

# WATER IN AUSTRALIA

A DROUGHT OF ACTION: A FLOOD OF POLITICS,  
VESTED INTERESTS AND NIMBYISM





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## Introduction

This report examines public debate in Australia over water – its supply, storage, management and usage. Debate was analysed through the forum of media news, current affairs, columns, letters to the editor and commentary. Editorial media coverage is recognised a primary site of discourse that both reflects views and opinion through reportage of what various organisations and individuals are thinking, saying and doing, and influences public opinion and potentially political opinion and policy.

### **Analysis includes discussion of:**

- » Dams;
- » River management;
- » Irrigation;
- » Desalination proposals;
- » Recycling schemes such as sewage use;
- » Home rain water tanks;
- » Water-saving devices in homes;
- » Restrictions to lower usage;
- » Other strategies to address Australia's water shortage.

## Methodology

Debate was examined using quantitative and qualitative content analysis of relevant media news, current affairs and commentary. Media content analysis is a recognised methodology for examining debate and discourse that has been used for analysing the content and effects of propaganda and portrayals and effects of violence, pornography and gender stereotypes for more than 80 years.

Content analysis was undertaken using the CARMA<sup>®</sup> system, an internationally recognised Computer Aided Research and Media Analysis methodology developed by CARMA International in association with leading universities and licensed exclusively in Asia Pacific by Media Monitors.

Media content from 1 January to 30 April 2007 was monitored and analysed.

Quantitative analysis was conducted of coverage of water issues in all of Australia's national, metropolitan, regional and specialist press, radio and television news media, and in a selection of online and citizen media, using the national media monitoring resources of Media Monitors. This revealed a vast amount of reporting and comment.

In-depth qualitative content analysis was conducted of 1200 articles that appeared in national and metropolitan newspapers and magazines during the period. This sample represented the most widely circulated press coverage in Australia.

More details on the quantitative and qualitative content analysis methodology used is provided in the Appendix – Methodology.

# Executive Summary

## Key Findings

- » It is unlikely that any adult or child over the age of reason in Australia is unaware that there is a water crisis, with more than 80,000 media news reports, features articles, columns, letters to the editor and radio and TV program segments discussing water between 1 January and 30 April 2007, providing a total of 3.5 billion Opportunities to See<sup>1</sup>.
- » What is less clear, however, are the most effective solutions to address Australia's water shortage.
- » Much of the discussion of water in Australia aired in the media continues to be in relation to the problem – rather than solutions. After 200 years of experience living in the driest inhabited continent on Earth, there is no cohesive bipartisan strategy in place to manage Australia's often scarce water resources. Rather, there are competing State interests over issues such as irrigation rights and quotas and Federal-State politicking, as discussed in the next key finding.
- » State-Federal politics are a significant 'roadblock' to a cohesive national approach on water management. Numerous media reports on water feature State Premiers criticising the Federal Government and other States, advancing local interests and passing blame. On the other side, the Federal Government is accused of seeking to usurp the power of the States and gain political advantage. The Australian electoral tendency to elect Labor State governments and a Liberal-National Coalition Federal Government, or vice versa, exacerbates this dichotomy.
- » Most media reporting and commentary is focussing on the policies, proposals and viewpoints of politicians and vested interests. This report could well be titled 'The Politics of Water'. Some media have devoted space and time to presenting the public with simply explained factual and scientific information on water usage, storage and management. However, the vast majority of debate and discussion comprises contradictory claims and counter-claims by various Federal and State politicians, environmentalists, farmers' groups and other vested interests, such as landholders affected by proposed dams or residents potentially affected by infrastructure projects. There is very limited objective information and education for the public to make informed decisions. With a Federal election due later this year, the 'politics of water' are likely to increase rather than subside, unless a bipartisan approach is agreed.
- » In the debate over the best option to increase water supplies, recycling is winning over desalination plants in terms of favourable comment and support. Building new dams runs a distant third, mired in most cases in local politics.
- » However, all solutions presented, including recycling and desalination, are encountering considerable opposition and criticism. In many respects, the debate is log-jammed with near equal argument for and against most strategies.
- » The Australian public is likely to be confused by the current debate as it presents dire warnings of a chronic water shortage, but little by way of agreed practical solutions to deal with the problem.
- » The 'Yuk factor' is stymieing adoption of recycling. As well as some emotionally charged headlines conjuring up images of "drinking sewage", some politicians have talked up negative images of sewage for their own political gain, such as during the March NSW election campaign when the pro-desalination plant Government attacked Coalition proposals for recycling.
- » While there is rational scientific and economic opposition to some proposed solutions such as desalination plants, many proposals to address Australia's water shortage are being blocked by 'NIMBYism' (Not in My Back Yard). For instance, residents in the south Sydney area have vocally opposed a planned desalination plant at Kurnell and the fishing industry on Bribie Island has "angrily vowed to fight any move to build a desalination plant in the area, warning that such a project would demolish their business (*The Courier-Mail*, 12 April 2007). Similarly, many of the objections to building of new dams are based on local farmers and agricultural interests not wanting to lose land holdings.
- » While water restrictions seem to be an inevitable part of life in Australia for some time to come, if not permanently, hardline approaches on water restrictions and heavy fines for users who exceed restrictions run the risk of creating conflict and hostility between governments and their electorates, as many consumers believe governments have failed to invest in essential infrastructure. As reports emerge that governments have failed to act on warnings and research reports over a decade or more, consumers are feeling that they are being asked to bear the brunt of government failure and are likely to resent strong punitive action directed at them.
- » There is surprisingly little media coverage of domestic water-saving techniques, water tanks, more efficient irrigation and reducing industry's use of water compared with coverage of the 'big four' – rivers, desalination, recycling and dams. Scientific evidence suggests that considerable gains could be made from more community and industry-based action and, therefore, public communication on practical solutions and actions that individuals and businesses can take such as water-saving techniques in the home and in industry is desirable.
- » The media have improved in their understanding that scattered periodic rainfalls, even when heavy, do not end the drought and the water problem. But there is still a lack of understanding of the underlying systemic and endemic problems and a risk that when the drought breaks the water crisis will be seen to be resolved.

<sup>1</sup> Circulation and audience numbers of media containing coverage multiplied by the number of articles in each to provide the total potential audience of media coverage.

## Conclusions

- » It can be concluded from this analysis that, while public awareness has been raised, the Australian public is being bombarded with mixed messages in terms of solutions, with almost every potential solution presented receiving as much criticism and opposition as support. The public is likely to be confused about what should be done and which water conservation and management strategies are best.
- » There is a danger that when the drought breaks and dams fill, many Australians will believe the water issue is resolved as much discussion has focussed on drought – i.e. natural disaster – as the cause of drying dams and river systems. There is still insufficient recognition of the long-term deep-seated inadequacies in Australia's policy, infrastructure and management systems in relation to water. The breaking of the drought, which will inevitably come, hopefully in the near future, will see political will dissipate unless a national commitment is in place. Formulating and adopting a national water management plan supported by all States and all sectors of industry and the community is a crucial imperative and the Federal Government is right to pursue this agenda. However, in the interests of being bipartisan, it could be asked why it took so long.
- » Water management, beyond responses to recent drought, is one of the most pressing national issues in Australia, requiring a concerted and cohesive approach at both a policy and practical level. A wide range of negative impacts are forecast that will fundamentally affect the economy and lifestyle enjoyed by Australians unless water management is effectively addressed. Some of the implications include:
  - » Rising water prices, which social services groups are warning will particularly disadvantage poor families;
  - » Rising electricity prices as water shortages affect power stations as well as the Snowy hydro-electricity scheme. Economic modelling conducted for the Australian Climate Change Institute predicts that electricity prices could be 75% higher by the 2020s;
  - » Power shortages could also become a regular occurrence in towns and major cities. For instance, the Queensland Government has warned it will be forced to mothball two power stations that produce a quarter of the State's electricity if dam levels continue to fall (*The Courier-Mail*, 8 February 2007);
  - » Rising food prices as agricultural industries such as fruit and vegetables are affected by loss of irrigation water;
  - » The collapse of agricultural industries, such as those along the Murray-Darling, and the economies of towns dependent on agricultural industries. The Federal Government is reported to be discussing compensation to farmers for lack of irrigation water that could cost \$1 billion (*Australian Financial Review*, 28 May 2007);
  - » There will also be significant impacts on the lifestyle enjoyed by Australians if water shortages continue. Shady green gardens and backyard swimming pools are no longer sustainable unless substantial and permanent solutions are found.

The Australian public is being bombarded  
with mixed messages in terms of solutions.

## Recommendations

It is difficult to make recommendations based on analysis of media debate alone. However, the seriousness of the issue and the large amount of data gained in this analysis indicates that decisive actions are required in a number of areas.

» Some of the Federal Government's substantial communication budget should be directed to a national public education campaign on water to present the Australian public with factual balanced information on issues such as recycling sewage and storm water, desalination and domestic water-saving techniques. While some water authorities and State governments are conducting public education on water usage and conservation, this pales into insignificance compared with \$40 million spent on communicating the first stage of WorkChoices alone, according to the *Sydney Morning Herald*, and \$52.8 million over five years reportedly allocated for raising awareness of climate change generally (*Australian Financial Review*, 30 May 2007). Engaging public health officials in providing assurances to the public, as has occurred with Western Australian proposals for recycling sewage, is an important step in gaining support.

» A neutral scientific body such as the CSIRO could play a bigger role in reviewing options and providing objective information to policy-makers and the public. For instance, while there have already been national meetings such as the national water conference in Canberra in February 2007, CSIRO could host a National Summit on Water attended by all relevant Federal and State bodies, water user groups and consumer representatives who would be presented with

research papers from national and international experts. Political speeches and 'pork-barrelling' by vested interests should be excluded from the Summit. It should run over as many days as required and be tasked with achieving a consensus or majority view on key issues and potential solutions, which Federal and State governments should commit to implementing. Leading scientists could also be involved in speaking more on water management issues.

» With Brisbane already on Level Five water restrictions, Melbourne's nine major reservoirs at their lowest levels in 40 years with less than 30% of capacity, Australia's largest city, Sydney, fast running out of water, and some towns facing evacuation and closure, it is time for strong decisive action and leadership. While the States have, subsequent to the period of this study, agreed to cooperate in relation to the Murray-Darling River, there remains a need for a more widely based bipartisan approach to water management in Australia.

### One letter to the editor perhaps best sums up public feelings:

"...Surely now is the time for a true coalition. They should all work together, not snipe at each other.

There is more at stake than the future of the political parties, we are talking about the future of Australia.

It's not that important who runs the country, as long as it is done well.

Don't let Australia die while you fight among yourselves"

(Letters, *Daily Telegraph*, 24 April 2007).

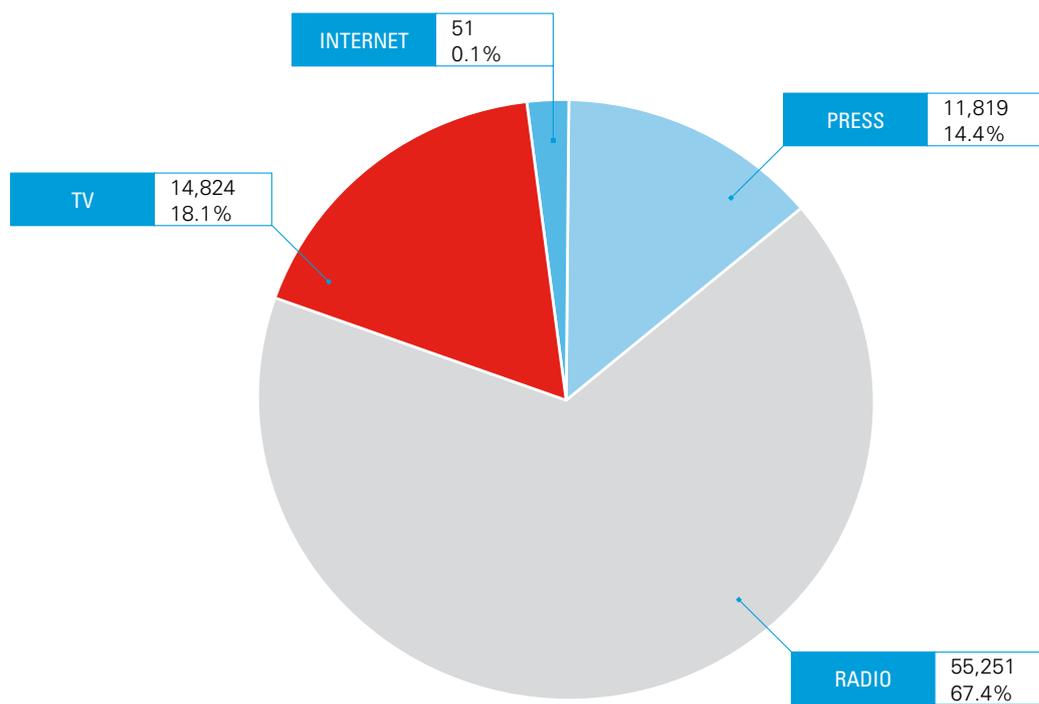
# Quantitative Analysis

Water has emerged as one of the most discussed topics in Australia. In the period of this research from 1 January to 30 April, there were 81,894 media reports discussing water. Table 1 shows the breakdown, with the vast majority on radio (more than 55,000 mentions). In addition, water was discussed in almost 15,000 TV reports and in almost 12,000 press articles.

Chart 1 shows the number of articles/reports in press, radio and TV. Table 1 shows the Opportunities to See (the total audience and circulation of media items reporting on water). It can be concluded that it is unlikely that any adult or child over the age of reason is unaware that there is a water crisis in Australia.

What is less clear, however, is the solutions available and which are the most effective to address the problem.

**Chart 1. Volume of Media Coverage by Media Type**



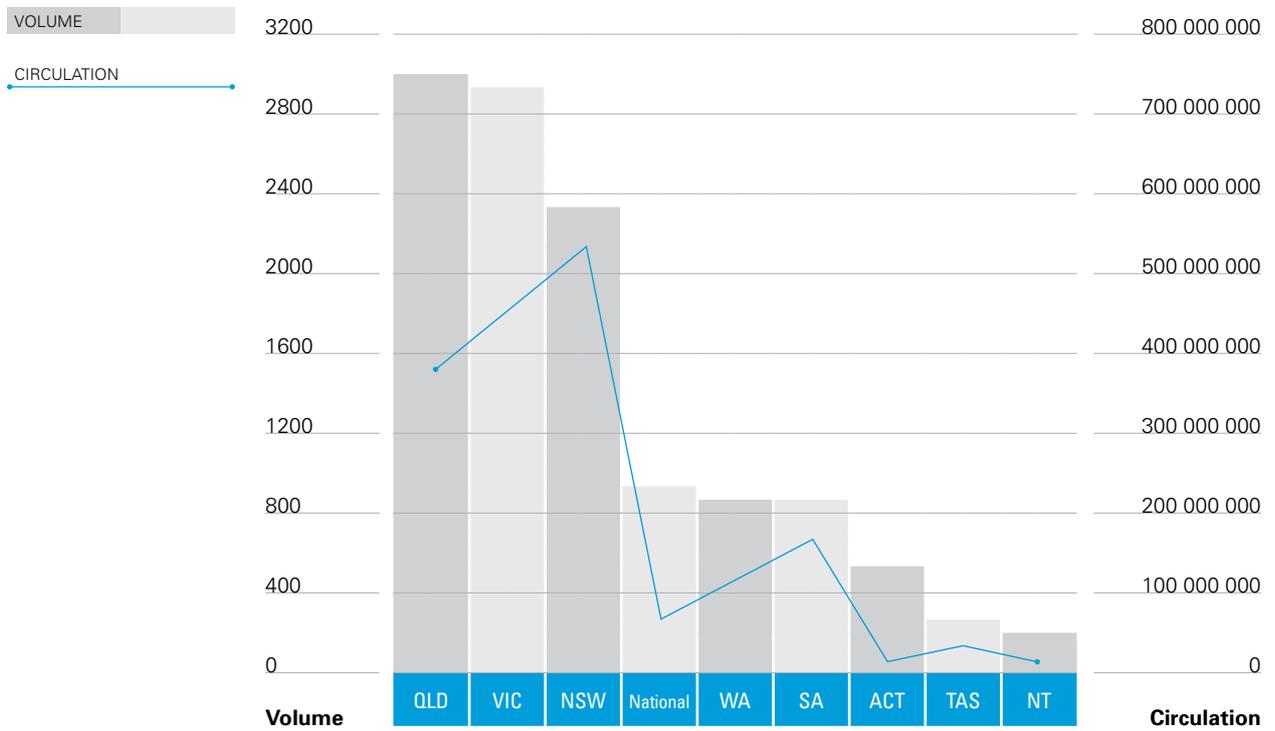
**TABLE 1**

MEDIA TYPE	VOLUME OF ITEMS	OPPORTUNITIES TO SEE
Press	11,819	1.785 billion
Radio	55,251	580 million
TV	14,824	1.152 billion
Total	81,894	3.518 billion

