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Addressing overallocation of water entitlements

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Outline

1. What does the NWI say about overallocation?
2. What has the NWC said about it?
3. Some issues in overallocation
4. How does water planning work?
5. Are we overallocated?
6. Options for handling overallocation

Some Definitions

Overallocation:

If all entitlements were exercised, total extractions would exceed environmentally sustainable levels of extraction.

Overuse:

Total volume of water actually extracted exceeds environmentally sustainable levels of extractions.

Environmentally Sustainable Levels of Extraction:

Levels of extraction which will not compromise key environmental assets, ecosystem functions, or the productive base of the resource.

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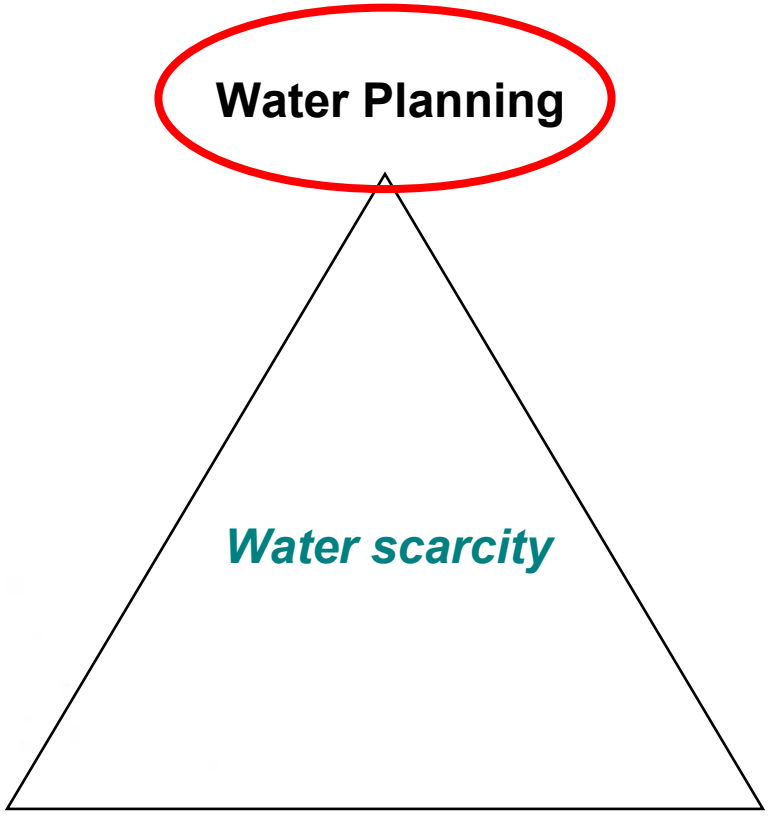
The National Water Initiative (NWI)

"A nationally-compatible market, regulatory and planning based system of managing surface and groundwater resources for rural and urban use that optimises economic, social and environmental outcomes"



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What does the NWI say?

- All currently overallocated or overused water systems to be returned to sustainable levels of extraction
- Substantially complete, by 2005, previous COAG plans to address overallocation
- Substantial progress towards dealing with remaining overallocation by 2010
- All water allocations to be made consistent with a Water Plan
- Provide the same statutory basis for entitlements for consumptive use of water & environmental use.
- Assign risks of changes to the consumptive pool

