

7th National NRM Knowledge Conference
Creating resilience through NRM – how do we do it?
The Cube, Wodonga, 17 to 20 November 20019

Conference Report to the Australian Government

Executive Summary

NRM Regions Australia, along with our local partner Victoria's North East Catchment Management Authority, hosted Australia's 7th National NRM Knowledge Conference. Our conference theme and question was: *Creating Resilience through Natural Resource Management – how do we do it?*

One of our conference objectives to have a highly interactive conference with very different types of sessions that facilitated networking and sharing between delegates.

Our second objective was for the conference is to identify a shared future for Australian natural resource management – and actions we will collectively pursue to address the Conference theme – we named this our *Call to Action*.

Conference Overview

- Further into this report we present delegate feedback – overall the conference rated very highly with a score of 4.01 out of 5 (where 5 was ranked as excellent)
- 46 short presentations were made to the Concurrent Sessions
- 10 presentations were made during the Research and Development Panel
- 5 problem solving sessions and 5 side meetings were held - each led by a presentation from the session proponent
- 4 Partnership sessions were hosted by partner agencies
- 27 Poster displays were presented
- 7 field trips were run, 5 on the afternoon of Tuesday 19 November and 2 on the morning of Wednesday 20 November

Conference App

As mentioned, one of the conference's aim was to maximise opportunities for interaction between delegates and for delegates to contribute to the conference outcome. For this conference we used the CVENT suite of conference support tools that comprised:

- **Abstract management.** An invitation was circulated widely for people to propose presentations (in-session, video or poster) and these were assessed by the Organising committee and formed the basis of the conference program.
- **Registration web site.** The abstract management was linked to the program management component of the registration web site enabling the program to be developed as abstracts were assessed.

- **Crowd Compass.** This was a mobile app (phone/tablet) that allowed delegates to download the conference program, arrange meetings with other delegates, send comments/photos to the “social wall” and provide questions to presenters.

The mobile app was central to encouraging interaction and was reasonably well received by the delegates that used it (96 delegates provided feedback on the App and rated it as 3.45 out of 5). Also, 179 posts were made to the apps “social wall”.

It is anticipated that mobile apps will become an increasing feature of future conferences.

Considerations for future conferences arising from our experience with this app include:

- The app needs to be available much earlier in the process so that “download issues” can be largely dealt with before the conference;
- Delegates should be encouraged to “make appointments prior to the conference (this relates to the last point);
- A “word cloud” functionality would have greatly assisted with feedback on the *Call to Action*;
- Not all delegates will use the app with some finding the process distracting – future conferences will still need to have “paper based” options.

Conference Provocateurs

Our provocateurs (keynote speakers) were selected based on them providing a range of thought-provoking ideas. They came from vastly different backgrounds, but all shared a passion for sustainable use of our natural resources.

Indiah Fletcher and **Charlotte Caling** (year 10 students from Bright Secondary College) challenged the conference to address climate change challenges. **Sue Middleton** (former Chair of the National Landcare Advisory Committee) responded recognising and supporting those challenges and suggesting ways delegates could address these issues.

The **Hon Sussan Ley, Minister for the Environment**, outlined the policies and programmes of the Australian Government. **Professor Gretchen Daily** from Stanford University joined us by video link and outlined the international context and the Natural Capital Project (www.naturalcapitalproject.org), an international effort focused on achieving this integration through research, practical tools, and policy-oriented demonstrations in contrasting places around the world.

Dr Sally Box, Australia’s Threatened Species Commissioner, provided an international context for natural resource management in Australia as well as an overview of Australia’s threatened species efforts.

Dr Debra Parkinson outlined her research that illustrated the importance of recognising “gendered expectations” in preparing for and responding to natural disaster. **Gabriel Bani**, of the Wagadagam people, Mabuig Island, Torres Strait challenged delegates to recognise the importance to indigenous Australians of the link between language, family and caring for our land.

Sean O’Reilly, Macquarie Infrastructure and Real Assets (MIRA) and CEO of Viridis Agriculture presented a snapshot of MIRA’s investment Australian agriculture and how his company is responding to a low carbon future and addressing the international Sustainable Development Goals.

Our Change Agent Panel

So how do we respond? The Conference assembled a panel of speakers to share their experiences and aspirations in generating change. **Warwick Long** (local ABC Radio rural reporter) was the convenor and

panel members included **Lucinda Corrigan** (Farmers for Climate Action), **Mary-Anne Scully** (Australian Centre for Rural Entrepreneurship), **Brad Moggridge** (NESP) and **Vicki-Jo Russell** (Nature of SA and Amongst It).

The Conference MC

Suzanne Thompson guided delegates through the conference and along the way taught delegates to dance. Suzanne is from Barcaldine, western Queensland her custodial connection to country has been continuous and carries on the work of her father the late David Thompson, Great Grandparents King Billy and Polly of Bonnie Doon and Lourne, all of which had traditional links to the lands of the Kungeri and Iningai peoples.



Other conference innovations

Bringing together delegates from regional NRM organisations, NGOs and landcare groups provided a great opportunity for different Federal government programs to engage directly with delegates and to use this opportunity capture their feedback on emerging programs. Examples of this included:

- The Office of the Threatened Species Commissioner recorded video interviews of delegates engaged in threatened species projects and presented a well-received draft of this at the end of the conference;
- The draft National Soils Strategy was presented to the conference during one of the partnership sessions.