# Coverage by State

## Press

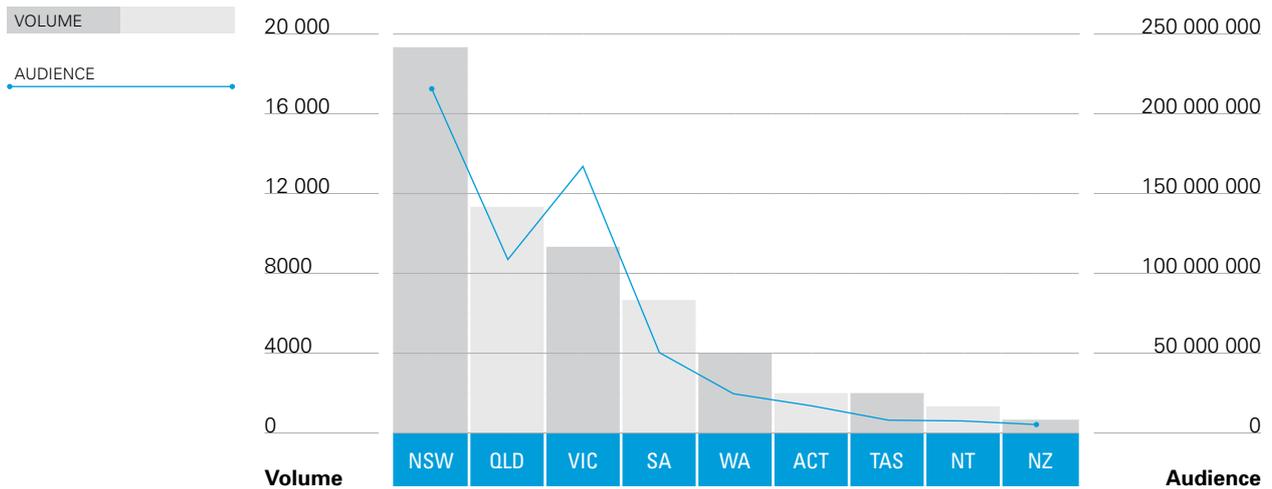
**Chart 2. Volume & Circulation of Press Coverage**



Most press coverage appeared in Queensland, followed by Victoria and NSW. The high circulation metropolitan newspapers based in Brisbane, Melbourne and Sydney also resulted in the highest circulation/audience reach in these States by far, as shown in Chart 2.

## Radio

Chart 3. Volume & Audience of Radio Coverage

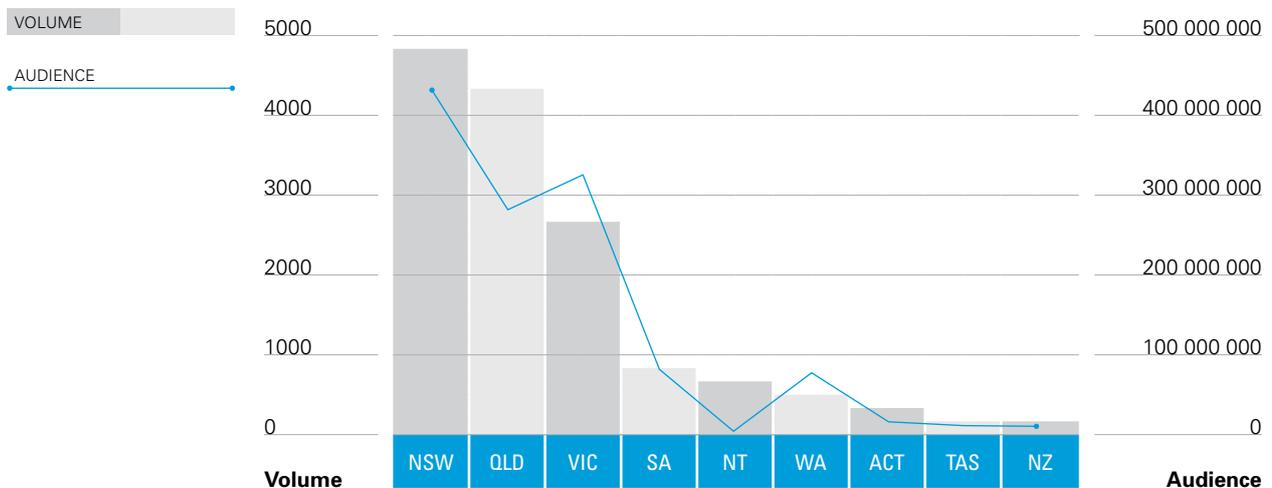


NSW had the most radio and TV coverage but, significantly, the second-most radio and TV coverage occurred in Queensland – ahead of Victoria.

NSW press seem less interested in water issues than their colleagues in radio and TV, with NSW having less press coverage than both Queensland and Victoria. South Australia showed more concern over water than Western Australia, with substantially more radio and TV coverage despite similar volumes of press reporting on water.

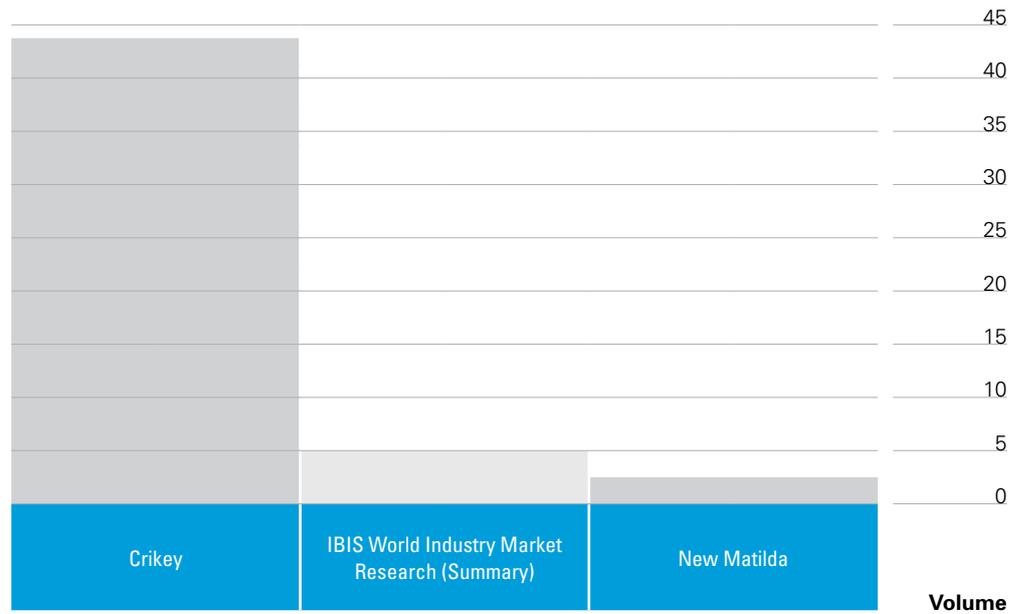
## TV

Chart 4. Volume & Audience of TV Coverage



# Internet

**Chart 5. Volume of Internet Coverage**



The most vocal Internet media was Crikey.com, which published a number of reports such as those listed in Table 2.

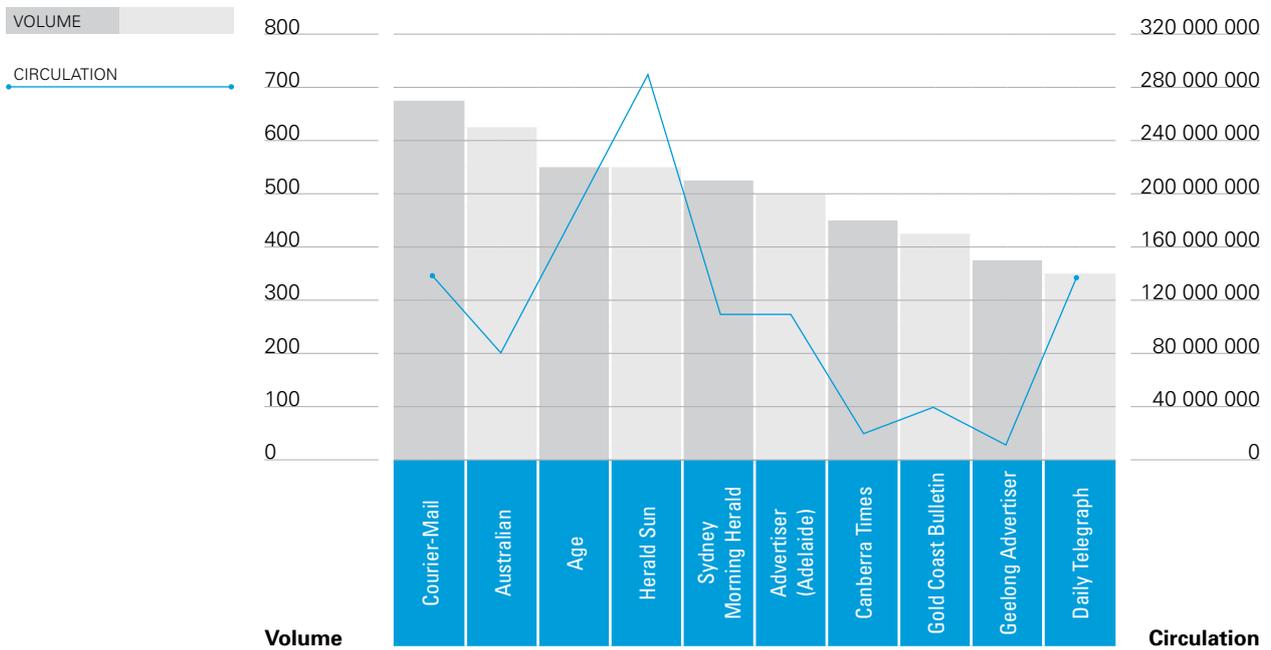
**Table 2**

CRIKEY.COM	HEADLINE	VOLUME
Total Volume		44
	Comments, corrections, clarifications and c*ckups	17
	State of the planet	9
	Where does Planet Ark washing powder come from?	1
	A picture of global warming?	1
	Fiddlesticks to the planet: the winners	1
	How brown is your garden?	1
	John Howard turns climate pessimist	1
	Morrisiemma.com – the Libs go cybersquatting to build trust	1
	Recycled water: you know you're drinking it	1
	Regulating the rain	1
	The Crikey Water Diet: Part I	1
	The Crikey Water Diet: Part II	1
	The Economy: Steady, soaking rain	1
	Wake us when the drought is over	1
	Want a water tank? Get in line	1

