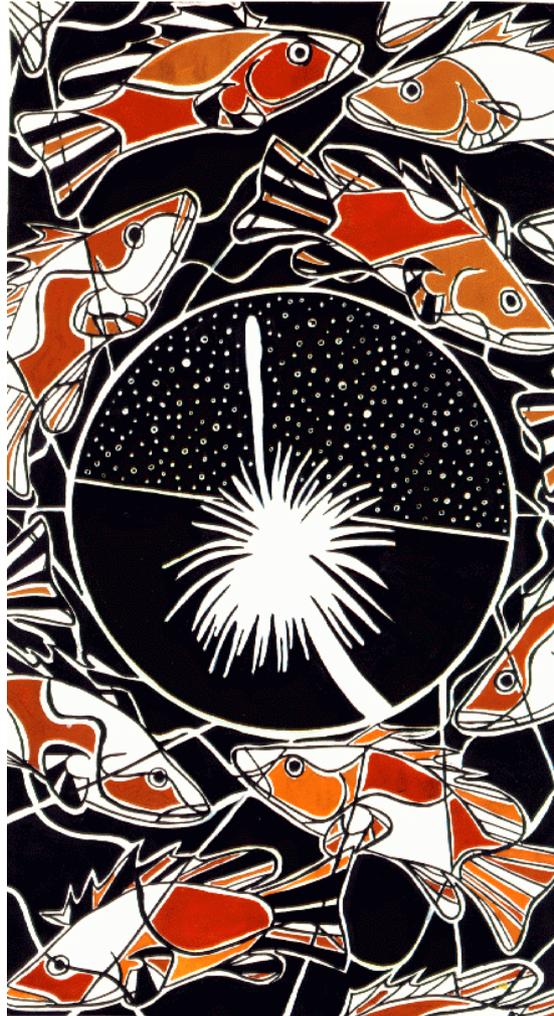


Attitudes towards water conservation and salinity in the Albury region

Johnstone Centre Report 148



by J Howard

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1. Nature and Purpose of the Study

1.1 Introduction

Along with other parts of the world, Albury-Wodonga faces a water use dilemma. All extractions for the Murray River are now capped by the Murray Darling Basin Commission and last year Albury used up almost all its entitlement (ACC 1998). To avoid water restrictions and provide for a growing city, it is necessary for everyone to use water wisely.

Albury residents have a very high per capita usage of water compared to national averages (ACC 1998). The sustainability of Albury's water supply can only occur if water use decisions become a consideration of everyday activity; decisions ranging from industrial usage and design and control of supply, to the choice of garden plants and the time of watering people's backyards. As such, Albury City Council embarked on an education campaign using television and mayoral letters to create awareness of water conservation.

This report describes the results of a survey to residents about water issues in Albury and Wodonga. Charles Sturt University conducted the survey immediately after a Mayoral letter and during the television campaign. The report begins with a background and presents:

- information relevant to planning, implementation and delivery of Albury Council's water conservation public communication and education initiatives; and
- comparative data on knowledge, attitudes and behaviour of a representative cross-section of residents in Albury and Wodonga.

1.2 Methodology

This study surveyed a randomly selected (from the electoral roll) cross-section of people living in Albury and Wodonga during December 1998-January 1999. Just over 1000 residents received the mail survey and a total of 388 responded. The technique included a pre-trial in Thurgoona and a procedure consistent with the Dillman (1978) Total Design methodology.

The survey questionnaire (see Appendix 1) included pre-coded information designed to obtain information on a wide range of attitudinal, behavioural and knowledge questions. Many of these pre-coded questions contained simple scales; running from, for example, no concern to great concern. Many questions were also modelled on the EPA (1994 & 1997) benchmark study of environmental attitudes in NSW for comparative purposes. There were also a number of open ended questions designed to allow residents to express their views in their own words.

Even with the most rigorous random sample it is not possible to be completely confident that the results are representative of the whole population. The extent of sampling error in this particular case depends on the sample drawn from the entire population. With a sample size of 390, the worse case situation is that we can be 95% confident that the responses lie within a range of plus or minus 4.9% of the total sample.

2. The Priorities of Residents

2.1 Relative importance of the environment

Those surveyed were asked to nominate from a list of ten issues the two most important issues for the region. The environment is one of the highest priorities for 21% of all people. People rank the environment third behind health and unemployment and equal to crime.

Residents in Albury rank the environment slightly higher than Wodonga residents. Albury residents are more concerned about health, economic growth and the transport system than Wodonga residents. However, the differences between the two towns are not significant (chi-squared >0.05).

Table 1: Residents opinions of the most important issue in the region

Albury	Issue	Wodonga
43%	Unemployment	56%
36.9%	Health	25.8%
21%	The environment	21.9%
20%	Crime	23.9%
20%	Alcohol and drugs	21.9%
17%	Economic growth	10.4%
13.4%	Education	16%
10%	Transport system	7.1%
8.7%	Farming and agriculture	6%
0	Industrial relations	0

These results broadly follow a similar pattern to surveys in both NSW (EPA 1994; 1997) and Australia wide (ABS 1995) which show people rank the environment ranked behind major economic concerns.

The NSW EPA (1997) survey of NSW ranked the top five issues as being: *'unemployment'*, *'health'*, *'education'*, *'crime'* and *'the environment'*. In comparison this survey shows that *'the environment'* is relatively more important to residents of Albury-Wodonga. In addition, within the top five issues *'alcohol and drugs'* has replaced *'education'* as a major priority.

2.2 Local environmental priorities

Respondents were asked:

On a scale of 1-10 how concerned are you about the environment?

Albury and Wodonga residents are strongly concerned about the environment (average = 7.5 +/-1.8 SD). Twenty percent of respondents give the environment the maximum rating, while fifty percent give it a rating of either 7 or 8. There is no significant difference in the level of concern shown between the two towns (Mann Whitney U-Test).