Conference Delegates

273 delegates attended over the course of the conference:

	Early Bird	Normal	Total
Day Delegates	7	16	23
Full Delegates	143	96	239
Partners		11	11
Total	150	123	273

And a bit more about the delegates

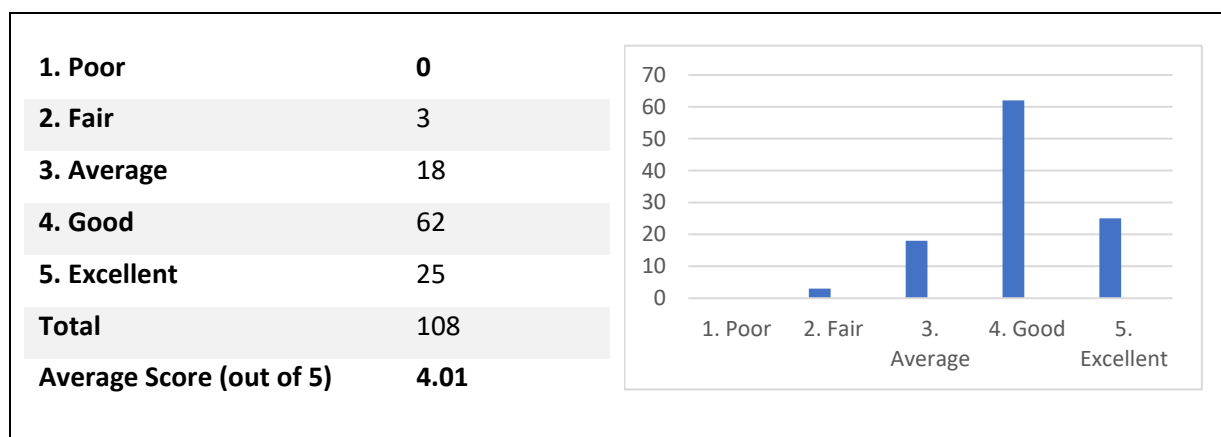
Government	42	15%	Queensland	31
NRM Organisations	158	58%	Victoria	115
Landcare	24	9%	New South Wales	52
Academia/Research	13	5%	ACT	36
NGO	9	3%	South Australia	20
Other	27	10%	Western Australia	12
	273		Tasmania	7
				273

How different were the delegate numbers to the last Conference?

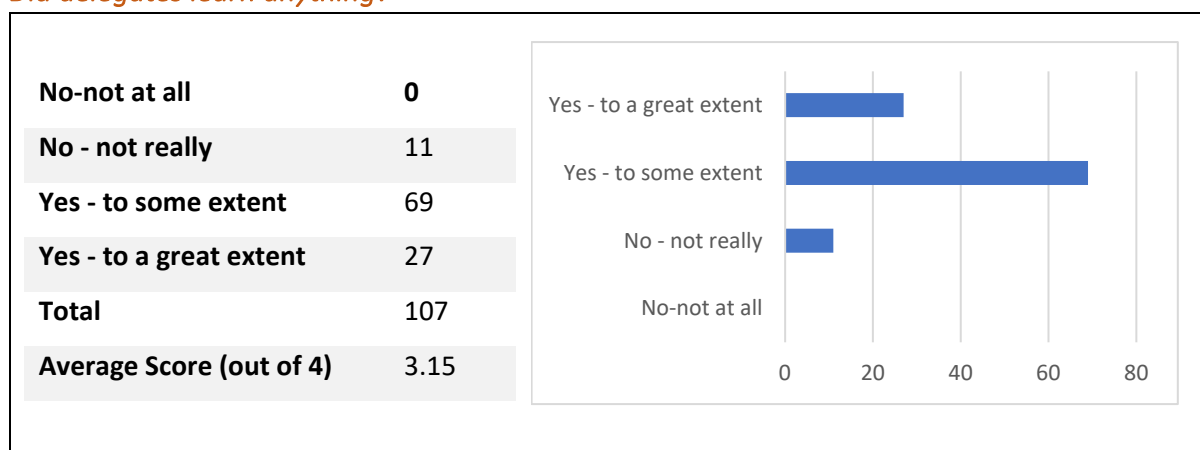
- Delegate numbers at the last conference (Coffs Harbour 2016) were estimated to be 329, so fewer delegates this time.
- NRM Organisation delegate numbers were lower. This may reflect the decreasing level of resources available to NRM regional organisations and their ability to fund conference participation by staff as well two state/territory-based conferences being held around the same time as this conference.
- State Government agency delegate numbers were lower (this is hard to track because of the distinction between regional NRM organisations and State government employees)
- Due to the concerted effort by North East CMA we had a greater proportion of Landcare/community delegates

How did delegates rate the conference?

33% of delegates responded to the request for feedback either through completing the hard copy evaluation at the Conference, using the mobile phone app, or in response to an email questionnaire (this attracted the most responses). Overall, on a scale of 1 to 5 (where 1=poor and 5=excellent) the conference score 4.01 (with 81% of respondents rating the conference as good or excellent).



