource management, customer service, data analytics, IT and cybersecurity, health and safety, public relations and community engagement.

Regardless of their job role, the people who work in our industry are passionate about delivering high quality and reliable services to their customers, while also supporting broader sustainability and liveability goals for the entire Victorian community.

If this sounds like you, then we encourage you to take a 'deep dive' into our industry and discover the opportunities that await.

Peter Morison

CEO
VicWater

Contents

Careers in the WATER INDUSTRY

A career in the Water Industry provides the opportunity to work in a diverse and inclusive workforce in a wide range of roles that help to support the health and wellbeing of our community. Get ready to learn more about these opportunities and let's make a splash with 'Careers in Water!

What is the Water Industry?

Imagine Earth without water. No plants, no trees, no seas, no animals, no us. Water is essential to human life and the way we live. Whether it be for drinking, cooking, or washing, we rely on safe, reliable, and affordable water services. Because of agriculture, we also know how important it is to plant and animal life, with Victorian farmers relying on the water industry and their services to irrigate crops, trees and vines, and to water livestock. This translates to many jobs being available in the water industry for years to come!

Did you know that in Victoria there are a total of 18 water corporations that provide services to all Victorians, including households, businesses, and farms? They are recognised for their commitment to environmental sustainability, effective governance, and high-quality service delivery, receiving the highest consistent service standards in Australia.

Water Industry Sectors

Depending on the type of water corporation – a regional urban water corporation, a rural water corporation, a metropolitan water corporation or Melbourne Water, their core functions will vary. These functions may include:

- water supply services
- wastewater services
- waterway management
- drainage (regional)
- floodplain management
- trade waste and related services
- irrigation
- licensing
- salinity mitigation services
- recreational area management
- asset management
- dam safety management
- water storage management
- water metering
- emergency management

Key Skills

There are several key skills required to work in the water industry. They include critical/analytical thinking, problem solving, creative/innovative thinking and the ability to follow guidelines and procedures.

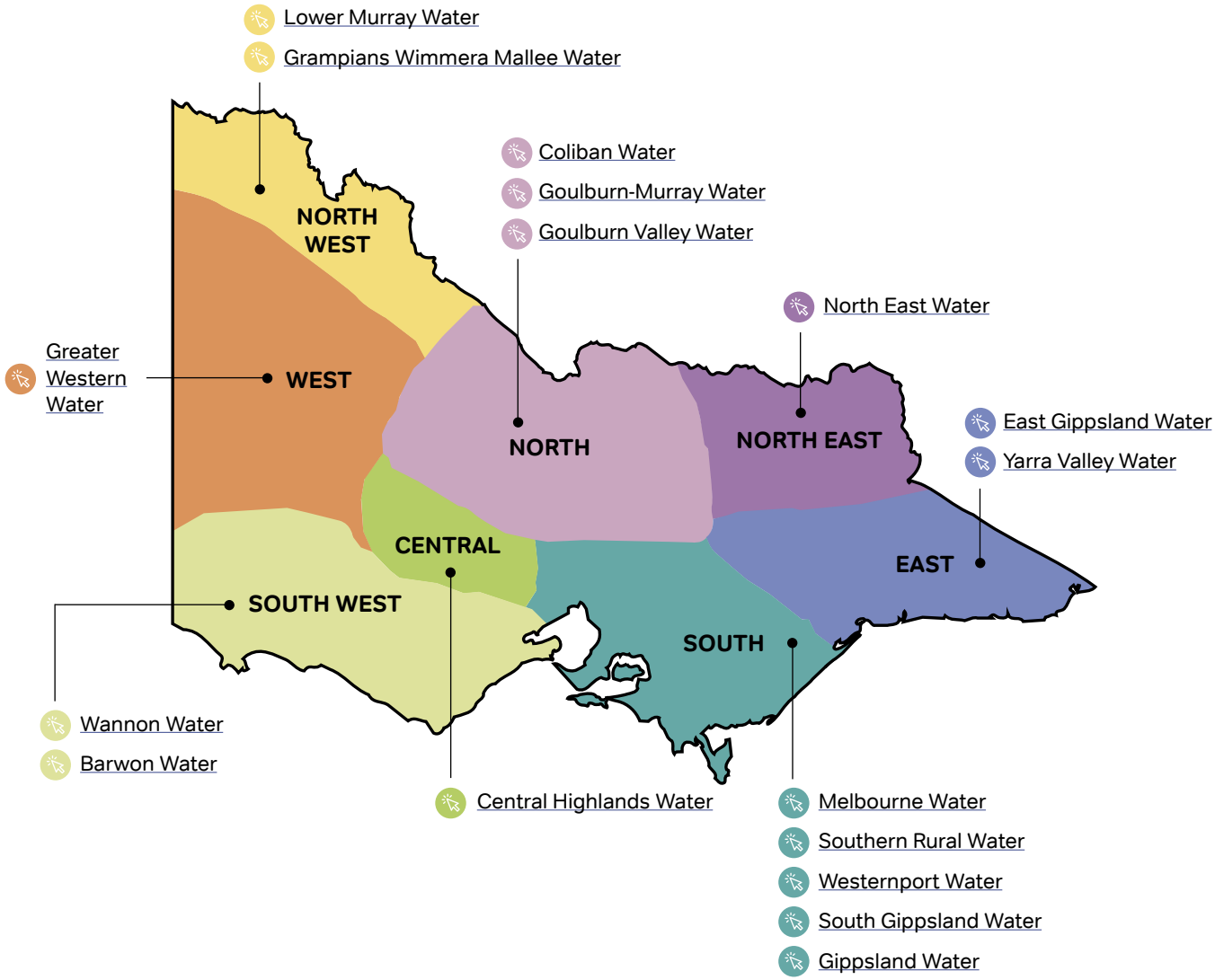
Other important skills pivotal to careers in water include oral and written communication skills, teamwork and collaboration, resilience, project and time management, and interpersonal skills with a strong customer service focus.

Do you have what it takes to work in the water industry?

Are you interested in a career that positively impacts the environment, public health, and local communities? Then a career in the water industry may be for you...

