Mallee Regional Innovation Centre

ONE BASIN CRC

River Reflections

New models for regional innovation in the Murray-Darling:

The Mallee Regional Innovation Centre and the

One Basin CRC

Rebecca Wells (Chief Executive Officer – Mallee Regional Innovation Centre

Professor Michael Stewardson, Interim CEO One Basin CRC (Cooperative Research Centre)

The University of Melbourne
La Trobe University
SuniTAFE

Mallee Regional Innovation Centre

Mallee Regional
Innovation Centre

Strategic Advisory Panel

The Centre has a Strategic Advisory Panel that comprises of local representatives who, both individually and as a group, bring a depth of expertise and knowledge that assist in steering the Centre for the betterment of the region.

Mallee Regional
Innovation Centre

Vision

The Mallee region: a global leader in collectively innovating and adapting to achieve sustainability of its natural resources and food systems.

Purpose

To mobilise a network of collaboration, innovation and adaptation that enhances the position of the Mallee region as a globally competitive food bowl in an environment that is prosperous, sustainable and resilient.

Australian Government
Department of Agriculture, Water and the Environment

Future Drought Fund

VICTORIA DROUGHT RESILIENCE ADOPTION & INNOVATION HUB

A unique state-wide partnership

to enhance drought resilience

on farms,

in the environment,

and in our communities

Mallee Regional Innovation Centre

North West Irrigated Horticulture Node Lead, Victoria Drought Hub

HUB DESIGN

Nodes

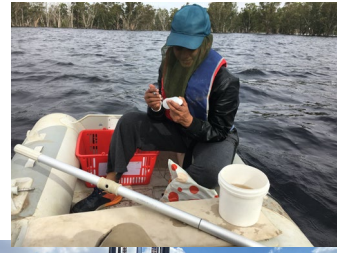
2	Gippsland
3	South-West
4	North-West
5	NW Irrigated Horticulture
6	North-East

Mallee Hydrogen Technology Cluster

Mallee Regional Innovation Centre

What else……

- Growing smarter in the Mallee – a regional summit
- Dried vine pruning project
- Artificial intelligence methods for early disease detection using hyperspectral and thermal imagery
- Student engagement - 4 x PhD's in the region, interns and Masters student projects, Women in STEM program
- Department of Agriculture, Water and Environment – regional pilot program
- Contributing to voice of the region



Mallee Regional Innovation Centre

One Basin CRC (Cooperative Research Centre)

- Mallee Regional Hub
- Genuine collaboration – industry lead and activities to date
- Reach and access
- Researchers and PhD’s in the region
- Impact on the ground
- Meaningful translation

Mallee Regional Innovation Centre

We acknowledge the Traditional Owners of the lands in the Murray-Darling Basin and pay respect to their Elders, past, present and emerging.