When those surveyed are asked (unprompted) to nominate the most important environmental issues in the region today, most people response:

- water conservation and water quality;
- transport; and
- waste

Issues to do with water conservation and water quality are by far the most important to residents in both Albury and Wodonga (Table 2). They will list a range of individual topics about this issue; such as algal blooms, water usage, environmental flows, etc. Albury residents tend to focus more on broader scale issues such as environmental flows and water quality in this category, whereas Wodonga residents tend nominate symptoms (eg. algal blooms) of a broader scale issue (eg. nutrient enrichment).

The biggest single environmental issue is the internal freeway in Albury. It is of concern to 30% of residents in Albury. If this single issue is separated from the category of '*transport system*' there are few responses.

Results between the two towns are generally similar for issues focusing on land use, air pollution, noise pollution and conservation of the natural environment. Although air pollution is of concern to only a few residents in both towns, the emissions from Uncle Ben's and other major industries is an issue in Wodonga.

Some 36.7% of respondents did not nominate any particular environmental issue.

In comparison to people throughout NSW (EPA 1997), local residents are particularly concerned about water conservation and quality. Air pollution, while being a major issue for NSW is almost totally absent in Albury-Wodonga. There is also a relatively

large number of people in the region who have a high level of concern about the environment yet cannot nominate any environmental issue. Finally, the internal freeway is a local issue that is also having a significant impact on residents' opinions.

Table 2: Environmental priorities for residents in Albury and Wodonga

Issue	No. of responses Albury	No. of responses Wodonga
<i>Noise (%)</i>	2 (2%)	0
General	1	
Airport	1	
<i>Natural Environment</i>	8 (7%)	9(7%)
Biodiveristy/habitat loss	6	4
Lack of green space	1	1
Cats & Ferals		2
Weeds		2
Bushfires	1	
<i>Water Con & Mgt</i>	50 (48%)	72(54%)
Water quality/pollution	22	31
Flows/ Mgt of river	9	5
Phosphorus	5	1
Water use/ over use	4	7
Blue green algae	3	11
Condition of river and surrounds	3	6
Disposal of effluent/stormwater	2	6
More water use	1	1
Carp		3
Weir wall	1	1
<i>Waste</i>	10 (9%)	22(16%)
Litter	6	10
Lack of recycling	3	7
Volume/ disposal		3
Preycling (eg reduce packaging)		2
Dogs	1	
<i>Transport</i>	32 (31%)	8(6%)
No internal freeway	31	7
Poor roads	1	1
<i>Health</i>	2(2%)	1(1%)
No of beds in hospital	1	
Unsafe at night		1
Ross river fever	1	
<i>Land Use</i>	7 (7%)	8(6%)
Water table	1	1
Incompatible land use/ land degradation	1	2
Dryland salinity	3	4
Erosion	2	1
<i>Air Pollution</i>	2(2%)	6(4%)
Industry emissions		6
Car emission	1	
Ozone	1	
<i>Other</i>	1(1%)	7(5%)
Criminal re-location		1
Graffiti		1
Councils practices	1	2
Education/ ignorance	1	3

2.3 Knowledge about the environment

Respondents were given a set of five questions on environmental matters and asked to say whether these statements are true or false. Three of the five statements were selected from the EPA (1997) survey for comparative purposes, the other two were selected from the Mayoral newsletter sent to all Albury residents.

The proportion of respondents who gave correct answers varied considerably from statement to statement. For example most people know about stormwater drains and Australia being one of the driest continent, fewer people know that the Murray Darling Basin Commission has put a cap on water extraction.

There is no significant difference in the responses between the two towns (chi-squared >.05). This suggests the impact of the Mayoral letter on people's level of knowledge is minimal.

In comparison to the rest of NSW (EPA 1997), Albury residents are generally more knowledgeable. Scores are about 10% higher than the state for all three questions asked.

Table: 3. Responses to true/false statements

	NSW (1997)	Albury Correct	Albury Wrong	Wodonga True	Wodonga False
Australia is one of the driest continents on earth		86.6%	13.4%	84.5%	15.5%
The Murray Darling Basin Commission has put a cap on water extraction		65.1%	34.9%	59.7%	40.3%
Most stormwater drains in NSW run directly into our waterways	81%	89.3%	10.7%	88.4%	11.6%
Oxygen and water are needed for composting to work effectively	65%	81.9%	18.1%	82.3%	17.7%
The greenhouse effect is caused by a hole in the earth' atmosphere	30%	58.4%	41.6%	63%	37%

2.4 Behaviour towards the environment

As an assessment of self-efficacy, respondents were asked to choose between a statement on whether *'each individual has a responsibility towards the environment'* or whether *'governments and business have a greater role'*. Three quarters of Albury residents (75.2%) chose *'a responsibility towards the environment'*. While this is considerably lower than the state average (90%), the difference may be different due to survey methodology (EPA 1997).

In another question asking about behavioural change, only three percent of people in Albury-Wodonga did not identify any changes in their behaviour for environmental reasons. This is similar to the national and state average (ABS 1995, EPA 1997). The specific changes most often reported are mainly to do with waste (Table 3). Issues to do with water conservation and water quality are implemented less. There are no significant differences in the behaviours of both towns.

In comparison to the state and national averages, apart from recycling fewer people in Albury and Wodonga reported lifestyle changes. For example, the state averages for people stating they are *not putting things down the sink* (92%), *reducing water consumption* (82%), and *re-using material* (86%) is much higher than those reported in this survey (Table 4).

