A word from the Trust’s CEO

In the last edition of Bridging, I flagged that our Bridging editor, Ann Milligan, was stepping down from that role after a long and august term at the helm. We are still in the throes of pulling together our long-term arrangements for Bridging, but there is so much news that we could not wait. So please bear with us as we put it out ourselves for the first time ...and we hope you still enjoy this Christmas edition.

As promised in that October edition, November proved a most eventful month for the Trust. On 20 November we were treated to Anne Poelina’s (2011 Fellow) very moving oration Rivers’ Talking: Are the Humans Listening? for the annual Peter Cullen Lecture. My thanks again go to Anne, and to Professor Stuart Bunn and the Australian Rivers Institute at Griffith University for partnering with us to deliver the lecture this year.

The following evening, we enjoyed the 2019 Science to Policy Leadership Program Graduation and the Trust’s ten-year celebrations. An extremely witty presentation from this year’s graduands led to the question of whether this was the “best presentation ever?”. Luckily it was humorous – otherwise the subject matter would have us in tears. Our guest speaker for the evening was Prof. Mike Young, a long-standing Friend of the Trust and renowned water economist and policy expert at the University of Adelaide.

We also heard from our outgoing Chair, Prof. John Thwaites and the incoming Chair, the Hon. Karlene Maywald.

There is a well-known saying: “It’s hard to soar like an eagle when you’re surrounded by turkeys”. The converse is also true. And the strength – the impact – of the Peter Cullen Trust can be measured by the calibre of its people: the Fellows, Friends and, without a doubt, its Board. A veritable convocation of eagles. It has been my very great pleasure to work with John these past years. Indeed, it is due in no small part to John’s reputation (and of course our namesake, Peter Cullen) that I joined the Trust as CEO. Life is so much more fun being with energising insightful people. I am most appreciative to have had the chance to work with John and I am sure he will continue to work for the Trust behind the scenes for many years to come.

We are very fortunate to have an outstanding successor for John. Karlene Maywald – another long-standing Friend – joined the Board earlier this year and has now taken the lead as Chair. Having known Karlene professionally for several years, I am thrilled that she is our new Chair.

With very best wishes for Christmas and the New Year.

Tom Mollenkopf

Tom welcomes comments via ceo@petercullentrust.com.au or phone 0422 631 876

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The 2019 Annual General Meeting of the Trust last month heralded a significant transition, with inaugural Board Chair, Prof. the Hon John Thwaites, stepping down from the role. After leading the Board for ten years, he has been succeeded as Chairperson by the Hon Karlene Maywald.

Karlene has extensive experience in the area of water policy development and reform and served as Chair of the National Water Commission between 2012 and 2015. She is Chair of the International Centre of Excellence for Water Resource Management and was a board member with SA Water from 2014 to 2018. Elected to the South Australian Parliament between 1997 and 2010, she served as a Cabinet Minister from July 2004 until March 2010. During this time, she was the Minister for the River Murray and Minister for Water Security.

Karlene said, “It is a great honour to be appointed as the Chair of the Peter Cullen Trust. John Thwaites brought to the role a vast knowledge and experience in the water sector, together with a passionate commitment to developing leadership. His own leadership has contributed to a lasting legacy in the memory of Peter Cullen. I have big shoes to fill and am very much looking forward to continuing working with the Board and team at the Trust to grow the impact and improve water management in Australia by developing the potential of emerging leaders.”

Announcing the change, John Thwaites said, “Having steered the Peter Cullen Trust though its formative years to the point where it is now a highly respected, impactful and sustainable organisation, I feel now is the right time to hand over the reins. Since the Trust was established, almost 200 ‘rising stars’ in the water industry – academics, water authority staff, farmers and policy makers – have completed our leadership development programs. There have been a number of outstanding indigenous participants and in 2016 we initiated a Women in Water Leadership program that has grown to be an enormous success.”

He went on to commend his successor, saying, “Karlene is an outstanding figure in the water sector in Australia and her appointment, as part of our long-term Board succession plan, is further evidence of the Trust’s commitment and capability to bridging science, people and the environment. Not only does Karlene understand the challenges facing the sector in Australia, she has a deep understanding of community interests and government processes; and she personally knew Peter Cullen.”

Speaking at this year’s Science to Policy Leadership Program Graduation, Karlene recalled Peter Cullen fondly, noting that he had been very influential in her early career. “Peter was both wise and generous with his time,” she said. “I remember him saying that there’s plenty of clever people who know a lot. You don’t need to know everything yourself, just get to know those who do, and understand how to connect them and bring it all together.”