Read on to learn more!

Location of all the water boards and organisations in Victoria



Locations for employment

Gippsland – Bairnsdale, Foster, Lakes Entrance, Maffra, Mallacoota, Newhaven, Omeo, Orbost, Traralgon

Melbourne – Docklands, Footscray, Frankston, Hallam, Mitcham, Preston, Ringwood, Werribee

North East – Beechworth, Benalla, Corryong, Mount Beauty, Myrtleford, Seymour, Shepparton, Tatura, Wangaratta, Wodonga, Yarrawonga

North West – Bendigo, Horsham, Kerang, Maryborough, Mildura, Robinvale, Sunbury, Swan Hill

South West – Ararat, Ballarat, Geelong, Warrnambool

VicWater is the peak body for the Water industry in Victoria

Meet the PEOPLE

Skye Boyd-Gerny
from Melbourne Water
Natural Resource Crew Member

https://youtu.be/dfoMILFumGE

Questions:

What is Skye's position title and what is the goal of this role?

What does Skye feel is the best part of her job?

What are the positive environmental impacts of Skye's work?

Natural Resource Crew Member

Training and Qualifications Required:

Meet the PEOPLE

Greta Pullen
from Melbourne Water
Water Supply Operator

https://youtu.be/X0JUO--tzUk

Questions:

What does Greta's job involve doing?

Describe Greta's career progress to her current role.

What are the best and worst things about her job?

Natural Resource Crew Member

Training and Qualifications Required:

Meet the PEOPLE

Rodney Sutherland
from Barwon Water
Trainee Asset Officer

https://www.youtube.com/watch?v=3pXBHDQzG7E

Questions:

What traineeship is Rodney undertaking?

What are some of his day-to-day duties?

How is Rodney's family connected to Barwon Water?

What awards did Rodney recently win?

Natural Resource Crew Member

Training and Qualifications Required:

Meet the PEOPLE

Bradley
from Melbourne Water
Data Analyst

https://youtu.be/u_W00TpyCxs

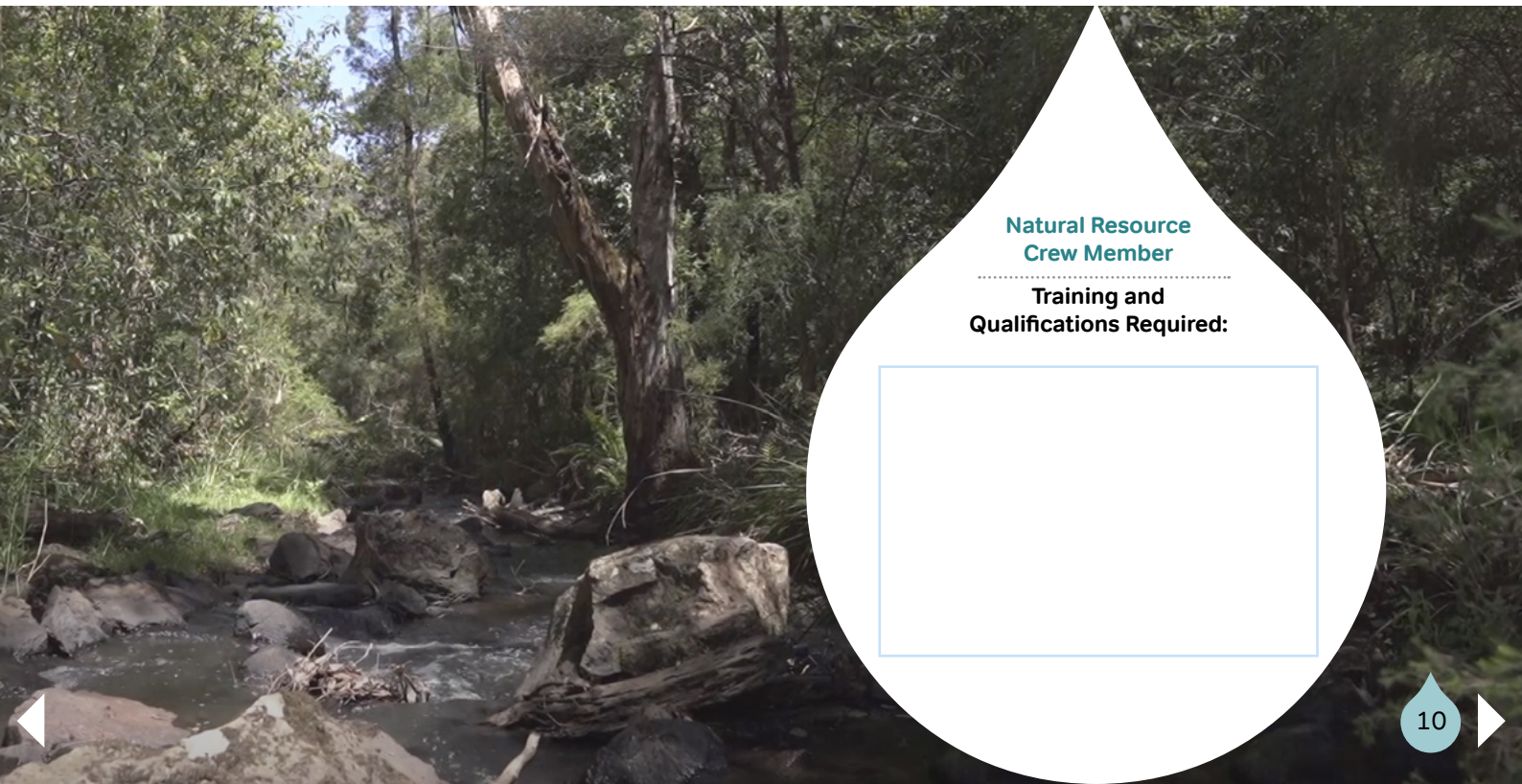
Questions:

What was Bradley's graduating qualification?

What was the process he had to go through to get a job?

What skills is Bradley developing?

Why does Bradley recommend you consider a career as an engineer?



