



## Water for a Healthy Country

# Water Benefits Accounting & Assessment

Lake Mulwala Case Study

W. McIntyre, D. Tucker, M. Green,  
G. Syme, L. Bates, N. Porter, B. Nancarrow

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The work contained in this report is a collaboration between the Australian Research Centre for Water in Society, CSIRO Land and Water, Lake Mulwala Community Reference Group, Goulburn-Murray Water, River Murray Water, and the community and agency participants.

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Lake Mulwala Community Reference Group

Goulburn-Murray Water

River Murray Water

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## Executive Summary

The Water Benefits Accounting & Assessment - Lake Mulwala Case Study project builds on and brings together work being undertaken by CSIRO as part of the Water for a Healthy Country flagship, and that being undertaken by Goulburn-Murray Water, the Community Reference Group and communities in the Lake Mulwala area in developing and implementing the Lake Mulwala Land and On-Water Management Plan (the Management Plan). By using the 'Water Benefits' approach the CSIRO research team has been able to draw on people's perceptions of the potential benefits and disadvantages associated with elements of the Management Plan and to use this information to provide advice and options for implementation of the Plan.

The analysis provided by the study provides an important basis for priority setting for implementation of the Plan – what should be done now and what needs to occur over the longer term implementation period to gain maximum benefit.

The study indicates support for a range of the activities proposed in the Management Plan and a belief that these activities will contribute to improvements in the benefits identified throughout the study. This support and belief however is accompanied by views about the potential for perceived benefits to become disadvantages, depending on how the implementation of the Plan and its activities proceeds.

### Summary of key findings

- Benefits associated with environmental improvements to the Lake are largely supported and viewed positively.
- Survey results relating to increased tourism highlight the dilemma expressed by many about Lake Mulwala and the surrounding areas –what is the balance between development and maintenance of the quiet country type atmosphere of the area.
- The provision of sufficient facilities for public boating was equal highest (with good water quality in the Lake) across all potential benefits in the survey
- Extensive consultation will be required in developing a camping management strategy for the area
- Whilst the majority (eighty percent) of respondents consider public access to the public land on the foreshore as a benefit, this is one of the more difficult and complex issues to address. Greater clarity and consistency about permissible uses/activities and about the decision making process for future decisions is required.
- Concerns have been raised by Indigenous people that the Plan does not address Indigenous interests. Inclusion of Indigenous interests and perspectives requires a significant and long term commitment.
- Benefits relating to how people think about their relationship to the larger River Murray system were all considered to be of high importance. The importance attached to these benefits should provide a strong basis for the Plan's strategy to engage the community in the management of Lake Mulwala.
- Issues raised in the survey relating to trust, concerns about the domination of Goulburn-Murray Water and the overlooking of community and community needs indicate the need to build community confidence and trust in implementation of the Plan.
- The Community Reference Group, established as a recommendation of the Management Plan, has been given a key role in building confidence and trust in the Plan. To fulfil this role the capacity, resources and operational structure of the CRG needs to be addressed as a matter of priority.

It is not intended that the study provide the solution for Lake Mulwala and the Management Plan, but rather that it provides information to guide priority actions for the future management of the area.

The study has provided an example of the application of the Water Benefits methodology. The purpose of this methodology is to contribute to improved decision making about water and related management issues by allowing for the explicit expression and inclusion of a much greater range of values and benefits than would normally be provided for in managing our water resources.

# Table of Contents

<b>1. Introduction.....</b>	<b>1</b>
<b>2. Background.....</b>	<b>2</b>
2.1    Katanning Case Study.....	2
2.2    Lake Mulwala/Yarrowonga Case Study .....	3
<b>3. Methodology .....</b>	<b>5</b>
3.1    Scoping Stage .....	5
3.2    The Survey Stage.....	6
3.2.1    The Questionnaire Interview .....	8
<b>4. Questionnaire Results .....</b>	<b>9</b>
4.1    Demographics .....	9
4.2    Awareness of the Lake Mulwala Land and on-Water Management Plan and Confidence in completing the Survey .....	9
4.3    Relative Importance of Benefits and Benefit Domains.....	9
4.3.1    Environmental Improvement .....	10
4.3.2    Increased Tourism Industry .....	10
4.3.3    Foreshore Management and Development.....	11
4.3.4    More Enjoyable Recreation .....	12
4.3.5    Promotion of Indigenous Culture.....	13
4.3.6    Greater Understanding of the River Murray System .....	13
4.4    Importance Ratings for Domains.....	14
4.5    Weighted Importance of Individual Benefits.....	15
4.6    Comparisons of Benefit Weightings with Stakeholder Groups and Demographics .....	17
4.7    Impact of Proposed Management Plan Actions on the Benefits.....	18
4.8    Indicators .....	22
<b>5. Discussion and Recommendations.....</b>	<b>26</b>
5.1    Environmental Improvement .....	26
5.2    Increased Tourism Industry.....	26
5.3    Foreshore Management and Development.....	26
5.4    More Enjoyable Recreation .....	27
5.5    Promotion of Indigenous Culture.....	28
5.6    Greater Understanding of the River Murray System .....	29
5.7    Using the WBAA Analysis to Move Forward: Setting priorities for action .....	29
<b>6. Concluding Comments .....</b>	<b>31</b>
<b>Appendix 1 – Issues Statements – Scoping Interviews .....</b>	<b>32</b>
<b>Appendix 2 – Survey Demographics .....</b>	<b>34</b>
<b>Appendix 3 - Means and confidence intervals for benefit domains .....</b>	<b>37</b>
<b>Appendix 4 – Potential Benefits and Disadvantages .....</b>	<b>45</b>
<b>Appendix 5 – Weighted Importance of Benefits and Percentages Achieved now and             with Planned Actions .....</b>	<b>51</b>

# 1. Introduction

Water and decisions about water use have become increasingly dominant issues for Australian communities. The benefits that we derive from and the values that we attach to water and its use are increasingly being made more explicit and, at times, the expression of different values raises conflict within and between communities and catchments.

This report outlines a study undertaken in the Lake Mulwala area. The study was designed to contribute to decisions relating to the implementation of the Lake Mulwala Land and On-Water Management Plan. Issues relating to water and water management are highly topical in Lake Mulwala and the surrounding areas and clearly illustrate the range and diversity of values associated with water and its use.

Goulburn-Murray Water and the Community Reference Group which was established as a recommendation of the Management Plan have supported CSIRO undertaking this study. This has enabled a better understanding of community views about implementation of various components of the Management Plan and, more generally, community awareness of the Plan and issues relating to the management of Lake Mulwala. The study also contributes to the broader work being undertaken as part of CSIRO's Water for a Healthy Country flagship.

The results of the study are not intended to make the decisions for the Community Reference Group (CRG), Goulburn-Murray Water, the community or other stakeholders. It is hoped however that an independent and quantitative study can provide a level of confidence for Goulburn-Murray Water, the CRG and the communities with an interest in Lake Mulwala to undertake the activities needed to progress with implementation of the Plan and in the ongoing management of an area that is highly valued by many. This report describes the methodology used in the Lake Mulwala case study, discusses the results and provides some recommendations derived from the research that may be of relevance for the implementation of the management plan

## 2. Background

The Water Benefits Accounting and Assessment (WBAA) project is part of CSIRO's Water for a Healthy Country Flagship. Water for a Healthy Country aims to identify and gather the knowledge needed to increase the benefits that the Australian community derives from our limited water resources.

Water benefits are defined as people's perceptions of their wellbeing as a result of water, its use or management. The range of water benefits is diverse and may include more fish in a river or lake, availability of swimming pools filled with water, increases in the number of people visiting or settling in a town, the protection of Indigenous cultural heritage, more jobs or opportunities for businesses, better and more reliable crops, growth in people's ability to understand the perspectives of other water users in an area, or purely passive enjoyment of views or sounds associated with water.

Benefit domains have been developed by the WBAA project to allow for grouping of similar benefits. The benefit domains currently being used cover the broad areas of:

- (i) human health;
- (ii) ecosystem health (including the resilience of the resource base and its long term productive potential);
- (iii) economic;
- (iv) social support (including companionship and social networks);
- (v) choice and control (reflecting the importance of participation in decision making and procedural justice in perceptions of benefit) ; and
- (vi) culture and identity (including Indigenous issues).

These benefit domains provide guidance for case studies, but can be modified to suit the specific situations.

The WBAA project is building knowledge about the range of water benefits and how to best measure, evaluate and account for these benefits. The knowledge that is gained from the project is intended to be used to provide a framework that can be applied locally, regionally or nationally to assist in decision making in water management for communities.

Part of this knowledge building involves undertaking case studies. This allows the methodology for identifying and evaluating water benefits and its contribution to decision making to be tested, modified and further developed. Two case studies have been undertaken to date – the first in Katanning and the second, which is the subject of this report, in the Lake Mulwala/Yarrowonga area.

### 2.1 Katanning Case Study

The first WBAA case study was undertaken in Katanning, a rural town in Western Australia. The main aim of this study was to examine the potential benefits of a desalination plant to the Katanning town which would assist in managing salinity while providing another source of water. The range of potential benefits, and the viability of a desalination plant, as a possible water management option for the town, was determined.

The case study showed that the introduction of a desalination plant had the potential to achieve a wide range of significant social, environmental and economic benefits. Many of these, such as town morale, would have been extremely difficult to measure using alternative

techniques, and would not normally be “counted” when assessing a project such as this. Consequently, the project would be undervalued.

## 2.2 Lake Mulwala/Yarrowonga Case Study

Lake Mulwala is the water storage created by Yarrowonga Weir and allows for the diversion of water from the River Murray to irrigation areas in both New South Wales and Victoria. It has a surface area of approximately 4,390 hectares and a storage capacity of 118,000 megalitres. Yarrowonga is situated on the southern foreshore of Lake Mulwala and shares a common border with Mulwala, a township on the northern side of the lake in New South Wales. (see Figure 1) The combined population of the two towns at the 2001 census was 6,534.



Figure 1 – Lake Mulwala location

Lake Mulwala is one of the few storage areas along the River Murray used for both water supply and irrigation that retains a near constant level. The near constant level is designed to raise the water level in the River Murray so that gravity diversion is possible. It also means that the lake is well suited to a range of water-based recreation activities such as fishing, sailing, canoeing, rowing, waterskiing and wake boarding.

The Lake and surrounding areas help support a thriving tourism industry in the Yarrowonga and Mulwala areas along with attracting an ever increasing resident population drawn partly by the lifestyle associated with recreation activities on the Lake.

There are many issues associated with water resource management for Lake Mulwala, the foreshore areas and Yarrowonga and Mulwala townships. Some of these issues include rapid population growth of Yarrowonga, particularly as a retirement town, differences in planning legislation between Victoria and New South Wales, multiple uses of Lake Mulwala, including irrigation, recreation and tourism; water quality/ecological health issues and Indigenous issues.

A planning process, coordinated by Goulburn-Murray Water, was initiated in 2001/02 which culminated in the Lake Mulwala Land and On-Water Management Plan (the Plan) being publicly released early in 2005. The planning process elicited a significant amount of public

discussion and, on a range of issues, significant community concern and often divergent views.

Issues of major concern included proposed changes to foreshore management and access, management of camping and the dual role of Lake Mulwala as an irrigation storage and recreation facility. Concerns also focussed on the possibility raised through the Living Murray of the Murray-Darling Basin Commission (MDBC) seeking to operate the lake below the lower bounds of historic operating levels and the consequent impacts this would have on recreation, tourism and amenity.

The Plan is intended to provide a coordinated approach across the various government and community interests in the management of activities on Lake Mulwala and its foreshore. The Plan focuses on the management of the Lake and surrounding foreshore areas, but the influence of catchment level activities and the need to link the Plan and its actions within the broader catchment context is also recognised.

Whilst the Plan, with its attendant strategies, actions and implementation mechanisms, has been approved and publicly released, actual implementation of the Plan, or at least some components of the Plan, is likely to present further areas of difference and the consequent need for ongoing negotiation and review of how and when different activities identified in the Plan proceed.

### **3. Methodology**

The approach used for the Lake Mulwala/Yarrowonga case study was based on the Water Benefits approach outlined in Section 2, with a scoping stage designed to identify the range of potential benefits and disadvantages and indicators of these from the perspectives of a range of interest groups and stakeholders. The potential benefits/disadvantages were then grouped into 'benefit domains' and a questionnaire developed which formed the basis for a structured survey approach. From the collected survey data, a series of statistical analyses were undertaken using SPSS.

#### **3.1 Scoping Stage**

A series of semi-structured interviews were conducted by the study team with a range of community members who have an interest in the Lake and the surrounding areas. On advice from the CRG these initial interviews, undertaken in September and October 2005, focussed on two specific issues associated with the Management Plan. The two issues were bush camping and the associated provision of composting toilets at Kyffin's Reserve and community access to the Lake foreshore. The rationale for choosing these issues was to provide some tangible – and quite different – aspects and actions of the Plan for discussion.