Karlene has indicated her priorities are to see growth in the impact and reach of the Trust; and to build on the strength of the Fellows – the Trust’s alumni – leveraging their insights and capability, and supporting them in their leadership journey. “The Peter Cullen Trust is characterised by people with a strong sense of commitment: Fellows, Friends, Board and staff” she said. “Our potential to work towards the goal of better water management is unmatched.”

Tom Mollenkopf
CEO
What happens when you take the smarts of a TED talk, and the heartfelt flair of Australia’s Got Talent, and fuel it with a rallying call to arms (and heads and hands!): “It’s time for a WateREvolution!”

Water is the molecule of life; moving through our environment, ensuring the health of the whole biosphere; a nexus connecting people, plants, animals, soil, food - the list is endless!

To create the water future that we want, to ensure the ongoing health of our global environment, we need to come together from all disciplines and all walks of life, we need to think and act and connect differently, and we need to do it now!

The Peter Cullen Water and Environment Trust proudly presents “WateREvolution - Shaping our future together” a kick-start to the evolving approach and communal momentum needed to safeguard the very liquid of life*.

SO WHERE DO YOU FIT IN?

First of all save the date: Friday 22nd May, 2020

It’ll be a full-day event designed to allow all participants to inspire and be inspired, with the ultimate aim of precipitating new approaches and actions relating to the future of water and our environment.

Next up: consider these questions

➔ Do you know something about the future of water and the environment that no-one else does?
➔ Do you have a scientific, social or cultural story about water and the environment that you think others need to hear?
➔ Do you have a way of telling that story that is unique?

Whether you use stats and images, or song and dance, if you have a story about water that Australia needs to hear then we need you, in fact we want to see you on stage!

“WateREvolution – Shaping our future together” will be co-curated and co-hosted by the Future Crunch presentation team, who combine exploration of what is happening on the frontiers of science and technology with an intelligent, courageous optimism about the future.

Applications to be a presenter will open in January and successful applicants will be given presenter coaching by the Future Crunch team to prepare them for the big day.

An email with a link to the application form and more information about “WateREvolution – Shaping our future together” will be in your inbox mid January.

Until then, Merry Christmas, and here’s to the beginning of a WateREvolution in 2020.

*yes, we’re very aware that its ability to also naturally occur on this planet as a solid and a gas is an essential part of its marvellousness!
Not Goodbye. Thanks and Farewell to John Thwaites

This article is based on the speech I gave at the Graduation for the Science to Policy Leadership program on the 21st November 2019. It’s never quite the same to translate a verbal interchange, and one which connects with eyes and faces, to words on a paper but let’s see if justice can be done.

I am feeling the weight of responsibility in compiling some words to thank and acknowledge John Thwaites as he steps down from the role of Chair of the Peter Cullen Trust. Why? Well because it’s not good enough to just say thanks. And it’s not about recognising the top job in a way that other roles shouldn’t also be. It’s about taking the time and effort to appreciate what having this person as part of the PCT journey has meant. The breadth, impact, longevity and commitment needs a bit more substance and attention that a few simple words of thanks.

So, let me try and put thoughts to words in three layers.

First John needs to be thanked and recognised for choosing us – the Peter Cullen Trust. His previous career and his ongoing roles and profile mean he is in high demand for many causes and sought after by many organisations. Yet his choice of the PCT is a conscious and silent expression of the meaning and support John has given. For choosing us then we say a heartfelt thanks.

There is much to get despondent about in this current time of environmental distress and its relevant to quote some words by Paul Hawkins who said: “When asked if I am pessimistic or optimistic about the future, my answer is always the same: if you look at the science about what is happening on earth and aren’t pessimistic, you don’t understand the data. But if you meet the people who are working to restore this earth...and you aren’t optimistic, you haven’t got a pulse.”

The opportunity to have John lead the PCT and the role he has played in the construct and conduct of the Trust is a direct feed into the optimism of change and difference to this world. We express gratitude and again say thanks.

Second, we must recognise the scale of time with which John has led the PCT. Ten years is a very long time in anyone’s life and gives a chance to see and live through many changes and challenges. Having referenced the ten years though, I was reminded that Bill Gates was Chair of Microsoft for 38 years. Based on that record, we could ask John to be around for there is another 28 years!

