Lower Limestone Coast Water Allocation Plan Amendment

Amendment process

Licensing system

Next steps

Sustainable Allocation

Authorisations

Acceptable impact

Consumptive pools

Examples

Management zones

Groundwater models

Classes

LANDSCAPE SOUTH AUSTRALIA LIMESTONE COAST



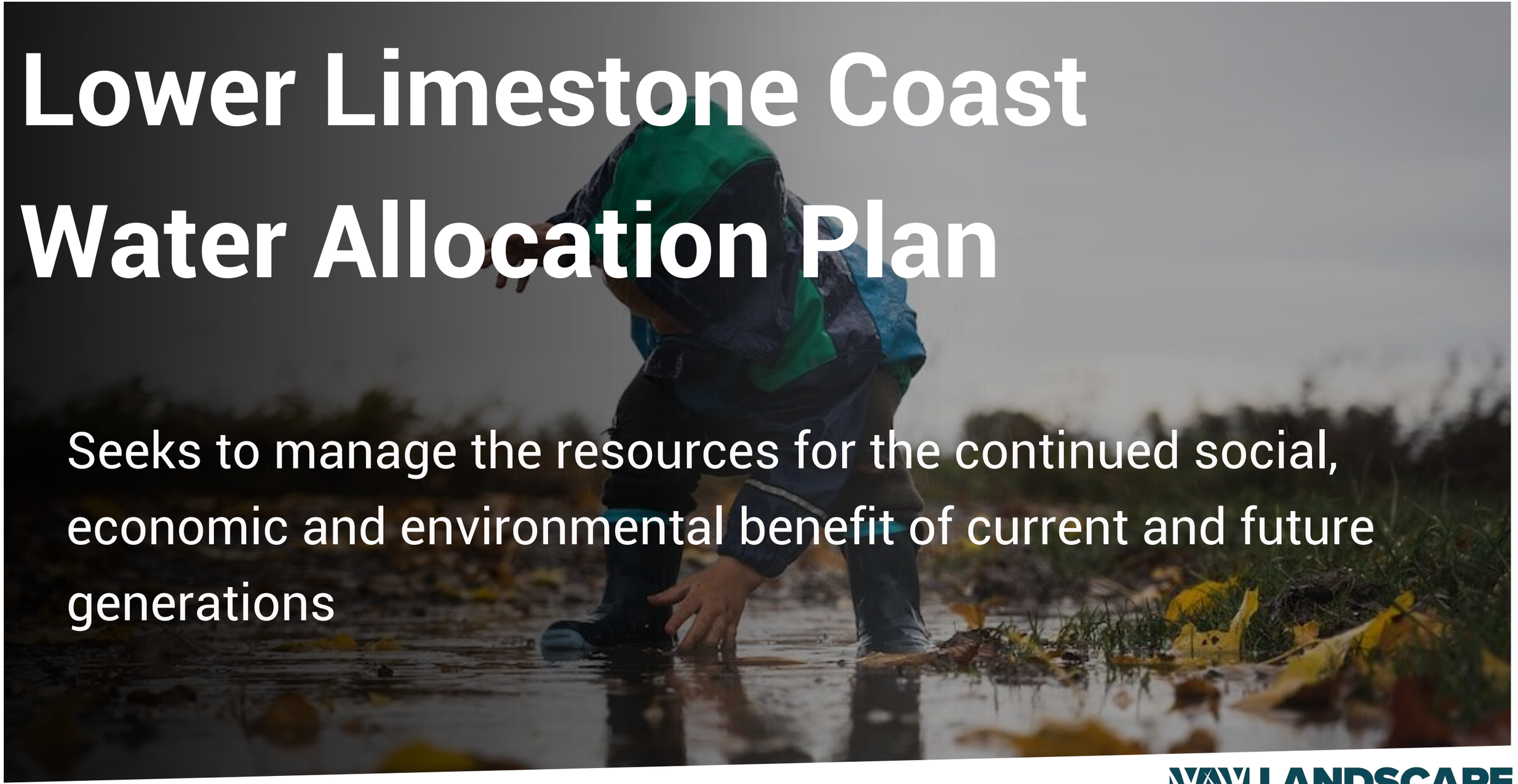
Acknowledgement of Country

The Limestone Coast Landscape Board acknowledges and respects the traditional custodians of the ancestral lands and waters of the region. We acknowledge elders past and present and we respect the deep feelings of attachment and relationship of Aboriginal peoples to country.

The Limestone Coast Landscape Board is committed to walking with First Nations to manage our landscape.

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Lower Limestone Coast Water Allocation Plan

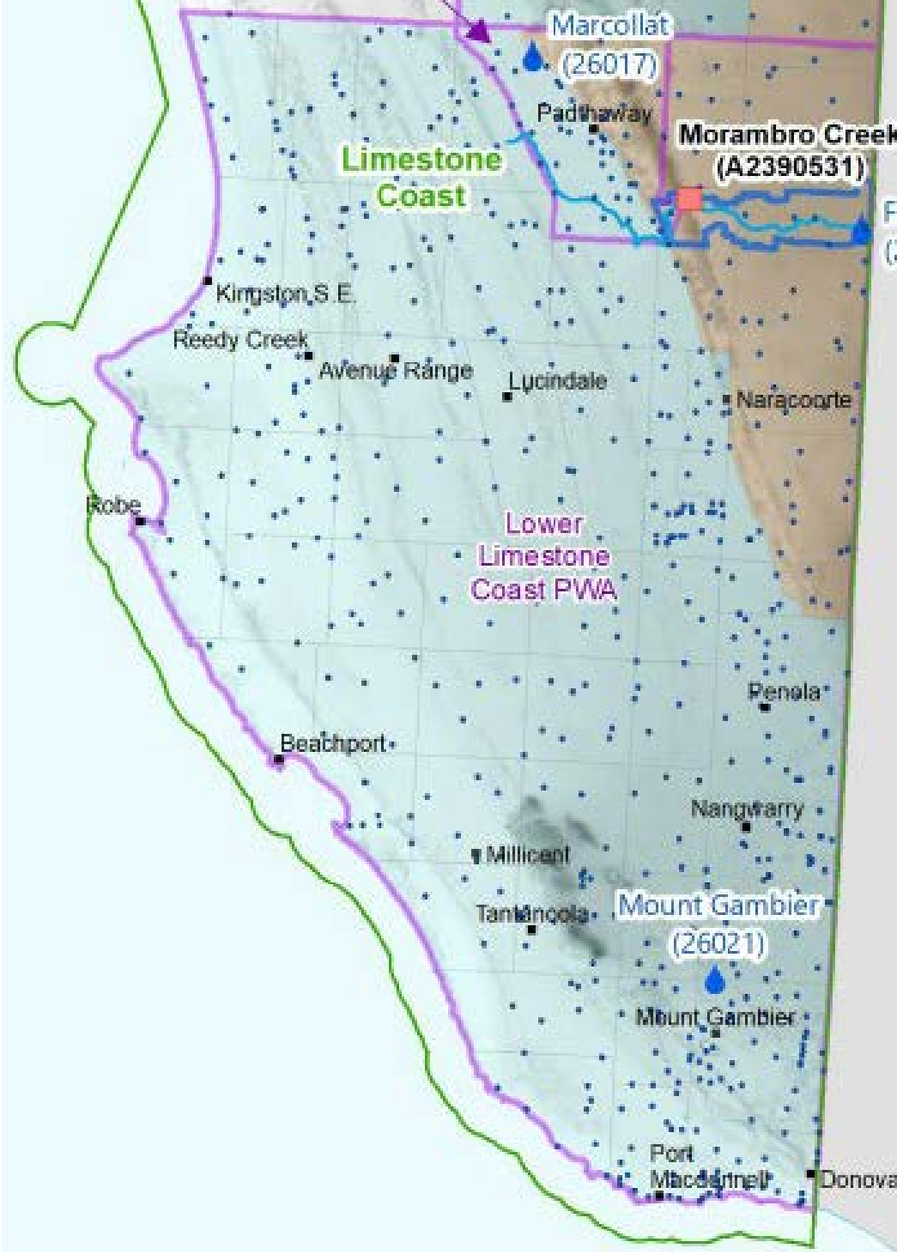


Seeks to manage the resources for the continued social, economic and environmental benefit of current and future generations

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What the Plan does

- Rules for the allocation, take, use and transfer
- Sets sustainable allocation
- Allows for stock and domestic
- Allows for the environment, sets protections for dependent ecosystems
- Policy to administer over 3,000 licences
  - Aquaculture
  - Industrial
  - Intensive animal keeping
  - Irrigation e.g. dairy, viticulture, cropping, livestock
  - Forestry
  - Public water supply
  - Recreational



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Why it's changing

- Water allocation plans are reviewed every 10 years
  - 2022-23 the Plan was reviewed

- Review determined areas for improvement:
  - New knowledge available to support improvement
  - Revision of sustainable allocation required
  - Opportunities around water trade and the market
  - More environmental provisions needed
  - Reduce complexity of the plan and align to legislation
- A need to consider climate variability and climate change projections

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How the process works

- Stakeholder Advisory Group
  - In depth consideration of changes
  - Provide recommendations to the LC Landscape Board Governing Body
- Broader consultation
  - Provides reasonable opportunity for those interested to contribute
- Develop policy revisions or new policy elements
  - Test with stakeholders, make change, test again
- Water allocation plan continues to operate as it has

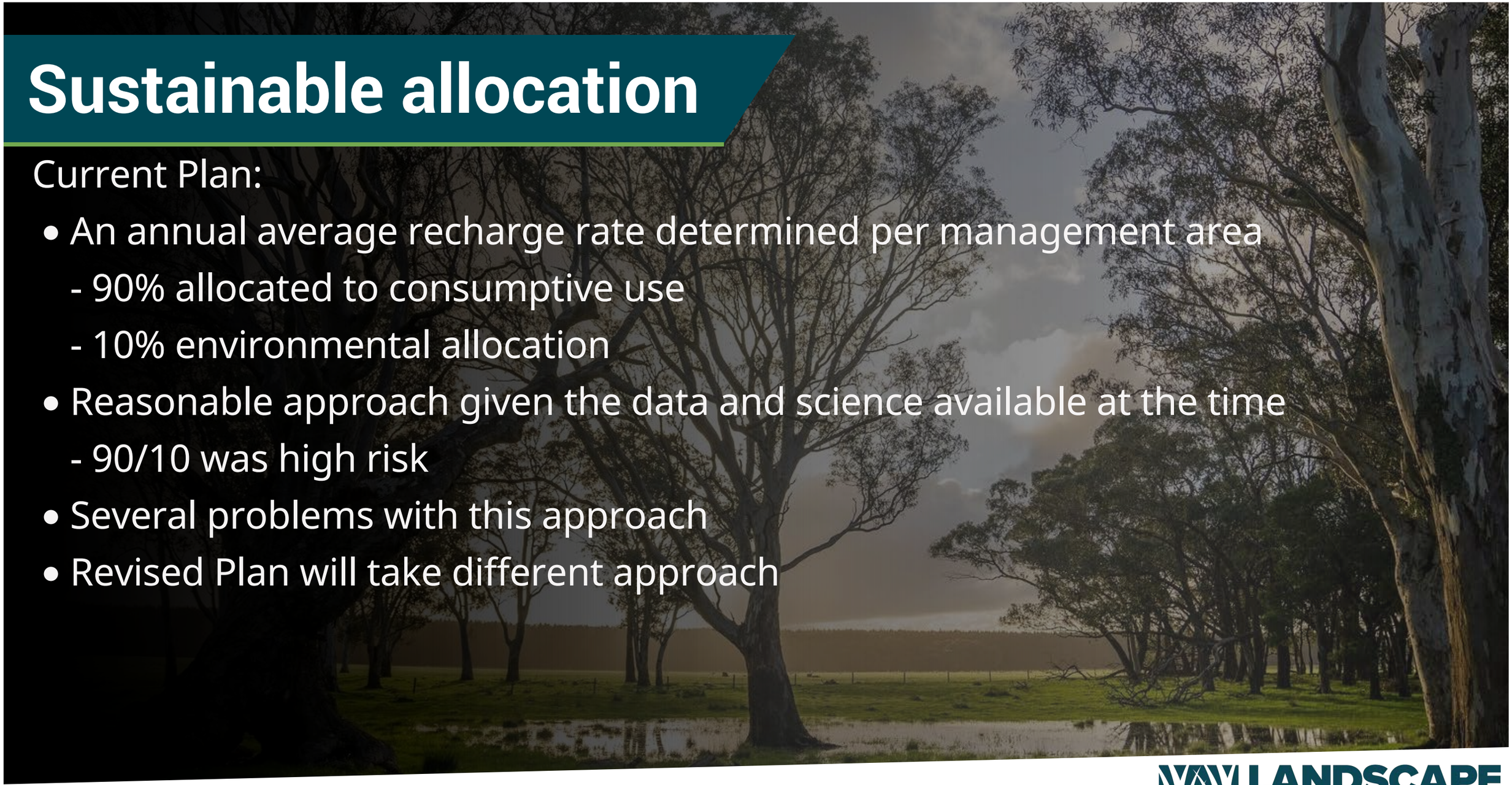


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Sustainable allocation

Current Plan:

- An annual average recharge rate determined per management area
  - 90% allocated to consumptive use
  - 10% environmental allocation
- Reasonable approach given the data and science available at the time
  - 90/10 was high risk
- Several problems with this approach
- Revised Plan will take different approach



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Acceptable impact

- When you use water from the system it has an impact:
- Impacts will vary:
  - Spatially
  - Through time
  - Across uses and values
- System can reach a new level
  - Assuming constant rates of use and stable climatic condition
- Sustained extraction will cause long-term (potentially irreversible) impacts

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Acceptable impact

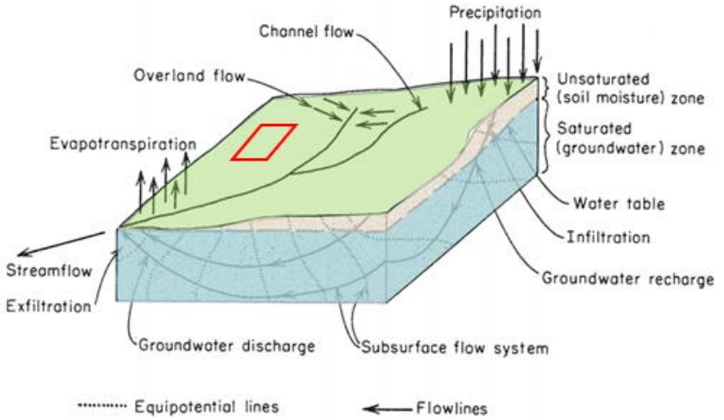
- Relies on groundwater models
  - Predict groundwater decline over time due to consumptive use
- Allocate water to consumptive uses based on the impacts we're willing to accept
  - What impacts are acceptable?
  - Consideration for all values

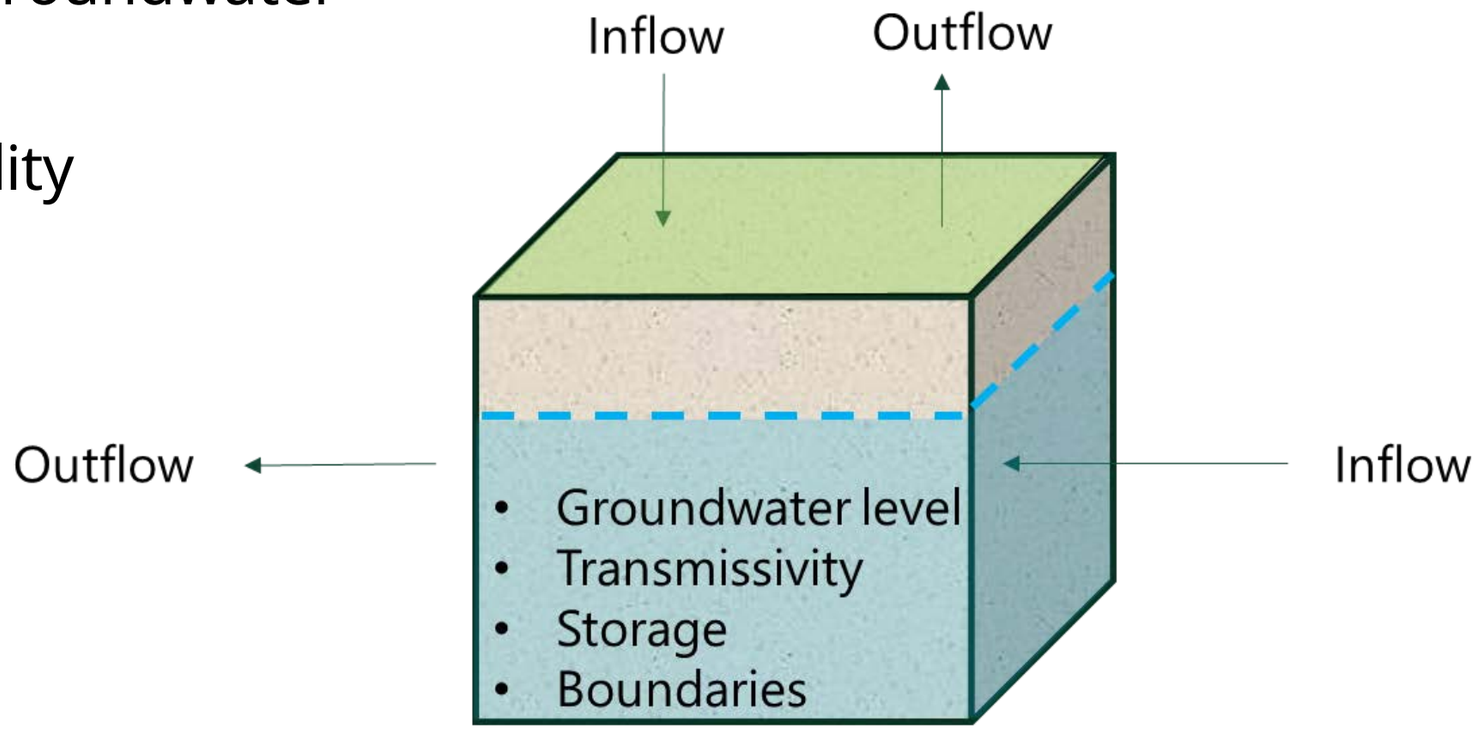
- The Limestone Coast Landscape Board accepts there will be some impacts but does not view ongoing declining trends as an acceptable impact

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Groundwater modelling

- A tool to bring together data, understand a system and test scenarios
- Use industry standard code for groundwater modelling
- A simplification of a complex reality



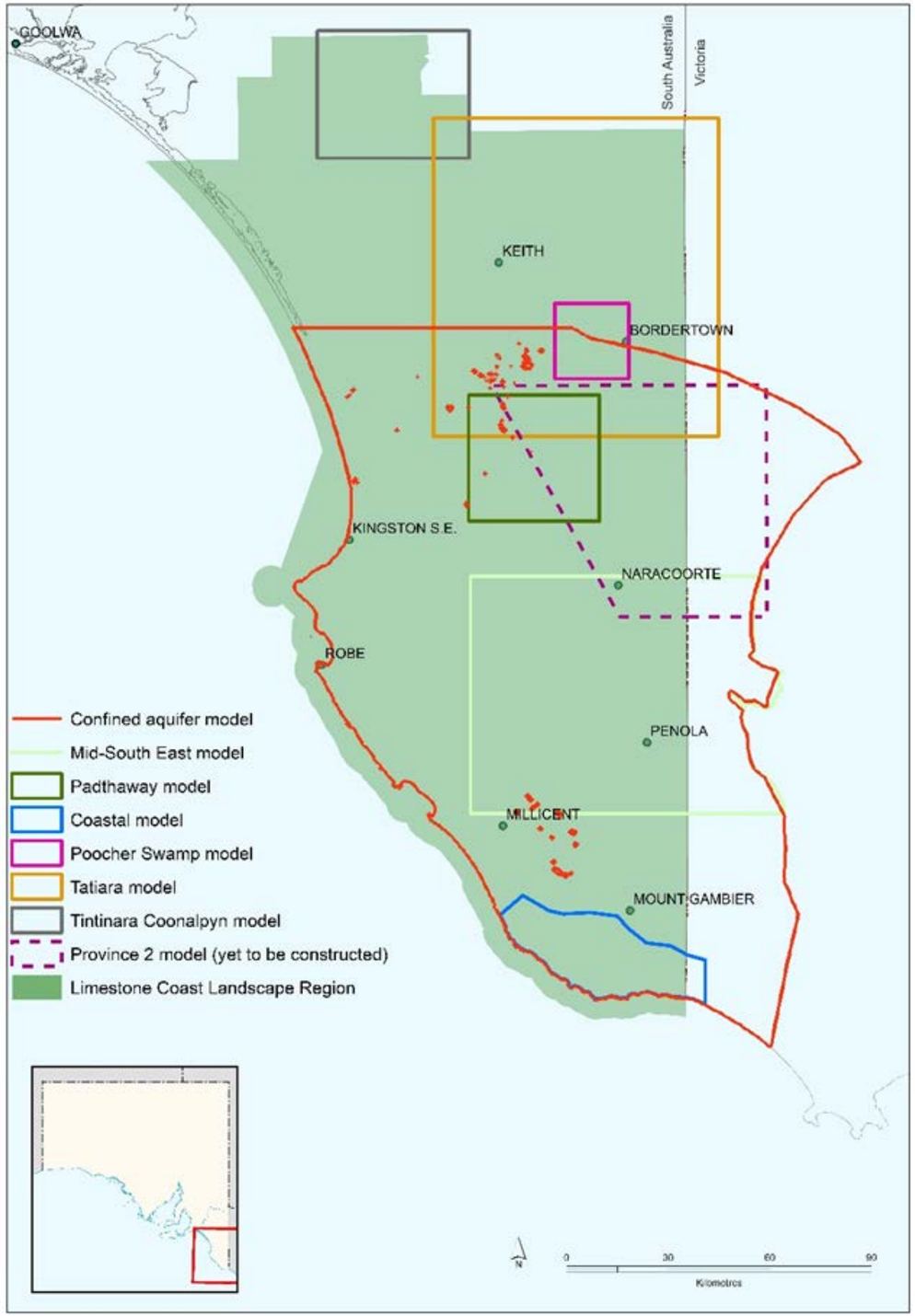


Inflows – outflows = change in storage

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Groundwater modelling

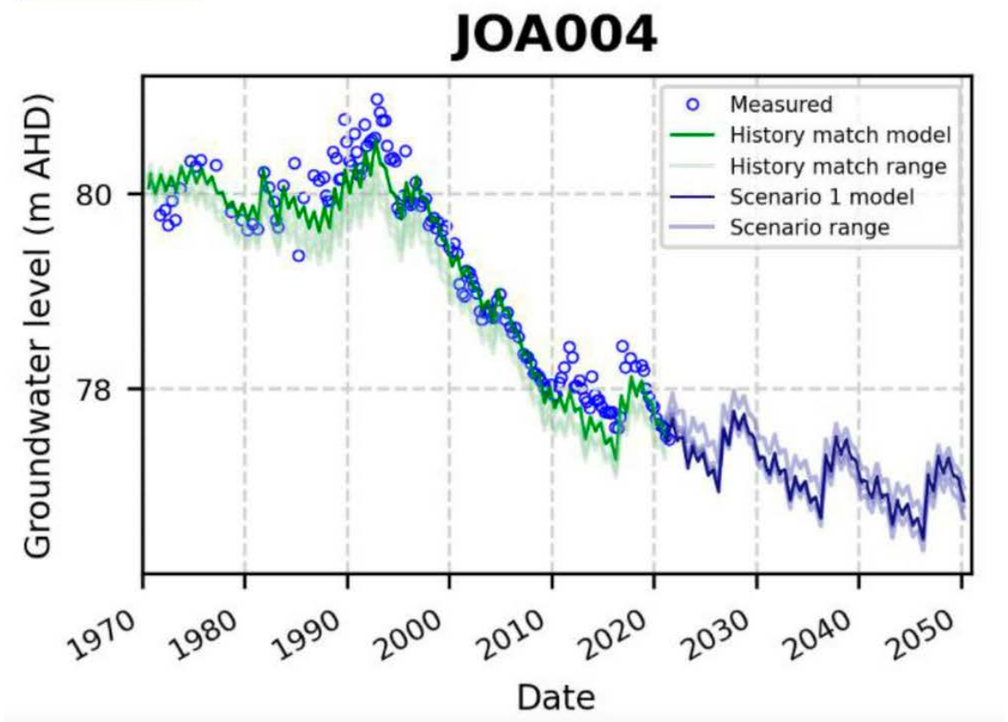
- Mid-South East model (subregional)
  - Published
- South Coast model (subregional)
  - Published
- Province 2 model (subregional)
  - Publication pending
- LLC regional confined/unconfined aquifer model
  - Being refined

