

Branch Out

SHARING TASMANIA'S IRRIGATION STORIES

Message from the CEO

By Andrew Kneebone

There is so much work undertaken every single day by Tasmanian Irrigation that makes me proud – from delivering water to irrigators around the State to designing and constructing new irrigation projects to improving efficiencies to reduce costs to farmers and employing great people.

One area of our business that we don't often talk about, but is crucial to our long-term success, is Tasmanian Irrigation's environmental credentials.

Tasmanian Irrigation's Water Delivery, Program Development and Delivery, and Environment Teams work diligently together to ensure our construction and operations activities are sustainable and comply with all environmental regulations and codes of practice.

This includes environmental monitoring of rivers and ground water, and auditing water licences and Farm Water Access Plans throughout the year.

"We are absolutely committed to developing sustainable irrigation schemes, in terms of environmental impact, longevity and affordability."

Tasmanian Irrigation was again delighted to report in its recently released Annual Report another year of no incidents of environmental harm and no discernible impacts from our operations.

Steve Powell, Tasmanian Irrigation's General Manager of Environment Health and Safety, has more than 20 years' senior experience in the water utilities, mining, smelting and complex manufacturing sectors. He has an unwavering commitment to sustainability.

Each month, we conduct 103 surface water samples around the State to assess chemical indicators for river health.

Nutrients are analysed to determine and understand if there is any impact of fertiliser and intensive animal agriculture on the environment.

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Message from the CEO continued...

In aquatic environments, Tasmanian Irrigation conducts pest and native fish assessments, biological health monitoring (AusRivAS) and aquatic weeds assessment and removal.

Groundwater is monitored in key locations to understand possible impacts from irrigation.

Tasmanian Irrigation also undertakes studies as part of its planning work on new schemes to determine if there are any rare and / or threatened terrestrial and aquatic species and communities, including Green and Gold Frogs, platypus, giant freshwater crayfish and burrowing crayfish species. If detected, Tasmanian Irrigation then implements management plans and ongoing monitoring to minimise any impact.

We also assess the surety of water extraction for the future of our irrigation schemes using the Sustainable Yields assessment, which was developed by the CSIRO. This is used to ensure we are conservative in assessing the sustainable yield of the water supplies for new schemes.

All irrigators on Tasmanian Irrigation constructed schemes are required to have a Farm Water Access Plan (Farm WAP) prior to accessing Tasmanian Irrigation water. We will also be working with irrigators on non-TI built schemes to develop Farm WAPs.

These property-specific documents guide the sustainable application of irrigation water and assist with the long-term viability of land for agricultural production.

Each plan identifies where irrigation water can be applied and details actions to manage potential risks from application. There are now 739 Farm WAPs in place across 15 schemes, which are subjected to random compliance audits.

Recently, Tasmanian Irrigation has taken a step forward regarding the automation of recording and reporting of environmental compliance data, including stream flow data that enables us to provide daily updates on our website of dam levels across our irrigation schemes.

I encourage all irrigators to have a look at our revamped website www.tasmanianirrigation.com.au and access the dam level data under Active Schemes > Active Schemes List.

There is no doubt that Tasmanian Irrigation has a long list of environment compliance obligations. But this is a responsibility that we take on with great enthusiasm and vigour to ensure we protect Tasmania's precious environment, promote river health and guarantee sustainable operations.

As we continue to grow our annual water delivery capacity of 133,000 megalitres and progress work on the next 10 Tranche Three irrigation projects, you can count on Tasmanian Irrigation to be leading the way when it comes to sustainability and environmental best practice.

I hope you enjoy this last edition of Branch Out for 2021. I wish you and your families a very Merry Christmas and a safe and prosperous 2022.

Cheers,

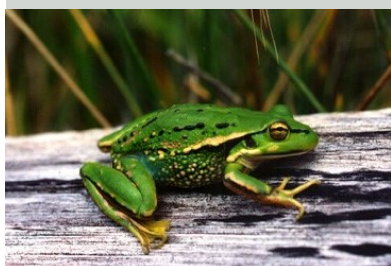
Andrew

Did You Know?

The Green and Gold Frog (*Litoria raniformis*), also known as the Growling Grass Frog and Southern Bell Frog, is listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act*.

To develop Tasmanian Irrigation's irrigation schemes, we need to identify if the Green and Gold Frog is present in the area, and if so whether any significant impacts might occur.