Thirty-three scoping interviews were undertaken by two teams of two study personnel who visited interviewees in their preferred locations. The scoping interviews covered local residents in Mulwala, Yarrowonga and Bundalong; Indigenous people; visitors, holiday home or caravan owners (both in the local area and in Melbourne); local businesses; scientific and technical interests; farmers and irrigators; State and local government representatives; on and off foreshore residents and people with a range of recreational water use interests. Interviewees were identified through the CRG, Goulburn-Murray Water and referrals from people nominated for interview.

The majority of the interviews were single interviews, though some were conducted in pairs or, in one case, with three interviewees. The semi-structured interviews outlined the WBAA project and how CSIRO was working with the CRG and Goulburn-Murray Water to provide information to support them in decisions regarding implementation of the Management Plan. Interviewees were then provided with a description of the issues and possible actions and invited to talk about the benefits and disadvantages of such actions being implemented and to provide indicators of the benefits and disadvantages. Appendix 1 contains the Issues Statements used in the scoping interviews. The scoping interviews identified that:

- the community has a strong personal connection with Lake Mulwala, irrespective of whether people are permanent residents or visitors and regardless of whether they have a foreshore or off water location
- there is a high value placed on recreational activities associated with the Lake, though at times these values are in conflict
- foreshore residents generally feel some proprietary right to the foreshore
- there is a strong expectation of continued growth in the area
- tourism is a major contributor to the area
- the ecological health of the Lake is generally seen as important, but there is little awareness of what the current ecological health is
- the impact of upstream activities on the Lake attracts more attention and focus than the downstream impact of activities on and around Lake Mulwala
- the process for development of the Plan has resulted in significant community concern and, at times, anger

- Indigenous people feel excluded and disenfranchised from decision making and management of the Lake, including impacts this may have on downstream, particularly in the Barmah area
- Goulburn-Murray Water is viewed by many as being inconsistent in their application of policies and rules about Lake Mulwala and the foreshore areas and there is some confusion as to the role of Goulburn-Murray Water and that of other agencies and organisations

A deliberate choice was made to proceed with a structured survey approach following the scoping interviews. It was evident from these interviews that issues about Lake Mulwala, the management plan and Goulburn-Murray Water were the subject of significant interest. Whilst the input from this less structured scoping interview process provided very useful information and insights, it was decided that a more structured process was needed to facilitate input from a larger number and range of people and to focus the attention of participants on the different options related to implementation of the management plan.

The structured survey approach allows for the provision of quantitative and defensible information to the Community Reference Group and Goulburn-Murray Water about implementation options.

### 3.2 The Survey Stage

Following the scoping interviews a CSIRO project team workshop was held to review the results of the interviews and, in light of the issues raised, determine the most appropriate approach to further progress the study.

It was agreed that, given the results of the scoping interviews, it would be appropriate to focus the survey on the theme of “increasing tourism and development”. This was a recurring and dominant issue in the scoping interviews and provided a framework within which a range of benefit domains and potential benefits could be placed. It also provided an opportunity to structure the benefit domains around aspects of the Plan so that findings could be more easily interpreted with reference to proposed strategies and actions. Drawing on the results of the scoping stage, six benefit domains were identified. Two of these contained five potential benefits and four contained four potential benefits (Table 1).

**Table 1: Benefit Domains and Potential Benefits**

Domains	Potential Benefits				
Environmental Improvement	Good water quality in lake	A scenic lake	Sustainable native species in lake	Sustainable native species around lake	Stable lake banks
Increased Tourism Industry	Good choice of town services	Financial investment in the town	Range of social opportunities	Attracting a new resident population	Expanded industry base
Foreshore management & development	Sufficient facilities for public boating	Good picnic facilities	Waterfront dining opportunities	Good camping facilities	
More Enjoyable Recreation	Public access to public land along foreshore	Opportunity to appreciate nature around the lake	Harmony on lake because of good boat management	Relaxed lifestyle	
Promotion of Indigenous culture	Protection of Indigenous culture	Understanding of Indigenous culture	Cultural interaction in the community	Opportunity for Indigenous participation in local business	
Greater understanding of River Murray System	Understanding of what local activities do to downstream communities and environments	Consistency of rules along the River	Cooperation between communities along the river	Close relationships between agencies and communities	

The survey was conducted over a period of two weeks between 2<sup>nd</sup> and 16<sup>th</sup> December 2005. Whilst it was not prime time for visitors, the lead up to Christmas saw a number of visitors and holiday home owners in the area and willing to participate in the survey. The busyness associated with the Christmas period however did influence the willingness or capacity of some potential respondents to participate due to time constraints.

The survey sample was stratified by stakeholder group. This sample was preferred to a representative sample to ensure the range of community viewpoints that were apparent in the scoping stage could be adequately represented in data analysis. However, it should be noted that people were interviewed according to the stakeholder group they were assigned, but this did not preclude their membership of other groups (eg. “business” stakeholders could also be “residents”). However, they were asked to answer the questions from the points of view of their assigned groups.

One hundred and thirty-five stakeholders completed the survey questionnaire in the study area of Yarrowonga, Mulwala and surrounds, along with upstream and downstream areas and in locations where relevant agency representatives were located – e.g. Albury. These numbers were short of the targets that had been proposed for each group, but were still sufficient for valid statistical analyses. The achieved and target numbers for each stakeholder group are shown below in Table 2.

**Table 2. Stakeholder Group Numbers**

<b>Stakeholder Sub-Groups</b>	<b>Number Interviewed</b>	<b>Target Numbers</b>
Resident foreshore	17	15
Resident camping/caravan	4	15
Resident other	24	15
<i>Total residents</i>	<i>45</i>	<i>45</i>
Visitor foreshore	10	15
Visitor camping/caravan	14	15
Visitor other	1	15
<i>Total visitors</i>	<i>25</i>	<i>45</i>
Rural upstream of weir	12	15
Rural downstream of weir	6	15
<i>Total rural</i>	<i>18</i>	<i>30</i>
Business water related	7	-
Business other	17	-
<i>Total residents</i>	<i>24</i>	<i>30</i>
Agency	23	30
<b>TOTAL</b>	<b>135</b>	<b>180</b>

Respondents were recruited by trained interviewers primarily through random door knocking and telephone contact. Some respondents who were involved in the scoping phase of the study agreed to participate in this second stage and were consequently interviewed.

In total, 292 people were contacted to obtain the 135 interviews. This produced a refusal rate of 53.77% overall. Table 3 below shows the number of refusals and the reasons offered, with 'too busy' as the most frequent reason for refusal (42.67%). This refusal rate is reasonable for a survey of this type and timing.

**Table 3. Frequency of reason for refusal**

Reason for Refusal	Number	Percentage
Too Busy	67	42.67
Not Interested	62	39.49
Other	14	8.92
Elderly	6	3.82
Insufficient English	1	0.64
Unwell	7	4.46
<b>Total</b>	<b>157</b>	<b>100.00</b>

**3.2.1 The Questionnaire Interview**

Within each benefit domain, respondents were asked first to decide whether they personally considered each potential benefit to be a benefit or a disadvantage.

For those items considered to be benefits, respondents were asked to rate the importance of each benefit *within* each domain by firstly assigning a base value of “10” to the benefit of least importance. Each of the other benefits were then assigned an importance rating in multiples of ten, depending on how important each was in relation to the previous benefit (e.g. “20” meant the benefit was twice as importance as the least value benefit). If the benefits were all of equal importance, the same value was assigned to all benefits within the domain.

Respondents were then asked to rate how much they thought the benefit was being achieved at present, and how much it might be achieved with the proposed actions (using responses that were recorded on a scale of one to five, with one being *nothing achieved* and five *totally achieved*). Individuals were also asked to identify any indicators they thought might show that a particular benefit was occurring.

Respondents were finally asked to rate the importance of the benefit domains *as a whole* in the same way as they had rated the individual potential benefits.

If respondents thought that a potential benefit was a disadvantage, then they were asked to rate the extent of the disadvantage on a seven point scale (one *minor disadvantage* through to seven *major disadvantage*), and to provide reasons as to why they thought this way.

To avoid any biases, the order in which benefit domains were presented to respondents was random, with three questionnaire orders in rotation.

Respondents were also asked about their general awareness of the Lake Mulwala Land and on Water Management Plan, as well as general demographic questions such as age, length of time in the area and gender.

Respondents were also provided with the opportunity to make additional comments relating to each of the domains and to issues relating to Lake Mulwala and the surrounding areas more generally. This was an option that was taken up by many and reporting on each of the benefit domains is augmented by a précis of relevant comments.

## **4. Questionnaire Results**

### **4.1 Demographics**

Respondents were asked for demographic information. The details collected differed depending on the stakeholder group. For example residents were asked how long they had lived in the region while business respondents were asked how long they had owned or managed a business in the region. Where possible the demographic information for the separate stakeholder groups has been combined to allow for ease of interpretation. Additional demographic details are provided at Appendix 2.

#### ***Age and Gender***

All stakeholders were required to be above the age of 18, with the largest age group represented being 40-55 year olds constituting 32.6% of the sample.

The distribution of gender within this questionnaire was not equal with males being over represented (64.4%)

#### ***Place of Permanent Residence***

As Lake Mulwala is located on a state border, respondents were asked in which state they resided. The majority of respondents resided in Victoria (60.7%).

#### ***Length of Time Lived in/Visited the Region***

Details were collected about the length of time respondents had lived in or visited the region. Respondents who had been living in or visiting the area for over 30 years formed the largest group (33.3%) with the smallest group those who had been visiting or living in the area for 20 to 30 years (12.6%).

#### ***Own/Rent Property***

Eighty-six percent of participating visitors and residents owned their property.

### **4.2 Awareness of the Lake Mulwala Land and on-Water Management Plan and Confidence in completing the Survey**

Respondents were asked to rate their awareness of the Plan on a four point scale, ranging from “not at all aware” through to “very aware”. Almost sixty-nine percent of respondents claimed to be aware or very aware of the Plan. Respondents reported how confident they felt in answering questions on a similar four point scale, ranging from “not at all confident”, through to “extremely confident”. Almost eighty-two percent of respondents felt confident to extremely confident in completing the survey. Although participants did not require a knowledge of the Plan to consider the potential benefits, there was a significant modest positive correlation between respondents reported knowledge of the Plan and their reported confidence in answering the questions ( $r=0.33$ ,  $p<.01$ ). This indicates that the more respondents thought they knew about the Plan, the more confident they were in answering.

### **4.3 Relative Importance of Benefits and Benefit Domains**

Respondents were provided with six domains of possible benefits that could be achieved through the implementation of proposed actions in the Management Plan. They were also provided with a range of potential benefits within each domain (see Table 1) – the benefits being drawn from the earlier scoping study and the Management Plan. As noted previously, in Section 3.2.1, respondents were given the opportunity to decide whether they thought a potential benefit was a disadvantage or a benefit. Respondents were then required to rate

the relative importance of the potential benefits and the benefit domains as described. Where the respondent decided it was a disadvantage rather than a benefit, an importance value of “0” was assigned so the case was not lost to the ongoing analysis.

The importance ratings within each domain were firstly standardised so that they summed to 100, as were the whole domain ratings. Within the following domain tables, the sum of the mean importance ratings shown for each benefit is 100, with higher values representing higher importance ratings. This standardisation allows for a comparison of importance ratings between respondents by creating a common variance.

Additional details relating to the analysis drawn on in this section is provided in the appendices. Appendix 3 provides confidence interval error plots for each of the Benefit Domains. Appendix 4 provides tables on Benefits and Disadvantages, Reasons for Respondents considering Potential Benefits as Disadvantages and additional comments about benefits as disadvantages.

**4.3.1 Environmental Improvement**

The Environmental Improvement benefit domain and its potential benefits drew on actions in the Plan such as putting more native vegetation on the foreshore; ensuring trees are left in the lake for fish and fencing the foreshore in rural areas.

*What the survey showed*

Good water quality in the lake was the most important benefit in this domain, with a scenic lake identified as the least important benefit. Examination of means and confidence intervals indicated that good water quality was significantly more important than the other benefits and a scenic lake was significantly less important.

**Table 4 – Mean Standardised Importance of Benefits within the Domain of Environmental Improvement**

Benefit	Mean Importance
Good water quality in the Lake	26.88
Sustainable native species in the Lake	22.13
Stable lake banks	20.08
Sustainable native species around the Lake	18.66
A scenic Lake	11.51

Very few respondents identified the potential benefits in the environmental improvement domain as disadvantages (less than five percent for each benefit).