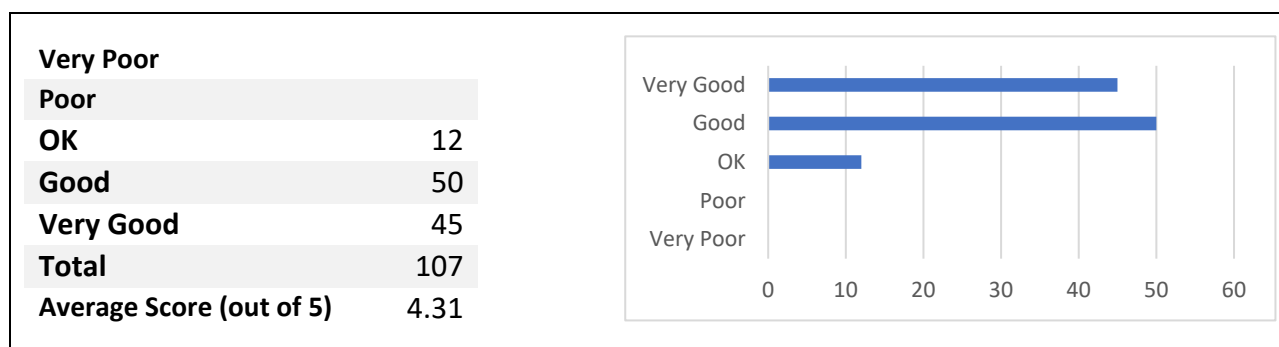
Did delegates learn anything?



How successful was the conference in providing networking opportunities?

One of the conferences objectives to provide opportunities for delegates to build national networks. We did this through interactive workshop sessions, an informal conference dinner and establishing a

dedicated area for people to arrange to meet using Crowd Compass (mobile phone app) appointment manager. While delegates did not utilise all these opportunities (the mobile app’s appointment manager had limited use) they did report a high level of satisfaction with the opportunities provided:



What is our Call to Action?

The *Call to Action* was the conference response to *Creating resilience through NRM – how do we do it?* The response was developed over the three days of the conference and drew on feedback from individual sessions. A dedicated writing team reviewed each of the session outputs and the notes from our **Talking Wall** to identify strategic themes. We provided regular updates on progress throughout the conference and used the final session to gauge delegate response to the draft *Call to Action*.

The draft can be found at Attachment 2. NRM Regions Australia will now modify the document and use it to help build momentum beyond the conference; to bring others along who couldn’t be at the conference, and to engage more widely across existing and new partners.

In the Conference feedback survey delegates were asked whether they felt they had enough opportunities to contribute to the Call to Action process, 87% of the respondents said yes.

Partners, both local and national



The success of our conference was due to resources provided by our local host North East CMA, the grants from the National Landcare Program through both the then Departments of Agriculture and Water, and Environment and Energy, and the Murray Darling Basin Authority and the contributions made by North East Water, Jasper Coffee and NRM jobs.

Conference Highlights (taken from the Conference Social Wall)



Welcome to Country - the Wagarra Dance Group



Indiah Fletcher and Charlotte Caling challenge delegates



The conference dinner at Junction Square, Wodonga



Chiltern & Mt Pilot Field Trip



Bright Field Trip



Hume Dam Field Trip



Wonga Wetlands and Yindyamarra Sculpture Walk Field Trip



Lower Ovens Wetlands Field Trip



Professor Gretchen C. Daily, Stanford University

Attachment 1: Conference Program

Sunday 17 November 2019	
6.00 pm	Welcome Reception and Registration in The Cube foyer
6.30 pm	Welcome to Country – Allan Murray
6.30 pm	Welcome from NRM Regions Australia and NECMA
Monday 18 November 2019	
8.30 am	Registration in The Cube foyer
9.00 am	Conference Opening - Suzanne Thompson (Conference MC)
9.00 am	Welcome to Country – Wagarra Dance Group
9.10 am	Provocateurs: Indiah Fletcher, Charlotte Caling and Sue Middleton
9.40 am	Interactive workshop session Introduction to our collective conference report <i>Creating Resilience through Natural Resource Management – how do we do it? Call to Action-</i> Suzanne Thompson, Katie Warner and Gary Rodda Familiarisation with the conference Crowd Compass app
10.00 am	Our policy environment: Dr Kate Andrews, Executive Officer, NRM Regions Australia and Dr Sally Box, Australia’s Threatened Species Commissioner
10.30 am	Morning Tea
11.00 am	The Hon. Sussan Ley MP, Minister for the Environment
11.15 am	Concurrent 1: Resilient communities and industries (4 Tracks)
12.45 pm	Lunch – with Videos in main auditorium from 1.15 pm to 1.30 pm <i>Art and Ecology – Alpine Peatlands (4.16 minutes)</i> , The first film illustrates the importance of Alpine Bogs, and the work that two scientists are undertaking locally. <i>Living Links: Connecting people and nature in Melbourne’s south-east (5 minutes)</i> , Corinne Mays Port Phillip & Westernport Catchment Management Authority
1.45 pm	Launch of Climate Works Natural Capital Road Map, Eli Court, Program Manager, Climate Works
2.00 pm	Partnership Session – Workshops (see attachment)
3.30 pm	Afternoon Tea
4.00 pm	R&D and University Panel (see attachment)
5.30 pm	Meeting Space Session - where individuals can meet with others in TAFE Space 2 upstairs
6.00 pm	Annual Local Aboriginal Acquisitional Art Prize and Exhibition 2019 in TAFE Space foyer
Tuesday 19 November 2019	
8.30 am	Plenary: <ul style="list-style-type: none"> • Call to Action team: to report on progress • Gretchen C. Daily, Director, Center for Conservation Biology Bing Professor of Environmental Science, Department of Biology Senior Fellow, Woods Institute for the Environment - presentation via Video Link
9.15 am	Change Agent Panel hosted by Warwick Long – ABC Rural Reporter Panel members:

Lucinda Corrigan, Farmers for Climate Action
Matt Pfahlert, CEO, Australian Centre for Rural Entrepreneurship
Brad Moggridge, National Environment Science Program