Several of our schemes have recorded sightings, but in schemes where they haven't been observed, we undertake surveys to identify their presence. Typically this involves visual searching and acoustic monitoring – placing audio recorders in suitable habitat areas and using modelling software to identify similar sound waves.



Results are broken into "likely" and "potential", the latter often including a few loud moos, dog barks and dirt bikes!

We also test receiving and source waters for chytrid, a pathogen harmful to several frog species which involves swabbing the mouths of frogs and tadpoles – a very fiddly and precise task!

Photo: Department of Primary Industries, Parks, Water and Environment.



Message from the Minister

Hon. Guy Barnett, Primary Industries and Water

The Tasmanian Government is committed to improving irrigation infrastructure around Tasmania so our farmers can continue growing produce that is the envy of the world.

That's why we have just provided \$5.5 million to upgrade the Meander mini hydro power station, install solar panels on irrigation pump stations and renew pumps around the State.

This will be the first time that solar energy will be harnessed to operate pumps on our irrigation schemes, leading to improved efficiencies and lower power and working costs that will be passed on to landowners.

Tasmanian Irrigation will use \$2.5 million of this Energy on Farms grant to upgrade the Meander mini-hydro power station, with the remainder going towards solar systems and pump upgrades.

I am delighted that these 100kW solar arrays will offset existing pump station power consumption in summer and enable Tasmanian Irrigation to sell energy back into the grid to generate revenue in winter.

Solar will be installed at 14 pump station sites across eight schemes.

It is expected to deliver ongoing savings of between \$4 and \$9 per megalitre for farmers.

A further six pump stations will be upgraded to premium efficiency motors to improve efficiency, decrease running costs and reduce expected repairs and maintenance.

Technology advances in pump electric motors that achieve higher efficiency ratings, compared to existing pump motors, are now available and it is expected that these new motors will be three to four per cent more efficient than existing pump motors.

Tasmanian Irrigation informs me that they provide the same flow rate to meet irrigator demand, with lower energy loss and significantly reduced power consumption.

It was also my pleasure to attend the recent launch of the Preferred Option Design for the Sassafras Wesley Vale Irrigation Scheme Augmentation. This 5,460 megalitre scheme started operations in November 2012, supplying high-surety irrigation water to landowners at

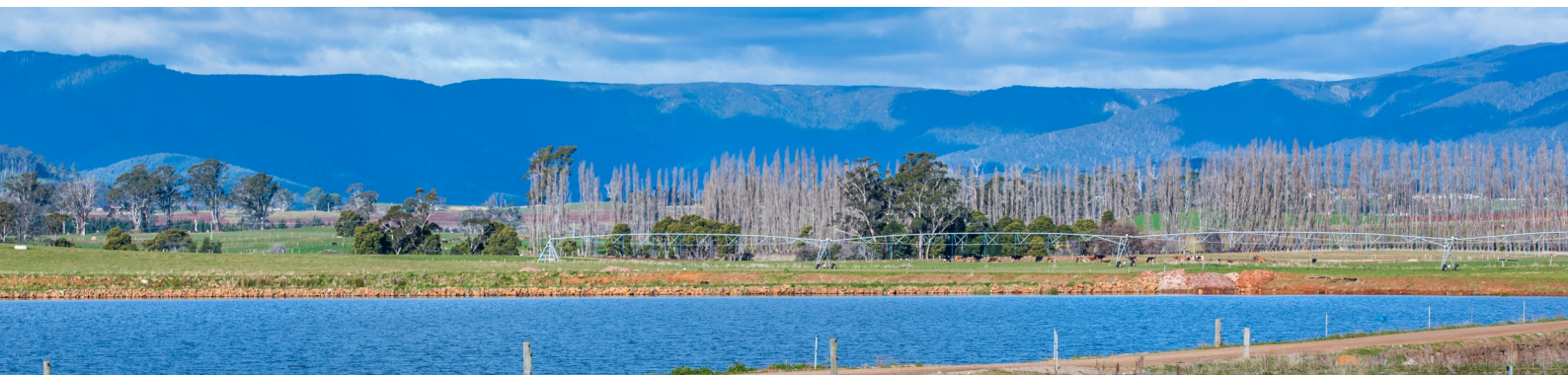


Sassafras, Harford, Thirlstane, Moriarty, Wesley Vale, Northdown, Pardoe and East Devonport.

Due to increased demand, the current augmentation project has expanded from 1,300 ML to supplying an additional 5,745 ML. The first full season is forecast for 2025/26.