Natural Resource Crew Member

Training and Qualifications Required:

CASE STUDY 1

Donald Hughan

Business Support Partner – Goulburn-Murray Water

Cert III in Business Administration, Certificate II in Information Technology

I began my career with Goulburn-Murray Water as a trainee in 2006 and since then I have gained valuable exposure in many different areas of GMW ranging from Customer Service (internal and external), Project support and Executive assistance roles. I have been working in the Victorian water industry at Goulburn-Murray Water for 15 years.

As a person that has a disability, I love the fact that my team are so inclusive and always ensure that I am included in everything that the team does. They will also work out alternative ways for me to participate if it is necessary. This doesn't just apply to my current job; this applies to the whole water industry in Victoria. I do not think I would change a thing.

A variety of skills are required for my current role including being able to prioritise, good time management, organisational skills, communication and interpersonal skills.

Prior to joining Goulburn-Murray Water (GMW), I was completing year 12 at Rochester Secondary College. Due to becoming unwell at the start of 2006, it became evident that I was not going to be able to complete my VCE within 2006 and would have to do further study in 2007. Therefore, I opted to do a VCAL program.

The requirements of the VCAL program were to undertake one community-based placement, which I did with the Rochester Tigers Football/Netball Club, and I became the club Secretary for 12 months. The other placement I had to undertake was workplace-based. I did this with GMW in Rochester which then led to me being offered a traineeship in Certificate III in Business Administration with GMW.

In an agreement between GMW and myself, I undertook my traineeship whilst attending Rochester Secondary College 2 half days per week to allow me to obtain competency in English studies at VCE level.

WaterAble network launched in 2020 for people with a disability and their allies in the Victorian water industry which encourages people in the industry to consider the full range of disabilities in each individual to ensure that water corporations cater to all their employees and customers.

On average, 4.8% of the workforce identify as a person with a disability.

Visit https://waterable.com.au/ for more information

School for me had its challenges as I wasn't a highly academic student and did struggle with certain subjects. But once I worked out what I was good at and what career path I might like it became easier from that point on. I was able to select the appropriate subjects to undertake and I feel I got the most out of my school years.

If you have a keen interest in administration, customer service and supporting people in general then this field of work would be great for you. I would also encourage anyone from any background to look at joining the water industry if you want to expand your skills and knowledge in many areas. Don't be afraid to give things a go and put yourself out of your comfort zone as you might be surprised what opportunities come along.

In my personal life, I am a volunteer for the Victorian State Emergency Service and have a keen interest in Incident Management, so therefore if I wasn't working in the water industry, I think I would pursue a career in Emergency Services.

One day I would like to move into an Executive Assistant role or equivalent.

Questions

Choose one of Donald's skills and explain how you can demonstrate that skill as well.

Do you think you will complete VCE or VCAL / Vocational Major? Why?

What skills do you think Donald's volunteer work helped him to develop?

CASE STUDY 2

Marzieh Lotfollahi

Planning Engineer – South East Water

Bachelor of Civil Engineering

I migrated to Australia with my family when I was in year 10 and I had to significantly improve my English to start school. I found most of my friends through solving mathematics problems. Maths helped me to communicate when language was a barrier. Soon after I found my feet, I became more confident and got involved in more school projects.

I studied civil engineering at the University of South Australia and completed my bachelor's degree with honours. As part of my degree, I completed a 12-week internship with a water utility which sparked my interest in the water industry. I knew I wanted to be an engineer because I loved problem solving and since my brother was a civil engineer, I chose civil engineering and project management.

I have to say my favourite thing about my current job is the people I work with. I have the privilege of working with the most amazing people who are committed to supporting the health and liveability of our communities by delivering water, sewerage, and recycled water services to 1.87 million people who rely on us every day and every night.

Also, I love being involved in the process of making decisions to guide a better future. I love being able to think beyond tomorrow and not only consider the needs of our community today but also the needs of the next generations. Whilst we can't predict the future, with the exponential advances in technology we are getting to a point where we can collect more data, better model, be creative and come up with new ways of doing things without costing the earth.

The major responsibilities of my role are to plan and develop servicing strategies that enable delivering sewer infrastructures on time and in the right place in an efficient, sustainable, and cost-effective way to meet the needs of existing and future communities.

It's very exciting as a planner to see a project through from planning and design through to construction. It almost feels like the project comes alive - the lines and dots on a paper turn into real assets, deep in the ground, servicing our customers.

My job is interesting because I can influence change in the future and continually reassess and rethink our approach to finding the best way to support the needs of our communities. In this uncertain world, it is one of the most interesting parts of my job that keeps evolving.

I see myself as a compassionate leader in service to the community for a better future for all of us. I have been extremely fortunate to have great leaders around me since the early days of my career. I personally know how great it feels to be safe, to belong, to be trusted and to grow. My main motivation is to give this feeling to someone else, in the same way that someone has given it to me.

Questions

Marzieh found friends through a shared interest in maths and school projects. What do you do outside of school to develop your social skills?

Where could you enrol to study a Bachelor of Civil Engineering?
Use https://www.courseseeker.edu.au/ to search for Civil Engineering in your state or town.

Why does Marzieh find her job interesting?

CASE STUDY 3

Suzy McDonald

Water Treatment Technologist – GWM Water

Bachelor of Science (chemistry) with Honours

PhD in limnology

Research Fellow for the Curtin Water Quality Research Centre

Water is essential for life! I have a passion for water, and I enjoy the aspects of being part of a community that provides safe drinking water to people. The role I'm in captures everything I love - I'm part of something bigger in life to help others; I can enjoy the chemistry part of water; I can troubleshoot, and I am learning every day. I have been in this role for 8 years.

In year 10, I wanted to do graphic design. I ended up doing work experience in an interior design place, which I *absolutely* hated. I thought at the time that I might also like to become a Vet. I don't think that would have worked out because I wasn't that keen on biology as a subject (I probably liked the idea of working with animals more!). Year 12 was just hard work, but I chose Chemistry, Physics, Maths, English and English Literature and Geography in place of History (which I didn't like).

I went directly from year 12 to University. The University was approximately 1 hour from where I lived. I lived on campus in a caravan and was able to go home on the weekends if I was homesick. That made for a smooth transition into my independent life.