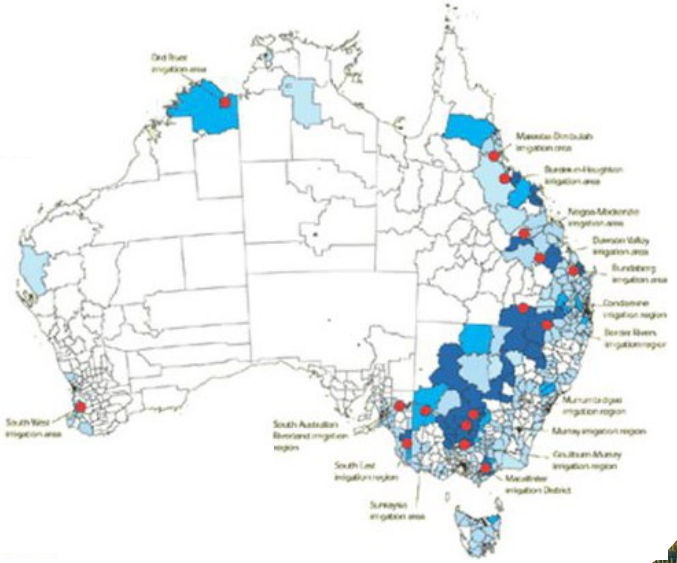
ONE BASIN CRC

Michael Stewardson
Interim CEO

Productive, resilient, and sustainable irrigation regions

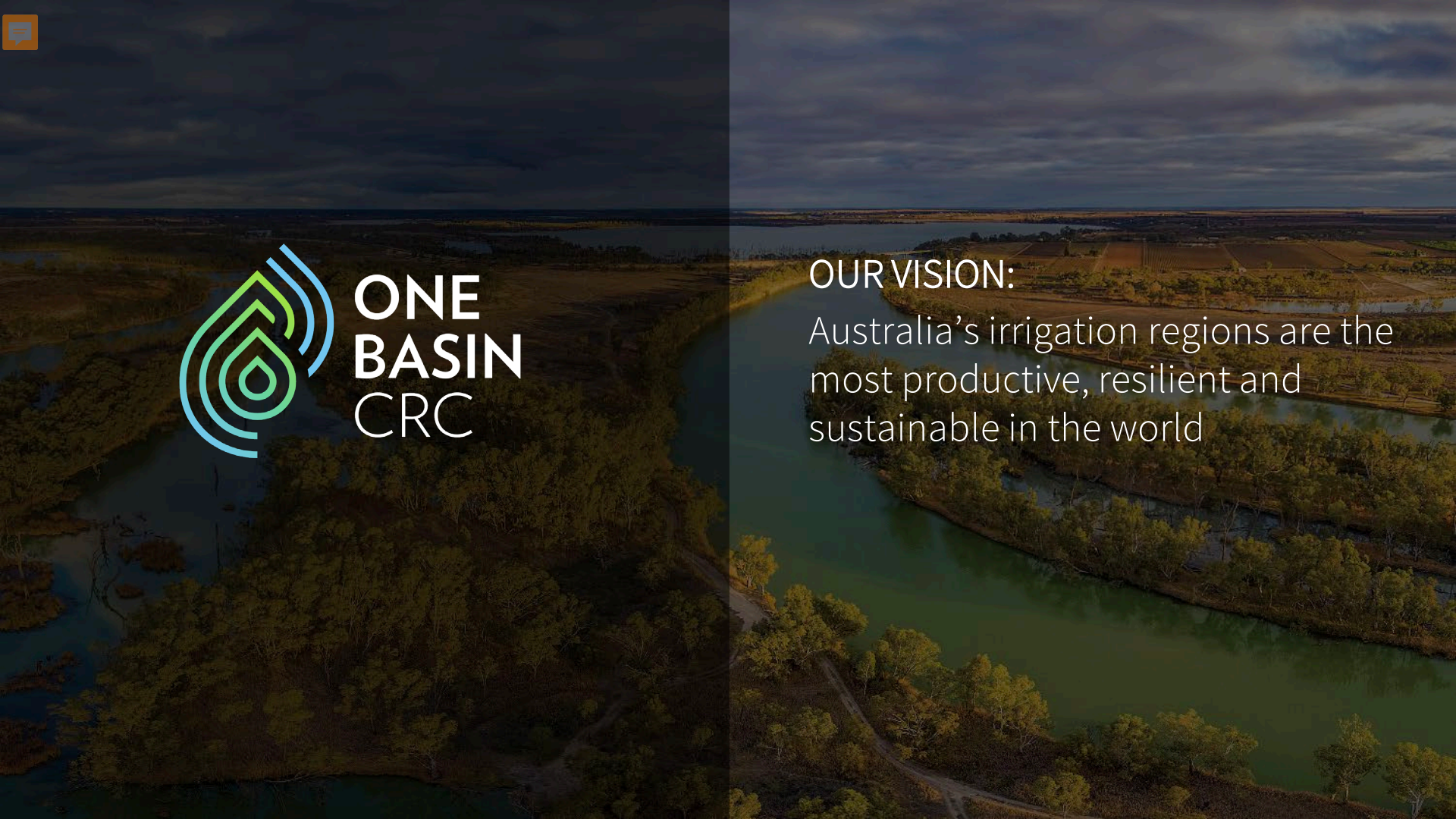
IRRIGATION REGIONS

Irrigation Regions (NLWRA)



Australia's Irrigated Agriculture

- 20,700 irrigation farms in Australia
- <1% of agricultural area (5% of tilled area)
- ~$18b annual production
- 30% of total agricultural production
- 50% of agricultural profit
- 60% of Australia's total water use
- 65% of irrigated area is in the Murray-Darling Basin


ONE
BASIN
CRC
OUR VISION:
Australia’s irrigation regions are the most productive, resilient and sustainable in the world

THE OPPORTUNITY AND CHALLENGE FOR IRRIGATION REGIONS

Research confirms there is not enough water to meet the requirements of the Murray-Darling Basin Plan

