



# Incorporating plantation forestry as a Water Affecting Activity into Water Allocation Plan in transboundary aquifer South eastern Australia

Work in progress

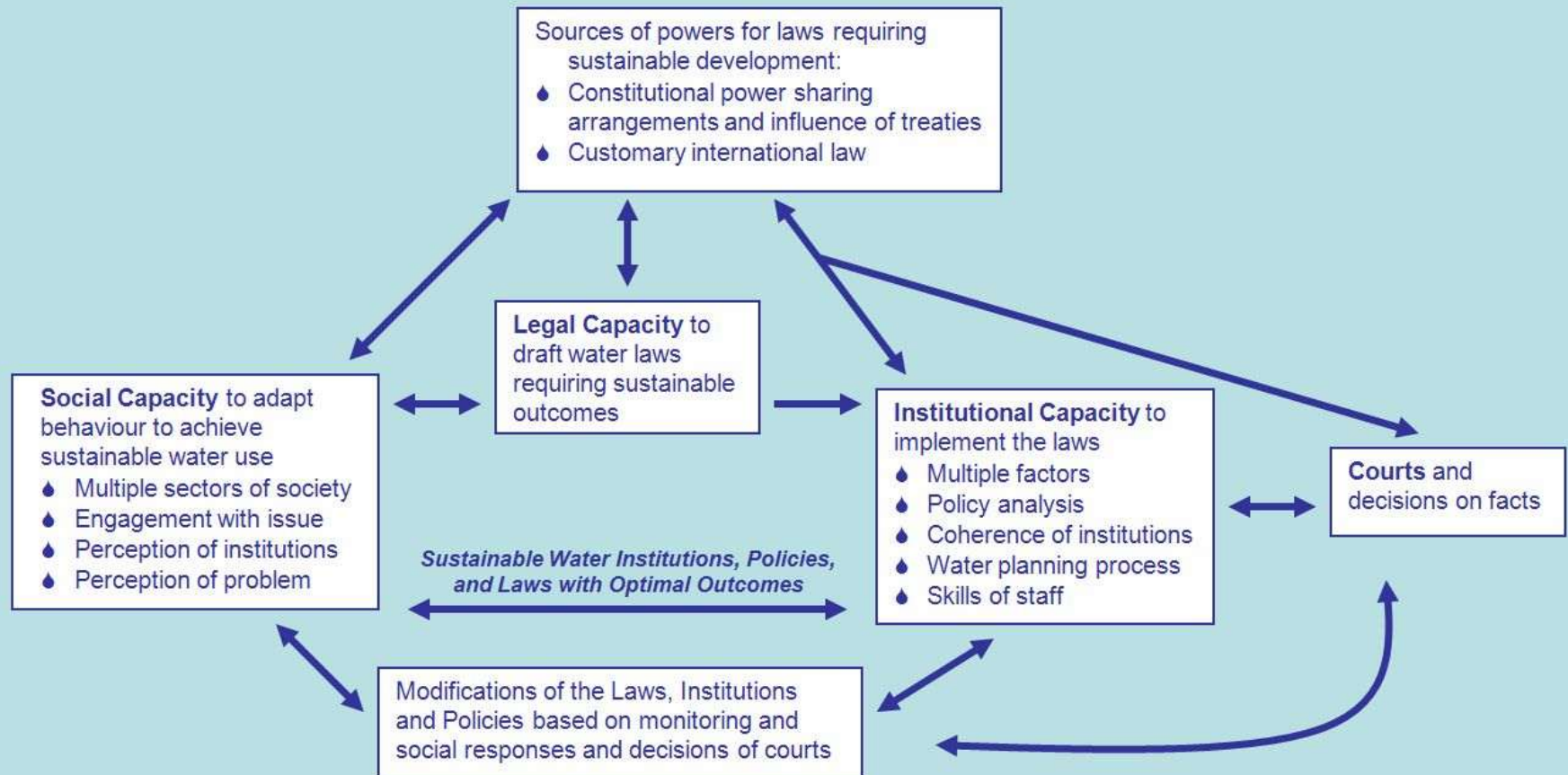


# Sustainability its legal meaning

- 3 case studies
- 3 innovative adoptions of policy 1985, to 2007
- aims to get a fully specified system, environment first critical human needs then consumptive pool shared.
- Conclusions will be drawn as the legal norms transmitted to international law by Australian