Table 4: Changes in lifestyle for environmental reasons

Behaviour	Albury %Yes	Albury %No	Wodonga %Yes	Wodonga %No
Recycling	94.	6	95	5
Avoid littering/ Clean up Australia	69.1	30.9	61.3	38.7
Be more careful about what goes down the sink	65.1	34.9	60.8	39.2
Reduce waste eg reuse containers	56.4	43.6	52.5	47.5
Conserve water/ reduce consumption	56.4	43.6	63	37
Buy more environmentally friendly products	55.7	44.3	59.7	40.3
Start composting	45.6	54.4	44.8	55.2
Be more careful about run-off from the property (hosing etc)	44.3	55.7	49.7	50.3
Insulate roofs	34.9	65.1	34.3	65.7
Plant trees	31.5	68.5	30.9	69.1
Save energy in other ways	25.5	74.5	36.5	63.5
Stop burying rubbish or waste	18.8	81.2	19.3	80.7
Cut down use of motor cars	16.1	83.9	17.7	82.3
Tread lightly in the bush	15.4	84.6	16	84
Dispose of toxic chemicals	12.8	87.2	11.6	88.4
Joined an environmental group	2.7	97.3	2.2	97.8

2.5 Influences on behaviour towards the environment

Those respondents who reported changes in behaviour were then asked to identify particular people or types of people who had influenced them. Some 43% of Albury residents identified the media or media personalities as having an influence; 33% mentioned children or grand children; while 32% mentioned Council. These high percentages show that a mix of influences change people's behaviour.

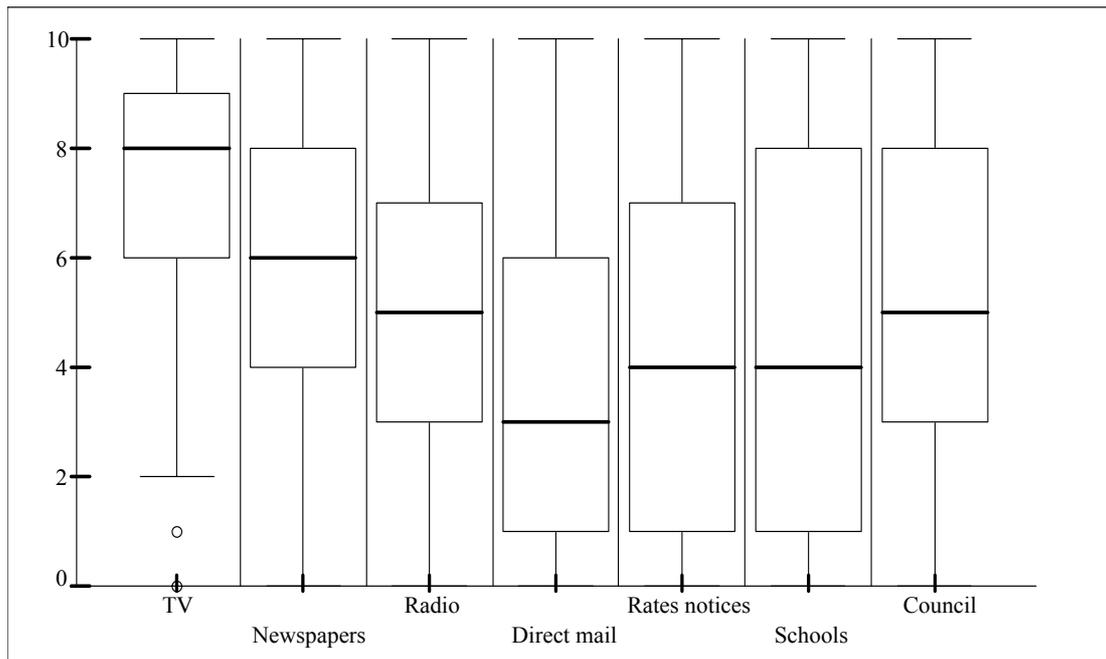
Table 5: People who have influenced behaviour changes

Group of people	Wodonga %	Albury %
Media or media personalities	43.0	49.2
Children/grandchildren	33.6	24.3
Councils	32.2	31.5
Conservation groups	24.2	29.8
Family/Friends	19.5	20.4
Public figures	12.8	6.6
Schools	10.7	12.2
No body in particular	10.7	13.3
Governments	9.4	10.5
Teachers/lecturers	8.7	5.5

Albury residents are significantly less likely to be influenced by public figures than Wodonga residents (chi-squared <0.05).

Respondents think that television is the most effective media for providing information about environmental issues (Figure 1). This is followed by newspapers and Councils. The impact of schools on providing information is rated fairly low, however, the large standard deviation (as shown by the box) suggests that the response depends largely on whether the respondents have children.

Figure 1: The effectiveness of various sources at providing information.



3. Water Conservation

3.1 Awareness of water conservation as an issue

Sixty two percent of respondents knew that water conservation is becoming an issue. More Albury residents (65%) thought this than Wodonga residents (59%) but the difference is not significant (chi squared >0.05). One quarter of those people surveyed are unsure if water conservation is becoming an issue.

A wide range of topics arose when respondents are asked to nominate a specific water conservation issue (see Appendix 2). Most people nominated wastage in various forms (21%), however, other broad issues mentioned were overuse (19%), allocations (12%), the dam (9%), and recycling (6%) (Table 6).

Albury residents are the only residents to state the cap on water extraction, and tended to be more specific. For example twice as many Albury residents nominated ‘*wastage in parks and gardens*’ or ‘*overuse by residents*’ than Wodonga residents but there are similar scores for ‘*wastage*’ and ‘*overuse*’. Wodonga residents are the only residents to nominate ‘*cost of water*’ and tended to focus on issues to do with managing the Hume Weir.

A number of people reported Council’s watering practices are an issue. This may reflect why the number of respondents who chose ‘*governments and business have a greater role*’ in the self efficacy question is higher than the state average.