I encourage all landowners in the area to view the Preferred Option Design plans on the Tasmanian Irrigation website and provide feedback before 4 January and before Water Sales are launched in early 2022.

"The Tasmanian Government is proud to fund and support irrigation infrastructure around the State, a key enabler that will assist us in reducing costs to farmers so they can help us meet our ambitious target to increase the farmgate value of our agricultural industries to \$10 billion by 2050."



Steve Powell

Steve, the General Manager of Environment Health and Safety, joined Tasmanian Irrigation in May 2020, bringing an impressive CV and passion for the environment and sustainability.

He has more than 20 years' senior experience in strategic and focused leadership, project management and approvals, and stakeholder engagement in the mining, smelting, complex manufacturing and water utilities sectors.

Steve previously held Asia-Pacific executive-level environment and safety roles with Valmont Industries and senior environmental, safety and occupational health roles with Cement Australia, BHP, Carter Holt Harvey and Sydney Water.

He has a degree in Environmental Science from Griffith University.



Steve Powell walked into Tasmanian Irrigation on his first day expecting a mountain of work and challenges to achieve environmental compliance – as had been the case in the majority of his previous roles.

"I was very pleasantly surprised and hugely impressed when I started at Tasmanian Irrigation," Steve said.

"We have a strong team that has set up outstanding systems and procedures to ensure Tasmanian Irrigation is a national leader when it comes to environmental management and sustainability, and minimising impact on river health, soil and Tasmania's environment.

"The Executive and Board are very proactive when it comes to advancing systems to underpin the long-term sustainability of irrigation in Tasmania.

"We are very serious about this."

Steve is very quick to provide a definition of what sustainability means to him and Tasmanian Irrigation: "It's all about achieving the best possible outcomes for irrigators with the least possible impact on the local environment, and ensuring future generations have access to what we are creating – sustainable irrigation schemes with a 100-year asset life."

The Tasmanian Irrigation team carries out a number of functions, from conducting 103 water samples each month to monitoring invasive species and threatened species, such as the giant freshwater crayfish and wedge-tailed eagles.

"The organisation's environmental performance was again this year positive, with no incidents of environmental harm recorded and no discernible impacts from operations detected across all monitoring programs."

Another major task carried out by the Environment Team is working with irrigators to develop Farm Water Access Plans (Farm WAPs) before new schemes are commissioned, as well as carrying out random annual audits.

These property-specific documents guide the sustainable application of Tasmanian Irrigation water and assist with the long-term viability and sustainability of land for agricultural production.

Steve said he has been hugely impressed by the level of irrigator commitment to environmental best practice and compliance.

He said there is limited, if any, push back from landowners when Tasmanian Irrigation conducts Farm WAP audits each year.

"We conduct audits on 10 to 15 per cent of irrigated properties each year and it's very clear that this mature system is well entrenched and well received by irrigators."

One of Steve's major focuses moving forward is working to ensure environmental groups and the wider public are more aware of Tasmanian Irrigation's and the wider irrigation industry's environmental commitment and credentials.

"When I meet with environmental groups, they are often not aware of the mature systems we have in place.

"Our aim is to be the most sustainable irrigation company in Australia and we are well on the way to achieving that.

"We will look to target our monitoring and auditing with irrigators that are close to sensitive areas, such as Ramsar wetlands, and as our next Tranche Three irrigation schemes come on-line, we will be further expanding our river sampling program and Farm WAP auditing.

"Tasmanian Irrigation is a very exciting place to work, and I am extremely proud of what we are achieving in the environmental space."



Farm Water Access Plans

What is a Farm Water Access Plan?

A Farm WAP is legal document and management tool which sets out rules demonstrating the use of water, identifies any direct or indirect risks to soil, water, resources and biodiversity, and outlines actions to identify and manage risk.

Who needs a Farm WAP?

All land and dams receiving TI water must be covered by a Farm WAP.

Why are Farm WAPs required?

Farm WAPs are mandatory under the requirements of the Federal *Environment Protection Biodiversity and Conservation Act 1999* referrals and under applicable scheme by-laws. A Farm WAP verification form must be signed by the irrigator once the document is completed. Tasmanian Irrigation water can only be delivered to properties with verified and paid Farm WAPs.

How do I organise a Farm WAP?