## Framework to Evaluate Individual Preferences and Collective Outcomes of Sustainable Water Institutions, Policies, and Laws



McKay 2008, Adapted from text by Bickers and Williams, 2001 "Public Policy Analysis". Houghton Muffin. Inspired by Daly and by adaptive management and the concept of strong sustainability.  
Strong sustainability means that some things such as green plants, water cycles, and biodiversity are critical and must be retained at all costs. Daly and Cobb, 1989 "For the Common Good". Beacon Press Boston

# Groundwater- forgotten

- Groundwater is the Cinderella of water regulation in Australia in that it was regulated under State laws which came after attention was paid to surface water. (McKay 2007)
- However, now we have several administrative licencing systems the latest in 1960 Vic. Very little trading in south Australia.

# near Universal metering since 1980s



# LAWS Context

- In 1997, South Australia enacted the [Water Resources Act 1997](#) with a view to facilitating the privatisation of water delivery services and setting up rural farmer coops to manage irrigation. Earlier had set up NRM BOARDS to manage waters and this was enhanced due to national Govt funding.
- here is a case study of a maturing groundwater management policy and its implementation. Forestry as a water affecting activity
- [\[19\]](#)

Conjunctive use as a matter of policy (China, India)

Conjunctive use as a matter of domestic legislation (USA States, Jamaica)

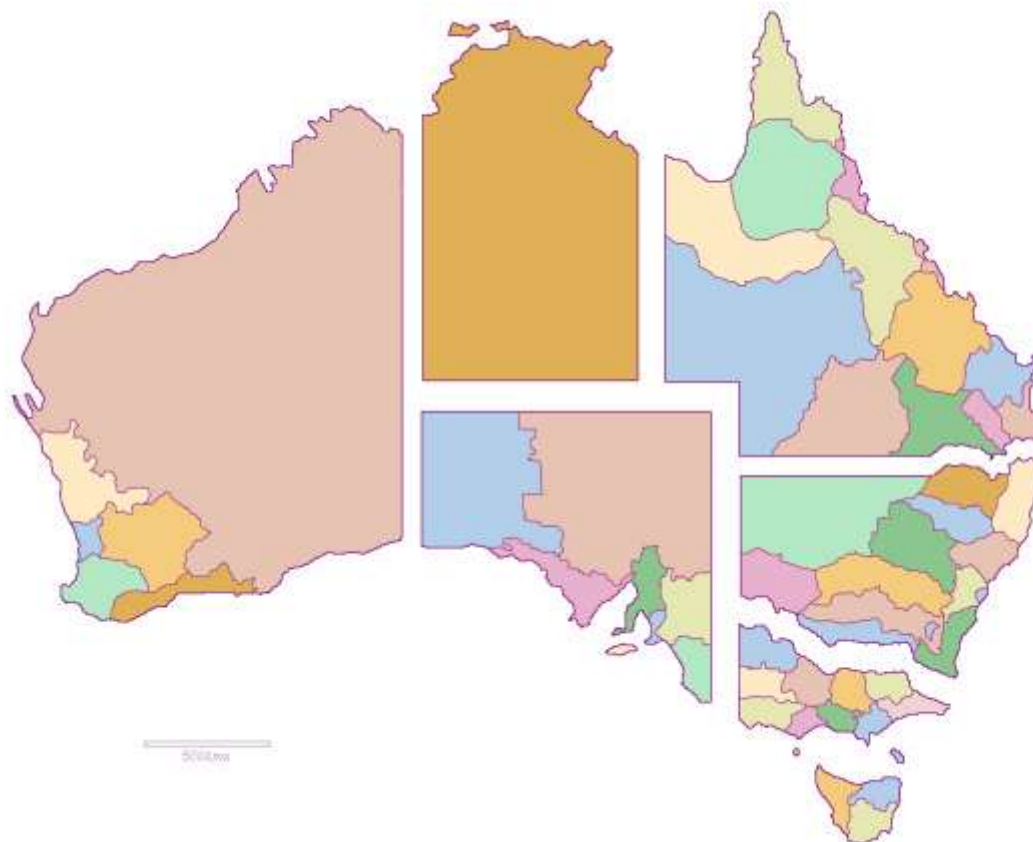
Inter-basin water transfers as a means to relieve groundwater stress (Spain)