Table 6: Major water conservation issues for the region

Water Conservation Issue	%Albury Residents	%Wodonga Residents
Wastage-unspecified	18	18
Allocations Irrigators demands/practices	9	3
Overuse-parks and gardens	7	4
Cost of water	0	5
General-all issues	3	5
Water storage on private residences	3	4

3.2 Sources of information about water conservation

Half of Albury and Wodonga residents stated their most recent source of information about water conservation is through television. Direct mail is nominated by 21% of all respondents. Newspapers also played a significant role with 13%. Other sources such as the internet, school programs and radio are stated by less than five percent.

Council's newsletter is stated as the most recent form of information by 17% of Albury residents (Table 7). Rates notices fulfilled a similar role with Wodonga residents (17%). Only 6% of Wodonga respondents listed newsletters as their most recent source of information. There is no significant difference in the responses of the two towns except in the categories of 'newsletter' and 'rate notice'.

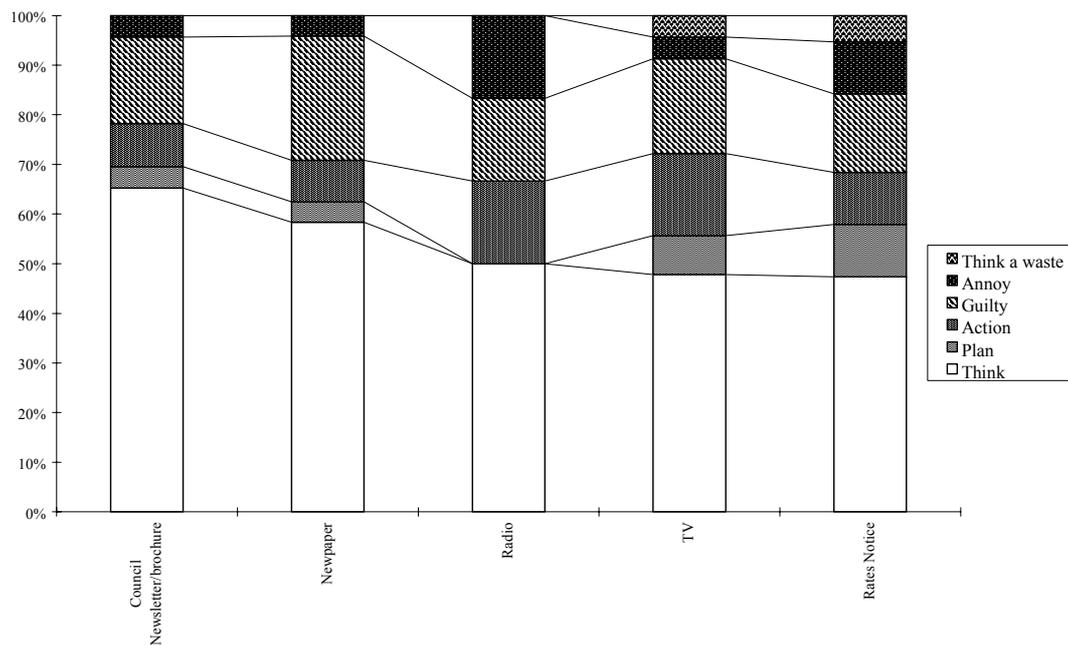
Table 7: Sources of information on water conservation

Water conservation media	Albury	Wodonga
Media TV Ad	38%	25%
Media TV unspecified	15%	18%
NE Water Authority rate Notice	1%	17%
Council newsletter/brochure	17%	6%
Media TV program	4%	10%
Media - Newspapers	11%	9%

The impact of this information varied considerably (Figure 2). Council's newsletter is most effective media for getting people to think about water conservation, radio (presumably programs) is most effective at producing behaviour change. Internet and school programs (not shown), although reaching only a few people are also very effective in getting people to think about the issue.

Different media tended also to be noticed by people with differing concerns. Internet and education programs are a more important source of information for people with high level of concerns. TV and newspapers are likely to be the most recent source of information for those residents who are less concerned about water conservation. Advertisements to people who are less concerned about water are also likely to be viewed as a waste of money. This suggests while mass media may be capable of reaching people of less concern - a greater emphasis on editorial is needed for this media to be effective.

Figure 2: The responses to seeing different forms of media



3.3 Changes to lifestyles to conserve water

Seventy one percent of people in Albury stated they are doing something specific to conserve water (75% in Wodonga). A further 62% of residents listed three specific things. There is no significant difference between the two towns.

A range of actions are being taken by residents to conserve water (Appendix 3). The most common effective activity stated by respondents is *'taking shorter showers'* (Table 8). Albury residents are more likely to respond stating they *'wash clothes with only a full load'* and *'turn off taps between uses'* than Wodonga residents. In contrast Wodonga residents are more likely to state *'collect rainwater'* and *'recycle their water'* (ie use laundry water on garden). The use of technology (ie. water systems, shower roses, timers) is identical for the two towns.

Table 8: Changes to lifestyles to conserve water

Main changes to lifestyles	% of respondents
Take shorter showers	19.5%
Wash car on grass	18%
Water garden at night/evening	14.5%
Water garden sparingly	14%
Laundry- full loads	14%
Taps- no drips	13%
Garden-has timers	9.5%
Taps- off between uses	9%
Garden- water system	9%
Garden- reuse laundry & kitchen water	8.5%
Garden- mulched	7.5%
Garden- hand water	7%
Garden- no hose paths/driveways	7%

3.4 Possible further changes to lifestyle

Forty eight percent of Albury residents thought they could do more to conserve water; while 32% stated they thought they could do no more. Respondents are more likely state they could do more if they replied positively to the self-efficacy question reported earlier (Chi squared $p > .01$).

Those people who said they could do no more are not any more or less concerned about the environment nor are they doing anything different. However those people are less likely to list fewer than three things in their present lifestyle. It may therefore be that knowledge is a critical issue for these people.