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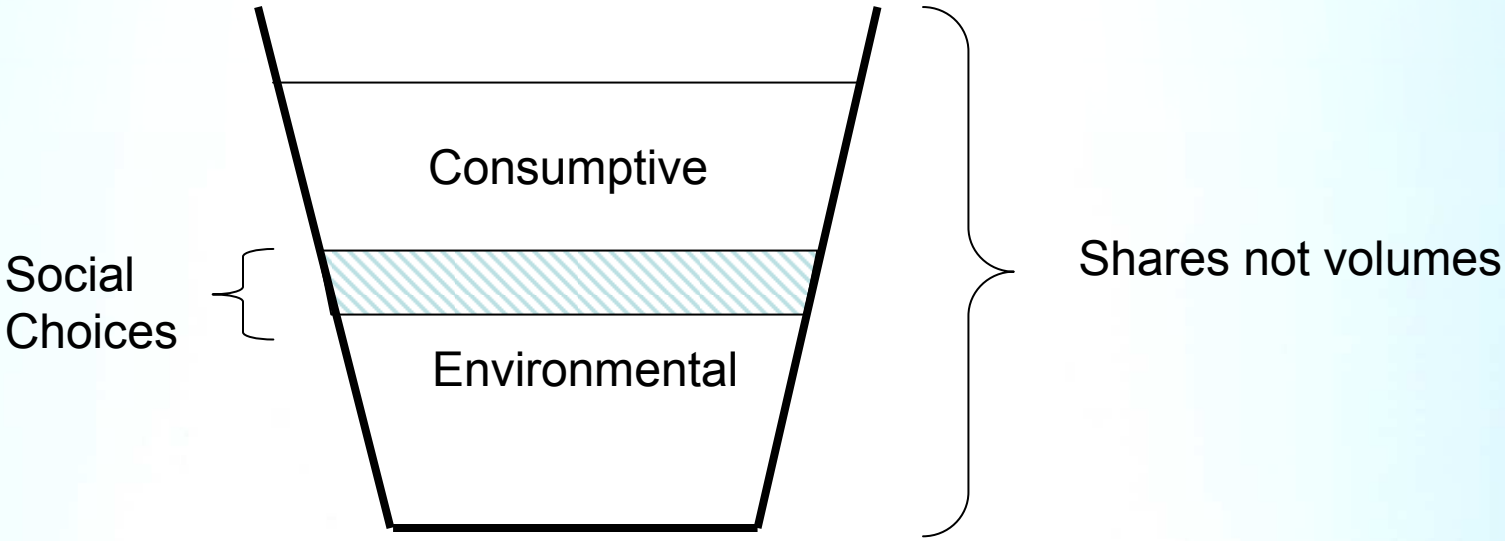
Water Allocation Framework



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Can we "take the politics out of water"?

- Science, data and knowledge are essential
- But ultimately these are social (i.e., political) choices
  - *Which environmental assets should be nurtured?*
  - *How big a red gum forest?*
  - *How often a hatching or nesting event?*
  - *What risk will be acceptable?*
  - *What are the social, economic and indigenous implications?*

Hence, decisions should be science-informed but not science-determined. Choices, judgements and trade-offs will always be required.

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Biennial Assessment 2007

Some areas requiring improvement:

- Reducing the overallocation of water resources
- Improving the quality of water planning and the science that underpins it
- Improving the management of environmental water

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Overallocation – Some issues…

1. No nationally adopted definition of “overallocation”
2. No nationally consistent method for calculating Sustainable Level of Extraction, nor agreement on how to approach it
3. Poor understanding of the services delivered by the environment
4. Water planning processes difficult and time-consuming
5. Science input to planning is not always adequate
6. Climate change is intensifying the problem

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How does water planning for the environment work?

1. Identify environmental assets and ecosystems to be sustained
   - taking account of non-linearities and resilience
   - undertake an ecological risk assessment
2. Determine the water volumes and patterns to sustain them
3. Make the consumption / environment trade-offs transparent
   - to clearly show the selected level of sustainability
4. Monitor outcomes and ensure feedback through adaptive management