My current job with GWM Water involves making sure we meet the requirements of the legislation to ensure safe drinking water. I also get to help the wastewater team on occasion. I do most of my work from the office, but also get to travel around a bit to different water treatment sites across the region. Day-to-day, I can be doing risk assessments, writing procedures, optimising alarms at the water treatment plant, organising sampling, sampling, participating in meetings, and helping with customer complaints or identifying and helping prioritise upgrades to water treatment plants. Every day is different.

I love the variety of tasks, the aspect of learning all the time, the purpose, working in a team, and the challenges. My job is dynamic and has scope to learn, not just about water and wastewater, but also how to work with people, organise meetings, do talks, and reports. GWM Water is a supportive organisation that allows for career growth and personal growth. I wouldn't change anything.

Sometimes we can have water quality incidents that require long hours and a big team effort. That is exciting in an adrenaline rush sort of way. I think one of the most exciting things to happen though, is when we upgrade a town that only has a non-potable water supply (non drinkable) to a potable water supply, or upgrade a treatment process so that it can fully treat water to safe levels. It is so rewarding to see the lives of people improved by having good quality, safe drinking water.

In this role, there are a few important skills to possess:

- Be a team player as you must work in a group to accomplish the goals
- Have an eye for detail
- Patience
- Perseverance
- Background in Science – Chemistry, Environment or Engineering
- Ability to communicate with people from all departments in the organisation

Perhaps most importantly, it helps to have a passion for what you do. This way, you will enjoy every day. And as the saying goes, "If you enjoy what you're doing you will never work a day in your life".

It is often difficult to know what you're passionate about when you are just out of school, but my best advice would be to just "give things a go and you will work it out as you go along"!

Questions

Approximately how many years would it take to complete Suzy's qualifications?

What did Suzy learn during her work experience in an interior design company? Why was this a valuable lesson?

What are some of the skills needed to succeed in Suzy's role?

CASE STUDIES

Jamilla Hull *Process Engineer – South East Water*

Bachelor of Chemical Engineering (Honours)
Bachelor of Finance

I decided to apply for a role with Melbourne Water after being a graduate process engineer working at the Eastern Treatment Plant. In year 10, I was quite conflicted. Growing up I always wanted to make prosthetics (for people who had lost limbs for example). In year 12, I studied Maths Methods, Chemistry, Physics, French and English communications. Out of my STEM subjects, I liked Chemistry and Maths the most, but I ended up studying finance at University. My current job at South East Water involves a few things including monitoring the process, working with the team and control room operators to improve plant operation, data analysis, and troubleshooting. Most days are quite different from each other. I could be checking process trends, attending project (and other) meetings, or completing some data analysis. I love the variety of my role.

Simone McGeorge *1st Year Apprentice Electrician – Barwon Water*

Bachelor of Education

I started an apprenticeship 2 months ago after working as a teacher for 11 years. I wanted a change of career, something that was more hands-on, outdoors and involved problem solving. I enjoy pulling things apart to see how they work then trying to put them back together. I also like trying to fix things that are broken and working with my hands. Being 2 months into my apprenticeship, I know that I have made the right decision. I wish when I finished year 12 that women doing trades were spoken about because I would have done it sooner! In my current job, I am supporting and learning from A-grade electricians, going to different sewer and water stations to perform maintenance electrician work. Day to day I am ordering and picking up materials, pulling cables, problem-solving different maintenance problems, and upgrading lighting around stations and in wet wells. I mostly spend time outdoors, travelling to different sites and sometimes working in a workshop. If you enjoy problem-solving, working with your hands, and knowing how things work, you will love this type of job.

Tim Mortensen *Asset Reliability Engineer – Goulburn Valley Water*

Bachelor of Mechanical Engineering

I joined GVW in 2016 once I'd completed my University degree and had some industry experience. At school, I enjoyed Maths, Physics and Chemistry. The water industry is full of these concepts – almost none of it feels relevant or exciting when you're at school but once you're in the industry you see it used everywhere. Grandad was a fitter and turner in the army, and my mates and I loved cars, so I wanted to do something technical and be good at technical things. My current job involves pumps, motors, steel and concrete structures like tanks, towers, filters, valves, and pipes. In asset management, we are assessing the life of our assets to determine when to repair or replace them. I work mostly in an office, with field visits for assessments, repairs, or on-site meetings. Some interesting experiences I have had with my career are making explosives in an ammonium nitrate plant in central QLD and travelling to Saudi Arabia, South Africa, Laos and Papua New Guinea for mining and oil work.

'WATER INDUSTRY CAREERS FLOW'

Start exploring careers in the water industry by selecting a role you may be interested in.

Click the icon to take you to an industry case study

CERTIFICATE and ON-THE-JOB TRAINING Level jobs

Trainees

- Customer Service
- Apprentice Electrician
- Business Support Partner
- Development Services
- Records Administrator
- Natural Resource Crew Member
- Apprentice Instruments and Control
- Civil Construction Trainee

DIPLOMA Level Jobs

- Communications
- Operational Manager
- Executive Assistant
- Payroll
- Design Consultant
- Quality Coordinator
- Treatment Plant Operator
- Information Technology Officer

DEGREE Level or Higher Jobs

- HR Manager
- IT Manager
- Project Manager
- Asset Optimisation – Engineer
- Managing Director
- Accountant
- Civil Engineer
- Environmental Officer
- Senior Engineer
- Senior Analyst
- Water Quality Officer
- Water Treatment Technologist
- Graduate Engineer

WHAT SUBJECTS SHOULD I CONSIDER?