These documents are prepared by independent prequalified consultants and Tasmanian Irrigation will assist in putting you in contact with a proven consultant. The Tasmanian Government contributes approximately \$1,000 toward the cost of a Farm WAP during the construction phase of a new scheme. The cost to each irrigator depends on the size and type of Farm WAP, usually between \$500 and \$3,500.

How many Farm WAPs are in place?

There are currently 739 Farm WAPs in place across 15 schemes.

How often are Farm WAPs audited?

About 10 to 15 per cent of Farm WAPs receiving TI water are audited by Tasmanian Irrigation each year. Non-compliant irrigators are re-audited the following year.

Who should I contact?

If you require additional information about a Farm Water Access Plan, please call Tasmanian Irrigation's Environment Team on (03) 6398-8433 or email farmWAP@tasirrigation.com.au.

Cassandre Tickner-Smith

Cassandre Tickner-Smith has been working with Tasmanian Irrigation's Environment Team for eight years. She applies specialist skills and knowledge across all schemes, working in both operational (Water Delivery) and build (Project Design and Delivery).

The design and planning of each scheme undergo months of environmental planning and surveys.

During construction, the Environment Team monitors for potential direct and indirect impacts, including water quality, sediment and erosion control, waterway crossing/working near habitat, tree clearing and revegetation, and other remediation work.

Once a scheme starts delivering water, ongoing monitoring continues for the life of the scheme to ensure negative impacts do not occur, and to identify potential changes early.

Cassie shares an insight into the Environment Team's seasonal work:

Spring

Spring surveys involve heading out into grasslands, particularly in the Midlands, to hunt for cryptic threatened species, many smaller than your thumbnail. Typically this involves lots of walking up and down hills, but when you remember to look up from focusing on wildflowers growing between grass tussocks, the views are sublime!



Summer

During summer we focus on supporting water delivery; keeping track of water restrictions and takes across each of our catchments and analysing the results of water quality sampling. Algal blooms that develop when the weather is particularly warm are assessed to ensure they aren't harmful blue green algae. If so, we have a procedure enabling a quick response to communicate and manage the waterway.



Autumn

We jump (safely) into remote streams around the State for AusRivAS surveys (my personal favourite!). The survey starts by taking water quality measurements, answering a series of questions and assessing habitat condition along a 100m stretch (and wading it), in particular noting any observed changes in the last six months. Then, using a large fine mesh net to collect samples of macroinvertebrates ("bugs"), we sit on the riverbank and pick out 100 from any rocks, leaves and algae accidentally picked up. Back in the 'lab' every dragonfly, damselfly, mayfly, caddisfly, beetle, nymph and so on is classified to genus or species and the results input into a modelling program to determine whether there have been any changes to river health (short or long term).



Winter

While our farmers settle in for their slightly quieter time, we start our Farm Water Access Plan audit season. While audits can be seen as a bad thing, our approach is to identify the best management practices in place on properties receiving TI water, and then determine if something is missing, or that could be improved to help protect environmental values on or near the property. This often make "cents" too. Talking with our irrigators and seeing the passion they have for their farm, livestock, crops and the surrounding environment, and often how access to TI water has helped them grow, develop and become more sustainable, really makes the job rewarding.



If you have any environmental questions, please contact Cassie on FarmWAP@tasirrigation.com.au

Environment Success Stories

Saving Plant Species from Extinction



Native wintercress (*Barbarea australis*) is a State and Federally listed threatened plant species.

The plant is endemic to Tasmania and only found along the banks of about 10 rivers in the north of the State.

During ecological surveys prior to construction of the Scottsdale Irrigation Scheme, this species was identified in the footprint of the Camden Dam.

As part of an offset to ensure Tasmanian Irrigation could mitigate the impacts of the scheme on this species, the Company was required to find and disperse seed post-construction.

Surveys conducted the following year found this species growing along the banks of the St Patricks River just downstream from the pump station and along Camden Rivulet below the dam and environmental flow outlet where the Environment Team had dispersed seed.

This is a positive outcome for the species, ensuring that it continues to grow and disperse down watercourses in north eastern Tasmania after dam construction, minimising the impact of our activities on the natural environment.

Additional surveys continue to be undertaken to monitor the ongoing success of this program.

Protecting Threatened Birds of Prey

The Scottsdale Irrigation Scheme includes an 8km powerline from the St Patricks pump station to the Headquarters Road mini-hydro power station.

The powerline passes through habitat for several threatened birds of prey, including the Tasmanian wedge-tailed eagle, white bellied sea eagle and grey goshawk.