# Leading Media

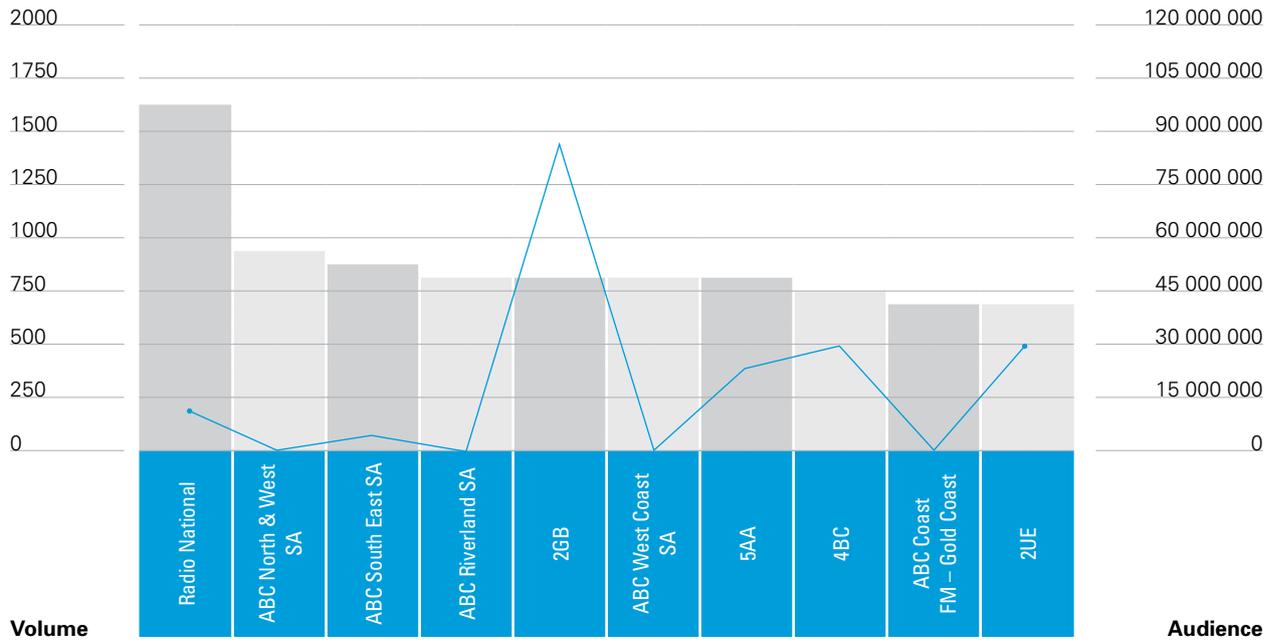
## Press

Chart 6. Volume & Circulation of Leading Press



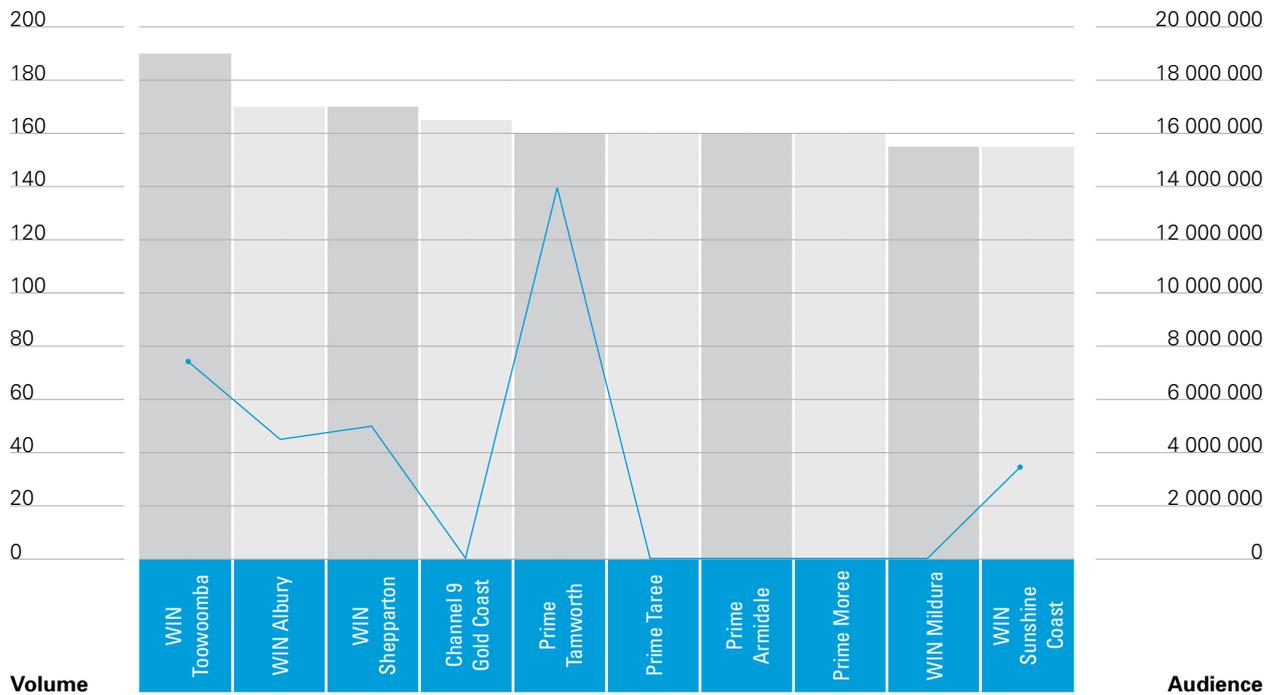
# Radio

**Chart 7. Volume & Audience of Leading Radio**



# TV

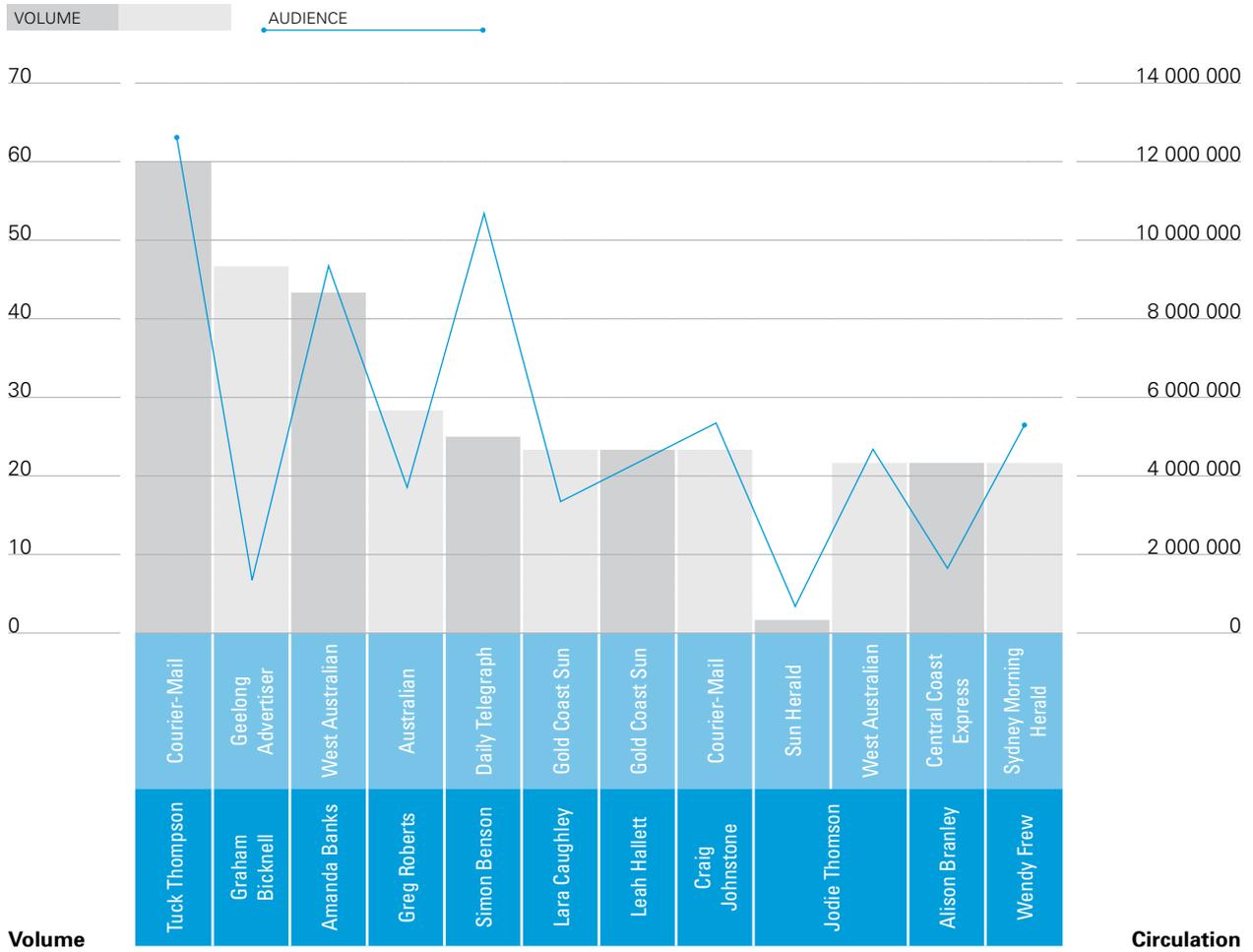
**Chart 8. Volume & Audience of Leading TV**



# Leading Bylines/Comperes

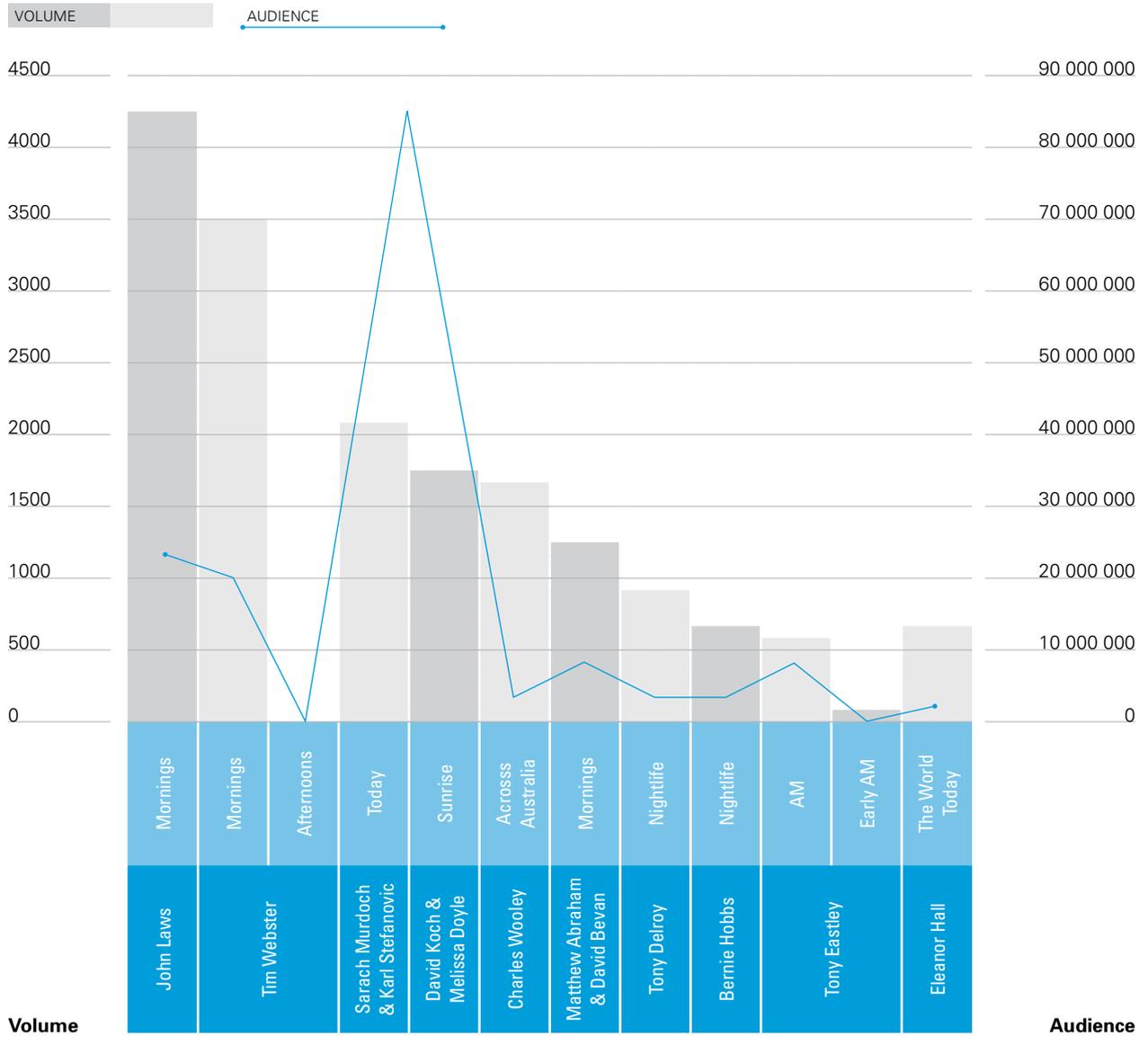
## Journalists/Bylines

Chart 9. Volume & Circulation of Leading Bylines



# Comperes

Chart 10. Volume & Audience of Leading Comperes



**NOTE: The zero values for audience shown in the blue line in Charts 7, 8 and 10 are because audited audience data was not available for these media.**

# Qualitative Analysis

More important than simply looking at the total volume of media coverage is examining what the coverage says, as this reveals the main issues and messages that are being reported and circulated in public debate. This public discourse both reflects what various organisations and commentators are saying and doing, thus providing insights into thinking and policy, and informs and influences future public perceptions and possibly behaviour.

In-depth qualitative content analysis was conducted on a sub-sample of 1200 press articles in national and metropolitan newspapers and magazines during the period 1 January to 30 April 2007.

Qualitative analysis found a quite divided split between favourable, unfavourable and neutral content, with 44% unfavourable, 36% neutral and 20% favourable. While significant unfavourable comment could be expected in relation to drought, reduced river flows and falling dam levels, and announcements of plans and initiatives to address the 'water crisis' could be expected to contribute favourable coverage, the predominance of unfavourable media discussion indicates that focus remains more on the problem rather than solutions and that adequate solutions have not yet been presented.

The high proportion of neutral coverage is partly the result of 'straight' factual reporting, but more the result of an equal mix of favourable and unfavourable comment.

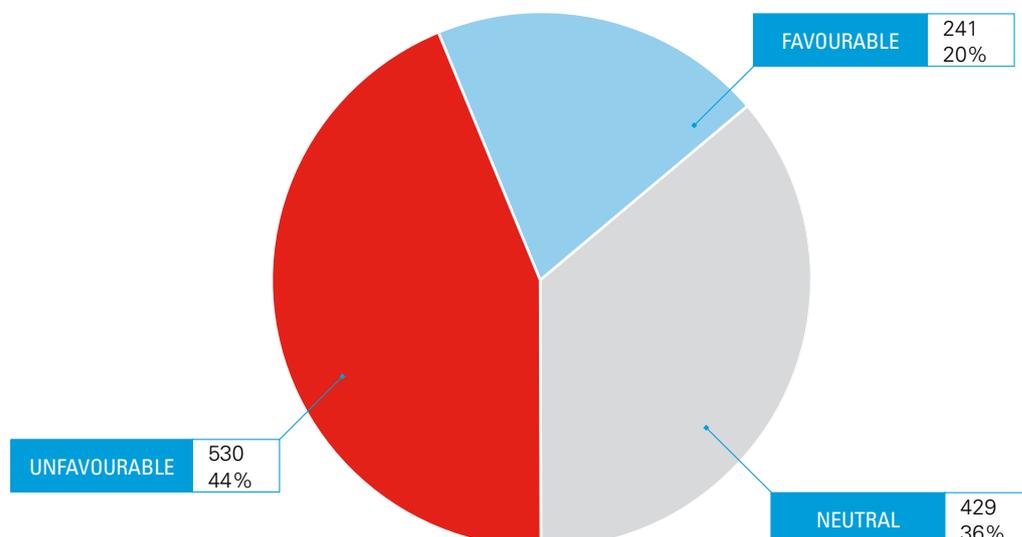
What Chart 11 suggests is that, while there are clear signals to the Australian community and governments that there is a pressing need to address water issues, there is no consensus or direction for a concerted and cohesive approach and little

optimism. A wide range of negative impacts are being discussed if Australia's water shortage is not effectively addressed.

These include:

- » Rising water prices, which social services groups are warning will particularly disadvantage poor families;
- » Rising electricity prices as water shortages affect power stations as well as the Snowy hydro-electricity scheme. Economic modelling conducted for the Australian Climate Change Institute predicts that electricity prices could be 75% higher by the 2020s;
- » Power shortages could also become a regular occurrence in towns and major cities. For instance, the Queensland Government has warned it will be forced to mothball two power stations that produce a quarter of the State's electricity if dam levels continue to fall, according to the *The Courier-Mail*, 8 February 2007;
- » Rising food prices as agricultural industries such as fruit and vegetables are affected by loss of irrigation water;
- » The collapse of agricultural industries, such as those along the Murray-Darling, and the economies of towns dependent on agricultural industries. The Federal Government is reported to be discussing compensation to farmers for lack of irrigation water that could cost \$1 billion (*Australian Financial Review*, 28 May 2007);
- » There will also be significant impacts on the lifestyle enjoyed by Australians if water shortages continue. Shady green gardens and backyard swimming pools are no longer sustainable unless substantial and permanent solutions are found.

**Chart 11**

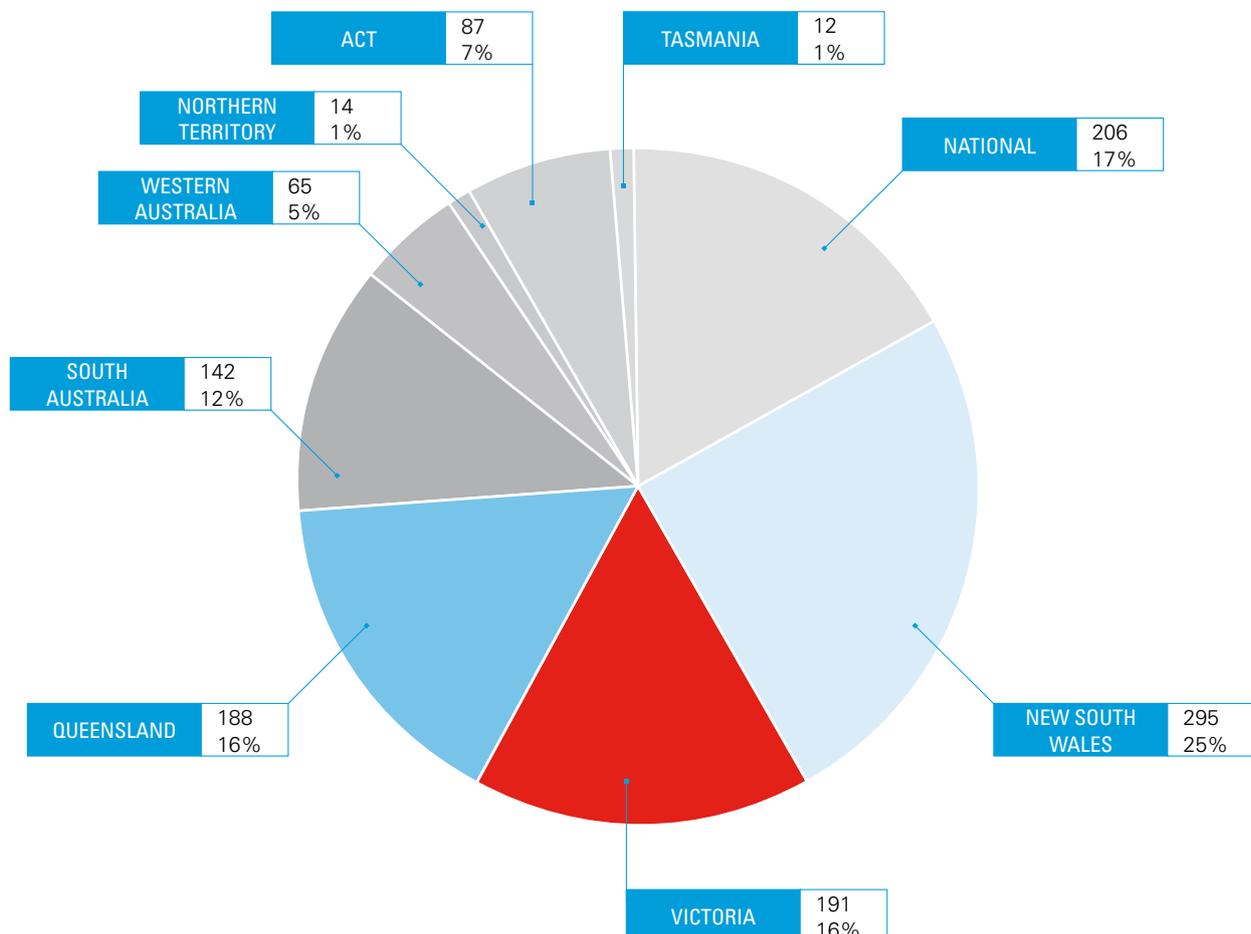


While there are clear signals to the Australian community and governments that there is a pressing need to address water issues, there is no consensus or direction for a concerted and cohesive approach and little optimism.

## State Breakdown

The sample of 1200 media items analysed in-depth appeared approximately in proportion to population spread across all States and Territories of Australia with most, as could be expected, in the national, NSW, Victorian and Queensland media.