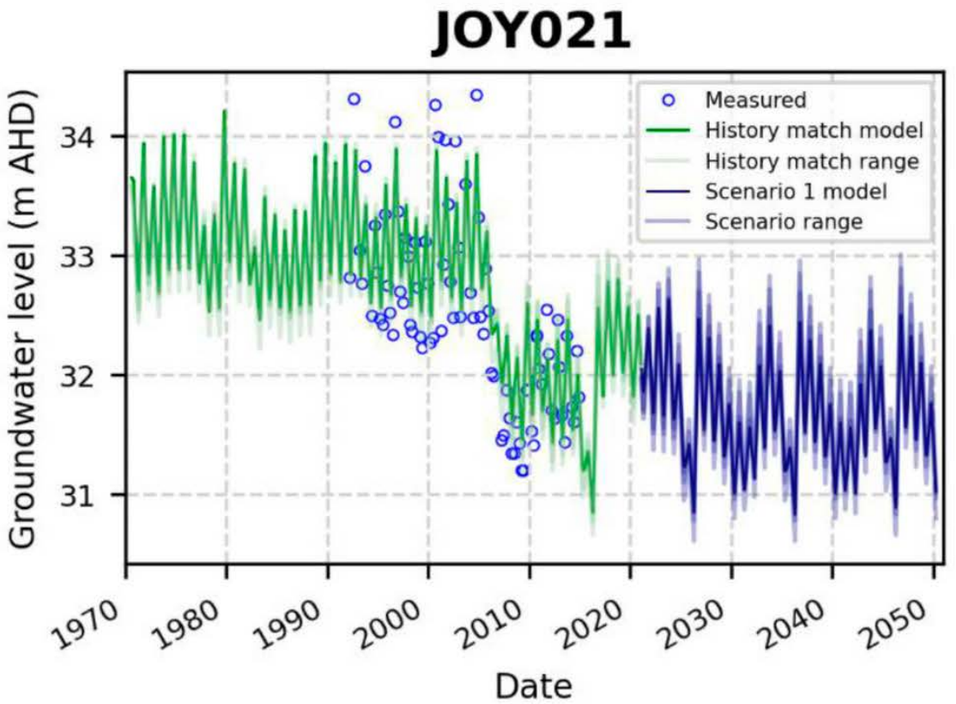


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Groundwater modelling

- Predict groundwater decline over time from consumptive use
- As an example: current use with current climate

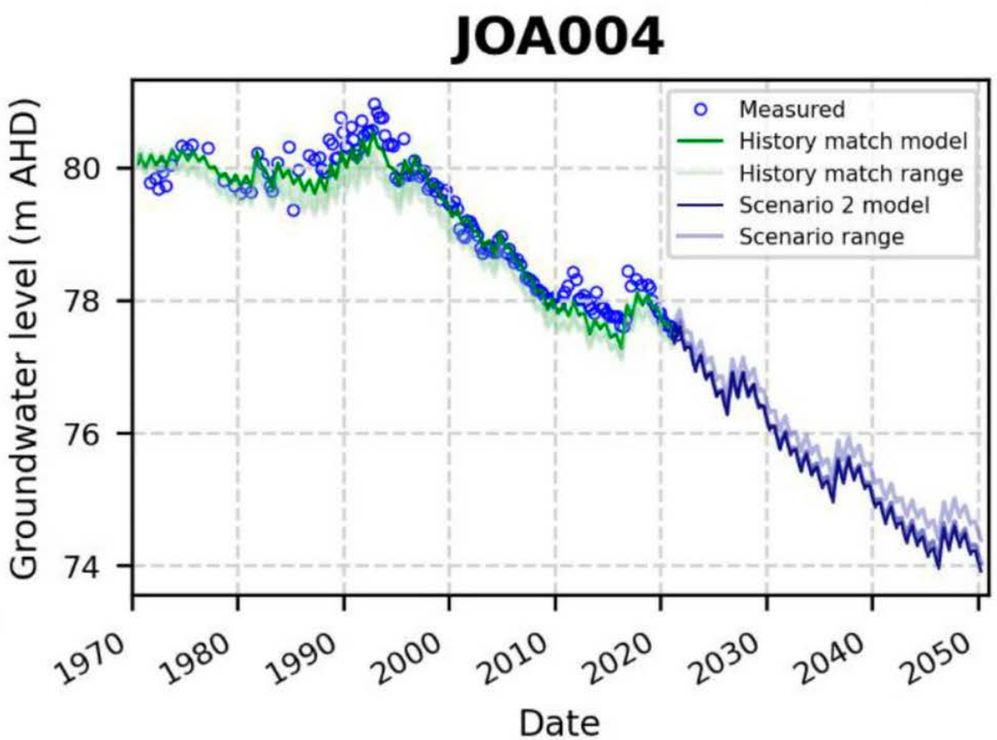


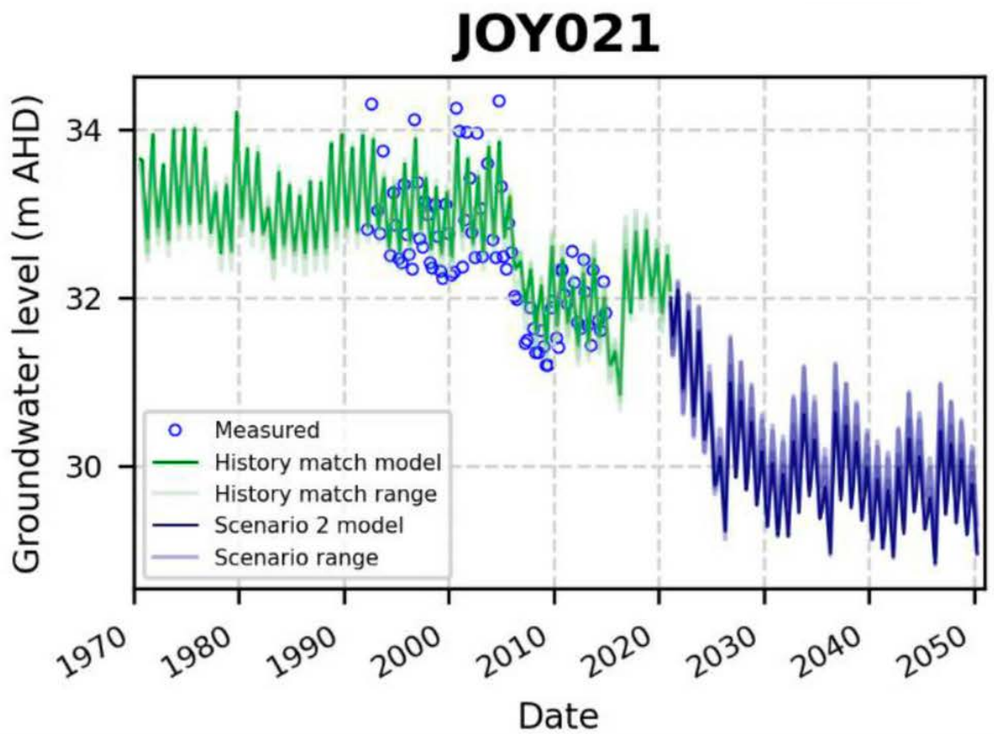


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Groundwater modelling

- Predict groundwater decline over time from consumptive use
- As an example: use at full allocation and climate change