The section around Headquarters Dam was fitted with 'flappers', which provide a visual deterrent to birds.

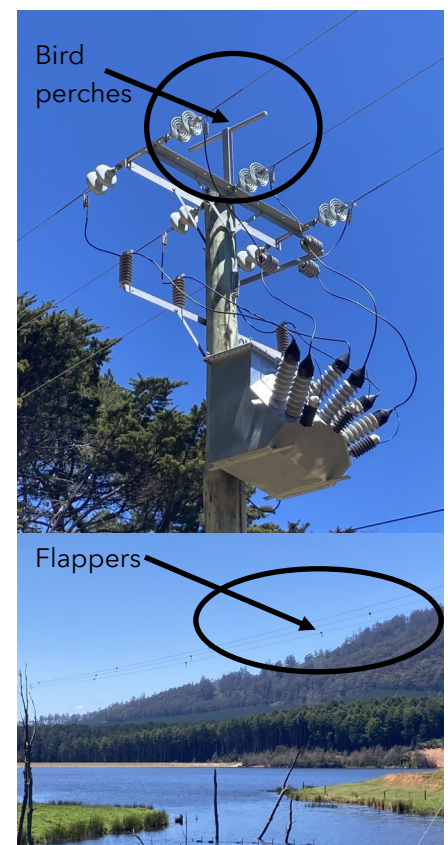
However, an opportunity to improve the Camden section,

where birds are more at risk when sitting on top of power poles, was identified.

To ensure Tasmanian Irrigation follows and implements best practice to protect birdlife, the Environment Team, in conjunction with TasNetworks, installed bird perches in strategic positions along the line.

Strain poles (pictured) and poles in open areas in forests pose the biggest threat of electrocution for birds.

These measures give birds a place to perch, which is clear of the lines, mitigating this risk.



Water Delivery

By David Skipper

Tasmanian Irrigation's Water Delivery Team is responsible for the operation of 18 irrigation schemes around Tasmania, and the delivery of irrigation water in an efficient, economically viable and environmentally sustainable manner to more than 1,000 irrigators.

Tasmanian Irrigation employs 14 skilled and dedicated Scheme Operators to manage and administer each scheme.

The team also manages a range of inherited infrastructure, including Lake Leake, Rileys Creek Dam, Togari Water Scheme and the Montagu and Welcome River Improvement Schemes.

Regular routine maintenance, compliance and ensuring the schemes are delivering water at the most efficient curve is paramount to a successful scheme and ensuring water costs to irrigators are controlled and appropriate.

For more information about Water Delivery, please contact Tasmanian Irrigation on (03) 6398-8433 or

watertrading@tasmanianirrigation.com.au

The 2021/22 irrigation season is well under way, with all schemes now open.

Conditions have been very mild and wet, ensuring no major demand pressure points on any schemes at this point.

Almost all dams remain at capacity, as per the table on the following page.

Tasmanian Irrigation sincerely thanks all members of our Irrigator Representative Committees across the State for their time, feedback and sharing of information from TI to all irrigators. We are continuing to organise follow up meetings with IRCs on actions from the pricing and budget meetings conducted over the past few months.

A comprehensive program of repairs and maintenance has been undertaken over the winter months as part of Tasmanian Irrigation's commitment to ensuring our schemes run as efficiently and cost effectively as possible.

Two new air valves at Stoneycroft are about to be installed and we are very thankful to Sub-41 for their ongoing work and support with our irrigators and infrastructure.

Tasmanian Irrigation also secured additional funding for an upgrade of the 28,000 megalitre Greater Meander Irrigation Scheme.

The \$14.4 million works, including pipeline extensions, converting riparian flow to piped water, intake screen and pump upgrades and the installation of solar power plants to pump



stations, will result in an additional 11,000 ML of high-surety irrigation water being delivered to farmers and reduced costs to irrigators.

The Australian Government will contribute \$5 million toward the Greater Meander augmentation and a further \$7 million will be contributed from the sale of new water entitlements.

The Tasmanian Government has allocated \$2 million toward the upgrade of the Meander mini hydro power station, as well as an additional \$3.5 million for solar upgrades across a number of other schemes.

"Tasmanian Irrigation sincerely thanks all landowners, the Tasmanian Government and the Australian Government for their unwavering commitment to developing new irrigation infrastructure and delivering water to grow our agricultural industries."

The upgrade to the Meander mini hydro power station will enable this vital infrastructure to continue to operate for a further 12 years and the solar installations will help reduce the cost of pumping the water to customers. These savings will be passed direct to farmers.