The issue of stable lake banks and the removal of willows attracted comments from twenty-five participants – and was one of the most frequent issues raised.

Unprompted comments from respondents relating to this domain also focused on the impact of areas beyond Yarrowonga on water quality and on the inter-related nature of the benefits.

**4.3.2 Increased Tourism Industry**

This Increased Tourism Industry benefit domain and the associated potential benefits were included to give attention to actions in the plan potentially connected with an increase in

tourism (e.g. better management of camping around the lake and on the islands, installing public facilities, provision of public access trails along the Victorian foreshore or providing guidelines for boating).

***What the survey showed***

The most important benefit identified was ‘a good choice of local town services’ whilst ‘attracting a new resident population’ was the least important. Analysis of means and confidence intervals show that there is some overlap between the top four potential benefits whilst ‘attracting a new resident population’ is significantly less important than all other potential benefits. Almost twenty-five percent of the survey respondents (24.4%) were of the view that ‘attracting a new resident population’ was a disadvantage rather than a benefit because growth will result in a reduction of country lifestyle and the population is big enough already.

**Table 5 – Mean Standardised Importance of Benefits within the Increased Tourism Industry Domain**

Benefit	Mean Importance
A good choice of local town services	24.29
Expanded industry base	21.92
Financial investment in the town	19.25
A range of social opportunities	19.06
Attracting a new resident population	12.50

Analysis of unprompted comments related to this domain show that there were seventeen comments of the view that the plan will not impact on benefits relating to tourism with a further sixteen comments that the town is already growing and experiencing a tourism boom. Fourteen comments drew attention to the interrelationship of benefits.

**4.3.3 Foreshore Management and Development**

The Foreshore Management and Development domain encompassed a wide range of actions proposed in the management plan, including walkways along the foreshore, planting native vegetation on the foreshore, licensing boat ramps and encouraging community boat ramps.

***What the survey showed***

Sufficient facilities for public boating were the most important benefit identified, with waterfront dining opportunities the least important. Means and confidence interval analysis showed that scores for the top three benefits were very similar but waterfront dining opportunities were rated significantly lower than all other benefits in this domain. Seventeen percent of respondents identified waterfront dining opportunities as a disadvantage rather than a benefit because there were already sufficient dining opportunities and it would be detrimental to the environment or would limit foreshore access.

**Table 6 – Mean Standardised Importance of Benefits within the Foreshore Management and Development Domain**

<b>Benefit</b>	<b>Mean Importance</b>
Sufficient facilities for public boating	30.72
Good camping facilities	25.49
Good picnic facilities	25.32
Waterfront dining opportunities	16.25

Sixteen comments expressed the view that camping facilities need to be controlled, whilst a further seven indicated that camping facilities should not be too regulated.

#### **4.3.4 More Enjoyable Recreation**

The Recreation Benefits domain referred respondents to proposed actions in the Plan that involve managing fishing, reviewing speed zones on the Lake, encouraging native gardens on foreshore land, a walking track along the foreshore on the Victorian side of the Lake and planning for public recreational events.

##### ***What the survey showed***

Harmony on the lake was the most important benefit, with opportunity to appreciate nature identified as the least important. Means and confidence intervals indicate that harmony on the lake because of good boat management was significantly more important than the least important benefit – opportunity to appreciate nature around the lake - but was not significantly different to public access to public land along the foreshore or relaxed lifestyle.

**Table 7 – Mean Standardised Importance of Benefits within the More Enjoyable Recreation Domain**

<b>Benefit</b>	<b>Mean Importance</b>
Harmony on the lake because of good boat management	27.85
Public access to public land along the foreshore	24.10
Relaxed lifestyle	23.94
Opportunity to appreciate nature around the lake	22.63

Whilst the majority – eighty percent – of respondents indicated that public access along the foreshore was a benefit, twenty percent of respondents indicated that this was a disadvantage rather than a benefit because it could lead to environmental degradation, could result in loss of privacy and because there is already sufficient access. A further nine percent of comments relating to this domain emphasised the need to ensure that public access is properly managed.

### 4.3.5 Promotion of Indigenous Culture

The Promotion of Indigenous Culture domain asked survey respondents to consider proposed actions in the Plan relating to preservation of cultural heritage, identification of sites of cultural significance and minimisation of impacts on the cultural environment.

#### *What the survey showed*

Understanding of Indigenous culture was identified as the most important benefit in this domain and was rated as significantly more important than all other benefits in this domain.

Whilst twenty two percent of respondents identified protection of Indigenous heritage as a disadvantage rather than a benefit, the primary reason given for this view was that the issue was not relevant or applicable to the area.

**Table 8 – Mean Standardised Importance of Benefits within the Promotion of Indigenous Culture Domain**

<b>Benefit</b>	<b>Mean Importance</b>
Understanding of Indigenous culture	23.71
Protection of Indigenous heritage	17.66
Cultural interaction in the community	14.83
Opportunities for Indigenous participation in local business	12.68

Missing data was prevalent within the Promotion of Indigenous Culture benefit domain due to refusal of respondents to answer the survey questions in this domain primarily because the issues were not seen to be relevant.

### 4.3.6 Greater Understanding of the River Murray System

This benefit domain was included to help understand how people thought about their relationship to the larger River Murray system. It drew on proposed actions in the management plan such as improving local knowledge and understandings of the different natural environments and helping communities to better understand each other.

#### *What the survey showed*

An understanding of what local activities do to downstream communities and the environment was the benefit with the highest mean importance rating in this domain with confidence interval analysis showing this benefit to be significantly higher than all other benefits in the domain.

Only one respondent identified 'understanding what local activities do to downstream communities and the environment' as a potential disadvantage'.

**Table 9 - Mean Standardised Importance of Benefits within the Greater Understanding of the River Murray System domain**

<b>Benefit</b>	<b>Mean Importance</b>
Understanding of what local activities do to downstream communities & the environment	27.88
Close relationships between agencies and communities	24.92
Consistency of rules along the river	23.38
Cooperation between communities along the river	23.07

Unprompted comments provided in relation to this domain again highlighted the issue of the interrelationship of benefits. The comments also focussed on the domination of Goulburn-Murray Water in the plan and overlooking of the community and community needs and a lack of trust in benefits relating to improved government/community relations.

#### **4.4 Importance Ratings for Domains**

Analysis of the importance rating for each domain was also undertaken, with Table 10 showing the mean standardised importance ratings for each domain as a whole.

**Table 10 - Mean Standardised Importance Ratings of Benefit Domains**

<b>Domain</b>	<b>Mean Importance</b>
Environmental Improvement	21.28
Greater Understanding of the River Murray System	19.96
Foreshore management and development	19.81
More Enjoyable Recreation	15.90
Increased Tourism Industry	15.55
Promotion of Indigenous Culture	6.74

Examination of confidence intervals of the means (Appendix 4, Figure 9) show that 'Environmental Improvement', 'Greater Understanding of the River Murray System and 'Foreshore Management and Development' were rated as the most important domains, and were significantly more important than all other domains. 'More Enjoyable Recreation' and 'Increased Tourism Industry' followed in mean importance being rated very closely (no significant differences) and 'Promotion of Indigenous Culture' was not thought to be very important, with a significantly lower importance rating than all other domains.

The ranking for the benefit domains indicates that environmental, social and economic factors are all seen as of importance by the survey respondents. Whilst the benefit domain 'Promotion of Indigenous Culture' received a low mean importance ranking, this should be seen in the context of the reasonably high level of opinion that this issue was not relevant in the area. It also needs to be seen in the context of the capacity of the water benefits methodology to properly address issues relating to Indigenous culture.

The ratings accorded to the 'Environmental Improvement' and 'Greater Understanding of the River Murray System' domains provide a good basis for believing that there is a high level of commitment and sense of responsibility to Lake Mulwala and the broader system by residents, visitors, businesses and agencies. This should give confidence to the Community Reference Group and the partners involved in the Management Plan that they have a strong basis on which to proceed with implementation of the Plan. Qualifications to this however are provided by comments made by many respondents about the implementation process and the likelihood that items identified as benefits could become disadvantages depending on the way implementation of the Plan was approached.

## 4.5 Weighted Importance of Individual Benefits

Importance weightings for all twenty-six individual benefits were calculated by multiplying the standardised benefits importance ratings by the standardised domain importance ratings. This allowed the comparison of benefits across the domains, as this process took into account the relative importance of the domains.

These scores were then also standardised so that the importance weightings summed to 100. Table 11 shows the weightings of each benefit in order of importance. The specific colours indicate benefits from the same domain.

The most important benefits overall were 'sufficient facilities for public boating' and 'good water quality in the lake'. Achieving both of these simultaneously could provide a management challenge. The provision of facilities featured in the highest rated benefits, with 'good picnic facilities' and 'good camping facilities' also rating highly. A further environmental improvement benefit, 'sustainable native species *in* the lake' was also high in the importance weightings, showing an apparent preference for benefits associated with use of the lake when compared with other benefits in this domain. 'A scenic lake' was quite low in overall importance.

Benefits from the domain 'greater understanding of the river Murray system' all occurred within the top third of all benefits, with the benefit 'knowledge of what local activities do to downstream communities and the environment' occurring third in weighted importance. Three of the four benefits within the 'Foreshore Management and Development' domain feature in the top five benefits. The exception was the benefit 'waterfront dining opportunities' which was quite low in importance.

Benefits from the domain of 'Increased Tourism Industry' were generally weighted poorly in importance, with all of these items appearing in the lower half of the list. The four lowest in importance were all from the domain of 'Promotion of Indigenous Culture'.

**Table 11 – Standardised Weighted Importance of Individual Benefits across Domains**

<b>Benefits</b>	<b>Weighted Importance</b>
Sufficient facilities for public boating	6.02
Good water quality in the lake	6.00
Understanding of what local activities do to downstream communities and the environment	5.82
Good picnic facilities	5.22
Good camping facilities	5.10
Sustainable native species in the lake	4.91
Close relationships between agencies and communities	4.90
Cooperation between communities along the river	4.80
Consistency of rules along the river	4.75
Stable lake banks	4.42
Harmony on the lake because of good boat management	4.34
Public access to public land along the foreshore	4.26
A relaxed lifestyle	4.21
Sustainable native species around the lake	4.18
Good choice of local town services	3.70
Expanded industry base	3.54
Opportunity to appreciate nature around the lake	3.47
Waterfront dining opportunities	3.39
Financial investment in the town	3.20
A range of social opportunities	2.91
A scenic lake	2.52
Attracting a new resident population	2.19
Understanding of Indigenous culture	1.76
Protection of Indigenous heritage	1.32
Cultural interaction in the community	1.32
Opportunity for Indigenous participation in local businesses	1.16

## 4.6 Comparisons of Benefit Weightings with Stakeholder Groups and Demographics

The original stakeholder groups (Table 1) were combined into the groups as shown in Table 12. This was done to provide sufficient numbers in each group to provide statistically valid comparisons. In doing so, it was felt that it was important to include a group of foreshore stakeholders (both residents and visitors) separate to other residents and visitors, to provide for any possible differences in considerations by this group.

**Table 12 - Foreshore Stakeholder Group**

Stakeholder Groups	Number	Percent
Foreshore residents and visitors	27	20.0
All other residents	28	20.7
All other visitors	15	11.1
Rural	18	13.3
Business	24	17.8
Agency	23	17.0
<b>TOTAL</b>	<b>135</b>	<b>100.0</b>

A series of one-way analyses of variance (ANOVA) were conducted using the above stakeholder group distinctions, as well as key demographics (ie. age, gender, awareness of the Management Plan, state of residence) and the individual benefit importance weightings. The following statistically significant differences emerged ( $p < .01$ ) and it is of considerable interest that there were so few differences.

***The differences were such that no particular group, demographic or stakeholder, had a consistent opposing view to others. This indicates that not only is there general community agreement with the relative importance of the benefits being promoted by the Plan, but also, that these findings can be extrapolated to the community as a whole.***

### Gender

- No significant differences were identified.

### Age

- Participants aged less than twenty-four years thought that 'protection of Indigenous heritage' was more important (mean = 4.36) than did participants in age categories; more than 75-years (mean = 1.68), 40-to-55 years (mean = 1.42), 66-to-75 years (mean = 0.88), and 55-to-65 years (mean = 0.74).
- Participants aged less than twenty-four years thought that 'cultural interaction in the community' was more important (mean = 3.82) than did participants in age categories; 66-to-75 years (mean = 0.90), 56-to-65 years (mean = 0.92), 40-to-55 years (mean = 1.33), and more than 75 years (mean = 1.47).