John was instrumental in establishing the Trust and he has provided a strong presence and influence over what has been achieved over the Trust’s ten years. The position, reputation, the direction, the people who are the Trust, are all components of a long-term plan that has been quietly chaired and directed. For this we say a heartfelt thanks.

Third it is important we pay tribute to the way in which John has undertaken his role as Chair for the ten years. The evidence is clear. We need only look at the 200 plus graduates, at the reputation of the Trust, at its strong financial standing, at the collegiate and positive staff and board culture, at the links and reference to the work of the inspiration of Peter Cullen in what we do. John has provided strong leadership, and his inclusive and thoughtful chairing has had a trickle-down influence on the day to day workings of the Trust.

In John, there is much we have to be thankful for, and it is our fervent hope we continue to have him as part of the Peter Cullen Trust family going forward. I feel sure that, despite the inevitable pressures on his time, his conviction for what the Trust stands for – for what Peter Cullen stood for – will continue to tie us together as we continue the journey.

So, not Goodbye, but Farewell...and see you soon.

Suzy Nethercott-Watson
Deputy Chair, Peter Cullen trust
2019 Science to Policy Graduates – The Larrikins

We were christened the Larrikins by Program Director Leith Boully at the conclusion of Session 1, and the PCT 2019 Science to Policy cohort lived up to its name at the Graduation event held on 21 November, 2019. A happy, confident and cohesive cohort assembled in Canberra again on 18 November and prepared a presentation we were proud of. It embodied the Larrikin spirit, combining our creativity and humour with a clear and considered message about the need for Australia to honour its commitment to implementing the Sustainable Development Goals 2030.

The presentation was grounded in our truths, in a shared vision and, in our contract with each other. Unexpected talents were unearthed: Phil, our resident irrigator and giant (in both stature and vision) got in touch with his inner school girl and educated the family about SDG’s, Brett showed wisdom being his years and gave us reason for optimism about the next generation, while David found his calling as Prime Minister For a Day. Claire and James could run a trivia night in any pub in the land (especially if a meat tray is involved), and Leanne could walk into that same pub and rally the punters around sustainable development. Jenelle can nod with the best of them, Katrina proved that if you just keep trying you’ll eventually find a government website link that works.

And who knew that Hashim had such a penchant for crowd control? Everyone contributed, every contribution added value, everyone had fun and the audience responded in kind with many laughs and thoughtful questions. We recognised the amazing people who had led us on the journey and who have opened us up, lifted our view and frame of reference. We thanked those who invested in us, encouraged us, and inspired us as we pursue our leadership goals. We didn’t view our presentation as our graduation so much as our first contribution to the Trust. Hopefully this is the first of many for our cohort.

The evening provided an opportunity to be recognised in front of our peers, Friends of the Peter Cullen Trust, and the network of Fellows we have now joined. With the formalities concluded, the cohort revelled in the opportunity to meet and speak with members of the audience, discussing what the program meant to each of us, and where we hoped to take our learnings and growth as leaders. We all managed to safely return our graduation gift - a beautifully presented volume of Peter Cullen’s last writings and speeches - to our accommodation before heading out to celebrate. Since that week in Canberra we have kept in touch as we share the journey of living our truths and building our leadership skills.
2019 Women in Water reflection workshop

Fellows from the 2019 Women in Water workshop from all over Australia, gathered in Canberra on Wednesday 20th November to reflect, reconnect and recharge their leadership development since Graduating in May this year. Over the course of the day, the women reflected on what had happened since the program conclusion, and shared these reflections with each other during walks around the beautiful ANU Campus, as well as through story telling in a group setting. The day concluded with Fellows sharing the most significant change that has occurred for them personally, as well as articulating what next they need in their leadership development. This “reconnect, reflects, recharge” workshop is the first fully funded “after-action reflection” by the PCT – an important opportunity for the us to gather evidence of impact and change that our leadership programs create and enable.

Kate MacMaster

AWS Global Water Stewardship Forum 2019

Two PCT Alumni attended the AWS Global Water Stewardship Forum 2019 which was held in Edinburgh Scotland including Dr Emma Carmody AWS Board Member (and baby Odette) and Bradley Moggridge AWS Technical Committee. Over the 2-day program AWS 2019 was mostly structured around the Five Outcomes of the AWS Standard 2.0.

Across the two days the forum attendees engaged in three types of sessions:

- Practice-based discussions on how to achieve AWS outcomes
- Updates on AWS relevant methodologies, tools and activities
- Strategic debates on scaling AWS water stewardship

Brad chaired the Good Water Governance Session

Dr Emma (and Odette) chaired the Scaling Water Stewardship Session.