**Chart 12**



# Primary Story Focus

The most prominent focus of media coverage in relation to water is desalination plants and proposals, with more than 300 articles primarily focussed on the reclaiming of seawater. Desalination is a vexed issue, with 30% of coverage of desalination proposals unfavourable, compared with just 22% favourable, despite several governments committing to desalination projects. Almost 50% of media discussion of desalination was neutral or balanced, sometimes indicating 'straight' factual reporting but, more often the case, an even split of favourable and unfavourable comment.

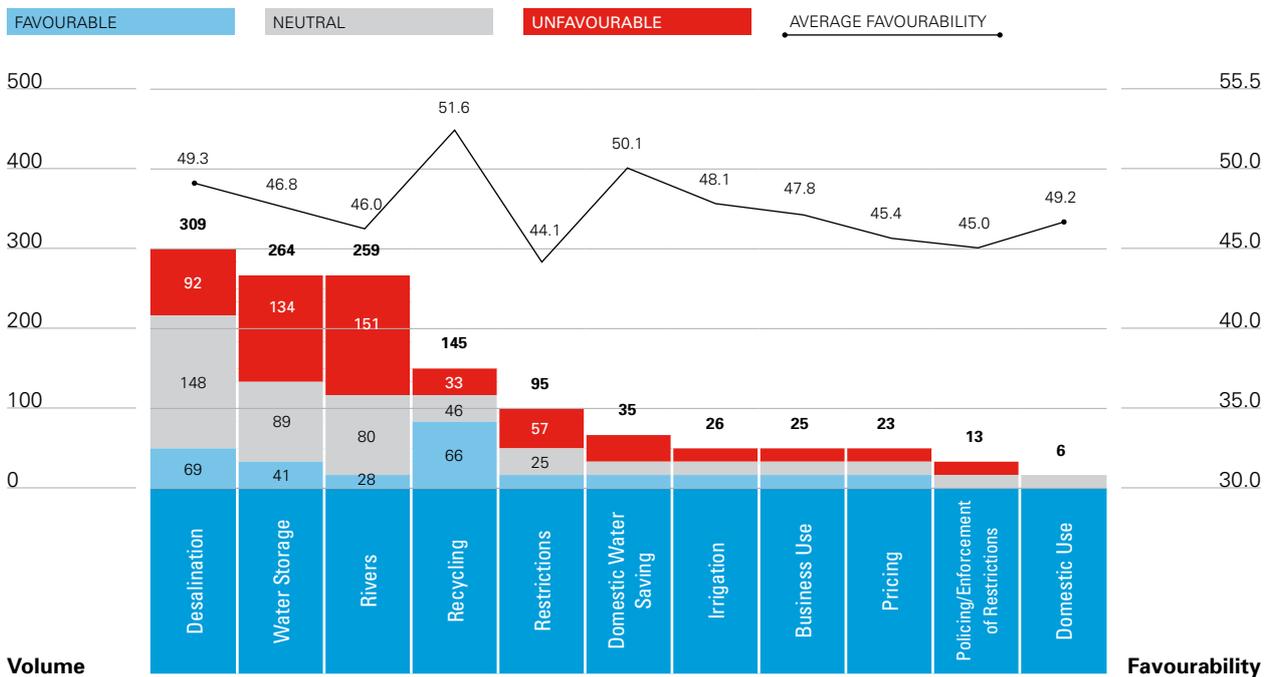
Water storage, principally dams, and rivers were also major topics of discussion. Recognition of major problems was evident in relation to storage and rivers, with 58% of coverage of and comment on Australian rivers unfavourable and 51% of media discussion of water storage unfavourable. Just 11% of media reporting and commentary on Australia's river systems and use of them was favourable. Recycling of water from sewage and

stormwater is being discussed slightly more favourably than other potential solutions, but discussion of water recycling was also divided with an average favourability only slightly above neutral (51.6).

Water restrictions were reported predominantly unfavourably due to several cities escalating from Level Three to Level Four and even to Level Five during the period of research. There were also calls for stricter policing of water usage and steeper fines for over-use. Some commentary suggests that water restrictions are enough to deal with Australia's water shortage, but the majority of comment supported the need for other more constructive long-term initiatives.

The key arguments for and against on these topics are examined further in the following sections of this report, which discuss each of the key issues.

Chart 13



# Leading Issues

The following charts and analysis report on the most widely discussed water issues.

In terms of the number of mentions, Australia's river systems was the most frequent topic of discussion, particularly the Murray-Darling River system. Desalination was also a frequently mentioned and prominent issue, along with water storage, recycling, water restrictions and irrigation.

## Issue Categories

An overall finding from this analysis is that most media reporting and commentary is focussing on the policies, plans and viewpoints of politicians, governments and vested interests. This report could well be titled 'The Politics of Water'.

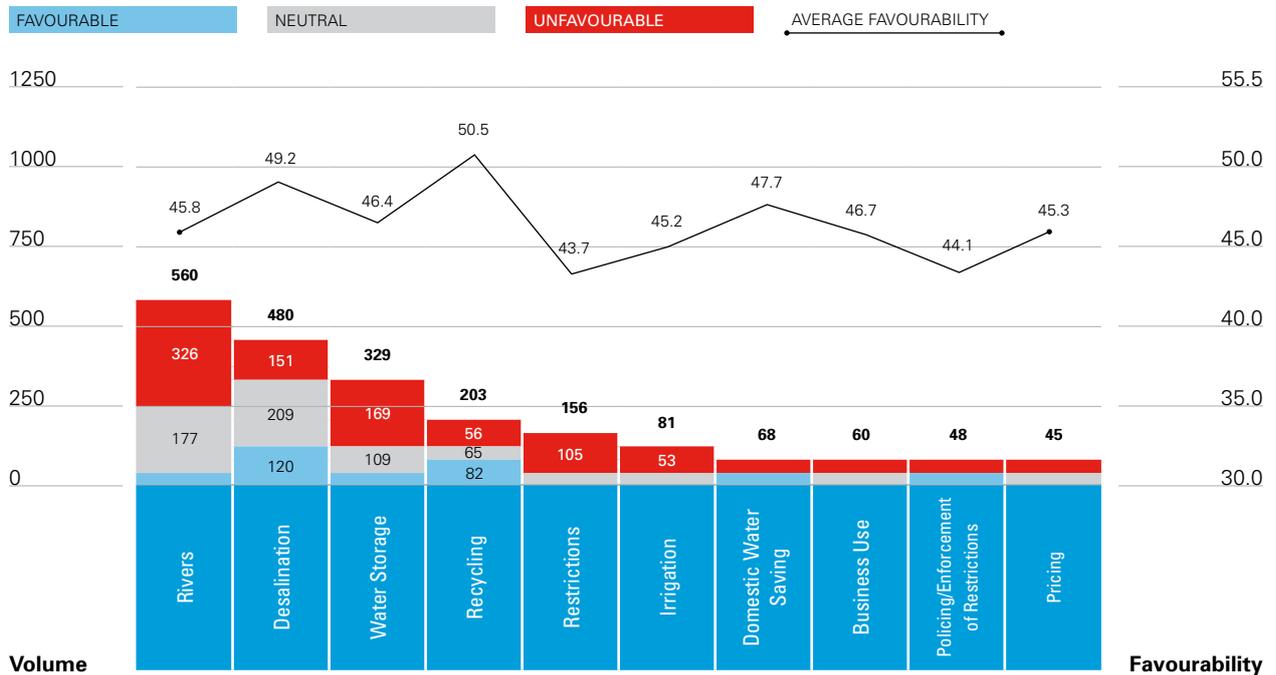
While some media have devoted space and time to presenting the public with simply explained factual and scientific information on water usage, storage and management, the vast majority of media debate and discussion is contradicting claims and counter-claims by various Federal and State politicians, environmentalists, farmers' groups and other vested interests such as landholders affected by proposed dams or residents potentially affected by construction works. There is a lack of objective information and education for the public to make informed decisions.

Only one independent article, written by Dr Toze, principal researcher scientist at CSIRO Land and Water, discussed the facts of recycling and desalination in a non-partisan way (*Canberra Times*, 16 April 2007).

The Federal Minister for the Environment and Water Resources, Malcolm Turnbull, said "water is too important to be the subject of narrow-minded parochialism. All of us have an interest in the water security of every part of Australia. We must be prepared to share our water resources and respect the needs, including environmental needs, of communities in other states" (*The Australian*, 16 April 2007).

However, parochialism is at the forefront of much debate on water in Australia.

**Chart 14**



## Rivers

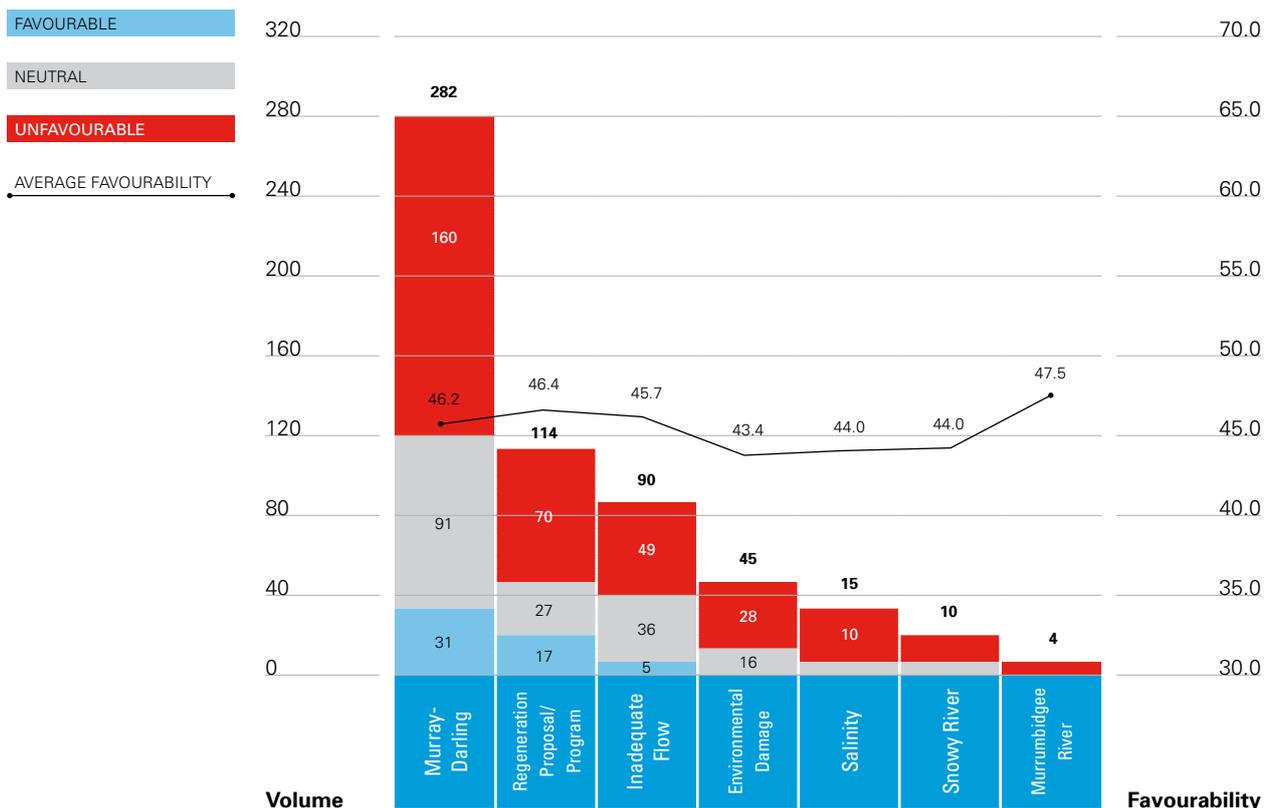
The World Wildlife Fund has warned that “the Murray-Darling river system is one of the world’s 10 most endangered because governments have failed to protect it from invasive fish and plant species” and stated that “excessive water extraction has led to many of the problems now facing the Murray-Darling” (*Sydney Morning Herald*, 20 March 2007).

The announcement by the Prime Minister, John Howard, of a \$10 billion national water plan to rescue the Murray-Darling is the major focus of attention in relation to river systems. With Australia’s rivers being under State control since Federation in

1901, the Prime Minister’s plan involves bringing national river systems such as the Murray-Darling under Federal control. The plan also includes spending \$6 billion to improve the efficiency of irrigators and \$3 billion to buy back water licences in areas that cannot support current levels of irrigation. However, the change requires the agreement of all States and, in the tradition of Federal-State politics in Australia, unanimity has not been forthcoming. One newspaper reported on a national water conference convened in Canberra to discuss the proposal saying: “Who controls the water supply of river towns and guarantees on environmental flows are among points to be

Prime Minister Howard has stated it would be a “tragedy” if the States knocked back the package for political reasons.

Chart 15



clarified. But the diverse reactions of the Labor Premiers proves Mr Howard's case of the inefficiencies in managing rivers" (*Herald Sun*, 3 February 2007).

South Australian Premier Mike Rann initially rejected the proposal and called for a new entity to control the Murray-Darling basin, although South Australia has subsequently given guarded support to the proposal.

Victorian Premier Steve Bracks has been the most vocal and stalwart opponent of the national scheme, saying in one interview: "We know that the bulk of [the water] will go to where the water is over-entitled and that is NSW ... I won't be signing up to anything that doesn't mean a real policy difference in water flowing down the Murray. If it's just simply to fix up problems in other States, of course we won't be in it" (*Sydney Morning Herald*, 19 February 2007).

Under a headline "Hard task to win over all premiers – water revolution", the national daily reported on the minefield of Australian Federal-State politics:

"A united and smooth transfer of control of the Murray-Darling basin from the States to the Commonwealth appears unlikely with sharp divisions between the Labor governments of the four states along the river's course" (*The Australian*, 26 January 2007).

The article went on to report that South Australian Premier Mike Rann was critical of the plan: "What he [the Prime Minister] seems to be saying ... is we should hand over all of the functions of the River Murray, all the powers over the River Murray, to politicians in Canberra who of course are dominated by the Eastern States because of their numbers. What the Prime Minister is asking South Australia to do is to remove its seat at the table when we're considering River Murray issues, even though we're the downstream State" (*The Australian*, 26 January 2007).

Victorian Premier Steve Bracks further rejected the national water plan in May and compared "the row over control of water" with the 1901 debates on the Federal Constitution. The leading business newspaper reported: "He has consistently opposed the Federal offer, claiming it would disadvantage irrigators without boosting river flows" (*Australian Financial Review*, 4 May 2007).

The Leader of the Opposition, Kevin Rudd, has attempted to position himself favourably for the next Federal election as the leader who can get the State Premiers to agree. For instance, in an interview he said he would "be as positive and constructive as possible in narrowing the gap which currently exists between the States and Canberra". However, Federal Labor has not to this point facilitated any cohesive national policy on water in Australia or even achieved agreement between Labor Premiers (*Sydney Morning Herald*, 19 February 2007).

National Party leader, Mark Vaile, has called for the Government's proposed \$10 billion takeover of the Murray-Darling Basin to concentrate on improving the efficiency of existing irrigation rather than buying out over-allocated water

licences. In a sign of the political sensitivity over the buying out of water rights and of policy ambiguity even within the Federal Coalition, Mr Vaile said the \$3 billion allocated in the plan for this purpose should be used only as a last resort (*Sydney Morning Herald*, 6 March 2007).

Prime Minister Howard has stated it would be a "tragedy" if the States knocked back the package for political reasons. Even if the plan is eventually adopted, it seems likely that Federal-State politics will plague its implementation.

Farmers have been among the strongest critics of a number of water proposals. Queensland Farmers Federation chief executive officer, John Cherry, said farmers would oppose buy outs of irrigation licences, including that of Cubbie Station, because studies had shown the Queensland section of the Murray-Darling Basin was not over-allocated: "If the Federal Government is serious about getting more water into the Murray-Darling Basin, they have to look at improved water efficiency in NSW and Victoria where there are unlined irrigation channels and dairy farmers who are flood-irrigating pastures" (*The Courier-Mail*, 2 February 2007).

The Victorian Farmers Federation also has spoken against the Federal Government national water plan with its president, Simon Ramsay, saying: "We will not agree to hand over full control of Victoria's resources. This has been our position from day one" (*Australian Financial Review*, 4 May 2007).