# Laws elsewhere

Controlled trading/leasing of groundwater extraction rights, within the agriculture sector, and from agriculture to other sectors of economic and social development (Mexico)



# 56 NRM regions – since 2000



# South Australia- Victoria oldest scheme trans-boundary aquifer





UniSA

# The current share

(Groundwater licence entitlements along the  
SA/Vic border)

| South Australia | Victoria |
|-----------------|----------|
| 172 GL          | 53 GL    |





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Image © 2009 DigitalGlobe

Google

34°56'53.23" S 140°58'04.83" E

elev 55 m

Aug 15, 2006

Eye alt 4.52 km



# Farmers can see the *conflicts my enemys enemy is my friend*



"These trees are being harvested, in this case for the manufacture of toilet paper. Whilst not irrigated it is evident that forests do draw on the water aquifer as well as eliminating recharge. Sustainable?"



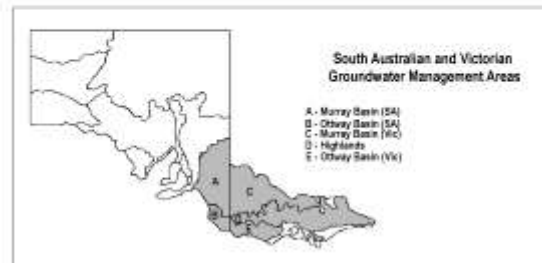
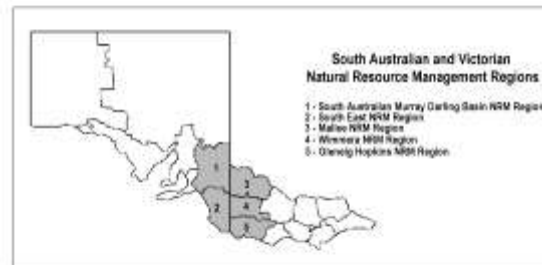
# Law in South Australia

- The key features of the Act with respect to **groundwater** are: it expressly abolishes common law rights to **groundwater** ; it introduces a series of statutory rights; it ensures that the Crown has primary access rights to **groundwater** and it does not expressly vest any rights to **groundwater** in the Crown

# SA- Vic

- The area 20 km either side of the South Australian Victorian border has been managed under a cooperative agreement since 1985 under legislation called Victoria - South Australia groundwater (Border Agreement Act 1985 Vic 1985 SA 1985).

# Border region GW areas





# words used

- The Agreement of 1985 between the Premiers of South Australia and Victoria had the aim of making provision to protect the Groundwater resources adjacent to the border between the State of South Australia and the State of Victoria and to provide for the cooperative management and equitable sharing of those resources and to guard against the undue depletion or degradation thereof.

# Permissible annual volume

- The Acts set up a Committee which has roles to determine “Permissible annual volume” (PAV) which means the permissible annual volume of extraction specified for each zone in the Second Schedule, or in relation to a particular zone, such other volume as has been determined by the Committee under clause 28(2

# PAV changed to reflect ESD

- The committee consists of 4 members; 2 appointed by each State.
- In the designated area a management plan was created under relevant state laws.
- The management plan for the designated area has the power to
- proscribe the enlarging of any bores in the area.

# later in 2006 NWI

- Later after SA has done this the National government praised SA and inserted forestry as a water affecting activity into it strategy for the States.