Australian Freshwater Science Society, Geelong December 2019

Bradley Moggridge (PCT2018) was super humbled and honoured to win the Australian Freshwater Science Society (AFSS) 2019 Masters or PhD talk of the conference. By the way it was French Impressionist theme Brad was Monet and behind him was a Mime.

Further PCT Alumni that attended AFSS 2019 included: Professor Ross Thompson and Dr Sarina Loo.
2019 Cullen Lecture

RIVERS’ TALKING: ARE THE HUMANS LISTENING — DR ANNE POELINA

Dr Anne Poelina presented the 2019 Peter Cullen Lecture, supported through the Peter Cullen Trust, Griffith University and University of Canberra. Her lecture was entitled: Rivers’ Talking: Are the Humans Listening? Anne is a proud Nyikina Warnwa woman from the Kimberley region of Western Australia. She also graduated as a Cullen Fellow in 2011.

Through multiple roles and methodologies, notably as managing director of Madjulla Incorporated (a Nyikina traditional custodian) and Chair of the Martuwarra Fitzroy River Council, she has promoted a deep understanding of Indigenous Australian culture and the challenge to love and respect the land and protect our rivers as the lifeblood of the nation.

Anne uses multiple media to promote the protection of traditional and ecological values of the Martuwarra (Fitzroy) River. Embedded in her talk was a short film that conveyed the deep spiritual connection of the Nyikina people (traditional owners) to the Martuwarra and many millennia of sustainably managing its resources. Validating her story with western science and her own published works are integral parts of her message to implore us to “listen to the rivers”.

Anne presented some of the current-day challenges for the Martuwarra: pastoral leases with proposed major water extractions from the river; climate change which is altering groundwater resources and the plant and animal communities that these resources support; maintenance of customary connections to the land; and traditional owners being shut out of negotiations about the management of resources on their lands. She used examples of Indigenous people identifying groundwater resources, food web connections and sustainable management practices in support of her desire to see them involved in the green economy revolution involving their diverse interests in science, culture, heritage and conservation.

Anne eloquently addressed a large and diverse number of questions from the audience that complimented a fascinating lecture and film that demonstrated her deep understanding of, and connection with, her indigenous culture.

Professor David Hamilton

Australasian Groundwater Conference

For the first time the Australasian Groundwater Conference in Brisbane November 2019, proudly hosted a session (keynote, presentations, and panel) that focussed entirely on Indigenous groundwater values and knowledge.

The session Co-chaired by PCT Alumni Dr Anne Poelina and Bradley Moggridge comprised two sub-sessions: 1) a technical session with a keynote (Bradley Moggridge) and 3 x presentations; and 2) a panel session combining key Indigenous leaders in the field with Q&A https://www.groundwaterconference.com.au/welcome-to-agc-2019

Further PCT Alumni that attended AGC 2019 included Dr Andrew McCallum, Dr Richard Cresswell and Dr Kate Holland.

Dr Anne Poelina also launched her new film “The Serpents Tale” a powerful story about her River the Martuwarra (Fitzroy River), “different languages – same story”, at a breakfast sponsored by the WA Department Water and Environmental Regulation.
The 2019 Peter Cullen Water and Environment Trust Ripple Award

Annually, at the November Graduation Function, the opportunity is taken to recognise a Fellow who has harnessed the opportunities that participating in the Trust’s Leadership Program presented them. This is the Ripple Award. It is awarded to a strong advocate for how leadership development can change lives by profoundly affecting career paths, and who recognises the power of networks and most importantly the impact of “paying it forward”.

The 2019 recipient of the Ripple Award is an inaugural Fellow of the Trust, Chris Arnott.

Over the past ten years, Chris has been a ground-breaker – willing to have a go at something new and be a leader for the things he believes in.

He has played a key role in supporting the development of the Fellows network through his active participation and support of annual graduation and Fellows events, always contributing to discussions about improving the connection of Fellows.

Chris’s most notable contribution has been the development and implementation of a flagship initiative, the Lunch with a Leader Series (previously titled Intimate Lunches). Chris saw a need for Fellows – increasingly water leaders themselves – to connect at a personal level with established leaders in the sector and, in the spirit of Peter Cullen, have a space to have fierce conversations about challenges in the sector. The Lunch with a Leader format is a place-limited gathering, under the Chatham House rule to ensure an inclusive and honest conversation.