Indeed respondents most often stated a lack of understanding is critical (Table 9). A lack of time available is higher for Albury residents.

Table 9: Reasons for not changing lifestyles

Reason	% Albury	% Wodonga
Lack of understanding	19	18
Apathy/laziness	17	24
No time available	14	8
Not convenient	14	13
No practical alternative	14	11
Cost	12	18
I don't make a difference	2	2
Not sure	2	1
Not convinced it matters	1	4

While respondents stated that apathy and lack of understanding is the main reason for not doing more, economic factors also appear to be an issue. When asked what further changes to their lifestyle could be made, respondents often replied with actions that require capital (eg. buy a water tank, buy a shower rose) (Table 10).

Table 10: The additional changes that could be made to lifestyles

New actions that could be taken	% of respondents
Shorter showers	15
Reuse washing water on garden	13
Water garden less	9
Buy a water tank	8
Fix leaking taps	5
Install sprinkler system	5
Turn taps off	5
More garden mulch	4
Select better plants	4
Buy a shower rose	4

4. Water Quality

4.1 Awareness of water quality as an issue

Ninety one percent of people in Albury and Wodonga knew water quality is an issue. Only about two percent are unsure. Most people who thought water quality is an issue also stated they are doing something about it (chi-squared <.02).

A range of water quality issues are nominated by people (Appendix 4). When asked to nominate a particular issue, most residents stated *phosphates/blue green algae*. Blue green algae and salinity is seen as more of an issue for Albury residents, whereas Wodonga residents are more likely to state issues to do with potable water (eg. *taste, or is it safe to drink?*).

Table 11: Specific water quality issues

Specific Issue	%Albury	%Wodonga
Phosphates/blue green algae	18	11
Salinity	12	4
General pollution	3	8
water quality	4	7
Drinking water is it safe	0	7
Drinking water-taste	3	8
Drinking water- too many chemicals added	6	7
Industry/farm chemical run-off	6	7

4.2 Sources of information about water quality

People stated the television as being the most common way they found out about water quality issues. Newspapers are also important.

Table 12: Sources of information about water quality

Sources of Knowledge	%Albury	%Wodonga
Media -TV (Unspecified)	23	32
Media-TV Advertisement	30	29
Media -TV Phoswatch ad	12	16
Phoswatch campaign	10	10
Media -Newspapers	5	8

Most people believe that this sort of advertising is worthwhile (98%). Respondents did not list any from of media particularly less worthwhile than another.

4.3 Changes to lifestyles to maintain water quality

Eighty two percent of people in Albury-Wodonga stated they are doing something specific to maintain water quality. There is no significant difference between the two towns.

There is a variety of lifestyle changes occurring in the region (Appendix 5). The three most common activities stated by respondents is using no/low phosphorus detergents, watch what goes down the sink, and washing the car on the lawn or nature strip (Table 13). Albury residents are more likely to state using no low/phosphorus detergents, whereas Wodonga residents are more likely to look after the pollutants being put in their gutters. These differences are not significant.

Table 13: Actions being undertaken to conserve water quality

Actions to conserve water quality	% of Albury Residents	% of Wodonga Residents
Use no/low phosphorus detergent	38	22
Watch what goes down the sink	24	21
Wash the car on lawn	24	20
Keep gutters clean	6	15
Dispose of chemicals/oil properly	7	13
Use biodegradable cleaners detergent/products	7	12

4.4 Purchasing decisions

Tables 14 and 15 show that while the phosphorus messages about laundry detergent seem to have had some influence on peoples purchasing decision, it has had a lesser impact on the type of dishwashing detergent they buy.

Table 14: Types of laundry detergent bought by residents

Laundry detergent	% Albury Residents	% Wodonga residents
Cold Power	13	26
Radiant	3	12
OMO	11	8
Low/No Phos	13	18
BIOZET	10	4
Dynamo	7	10
Biodegradable	7	9
Love 'n Care		4

Table 15: Types of dishwashing detergent bought by residents

Dishwashing detergent	% Albury Residents	% Wodonga residents
Morning Fresh	23	40
Palmolive	10	19
Finish	4	13
Biodegradable	6	10
Trix	8	9

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Appendix 1: The Survey Questionnaire

Appendix 2: Specific water conservation issues raised by residents

All aspects	All aspects including pollution	Amount of commercial properties hosing instead of sweeping
Augmented water into wetlands & plantations	Better control of water release from Hume Dam	Better education for primary producers, manufacturers & households
Blue green algae	Build another dam. Wash population growth. Too many people	Capping the Murray usage
Cleanliness of water	Conflicting needs of water users & the needs of the environment.	Constant level changing at Lake Hume
Consumption & waste	Consumption levels	Contamination caused by misuse - value of water & scarcity
Control of water flow for ag has created salinity problems	Control of water waste	Demands of irrigators in defined irrigation districts & the continued poor mgt of allocations. Lack of understanding of water requirements on farms
Dependency on rain water	Domestic waste	Domestic waste, commercial use
Domestic water wastage, dumping in river	Domestic/commercial	Don't mind paying for water but not admin costs
Dramatic effects of altering levels of water tables, lack of govt support to purchase rain tanks	Dry content - all conservation is important	Educating public on water cons. & respect for others downstream
Effluent discharge to river system	Especially in times of drought & fire risk	Excess cost of water
Expense of water	Garden watering	General public misuse of water
General usage of water	Good water running into drains	Home usage, runoff into waterways
Home use & irrigation	Householder paying more for water & river & filtration mgt	How can we use our catchment areas to make the most of heavy rain falls
Hume Weir	Hume Weir never full	Increase in domestic drain on finite water supply
Inground sprinkler systems constantly water tar/cement	Irrigation	Irrigation in Murray-Darling Basin should be cut by 50%
Irrigation practices & water catchment	Irrigation water wastefully used causing land degradation	Irrigation without long term, large scale planning. Personal use in urban areas
Irrigation, water wastage by councils	Lakes, rivers, man made dams	Lawns & gardens over watered
Litter of water ways	Local control of releases of Hume Weir should be maintained at least 50% (fish breeding & rec)	Low level flows - no floods, natural cycles disrupted
Maintenance of water quality	Mgt	Mistreatment of waterways by farmers & householders chemicals
Misuse & mismgt of water	Misuse of chemicals that end up in waterways	More conservation (in dams) in times of excess rainfall
More info is needed to reach households about how to conserve water	Murray River	Murray River & enough for industry
Need to build more dams to cope with summer, and less wasted water into seas	News report indicating overuse of water	Not watering at the right time
Not watering garden so often	Nutrient pollution - balancing commercial & environment. demands	Our water is terrible - we choose to buy it in
Outdated irrigation systems. Excess usage	Over allocation of water	Over use
Overuse by farming community	Overuse causing salinity	Overuse of irrigation down stream
Overuse of water - irresponsible with water, leaving taps/hoses running	Overuse, wastage	Over watering of gardens, car washing,

