Sharing water: Unbundling and turning ground licences into shares

Mike Young
Chief Research Scientist (Economics)
CSIRO Water for Healthy Country

www.csiro.au
The South East

- Shallow unconfined aquifer
  - Wine grapes
  - Alfalfa
  - Dairy milk
  - Plantation timber

Robust design
Robust design

Problems

1. Drifting towards over-allocation
2. Need to allow new irrigation development at different locations
3. Need to manage increasing salinity
4. Expanding interception of groundwater recharge by plantation industry
5. Access to water for irrigation seen as a pathway to wealth
1990 licensing arrangements

1. Area-based licence system with a limit on hectare equivalents for a standard crop
2. No meters, no control on volume used
3. Only control on area irrigated
4. Licensed area depended on crop type
5. All administered by Government Department
Wealth allocation solution

1. Prescribe Management Areas
2. Place a “prescribed limit” on the total amount that may be extracted
3. Distribute the remaining unallocated water as holding licences on a per hectare basis
4. Announce any further access to water only by buying an allocation and trading it to the location where it is to be used
Forestry solution

Set a limit on the area that may be under forest in each management area

Beyond limit require off-set of water impact from plantation forest interception
Robust design

Water efficiency without cheating

Convert all area-based licences to volumetric licences

Define entitlements in “nett” terms

- Entitlement = Volume extracted minus

  Assumed aquifer return

Unconfined Aquifer

Extraction

45 ML

5 ML

Drainage

100 ML

5 ML

Water that returns to the aquifer

10 ML
Robust design of water licences

Following volumetric conversion, un-bundle existing licences into three separate components

1. Entitlement to receive periodic allocations => issue unit shares
2. Seasonal allocations managed on a separate register => like bank accounts
3. Use approvals to control salinity, local draw down etc => site conditions
Unbundle / Separate for control

Water Licence

- Entitlement Unit Shares (in Perpetuity)
- Bank-like Allocations
- Use licences with limits & obligations

Irrigator Interests

- Water Sharing Plan
- Allocation Trading rules
- Catchment Use Plan

System rules

Robust design
## Component interaction guidelines

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Regional governance

1997 Establish a Catchment Management Board with local representatives
Employ own staff and offices
Funded via a levy on water users

Duties

- preparing and implementing plans that set water sharing, trading and use rules
- advising Minister and local govt councils on water management
- promoting public awareness

2005 Converted into a Natural Resource Management Board
Water entitlement recommendations

1. To allow adjustment as climatic and other conditions change
   • Make water entitlements and allocations fully tradeable
   • Define entitlements as unit shares of a defined pool of water
   • Un-bundle any water right issued into, at least, three components.

2. Match each component with set of periodically reviewed
   • Water Allocations Plans to define each pool of water and sharing rules
   • Trading Protocols that define water trading rules
   • Catchment Management Plans to define use rules and manage local impacts

3. Define entitlements in “nett” terms

4. Make all plans statutory documents with a basis in law

5. Include significant water supply affecting activities like forestry, clay spreading and dryland lucerne (alfalfa) in the allocation system

6. When applied to surface water systems having two entitlement pools
   • A highly reliable pool whose allocation per share is constant in all but extreme circumstances.
   • A general pool whose allocation per share vary with the quantity of water available for use

7. Formally set aside and define the environment’s interest and obligations to maintain flow
Governance recommendations

1. Use local or regional boards to make decisions and empower them
   - to employ their own staff
   - to fund their own activities via a catchment levy or equivalent.

2. Encourage consultation and ensure all decision making arrangements transparent

3. Don’t allocate licences by purpose of use (Avoid fights)
CSIRO Land and Water
Policy and Economic Research Unit

Mike Young
Chief Research Scientist (Economics)

Phone: +61 8 8303 8665
Email: Mike.Young@csiro.au
Web: www.csiro.au/clw

Thank You

Contact CSIRO
Phone  1300 363 400
+61 3 9545 2176
Email  enquiries@csiro.au
Web    www.csiro.au