Photo: Nyleta by Alex Halford

Building a strategic regional NRM plan

Lucy Richardson

QWMN Forum: Water Modelling for the Future, February 2020

SQ LANDSCAPES

Australian Government | National Landcare Program

Southern Queensland region

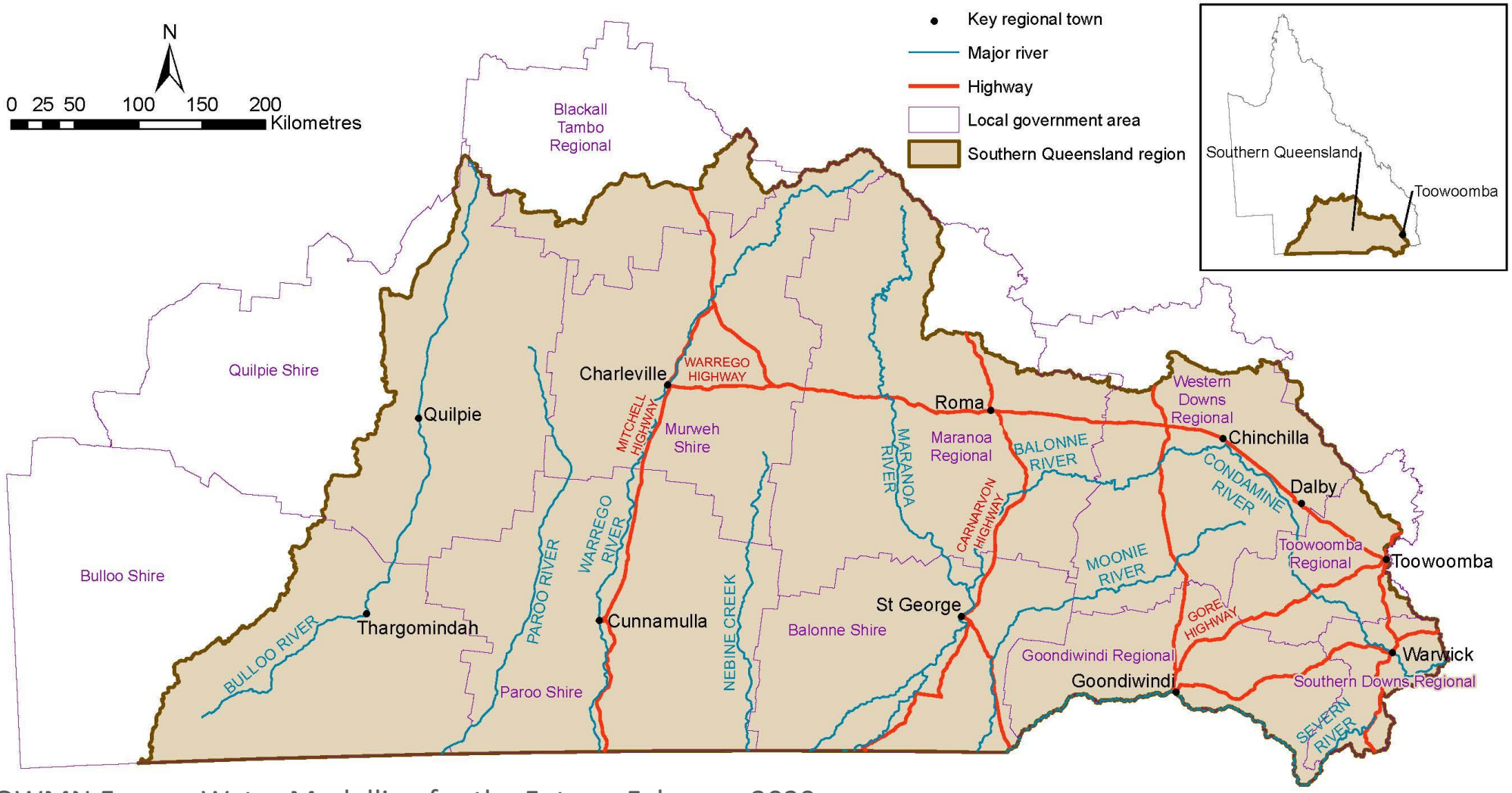


Photo: Mt Tyson crops by Alex Halford

Photo: Paroo River by Cathy Zwick

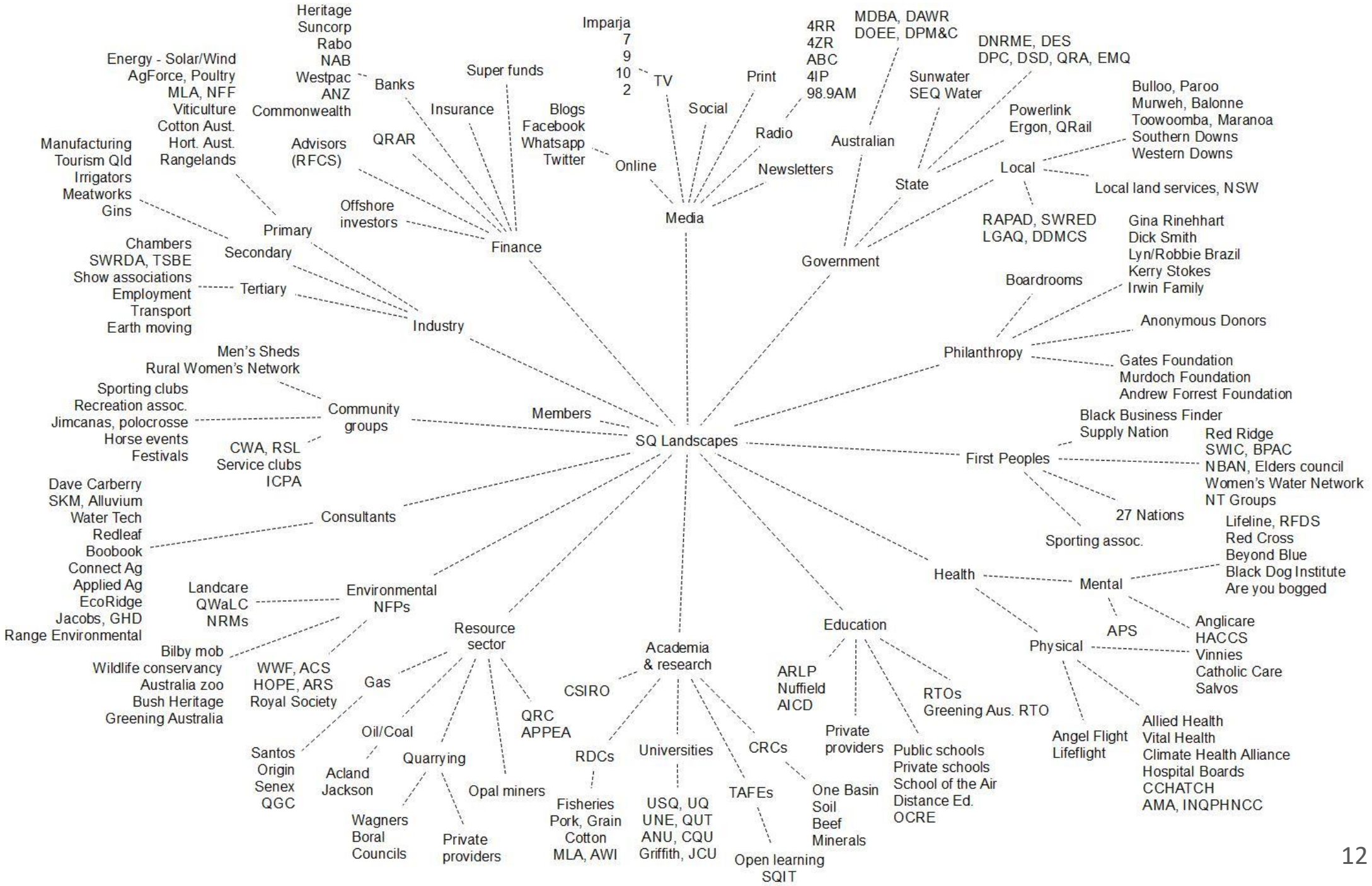
Photo: Grasslands by Donna Hurley

Photo: Nyleta by Alex Halford

Photo: Mulga by Bush Heritage

Photo: Queen Mary Falls by Jodie Locke

Photo: Roma by Outback Queensland


SQ Landscapes
Industry
Primary
Energy - Solar/Wind
AgForce, Poultry
MLA, NFF
Viticulture
Cotton Aust.
Hort. Aust.
Rangelands
Secondary
Manufacturing
Tourism Qld
Irrigators
Meatworks
Gins
Tertiary
Chambers
SWRDA, TSBE
Show associations
Employment
Transport
Earth moving
Finance
Banks
Heritage
Suncorp
Rabo
NAB
Westpac
ANZ
Commonwealth
Insurance
Super funds
QRAR
Advisors
(RFCS)
Offshore
investors
Media