unnecessarily		how to recycle laundry water
People leave hoses running for hours also on roads	People should be encouraged to water gardens in evening or morning. Councils are worst offenders	People use too much water - they believe they have endless supply
People waste it - daily routine, water can be limited	People waste water too much keeping English style lawns green	People wasting water
People wasting water through the day	People watering garden during the day	Phosphorus & other mineral/pollution levels in water
phoswatch & rubbish in weir	Pollution	Poor dam mgt
Poor river flow due to lack of rain, blue green algae	Poor use of storage water	Public education. to conserve water
Purity of drinking water	Quality & quantity of water for downstream users	Quality , water mgt
Quality of water	Quality of water for consumption. Storage problems	Quality of water runoff, phosphorus, salination
Quality, quantity, due to rainfall	Quality/quantity	Rain distribution & pricing to urban and rural users
Recognising that Aust. is a dry continent, and not using water to hose driveways	Regulation of river	Releases of water in summer rather than a steady flow throughout year.
Releases too regulated/too easily polluted by big business	Residents should have rainwater tanks for garden use & possible drinking	Rising watertable/Blue green algae
river remains natural	Roof runoff	runoff into river from farms which contains chemicals
Safe & clean storage & usage	Safety of Hume Weir Wall	Safety of water
Salinity	Salinity/ carp	Sewerage works on river
Should be reducing usage at beginning of summer	Should be water restrictions during dry season	Should conserve water for rec. use & tourism
Should not waste it	Storing enough water for demand	Supply of irrigation water during dry periods
Sustain own water tanks for watering garden	The Cap	Too much emphasis on the issue
Too much is used	Too much wasted	Too much water used for irrigation
Try & keep it clean	Try for top quality & quantity to benefit South Aust.	Unnecessary water of lawns & parks
Usage	Use waste washing water used on gardens	use water more sparingly
Using too much water	Using water wisely	Unstable wall of Lake Hume
Utilisation of grey water for ag in general	Utilising waste water more efficiently	Washing cars in driveways/misuse of sprinklers
Wast of water in gardens	Wastage	Wastage on gardens
Wastage, water then not avail. for ag	Wastage/quality	Waste of garden water
Waste of rainwater, tanks not encouraged, salinity, pollution	Waste of water due to common household gardening & personal use	Wastage
Wastewater	Water quality	Water re-use
Water should be restricted for domestic use	water should not be taken for granted	Water stagnation , no fish
Water storage	Water tanks to save rainwater for garden, grey water	water use
Water use & drainage	Water pollution	Whether to conserve water in dam for rec or release for irrigation
Whole lot concerns me greatly		

Appendix 3: Specific actions are being taken by residents to conserve water

Adjusting water load on washing machine	All tap washers renewed	All taps turned off
Bathing children together	Baths instead of shower	Baths shared
Bought front loading washing machine	Build dams	Car wash
Car washes	Careful not to dispose of toxic chemicals in drain	Catch rainwater
Check tap washers	Check washers in tanks regularly	Clean teeth with tap off
Collect rain water	Common sense	Compost all scraps
Compost beds	Composting garden	Computer system water mgt
Constantly conscious of not wasting water	Cover pool - reduce evap.	Cut down on domestic use
Deep water plants at night	Deep watering	Deep watering only twice weekly
Did not buy new dishwasher when old one broke down	Dish washer full	Dishwasher
Do not water lawn	Doing dishes with plug in sink	Don't allow husband to wash paths
Don't flush after every use	Don't hose driveways	Don't hose garden as much
Don't hose nature strip	Don't hose unnecessarily	Don't leave taps dripping
Don't leave taps running unnecessarily	Don't leave taps running/dripping	Don't let taps run when not required
Don't overwater garden	Don't overwater gardens	Don't run taps unnecessarily
Don't waste water	Don't waste water in kitchen	Don't water garden as much
Don't water grass	Don't water lawn	Don't water lawns
Dual flush toilet	Early morning watering	Efficient watering system
Eliminate wastage everywhere	Encourage children not to waste water	Encourage others to conserve water
Ensure taps turned off properly	Ensure water not running off garden onto paths	Ensuring no leaky taps
Fine spray shower head	Fit all new tap washers	Fix all taps
Fixing leaking taps	Flood lawns, don't sprinkle	Flush toilet less
Front load machine	Front load washing machine	Front loading machine
Full washing loads	Full washing load	Full washing loads
Garden mulching	Garden watering during cooler parts of day	Generally don't waste
Going to install sprinkler system	Hand held hose	Hand held hoses
Hand washing instead of filling washing machine	Hand water	Hand water garden
Hand water garden at night	Hand water gardens	Hand water shrubs
Heavy water less often	Hose when needed	Hosing gardens early morning or late evening
Improve water system	Install dual flush toilet	Install rainwater tanks
Install tank	Install water system	Install watering system in garden
Installation of drip irrigation system	Installation of water saving shower head	Installed 2 flush toilet
Installed drip irrigation system	Installed dual flush toilet & good shower head	Installed sprinkler system
Installed watering system with timer	Installing garden sprinkler systems	Irrigation habits
Keep containers under tap for washing hands	Landscape garden - reduce runoff	Lawn
Less car washing	Less garden water	Less shower time
Less water in washing machine	Less water on lawns	Less watering
Limit garden watering	Limit lawn watering	Limit time watering
Limit use of dishwasher	Limit washing days	Limit washing people/clothes