There is also some opposition from scientific and academic areas. An Australian National University study warns that public money is being put at risk by the Federal Government's national water plan. Professor Quentin Grafton told the media there were better ways to spend such a large amount of money than changing irrigation practices: "I'm arguing that we can think smarter and do better. If you're going to spend \$6 billion, make sure you spend it where it has the highest potential pay-off" (*Canberra Times*, 5 April 2007).

Nevertheless, some signs of progress and commitment are appearing. The South Australian government has pledged to return 1500 gigalitres of irrigation allocations to the Murray-Darling (*The Australian*, 24 March 2007).

A week later, the national daily reported that the NSW government was expected to announce a \$20 million deal with Murray Irrigators Ltd to buy back almost half of its supplementary water licence to recharge key environmental systems in the Murray-Darling Basin. Murray-Darling Basin chief executive, Wendy Craik, welcomed the sale. Similar buybacks have also been completed in Victoria (*The Australian*, 30 March 2007).

Queensland Premier Peter Beattie has again floated a long-held idea to pipe water south from high-rainfall northern areas of Australia. Drawing on a plan partly inspired by work done in the 1930s by John Bradfield, the engineer who designed the Sydney Harbour and Brisbane's Story bridges, Mr Beattie proposed diverting water from northern Queensland and northern NSW into the Murray-Darling system (*The Australian*, 19 February 2007).

## Criticisms play on the NIMBY syndrome – people wanting infrastructure and facilities but ‘Not in My Back Yard’.

## Desalination

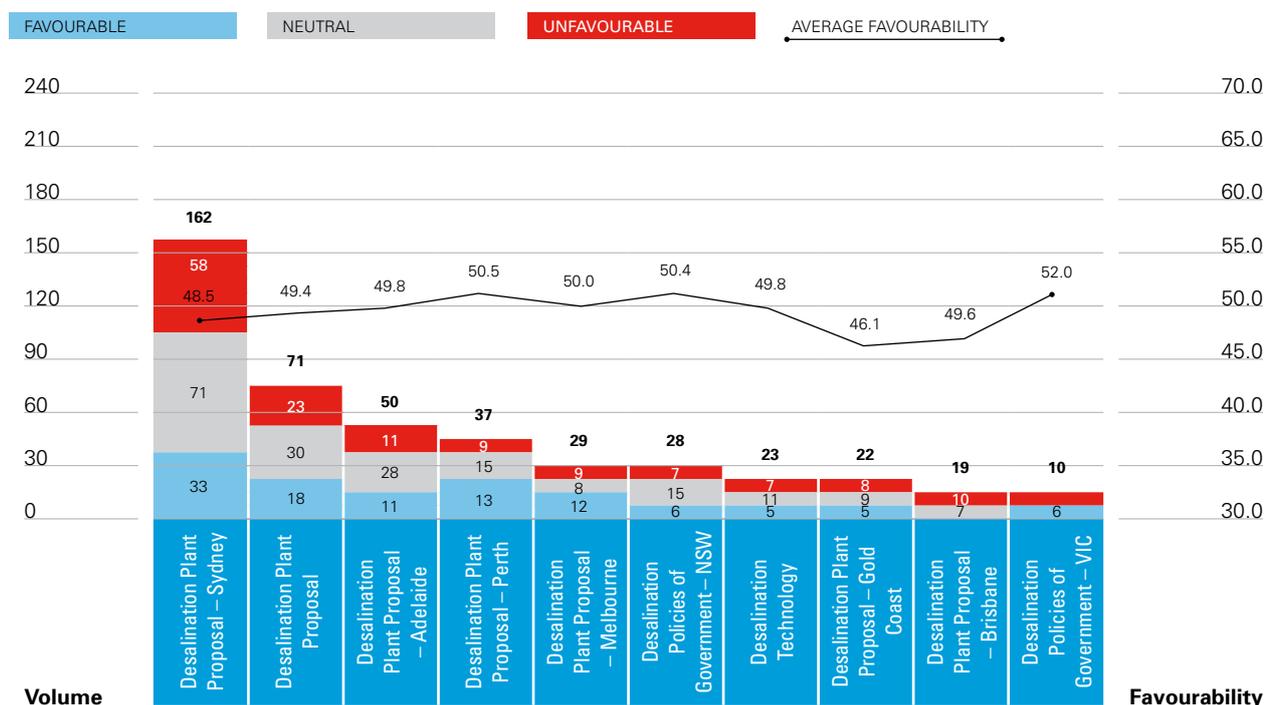
The NSW Government announced during the 2007 election that it was proceeding with a \$1.9 billion desalination plant at Kurnell south of Sydney (*Australian Financial Review*, 1 March 2007). The plan has drawn considerable criticism, however.

The Australian Water Association has refuted claims by the NSW Government that the \$1.9 billion desalination plant will be a cheaper source of potable water than recycling. NSW Premier, Morris Iemma, presented Sydney Water figures indicating a recycling system would cost \$4 billion. The Water Association's chief executive, Chris Davis disagreed: "The energy it takes to desalinate water is substantially more than it takes to recycle water" (*Australian Financial Review*, 13 February 2007).

Other criticisms of the desalination plant for Sydney raise public alarm that "a maze of pipes and tunnels will be bored under the homes of southern Sydney residents and hundreds of streets dug up in at least 15 suburbs ... to carry water from the proposed desalination plant to the city". There also have been claims that "Sydney Water attempted to cover up the plans so residents would be oblivious to what was coming when construction begins" (*Daily Telegraph*, 2 February 2007). These criticisms play on the NIMBY syndrome – people wanting infrastructure and facilities but 'Not in My Back Yard'.

Criticism of desalination has also come from the academic who helped draft the NSW Government's water policy, Professor White, head of the Institute of Sustainable Futures

Chart 16



at the University of Technology Sydney, who said the State Government should only build a desalination plant if dam levels fell below 30%. "I have been most concerned by media reports that there is a real intention to construct this plant regardless of storage levels. This would be a significant burden on the public purse and is in direct contrast to the advice that was provided to, and accepted by, the NSW Government in 2006," Professor White said.

A study commissioned by the Nature Conservation Council of NSW, Environment Victoria and the Australian Conservation Foundation, conducted by economists Marsden Jacob Associates, argues that desalination plants could be put on hold and better results gained by rolling out rain water tanks to 5% of households each year in conjunction with other water-saving measures. The study argues that rain water tanks are more than five times as energy-efficient as desalination plants and a cheaper solution (*The Courier-Mail*, 16 April 2007).

Nevertheless, desalination is gaining political and industry support. The South Australian Government announced approval in April for construction of a pilot desalination plant to begin almost immediately. South Australian Premier, Mike Rann, said the plant will help reduce the amount of water being taken from the ailing River Murray (*The Advertiser*, 3 April 2007).

Victorian Water Minister, John Thwaites, said that desalination was inevitable for Melbourne and that a feasibility study was

in progress to examine cost and possible locations for a plant. He said "a panel of experts ... is already deep into its inquiries and is due to report by the end of the year". Victorian media were encouraging and supportive, with *The Age* saying: 'It is encouraging the Government has gone this far: that desalination could produce more than 300 megalitres of fresh water per day is worth the possible investment this represents ... as well as determining a long-term environmentally sustainable future' (7 April 2007).

Plans for a \$1 billion desalination plant twice as big as one already at Kwinana are reportedly being drawn up in Western Australia as a contingency. Warning that WA was reaching crisis point, Water Corporation chief executive, Dr Jim Gill, said the State Government had to tap the Yarragadee aquifer or build a desalination plant (*Sunday Times*, Perth, 1 April 2007).

Support for desalination to supply Australia's coastal cities also came from business leader, Richard Pratt, chairman of Visy Industries. In addition, Richard Pratt raised an interesting incentive with his claim that business could benefit from multi-billion dollar opportunities if it embraced technology to address climate change (*The Australian*, 16 February 2007).

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Business could benefit from multi-billion dollar opportunities if it embraced technology to address climate change.

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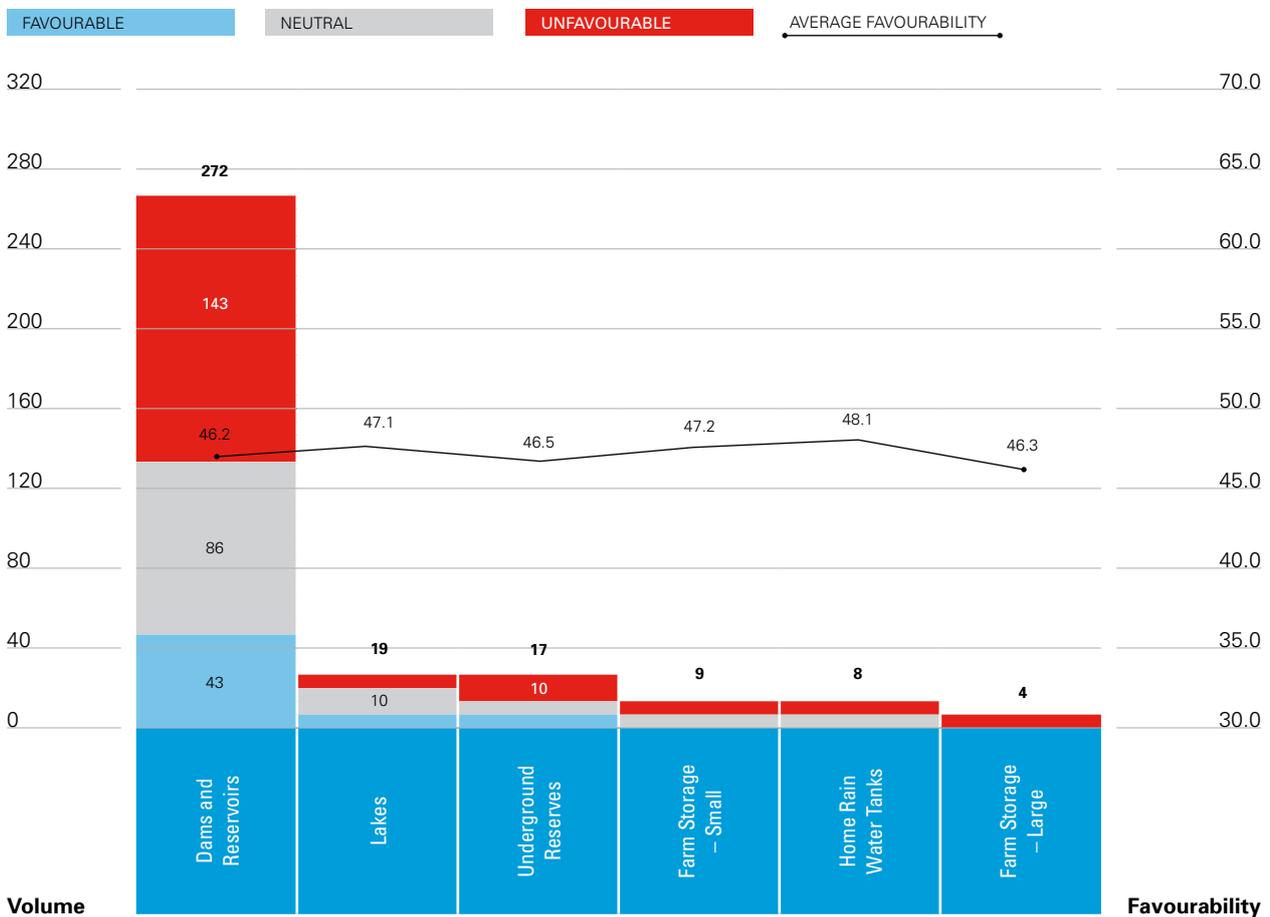
The public in most major cities and towns has been given a daily dose of reports of falling dam levels.

## Water Storage

The public in most major cities and towns has been given a daily dose of reports of falling dam levels, with serious consequences reported for many. For instance, there have been warnings that some towns, where trucking water in is too expensive, may have to be evacuated once their dwindling water supplies run out.

Amid criticism for lack of investment in infrastructure including dams, there also has been opposition to the building of new dams. For instance, in their NSW election policy platform, The Greens opposed building of Tillegra Dam to supply water to the NSW Central Coast. The Greens also opposed desalination plants on the Central Coast. Greens Upper House candidate, John Kaye, said cancellation of these projects would result in savings of \$351 million in capital costs, plus \$14.6 million a year in operating costs: "These are expensive and unnecessary. Tillegra will not produce water until 2013 and the dam may never fill" (*Daily Telegraph*, 7 February 2007).

Chart 17



The media also personalised opposition to dam projects in human interest and profile stories. An example is a feature article that reported:

"The forest, mountains and rivers of the Tillegra Valley have been home to the McDonald family for generations. Anne, her husband, Malcolm, sons Peter and Christopher, and their families still live and work on the diary and beef cattle farm. But a decision by the state Government in November to flood the valley and build a \$342 million dam on the Williams River, north of Dungog, poses a threat to the McDonalds' property and way of life".

The article continued, asking: "How much prime farm land do we sacrifice for our new water supply? In the UK, you wouldn't do it. You would recycle water ... If the government was serious about water management then it would be mandating recycling targets for the water authorities around the state and increasing the rainwater tank rebates" (*Sydney Morning Herald*, 5 January 2007).

Building of the Traveston Crossing Dam on the Mary River in Queensland to supply water to Brisbane has triggered a major campaign of public opposition from land holders arguing it will take away valuable farming land, environmentalist arguing it will destroy habitats, and a number of community and specialist interest groups claiming other alternatives have not been adequately investigated. Also, Queensland Government plans to build a desalination plant and recycle water have been criticised as rushed and not based on adequate consultation.

An article headlined "Dry argument" stated that, as residents prepare for Level Five water restrictions, the Beattie Government has ignored valuable advice. The article referred to Israel's Water Authority Professor Uri Shani's advice on drip-irrigation systems and management structures for water supply systems: "No other country possesses Israel's desalination and recycling expertise. While Shani was in Sydney, Federal Environment Minister Malcolm Turnbull signed a declaration of intent with his delegation to ensure more collaboration on water research between Israel and Australia. But what of his reception when he visited Queensland, the place where water scarcity is the prime focus of public policy, dam levels are down to about 20 per cent and billions of dollars are being thrown at hastily built desalination plants and recycled water pipelines? Lukewarm would be the least embarrassing description" (*The Courier-Mail*, 7 April 2007).

Home rain water tanks received less media coverage than expected. This affirms the finding of this analysis that there is a lack of clear practical solutions being promoted amid the raging debate on water.

In the cacophony of debate, some ideas and proposals verge on silly. For instance, without any thought to health issues or child safety, one article suggested: "Local councils have old wheelie bins available with either broken wheels or lids, which make wonderful small tanks" (*Sydney Morning Herald*, 10 April 2007).