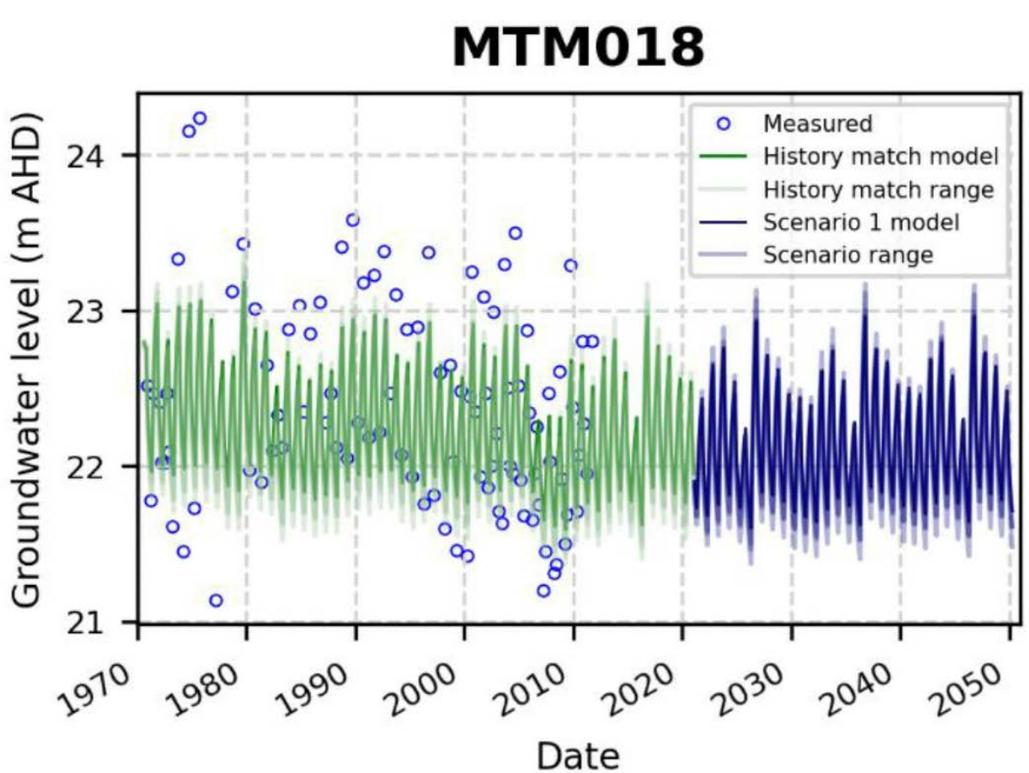


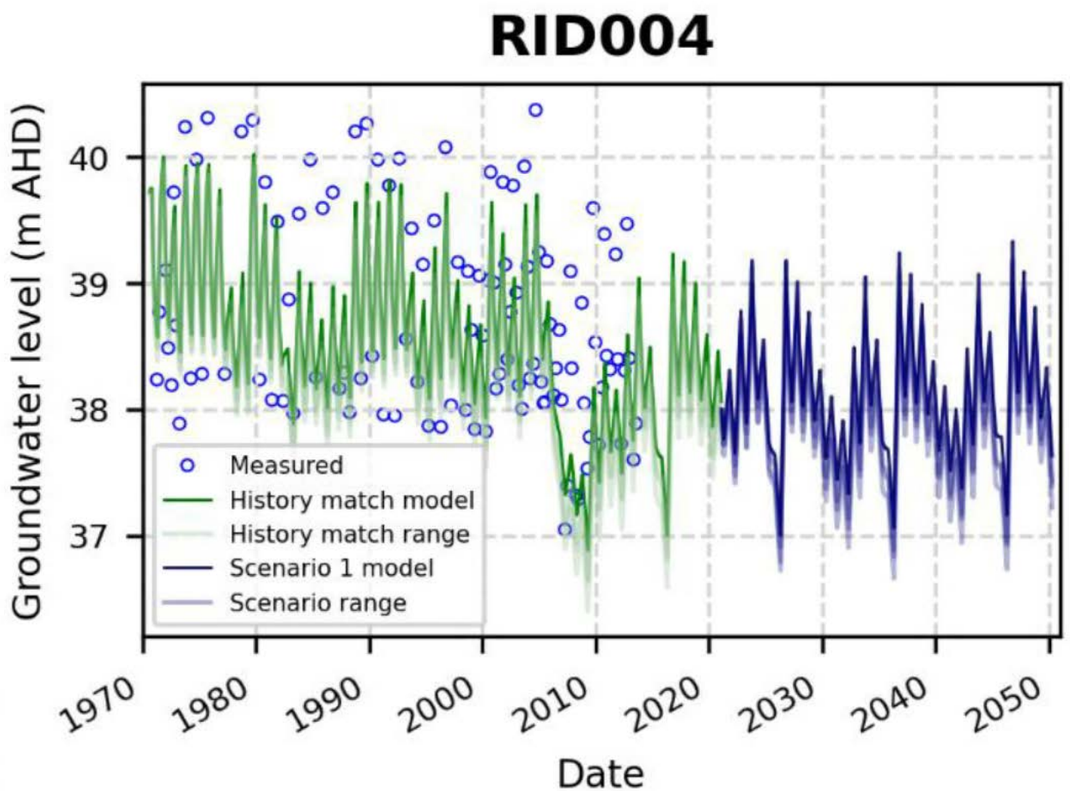


LANDSCAPE SOUTH AUSTRALIA LIMESTONE COAST

Groundwater modelling

- Predict groundwater decline over time from consumptive use
- Examples
  - Current use with current climate (Scenario 1)

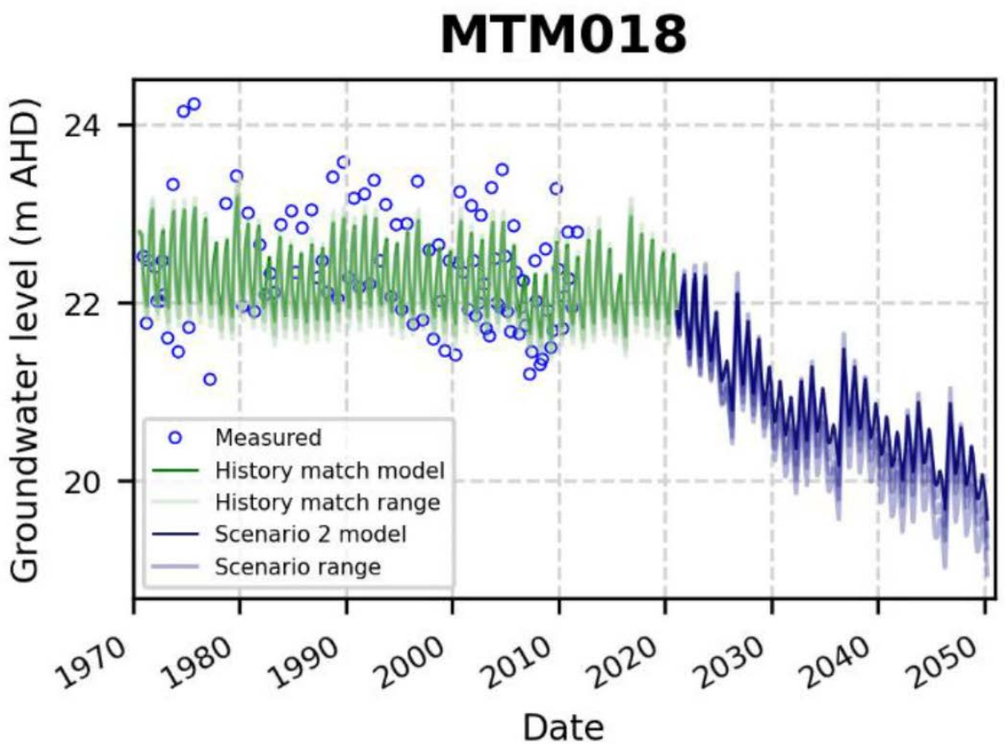


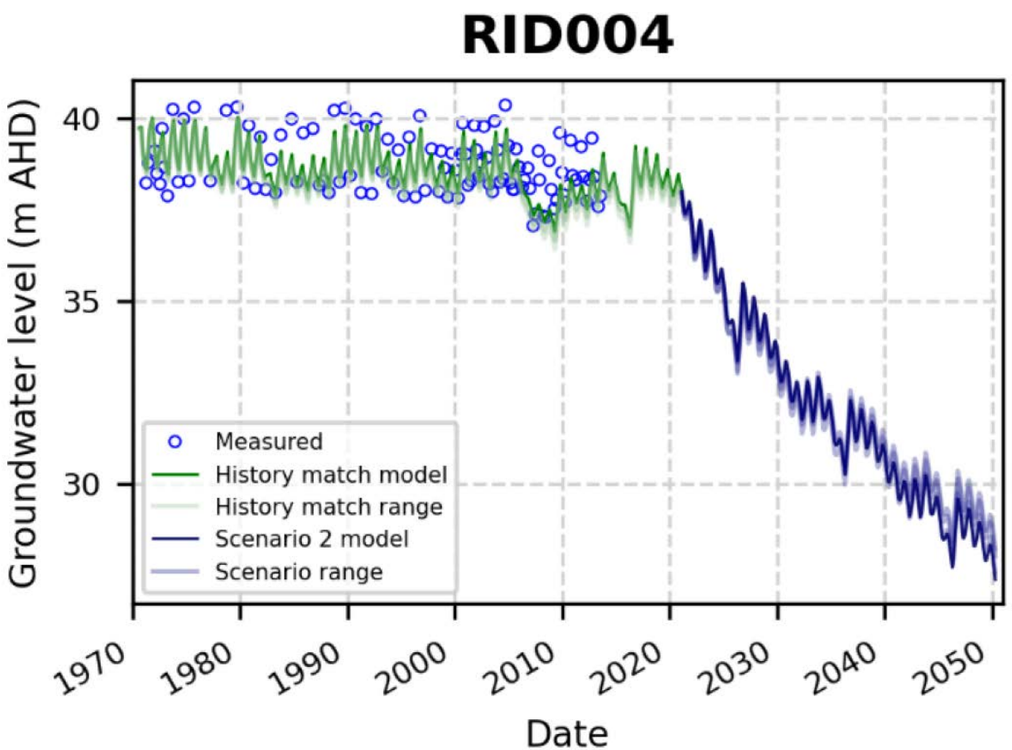


Groundwater modelling

- Predict groundwater decline over time from consumptive use
- Examples

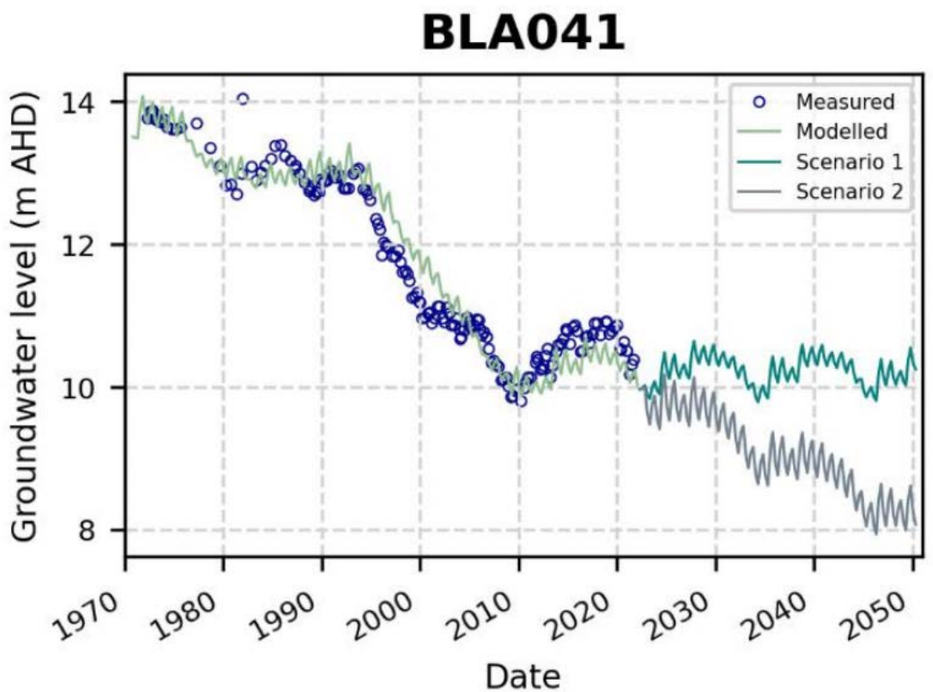
  - Use at full allocation and climate change (Scenario 2)