Chris used his depth and diversity of professional networks to secure high-profile leaders to engage with the lunch series. Chris keeps a firm eye on the quality of the professional development outcome, while raising the profile of the Peter Cullen Trust amongst this external network.

This year Chris has just brokered a significant expansion of the Lunch with a Leader Series, coordinating lunches in all States making it a national program. He has also constructed a sponsorship framework that will provide a fund-raising avenue for the Peter Cullen Trust, as well as profile raising for the PCT brand. This is an ideal time to recognise Chris for his long-term dedication to the Trust, Fellows network and the Board.

This is an example of the value Chris is bringing to the Peter Cullen Trust, with his innovation, entrepreneurial and business experience adding a valuable dimension to the water and environment expertise that we are renowned for. Chris is also contributing to the Peter Cullen Trust as a committee member of the 2020 Water Ideas Symposium Event, and Director on the PCT Board, again bringing his business experience to influence the Trusts financial strategies and brand-building.

The Ripple Award was presented to Chris by the 2018 awardee, Kirsten Shelley (see photo).

Kate MacMaster
Director, Programs
Dr Geoff Vietz and Streamology receives Award for Research and Innovation

Dr Geoff Vietz has been building a company focused on leading the science of waterway management that is currently growing, and has had some fantastic recent successes. Streamology was recently honoured (along with collaborators) by winning the award for ‘Research and Innovation’ at the Stormwater Victoria awards for our Urban Streamflow Impact Assessment (USIA) method with CTEnvironmental, Sydney Water and Melbourne University. We were also finalists the previous week at the River Basin Management Society Awards in ‘Innovation in Waterway Management’ and ‘Outstanding Waterway Management Project’. Geoff was also part of the research team that won the award for ‘Building Knowledge in Waterway Management’ for the ‘Melbourne Waterway Research Practice Partnership’ collaboration (Melbourne Water and the University of Melbourne). These awards in innovation highlight the efforts of many, and strong collaborations we have with academia and industry, to ensure we embed science into management.

I spent some time earlier this year in the Kimberly region of the Dept of Water and Environmental Regulation where I really felt the connection to the water the land and Aboriginal culture. It really is an amazing part of our country. I returned to Geraldton questioning my knowledge and connection to the Aboriginal groups in this region in my own life but also in the work. The idea to commission this painting came with the intent to recognise the Traditional owners of this land with the desire to engage them in the work we do in the region in managing and protecting the environment and water resources.

We approached the Yamatji art centre -with the brief that we wanted to know what water and the environment means to Aboriginal people in the region- we knew the final painting would be beautiful but we were looking for the knowledge, we wanted to know the story. It was clear early on that this was not as easy as I assumed it would be. Firstly, because there was not just one story, there are many many stories, and these aren’t necessarily easy to define. What also made this brief challenging was that there were four artists collaborating on this painting, two senior artists and two junior artists - which is very rarely done, and I believe it’s a first for the Yamatji art centre.

So recognising that each artist has their own ideas, opinions, knowledge and stories about water- made this even more challenging to define upfront. The speech I gave at the unveiling ceremony in October 2019 describes my insight into the synergies between the development of this painting and our journey to reconciliation. Just recently, I was awarded with a workplace Making a Difference award for a significant workplace contribution for this project.

Fleur Coaker
I was delighted to participate in the Expert Consultation on Consumption-Based Water Management, held in Beijing on the 29-30 October. The event was organised by the United Nations FAO and the China Institute of Water Resources and Hydropower, with support from the Australian Water Partnership (AWP). The group included experts from a range of disciplines including remote sensing, irrigation, hydrology, economics and law. Together we discussed the possibility of implementing consumption-based management in water scarce (and overallocated) zones in Asia. I was inspired by both the breadth of experience and dedication of those in the room, and the collective desire to advance this project. Special thanks to the AWP for providing additional support so that I could bring my baby with me to Beijing. I was also joined by my amazing cousin, Ruth, who cared for Odette while I worked. Travelling and working with a baby in tow is not for everyone, but I’m incredibly grateful to have the opportunity to combine the two. It certainly does take a village.

Dr Emma Carmody
Special Counsel
Environmental Defenders Office NSW

Climate change data and communications research from Victorian Government


The Victorian Government also commissioned Monash Climate Change Communication Research Hub to undertake a literature review of best practice approaches to communication of climate science and impacts. The paper is available, as well as a lecture of Dr David Holmes presenting on best practice communication of climate science and impacts for policy makers. (https://www.climatechange.vic.gov.au/information-and-resources/climate-change-adaptation-resources)

Contributed by Dr Jill Fagan

Dr Fagan has been appointed Adjunct Associate Professor at RMIT University School of Engineering. She undertakes this role in addition to her position as Manager, Adaptation in the Victorian Government’s Climate Change Division.