Farmers' report warns climate crisis puts Australia's food supply at increasing risk

First Nations people meet with Murray-Darling Basin Authority to discuss environmental flows

PRODUCTIVE, RESILIENT, AND SUSTAINABLE IRRIGATION REGIONS

ONE BASIN CRC

A partnership across sectors

Agriculture

Water

Environment

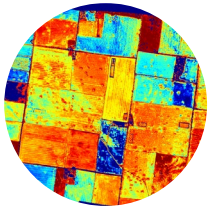
First Nations

Technology

Government

... realizing shared opportunities

Diversify opportunities for water scarce communities



Transition irrigated agriculture for a drier future

Design Smart Connected water Infrastructure

Outcomes from the ONE Basin CRC

- Increased agricultural production
- Growth of the irrigation technology sector
- More effective government spending
- Reduced energy consumption and emissions
- Enhanced social and economic wellbeing of First Nations
- Improved health and resilience of freshwater ecosystems
- Increased resilience of regional economies

ONE BASIN CRC PARTNERSHIP

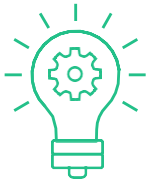
ONE BASIN CRC

END-USER ORGANISATIONS

COMMERCIALISATION PARTNERS

KNOWLEDGE AGENCIES

ONE BASIN CRC PROGRAMS

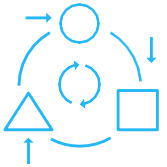


INNOVATING TECHNOLOGY BUSINESS MODELS AND INFRASTRUCTURE

Technology and Opportunity Program

BUILDING CONFIDENCE TO INVEST

Foresight and Decisions Program



OVERCOMING BARRIERS TO INNOVATION

Capability and Commercialisation Program

Example: Forecasting water demands to optimize storage control for rural water supply

QuickStart Project Outcomes

- **Increased productivity of the irrigation district**
  - Improved customer service
  - Decreased losses
  - Increased supply efficiency and
  - Increased resilience in dry years

Example: Our Changing Water future- “Adapting to change together”

Project Outcomes

- **Impacts of drying climate on industry are anticipated and managed**
  - Shared understanding future climate and water scenarios
  - Businesses are better informed to respond to climate change
  - Climate adaptation planning by industry and water agencies is more coordinated and effective

ONE BASIN CRC

Example: Using brackish groundwater in inland Australia

Project Outcomes

- **Increased productivity and resilience of irrigation regions with increased diversity and security of water supply**
  - Improved information for business planning and government policy
  - Understanding of barriers and risks
  - Building collaborative models

REGIONAL HUBS

- Relevance
- Partnership
- Trust

"There is a genuine desire across all levels of Government to secure a vibrant future for our regional communities. To date what is lacking is the collaboration and commitment to the innovation and investment needed to make it a reality."