These subjects spanning Years 7-12 may be useful if considering a career in the water industry:

YEAR LEVEL / LEARNING AREA	7 - 10	VCE	VCE VET
ENGLISH	English	English Language BEAL EEAL	
MATHEMATICS	Mathematics	General, Further, Methods and Specialist Mathematics	
SCIENCE	Science	Chemistry Environmental Science Biology Physics	Laboratory Skills
TECHNOLOGIES	Design and Technologies Digital Technologies	Systems Engineering Algorithmics Applied Computing	Cisco Engineering Information, Digital Media, and Technology Integrated Technologies Plumbing
HUMANITIES	Civics and Citizenship Geography	Geography	Conservation and Land Management Community Service
HEALTH & PE	Health and Physical Education	Outdoor and Environmental Studies	Sport and Recreation
VISUAL ART	Visual Communication Design	Visual Communication Design	
ECONOMICS	Economics and Business	Accounting Economics wBusiness Management Industry and Enterprise Legal Studies	Business

VET subjects – there is a range of VET subjects related to trades like plumbing, electrical, engineering, project management, and more that could be applied to a career in the water industry.

Find out more here: **https://www.vcaa.vic.edu.au/curriculum/vet/vce-vet-programs/Pages/Index.aspx**

STUDY OPTIONS

The following table lists jobs that have been discussed throughout this workbook and shows you some of the possible pathways and qualifications that are available. Some jobs will require a Bachelor Degree or higher qualification, and some other jobs will require certificate qualifications or apprenticeships and traineeships. These are only some of the study options available to you, there are many other courses and combinations to explore! Remember to speak with your school's Career Practitioner or Careers Advisor to find out what could work best for you.

Click through the links below and take a look at some of the courses available.

Click in the fields to learn more

		IN SCHOOL	POST SECONDARY				
JOB	**DESCRIPTION**	**VET**	**CERT III**	**CERT IV**	**DIPLOMA**	**ADV DIPLOMA**	**DEGREE**
Civil Construction - Works Execution Pipe repairs, construction		Cert II in Civil Construction	Cert III in Civil Construction	Cert IV in Civil Construction			
Natural Resource Management – Works Execution		Cert II in Conservation and Ecosystem Management	Cert III in Conservation and Ecosystem Management	Cert IV in Conservation and Ecosystem Management	Diploma in Conservation and Ecosystem Management	Adv. Dip of Conservation & Land Management	Bachelor of Environmental Science
Natural Resource Management – Regional Services		Cert II in Conservation and Ecosystem Management	Cert III in Conservation and Ecosystem Management	Cert IV in Conservation and Ecosystem Management	Diploma in Conservation and Ecosystem Management	Adv. Dip of Conservation & Land Management	Environmental studies or applied science with a relevant major
Water Operations; Wastewater Water Supply Sewerage Transfer	Waste Water or Water Plant Operators operate plants to store, distribute and treat water, including purifying water for human consumption and removing waste from sewage.	Cert II in Water Industry Operations	Cert III in Water Industry Operations	Cert IV in Water Industry Operations	Diploma of Water Industry Operations		
Water Operations - Hydrography		Cert II in Water Industry Operations	Cert III in Water Industry Operations	Cert IV in Water Industry Operations	Diploma of Water Industry Operations		Bachelor of Surveying Masters Degree in Hydrography

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Careers in the WATER INDUSTRY

Click in the fields to learn more

		IN SCHOOL	POST SECONDARY				
JOB	**DESCRIPTION**	**VET**	**CERT III**	**CERT IV**	**DIPLOMA**	**ADV DIPLOMA**	**DEGREE**
Asset Management Services -Surveying	Surveying or Spatial Science Technicians collect, record and evaluate spatial information and prepare databases, maps, charts and plans.	Cert II in Surveying & Spatial Information Services	Cert III in Surveying & Spatial Information Services	Cert IV in Surveying & Spatial Information Services	Diploma of Spatial Information Services		Bachelor of Surveying
Infrastructure Operations – Instrumentation	Electronic Instrument Trades Workers install, modify, maintain and repair complex electronic instruments and control systems.	Cert II in Electrotechnology	Cert III in Instrumentation & Control	Cert IV in Instrumentation & Control	Diploma of Instrumentation & Control Engineering		Bachelor of Engineering (Electrical and Electronic)
Environmental Research Scientist	Study and develop policies and plans for the control of factors which may produce pollution, imbalance in or degradation of the environment. Read more.	Cert II in Conservation and Ecosystem Management	Cert III in Conservation and Ecosystem Management	Cert IV in Environmental Monitoring and Technology	Diploma of Environmental Monitoring and Technology		Environmental Studies or Applied Science with a relevant major
Data Administrator	Database Administrators plan, develop, configure, maintain and support an organisation's database management system.	Cert II in Workplace Skills	Cert III in Business	Cert IV in Business – Big Data	Diploma of Business – Digital & Data		Bachelor of Data Science

Nationally recognised training for Water sector occupations is delivered under the NWP – National Water Training Package.

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Careers in the WATER INDUSTRY