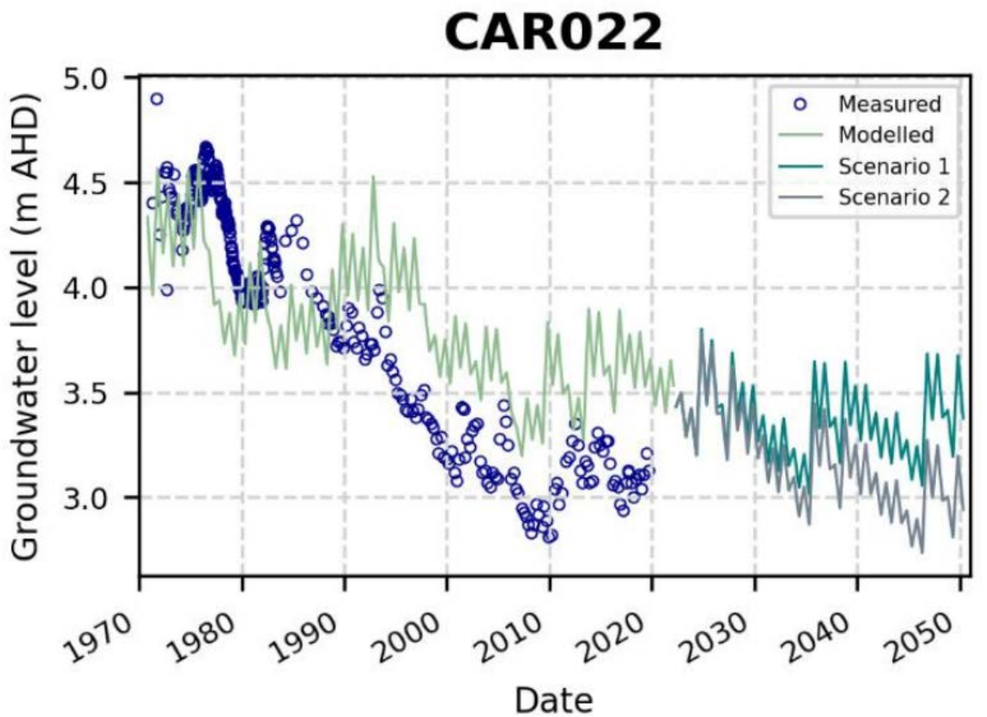




Groundwater modelling

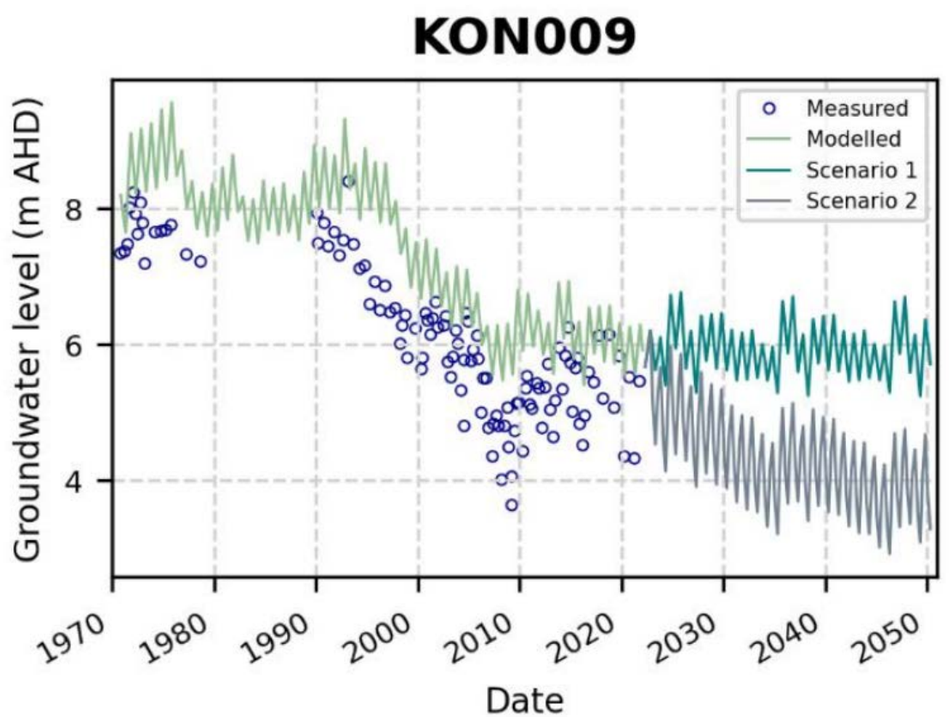
- Predict groundwater decline over time from consumptive use
- Examples
  - Current use with current climate (Scenario 1)
  - Use at full allocation and climate change (Scenario 2)

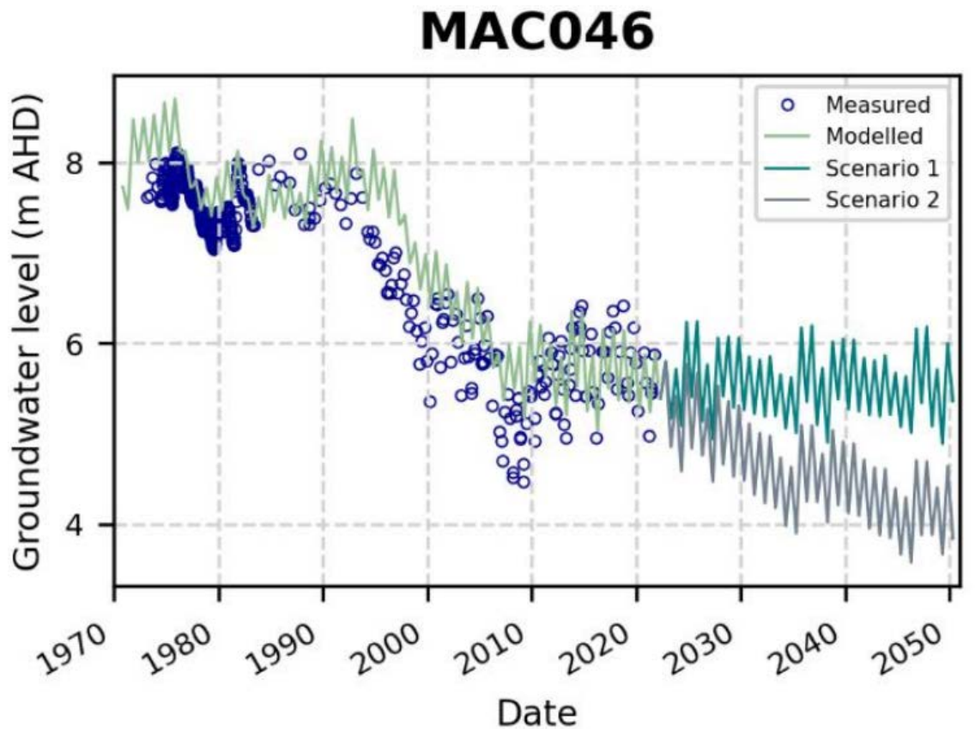




Groundwater modelling

- Predict groundwater decline over time from consumptive use
- Examples
  - Current use with current climate (Scenario 1)
  - Use at full allocation and climate change (Scenario 2)





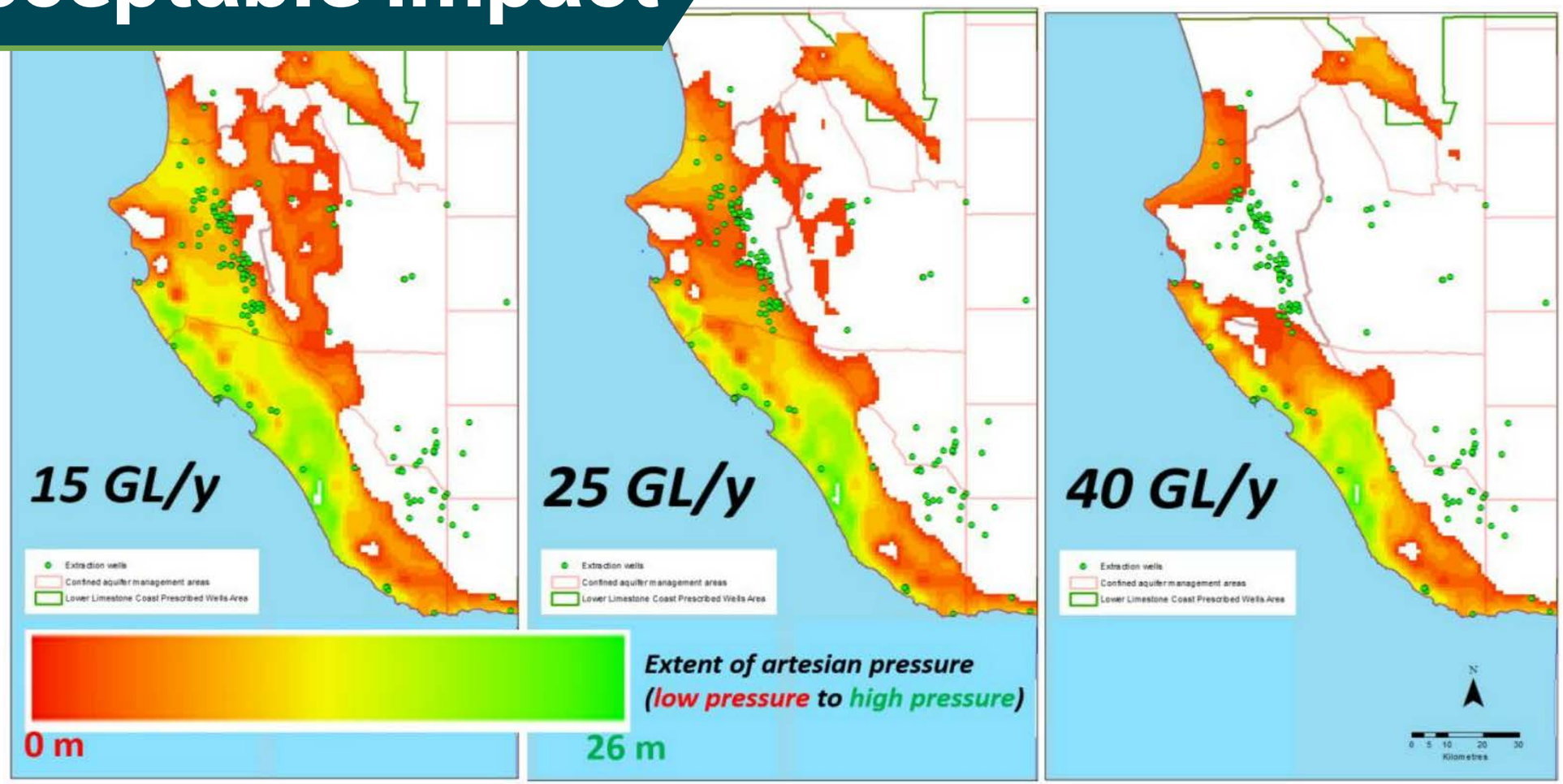
Acceptable impact



- Public water supply
- Resource condition
  - Groundwater levels
  - Hydraulic gradient
  - Artesian pressure
  - Water quality
- Stock and domestic
- Yield
- Wetlands - groundwater dependent
- Economic impacts

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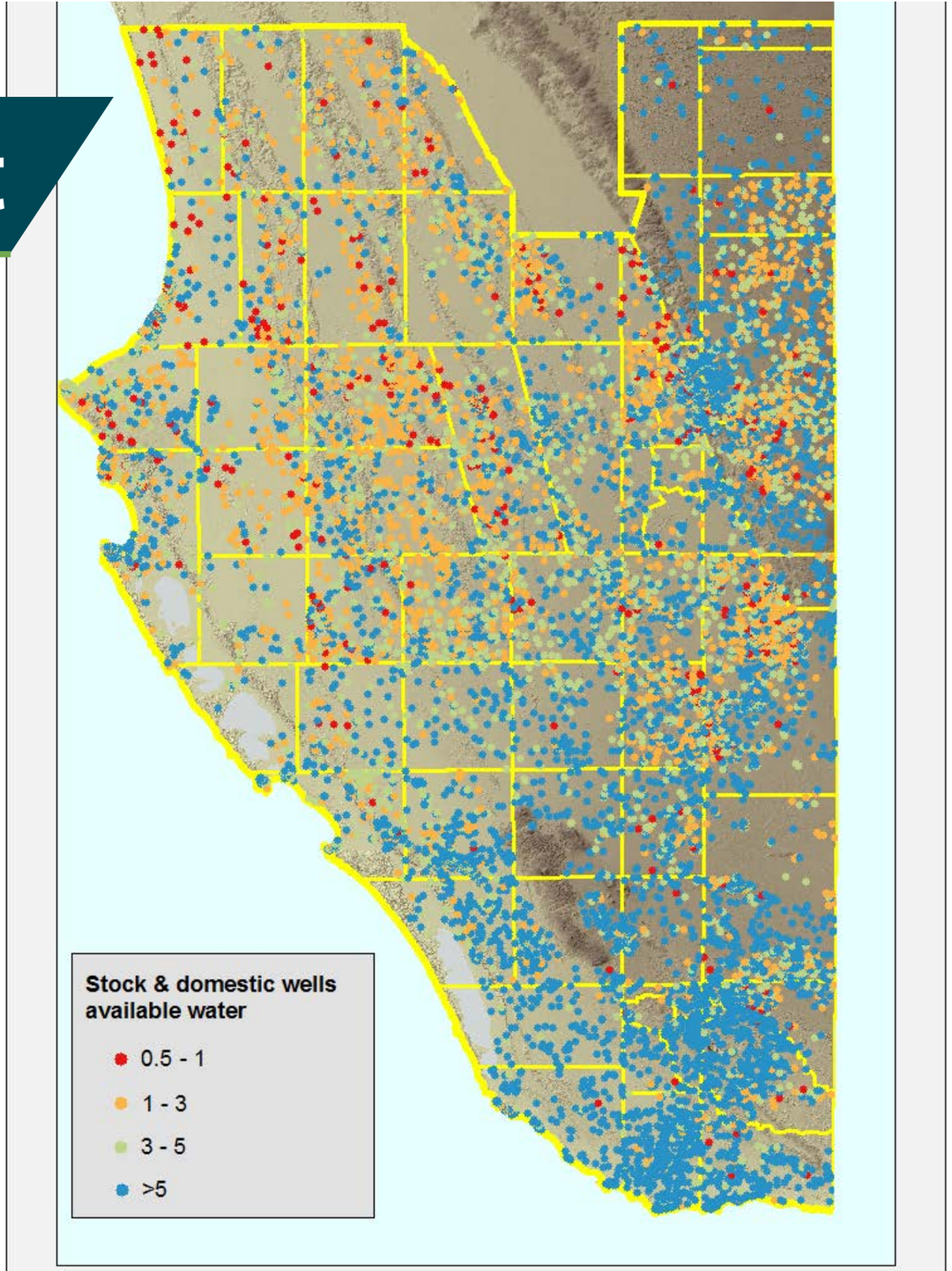
Acceptable impact