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in infrastructure including dams, there also has  
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# Recycling

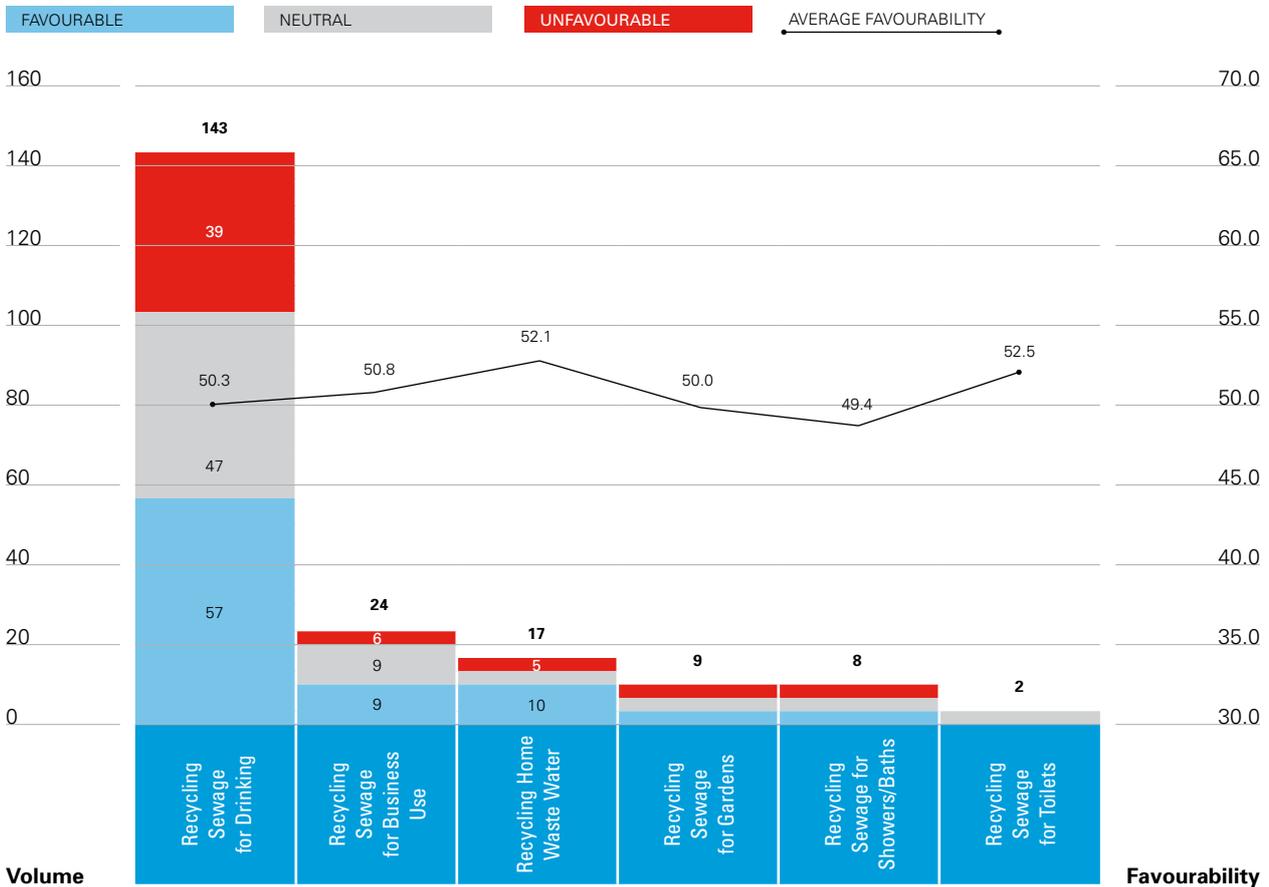
Recycling of water from sewage and stormwater is being stymied by the 'Yuk factor' and political point scoring. State and local governments are wavering in their views on recycling because of opinion polls showing public concern over treated sewage and an unsuccessful referendum in Toowoomba in which residents rejected recycled water from sewage. Meanwhile, a number of politicians have been talking up the 'Yuk factor' for political advantage.

NSW Premier Morris Iemma told voters during the NSW election that under a Liberal Coalition Government they would be forced to drink "recycled sewage" (*Daily Telegraph*, 19 February 2007).

The *Sydney Morning Herald* published a strong condemnation of Labor opposition to water recycling, and also delivered a broadside at the Coalition's policies, in a noteworthy attack on the 'politics of water', saying:

"Two years ago, the then utilities minister, Frank Sartor, released some research on attitudes to water. The Government had

Chart 18



## Recycling of water from sewage and stormwater is being stymied by the 'Yuk factor' and political point scoring.

been getting kicked by the environmentalists about its lack of commitment to recycling and Sartor wanted to put a lid on it. The survey of 600 people found that 68 per cent were uncomfortable with drinking recycled water. But more revealing was the question. Respondents were asked whether they were 'very comfortable, mildly comfortable, mildly uncomfortable or very uncomfortable with drinking recycled sewage, including toilet water, that is treated to drinking-water quality'. On the basis of this survey, Sartor raged against the Coalition, which he said had plans to make Sydneysiders drink their sewage. It was typical of the cowardly debate that passes for political discourse in NSW. The Government's research might have been different if it had asked: 'Would you be prepared to drink recycled effluent if we could ensure that it was cleaned to the same standard as water drawn from our dams?' The survey gave some hints. About 48 per cent supported the 'shandyng' option, with only 44 per cent opposed. Since July 2005 people have become acutely conscious of the water issues facing Sydney. Sartor's cheap political stunt set back sensible debate immeasurably; but so, too, have the glib proposals from the Opposition. It's there with a superficially attractive policy to recycle the entire outflow of one of the ocean outfalls during its first term of government" (*Sydney Morning Herald*, 5 February 2007).

The *Herald* also cited a February 2007 AC Nielsen poll on attitudes to water recycling, which it said "shows how shallow the State Government's approach to water has been. It gives the lie to the Government's repeated claim that householders will not accept recycled water. Four out of five respondents in NSW said they would support it. Most importantly, the question was not posed in a way that was likely to skew the responses – unlike the 2005 survey which the Government has relied upon to reject recycling" (*Sydney Morning Herald*, 13 February 2007).

The AC Nielsen poll during the NSW election found voters support both desalination and recycling proposals. Research director of AC Nielsen, John Stirton, was reported saying: "Both major options for supplementing our water supply are popular with voters, but when asked for a preference, recycling is picked by more voters than desalination" (*Sydney Morning Herald*, 28 February 2007).

A survey by Sydney Water also found that Sydney residents increasingly support the use of recycled water including stormwater harvesting and stricter water restrictions to address the city's water problems (*Australian Financial Review*, 1 March 2007).

The media have not been universally helpful on this issue with headlines such as "The plan for us to drink treated sewage"

(*The West Australian*, 2 January 2007). Proponents of recycling point out that references to drinking 'treated sewage' are misleading as water reclaimed from sewage is 100% pure and is no longer sewage.

A number of media have supported recycling, however. For instance, one report pointed out that: "It's feasible to clean up recycled effluent to the same health standard as dam water. In fact diluted sewage is arguably easier to process than seawater with its high salt content. Membrane technology takes out most of the nasties, and treatment with ultraviolet provides the final sterilisation" (*Sydney Morning Herald*, 5 February 2007).

The *Daily Telegraph* has strongly opposed the NSW Labor Government plan for a \$2 billion desalination plant at Kurnell south of Sydney and argued that recycled water would be a better option.

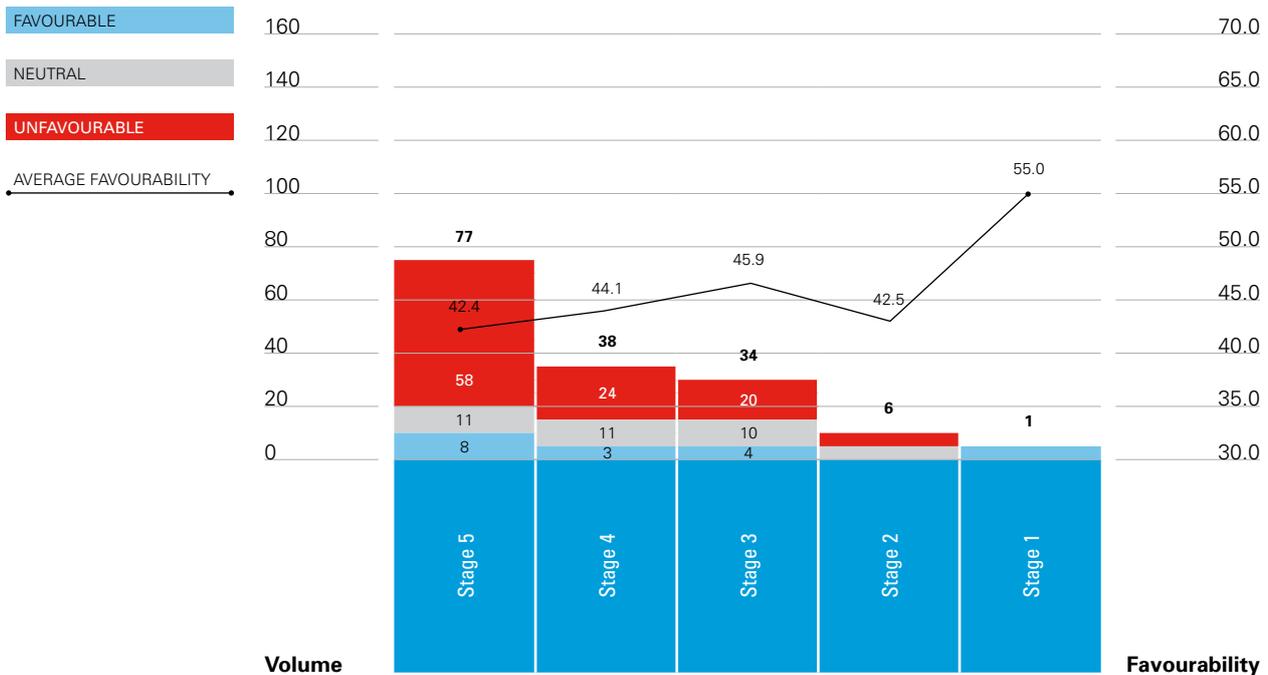
"Recycled sewage is shaping as Perth's next major source of drinking water under Water Corporation plans to boost water supplies in addition to the expected development of the Yarragadee aquifer," media reported. Water Corporation chief executive Jim Gill announced a plan to pump treated effluent into the Gnangara aquifer north of Perth from which it will later be extracted for drinking water. The WA Government seems to be taking a softer, slower approach and gaining support. Gill said:

"If this project is not proved up to the satisfaction of the entire community we can't go ahead with it. If you try to rush it you'll end up with results like Toowoomba's referendum or campaigns being run that can be fairly emotive because the idea of drinking someone's sewage, well you can imagine the sort of pictures that can paint" (*The West Australian*, 2 January 2007).

The WA Government is also offering strong public assurances with its Health Department speaking publicly on the issue. For instance, under a headline "Health assurance on sewage water", *The West Australian* reported: "The Health department is confident contaminants such as potent chemicals found in the contraceptive pill can be filtered out of sewage as part of a recycling proposal by the Water Corporation. Communicable disease control director, Paul Van Buunder, said the Water Corporation's plan for a four-year trial which would pump 1.5 gigalitres of treated effluent into the Leederville aquifer would not go ahead without Health Department approval ... 'I have no doubt that this is do-able, I just want to make sure that the restrictions I place on to protect the public'" (*The West Australian*, 3 January 2007).

# Restrictions

Chart 19



The toughest water restrictions in Australia, as well as State Water Commission threats of heavy fines and cutting off water wasters, came into effect in Brisbane, the Gold Coast and 10 other shires from 10 April. Level 5 restrictions represent a major escalation of the water crisis in that State. The moves also represent an escalation in the approach taken. Infrastructure Minister, Anna Bligh, said restrictions must become part of living in the region: "We are not planning for a time when we go back to the high levels of water use. We are assuming a level of water efficiency and water conservation way into the future" (*The Courier-Mail*, 7 April 2007).

The Queensland Water Commission is reported to be negotiating with local councils about "meaningful" fines up to several thousand dollars for users who do not comply with restrictions. Queensland Premier, Peter Beattie, who previously ruled out fining excessive water users, said he now had an "open-mind" on fines (*The Courier-Mail*, 5 April 2007).

Such hardline approaches run the risk of placing governments in conflict with their electorates. While strict measures may be inevitable now, many feel that governments should have acted long ago to improve infrastructure. Opposition Leader Jeff Seeney said the water restrictions would have a significant

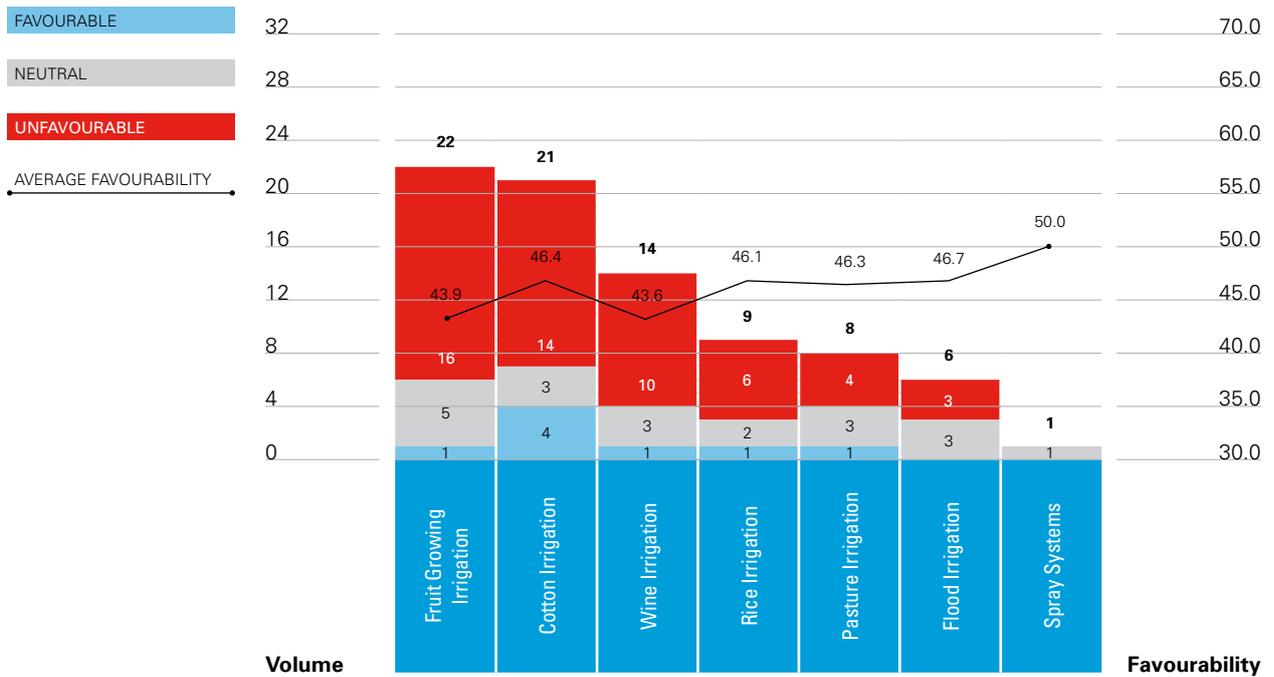
impact on the lifestyle enjoyed by South-East Queenslanders. "This is the direct result of a government which has not invested in water infrastructure for nine years," he said (*The Courier-Mail*, 5 April 2007). Other capitals, including Australia's major population centres of Sydney and Melbourne, also are on water restrictions of Levels Three or Four.

A number of commentators and some water authorities believe water restrictions should be linked to pricing of water and that pricing is a major strategy to reduce usage. Under a headline "Prices set to triple for guzzlers of Melbourne's 'blue gold'", an *Age* article reported that "Melbourne's top water guzzlers would see prices almost triple" under a radical overhaul being considered by the State's largest retailer. Yarra Valley Water has foreshadowed a "premium" charge on households that use more than 880 litres a day and major industrial users that exceed an annual consumption target. Managing director, Tony Kelly, said: "We have a once-in-a-lifetime opportunity to do what most western cities have not been able to ... establish a pricing structure that rewards consumers for conserving water, while at the same time protecting low-income households." He said that there was "currently almost no financial incentive to save water" (*The Age*, 7 April 2007).

Essential Services Commission Productivity Commissioner, Neil Byron, has spoken out saying pricing is the best way to cut consumption. Also, Victorian Council of Social Services executive director, Cath Smith, said weighting price increases towards high-income consumers made sense. But she warned that financially strapped families who used a lot of water needed protection, including renters who could not install water-saving devices (*The Age*, 7 April 2007).

# Irrigation

Chart 20



Some debate is being presented in a confrontational way that is unlikely to garner wide support.

Fruit and cotton growing were the main focus of discussion of irrigation and there is rising concern over crops that rely on high levels of irrigation.

However, some debate is being presented in a confrontational way that is unlikely to garner wide support. Union leader, Bill Shorten, called for cotton and rice growers to be forced out of business and their water-intensive crops replaced by less thirsty options such as hemp. Not surprisingly, Mr Shorten's comments were challenged by farmers and some scientists who said annual crops such as rice and cotton were an important part of the irrigated agricultural industry (*The Australian*, 1 March 2007).

An issue that received less coverage than farmers' use of water for irrigation, but which is highly controversial and noteworthy is use of water in mining. An instance of mining's use of water that has received media attention is the 1982 *Roxby Downs (Indenture Ratification) Act* of South Australia that allows the Roxby Downs mine to draw water from the Great Artesian Basin at no cost. One media report claimed that the operation has been drawing 32 million litres a day and that it has a permit to extract up to 45 megalitres a day. BHP Billiton, the current owner, is the Great Artesian Basin's biggest water user and BHP Base Metals spokesman, Richard Yeeles, said the company planned

to continue using 32 megalitres of artesian water daily even after it completes construction of a proposed 100 megalitres a day desalination plant on Spencer Gulf to support its expanding Roxby Downs uranium mine (*The Advertiser*, 3 February 2007). In comparison, the city of Adelaide uses around 820 megalitres of water a day. Greens MLC, Mark Parnell, has criticised BHP's use of artesian water saying: "it is time that the free water stopped flowing and BHP Billiton should be paying for its supply" calling for renegotiation of the "ridiculously generous" indenture deal. The Prime Minister, John Howard, appears to support a crackdown on use of water in mining saying "everyone's got to make a contribution" and announcing limits on artesian water extraction as part of the Federal Government's \$10 billion national water plan (*Australian Financial Review*, 8 February 2007).