### State of Residence

- No significant differences were identified

### *Awareness of the Lake Mulwala Land and On-Water Management Plan*

- Participants who were 'not at all aware' of the plan rated 'harmony on the lake because of good boat management' as significantly more important (mean = 6.01) than those participants who were 'vaguely aware' (mean = 3.14).
- Participants who were 'not at all aware' of the plan rated 'understanding of Indigenous culture' as significantly more important (mean = 2.92) than participants who were 'very aware' (mean = 0.83).
- Participants who were 'vaguely aware' of the plan rated 'understanding of what local activities do to downstream communities and the environment' significantly more important (mean = 7.96) than those who were 'not at all aware' (mean = 4.52) and those who were 'aware' (mean = 4.99).

### *Stakeholder Groups*

- Businesses rated the benefit 'expanded industry base' significantly higher (mean = 4.85) than did non-foreshore visitors (mean = 2.18).
- Foreshore residents and visitors rated 'a relaxed lifestyle' significantly higher (mean = 6.18) than did agencies (mean = 1.71).
- Agencies rated 'protection of Indigenous heritage' significantly higher (mean = 2.46) than did foreshore residents and visitors (mean = 0.58).
- Agencies rated 'cultural interaction in the community' significantly higher (mean = 2.66) than did rural (mean = 1.10) and non-foreshore residents (mean = 0.94). Rural and non-foreshore residents in turn, rated this benefit significantly higher than foreshore residents and visitors respondents (mean = 0.54).
- Agencies rated the benefit 'opportunity for Indigenous participation in local businesses' significantly higher (mean = 2.28) than businesses (mean = 0.61) and foreshore residents/visitors (mean = 0.56).

## **4.7 Impact of Proposed Management Plan Actions on the Benefits**

Respondents were asked to rate the extent they thought the benefits were already being achieved and the extent they thought they might be achieved with the implementation of the planned activities. They did this using a five point scale from 1 being "nothing achieved", through 3 being "somewhat achieved", to 5 being "totally achieved". These ratings were converted to percentages for ease of interpretation and for the ongoing data analysis as shown in Table 13.

A quantification of the benefits currently being achieved was calculated by multiplying the importance weightings of the benefits by the perceived percentage achievement now. Similarly the potential benefits as a result of implementation of the actions in the plan were also quantified. These are referred to as benefit units and are shown for the two cases in Figure 2. This clearly shows that respondents were of the view that the proposed actions in the plan would be beneficial overall, with a considerable increase in benefits seen to occur as a result of implementation.

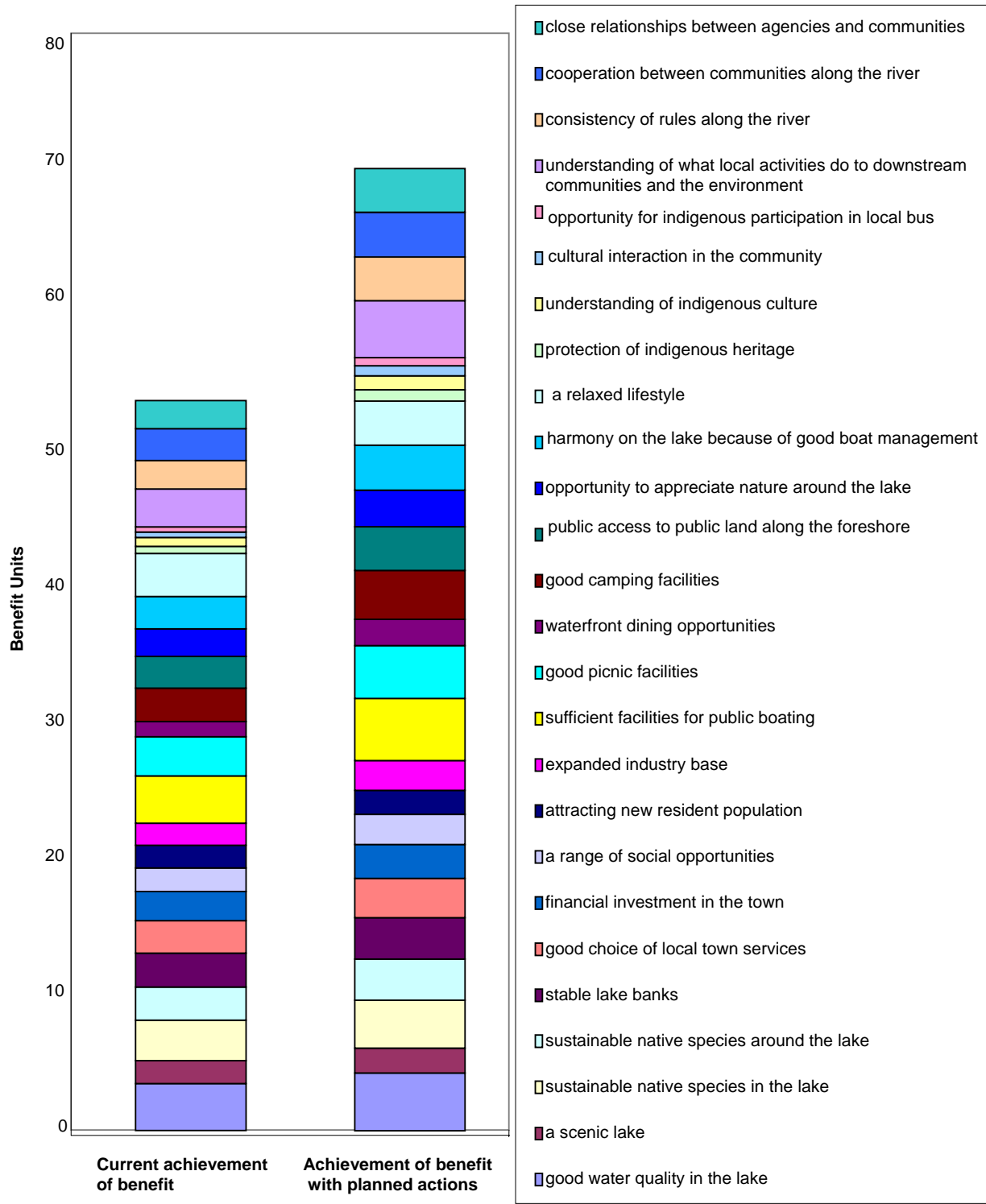
Figure 3 shows more clearly the extent of the perceived improvement in each benefit that could occur as a result of the plan. It is interesting to note here, that those benefits which are thought will show greatest improvement are not necessarily those of greatest importance, as shown in Table 11.

The analysis at a stakeholder group level indicated overwhelmingly positive views as to the impact of the implementation of the management plan on the potential benefits, with *no*

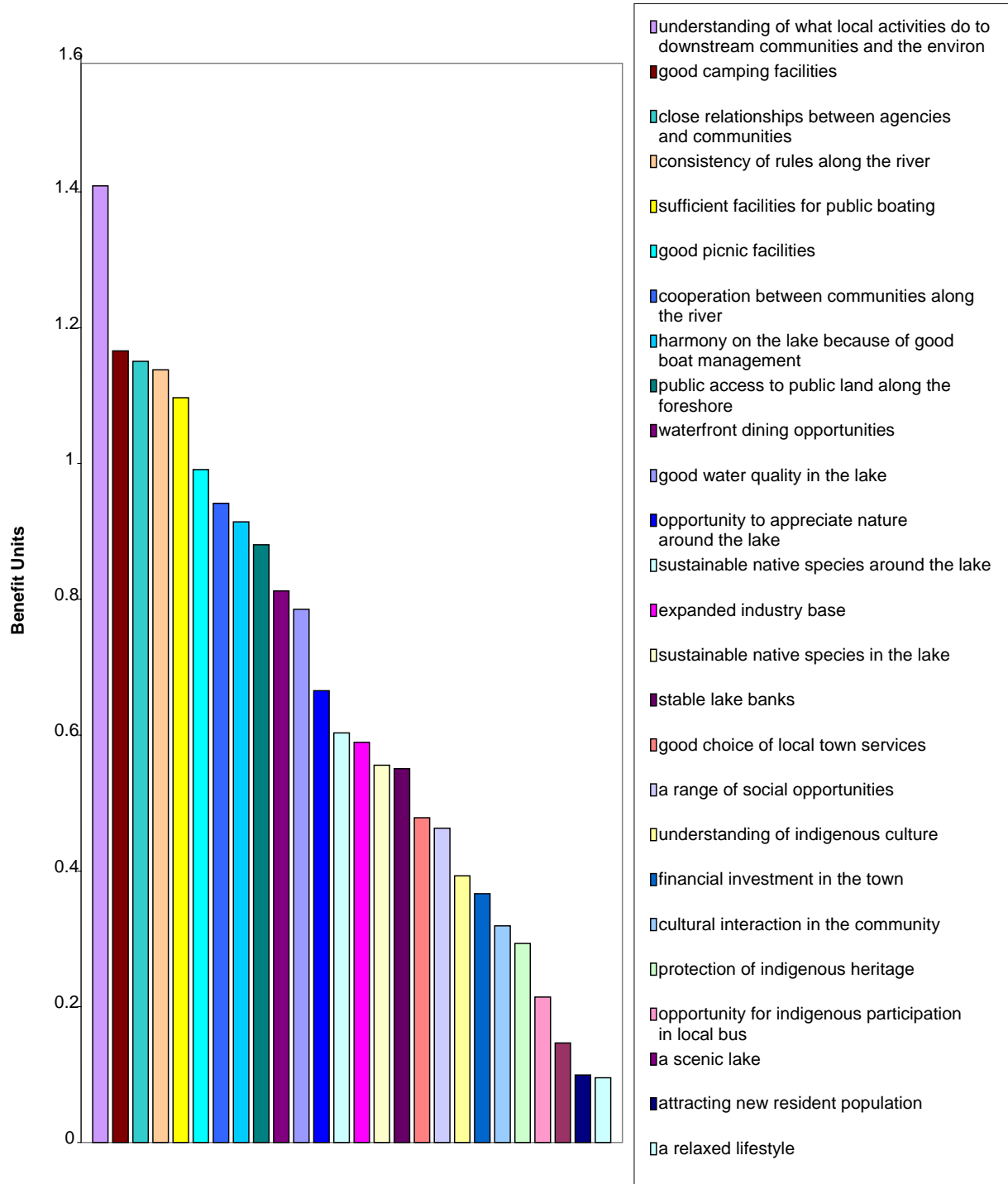
*statistically significant differences between the different stakeholder groups' views. This is a highly significant finding for the CRG in that it shows there is support for the potential achievements of the Plan across all groups in the local community.*

**Table 13 – Mean percentage achievement of benefits now and with planned activities**

<b>Benefit</b>	<b>% achieved now</b>	<b>% achieved with the plan</b>
Good water quality in the lake	57.80	70.88
A scenic lake	66.51	72.32
Sustainable native species in the lake	60.82	72.31
Sustainable native species around the lake	58.17	72.59
Stable lake banks	56.64	69.09
Good choice of local town services	64.84	77.76
Financial investment in the town	66.95	78.31
A range of social opportunities	60.33	76.20
Attracting a new resident population	76.33	81.04
Expanded industry base	45.54	62.18
Sufficient facilities for public boating	57.87	76.07
Good picnic facilities	55.59	74.59
Waterfront dining opportunities	32.71	56.67
Good camping facilities	48.03	70.89
Public access to public land along the foreshore	54.86	75.51
Opportunity to appreciate nature around the lake	58.52	77.69
Harmony on the lake because of good boat management	55.21	76.27
A relaxed lifestyle	75.19	77.46
Protection of indigenous heritage	41.05	63.21
Understanding of indigenous culture	36.23	58.48
Cultural interaction in the community	31.20	55.32
Opportunity for indigenous participation in local businesses	33.04	51.56
Knowledge of what local activities do to downstream communities and the environment	47.75	71.97
Consistency of rules along the river	44.21	68.14
Cooperation between communities along the river	48.64	68.25
Close relationships between agencies and communities	42.44	65.93



**Figure 2 – Considerations of Current Benefits and Potential Benefits as a Result of The Planned Actions**



**Figure 3 – Improvements in Benefits through Implementing the Planned Actions (in order of magnitude)**

## 4.8 Indicators

Information about indicators for each benefit was collected from survey respondents. This was done to provide the capacity to include measures that the community have indicated they see as important or relevant when assessing the success of the implementation of different actions in the management plan.

Respondents were asked how they would know if a benefit was occurring and to provide up to three possible indicators for each benefit. This resulted in a number of different 'indicators' being presented and, where possible, they were grouped together. Tables 14 to 19 show the major responses to how they would know the benefits were occurring for each benefit in the benefit domains. The tables also provide 'indicator variables' that could be used to measure the indicator concepts offered by the respondents.

It should be noted here that respondents did not always provide responses that could be interpreted as indicators. Comments about Goulburn-Murray Water, the removal of willows and the skate park were common responses, but were difficult to formulate as indicators.