10.15 am	Poster Session in TAFE Space 1
10.45 am	Morning Tea in TAFE Space
11.15 am	Problem Solving Session (see attachment)
12.15 pm	Dr Debra Parkinson, Manager, Gender & Disaster POD - An initiative of WHGNE, WHIN and MUDRI, <i>Disaster survivors' accounts of resilience - and the central role of gendered expectations</i>
12.45 pm	Lunch - with Videos in main Auditorium from 1.15 pm to 1.30 pm <i>Falls Creek Public Art - the making of "Big Fella"</i> (2.5 minutes) The film covers the making of the Big Fella mural, a local artwork that has cultural, social and environmental significance surrounding the Bogong Moth and the Water Tank as the life source for the Village, just as Bogong Moth's had been the food source for Indigenous ancestors. <i>Farmers Connect with Mallee Parks: Re-establishing links between the Murray Sunset and Wyperfeld National Parks.</i> (3 minutes). Stephanie Creer, Mallee Catchment Management Authority <i>Engaging 'hard to reach' landholders in endangered species conservation</i> (5 minutes). Gaye Gadsden, Friends of the Helmeted Honeyeater Inc
1.00 pm	Field Trips. 5 Field Trips will be offered. These will be repeated on Wednesday morning
1.40 pm	Provocateur: Gabriel Bani, Wagadagam people, Mabuiag Island, Torres Strait: <i>Land – Language – Family - Nation</i>
2.00 pm	Concurrent Session 2: Ecosystem resilience (3 Tracks)
3.30 pm	Afternoon Tea
4.00 pm	Side Meetings Session (see attachment)
5.30 pm	Meeting Space Session
7.00 pm	Conference Dinner. Junction Square (see map) – An informal gathering with Street Food and be entertained by Pete Denahy.
Wednesday 20 November 2019	
8.30 am	Field Trips
8.30 am	Plenary <ul style="list-style-type: none">• Provocateur: Dr Joelle Gergis (Fenner School, ANU) – <i>Sunburnt Country: The future and history of climate in Australia</i>• Our <i>Call to Action</i> team: to report on progress
9.00 am	Concurrent 3: Resilience on a Landscape Scale - why is this important? (3 Tracks)
10.30 am	Morning Tea
11.00 am	Sean O'Reilly, CEO, Viridis Ag. Sustainable Development Goals, business and agriculture
11.30 am	Concurrent Session feedback – what did we learn
12.30 pm	Lunch – with Videos in main auditorium from 1.15 pm to 1.30 pm <i>Addressing the Recovery of the Small Purple-pea in Central West NSW</i> (3 minutes) Tanya Muccillo Central West Local Land Services

Tyrrell Project: Ancient Landscapes, New Connections (1.49 minutes) Nicole Wishart,
Mallee Catchment Management Authority
Dieback management - a prioritise, collaborative and cross tenure approach, Brett Dal
Pozzo, South Coast NRM Inc

1.30 pm Bringing it all together what did we learn/hear over the past three days? **Emma Jackson,**
Chair of NRM Regions Australia and Chris Norman, CEO, Goulburn Broken CMA

2.00 pm Crafting the *Call to Action* -what is the document looking like and where to from here -
Suzanne Thompson, Katie Warner and Gary Rodda

3.30 pm Afternoon Tea and Conference Close

Concurrent 1: Resilient communities and industries				
	Indigenous	Climate Adaptation	Sustainable Agriculture	Innovation Showcase
Style	10-minute presentations followed by discussion	10-minute presentations followed by discussion	10-minute presentations followed by discussion	Four x 5-minute presentations followed by 20-minute table discussion led by each presenter. Repeat with four more 5-minute presentations and 20-minute table discussion
Facilitator	Suzanne Thompson	Natarsha Woods, Wheatbelt NRM	Sally Standen First Assistant Secretary, Rural Policy and Farm Performance, Department of Agriculture	Sue Middleton
Location	TAFE Space 1	Auditorium	TAFE Space 2	Cube 2
	<i>Using data to help understand the benefits delivered from Indigenous environmental partnerships and activities</i> Cathy Robinson, CSIRO	<i>Landscape Opportunity and Options for Carbon abatement Calculator</i> Cara Stitzlein, CSIRO	<i>Australian Rice Industry - leading the way in international sustainability and market access</i> Gary Rodda, Local Land Services – Murray & Mark Groat, Sunrice	<i>Feedbase Four - pasture best management practices</i> Michael Taylor, MLA <i>Good stormwater design facilitates resilience building for urban communities</i> Andrew O’Neill, Healthy Land and Water
	<i>East West Alliance</i> Neville Atkinson, Goulburn Broken CMA	<i>Unlocking the carbon abatement potential of the land sector through aggregation – what are the barriers, and what is the role for NRM organisation?</i> Zoe Ryan, Climate Friendly	<i>Creating resilience through Regenerative Agriculture</i> Margie Milgate, Regen in Action	<i>An Innovative, Cloud Based, Property Flood Risk Report Generation Portal for the Greater Shepparton City and Goulburn Broken CMA</i> Brian Jackson, Water Technology
	<i>Noongar Budjar Rangers - a long long path to success</i> Rebecca Palumbo Wheatbelt NRM	<i>Creating resilience through Natural Resource Management, How do we do it?</i> Lachlan Campbell, North East Catchment Management Authority	<i>The NSW Oyster Industry & the value of relationships</i> Andy Myers, Ocean Watch	<i>Virtual fencing and herding</i> Mark Turner, Goulburn Broken CMA