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Acceptable impact

- Deepening of bores



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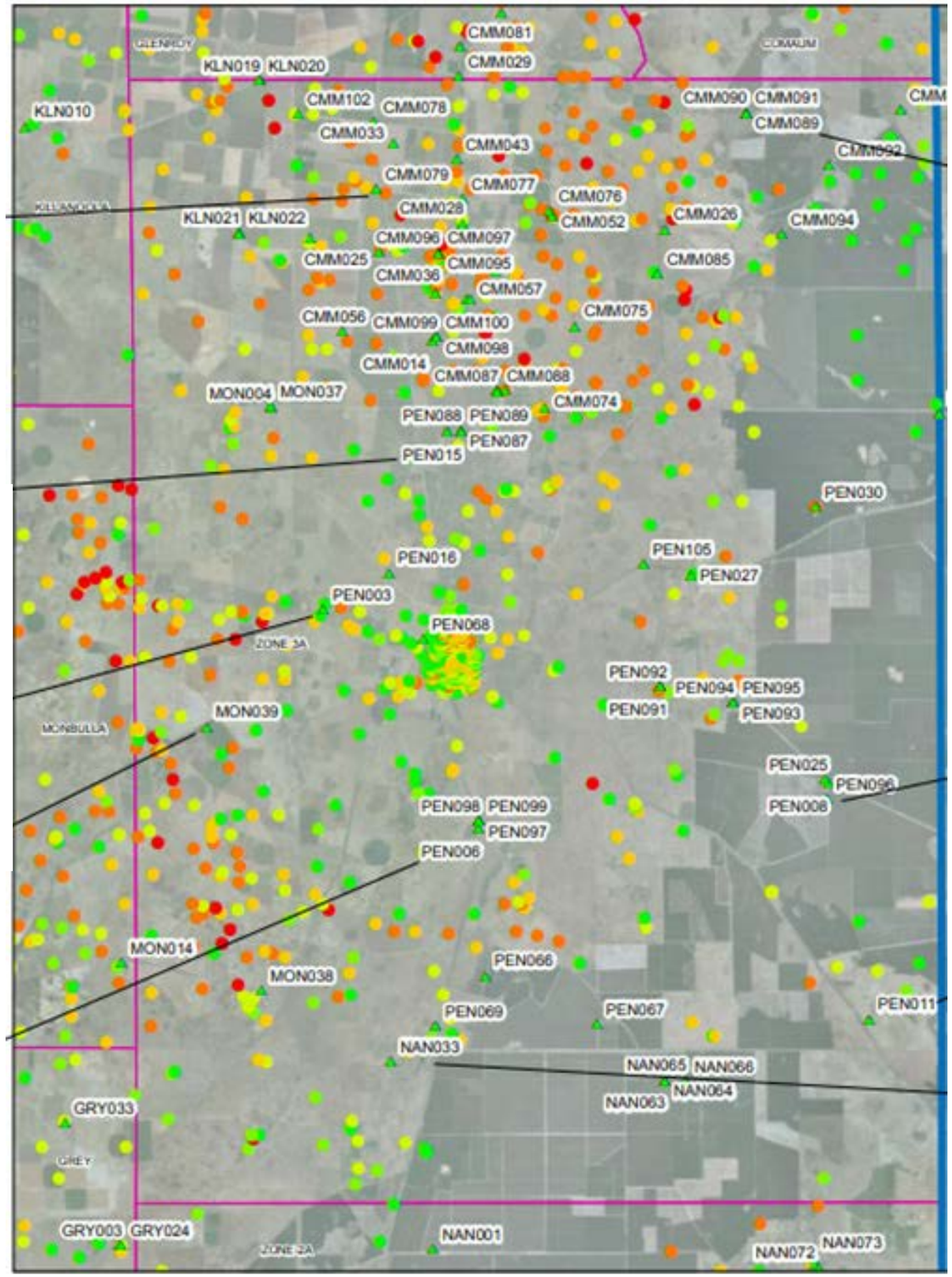
Acceptable impact

- Deepening of bores

SD wells available drawdown (m)

- <1
- 1 - 3
- 3 - 5
- 5 - 7
- 7 - 10
- >10

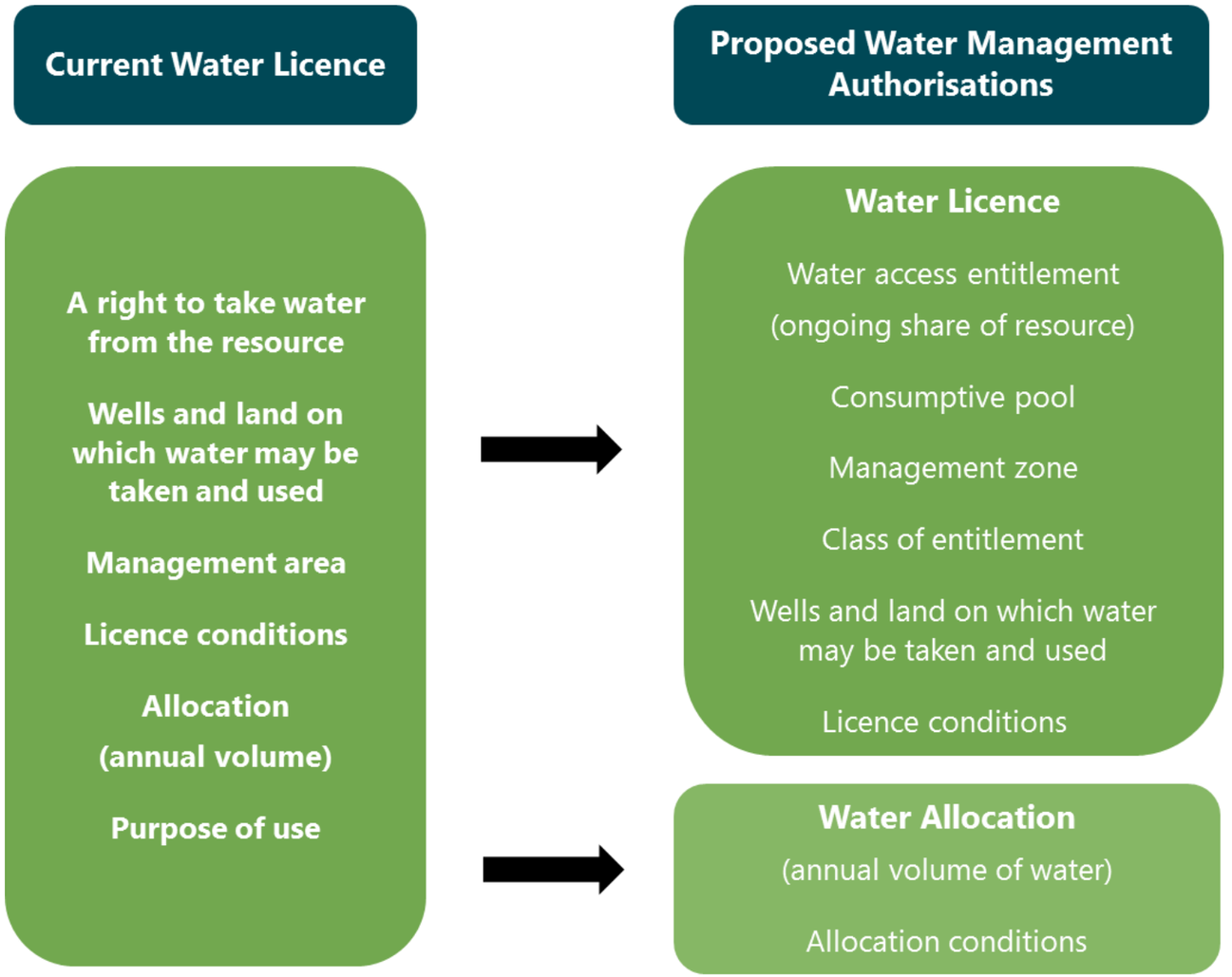
Available drawdown	Number of wells (% total)
<1m	33 (4%)
1 - 3 m	183 (22%)
3 - 5 m	206 (24%)
5 - 7 m	155 (18%)
7 - 10 m	92 (11%)
> 10m	181 (21%)



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Licensing system

- Consider alignment to the legislation
- Seeking to simplify
- Current water authorisations
  - Water licence with everything
- Proposed under the revised Plan
  - Water licence
  - Water allocation



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Licensing system

- Creating consumptive pools
  - Water available for consumptive uses
  - Licensed and unlicensed consumptive uses
  - Require different/separate ways in the Plan to manage them
- Current plan
  - Allocates water for consumptive use from unconfined and confined aquifers
- What are the opportunities with further consumptive pools?

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Licensing system

- Proposed consumptive pools
  - Confined aquifer consumptive pool
    - For licensed and unlicensed consumptive uses
  - Unconfined aquifer consumptive pool
    - For licensed and unlicensed consumptive uses
  - Managed aquifer storage consumptive pool
    - Use of water that has been artificially pumped into the aquifer for later extraction
    - Currently no managed aquifer recharge but opportunity for the future
    - Alternatively, could be for water artificially pumped into the aquifer for broader benefit of the water resource
    - Public vs private benefit

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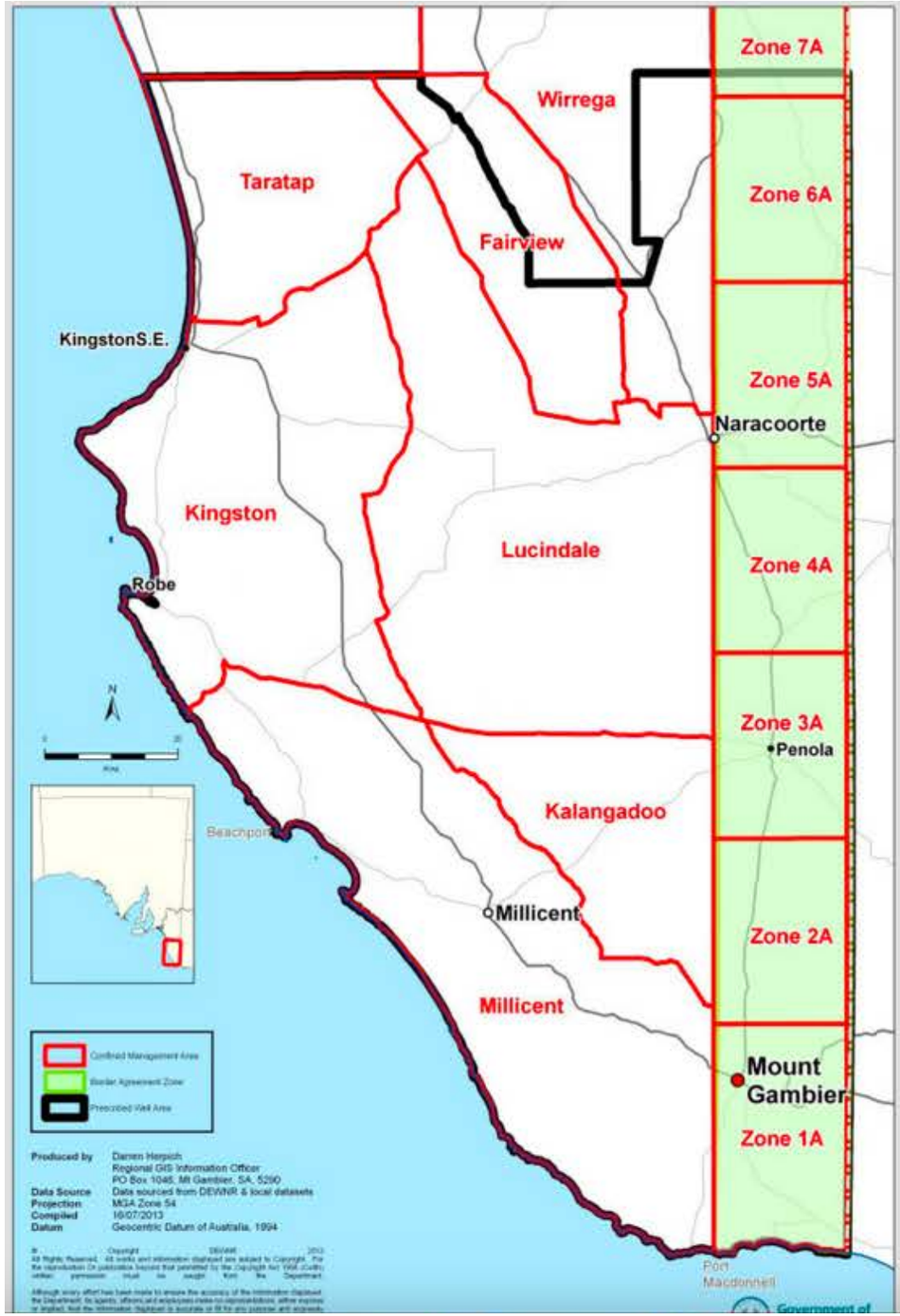
Licensing system