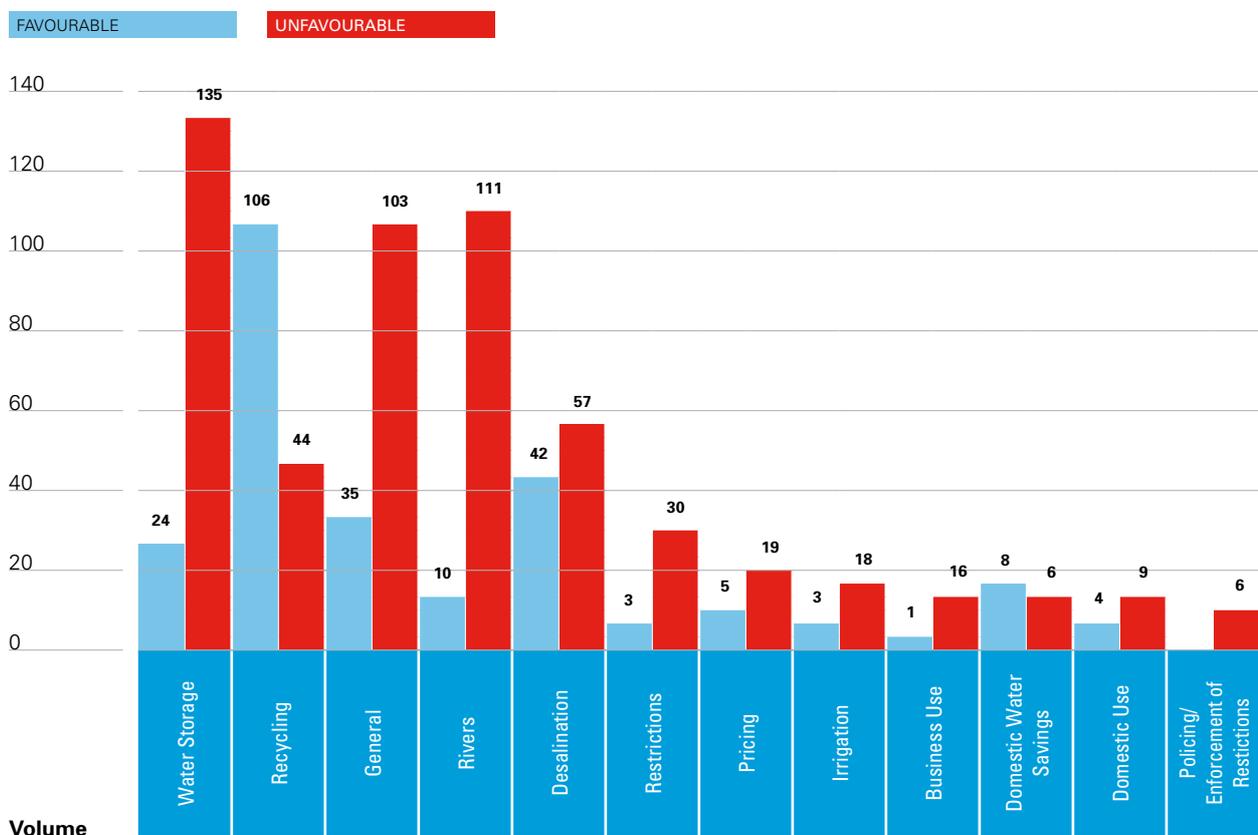
Labor environment spokesman, Peter Garrett, said "there's no doubt that we can't continue to extract water out of groundwater systems at phenomenal rates for very, very low return" (*The Advertiser*, 8 February 2007).

The Australian Conservation Foundation's David Noonan said BHP should spend more money, build a bigger desalination plant and leave the basin alone" (*Sydney Morning Herald*, 3 February 2007).

# Leading Messages

## Message Categories

Chart 21



Most discussion containing specific messages focussed on water storage, recycling, water as a problem generally, rivers, desalination and water restrictions.

Comparatively fewer messages appeared in the media on irrigation, business use, domestic use, domestic water saving, policing of restrictions and pricing issues.

As shown in Chart 22, most water storage reporting focussed on falling dam levels and most general messages were in relation to Australia having a shortage of water and a lack of water management. Reporting on rivers also mostly focussed on reduced flow. In other words, the main thrust of media

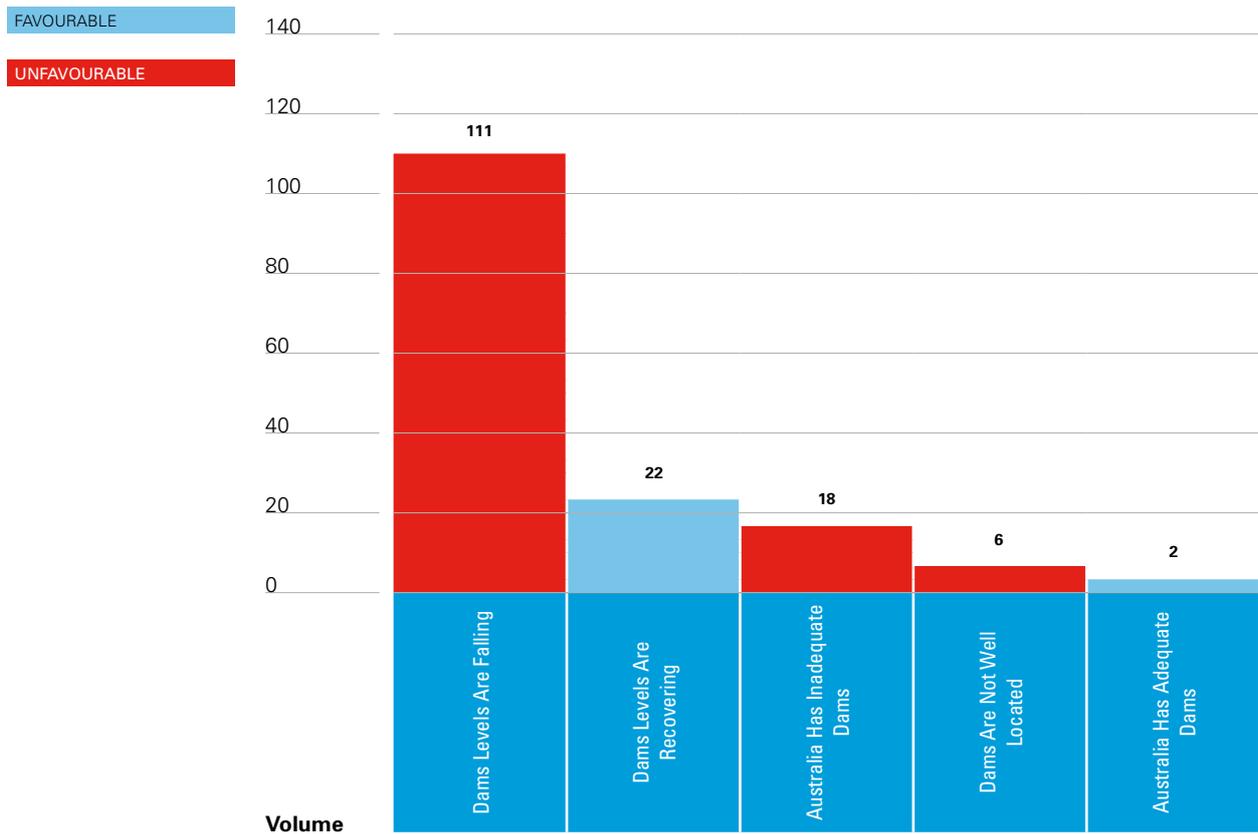
discussion of water in Australia is in relation to the problem – rather than solutions.

Furthermore, reporting and commentary on potential solutions, such as recycling and desalination, featured considerable negative comment – particularly the latter. Opinion is polarised on many issues, as shown by the mix of both favourable (supportive) and unfavourable (opposed) messages, and this is likely to lead to public confusion.

A detailed breakdown of the leading specific messages communicated through the media is provided in the following charts.

# Water Storage

Chart 22



Reporting and commentary on potential solutions, such as recycling and desalination, featured considerable negative comment.

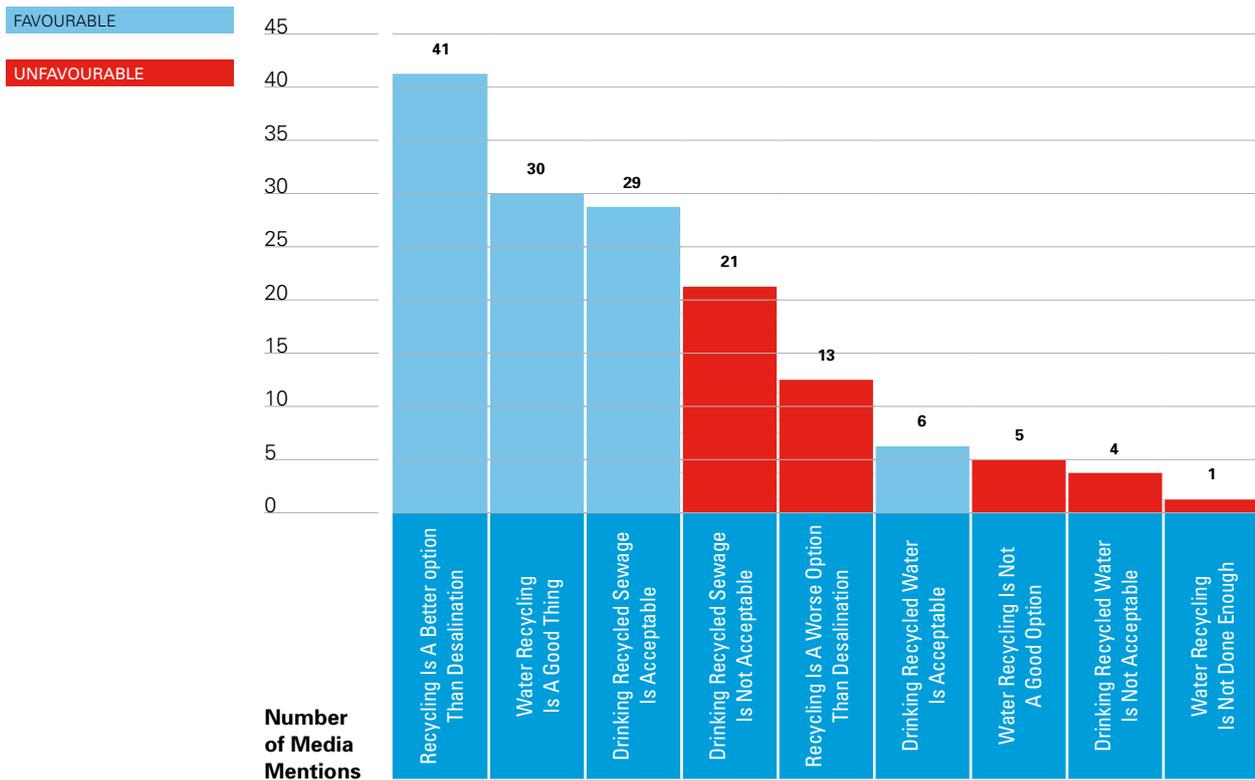
A large amount of media reporting focussed on drought as the cause of falling dam levels and water problems. However, some writers have pointed to the deeper problems that have been exacerbated and highlighted by Australia's severe drought, for instance:

"Across the continent the dry has highlighted a catastrophic mismanagement of water. At first officials and irrigators blamed the drought but the longer the dry has continued the more baldly have the mistakes of water resource management been revealed" (*Sydney Morning Herald*, 7 March 2007).

Rainfalls led to some reports that dams are recovering, but most such reports were shown to be premature.

# Recycling

Chart 23



## In the debate over the best option to increase water supplies, recycling is winning over desalination plants.

In the debate over the best option to increase water supplies, recycling is winning over desalination plants. However, the vexatious nature of debate is evident in 29 instances of the message that drinking recycled sewage is not acceptable and 13 instances of messages suggesting that recycling is a less efficient option than desalination.

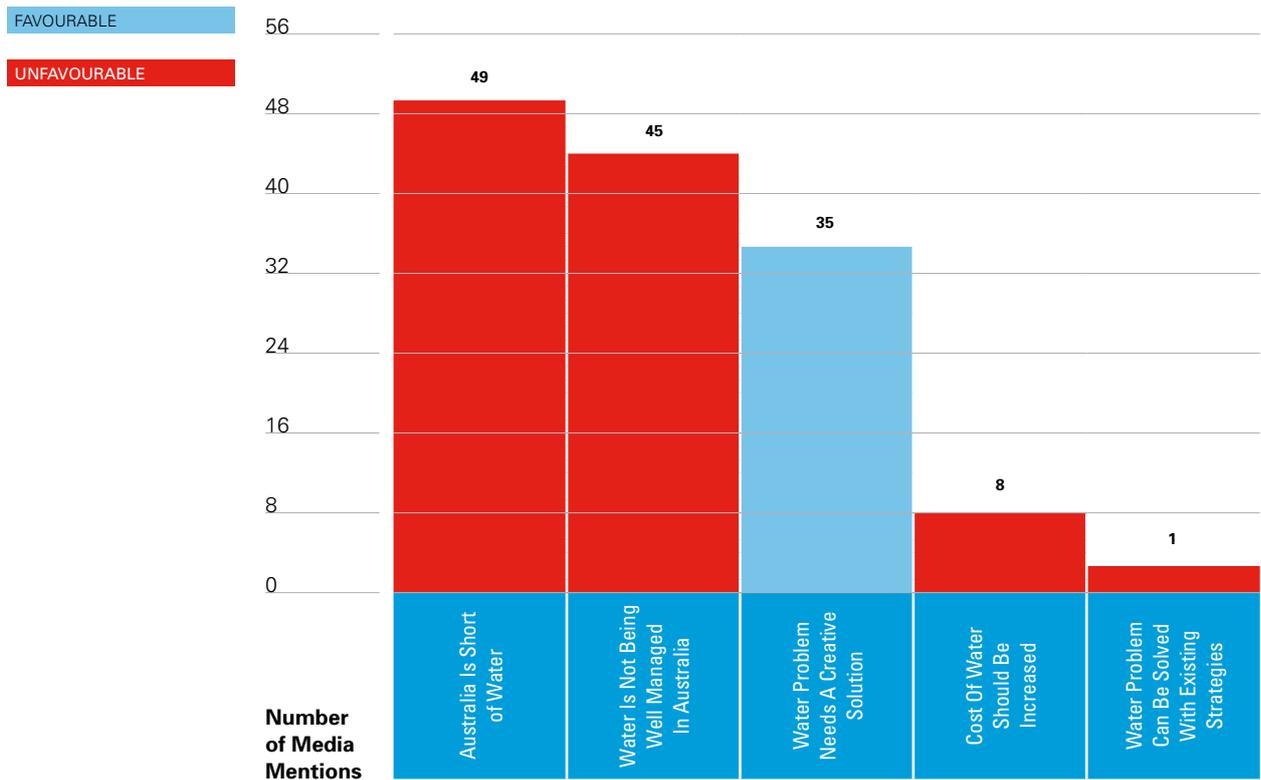
The mixed messages being received by the public are evident in an attack on recycling of waste water by Canberra Hospital's director of infectious diseases and microbiology, Peter Collignon. Following launch of a campaign by ACT Chief Minister, Jon Stanhope, to ask Canberra residents whether they are prepared to drink recycled sewage, and despite supporting statements by ACTEW Corporation director Michael Costello that a proposed \$150 million advanced treatment plant "would produce the highest quality drinking water in the world" (*Canberra Times*, 22 March 2007), and statements by chair of an independent expert panel,

Adelaide toxicologist, Ian Falconer, who said recycling systems could be safe and had worked well on most continents (*Canberra Times*, 30 March 2007), Professor Collignon claimed that treated human waste should never be added to Canberra's drinking water supply, saying it was "dangerous, unaffordable and unnecessary" (*Canberra Times*, 30 March 2007).