Concurrent 1: Resilient communities and industries				
	Indigenous	Climate Adaptation	Sustainable Agriculture	Innovation Showcase
	<p><i>Supporting Indigenous training and threatened Species through collaboration</i></p> <p>Kacie Melfi, Port Phillip and Westernport CMA</p>	<p><i>Carbon Neutral by 2030 (CN30)</i></p> <p>Doug McNicholl, Meat & Livestock Australia</p>	<p><i>Back Barn Farms – their story</i></p> <p>Jade Miles</p>	<p><i>Balancing power and pressure - Development of an Irrigation Energy Calculator</i></p> <p>Chris Nicholson, Goulburn Broken CMA</p> <p><i>Sharing plant disease information for better biodiversity outcomes using online technology - “Dieback Information Delivery Management System” – DIDMS</i></p> <p>Brett Dal Pozzo, South Coast NRM Inc.</p> <p><i>Smart Technology Demonstration Trials for Sustainable Outcomes</i></p> <p>Jonathan Jenkin, GHCMA</p> <p><i>Introducing the Waterbody Area Mapping and Monitoring (WAMM) tool.</i></p> <p>Trent Kershaw, Digital Earth Australia Program Director, Geoscience Australia</p>

Concurrent 2: Ecosystem resilience			
	Indigenous	Climate Adaptation	Innovation
Style	10-minute presentations followed by discussion	10-minute presentations followed by discussion	10-minute presentations followed by discussion
Facilitator	Brad Moggridge, National Environmental Science Program	Brendan Wintle Director, Threatened Species Recovery Hub	Emma Campbell First Assistant Secretary, Biodiversity Conservation, Department of Energy and Environment
Location	Cube 2	Auditorium	TAFE Space 1
	<i>Barapa Barapa Wamba Wemba Water for Country project</i> Nick Stewart, North Central CMA	<i>The Australian Ecosystem Models Framework</i> Anna Richards et al, CSIRO	Vicki Jo Russell, Chair - Nature of SA and Amongst It
	<i>Finding the track to Mindarabin Reserve – an example of successful Aboriginal engagement on the south coast of WA</i> Karen Herlihy, South Coast Natural Resource Management	<i>Opportunities for Traditional Owners to partner with CMAs in the implementation of carbon abatement projects – findings from the Victorian CAPOTO project.</i> Zoe Ryan, Climate Friendly	<i>Food Security and strategic NRM investment</i> Keith Pekin, Perth NRM
	<i>Exploring the key considerations when involving Aboriginal people in Natural Resource Management; Learnings from Central Murray Forests Ramsar Project.</i> Jamie Hearn, Murray Local Land Services & Roland Atkinson - CEO Cummurgunga Local Aboriginal Land Council	<i>Climate Action</i> Gary McDonald and Matt Appleby, Bush Heritage Australia	<i>Community based deer program</i> Lachlan Campbell, North East Catchment Management Authority
		<i>Great Southern Ark – The rewilding of southern Yorke Peninsula, South Australia</i> Andy Sharp, Natural Resources Northern & Yorke	<i>Trying a new youth pitch, and the Landcare passion</i> Barry Kennedy, Port Phillip & Westernport Catchment Management Authority

Concurrent 3: Resilience on a Landscape Scale - why is this important?

	Water	Climate Adaptation and Drought	Innovation
Location & Style	10-minute presentations followed by discussion	10-minute presentations followed by discussion	10-minute presentations followed by discussion
Facilitator	Carla Littlejohn, International Riverfoundation	Helen Haines MP	Lucinda Corrigan
Location	TAFE Space 2	Auditorium	Cube 2
	<i>Water for the environment- the flow on effect</i> Erin Lenon, Commonwealth Environmental Water Office	<i>Building basin wide resilience through ecosystem-based adaptation in the Lockyer Valley, South East Queensland, Australia.</i> Julie McLellan, Healthy Land and Water	<i>Towards Landscape SA – A reform program to enhance the way natural resources are managed across South Australia</i> Saravan Peacock, Department for Environment and Water (SA)
	<i>Guiding Principles in Waterway Management – Key Considerations for Intervention</i> Michael Cheetham, Water Technology	<i>Remnants on Agricultural Land – An Important Consideration in Achieving Landscape Scale Resilience?</i> Stephanie Creer, Mallee CMA	<i>How do national pest and weed management datasets help understand change at the landscape scale</i> Nyree Stenekes, ABARES
	<i>Tri-State Murray NRM Alliance- Alliance Native Fish Blueprint</i> Fiona Johnson, Tri-State Murray NRM Alliance	<i>Joining the dots – Cutting carbon and building resilience at the same time?</i> Deborah Riley, Melbourne Water	<i>Communities of Practice – furthering seascape resilience</i> Simon Rowe, Oceanwatch Australia (Marine NRM)
	<i>Why Investing in People is Powerful – The Waterway Management Twinning Program</i> Adam Bester and Siwan Lovett, Glenelg Hopkins CMA	<i>Tracking change - Wheatbelt NRMs Dashboard</i> Natarsha Woods, Wheatbelt NRM	<i>Managing for resilience at the landscape scale</i> Jen Wilson, GBCMA
	<i>Intervention, monitoring and innovation on the River Murray</i> Hugo Bowman, Murray Darling Basin Authority		<i>Reef Credits, New partnerships for innovative solutions – building funding resilience for the Reef</i> Scott Crawford, NQ Dry Tropics