Online
Blogs
Facebook
Whatsapp
Twitter
TV
Imparja
7
9
10
2
Social
Print
Radio
4RR
4ZR
ABC
4IP
98.9AM
Newsletters
Government
Australian
MDBA, DAWR
DOEE, DPM&C
State
Sunwater
SEQ Water
DNRME, DES
DPC, DSD, QRA, EMQ
Local
Powerlink
Ergon, QRail
Bulloo, Paroo
Murweh, Balonne
Toowoomba, Maranoa
Southern Downs
Western Downs
Local land services, NSW
RAPAD, SWRED
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Philanthropy
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Gina Rinehhart
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Irwin Family
Anonymous Donors
Gates Foundation
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Members
Community
groups
Men's Sheds
Rural Women's Network
Sporting clubs
Recreation assoc.
Jimcanas, polocrosse
Horse events
Festivals
CWA, RSL
Service clubs
ICPA
Consultants
Dave Carberry
SKM, Alluvium
Water Tech
Redleaf
Boobook
Connect Ag
Applied Ag
EcoRidge
Jacobs, GHD
Range Environmental
First Peoples
Black Business Finder
Supply Nation
Red Ridge
SWIC, BPAC
NBAN, Elders council
Women's Water Network
NT Groups
27 Nations
Sporting assoc.
Health
Mental
Lifeline, RFDS
Red Cross
Beyond Blue
Black Dog Institute
Are you bogged
APS
Physical
Anglicare
HACCS
Vinnies
Catholic Care
Salvos
Angel Flight
Lifeflight
Allied Health
Vital Health
Climate Health Alliance
Hospital Boards
CCHATCH
AMA, INQPHNCC
Education
ARLP
Nuffield
AICD
RTOs
Greening Aus. RTO
Private
providers
Public schools
Private schools
School of the Air
Distance Ed.
OCRE
Academia
& research
CSIRO
RDCs
Fisheries
Pork, Grain
Cotton
MLA, AWI
Universities
USQ, UQ
UNE, QUT
ANU, CQU
Griffith, JCU
CRCs
One Basin
Soil
Beef
Minerals
TAFEs
Open learning
SQIT
Resource
sector
Gas
Santos
Origin
Senex
QGC
Oil/Coal
Acland
Jackson
Quarrying
Wagners
Boral
Councils
Opal miners
Private
providers
QRC
APPEA
Environmental
NFPs
Landcare
QWaLC
NRMs
Bilby mob
Wildlife conservancy
Australia zoo
Bush Heritage
Greening Australia
WWF, ACS
HOPE, ARS
Royal Society