The works are expected to be completed within the next two years.

Tasmanian Irrigation Dams

Scheme	Dam Name	Traffic Light	Scheme	Dam Name	Traffic Light
GMIS	Meander Dam	●	DBIS	South Riana Dam	●
SEIS	Craigbourne Dam	●	SHIS	Southernfield Dam	●
Huon	Rileys Creek Dam	●	LSEIS	Milford Dam	●
SEIS	Daisy Bank Dam	●	WISL	Cascade Dam	●
URIS	Dunns Creek Dam	●	EMIT	Lake Leake Dam	●
SIS	Camden Rivulet Dam	●	MWS	Upper Floods Creek Dam	●
GFIS	Headquarters Rd Dam	●	WISL	Frome Dam	●
Swan	Melrose Dam	●	Montague	Upper Galeford Dam	●
Duck	Mill Creek Dam	●	WHS	Liffey Holding Dam	●
SEIS	Rekuna Dam	●	KNMIS	Sprent Dam	●
NEIS	Rocklands Dam	●	Montague	Lower Galeford	●
Key: ● = Dam is at a satisfactory level. No problems with supply now or in the short term. ● = Supply maybe problematic and / or conditions deteriorating. ● = Dam is at critical lows and / or detrimental irrigator impact is occurring.					

Water Delivery's approach to delivering water in an environmentally sensitive manner

Tasmanian Irrigation's Scheme Operators are highly vigilant in terms of regulatory, and self-regulatory, compliance when delivering and harvesting water for irrigation.

Our operators on each of their schemes are required to know and thoroughly understand the terms of the DPIWE water licences and water course authorities that is held on their scheme.

Scheme Operators do not take holding a water licence lightly. They understand the significance of each of our licences and the conditions in which water can be taken and delivered.

Conversely, when Tasmanian Irrigation delivers water during the irrigation season, our highly trained operators are carefully monitoring the volume and flows out from their dams and rivers to ensure that water is being applied in line with the irrigators contractual obligations that they individually hold with Tasmanian Irrigation.

Each operator works closely with the Environment Team and consistently takes water samples from streams, rivers and dams.

They constantly monitor dam health and are very observant with algal blooms that occur from time to time.

Our Scheme Operators are constantly ensuring that environmental flows are maintained and form a critical requirement of maintaining river and stream health, which helps protect the environment and aquatic ecosystems.

Our Tasmanian Irrigation Operators are subject to numerous audits and checks throughout the year, both externally and internally, to ensure that our processes and systems are working and that our compliance activity is not compromised nor altered.

Tasmanian Irrigation is proud of its record of environmental sustainability. We remain constantly aware of the critical importance of harvesting, delivering and storing water for the long term viable environment to allow us to operate at 95 per cent reliability over 100 years as a minimum standard.

Tasmanian Irrigation and its Scheme Operators always strive to do better and look at ways to ensure we care and protect the environment, while enhancing the productivity of the land in which we apply our precious resource of water to.

Program Development and Delivery

By Eric Shegog



Tasmanian Irrigation's Program Development and Delivery Team is proud to deliver irrigation projects from concept to water delivery, ensuring schemes are designed to be in operation for the next generation of farmers and beyond.

There are a number of important steps incorporated into developing a new irrigation scheme, including:

- Community consultation;
- Expressions of Interest;
- Launch of Preferred Option Design;
- Water Sales;
- Contracts with landowners;
- Final design;
- Business case;
- Permits and approvals;
- Construction; and
- Commissioning.

Along the way, risks are continually evaluated as the design progresses in terms of environment, social acceptability, cost and economic outcomes.

As these schemes rely on a unique public / private partnership and funding model, all stakeholders are engaged and consulted to ensure key needs are met.

All Tasmanian Irrigation schemes are designed to last at least 100 years and deliver water at an annual average reliability of more than 95 per cent.

Tasmanian Irrigation has multiple irrigation projects currently under development:

Don

- Detailed design is complete;
- The project is currently at tender stage with tenders currently in the market for pipeline construction, construction of pump stations and pipe supply;
- Final approvals from Hydro and Crown Land are being completed; and
- Construction is expected to start in quarter one 2022.

Northern Midlands

See detailed report on page 12.

Sassafras Wesley Vale Augmentation

- Preferred Option Design launch held on 17 November in Latrobe;
- Public consultation period is open until 4 January; and
- Water Sales will commence in early 2022.