The majority of the indicators and indicator variables were reasonably straight forward but like most indicators require the establishment of an initial baseline against which to measure any changes. There is also the potential with a number of the indicators to provide for community involvement – both in establishing the baseline and in undertaking ongoing monitoring. Opportunities like those provided through water watch are obvious possibilities.

**Table 14 – Indicators for Benefits in Environmental Improvement**

Benefits	How Will You Know if the Benefit is Occurring?	No.	Indicator Variable
<i>Good water quality in the lake</i>	Clearer water.	34	Water quality testing.
	Healthy/clean/ less pollutants.	33	Water quality testing.
	Increase in species number and variety.	20	Species number surveys.
<i>A scenic lake</i>	Increase in native vegetation.	21	Increase in native vegetation.
	Sustaining dead trees.	17	No. of dead trees remaining.
	Observation and other reports.	16	Frequency of reports.
<i>Sustainable native species in the lake (eg. platypus and Murray Cod)</i>	Increase in fish numbers/catches.	51	No. of fish catches/counts.
	Increase in all species numbers.	29	Species surveys.
	Observation and other reports.	24	Frequency of reports.
<i>Sustainable native species around the lake (eg. birds, red gums)</i>	Increase in native vegetation.	32	Increase in native vegetation.
	Increase in species number and variety.	28	Species surveys.
	Observation and other reports.	27	Frequency of reports.
<i>Stable lake banks</i>	Observation and other reports.	37	Frequency of reports.
	Stable lake banks through artificial means.	20	No. of stable banks.
	Increase in native vegetation.	17	Increase in native vegetation.

Observation and other reports was a consistent indicator for most benefits in this domain. This reflects the connection that people identify as having with the Lake and the extent to which many are able to notice changes. Providing opportunities for people to participate in structured monitoring and reporting activities – e.g. water watch – allows for this knowledge to be captured and utilised.

**Table 15 - Indicators for Benefits in Increased Tourism Industry**

<b>Benefits</b>	<b>How Will You Know if the Benefit is Occurring?</b>	<b>No.</b>	<b>Indicator Variable</b>
<i>A good choice of local town services (eg. banks, schools, roads)</i>	Increased town services.	40	No. of town services.
	Increased and improved town infrastructure.	30	
	Observation and other reports.	13	Frequency of reports.
<i>Financial investment in the town</i>	Increase in building industry.	26	No. of new buildings.
	Large scale investment in development.	18	No. of new large scale developments.
	Observation and other reports.	16	Frequency of reports.
<i>A range of social opportunities (eg. restaurants, youth facilities)</i>	Increase in town facilities.	37	No. of new town facilities.
	Increase in town services.	23	No. of new town services.
	Observation and other reports.	20	Frequency of reports.
<i>Attracting new resident population</i>	Increase in housing.	34	No. of new houses.
	Increased/diverse population.	14	No. of new residents.
	Observation and other reports.	8	Frequency of reports.
<i>Expanded industry base</i>	Increase in industry.	24	No. of new industries.
	More employment opportunities.	19	Employment rates.
	Observation and other reports.	10	Frequency of reports.

Indicators nominated for the Increased Tourism Industry benefit domain included “no change/fine as is” in the top three responses for the majority of the benefits. This was not included as it does not provide an indicator, but again highlights the dilemmas associated with the nature and extent of change in the area.

**Table 16 – Indicators for Benefits in Foreshore Management and Development**

<b>Benefits</b>	<b>How Will You Know if the Benefit is Occurring?</b>	<b>No.</b>	<b>Indicator Variable</b>
<i>Sufficient facilities for public boating</i>	Increase in boat ramps.	35	No. of new boat ramps.
	Facilities more accessible.	20	Increased access points to facilities.
	Increase in quality of facilities.	17	Improved facilities.
<i>Good picnic facilities</i>	Increase in picnic areas.	40	No. of new picnic areas.
	Observation and other reports.	26	Frequency of reports.
	Increase in amenities.	24	No. of amenities.
<i>Waterfront dining opportunities</i>	Increase in waterfront dining opportunities.	38	No. of new waterfront dining opportunities.
	Observation and other reports.	19	Frequency of reports.
	Increase in facility usage.	6	Usage surveys.
<i>Good camping facilities</i>	Regulation/control of facilities and campers.	33	More rangers. No. of amenities.
	Increase in amenities.	32	No. of new camping areas.
	More camping areas.	20	

The nominated indicators in this domain provide for a mix of quantity – e.g. ‘more camping areas’ and quality – e.g. ‘regulation/control of facilities and campers’ type indicators. The design of the reporting measures for the ‘quality’ indicators especially will need to be well thought out and able to be seen as linked with the corresponding ‘quantity’ indicators. For

example, indicators for the benefit ‘Sufficient facilities for public boating’ need to provide both a count of facilities along with some agreed measures for quality of facilities. Establishing some agreement on what constitutes ‘sufficient’ (quantity and quality) would be required as the first step.

As was the case for the Increased Tourism Industry domain, the response “no change/fine as is” was in the top three answers for most of the benefits in the Foreshore Management and Development domain.

**Table 17 – Indicators for Benefits in More Enjoyable Recreation**

<b>Benefits</b>	<b>How Will You Know if the Benefit is Occurring?</b>	<b>No.</b>	<b>Indicator Variable</b>
<i>Public access to public land along the foreshore</i>	More areas accessible.	51	Increased access points.
	Increase in tracks/trails.	20	No. of new tracks and trails.
	Observation and other reports.	14	Frequency of reports.
<i>Opportunity to appreciate nature around the lake</i>	More areas accessible.	40	Increased access points.
	Increase in tracks/trails.	16	No. of new tracks and trails.
	Observation and other reports.	16	Frequency of reports.
<i>Harmony on the lake because of good boat management</i>	Policing of boat laws.	20	Increased police presence and enforcement.
	Less jet skis/wake boards.	19	No. of jet skis/wake boards on the lake.
	Appropriate restrictions.	17	Review of current restrictions.
<i>A relaxed lifestyle</i>	Increase in tourists/visitors.	9	No. of tourists/visitors.
	Relaxed community attitude.	9	Community surveys.
	Better cooperation and fewer incidents on the lake.	8	No. of incidents on the lake.

Indicators in this domain (see Table 16) show a reasonably high number of respondents nominating increases in accessibility and in tracks and trails for both for ‘access to public land along the foreshore’ and ‘opportunity to appreciate nature around the lake’.

**Table 18 – Indicators for Benefits in Promotion of Indigenous Culture**

<b>Benefits</b>	<b>How Will You Know if the Benefit is Occurring?</b>	<b>No</b>	<b>Indicator Variable</b>
<i>Protection of Indigenous heritage</i>	Identification and protection of sites.	17	No. of sites identified.
	Information/education.	9	No. of education initiatives.
<i>Understanding of Indigenous culture</i>	Information/education.	14	No. of education initiatives.
	Increased community awareness.	8	Community surveys.
<i>Cultural interaction in the community</i>	Observation and other reports.	15	Frequency of reports.
	Increased interaction with Indigenous population.	9	Community surveys .
<i>Opportunity for Indigenous participation in local business</i>	More indigenous employment and business opportunities.	12	Indigenous employment rates.
	Observation and other reports.	10	Frequency of reports.

Nomination of indicators for the Promotion of Indigenous Culture domain had “no Indigenous people in this area” as the highest response for all four benefits. As this was not an indicator, it has not been included. Development of indicators for this domain and the benefits should be undertaken in consultation with the local Indigenous communities.

**Table 19 – Indicators for Benefits in Greater Understanding of the River Murray System**

<b>Benefits</b>	<b>How Will You Know if the Benefit is Occurring?</b>	<b>No</b>	<b>Indicator Variable</b>
<i>Understanding of what local activities do to downstream communities and the environment</i>	Increased awareness/education.	28	No. of education initiatives.
	Observation and other reports.	22	Frequency of reports.
	Changes in behaviour and activities.	19	Community surveys.
<i>Consistency of rules along the river</i>	Consistency of rules between states.	16	Review of rules between states.
	Increased awareness of rules and regulations.	11	Community surveys and number of education initiatives.
<i>Cooperation between communities along the river</i>	Observation and other reports.	25	Frequency of reports.
	Increased cooperation between communities.	22	Community surveys.
	Increased awareness.	9	No. of education initiatives.
<i>Close relationships between agencies and communities</i>	Better government communication.	32	No. of communication initiatives.
	Observation and other reports.	18	Satisfaction with communication initiatives
	Interaction and involvement between agencies.	14	Frequency of reports. Number of agency interactions.

Better government communication as an indicator of the benefit ‘close relationships between agencies and communities’ was nominated in thirty-two responses. Quantitative and qualitative measures for the indicators of this benefit have been included so that some level of satisfaction with the communications and interactions can be obtained.

Whilst it has not been included, because it is not an indicator, the comment “no it would never happen” was the second highest response for the benefits ‘co-operation between communities along the river’ and ‘close relationships between agencies and communities’.

## 5. Discussion and Recommendations

In the following sections, recommendations are shown in bold italics.

### 5.1 Environmental Improvement

The survey results indicate that the benefits associated with environmental improvements to the Lake are largely supported and seen in a positive way.

There were however twenty-five unprompted comments recorded relating to the potential negative impact of the removal of willows on the benefit area of stable lake banks. This would indicate a lack of confidence in the measures proposed to remove and replace the willows or low awareness of the detail in plans for riparian vegetation management.

***It may assist to draw attention to activities proposed in the Management Plan that indicate that where weeping willows are helping to stabilise the bank they will be retained and maintained until an effective natural and indigenous alternative can be found and proven. Other strategies may include providing opportunities to see or talk with other communities where willow removal and replacement has occurred.***

Comments about the interrelationship of the benefits, along with negative comments about Goulburn-Murray Water, indicate the ***need to demonstrate how the different agencies, organisations and individuals with responsibilities in the Plan are going to work together to achieve stated outcomes.***

Concerns raised about the impact of areas beyond Yarrawonga on water quality ***highlight the need, where appropriate, for investigations, communication activities and other discussions to place Lake Mulwala in the broader catchment context so that upstream and downstream relationships can be considered. Release of the report prepared by the Murray-Darling Freshwater Research Centre (MDFRC) provides an opportunity for discussions between community, scientific, Goulburn-Murray Water and other interests. If the report has not yet been publicly released consideration should be given to such a release accompanied by a series of community meetings and tours to discuss water quality issues and inform implementation of actions arising from the MDFRC report.***

### 5.2 Increased Tourism Industry

The survey results relating to the increased tourism benefit domain highlight the dilemma expressed by many about Lake Mulwala and the surrounding areas – i.e. what is the balance between development and maintenance of the quiet country town type atmosphere of the area that is valued by many, residents and visitors alike.

The reasonably large percentage (24.4%) of respondents who were of the view that ‘attracting a new resident population’ was a disadvantage demonstrates the implications for those responsible for managing and catering for population growth in the area. ***Clear understanding and messages about roles and responsibilities of the partners involved in the Management Plan and where the Plan sits in terms of tourism and residential development is required.***

### 5.3 Foreshore Management and Development

The mean importance weighting for the benefit ‘sufficient facilities for public boating’ (6.02) was equal highest (with good water quality in the lake) across all potential benefits and domains in the survey. This perhaps reflects the high level of interest and participation in

boating activities and concerns about a current lack of sufficient public boating facilities. The high weighting (6.00) accorded to 'good water quality in the lake' indicates that the provision of public boating facilities should not comprise water quality.

Scoping interview discussions were largely complimentary about public boat ramps that had been installed but also indicated a need for more public boat ramps and associated facilities, including parking, toilets and rubbish disposal. There was some concern expressed by survey respondents that more public boating facilities will lead to more people, overcrowding and abuse of camping and other facilities. This again seems to highlight the dilemmas associated with development.

There appear to be opportunities to build on the success of the installation of public boat ramps to date. Anecdotal and informal monitoring of the responses to the boat ramps installed to date seems to be the primary means for collecting information. ***A more issue focussed survey of users, potential users and the broader resident population to ascertain levels of satisfaction, potential areas for improvement etc to provide input into future planning of public boating facilities could give some clear guidance on this issue.***

The development of a camping management strategy, as proposed in the Plan, is likely to receive a mixed response – with differing views expressed as to regulation. The “take in – take out” approach particularly is likely to be problematic – with the discussions in the earlier scoping study stage often highlighting the need for increased rubbish disposal and public toilet facilities. ***The findings support the need as outlined in the plan for “Extensive consultation between management agencies, campers and the local community... to develop an appropriate management strategy for camping at Lake Mulwala”.***

The Plan includes development of the camping strategy as an action to contribute to improved water quality in Lake Mulwala and emphasising this linkage will be central to implementation of any camping strategy. ***Communication and community engagement activities associated with the MDFRC report or other water quality investigations, monitoring or reporting should include specific strategies and opportunities for involvement of campers.***

## 5.4 More Enjoyable Recreation

The high importance rating for 'harmony on the lake because of good boat management' reflects the high rating accorded to sufficient facilities for public boating in the foreshore management and development benefit domain. Potentially conflicting uses by different boat types however continues to be an issue of some conflict (and it is likely that this is reflected in the perception of minor improvement in 'relaxed lifestyle' as a result of the planned actions (see Figure 3).