Mentoring

Don’t forget that the PCT offers a mentoring program. If you are a PCT Friend who would like to mentor a Fellow, or if you are a Fellow who would like a mentor, please fill out the EOI downloadable from the PCT website (http://www.petercullentrust.org.au/mentoring) and send it through to the office (office@petercullentrust.org.au).
Fish kills and undrinkable water: here’s what to expect for the Murray Darling this summer

A grim summer is likely for the rivers of the Murray-Darling Basin and the people, flora and fauna that rely on it. Having worked for sustainable management of these rivers for decades, I fear the coming months will be among the worst in history for Australia’s most important river system.

The 34 months from January 2017 to October 2019 were the driest on record in the basin. Low water inflows have led to dam levels lower than those seen in the devastating Millennium drought.

No relief is in sight. The Bureau of Meteorology is forecasting drier-than-average conditions for the second half of November and December. Across the summer, rainfall is also projected to be below average.

So let’s take a look at what this summer will likely bring for the Murray Darling Basin - on which our economy, food security and well-being depend.

NOT A PRETTY PICTURE

As the river system continues to dry up and tributaries stop flowing, the damaging effect on people and the environment will accelerate. Mass fish kills of the kind we saw last summer are again likely as water in rivers, waterholes and lakes declines in quality and evaporates.

Three million Australians depend on the basin’s rivers for their water and livelihoods. Adelaide can use its desalination plants and Canberra has enough stored water for now. But other towns and cities in the basin risk running out of water.

Governments were warned well before the drought to better secure water supplies through infrastructure and other measures. But the response was inadequate.

Some towns such as Armidale in New South Wales have been preparing to truck water to homes, at great expense. Water costs will likely increase to pay for infrastructure such as pumps and pipelines. The shortages will particularly affect Indigenous communities, pastoralists who need water for domestic use and livestock, irrigation farmers and tourism business on the rivers.

HOW DID WE GET HERE?

The severity and impacts of this drought should not come as a surprise. In the 1980s, the CSIRO’s first projections of climate change impacts in the basin foreshadowed what is unfolding now.

Despite the decades-old warnings, water management authorities in some catchments favoured water extraction by irrigators over rural communities, pastoralists and the environment. For example, the NSW Natural Resources Commission in September found that state government changes to water regulations brought forward the drying up of the Darling River by three years.

Since the basin plan was adopted in 2012 our federal and state political leaders have reduced the volume of real water needed to keep the rivers healthy, supply water to people and flush salt out to sea. For example, in May 2018 the federal government and Labor opposition agreed to reduce water allocated to the environment by 70 billion litres a year on average, without a legitimate scientific basis.

The basin plan is based on historical river flow records, without explicitly allowing for diminished inflows resulting from climate change. Australian water management has followed what’s been termed a “hydro-illogical cycle” where drought triggers reform, but government leaders lose attention once it rains. This suggests meaningful reform must be implemented when drought is occurring and politicians are under pressure to respond.
HOW TO FIX THIS

Governments must assume that climate-induced drought conditions in the basin are the new normal, and plan for it.

→ Action should include:
→ Revising water allocations consistent with climate change projections
→ Investing in managed aquifer recharge to supply more towns with reliable and safe water
→ Restoring rivers by reallocating enough water to sustain their health
→ Increasing wetland resilience by reconnecting rivers to their floodplains in wetter years
→ Improving river health, such as by fencing out livestock.

Investing in these adaptation actions now would provide jobs during the drought and prepare Australia for a much drier future in the Murray-Darling Basin.

Jamie Pittock
Professor, Fenner School of Environment & Society, Australian National University

A poem by Marcus Leslie

It’s quiet now and more toil of the bell,
They’ve all gone home and the old cook as well.
She rang it morning, noon and night
That bell on the verandah, the foreman gave it to her,
That’s what he handed her.

Nobody had the fancy grandfather
Standing in the hall,
Or the wind up time piece in the main living,
It was the bell that roused the men, it was the cook,
And that was her call.

There wasn’t much she couldn’t do,
That woman who rang the bell,
She peeled potatoes, boned meat and mutton and rabbit,
Stewed, fried, boiled, morning noon and night,
All days the same. The boys enjoyed the routine,
She enjoyed the habit.