Low pressure shower	Low pressure shower rose	Make sure taps are off
Monitoring garden watering	More aware of household use	More efficient garden watering
More efficient shower head	Mulch	Mulch garden
Mulching of garden	Mulching the garden	New shower jet
Newspapers/lucerne hay as mulch	No baths only showers	No baths/short showers
No dripping taps	No dripping taps	No dripping taps
No indiscriminate sprinklers	No leaking taps	No small dish washing
No taps left running while brushing teeth	No unnecessary washing	No watering nature strip
Not flush toilet every time	Not fussing about green lawns	Not having tap running brushing teeth
Not hose paths	Not hosing paths	Not using dishwasher
Only flush toilet for solid waste	Only use dishwasher when full	Only wash clothes weekly
Only water plants - no lawn	Only water when necessary	Only water where needed
Personal hygiene	Pipe that drains air conditioner water into fernery	Plant dry tolerant plants
Plant ground covers that don't use a lot of water	Plant lower water use on lawn	Plant native trees & shrubs
Plant natives	Plug in sink when dish washing	Purchased dishwasher
Put 1/2 plastic bottle in toilet tank	Quick showers	Rainwater runoff tank
Rainwater tank for drinking	Rainwater tank for garden	Rainwater tank for kitchen use
Recycle waste to garden	Recycle where possible	Reduce showers to 10 mins
Reduce watering	Regular tap maintenance	Repair dripping taps
Replace tap washers	Replaced tap washers	Replacing household plumbing
Restrict lawn watering	Restrict toilet flushing	Restrict watering plants
Resusing in the garden	Reuse grey water	Reuse washing machine water
Reuse washing water	Reuse washing water for garden	Reuse washing water in garden
Reuse water for plants	Reuse water from bathroom for w/machine	Reuse water on garden
Reusing laundry water on garden	Runoff from car washing to garden/lawn	Runoff from roof for garden
Safe water for garden	Save from washing	Save on hosing, not sprinkler
Save rinse water & use for washing	Selective non hybrid permaculture garden	Share a shower
Short showers	Shorter showers	Shorter showers & less consumption
Shower head replacement with water saver	Shower instead of bath	Shower less often
Showering together	Showering with a friend	Showers instead of baths
Showers instead of baths	Slow deep watering individual plants	Small lawn hosing
Smaller shower rose	Soaking pot plants in containers	Soaking when watering
Spray nozzle on shower	Sprays watering system for garden	Sprinkler system
Sprinkler system timer	Sprinklers	Sprinklers on timers
Sprinklers with timers	Stop dripping taps	Stop watering lawns
Stopped washing concrete	Stormwater tank	Straw on garden beds
Sud save on washing machine	Super soaking hoses in gardens	Sweep driveway
Sweep driveways not hose	Sweep no hose pathways	Sweep paths
Sweeping paths rather than hosing	Sweeping rather than hosing	Tap off when cleaning teeth
Taps don't drip	Time sprinkler useage	Timed watering system
Timers	Timers on sprinkler	Timers on sprinkler systems
Timers on sprinklers	Timers on taps	Timers on watering system
Timers/soaker hose	Timing hosing periods	Turning tap off when brushing teeth
Try not to waste	Try to deep water weekly	Trying to reduce consumption
Turn taps off when brushing teeth	Turn water off when brushing teeth	Turn water off while brushing teeth
Use broom not hose	Use bucket of water for hand washing	Use bucket to wash hands

Use drip sprinklers	Use drippers for plants	Use front loading washing machine
Use less when washing dishes	Use less	Use one bath for kids & self
Use only what is necessary	Use only when required	Use plug in hand basin
Use shower	Use suds saver on machine	Use tank water
Use timers on taps	Use twin tub to wash clothes	Usage in newly built homes
Using a jug to collect water while waiting for hot	Using aquapore hose	Using bath water on garden
Using computerised watering system	Using hoses & sprinklers for shorter duration	Using mulch on garden
Wash car at professional wash	Wash car at Water Providers car wash	Wash car every 6 mths
Wash car less	Wash car less frequently	Wash car on grass
Wash car on lawn	Wash car on lawns	Wash car on nature strip
Wash car once a month	Wash cars on lawn	Wash clothes every second day
Wash clothes in same water	Wash clothes less often	Wash dishes less
Wash dishes once a day	Wash in a basin	wash on lawn
Wash once a week	Wash the car on lawn	Wash up only twice daily
Washing	Washing by hand	Washing car
Washing car at Carlovers	Washing car on lawn	Washing car using bucket rather than hose
Washing cars on lawn	Washing clothes & dishes in a way to conserve water	Washing clothes once weekly
Washing dishes once daily	Washing dishes only once daily	Washing machine water on garden
Washing machine water saver	Washing up once a day	Washing water on garden
Water at evening	Water at night	Water at night with timers
Water by hand	Water early morning or evening	Water early morning/evening
Water early or evening	Water garden at night once a week	Water garden 1-2 a week
Water garden at night	Water garden automatically	Water garden by hand
Water garden late afternoon	Water garden less	Water garden less often
Water garden more effectively	Water garden once a week	Water garden only when needed
Water garden sparingly	Water gardens at night	Water gardens by hand
Water gardens more efficiently	water gardens at night	Water hand held hose
Water in cooler times of day	Water in early morning	Water in evening
Water in evening or early morning	Water in morning or evening	Water lawn in evening
Water saver shower head	Water shrubs twice a week	Water system
Water system for garden - drippers	Water system used early morning	Water tank for drinking
Water twice weekly	Watering in evening	Watering at night
Watering by hand	Watering garden conservatively	Watering garden every second night
Watering garden less	Watering lawns at night	Watering system for garden
Watering when at wilting point	Weep paths rather than hose	