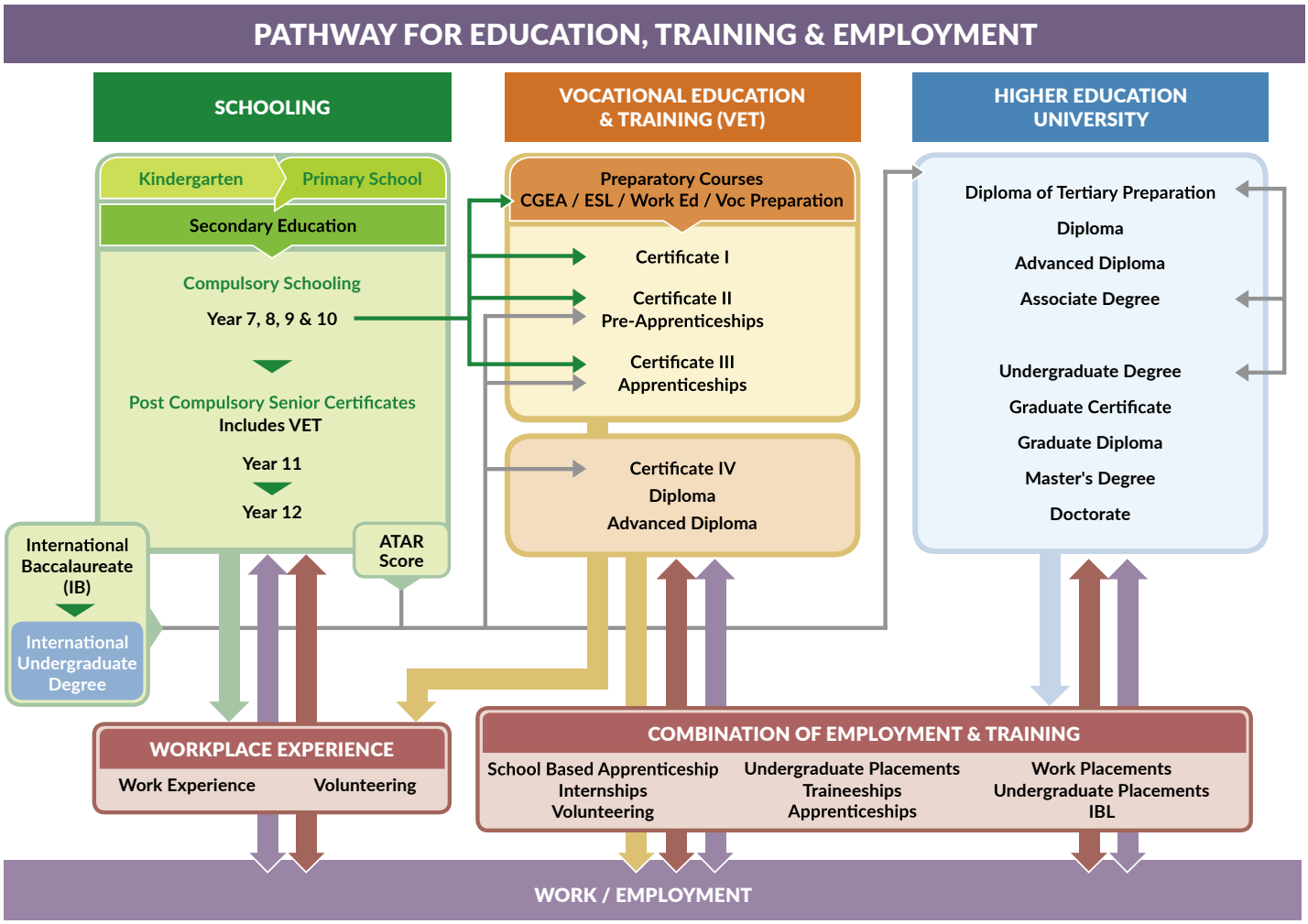
Click in the fields to learn more

		IN SCHOOL	POST SECONDARY				
JOB	DESCRIPTION	VET	CERT III	CERT IV	DIPLOMA	ADV DIPLOMA	DEGREE
Project Management	Project managers plan and undertake administration of organisational programs, special projects and support services.	Cert II in Workplace Skills	Cert III in Business	Cert IV in Project Management Practice	Diploma of Project Management	Adv. Dip of Program Management	Business & Management studies or postgraduate studies in Project Management
Urban Planning	Urban Planners develop and implement plans and policies for the controlled use of urban and rural land	Cert II in Civil Construction	Cert III in Civil Construction	Cert IV in Civil Construction Design	Diploma of Civil Construction Design	Advanced Diploma of Civil Construction Design	Bachelor of Design with a major in Urban Planning
Communication	Advertising and Marketing Professionals develop and coordinate advertising strategies and campaigns and identify and develop market opportunities for new and existing goods and services.	Cert II in Workplace Skills	Cert III in Business	Cert IV in Marketing and Communication	Diploma of Marketing and Communication	Advanced Diploma of Marketing and Communication	Bachelor of Marketing and Media Communications
Community Engagement	Public Relations Professionals plan, develop, implement and evaluate information and communication strategies that create an understanding of organisations, their goods and services, and their role in the community.	Cert II in Workplace Skills	Cert III in Business	Cert IV in Marketing and Communication	Diploma of Marketing and Communication	Advanced Diploma of Marketing and Communication	Bachelor of Community Development

For more information on the water industry trends and new and emerging skills, visit the Australian Industry Standards website and the Water Industry Outlook report at https://www.australianindustrystandards.org.au/skills-forecast/water-industry-outlook/

PATHWAYS PLANNER

There are many pathways into a job or career you might like, including a career in the water industry. Use the diagram below to gain an understanding of how you can navigate a pathway from school into study or training or acquire the skills you need to gain employment and sustain work across your lifetime.



Pathway Planning Activity

What are the key messages regarding the Water Industry you have learned so far through this workbook?

Take a few minutes to reflect on your learnings and record any new information you gathered.

What are three things you have learnt regarding this industry that you didn't know before?