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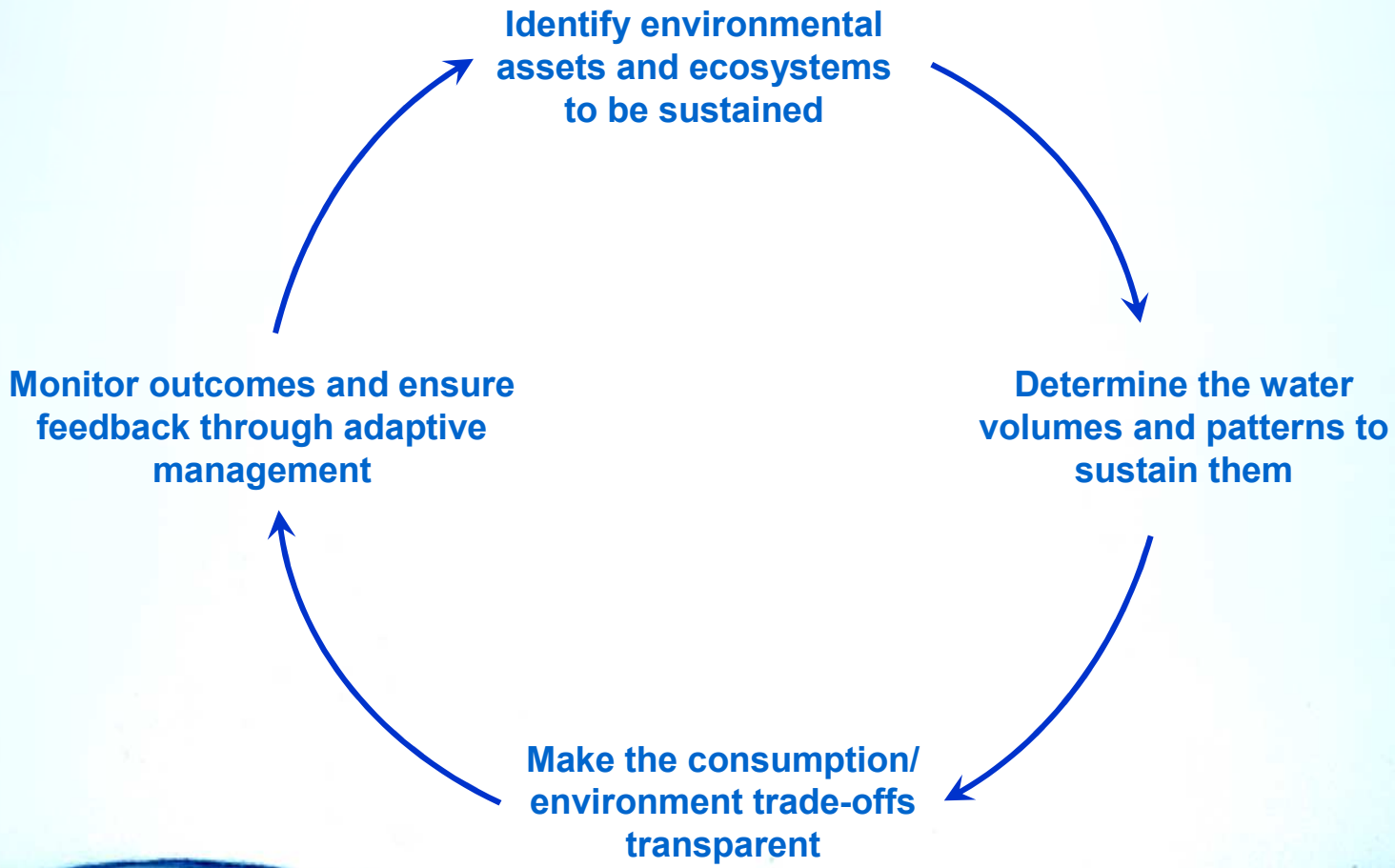
How does water planning for the environment work? (2)



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Are we overallocated?

- Probably, but it's hard to say so analytically
- All states have now substantially introduced water planning regimes conforming with NWI requirements*
- However actual completion of water plans has lagged
- Science & data input to planning has been a concern
- CSIRO water availability study in MDB is a good model
  - Determines availability
  - But does not declare overallocations

* WA & NT special cases

Are we overallocated? *… continued*

- Some states argue that where a transparent, NWI-consistent planning process has resulted in entitlements there is by definition, no overallocation
  - The environmental trade-off has been made transparent and found acceptable