Appendix 4: Specific water quality issues raised by residents

Additives to drinking water	Algal blooms	All aspects including pollution
Bacteria/ chemicals	Bad taste to water	Blue algae
Blue green algae	Blue green algae & salinity in river & catchment	Blue green algae, water quality
Blue green algae/Carp in river	Blue green algal blooms	Carp in Murray
Carp, muddy looking water & pollution	Catchment mgt	Chemical & clarity
Chemicals	Chemicals from home/industry	Chemicals used to purify water for drinking
Chemicals/filtration	Chlorination	Chlorination should be by ionisation not gas
Clean water, water needs to be tested	Contamination	Contents of runoff into reservoirs
Dirty water discharge into river system	Drinking & bathing	Drinking water
Drinking water terrible	Env. destruction	Excessive chemicals
Farm chemicals in runoff - turbidity	Filtering out chemicals	Harmful organisms
High chlorine level & other chemicals	Increasing salinity	Industrial contamination
Industrial waste, algae	Irrigation,	It is everyone's job to conserve water Aust. wide
Less algae	Maintenance and upkeep by Water Board	Misuse/contamination by chemicals
More control of Water Works	Natural flows	Need to conserve & enhance existing water quality
Nutrient loads in waterways	Nutrient pollution from diffuse sources	Nutrients
Oils going down sink/industry	Our water must be pure	Over chlorinated
People using sprinklers for hours	Phosphorus	Phos - blue green algae
Phos in detergents	Phos in water	Phos levels in waterways & other sources of pollute
Phosphates	Phosphorus	Polluted water into rivers
Pollution from runoff	Pollution of litter & waste into water	Pollution
Poor quality in Alpine area	Poor quality water in Wodonga	Quality
Quality	Quality control	Quality of water
Quality, quantity, due to rainfall	Reafforestation and purity of the river systems	River pollution
river remains natural	River/lake pollution through fertiliser use	Rubbish in storm water drains
Rubbish that enters waterways, causing pollution	Runoff from farms - chemicals leaching into waters	Runoff from gardens/sprayed fields
safe to drink?	Safety	Saline loads in water
Salinity	Salinity & algae control	Salinity & blue green algae
Salinity & phos (algal blooms)	Salinity	Salinity
Salinity/drinking water quality	Salinity/irrigation, industrial/ag effluent, poll	Salt
Scraps down drain	Sewerage disposal to water bodies	Should not contain fluoride & Chlorine
Smells	Stormwater runoff/Dyrland salinity	Tap water sometimes cloudy
Taste	Taste & smell	Taste - really bad
Taste of water	Tastes bad	Terrible/bad quality
Too many chemicals & unhealthy quality	Too much chlorine in drinking water	Too much fluoride & chemicals in cleaning process
Town water tastes like a swimming pool sometimes	Toxins added to mains	Treated sewerage going directly back into streams
TV Phos campaign,	Wastewater	Water is dirty
Water is terrible	Water quality,	Water salinity
Water's purity	Water econtamination	Wide range of issues

Appendix 5: Specific actions are being taken by residents to conserve water

Avoid chemicals in garden	Avoid runoff
Avoid toxic garden sprays	Boil water
Bury dog business	Bury dog faeces
Buying bottled water	Common sense
Composting all used water	Dispose of chemicals/oil properly
Don't disturb river bank	Don't fertilise
Don't fertilise garden	don't hose down paths
Don't hose footpath	Don't hose rubbish down drains
Don't leave tap unnecessarily running	Don't own a boat
Don't piss in creek	Drink tank water
Educating others on water recycling	Educate
Encouraging landholders to improve land mgt	Env. friendly products
Enviro products	Fats go to vegie garden
Front loading washing machine	Full washing loads
General awareness	Got rid of pool
Hand watering	Have respect for water outlets
Have water purifier	Keep gutters clean
Less sterilising	More rubbish bins
Never litter	No allowing to dogs defecate anywhere
No cleaning products, chemicals or bleaches	No detergents
No dog or cat	No pollution
No soap for washing machine - laundry disc	No waste
Normal use of tap water	Not fertilising lawns
Not over fertilising garden	Not using harsh bathroom products
Not using many cleaning chemicals	Occasionally re-use bath water for garden
Organic detergents	Picking up rubbish
Plant garden to suit conditions	Planting hundreds of gum trees
Pointing out deficiencies in ag systems	Pollution - conscious of types of detergent used
Purchasing low phos products	Recycling/compost
Reduce pollution getting into waterways	Reducing detergents into sewerage
Removal of fat from baking dish	Removing dog business from lawns
Reuse washing water on garden	Short showers
Some of the washing suds	Suds save washing
Sweep paths	Take action on Phoswatch
Tank water	Use dual flush toilet
Use biodegradable detergent/products	Use less detergent
Use less detergent	Use less water
Use no/low phos detergent	Use water for rinsing clothes in garden
Wash car on grass	Wash car on lawn
Wash chemical in insecticides	Wash clothes with mains water
Washdog	Watch what goes down sink
Water gardens sparingly	Water purifier
Water purifier	When camping don't wash soap into creek
Word of mouth boycott of polluting businesses	