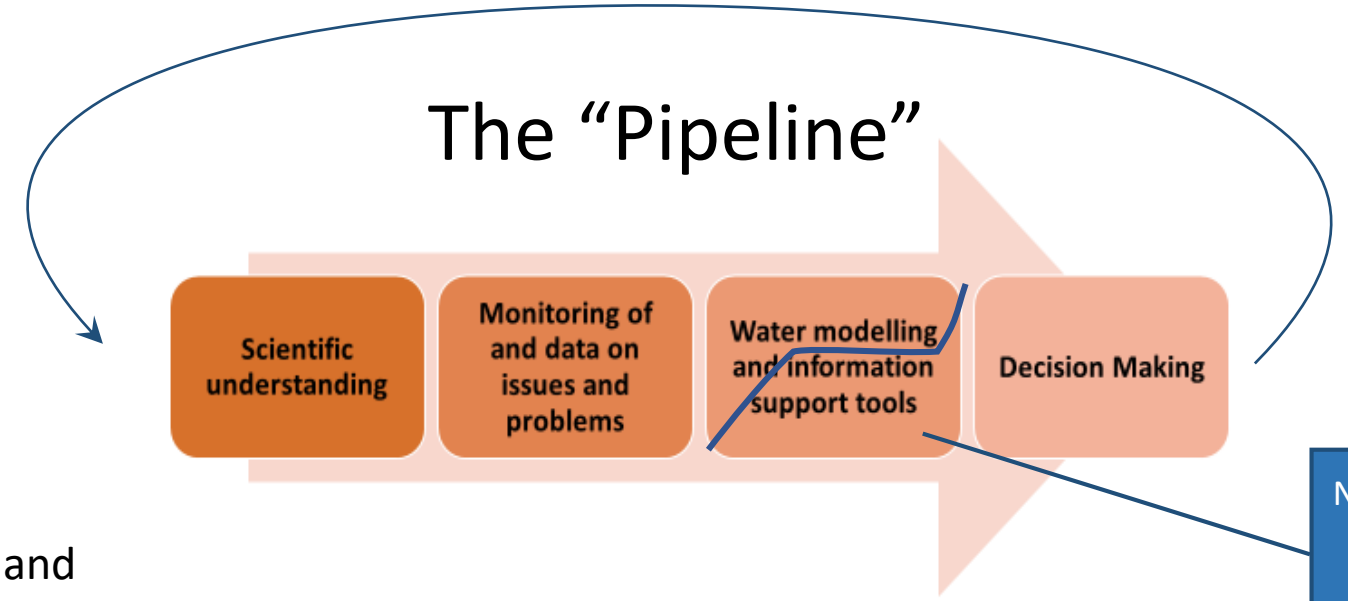
What are NRM Plans?

- Community goals for management of the region's natural resources
  - soil, water, native vegetation, biodiversity
  - 'landscapes' – because most of the community don't understand 'NRM'

- Typically includes goals for:
  - shorter term(5 years)
  - longer term (10-15 years)
  - overarching vision (20-50 years)

- Supported by:
  - Monitoring, evaluation and reporting
  - Prioritisation processes (including spatial)
  - Investment plans

Many historic pipelines



Previous NRM Planning:

- 1998 – whole-of-region?
- 2004 – 3 separate plans
- 2009 – 3 separate plans
- 2014 – 3 separate plans

Now at: 'Information support tools' in current NRM planning round

the 'Atlas'

Existing modelling and outputs, for example:

- State Govt – Source
- State Govt – IQQM
- State Govt – Gully mapping
- Various – Climate scenarios

Landscapes (NRM) plan/s for the region

- Currently three plans:
  - (a) Condamine, (b) Maranoa Balonne and Border Rivers, (c) South West
  - Federally funded for climate change integration approx. 2014
  - Strong scientific support by aligned Aust. Govt. projects at the time
- Being consolidated into one interim plan – no substantial changes
- New whole-of-region plan over next 12 months