Professor Collignon also provided an example of the antagonistic and divisive approach sometimes being taken in the debate that will inevitably hamper progress when he stated that the national capital should take the water it needed from "inefficient" farmers downstream of the ACT. The professor's reported statement that "350,000 people in Canberra are more important than a few hundred rice farmers" angered farmers and farmer groups (*Canberra Times*, 30 March 2007).

# General

Chart 24



Despite widespread views that addressing Australia’s water problems requires a creative solution, there is little evidence of one.

Despite widespread views that addressing Australia’s water problems requires a creative solution, there is little evidence of one.

A key unfavourable message in much media discussion suggests that governments have been aware of a looming water shortage but did nothing or very little to put plans in place or build infrastructure to prevent it. For instance, an article titled “Water crisis they knew – State accused of ignoring its own early warning”, stated that a blueprint for shielding South-East Queensland from a looming water crisis was handed to the State Government six years ago but ignored. The extensive report was commissioned by the Department of Natural Resources and made wide-ranging recommendations to reduce spiralling water usage (*The Courier-Mail*, 7 March 2007).

In another article titled “Warning on dams debacle ignored”, Beaudesert Mayor, Joy Drescher, said: “It [the decision not to build a dam earlier] was probably one of the worst political decisions ever made. We knew this corner needed the water. It was made on political grounds, not on needs, costs, or anything else. It was a failure of forward planning and building infrastructure” (*The Courier-Mail*, 29 March 2007).

Despite an article titled “Brumby budget to target water crisis” reporting that increased spending on water-saving measures in Melbourne and the bush will be a key feature of the 2007 Victorian budget (*The Australian*, 23 April 2007), *The Age* reported a “Secret Bracks plan to slash spending on water”. Cabinet documents allegedly seen by *The Age* revealed that the Bracks Government secretly planned to slash spending on its ‘Our Water: Our Future’ program by up to \$28.8 million in the lead-up to last year’s election (*The Age*, 25 April 2007).

# Leading Spokespersons

The NSW election campaign during the period of analysis resulted in former NSW Liberal Leader, Peter Debnam, being the most prominent spokesperson on water, followed by the NSW Premier, Morris Iemma.

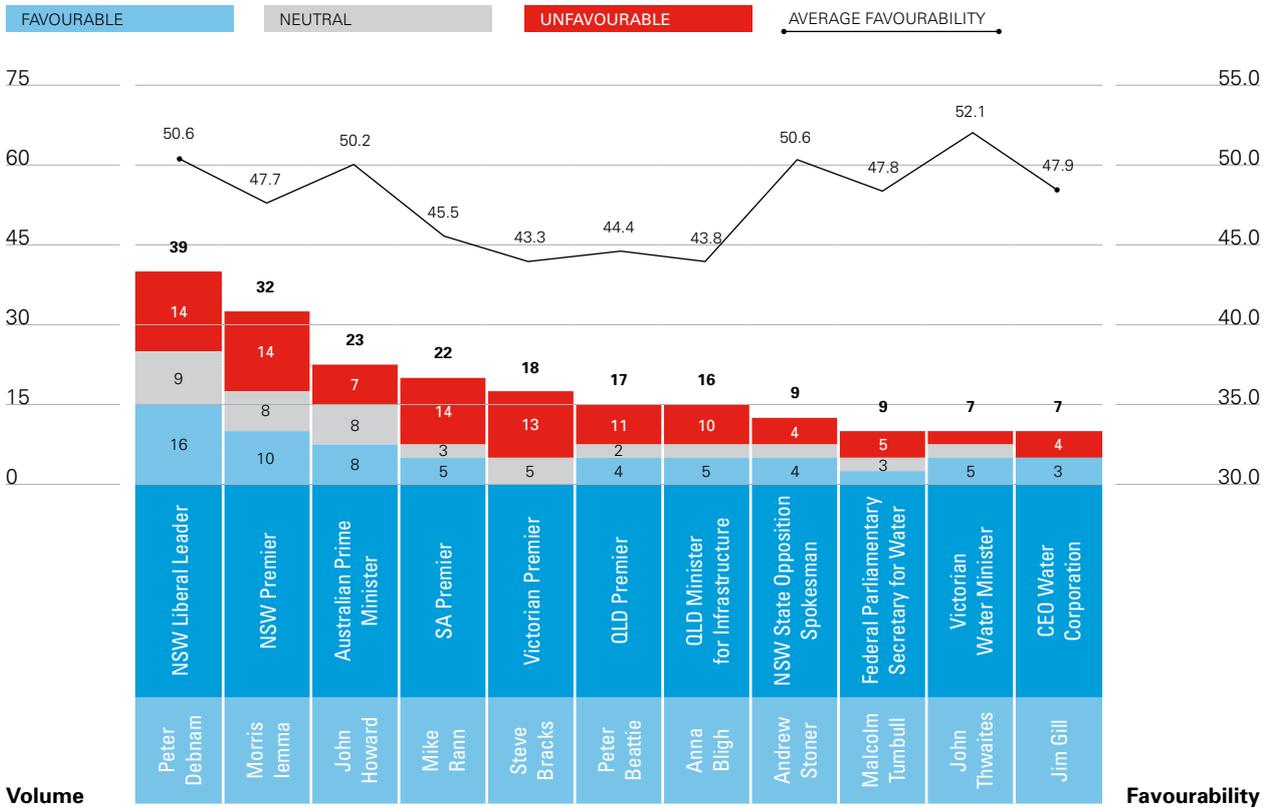
Prime Minister John Howard spoke frequently on water during the period, expressing the Federal Government's concerns and views, and promoting its \$10 billion national water plan to address problems of the Murray-Darling river system.

State Premiers in Queensland, South Australia and Victoria, and the Queensland Minister of Infrastructure, Anna Bligh, were also prominent spokespersons.

The most positive spokesperson was Victoria's Water Minister, John Thwaites, who spoke optimistically that Melbourne "would not run out of water" and talked up solutions including a desalination plant.

Victorian Premier, Steve Bracks, was the most unfavourable spokesperson, speaking mainly in opposition to Federal Government proposals for a \$10 billion national water plan.

Chart 25



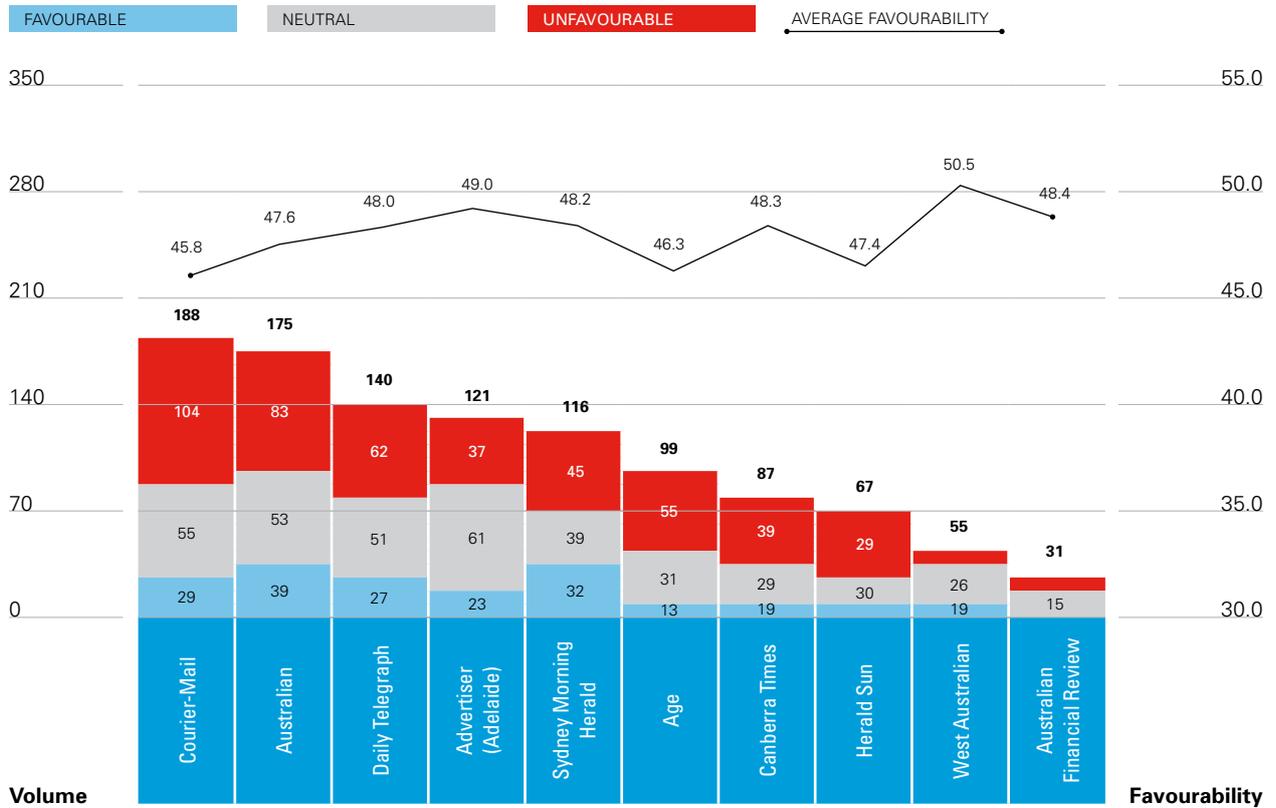
# Leading Media

*The Courier-Mail* in Brisbane published the most articles among national and metropolitan media and the most critical articles. Other prominent media publishing 100 or more articles on water issues in the four-month period were *The Australian*, the *Daily Telegraph*, *The Advertiser* in Adelaide and the *Sydney Morning Herald*.

Among local State water issues in Queensland, the Traveston Crossing Dam proposal for the Mary River has been widely criticised as a knee-jerk plan adopted without adequate consideration of alternatives, and that's likely to cause environmental damage and the flooding of valuable farming land.

Most media content on water issues is a mix of favourable, unfavourable and neutral reporting and comment. Unfavourable coverage includes reports of water shortages as well as criticism of initiatives proposed including the Federal Government's national water plan, desalination projects and recycling proposals.

**Chart 26**



# Leading Bylines

Chart 27

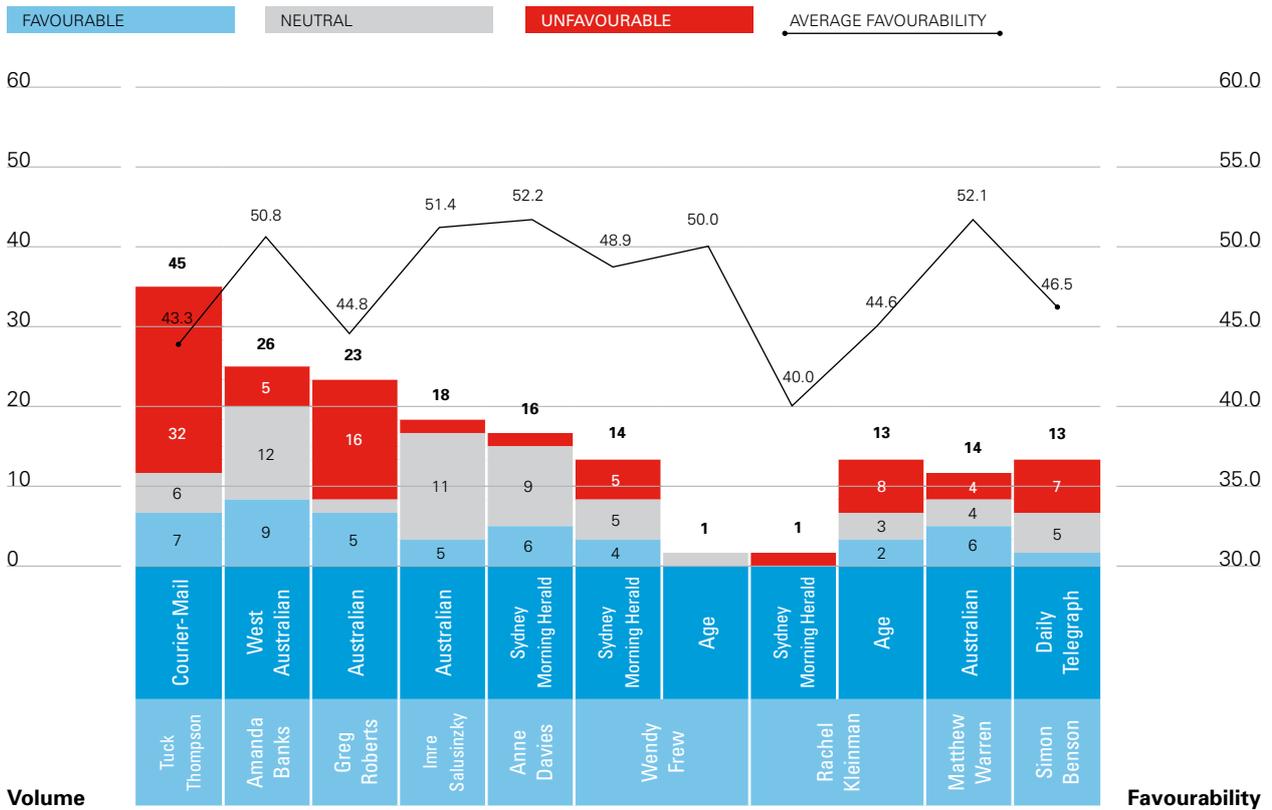


Chart 27 shows the leading national and metropolitan press writers on water during the period, with *The Courier-Mail's* Tuck Thompson the most prolific. Other prominent journalists were Amanda Banks from the *West Australian*; Greg Roberts, Imre Salusinszky and Matthew Warren from *The Australian*; Anne Davies, Wendy Frew and Rachel Kleinman from the *Sydney Morning Herald*, with Wendy Frew also writing for *The Age*; and Simon Benson from the *Daily Telegraph*.

Charts 9 and 10 show the leading writers and compères overall across all Australian media.

# Appendix – Methodology

CARMA International's media content analysis methodology is internationally recognised as one of the most sophisticated and rigorous commercial systems available and its executives are foremost specialists in media research and analysis worldwide.

CARMA International analyses media coverage of companies, organisations, products, events, campaigns, trends and issues quantitatively and, most importantly, qualitatively.

Quantitative analysis is relatively straightforward. However, in addition to simply counting the total number of articles and column centimetres/inches or minutes of air time, CARMA International is able to calculate the total Opportunities to See (the total circulation or audience reached by media coverage).

Also, where competitors are analysed, CARMA can report editorial 'share of voice'.

Importantly, CARMA International analyses media content qualitatively taking into account multiple key variables that determine the impact of media coverage. These include:

- » The media in which articles appear (with weightings applied for priority and target media);
- » Positioning (front page, front of business section etc);
- » Prominence (size or length of articles, headline mentions, photos etc);
- » Issues discussed;
- » Messages contained in articles (positive and negative);
- » Sources quoted (favourable and unfavourable); and
- » Other textual and contextual factors such as tone, headline, photos etc.

From this multi-variate analysis, an aggregate score is derived and presented on a 0-100 scale where 50 is neutral to provide a sophisticated overall rating of the favourability or otherwise of each article, each media, each source and each writer for the client or issue concerned. Average favourability is also calculated for issues, media, writers and sources, providing valuable data for identifying trends and for comparing with benchmarks or previous data. This aggregate score is called the CARMA® Favourability Rating.

The CARMA® Favourability Rating is much more than a positive or negative description that is the basis of some simplistic (univariate) media analysis systems. It provides a precise overall qualitative rating that reflects the likely impact of coverage.

Quality control to ensure rigour and reliability of analysis is achieved in four key ways:

- » First, most of the variables analysed by CARMA International – e.g. media name, page number, positioning, sources' names etc – are objective criteria;
- » 'Issues' and 'Messages' (somewhat more subjective) are identified by either (a) exact word or phrase matching or (b) presence of acceptable synonyms. A list of acceptable synonyms and coding instructions is provided to analysts in Coding Guidelines to maintain consistency and rigour (e.g. 'Innovator' can = "cutting edge products", "ahead of competitors", "first to market" etc);
- » CARMA International uses multiple coders on all projects to minimise individual subjectivity; and
- » CARMA International conducts intercoder reliability assessment.

Media Monitors – CARMA Asia Pacific is a member of the Association for Measurement and Evaluation of Communication (AMEC), the leading international organisation for communication and media research based in the UK and fully complies with its strict standards (see [www.amecorg.com/amec](http://www.amecorg.com/amec)).



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