Partnership Session				
	Environmental Biosecurity Office	Long Term Monitoring and related projects (Dept of Environment and Energy)	Have your say on the new National Soils Strategy (Dept of Agriculture)	MDBA
Location	Auditorium	Cube 2	TAFE Space 2	TAFE Space 1
Facilitator	Ian Thompson Chief Environmental Biosecurity Officer	Presenters: Dr Ashley Leedman (Department of Environment and Energy), and Dr Samantha Capon (Senior Lecturer, Australian Rivers Institute, Griffith University).	Troy Clarkson, A/g Director, Soils Section, Department of Agriculture Sue Bestow, Senior Policy Adviser to the National Soil Advocate, Department of the Prime Minister and Cabinet	Vicki Woodburn (General Manager Engagement Partnerships and Policy)
Presentations	Justin Bellinger – WA State-wide dieback management – Prioritisation and finding stakeholder agreement Andrew Peters – Integrating science, society and technology in a surveillance system that keeps wildlife healthy To be followed by a workshop session covering Regional Planning and Biosecurity	The Region Land Partnerships program is the Australian Government’s flagship NRM program, investing up to \$450 million in environment and sustainable agriculture projects over the five years to June 2023. Regional Land Partnerships continues the Australian Government’s longstanding commitment to deliver natural resource management at a regional scale. The Australian Government is committed to demonstrating and accounting for the outcomes its NRM investments through on-ground ecological monitoring. To this end, the Department of Environment and Energy are working with Griffith University to develop a long-term monitoring program to better assess the impacts of the four environment	We invite you to participate in an interactive workshop to help shape the new National Soils Strategy. Long term land use pressures and the current drought, are resulting in widespread soil degradation. The Australian Government is taking action. Recognising the importance of good soil health to our environment, and the role it plays in food production, the Prime Minister has committed to addressing soil degradation through the development of a National Soils Strategy and by reinstating, and making permanent, the Office of the National Soils Advocate. The National Soils Strategy will build on the significant body of work already completed in soils across Australia. Presenting an opportunity to further that work, the strategy will also identify knowledge gaps, including soil monitoring and data, and guide future investment in order to support	The value of partnerships to create resilience from a whole-of-Basin perspective <ul style="list-style-type: none"> • Why is water in the Murray-Darling Basin so contested? • What are some of the challenges we face? • What lessons can we learn from the journey so far?

Partnership Session				
		<p>focused RLP outcomes and to help guide investment in future NRM programs. This workshop will be an introduction to the long-term monitoring framework and provide an opportunity to be involved and provide feedback and ideas.</p>	<p>agricultural production and environmental health.</p> <p>This session will include a short presentation from Department of Agriculture staff and a representative from the Office of the National Soils Advocate, followed by a workshop seeking genuine input from all participants on what a National Soils Strategy could look like. In small groups you will have the opportunity to have your say on what you think should be covered in the strategy, including priorities, which will be considered in developing a proposal to the Australian Government.</p>	

R&D and University Panel	
Location & Style: Revised: 6 2-minute presentations followed by 6 table discussions, return to main Auditorium for a further 6 presentations followed by 20 minute table discussions. Return to the main Auditorium for discussion – what did we learn, how do we improve collaboration?	
Facilitator: Professor Nick Bond, Centre for Freshwater Ecosystems, Latrobe University	
Researcher 1	<i>Resilience in Australian NRM</i> , Warren Keedle, Charles Sturt University
Researcher 2	<i>Empowering community groups to engage and build capacity</i> . Catherine Allan, Institute for Land, Water and Society, Charles Sturt University
Researcher 3	<i>Developing DNA-based monitoring programs for Victorian rivers</i> . Michael Shackleton, La Trobe University
Researcher 4	<i>Conserving turtles to increase resilience of freshwater systems</i> . James Van Dyke, La Trobe University
Researcher 5	<i>Improving research and on-ground collaboration to support NRM in Australian regional catchments</i> Wesley Ward, ILWS, Charles Sturt University
Researcher 6	<i>Food for thought</i> . Paul McNerney, Centre for Freshwater Ecosystems, La Trobe University
Researcher 7	<i>Farming for biodiversity, profit and resilience</i> . Michelle Young, Sustainable Farms ANU
Researcher 8	<i>What does Citizen Science look like?</i> Katrina Dent, Reef Catchments and Kevin Kane, North Queensland Bulk Ports.
Researcher 9	<i>Hydrological Drought Recovery: A statistical analysis of hydrological resilience throughout Victoria</i> . Tim Peterson, Monash University
Researcher 10	<i>If we are going to fix it, where do we get the parts??</i> Martin Driver Australian Network for Plant Conservation

Problem Solving Session - 5 regional NRM Organisations to present their most challenging problem					
	<i>Effective and Efficient MER Frameworks</i>	<i>How do we protect our paddock trees within the agricultural landscape?</i>	<i>Collapse or Comply? Building Capacity of Traditional Owners for Compliance Mentoring</i>	<i>Future support systems for the regional NRM network.</i>	<i>Buffel is in remote areas, how do we deal with it!</i>
Location	Cube 2	Auditorium	TAFE Space 2	TAFE Space 1	Meeting Room
Facilitator	Stephanie Creer, Mallee CMA	Laura Williams, ACT NRM	Moni Carlisle, Don Whap and Gabriel Bani, Torres Strait Regional Authority	Kate Forrest, Rangeland NRM Alliance	Adam Wood and Tatia Currie, Alinytjara Wilurara NRM Board
Contributors		<i>YearofthePaddockTree campaign</i> Bek Caldwell, Goulburn Broken CMA		Panel members: Emma Jackson, Chair, NRM Regions Australia. Paul McDonald, Southern Queensland Landscapes. John Riddiford, Corangamite CMA.	