# Forestry policy in SA

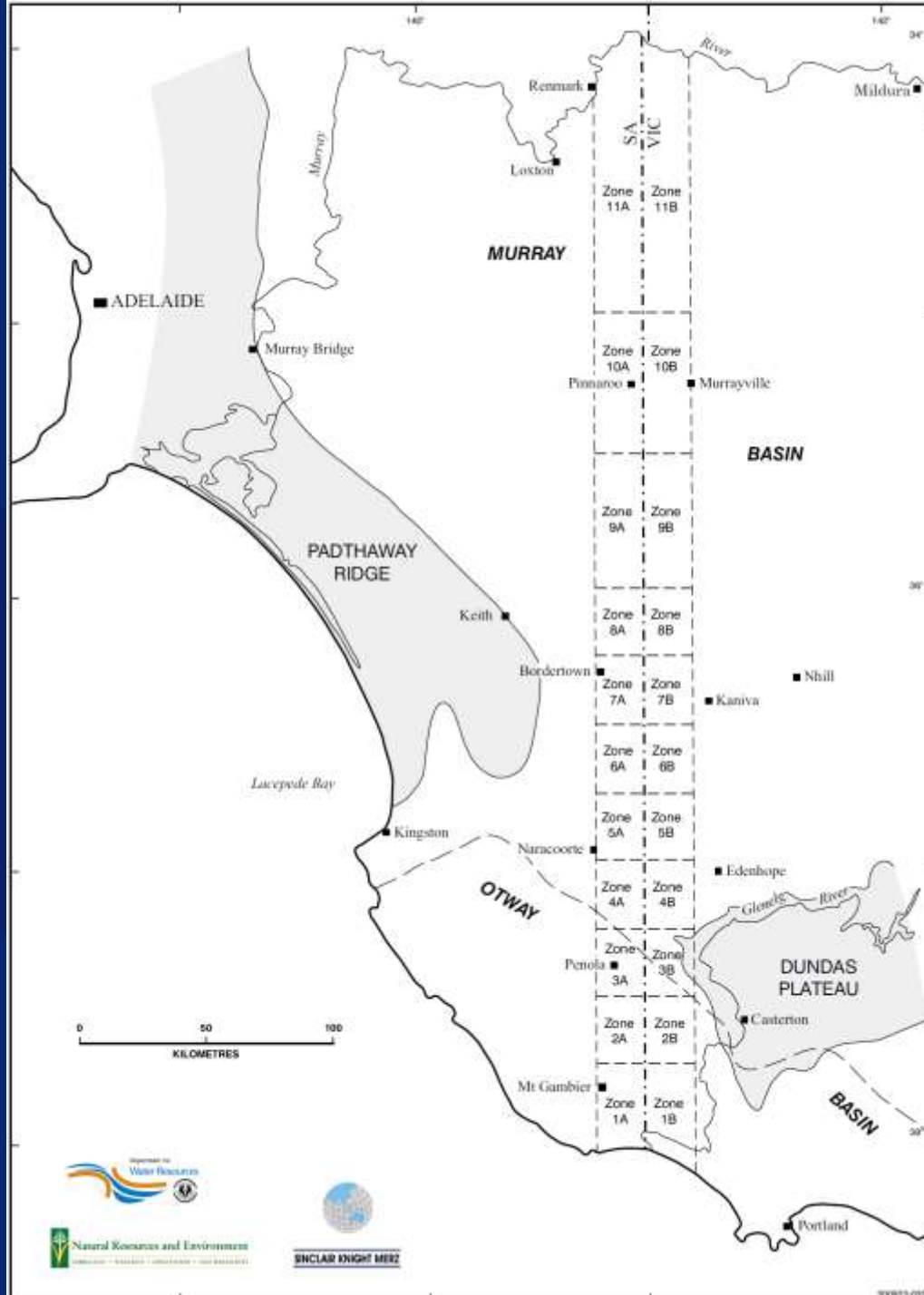
- in South Australia was to require commercial forestry (planted for paper and pulp and for carbon credits) to account for its water use.
- Two policies have been proposed, accounting for rainfall interception of forests which reduced recharge, and direct extraction of water from shallow aquifers (less than 6 meters).