Tamar

- The preliminary design has been adjusted to include the remainder of the EOI's;
- Our primary focus is to support irrigation activities, although consideration has been given to potentially supporting water demand from the Bell Bay Industrial Zone in conjunction with various arms of Government; and
- Preferred Option Design launch planned for early 2022.

South East Integration Project

- Currently in feasibility phase;
- Several supply options are under consideration including Bryn Estyn, Lake Meadowbank and Lake Binney;
- Community presentation to South East Stage One irrigators was held on 22 November 2021;
- Information workshops were held on 30 November and 1 December 2021; and
- Preferred Option Design launch planned for early 2022.

South East Interim Solution

- Project is progressing well and working towards completion in the second quarter of 2022;
- Phase one (Interconnect SEIS2 and SEIS3) complete and operational;
- Phase two (Optimisation) – geotechnical completed and design works continue with pipeline design and hydrology works under review;
- Phase three (Campania pipeline) - contractor walkthroughs, pricing and detailed design has been completed and the DA application lodged; and
- All land access agreements have been issued, awaiting signature and return to TI.

Southern Midlands

- Currently in prefeasibility phase and preparing a submission for Business Case Federal funding, including review of economic justification and social benefit modelling, and high level cost estimation.



"Building irrigation schemes that are environmentally sustainable is non-negotiable to farmers and we thank Tasmanian Irrigation for their proactive work in this space. We are committed to sustainable farming and environmental management to ensure our land and waterways can be productively and sustainably managed for many generations to come."

George Gatenby, Campbell Town

Northern Midlands Environmental Surveys

The Northern Midlands Irrigation Scheme will service an area south of Cressy including Macquarie, Barton, Isis, Conara, Campbell Town and Ross.

The project is expected to create up to 60 Full Time Equivalent (FTE) jobs during construction, as well as a further 139 FTEs once the scheme is operational.

The Business Case has been approved by the State Government and the project is proceeding through detailed design and approvals.

Design is being progressed and on target for February completion.

Discussions are ongoing with landowners throughout the district with respect to infrastructure on their properties.

Aboriginal and European Heritage surveys have been completed.

Environmental Spring surveys have been completed.

The *Environment Protection and Biodiversity Conservation Act* referral will be drafted in December.

Planning and surveying on the 25,500-megalitre Northern Midlands Irrigation Scheme is well advanced.

For more than 12 months, ecologists from North Barker Ecosystem Services have been working alongside Tasmanian Irrigation to provide expert advice to guide the planning process of this new irrigation scheme servicing landowners south of Cressy.

Results of surveys have been highly influential in preventing and mitigating impacts to conservation significant values.

The Northern Midlands is home to some of the most threatened grasslands in Australia.

Through planning and detailed survey work, Tasmanian Irrigation is committed to avoiding impacts to these nationally important grasslands.

Surveys undertaken by North Barker have confirmed the importance of these sites for numerous threatened flora and fauna.

Two species located include the **Green-line Ground Beetle** (*Catadromus lacordairei*) and the **Tussock Skink** (*Pseudemoia pagenstecheri*).



Green-line ground beetle



Tussock skink

Avoiding the disturbance of **Wedge-Tailed Eagle** nests is also a priority for the project, with initial nest searches resulting in the discovery of four new nests, and activity assessments confirming which are active this season.

Threatened flora results have been equally as successful, with some 21 threatened species discovered and prioritised for avoidance.

Amongst these is a very rare grass – **Spreading Saltmarshgrass** (*Puccinellia perlaxa*). This species was previously only known from one creek line. Subsequent extension surveys for this species uncovered some large populations in the general region and has extended the known population of this grass by many thousands of plants.

These surveys have helped to extend the current knowledge of habitat and identification of this species.



Spreading saltmarshgrass

Program Development and Delivery continued...

Another important discovery has been of a rare and threatened orchid species.

The **Grassland Greenhood** (*Pterostylis ziegeleri*) is known from approximately 25 sites around Tasmania, and its statewide population estimated to be 6,000 to 7,000 plants.



Grassland greenhood

North Barker surveys for this project uncovered a previously undocumented site supporting upwards of 1,000 plants.

This is a significant discovery for this species and the knowledge that will come from being able to protect the site will benefit the species overall.