Side Meetings					
	<i>National NRM Regions Carbon Working Group</i>	<i>Delivering Government Priorities – Women in Leadership</i>	<i>Insights from the national weeds data collection survey: opportunities for national collaboration?</i>	<i>Understanding values and frames for the next generation NRM Communication</i>	<i>Spatial Smarts Grow Regional Understanding and Community Action</i>
Facilitator	John Gavin, Cape York NRM	Amie Twentyman, West Gippsland CMA and Bec Hemming, East Gippsland CMA	Katherina Ng, ABARES	Dr Trudi Ryan	Alun Hoggett Spatial Information & Mapping Southern Queensland Landscapes
Location	Meeting Room	Auditorium	TAFE Space 1	TAFE Space 2	Cube 2

Field Trips	
1	<p>Hume Dam: This will be a relatively short field trip (approximately 2 hours) so delegates can return to the Conference to participate in Tuesday afternoon/Wednesday morning sessions. Participants will gather near the dam wall and hear from the presenter what role the structure plays in running the River Murray to support sustainable water practices for communities, industry and the environment. They will also hear a snapshot of the history of the dam and its place in the overall management of the Murray-Darling Basin. This site visit is very timely considering that in November 2019 the centenary of the beginning of Hume Dam will be celebrated.</p>
2	<p>Lower Ovens Wetlands: The Ovens River catchment comprises 0.7% of the Murray–Darling Basin and contributes 6% of Basin water. It is one of the largest unregulated waterways in Victoria. The Lower Ovens floodplain (Ovens River below Wangaratta), is recognised for its environmental and hydrological values in the Basin. The floodplain and its extensive network of wetlands are in much better condition than many other rivers in the Murray-Darling Basin, largely due to the absence of major water storages and major extractions from the upper catchment. The floodplain supports a range of threatened species including birds, amphibians and reptiles, and provides habitat and refuge for the threatened Murray Cod and Golden Perch. Its River Red Gum canopy is among the healthiest in the Basin. It is also significant to local Aboriginal people. The Lower Ovens River was declared a Heritage River due to the quality of River Red Gum forests and fish diversity. Tour stops and discussion will include fish passage sites, including Sydney Weir at Wangaratta and Frosts Crossing in the National Park, the confluence of the King and Ovens Rivers and the challenges of major towns on floodplains, legacy issues from Victoria’s gold mining history, challenges related to willow use and management, pest plant and animal control and community engagement in wetland restoration.</p>
3	<p>Chiltern – Mt Pilot Biodiversity and Cultural Hot Spot: This tour will focus on the partnerships and works being undertaken in the Barnawartha - Chiltern – Mt Pilot area to improve the resilience of threatened ecological communities and species, including a visit to the culturally significant Yeddonba Aboriginal Cultural Site at Mt Pilot. Key sites to visit:</p> <ul style="list-style-type: none"> • Barnawartha - Decommissioned water treatment site - Discussion on the large scale ‘Bush for Birds’ five-year project funded by the Australian Government’s National Landcare Program that aims to help landowners create and improve habitat for the threatened Regent Honeyeater. • Chiltern Mt Pilot National Park and associated sites - critical habitat for threatened flora and fauna species – long standing community interest in caring for the park with Friends of Chiltern Mt Pilot National Park. <p>Mt Pilot site of Aboriginal rock art - Yeddonba Aboriginal Cultural Site. The Yeddonba site boasts many significant areas including a rock shelter and bush tucker area. The site is of particular archaeological importance as it features an Aboriginal red-ochre painting, which is believed to be of a Tasmanian tiger (thylacine), supporting the belief that the animal once inhabited the mainland. A well laid out circular walking track will take you by these significant sites, with information boards along the way to help narrate your journey. This walk can easily be completed in an hour.</p>
4	<p>Wonga Wetlands (to incorporate Yindyamarra Sculpture Walk): The Wonga wetlands is an ecosystem of man-made lagoons and billabongs covering around 80 hectares (when full). It is a haven for wildlife and a mecca for birdwatchers, photographers, bushwalkers and families. The wetlands are a by-product of AlburyCity’s Waterview wastewater (sewerage) treatment plant, constructed in the late-1990s. A</p>

Field Trips	
	<p>requirement of the Waterview plant was that all treated reclaimed water was to be recycled, that is, none goes back into the Murray River.</p> <p>To achieve this, the treated reclaimed water is irrigated on timber plantations and improved pastures in the warmer months and discharged to Wonga Wetlands in the winter months. (Albury generates around 15 megalitres per day of treated reclaimed water, the equivalent of six Olympic size swimming pools).</p> <p>Along the way we will stop at The Yindymarra Sculpture Walk. This features a series of stunning contemporary Aboriginal sculptures lining the Wagirra Trail from Kremur Street in West Albury to Wonga Wetlands.</p>
5	<p>Bright:</p> <p>With rise of Artisan businesses such as micro brewery's and cheese making in the North East other support businesses have also grown, hops production and dairy are just a few. Well managed this can provide growth and prosperity to a region but a lack of strategy could result in disputes over water licencing, impacts on catchments or poor waste management outcomes. This tour will start from the catchment with North East Waters investment in an off river storage at Freeburg to protect environmental flows, to the hops growing in Eurobin leading on to the Bright Brewery and then finishing at Myrtleford waste water treatment plant recently upgraded to include a wet land treatment process.</p>