# Mechanisms - SA

- On the 17 February 2004, the Minister for Environment and Conservation announced that the South Australian State Government would adopt a management proposal prescribing commercial forestry in the lower South East of the State as a 'water affecting activity', requiring a permit under the repealed Water Resources Act 1994

# Not matched in Vic yet

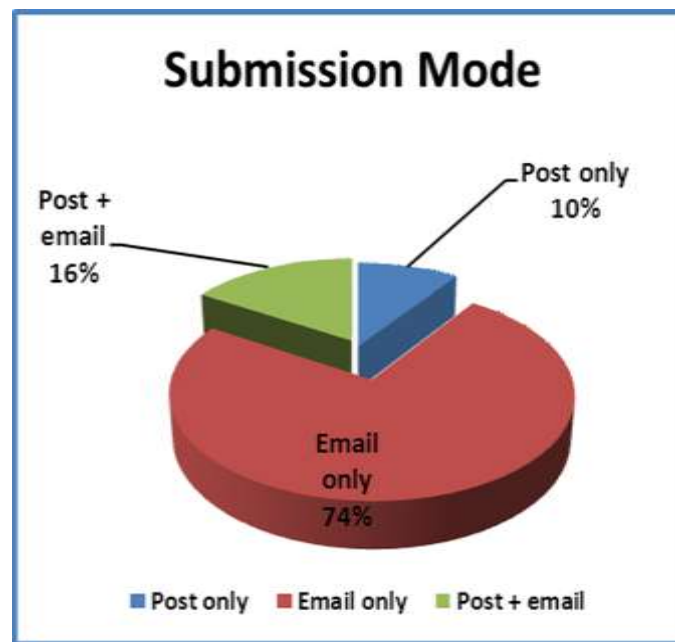
- This innovation in South Australia has not been matched (as yet) in Victoria
- so despite this agreement have major difference





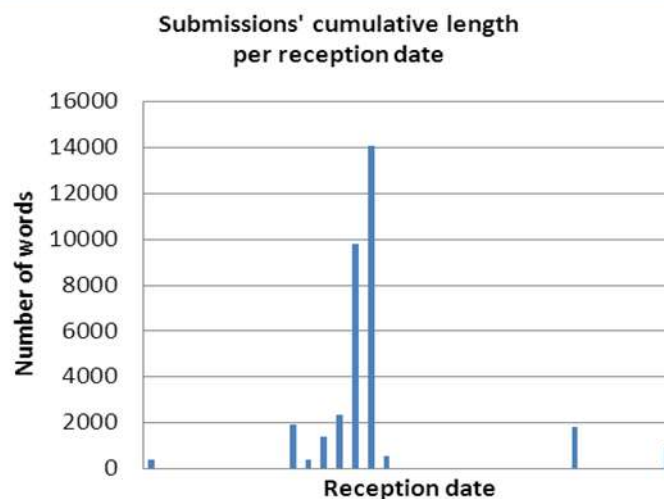
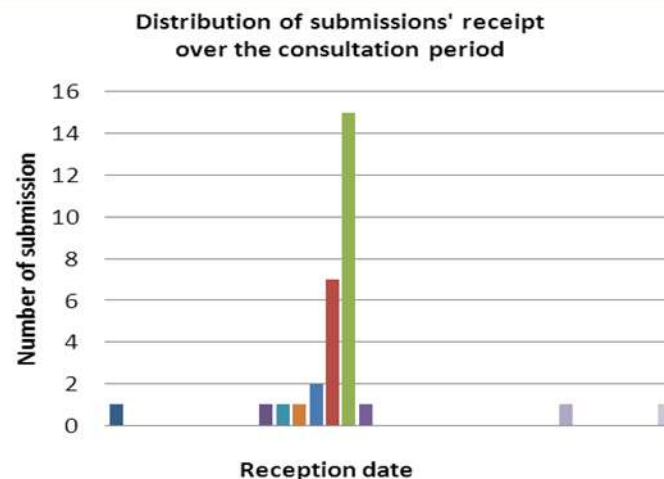
# Submissions to plan suggesting this policy-reception Phd student work

| Submission Mode | Number of Submissions |
|-----------------|-----------------------|
| Post only       | 3                     |
| Email only      | 23                    |
| Post + email    | 5                     |