- Proposed consumptive pools
  - Environment consumptive pool
    - Water for specific purposes that provide additional benefit to natural assets
  - First Nations consumptive pool
    - Increasing the involvement and influence of First Nations peoples in water management
  - Stock and domestic consumptive pool
    - Could be included in the confined and unconfined aquifer consumptive pools
    - Separate consumptive pool creates visibility use and accountability

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Licensing system

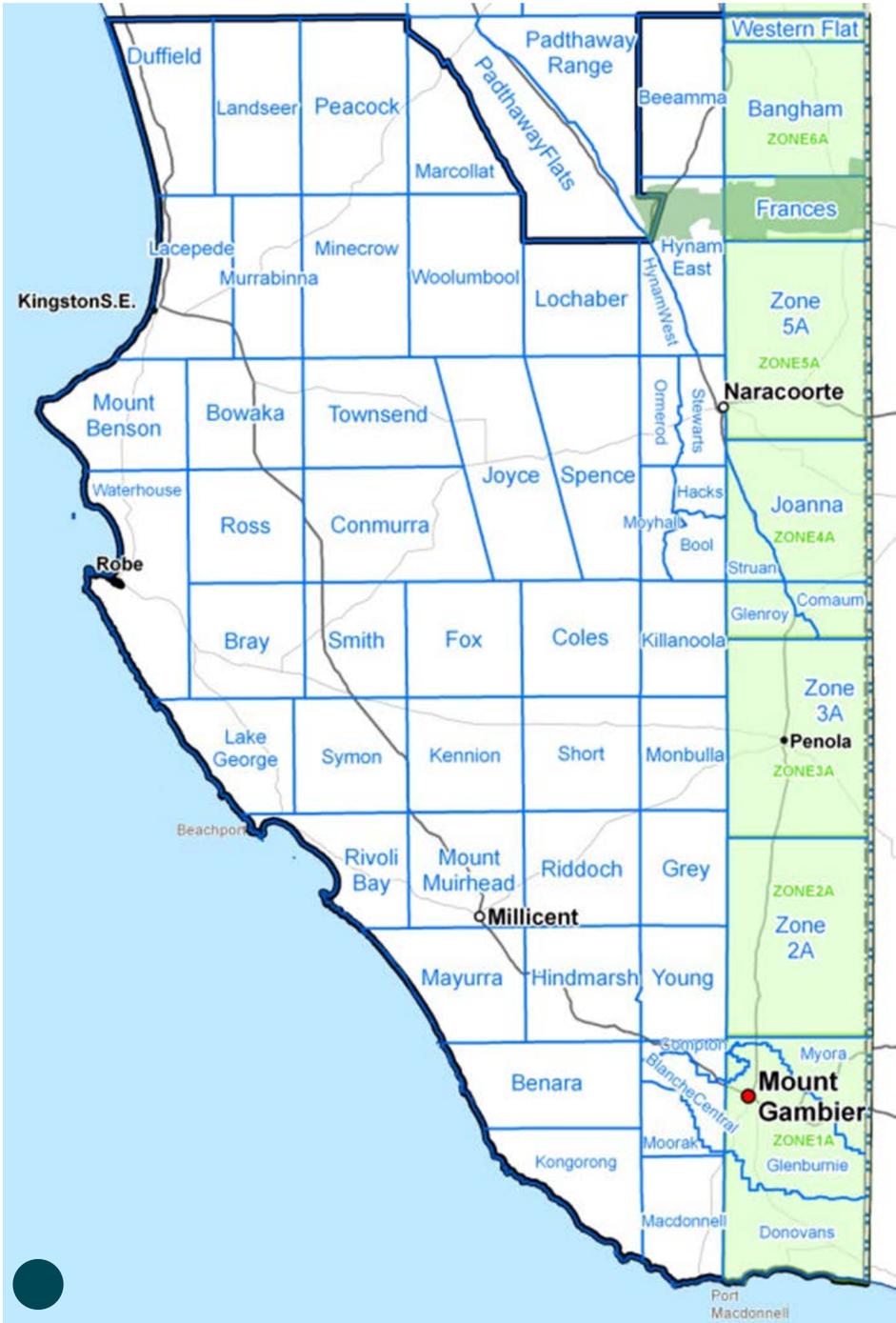
- Management areas to become management zones
  - Apply rules, limits and management responses to an area
- Confined aquifer
  - Areas already quite large with exception of border
  - How have the current areas benefited you or been a barrier?
  - Any need to change?
    - Too large?



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Licensing system

- Management areas to become management zones
- Unconfined aquifer
  - Areas largely follow hundreds
  - How have the current areas benefited you or been a barrier?
  - Could areas be made larger? Amalgamation?
    - Benefits
    - Risks



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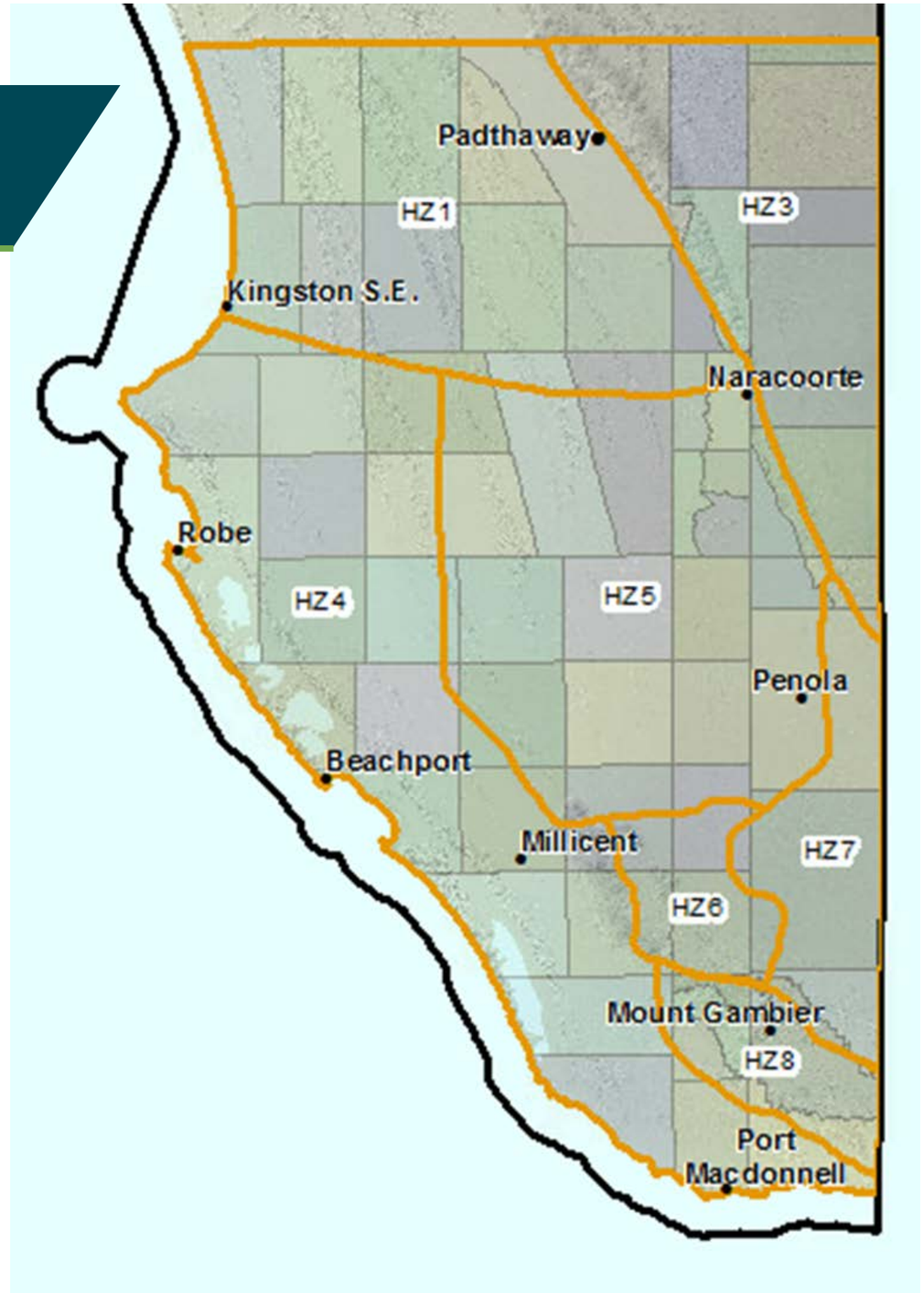
Licensing system

Unconfined aquifer

- Potential amalgamations:
  - Bangham and Frances
  - Hynam East and Hynam West
  - Omerod and Stewarts
  - Hacks, Moyhall and Bool
  - Joanna and Comaum
  - Struan and Glenroy
  - Myora, Glenburnie and Donovans
  - Compton, Blanche Central and Moorak
  - Western Flat



Hydro zones



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Licensing system

- Components to classes
  - Simplification of licensing system
  - Components and purposes of use replaced by three classes

Class	Description	Example uses
1	Highest level of security Not tradeable Only available to protect critical human needs Not subject to reductions or restrictions	Public water supply
2	Provides comparable protections as current Plan Limited trade May have specific conditions relating to particular uses Not subject to restrictions	Industrial Recreational Intensive animal keeping
3	Lowest level of security Fully tradable May have specific conditions relating to particular uses	Any use as allowed by the water allocation plan

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Licensing system

- Transition of components and purposes to classes

Class	Current purpose of use to be allocated to class
1	Public water supply
2	Industrial Recreational Intensive animal keeping
3	All tradeable components excluding public water supply, industrial, recreational and Intensive animal keeping All delivery supplements All specialised production requirements

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Next steps

- Compile everything we hear from these sessions
  - LC Landscape Board Governing Body
  - Stakeholder Advisory Group - meet again in September
- Refine these concepts
- Start developing further concepts
  - Further consultation
- Water market study

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Liz Perkins, Manager Planning and Engagement