A new plan, a new approach

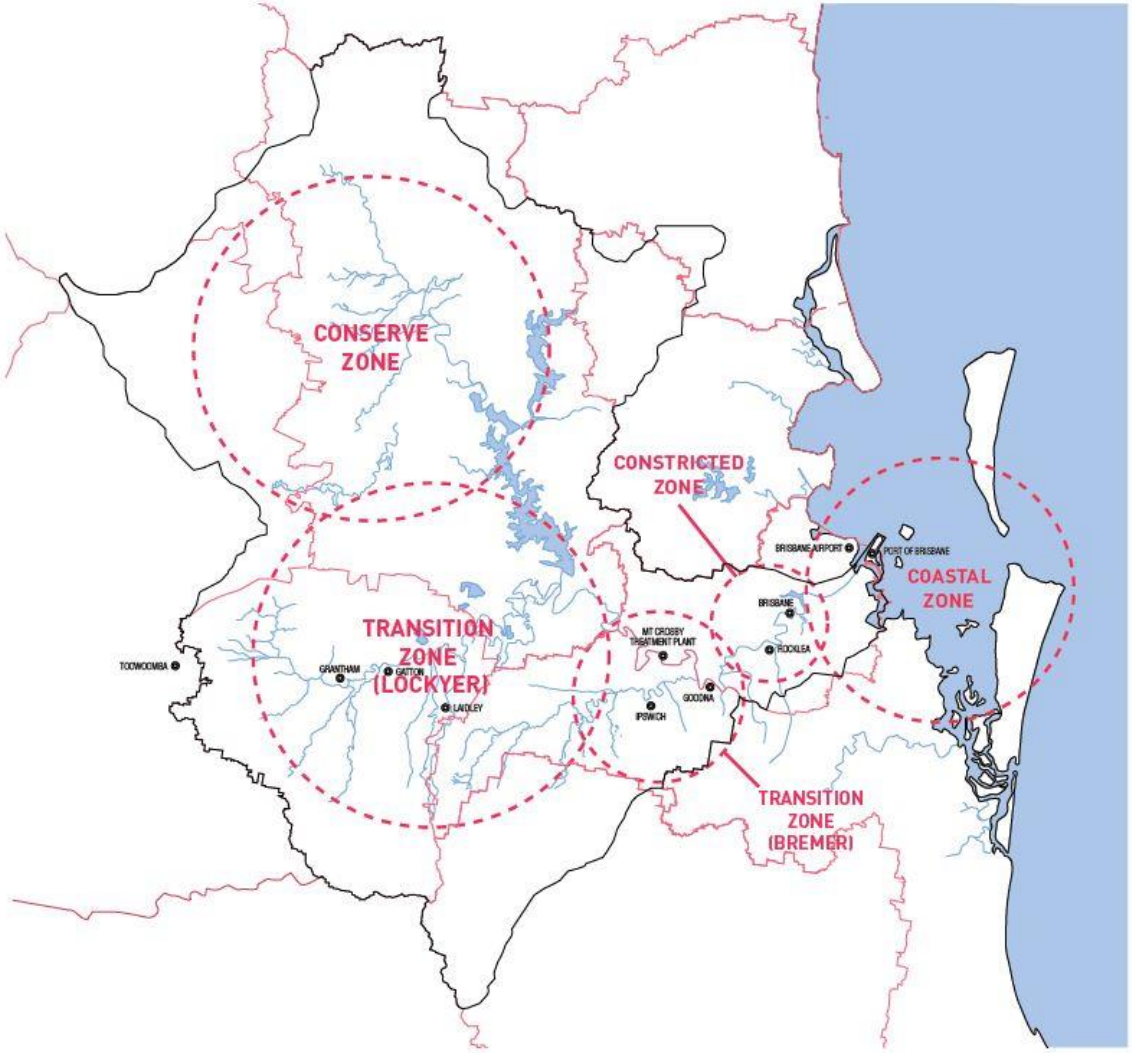
Strong effort towards stakeholder and scientific input to old plans

However …

- Some stakeholders less well involved in some areas
  - e.g., First Peoples, hard-to-reach landholders, urban communities
  - old ways of engaging don't work
  - data on implementation hard to capture
- Mixed success and utility of previous plans
  - systems connectivity/interrelationships not clearly promoted
  - stakeholder utilisation of plans has been mixed
  - ability to report against plan achievements has been mixed
  - conceptual support but limited operational value