- NFF (2022) Regional Development Precincts

REGIONAL HUB ACTIVITY

ONE BASIN CRC

Regional Hub Manager

Staff and PhDs

Co-Design

Training

First Nations participation

R&D Programs

Partner management

Commercialisation and adoption

QUICKSTART PROJECTS

ONE BASIN CRC

Technology and Opportunity

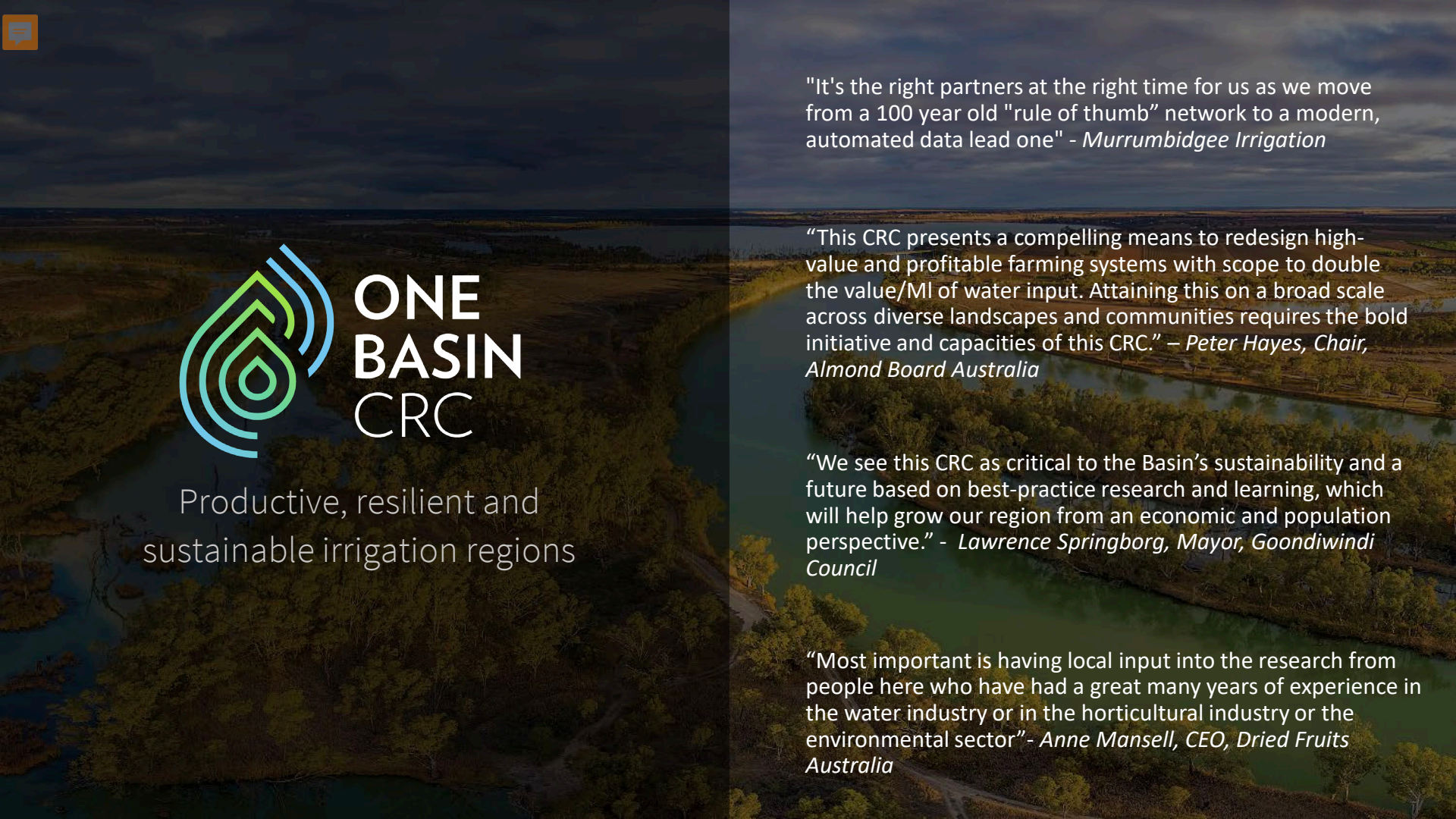
- Integrating irrigation technologies for Horticulture
- Forecasting water demands to optimize storage control for rural water supply
- Rapid detection of equipment failure in water supply systems

Foresight and Decisions

- Shifting water availability and demand with climate change
- Our Changing Water Future – “Adapting to change together”
- Equity and Vulnerability in a drying basin: water sharing policy and quality of life in towns

Capability and Commercialisation

- Using brackish groundwater in inland Australia
- Integrating community groups into basin-scale fish tagging and recovery programs
- Using organic waste to increase agricultural production and reduce environmental impacts
- Removing barriers to river recovery; figuratively and literally



ONE BASIN CRC

Productive, resilient and sustainable irrigation regions

"It's the right partners at the right time for us as we move from a 100 year old "rule of thumb" network to a modern, automated data lead one" - *Murrumbidgee Irrigation*

"This CRC presents a compelling means to redesign high-value and profitable farming systems with scope to double the value/Ml of water input. Attaining this on a broad scale across diverse landscapes and communities requires the bold initiative and capacities of this CRC." – *Peter Hayes, Chair, Almond Board Australia*

"We see this CRC as critical to the Basin's sustainability and a future based on best-practice research and learning, which will help grow our region from an economic and population perspective." - *Lawrence Springborg, Mayor, Goondiwindi Council*

"Most important is having local input into the research from people here who have had a great many years of experience in the water industry or in the horticultural industry or the environmental sector"- *Anne Mansell, CEO, Dried Fruits Australia*

For more information visit:

Our websites –

Mallee Regional Innovation Centre - eng.unimelb.edu.au/mric

One Basin CRC - onebasin.com.au

Our LinkedIn pages – search:

- Mallee Regional Innovation Centre
- One Basin CRC

Our Facebook

- @MRIC.au

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