Socio-economic evaluation of
NSW Water Sharing Plans
A case study of the Murrumbidgee Valley
Graham Carter, Dr Maksudul Bari, and Christine M Hill

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Socio-economic evaluation of NSW Water Sharing Plans

A case study of the Murrumbidgee Valley

Graham Carter  Senior Analyst
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NSW Water Sharing Plans

- Legal documents
- NSW water reforms
- Sharing resources between irrigators, environment, water users
- Implemented across all water sources – coast and inland; regulated, unregulated and alluvial, and groundwater.
- WSPs to be reviewed every 5 years.
- Require socio-economic assessment
Socio economic input to WSP reviews
Irrigator survey project

- To monitor social and economic changes in WSP areas at farm and regional levels.
- 4 surveys undertaken between 2006 and 2013. 2013 survey was whole state.
- Provided extensive enterprise level socio economic data
- Investigating hypothesis: maintenance of status quo – no negative change.
Murrumbidgee Valley case study

- Murrumbidgee River starts in the east High Country in NSW
- Joins the Murray River in the west
- Murrumbidgee River provides extensive irrigation for food and produce
- GVAP $2.1B  GVIAP $676 m (ABS 2011)
Murrumbidgee Valley case study

- Multivariate data analysis
- Factors included:
  - water source
  - farm size
  - entitlement size
  - farm type
  - employment
  - farm income
- Attitudinal questions:
  - temporary trading
  - permanent trading
  - knowledge of WSP
  - WSP good for farm business
  - water for environment
# Murrumbidgee Valley survey results

## Economic indicators

Licence holder “….farm income as a percentage of total income” (Mean)

<table>
<thead>
<tr>
<th>Water sources</th>
<th>Survey Year</th>
<th>Statistical test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2009/10</td>
</tr>
<tr>
<td>Ground water</td>
<td>64%</td>
<td>54%</td>
</tr>
<tr>
<td>Regulated river</td>
<td>70%</td>
<td>65%</td>
</tr>
<tr>
<td>Unregulated river</td>
<td>47%</td>
<td>63%</td>
</tr>
</tbody>
</table>

- No significant difference between years within each water source

Licence holder reported income from on farm activities  47 - 70 %
Murrumbidgee Valley survey results
Economic indicators

Active water users “...farm income as a percentage of total income” (Mean)

<table>
<thead>
<tr>
<th>Type</th>
<th>Survey year</th>
<th>Statistical test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2009/10</td>
</tr>
<tr>
<td>Ground water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulated river</td>
<td>77%</td>
<td>72%</td>
</tr>
<tr>
<td>Unregulated river</td>
<td>58%</td>
<td>76%</td>
</tr>
</tbody>
</table>

No significant negative change. Significant positive change for unregulated river water users.
## Murrumbidgee Valley Survey results
### Social indicators

Perception water sharing plan “good for farm business”
Regulated river water users
(1 = strongly disagree  3 = neither  5 = strongly agree)

<table>
<thead>
<tr>
<th>Type</th>
<th>Survey year</th>
<th>Statistical test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2009/10</td>
</tr>
<tr>
<td>On farm</td>
<td>2.8</td>
<td>2.7</td>
</tr>
<tr>
<td>No on farm use</td>
<td>3.3</td>
<td>2.9</td>
</tr>
<tr>
<td>On farm use  %</td>
<td>83%</td>
<td>71%</td>
</tr>
<tr>
<td>Sample size (n)</td>
<td>153</td>
<td>213</td>
</tr>
</tbody>
</table>
Murrumbidgee Valley Survey results

• Across water sources - no negative change in the % of farm income, and % income from irrigation

• Responses varied with on farm water use - larger entitlement holders had differing responses and attitudes than smaller licence holders

• Intention to trade - positive increase reported from regulated river and unregulated river water licence holders

• No change in knowledge of WSP – remained low (Reporting Scale 0-10, Reg score 5.2, Unreg 3.7, GW 4.5)
Policy implications; Murrumbidgee Valley and WSP reviews

Policy implications

• Challenges homogeneity assumptions – WSPs affect licence holders. “Active water users” are only a subset

• Income indicators report little change

• Knowledge of WSP “average or below” and not improving

• Take home message:
  *Disconnect between plans’ outcomes and stakeholder understanding.*
Monitoring economic and social changes in NSW water sharing plan areas: Irrigators’ survey 2005-06, NSW Department of Water and Energy, Sydney, 2007

Monitoring economic and social changes in NSW water sharing plan areas: Irrigators survey 2009 – Covering plans commenced since 2004 and currently under development. NSW Office of Water, Sydney, 2010


Monitoring economic and social change in NSW water sharing plan areas: Irrigators’ Survey 2009/2010 and 2013 - A state wide comparison. NSW Department of Trade and Investment Regional Infrastructure and Services, 2015.
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