The new idea

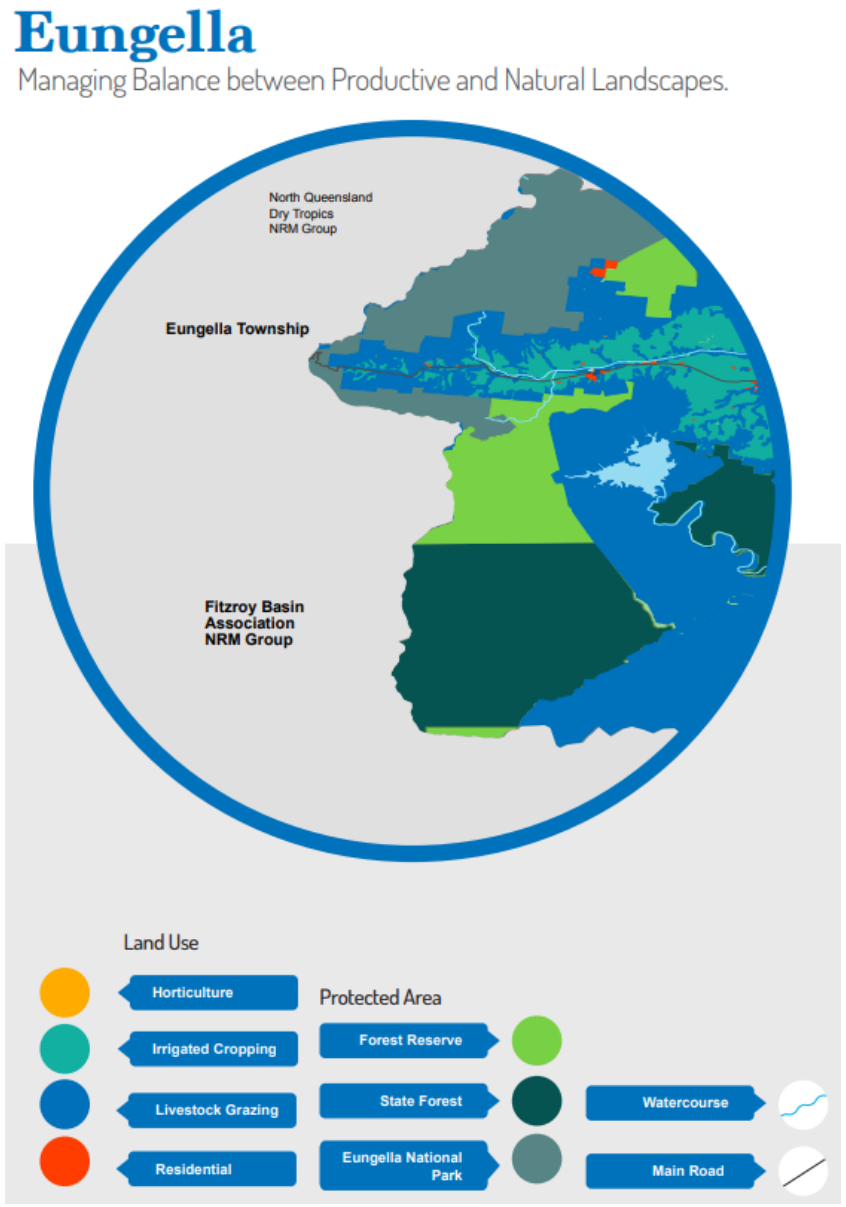
- Functional landscapes framework
  - like the SEQ transect project …
  - supports regional and local scales
  - systems not silos
- Working with available knowledge
  - Aboriginal, landholder and western science
- Prioritisation using GIS Atlas
  - analysis of the considerable volume of available datasets
  - intersections across issues, landscapes and resources



Source: Davidson, J., & Bowstead, S. (2017). *Water Futures*. South Brisbane: James Davidson Architect, p. 36.