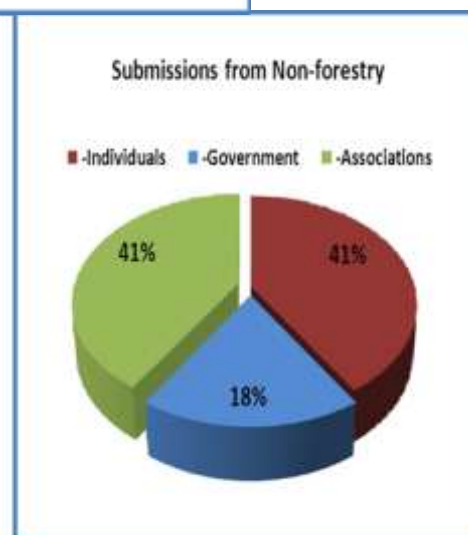
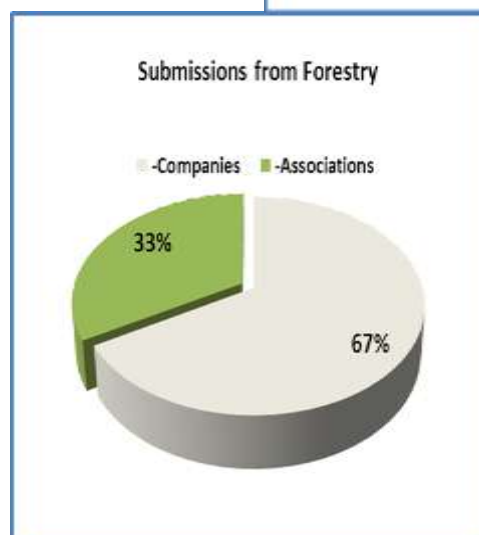
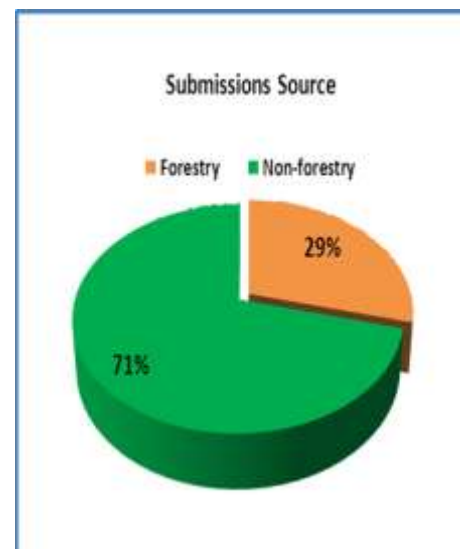
# Submissions-length

| Reception Date | Number of Submissions | Number of Words |
|----------------|-----------------------|-----------------|
| 6-Apr-12       | 1                     | 410             |
| 7-Apr-12       | 0                     |                 |
| 8-Apr-12       | 0                     |                 |
| 9-Apr-12       | 0                     |                 |
| 10-Apr-12      | 0                     |                 |
| 11-Apr-12      | 0                     |                 |
| 12-Apr-12      | 0                     |                 |
| 13-Apr-12      | 0                     |                 |
| 14-Apr-12      | 0                     |                 |
| 15-Apr-12      | 1                     | 1899            |
| 16-Apr-12      | 1                     | 385             |
| 17-Apr-12      | 1                     | 1406            |
| 18-Apr-12      | 2                     | 2368            |
| 19-Apr-12      | 7                     | 9826            |
| 20-Apr-12      | 15                    | 14095           |
| 21-Apr-12      | 1                     | 554             |
| 22-Apr-12      | 0                     |                 |
| 23-Apr-12      | 0                     |                 |
| 24-Apr-12      | 0                     |                 |
| 25-Apr-12      | 0                     |                 |
| 26-Apr-12      | 0                     |                 |
| 27-Apr-12      | 0                     |                 |
| 28-Apr-12      | 0                     |                 |
| 29-Apr-12      | 0                     |                 |
| 30-Apr-12      | 0                     |                 |
| 1-May-12       | 0                     |                 |
| 2-May-12       | 0                     |                 |
| 3-May-12       | 1                     | 1841            |
| 4-May-12       | 0                     |                 |
| 5-May-12       | 0                     |                 |
| 6-May-12       | 0                     |                 |
| 7-May-12       | 0                     |                 |
| 8-May-12       | 0                     |                 |
| 9-May-12       | 1                     | 916             |
| Total          | 31                    | 33700           |