These surveys have also contributed to significant range extensions of the rare **Yellow Bladderwort** (*Utricularia australis*) and **Clustered Rush** (*Juncus vaginatus*), and have added substantially to the known populations of the **Swamp Everlasting** (*Coronidium gunnianum*), **Poison Lobelia** (*Lobelia pratioides*), **Sea Clusedge** (*Bolboschoenus caldwellii*), and the **River Sedge** (*Schoenoplectus tabernaemontani*).



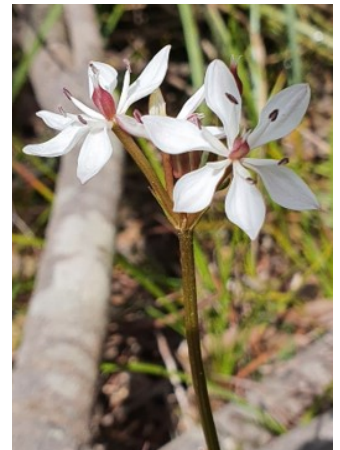
Swamp everlasting

Along with the discovery of threatened flora, many colorful wildflowers have been observed during the surveys.

*Waxlip orchid
(Glossodia major)*



*Milkmaids
(Burchardia umbellata)*



*Common golden moths
(Diuris chryseopsis)*



*Dwarf bushpea
(Pultenaea humilis)*



Meet Amy Madsen

Name: Amy Madsen.

Title: Tasmanian Irrigation Graduate Environment Coordinator.

Start date: 29 November 2021.

Previous study / work

history: I grew up on a Merino sheep farm on the East Coast of Tasmania called Banwell Pastrol. The Madsen family purchased the farm in 1913, making me the fifth generation Madsen. Banwell is 2100 hectares in size, and we run approximately 6000 sheep. We also grow fodder crops, including annual ryegrass, rape and turnips, and we lease ground for a contract potato crop.

In 2018 I commenced studying a Bachelor of Applied Science (Agriculture and Business) Degree at the University of Tasmania and graduated at the end of 2020.

Prior to university I completed my tertiary education at the Fahan School in Sandy Bay and lived at boarding school.

Why did you decide to embark on an environmental / agriculture focused career?

I have always been passionate about perusing a career alongside a network of people aiming to sustain life on earth in an environmentally friendly manner.

In deciding which career pathway to choose after my degree I was frequently reminded with the saying "choose a job you love, and you will never have to work a day in your life".

For me personally if I'm in a profession where I'm changing the planet for the better, I'm going to love what I do.

Sustainable food production particularly interests me due to the concerning impacts of climate change, rising human population, declining biodiversity and mass extinction.

Throughout my degree I was fortunate to travel overseas to Peru and Indonesia to participate in short term study abroad programs where we examined issues such as deforestation, environmental change, urban/rural development and displacement of marginal communities. These programs taught me how to recognise the challenges of sustainable development and the limitations and opportunities of the rural and urban sectors in meeting these challenges while preserving biodiversity

Why is environmental best practice so important in your work with TI?

I'm extremely excited to be commencing a career at Tasmanian Irrigation alongside a team that develops and operates environmentally sustainable irrigation schemes. I've always dreamt of pursuing a career in enhancing and protecting our natural resources to make Tasmania's agricultural sector more profitable and sustainable into the long-term and the work at TI does just that.



Environmental best practice has never been more important; with climate change worsening, and water supply and delivery becoming increasingly impacted around the world.

I am particularly interested in irrigation scheduling to increase agriculture production, save water, save money and reduce environmental degradation.

For farmers, irrigation scheduling is made possible once they understand the needs of their plants, which can be obtained through technology.

I'm also really enthusiastic about irrigation technology and the positive effect this can have on preserving our natural resources.

Interests outside work:

Travelling, camping, hiking, cooking and surfing.

Upcoming Events



Tasmanian Irrigation is committed to keeping all irrigators and stakeholders up to date with the latest Water Delivery, Program Development and Delivery and other Company news.

Make sure you regularly check our website at www.tasmanianirrigation.com.au and also follow Tasmanian Irrigation on Facebook.

If your contact details change or you would like to add additional people to the Tasmanian Irrigation mailing address, please contact communications@tasirrigation.com.au

Forecast upcoming events include:

Early 2022

Sassafras Wesley Vale Augmentation Water Sales Launched

Don construction commences

Tamar Preferred Option Design Launch

South East Integration Project Preferred Option Design Launch

11 March 2022

Sassafras Wesley Vale Augmentation Water Sales conclude



For more information about this newsletter, please contact:

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