Poster Session			
Title			Organisation
1. Community leadership in planning environmental water delivery at Kanyapella Basin, in the Goulburn Broken Catchment of Victoria, Australia.	Bek	Caldwell	Goulburn Broken CMA
2. Plan2Farm – put your farming future in your hands	Jacqui	Knee	North Central CMA
3. The Great Escape – finding new homes for the critically endangered Helmeted Honeyeater and lowland Leadbeater's Possum	Kacie	Melfi	Port Phillip and Westernport CMA
4. Little Footprint Big Future	Katherine	Allen	NACC NRM
5. A change of plan, building capacity and resource resilience through community engagement.	Lachlan	Campbell	North East Catchment Management Authority
6. The importance of protecting flows for aquatic species at risk from increasing temperatures	Catherine	McInerney	North East Catchment Management Authority
7. Preserving Grey Box Grassy Woodlands in Central West NSW	Kyra	Roach	Central West Local Land Services
8. Restoring farm dams to wetland refuges	Laura	Williams	ACT NRM
9. Making Green Spaces Good Again; remnant eucalypts in the urban environment	Luke	Bulkeley	ACT NRM
10. Improving the dynamics of the Mitta through integration and collaboration	Natalie	Dando	Murray Darling Basin Authority
11. RED CARD – 15 YEARS OF GRASS ROOTS ACTION	Rebecca	Palumbo	Wheatbelt NRM

Poster Session			
Title			Organisation
12. A Healthy Coliban Catchment project	Rod	White	North Central CMA
13. Building resilience in the Shepparton Irrigation Region: taking hybrid drainage from concept to reality	Simon	Cowan	Goulburn-Murray Water
14. Creating resilient relationships with community and partners to achieve NRM goals.	Tony	Gardner	West Gippsland CMA
15. Wet Tropics Major Integrated Project (WTMIP)	Carole	Sweatman	Terrain NRM
16. Can our soils be managed sustainably? – A South Australian experience over 20 years	Craig	Liddicoat	Department for Environment and Water (SA)
17. Cockies helping Cockies – Red Tailed Black Cockatoo recovery across the South Australian & Victorian border	Vicki-Jo	Russell AM,	South-eastern Red-tailed Black-Cockatoo Recovery Team (SA)
18. BITEBACK - A model of community driven pest management in South Australia	Jodie	Gregg-Smith	Natural Resources SA Arid Land
19. Eyes on Eyre – community supporting coastal protection across Eyre Peninsula in South Australia	Andrew	Freeman	Natural Resources Eyre Peninsula
20. A Platform for Ecological Restoration Research Infrastructure (PERRI): accelerating learning and transdisciplinary collaboration in NRM	Suzanne	Prober	CSIRO
21. Options for renovating nature under climate change: a global synthesis	Suzanne	Prober	CSIRO
22. Cohuna Fish Screens	Peter	Rose	North Central CMA
23. Using Hydrogeological Mapping as a Land Management Tool in Central West NSW			Central West Local Land Services
24. Addressing the Recovery of the Small Purple-pea in Central West NSW	Tanya	Muccillo	Central West Local Land Services
25. Local Leaders, building resilience capacity in regional communities	Tracey	Potts	Central Tablelands LLS
26. Community Deer Program	Lachlan	Campbell	North East Catchment Management Authority
27. Achieving Landscape Resilience through Targeted Land Management actions	Gareth	Lynch	Mallee CMA

Attachment 2: The Draft Call to Action

NRM Knowledge Conference

CALL TO Action

Day 3 Draft

We are in an unfolding environmental crisis.

Acknowledging this we will be leaders beyond NRM and take action to –

1. Show the increasing risks we take and the true costs
2. Build climate and landscape literacy across Australia
3. Partner with Indigenous Australians, respecting knowledge and relationship with country
4. Link to national and international initiatives to increase our impact
5. Develop adaptation pathways with people
6. Seize opportunities for positive transformations

We will do this working with Australia's land managers and communities to create resilience in our people, industries and environments

The following pages pull together ideas from the 2019 conference to explain how.

The problem

- “We are in an environmental emergency”
- “If you are going to keep inviting me to a strategic workshop, I am going to keep on not coming”
- “We have to show that our programs are working or the courage to say that they are not working”
- “NRM - its time to transform” – what does that look like? How do we do it? Who does it? How do we become leaders in NRM?
- “If you're not prepared to change, you can't expect others to!”

The Call to Action

Be curious, take risks, learn, and try again

- Challenge the status quo
- Work on imperfect solutions
- Permission to innovate, permission to take risks and permission to fail – build a learning culture!
- Bring Indigenous knowledge to the table as a science
- Build a shared and growing ‘library’ of knowledges across the country
- Co-design our research
- Be common sense disruptors
- Investigate options for regional carbon neutrality

Make new friends – “mixed mob”

- Look for common ground with ‘new’ others and build new partnerships
- Create a shared language that includes everyone, beyond NRM
- Continue to challenge ourselves to include people
- Build on shared values for practice change

It’s a system – plan, implement and review in the systems way

- Apply systems approaches to land use management
- Collaborate with community to plan regionally - using the latest understandings of climate and adaptation to identify tipping points and responses and pathways
- Bring agriculture and environment together at all scales (farm to government)
- Build NRM capacity with Indigenous knowledge of systems
- Build in social outcomes (on-farm, project and program level) and improve M&E to include social capital and barriers
- Account for shocks/risks

NRMs – design to adapt

- Apply a resilience approach to NRM sector (re- design and re-booting)
- Diversify funding base and build new business models within the NRM sector
- Prepare for transformation and take the windows of opportunity – after shock
- Co-design our work
- Increase access for Indigenous people into decision making
- Create new business models with NRMs for carbon farming
- Include Indigenous cultural heritage in NRM