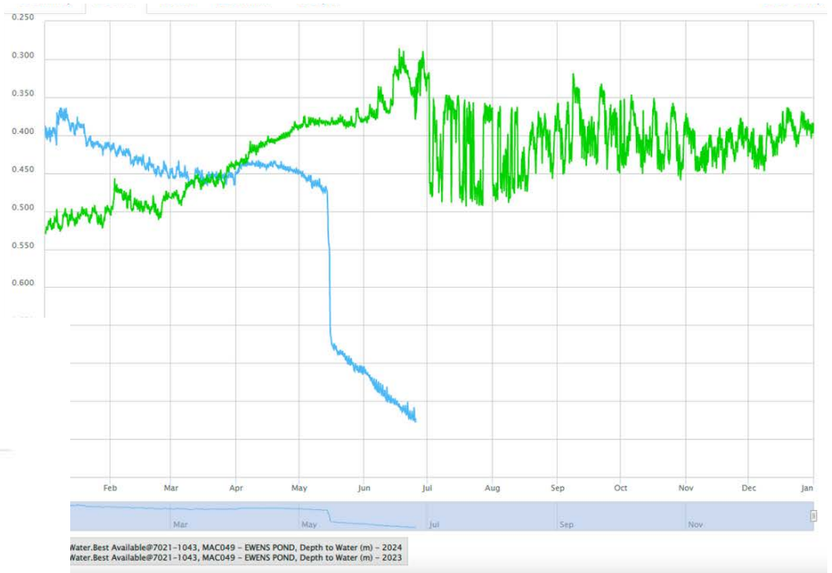
llcwap@sa.gov.au

0457 567 862

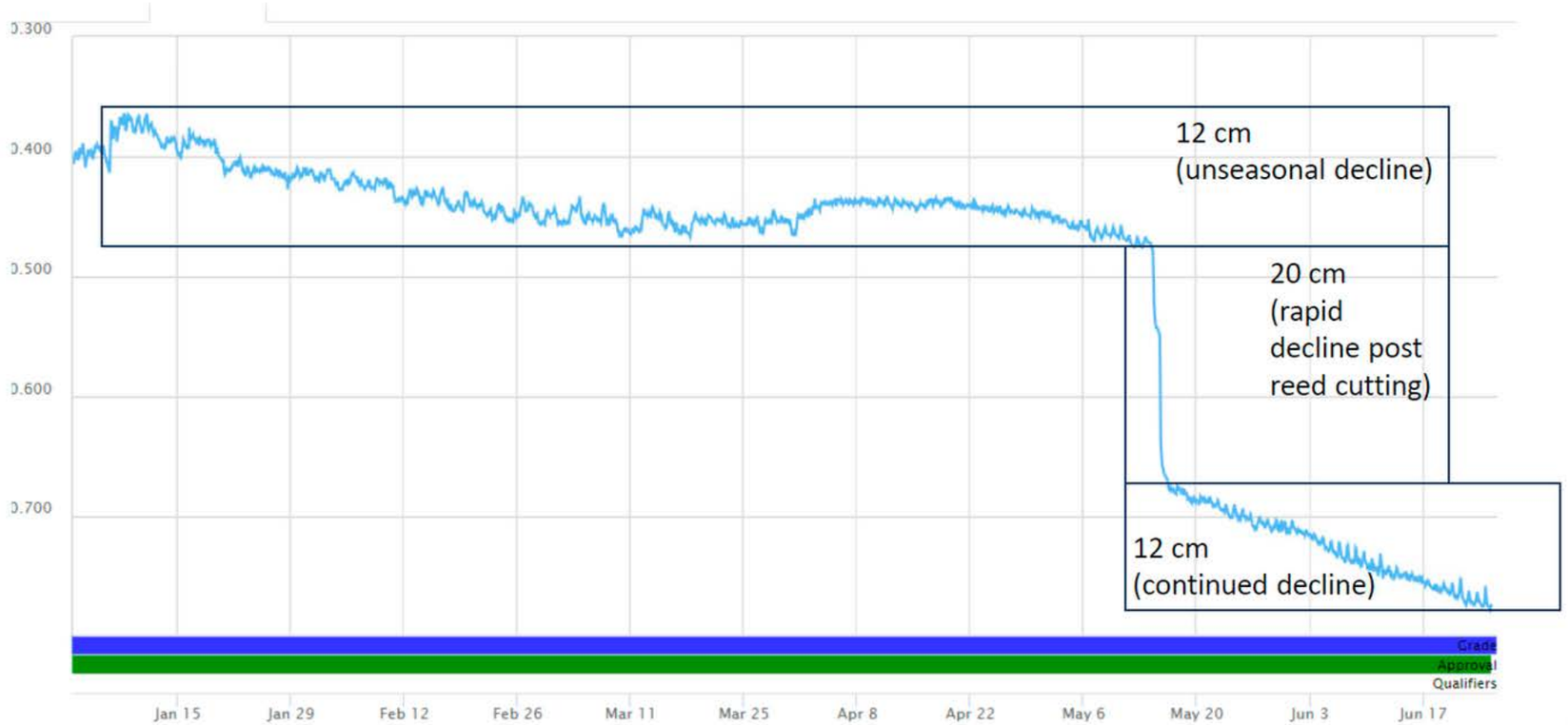
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Ewens and Piccaninnie Ponds

- Both closed but for different reasons
  - Ewens for water levels



Ewens Ponds – water level logger data

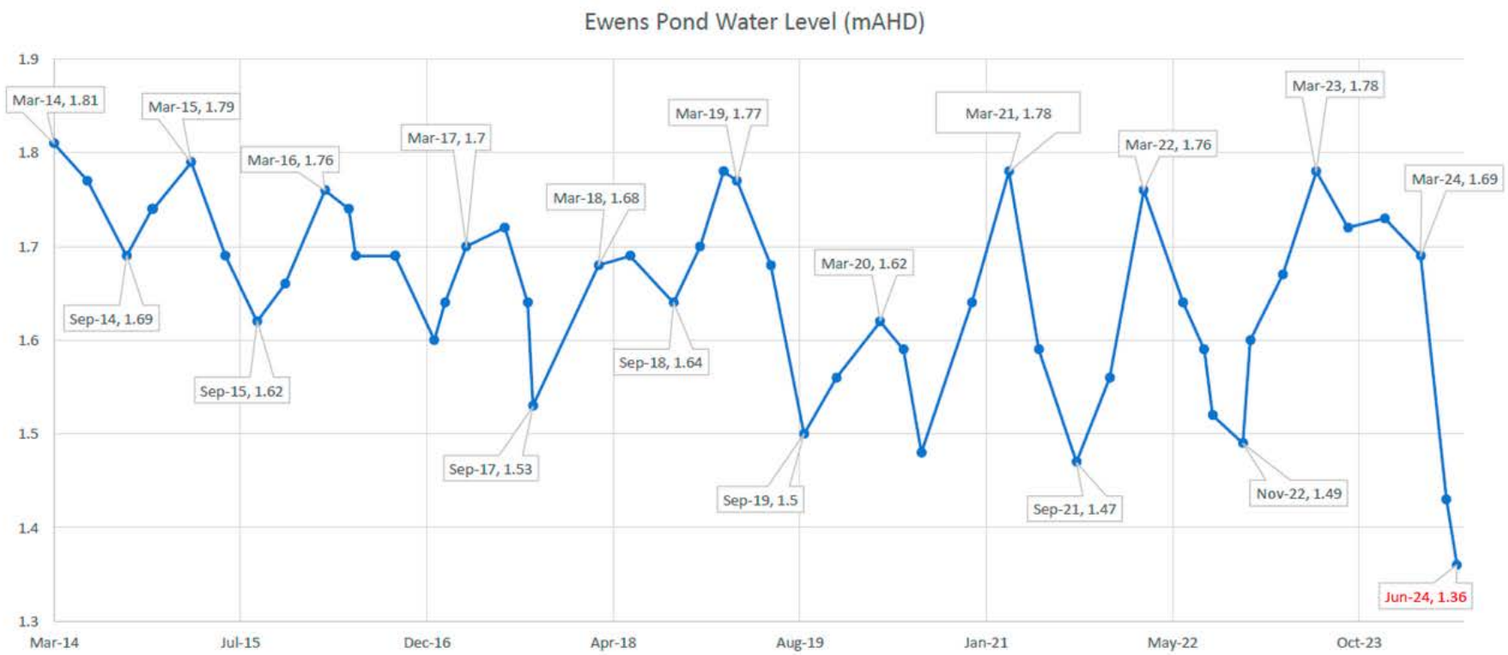


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Ewens and Piccaninnie Ponds

- Both closed but for different reasons
  - Ewens for water levels

Ewens Ponds – longer term water level data

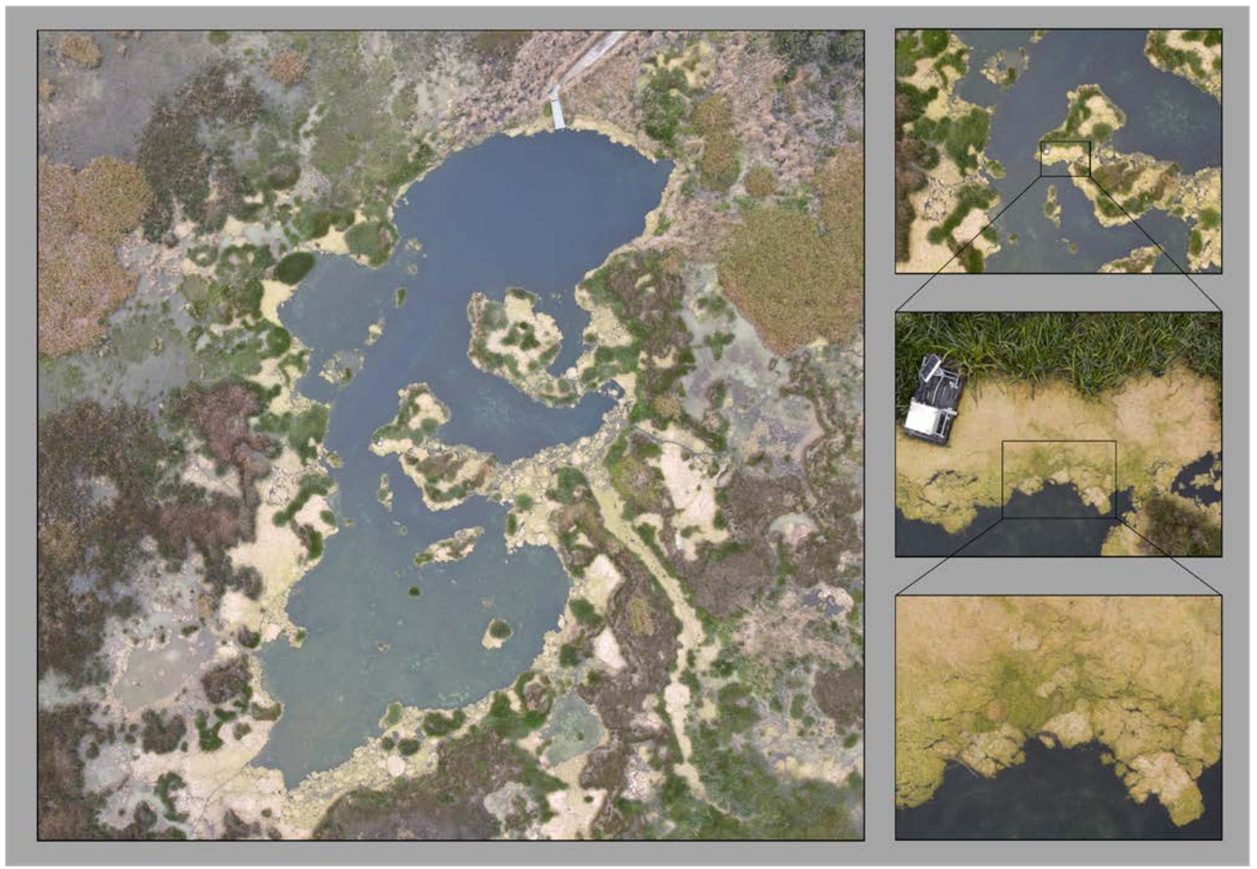


Reed cutting occurred most years (in May/June) since 2017

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Ewens and Piccaninnie Ponds

- Both closed but for different reasons
  - Piccaninnie due to filamentous algae



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