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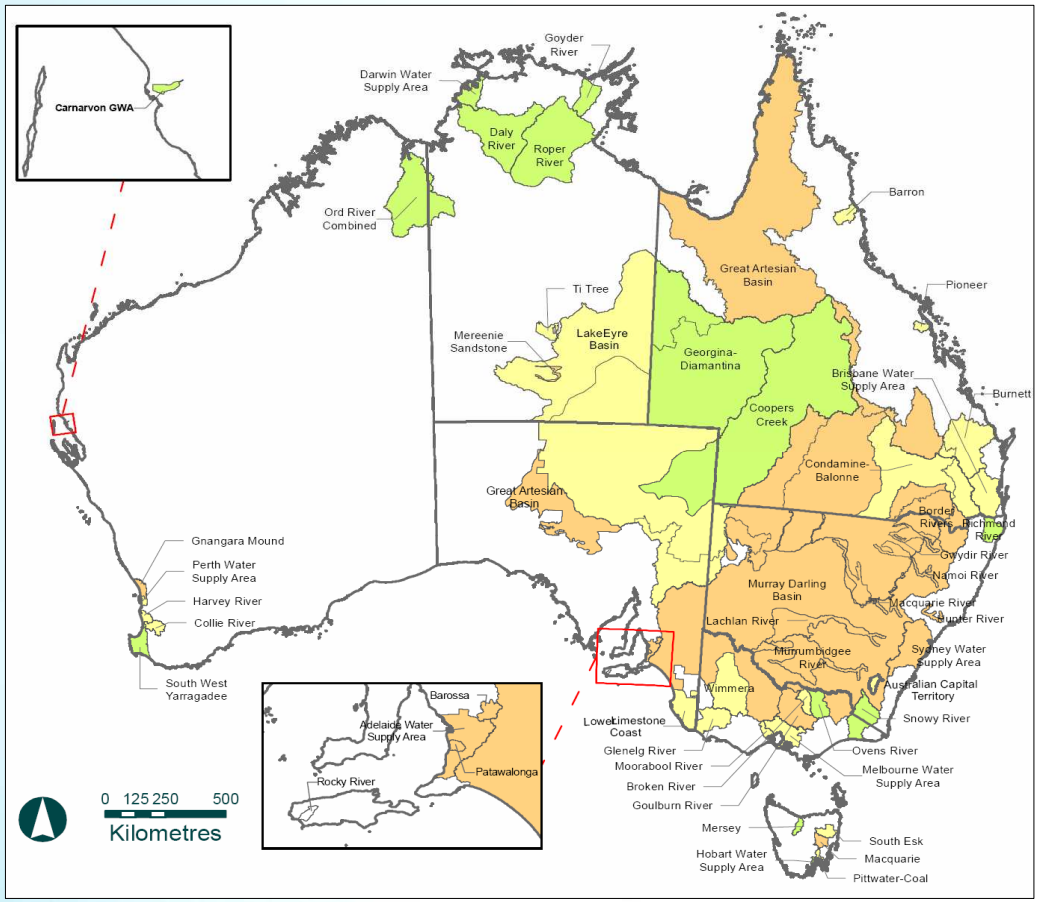
AWR 2005 – Stressed Systems



Legend

- High - consumptive use is greater than 30% of total inflows
- Moderate - consumptive use is between 10% and 30% of total inflows
- Low - consumptive use is less than 10% of total inflows
- Area not assessed

Options for handling overallocation

1. Allocate less per entitlement holder
2. Invest to improve irrigation system efficiency
3. Invest to improve efficiency of environment waterings
4. Extract more environmental benefits from consumptive water
5. Buy back entitlements on-market (and re-direct to the environment)
6. Revise Water Plans as they expire and then “re-set” entitlements
7. Compulsorily acquire certain entitlements eg, high salinity or low efficiency irrigation areas

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Options for handling overallocation… *continued*

8. Retire less–viable irrigation districts
9. Compulsorily acquire a % of entitlements across the board (Mike Young)
10. Reduce target levels of reliability (security)
11. Suspend Water Plans and arbitrarily revise entitlements
12. Regulate water use to reduce consumption (eg no rice, or only if x ML/ha can be achieved
13. Lower our environmental aspirations

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1. Allocate less per entitlement holder

Environment

Consumption

Degree of difficulty!

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2. Invest to improve irrigation system efficiency

- and direct savings to the environment

- or share savings with irrigation or urban areas

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3. Invest to improve efficiency of environment waterings

- eg: science $, or wetland infrastructure

4. Extract more environmental benefits from consumptive water

- eg: return flows from irrigation to the environment

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5. Buy back entitlements on-market

- and redirect to the environment

- or, share between environment and consumption

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6. Revise Water Plans as they expire and then “re-set” entitlements

- avoids sovereign risk
- but takes years to complete

7. Compulsorily acquire certain entitlements

- eg: in valleys shown to be grossly overallocated; or stranded irrigators

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8. Retire less-viable irrigation districts

- eg: high salinity or low efficiency irrigation areas

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9. Compulsorily acquire a % of entitlements across the board

- a Mike Young proposal

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10. Reduce target levels of reliability (security)

Environment

Consumption

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11. Suspend Water Plans and arbitrarily revise entitlements

- a Mike Young proposal
- sovereign risk

12. Regulate water use to reduce consumption

- eg: a ban on rice or cotton unless a target water efficiency level is reached

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13. Lower our environmental aspirations

Environment

Consumption

So, which is best?

- Most options can play a part
- Some are radical and affect property rights and the necessary case for radical intervention would need to be made
- The CSIRO water availability study may begin to make the objective case for some change
- Site-specific ecological and river health studies will be necessary complements to the CSIRO work

Principles

- Maximise water security
- Minimise sovereign risk
- Maximise water use efficiency (environmental and consumptive)
- Maximise use of markets
- Minimise administrative / political discretion
- Maximise periods of notice
- Maximise science, knowledge input (hydrology and clear environmental outcomes)
- Maximise local planning participation
- Ensure adjustment assistance is in place

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