It’s all gone quiet now, and the boys are finished with the sheep.
Maybe they’ll come back next year, and fingers crossed so will the cook.
She’s gone now but didn’t take the bell
No one’s really sure, and the foreman wouldn’t tell.
But they all wait, wait for her to call,
The cook and her iron bell,
The toil and her call.

Marcus Leslie, 2019 S2P Fellow
Two Very Special Friends Speak

‘Resilient Rivers’ was the theme of this year’s International River Symposium, celebrating success stories from around the world. Our new Chair, Karlene Maywald, teamed up with our Program Director, Leith Boully, for an exciting discussion on Who speaks for our rivers.

https://www.youtube.com/watch?v=O-CuvLHWGM8&feature=youtu.be&fbclid=IwAR1lyWdnhK-mY9oqIWyTEvx4LqLNhSrPZQfXwvfguAIWCO6yqSS8w-pC2JGU

Weird, Wild, Amazing!

Tim Flannery (Trust Friend) MSSI Honorary Professorial Fellow has written a new children’s book titled Explore your World: Weird, Wild, Amazing! Bursting with bizarre facts and packed with vibrant illustrations this deep-dive into the natural world answers questions such as: How do whales sleep? Do frogs like opera? What’s it like to wrestle a python?
Reflections is here

Each year the Victorian Environmental Water Holder (VEWH) works with catchment management authorities, storage managers, Traditional Owners, land managers communities, scientists and stakeholders to deliver water for the environment efficiently and effectively. In 2018-19, 88% of environmental flows delivered in northern Victoria were also re-used to meet downstream water needs.

Extensive planning goes into preparing for all seasonal conditions, including dry and drought, in deciding how to deliver water for the environment.

Much of Victoria is experiencing drier than average conditions and some regions are struggling with restricted water availability. As a result, many rivers, wetlands and farming communities are under stress.

Under these conditions, like all other conditions, it is important that we are transparent in how we use water for the environment and demonstrate the benefit that it provides.

In drought years, environmental watering focuses on only the highest priority sites and seeks to prevent catastrophic losses and maintain critical refuge habitats to prevent significant declines of Victoria’s native populations. It’s important to find the balance so both our community and environment can recover when the dry conditions ease.


“Reflections provides a snapshot of what the VEWH and our program partners worked hard to achieve during the 2018-19 watering year,” said VEWH Co-CEO Dr Sarina Loo.

“The publication demonstrates how we make robust decisions to optimise environmental outcomes for enduring benefit through ongoing engagement with our communities,” she said.

“It also shows that in developing strong partnerships and relationships we are strengthening our understanding and management of water for the environment.”

In 2018-19, over 500 gigalitres of water for the environment was provided to 90 river reaches (across 38 rivers) and 78 wetlands – totalling 168 sites across Victoria.

Reflections celebrates all aspects of water for the environment; the environmental outcomes and the Aboriginal cultural, social, economic and recreational benefits that result from the environmental watering program. By improving the health of waterways, environmental flows support healthy communities.

“We really enjoy putting together our annual Reflections publication,” said Co-CEO Ms Beth Ashworth.

“It is a great way to share the success of the environmental watering program, demonstrate the achievements of our program partners and highlight how Traditional Owners and communities connect with and value our precious waterways,” Ms Ashworth said.

Reflections: Water for the Environment in Victoria 2018-19 highlights how environmental flows, along with complementary works and measures, are producing real outcomes for plants, animals and the community. Each region we work in is unique, and working with our program partners, we take this into account when delivering water for the environment.

Environmental watering in Victoria is a collaborative program, supported by the Department of Environment, Land, Water and Planning (DELWP), catchment management authorities and Melbourne Water, the Commonwealth Environmental Water Holder, the Living Murray program, land managers and storage managers.


By Ms Beth Ashworth and Dr Sarina Loo
A Post from Siwan Lovett (Trust Friend)

Hello friends,

I have spent the last few days at the Australian Freshwater Science Society conference, and I was struck by how much good work there is going on, but how little of it is known and understood outside our small community.

With hateful media playing out at the moment, including the ‘can the plan’, I felt that I could not look myself in the eye if I did not say something about how I feel we all need to step up, and speak out in support of those organisations who work alongside us to care for our rivers.

Politics polarise, and we know that our politicians will listen to the loudest voices - we need to support each other, speak out in ways that send ripples amongst our networks and communities, and not stay quiet when our friends are being vilified and blamed for circumstances beyond their control.