Whilst the majority (eighty percent) of respondents indicated that they saw public access to public land along the foreshore as an advantage, twenty percent of respondents indicated that they saw such access as a disadvantage. This was the third highest disadvantage ranking – following 'attracting a new resident population' and 'protection of Indigenous heritage'. The majority of respondents who viewed public access as a disadvantage were foreshore residents (37%), rural stakeholders (33%), and businesses (20.8%). Foreshore residents were almost ten times more likely to see this issue as a disadvantage than all other residents (3.6%).

The foreshore access issue is obviously of significant interest across the community. Scoping interviews referred to the uncertainty and inconsistency of directions and decision making relating to this issue and more generally to the issue of permissible uses of the public foreshore land. There was also some discussion about the time and resources devoted to

the issue of foreshore access and questions raised about whether this worked against achieving other potential benefits such as installation of picnic facilities.

Like most community members, Goulburn-Murray Water and the CRG have indicated they see the issues in this benefit domain – particularly public access to public land along the foreshore and harmony on the lake because of good boat management - as among the most difficult and complex to address.

***Whilst not providing a solution to these obviously difficult issues, greater clarity and consistency about:***

- a. The current situation and what is and isn't permitted (and why); and***
- b. The decision making process (including community involvement) and timeframes for future decisions about issues such as walkways, zoning for boat uses etc***

***would give some confidence about the decision making process and the decision making authorities.***

## **5.5 Promotion of Indigenous Culture**

It was anticipated that inclusion of a specific benefit domain relating to Indigenous culture may result in this domain receiving a lower importance rating than the other domains. Whilst demographic details relating to cultural background were not gathered as part of the survey, reported observations of those who administered the survey is that no Indigenous people were interviewed. The structure of the survey methodology also does not easily lend itself to Indigenous participation and is recognised by the study team as being a current limitation which will need to be addressed in the future.

Discussions were held with Yorta Yorta people as part of the scoping stage. In these discussions the participants expressed significant concerns about the development and content of the Plan and, more generally, about the extent to which Indigenous people were present or welcome in the Lake Mulwala area. It was identified that the Plan does not include an Indigenous history of the area and nor does there appear to be any cultural heritage assessment. The extent to which the Plan addresses environmental issues was also seriously questioned by the Yorta Yorta, including issues relating to erosion, watering needs of the islands downstream and other cultural and environmental downstream impacts that occur.

The view expressed by numerous survey respondents that Indigenous heritage was not an issue of relevance to the area confirms some of the concerns raised by the Yorta Yorta.

The Plan makes specific recommendations relating to the development of a cultural heritage approach with the Yorta Yorta identified as one of the partner organisations in such an endeavour. ***The establishment and building of relationships between the partner organisations to develop support for an agreed approach to cultural heritage is an important initial step if this proposal is to proceed and the time needed to do so should not be underestimated.***

***Inclusion of Indigenous people on the Community Reference Group is an option – however the willingness and availability of Indigenous people to do so will need investigation. Inclusion of Indigenous perspectives would also need to be underpinned by an engagement process that respects and reflects Indigenous decision making culture.***

## 5.6 Greater Understanding of the River Murray System

The Management Plan in describing Outcome E, 'A community committed to the sustainable use of Lake Mulwala', makes the statement that there is widespread community support for ensuring that existing users are made aware of actions that may negatively affect the social, economic and environmental values of the lake. The importance accorded in the survey to understanding the downstream impacts of local activities would appear to reinforce such a statement. This view should provide a strong basis for the Plan's strategy to engage the community in the management of Lake Mulwala to enhance its values.

The Plan proposes the development and implementation of a community awareness-raising program and the establishment of the Community Reference Group as actions to contribute to the strategy of engaging the community. When looking to implement such actions however comments provided by survey respondents relating to trust, the domination of Goulburn-Murray Water and overlooking of the community and community needs need to be borne in mind.

A traditional communications approach with leaflets, booklets, media, community information sessions etc is unlikely to be effective by itself. Communications, and the research underpinning communications, will need to be responsive to community information needs. ***Perceptions of the Community Reference Group as just another part of Goulburn-Murray Water also need to be directly addressed if this group is to develop community support and trust and take on a role of assisting in "building and establishing partnerships between the community, special interest groups and governments" as proposed in the Plan.***

***The terms of reference for the CRG should be revisited to assess the extent to which the group has been able to fulfil these responsibilities to date. Given the breadth of these responsibilities and the availability or capacity of members to contribute to them, the terms of reference may need to be revised or at least prioritised and a revised assessment of resource requirements to enable the CRG to fulfil the responsibilities may be indicated. Extension of the membership may also be justified, including appointment of Indigenous people to provide Indigenous perspectives.***

## 5.7 Using the WBAA Analysis to Move Forward: Setting priorities for action

The WBAA analysis has provided important information for setting priorities for what should be done now, and what needs to occur over the time of the implementation of the Plan to gain maximum benefit. The analysis showed the relative importance of the benefits, and also provided indicators that could show any greater achievement of the benefits. MOST importantly, however, it showed how much each of the benefits can be improved by implementing the plan, and what actions will contribute most towards gaining the greatest benefit. Finally, through the indicators offered by the community, it has been shown what to concentrate on when trying to deliver the benefits. The comparison of benefits scores between stakeholder groups showed that there was little argument about the benefit and its possible achievement. However, how the implementation occurs may generate conflict unless the community is involved in the process.

Figure 3 showed the degree of improvement in benefits through implementation of the plan. This means greatest support can be gained most quickly by the implementation of actions that are considered to provide the greatest improvement in benefits. Should there be limited resources, this shows a clear direction for greatest return. On the other hand, there may be some benefits that are seen to be important (as in Table 11), but implementing the plan will not greatly improve them.

For example, in Figure 3, it can be seen that if there were resources to implement only two activities, the greatest improvement can be obtained by an *increased understanding of what local activities do to downstream communities and the environment* and by *provision of good camping facilities*. Since there appears to be little stakeholder group difference in the perceived improvement in benefits, there is likely to be little overall community conflict on this, although the specifics will obviously require detailed thoughtful planning. On the other hand, *public access to public land on the foreshore* is thought to provide only a relatively moderate increase in overall benefit, but is likely to require considerable community involvement to ensure that conflict between foreshore residents and the general public is minimised.

***It is recommended that the CRG work through the planned activities and consider them in terms of their contribution to the achievement of overall benefit, and through discussion, devise priorities for implementation and the required public involvement process to achieve it.*** The usual pragmatics of available skills, resources and difficulty in implementation will have to be part of the discussion of priorities, but the benefit scores and their indicators will provide a guide to progress. For example, the provision of good picnic facilities would seem to be a high priority in terms of its contribution to overall benefits, and it would be relatively easy to implement, given the indicators provided by the respondents.

Having said that, there are some important benefits that are seen as contributing little in terms of benefit improvement through the planned actions. Inspection of these important benefits together with the mean achievement percentages now, and the achievement percentages with planned actions <sup>1</sup> will show if:

- it is perceived that the benefit is already being well achieved, and the planned actions cannot greatly improve this, or
- it is perceived that little is being achieved now, and that this will not improve greatly with the planned actions, and therefore perhaps the plan is not sufficiently focused in this regard.

Finally, as has been discussed above that, while the Indigenous issues were not given a high priority, it is clear that water reform, community interest, and environmental justice will require that these issues be considered with more culturally appropriate methodologies. In any event, the reasons for any plausible benefit in this domain not being regarded as significant will require consideration by the CRG.

In short, the benefits data in this report can provide a template for priority setting for investment to gain the greatest improvement in benefits; a vehicle for exploration of where improvement can be made to the Plan; and a mechanism for examination as to why some assumptions in terms of priority actions do not seem to be supported.

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<sup>1</sup> For ease of examination, Appendix 5 combines the weighted importance of each benefit (Table 11) with the achievement percentages shown in Table 13.

## 6. Concluding Comments

Management issues relating to Lake Mulwala and the surrounding foreshore have been the source of much discussion, debate, frustration, distrust and anger for some time. The planning process that was commenced in 2001/02 under the coordination of Goulburn-Murray Water and which culminated in the public release of the Lake Mulwala Land and on-Water Management Plan showed the extent of interest and, for some, the extent of the concern and distrust. People's passion for the lake and the area was evident throughout the study – as were some conflicting views about its future management.

The water benefits study indicates support for the intent of the Management Plan and its actions and a belief that this will lead to improvements in the benefits focussed on throughout the study. This belief however is tempered by views about potential for benefits to become disadvantages depending on the way the implementation process was approached.

Potentially contradictory views are also shown by the study. For example, there are consistently positive views across all stakeholder groups on the impact of the Plan's implementation on the attainment of potential benefits in the 'greater understanding of the River Murray System' benefit domain. Respondents' nomination of how they would know that such benefits were being attained however saw a high number of comments along the lines of 'it will never happen'. This potential contradiction would appear to reflect an acknowledgement of the need and a desire for change, but with this desire and optimism tempered by knowledge of past (or for some, current) experiences.

Agreement on and clarity of direction, roles and the rules and regulations is a key part of addressing the experiences of the past. Frustrations about inconsistent and unclear rules, decisions, responsibilities and processes were apparent throughout the study. The Management Plan attempts to provide some clarity in these areas. The challenge now is to build community confidence and trust in just how (or indeed if) this will occur. The recommendations provided throughout this report draw on the outcomes of the case study to provide some options that may build confidence about the intent and capacity of the Management Plan to address these issues.

The Community Reference Group can – and according to the Management Plan is intended to – play a key role in building confidence and trust in the Plan. However, if the CRG is to achieve the stated aim of "building and establishing partnerships between the community, special interest groups and governments" it is essential that the group establish a profile and identity separate to that of Goulburn-Murray Water.

Past (and in some instances current) experiences in the management of Lake Mulwala demonstrates clearly the difficulties in implementing strategies that do not include community, agency and interest group partnerships. The Community Reference Group has been handed a large and serious challenge to develop and build these partnerships. This is a significant responsibility with implications for a large number of other actions in the Plan. The capacity of the group to undertake this challenge and the resources and operational structure required to provide the best chance of meeting the challenge needs to be addressed as a matter of priority.

The study provides the range of interests around Lake Mulwala (community, agency and interest groups) with independent information about potential benefits and disadvantages of different actions proposed in the Management Plan. The study does not provide **the** solution but hopefully provides confidence in past planning and highlights the priority actions for the future management of an area that is highly valued by many.

**APPENDIX 1**

**Issues Statements – Scoping Interviews**

### ***Bush Camping***

Camping is an important recreational activity in the Yarrawonga - Mulwala area attracting visitors from Melbourne, interstate and regional districts in large numbers. Many of these people choose to stay at Kyffins Reserve which is a multi-functional Public Recreation Reserve on the shores of Lake Mulwala. The camping area is located well away from the road and there is easy access to the lake.

However, public toilets are not currently available at the Reserve. While visitors are encouraged to bring and use chemical toilets during their stay, many visitors dig pit toilets as an alternative. This may and often does result in considerable loss of amenity as well as representing potential health risks.

The Community Reference Group for the Lake Mulwala Land and On-Water Management Plan in collaboration with the Local Shire is considering the installation of environmentally sensitive composting toilets on the reserve. Do you feel that this would be of benefit to the community? What impact do you think it might have on the local area?

### ***Community access to Lake Mulwala***

The growth of Mulwala and Yarrawonga attest to the attractive nature of Lake Mulwala. Real estate in proximity to the Lake demands high prices and considerable investment has taken place in properties surrounding the Lake. In addition, Lake Mulwala attracts many thousands of visitors every year which is an important boost to the local economy.

It is important that all community members are able to enjoy this wonderful asset in a convenient and safe manner. Access to the Lake and foreshore public areas is patchy with attractive walkways and road-side access in some areas but very little practical access in others. As the residential area in Yarrawonga grows, particularly in areas close to Lake Mulwala, access will become more of an issue.

The Community Reference Group for the Lake Mulwala Land and On-Water Management Plan is considering ways in which public access to the Lake might be improved. One idea is to provide landscaped walking paths along the fore-shore to protect the environment and provide safe and attractive access for the community. Do you feel that this would be of benefit to the community? What impact do you think it might have on the local area?