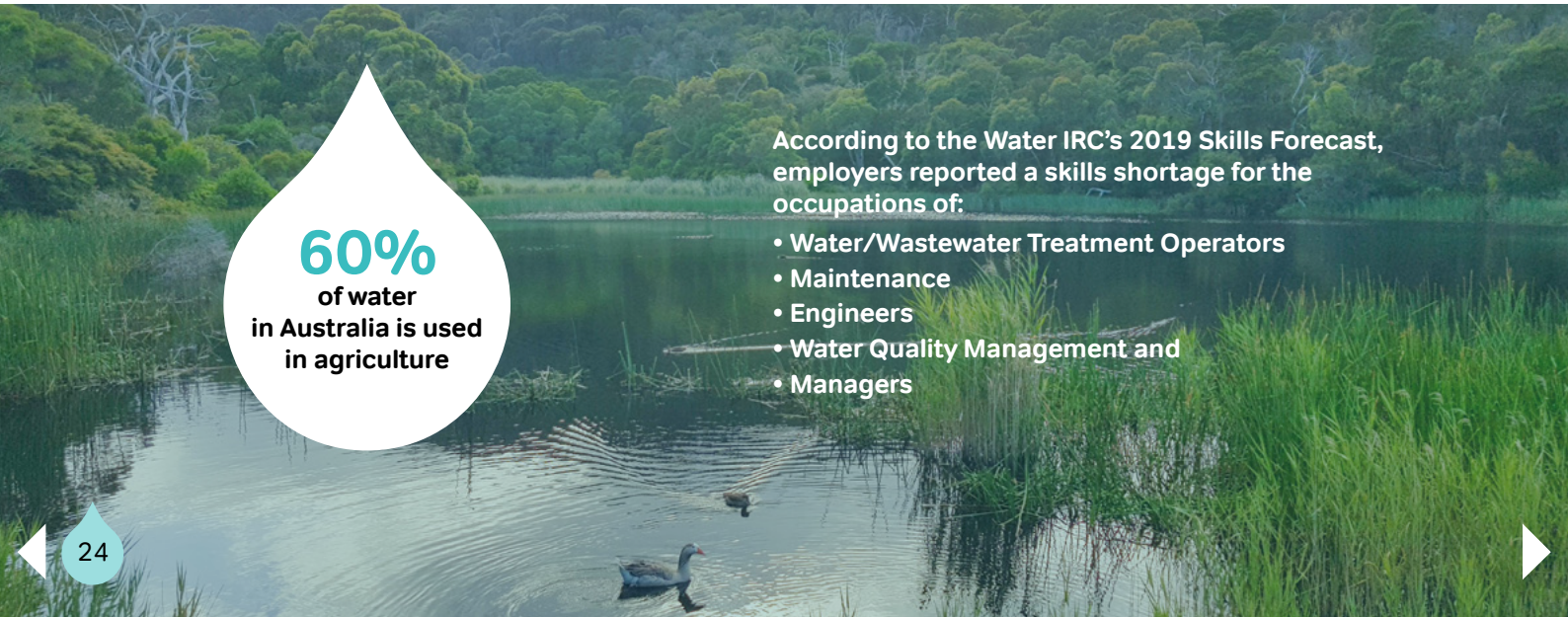
Name 3 of the key skills required to work in this industry

Do you have these skills now?

- ☐ **Yes, I have ALL of these skills!**
- ☐ **Yes, I have some of these skills (List the skills you have)**

No, but I would like to learn these skills (List the skills you would like to learn)

What subjects do I need to learn these skills?



My Career Action Plan

My career plan into the Water Industry could be:

STEP 1:

What organisations do you think you could approach to participate in volunteer work (year 7-9) or work experience (year 10-12) that would give some idea of what it would be like to work in the water industry?

Volunteer Work or Work Experience at:

HINT: Who could you talk to regarding getting some more information about work in this industry?
Do you know anyone who works in this industry?

STEP 2:

What Subjects might you need to help you move into the water industry?

Research your senior school subjects and add related subjects here:

Year 7-10

VCE

VCAL

VET

SBAT (School Based Apprenticeship or Traineeship)

STEP 3:

What kind of apprenticeships/traineeships are available in the industry?

List these below:

Hint: Check out Australian Apprenticeships
https://www.australianapprenticeships.gov.au/

STEP 4:

Certificates/ Diplomas/ Bachelor Degrees

Can you list a tertiary institution that offers one of each?

Certificate:

Diploma:

Bachelor Degree:

Careers in the WATER INDUSTRY

www.joboutlook.gov.au is a fantastic resource that provides extensive information on a range of different professions. Look at this website to learn even more about a career in the Water Industry and answer 5 important questions in the table below.

Definition and tasks: Explain what the job involves and what kind of activities do these professionals do daily?
Weekly pay: How much do these employees earn each week?
Number employed: How many Australians work in this field?
Study options: What and where can you study to work as a professional in this industry?

JOB TITLE	DEFINITION	TASKS	WEEKLY PAY	NUMBER EMPLOYED	STUDY OPTIONS
Urban Planner					
Water Inspector					
Environmental Research Scientist					
Project Administrator (Project Manager)					
Construction Project Manager					
Public Relations Professional (Communications)					

Water Industry Occupation Snapshots

URBAN PLANNER

Tasks: An Urban Planner compiles and analyses data on economic, legal, political, cultural, demographic, sociological, physical, and environmental factors affecting land use.

They confer with government authorities, communities, Architects, social scientists, Legal Professionals, and planning, development and environmental specialists. Devising and recommending use and development of land, and presenting narrative and graphic plans, programs and designs to groups and individuals.

Urban Planners advise governments and organisations on urban and regional planning and resource planning and review and evaluate environmental impact reports.

Weekly Pay: $1,738
Future Growth: Strong
Skill Level Rating: Very High Skill

ENVIRONMENTAL SCIENTIST

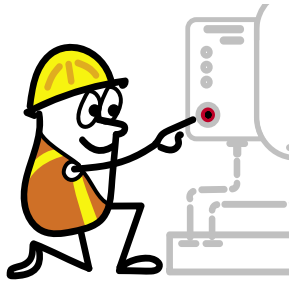
Tasks: Studies effects of factors such as terrain, altitude, climatic and environmental change along with sources of nutrition and predators and impacts of humans, on animal and plant life.

Studies and analyses pollution, atmospheric conditions, demographic characteristics, ecology, mineral, soil and water samples.

Develops conservation and management policies for biological resources, such as fish populations and forests, as well as establishing standards and approaches for control of pollution and rehabilitation of areas disturbed by activities such as mining, timber felling and overgrazing.

Weekly Pay: $1,779
Future Growth: Moderate
Skill Level Rating: Very high skill

WATER TREATMENT TECHNICIAN (Waste Water & Water Plant Operators)



Tasks: Controls flow of raw water into the plant by regulating electric motors, pumps and valves.

Adds specified amounts of chemicals and activates agitators to mix chemicals and carries out such tests as are required in accordance with training given.

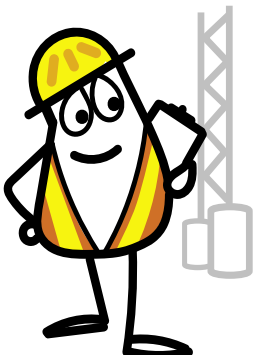
Allows impurities to settle and removes them by filtering water through filtering material. Pumps purified water into mains, monitors flow and distribution.

Cleans tanks and maintains equipment, and makes minor repairs. Pumps wastewater into oxidation/settling ponds. Removes sludge.

Burns off gases, treats and discharges wastewater when it reaches the required levels of purity.