The new idea (continued)

- Drawing together outcomes across other relevant plans
  - e.g., pest plans, recovery plans, planning schemes
  - not replicating, aggregating
- Presenting local priorities and actions
  - like the Mackay, Whitsunday, Isaac NRM plan …
- Monitoring assets using existing processes
  - too many stakeholder activities to monitor all
  - remote sensing and GIS analyses
  - integrating local and First Peoples' indicators
  - report card



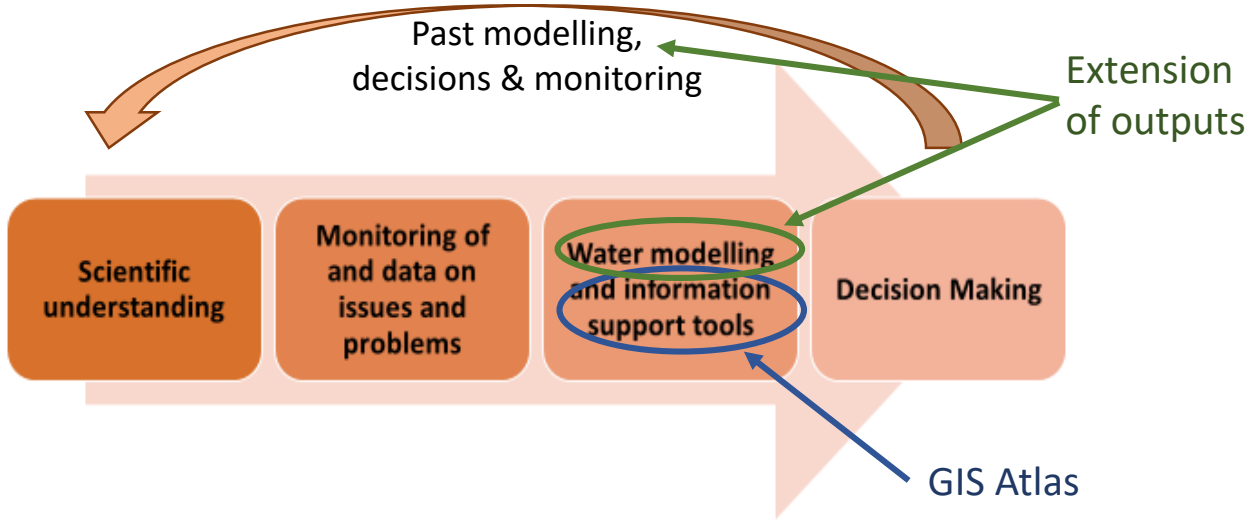
Source: Reef Catchments (2014). *Mackay Whitsunday Isaac Natural Resource Management Plan 2014-2024*, p. 47.

Photo: Paroo River by Cathy Zwick

Where does water data & modelling fit?

Primarily: Others' model outputs = our GIS analysis inputs

Key need: Extension support (model outputs and other datasets)



Specific water data & modelling

- Existing water quantity and quality modelling by Qld Govt.
  - especially Source modelling outputs
  - may later seek scenario runs, but none currently planned (& minimal budget)
- Existing gully density mapping
  - need extension support on how this can best be used
- Riparian modelling
  - no current capacity, but idea = soil strength + remote vegetation strata
  - ecological response integration?
- Groundwater modelling
  - need extension support on use of existing outputs and monitoring datasets

Specific water data & modelling (continued)

- Floodplain modelling
  - no current need
- Ecosystem modelling
  - highly opportunistic and very gappy species data
  - ecological response modelling?

- Other datasets being analysed in the Atlas:
  - Groundwater levels
  - Groundwater dependent ecosystems
  - Rainfall
  - Temperature
  - Riparian vegetation types
  - Groundcover/bare ground

Next steps

- Continuing to add to the Atlas
- Continuing discussions with stakeholders
- Scoping out the ‘how’, ‘who’, ‘why’, ‘what’ …

Anything you think we should know about or think about?