## **APPENDIX 2**

### **Survey Demographics**

**Table 20 – Age Grouping of Respondents**

Age Group	Frequency	Percent
Less than 24 years	4	3.0
24 to 39 Years	11	8.1
40 to 55 Years	44	32.6
56 to 65 Years	40	29.6
66 to 75 Years	30	22.2
More than 75 Years	6	4.4
<b>Total</b>	<b>135</b>	<b>100.0</b>

**Table 21 – Gender of Respondents**

Gender	Frequency	Percent
Female	48	35.6
Male	87	64.4
<b>Total</b>	<b>135</b>	<b>100.0</b>

**Table 22 – Respondents' Permanent Residence**

	Frequency	Percent
NSW	52	38.5
VIC	82	60.7
Other	1	0.7
<b>Total</b>	<b>135</b>	<b>100.0</b>

**Table 23 – Length of Time Lived In/Visited the Area**

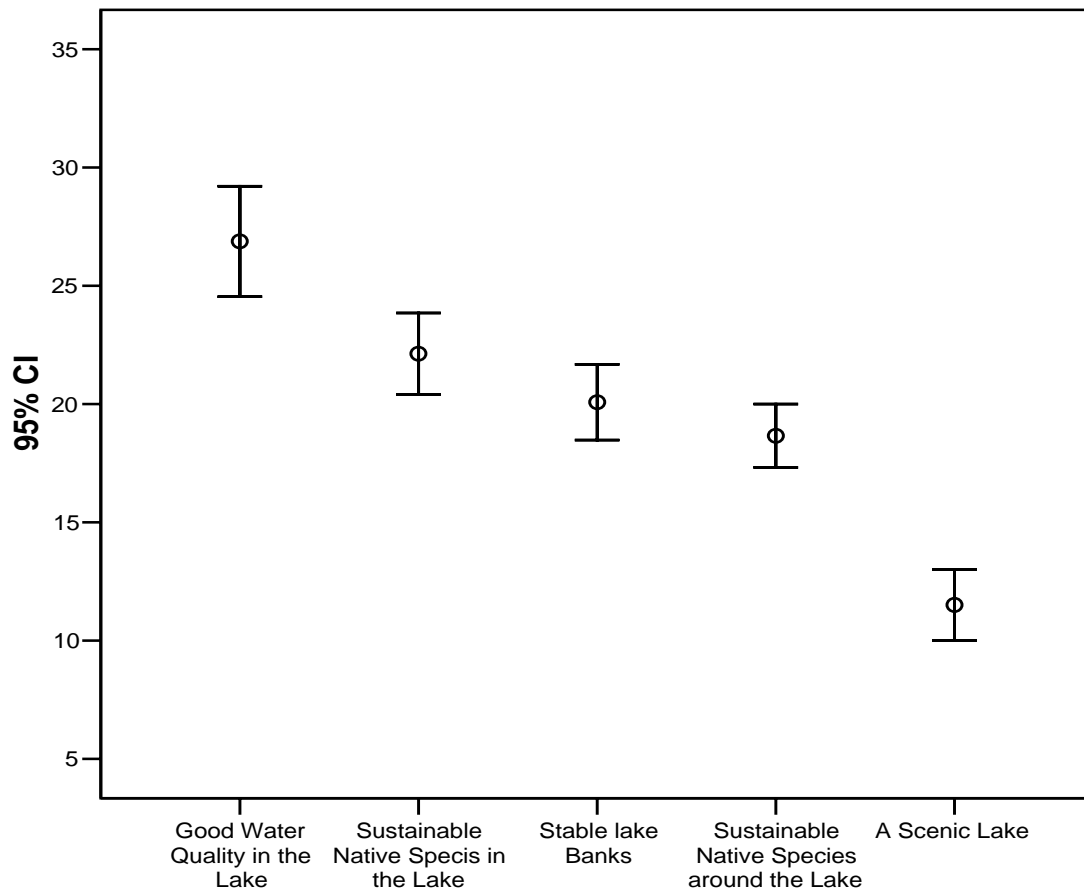
	Frequency	Percent
Less than 5 years	25	18.5
5 to 10 years	20	14.8
10 to 20 years	28	20.7
20 to 30 years	17	12.6
More than 30 years	45	33.3
<b>Total</b>	<b>135</b>	<b>100.0</b>

**Table 24 – Own or Rent Property (visitors and residents)**

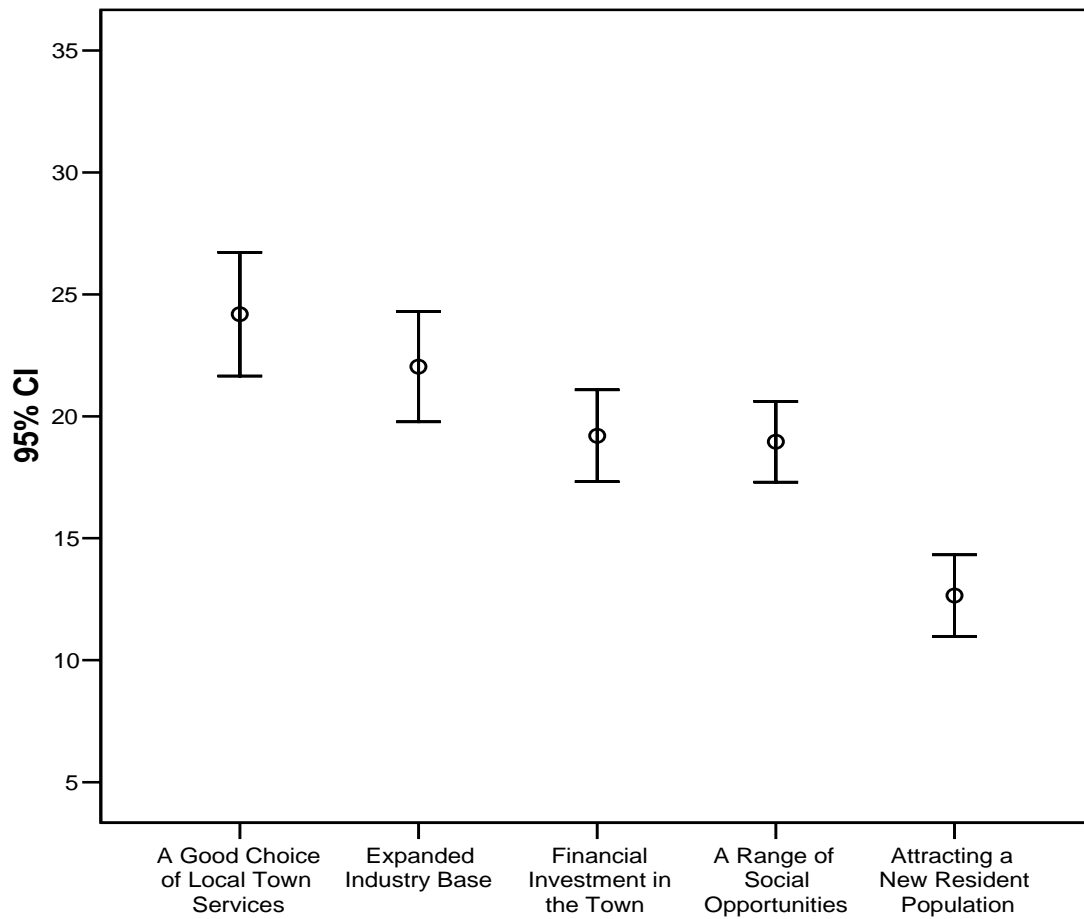
	<b>Frequency</b>	<b>Percent</b>
Own	60	85.7
Rent	10	14.3
<b>Total</b>	<b>70</b>	<b>100.0</b>

## **APPENDIX 3**

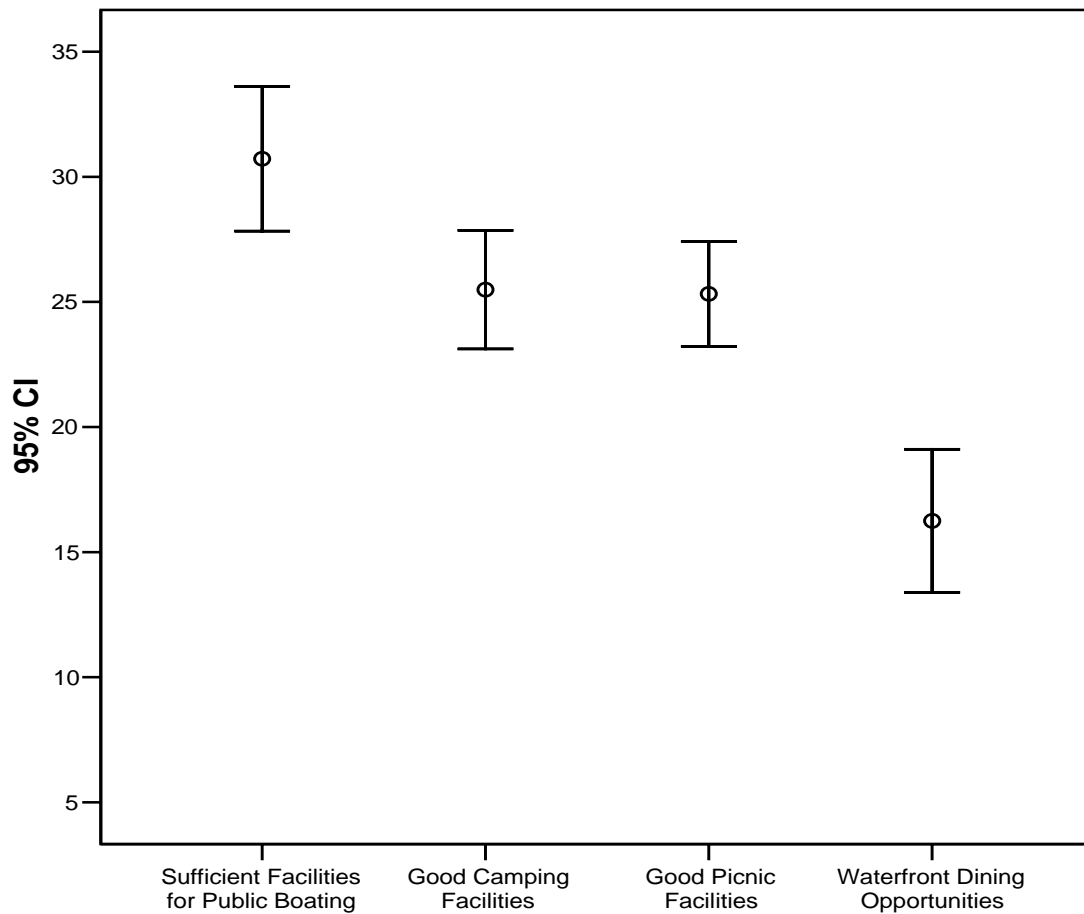
### **Means and confidence intervals for benefit domains**



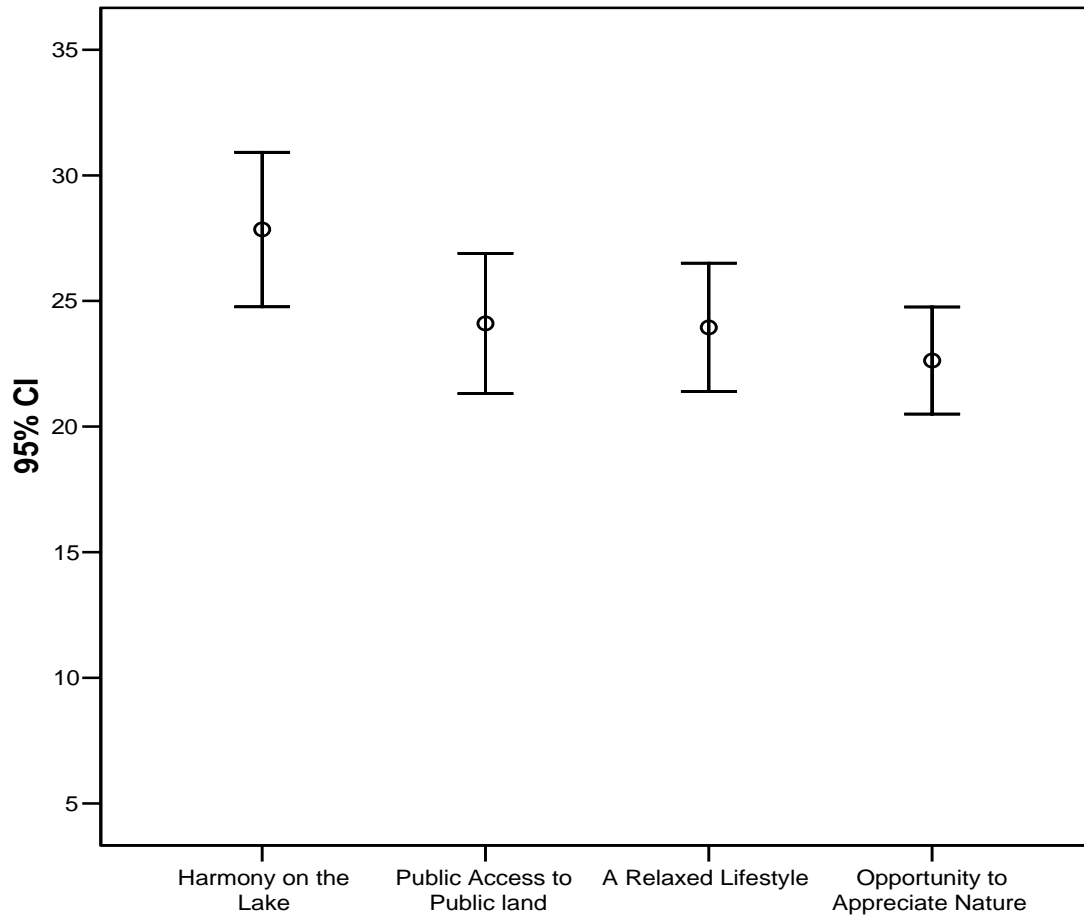
**Figure 4 – Means and confidence intervals for benefits within the Environmental Improvement Domain.**