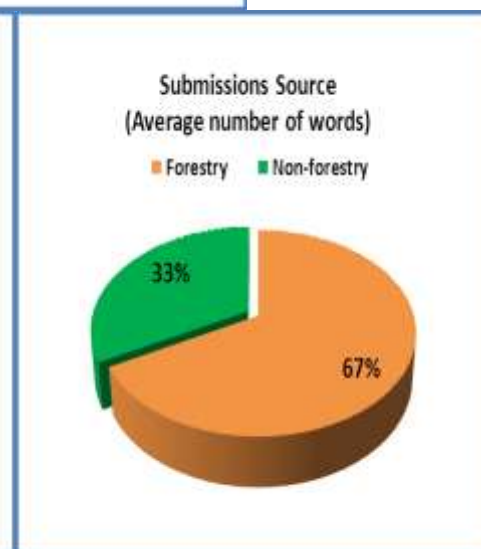
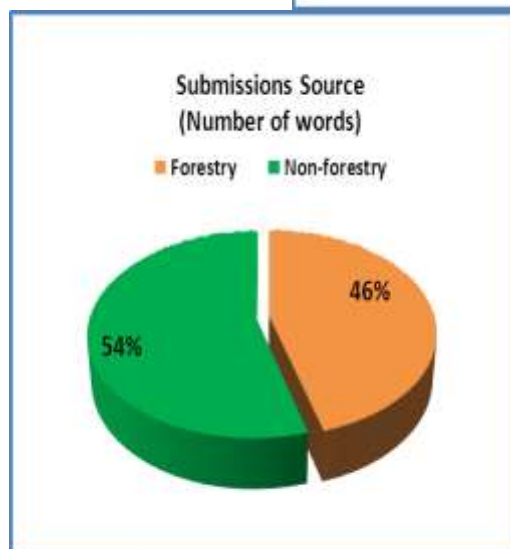
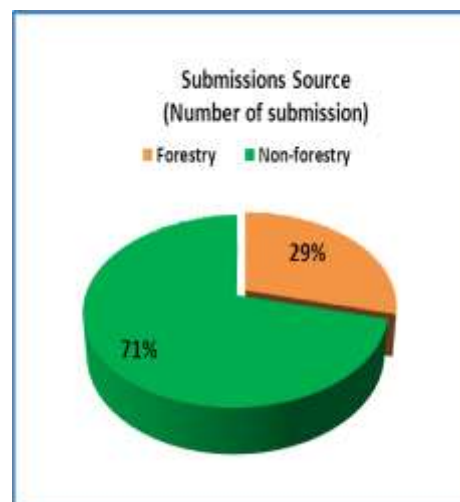
# Submissions-Source

| Respondent Groups   | Number of Submissions |
|---------------------|-----------------------|
| <b>Forestry</b>     | <b>9</b>              |
| -Companies          | 6                     |
| -Associations       | 3                     |
| <b>Non-forestry</b> | <b>22</b>             |
| -Individuals        | 9                     |
| -Government         | 4                     |
| -Associations       | 9                     |
| <b>Total</b>        | <b>31</b>             |



# Submissions-Source 2

| Respondent Groups   | Number of Words | Average number of Words |
|---------------------|-----------------|-------------------------|
| <b>Forestry</b>     | <b>15346</b>    | <b>1705</b>             |
| -Companies          | 6903            | 1151                    |
| -Associations       | 8443            | 2814                    |
| <b>Non-forestry</b> | <b>18354</b>    | <b>834</b>              |
| -Individuals        | 6007            | 667                     |
| -Government         | 2396            | 599                     |
| -Associations       | 9951            | 1106                    |
| <b>Total</b>        | <b>33700</b>    | <b>1087</b>             |



## Lessons

Implementation of the incorporation of forestry as a water affecting activity has been slow.

leadership in the region has been at a high level from government and the private sector looking for a long term solution.