Weekly Pay: $1,886
Future Growth: Stable
Skill Level Rating: Lower skill

PROJECT MANAGER



Tasks:

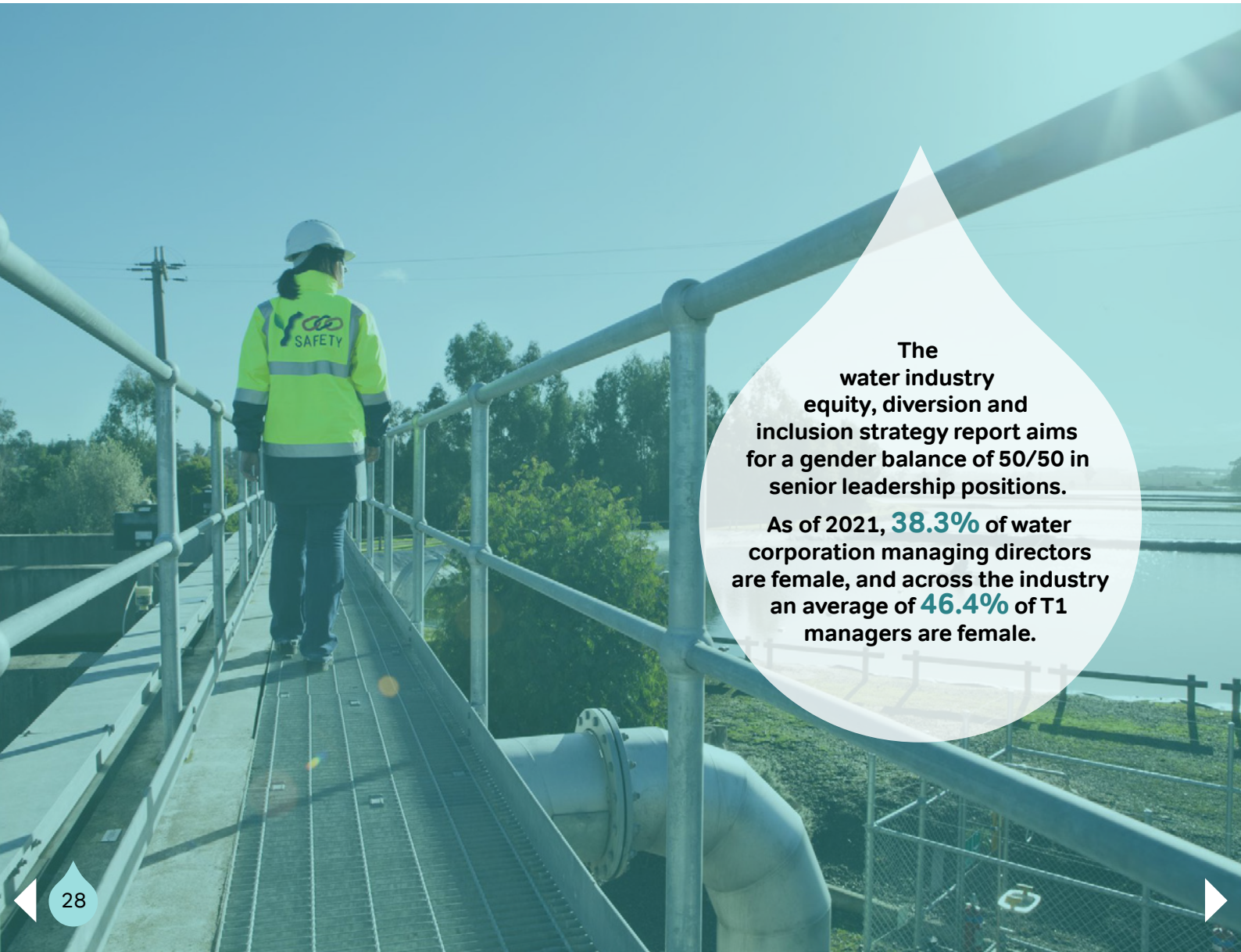
Plan and undertake the administration of organisational programs, special projects, and support services.

Advise senior management on matters requiring attention and will then implement their decisions. May oversee work by contractors and reports on variations to work orders.

Prepares and reviews submissions and reports concerning the organisation's activities. Collects and analyses data associated with projects undertaken, and reports on project outcomes.

A formal qualification is normally required either in business and management, project management, engineering, ICT or accounting and relevant industry experience to work as a Program or Project Administrator. University and Vocational Education and Training (VET) are both common study pathways.

Weekly Pay: $1,660
Future Growth: Strong
Skill Level Rating: High Skill



The water industry equity, diversion and inclusion strategy report aims for a gender balance of 50/50 in senior leadership positions.

As of 2021, 38.3% of water corporation managing directors are female, and across the industry an average of 46.4% of T1 managers are female.

WORD SEARCH

Find the answers to the questions in the word search below. Remember, words can go in any direction and words can share letters as they cross over each other.

Q: ***What is the name of the peak water association for water businesses in Victoria?***

A:

Q: ***How many water corporations are there in Victoria?***

A:

Q: ***Who relies on water to irrigate their crops?***

A:

Q: ***This is a skill required to work in the water industry.***

A:

Q: ***52% of water corporations are in a _____ location.***

A:

Q: ***This is a sub-sector of the water industry.***

A:

Q: ***This is a role within the water industry.***

A:

Q: ***What humanities subject is recommended to study in VCE?***

A:

P F G H Q R J N E S Z U X R S
Y M R X Q R E N H U Y V U N E
E E U T U D G T S X D I Y N W
R H M J X I H R A V O Y M E E
Q E U Y N B E H G W D S C E R
B R G E N M V D M P C M S T A
A Y E I R V O A N E Y I I H G
Z R S A O J J C Z V F A V G E
C J F K M N W P F C I O N I Z
T Y G Y H P A R G O E G B E T
A E X W T F J L L K F R B T M
P G L D K P Y A D B A S X F J
F A R Z M Y O Z W E R K A T R
H O C M L I K O Y N B H Y S N
T E A M W O R K A E W L S K P

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