In speaking up I urge you to remember that facts and figures don’t change minds, speak from your heart, let people see the whole you, and never underestimate the value of your part in having conversations that matter.

Read the post I’ve written here.

The science of drought is complex but the message on climate change is clear

The issue of whether Australia’s current drought is caused by climate change has been seized on by some media commentators, with debate raging over a remark from eminent scientist Andy Pitman that “there is no link between climate change and drought”. Professor Pitman has since qualified, he meant to say “there is no direct link between climate change and drought”.

A highly politicised debate that tries to corner scientists will not do much to help rural communities struggling with the ongoing dry. But it is still worthwhile understanding the complexity of how climate change relates to drought.

SO, WHY THE CONTENTION?

It may seem like splitting hairs to focus on single words, but the reality is drought is complex, and broad definitive statements are difficult to make. Nevertheless, aspects of drought are linked with climate change. Let us try to give you a taste of the complexity.

First, it’s important to understand that drought is a manifestation of interactions between the atmosphere, ocean, and land. In Australia, the Bureau of Meteorology uses rainfall deficiencies to identify regions that are under drought conditions. Anyone on the land doesn’t need to be reminded, but the current drought is seriously bad.

These maps show the patterns of rainfall deficiency over the past 36 and 18 months, highlighting the severity and extent of what we call meteorological drought.
But along with the main driver - low rainfall - droughts can also be exacerbated by water loss through evaporation. This depends not only on temperature but also humidity, wind speeds, and sunshine. Temperature will clearly continue to rise steadily almost everywhere. For the other factors, the future is not quite as clear.

Water loss also varies according to vegetation cover. Plants respond to higher carbon dioxide levels and drought by closing the tiny holes in their leaves (the stomata) and this can actually reduce water loss in wet environments. However, in water-stressed environments, projected long-term declines in rain may be compounded by plants using more water, further reducing streamflow. Actually, we can glean a lot from studying hydrological drought, which is measured by a period of low flow in rivers.

The point here is droughts are multidimensional, and can affect water supply on a wide range of spatial and temporal scales. A seasonal-scale drought that reduces soil moisture on a farm, and a decade-long drought that depletes reservoirs and groundwater supplies, can each be devastating, but in different ways.

IS CLIMATE CHANGE AFFECTING AUSTRALIAN DROUGHTS?

Climate change may affect drought metrics and types of drought differently, so it can be hard to make general statements about the links between human-induced climate change and all types of drought, in all locations, on all timescales.

Southern Australia, and in particular the southwest, has seen a rapid decline in winter rainfall and runoff that has been linked to climate change. In the southeast there has also been a substantial decline in winter rainfall and total runoff in recent decades. Although the reductions are consistent with climate change projections, the trend so far is harder to distinguish from the year-to-year variability.

There is some evidence to suggest that widespread and prolonged droughts, like the Millennium Drought, are worse than other droughts in past centuries, and may have been exacerbated by climate change.

But the role of climate change in extended drought periods is difficult to discern from normal variations in weather and climate. This is particularly true in Australia, which has a much more variable climate than many other parts of the world.

WHAT DOES THE FUTURE HOLD?

Climate models project increasing temperature across Australia and a continuing decline in cool-season rainfall over southern Australia over the next century. This will lead to more pressure on water supplies for agriculture, the environment, and cities such as Melbourne at the Paris Agreement’s target of 2°C, relative to the more ambitious target of 1.5°C of global warming.

Rainfall is projected to become more extreme, with more intense rain events and fewer light rain days. Declining overall rainfall is predicted to reduce river flows in southeastern Australia. While we can expect the largest floods to increase with climate change, smaller floods are decreasing due to drier soils, and it is these smaller floods that top up our water supply systems.

ACTION NEEDED

We might not know enough about droughts to be certain about exactly how they will behave in the future, but this does not affect the message from the science community on climate change, which remains crystal clear.

Rainfall intensification, sea level rise, ocean acidification, hotter days, and longer and more intense heatwaves all point to the fact that climate change presents a major threat to Australia and the world.

In response to these threats, we need deep and sustained greenhouse gas emissions cuts and proactive adaptation to the inevitable effects of climate change. This includes a focus right now on the practical measures to help our rural communities who continue to feel the pinch of a dry landscape.

Co-authored by Rory Nathan
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The Peter Cullen Trust gratefully acknowledges these generous donors and sponsors during 2019

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