NRM Board and forester leading it key to sustain a common vision

self funding partly the board

Despite The next state not moving SA did

# Lessons

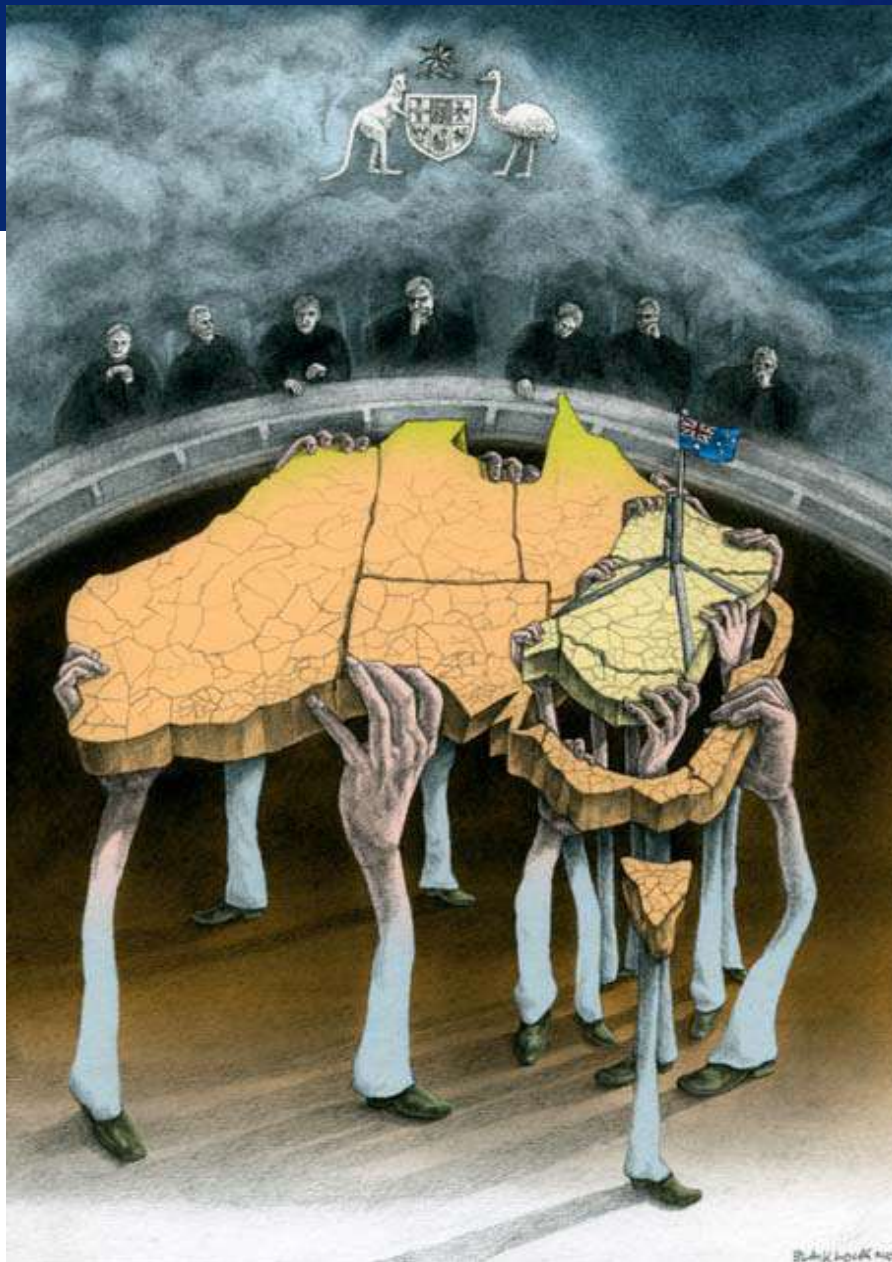
- weak accountability to national govt.  
water allocation for forestry is a national objective but this is the only example so far.
- vic not accountable for not doing it





This article argues that fragmented making structures can generate major can centralized structures. The fragmented Congress is shown to facilitate innovation in general water pollution control legislation of four dimensions of costs and benefits, disjointed innovation since it "promotes competition, minimizes the cost of legitimacy...."

**INTRODUCTION** This article shall...



Thank you 😊