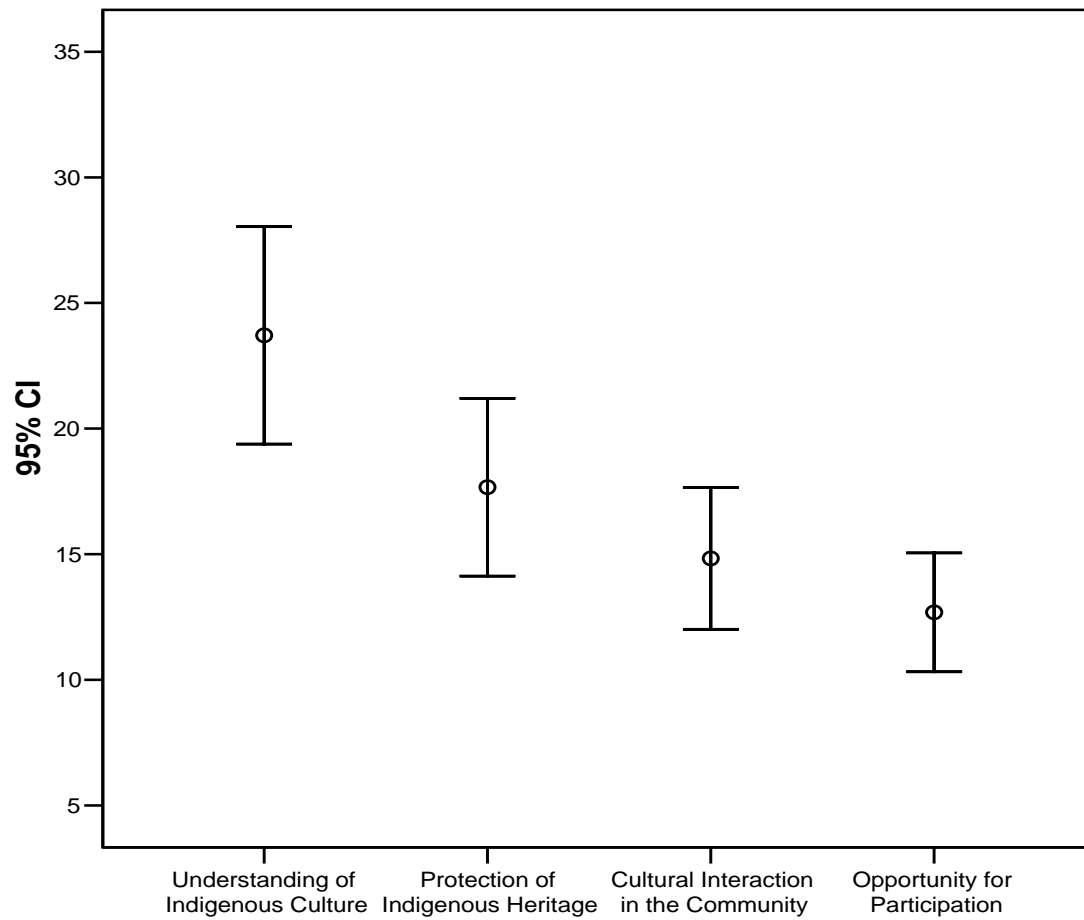
**Figure 5 – Means and confidence intervals for benefits within the Increased Tourism Domain**



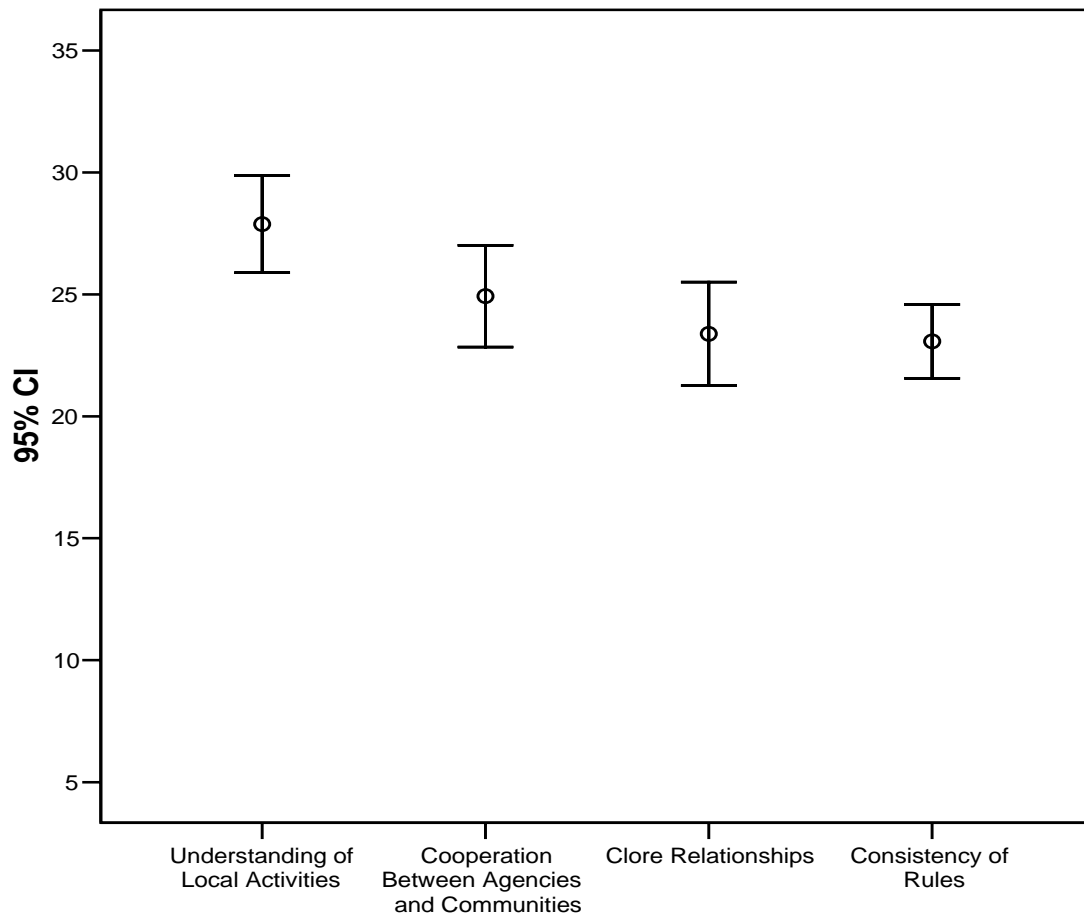
**Figure 6 – Means and confidence intervals for benefits within the Foreshore Management and Development Domain**



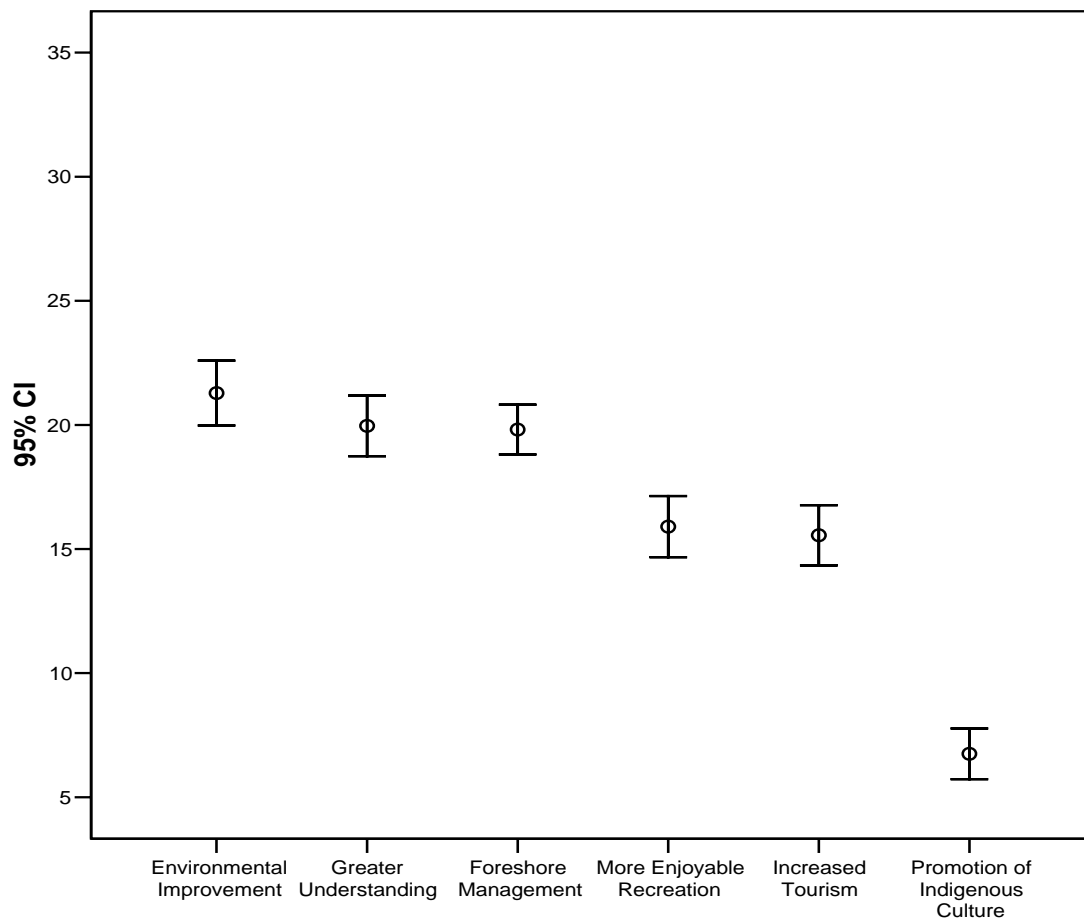
**Figure 7 – Means and confidence intervals for benefits within the More Enjoyable Recreation Domain**



**Figure 8 – Means and confidence intervals for benefits within the Promotion of Indigenous Culture Domain.**



**Figure 9 – Means and Confidence Intervals for benefits within the Greater Understanding of the River Murray System Domain**



**Figure 10 – Means and Confidence Intervals for Benefit Domains**

**APPENDIX 4**

**Potential Benefits and Disadvantages**

**Table 24 – Frequency of Potential Benefits Perceived as Disadvantages**

Potential Benefit	Frequency of Benefit Rating (N and Percent)		Frequency of Disadvantage Rating (N and Percent)	
	N	%	N	%
Good water quality in the lake	133	98.5	2	1.5
A Scenic Lake	129	95.6	5	3.7
Sustainable Native Species in the Lake	133	98.5	2	1.5
Sustainable Native Species Around the Lake	129	95.6	6	4.4
Stable Lake banks	131	97.0	3	2.2
A Good Choice of Local Town Services	129	95.6	6	4.4
Financial Investment in the Town	124	91.9	10	7.4
A Range of Social Opportunities	127	94.7	7	5.2
Attracting a New Resident Population	102	75.6	33	24.4
Expanded Industry base	122	90.4	12	8.9
Sufficient Facilities for Public Boating	126	93.3	9	6.7
Good Picnic Facilities	130	96.3	5	3.7
Waterfront Dining Opportunities	111	82.2	23	17
Good Camping Facilities	124	91.9	11	8.1
Public Access Along the Foreshore	107	79.3	27	20
Opportunity to Appreciate nature Around the Lake	124	91.9	9	6.7
Harmony on the Lake Because of Good Boat Management	125	92.6	9	6.7
A Relaxed Lifestyle	131	97.0	3	2.2
Protection of Indigenous Heritage	79	58.5	30	22.2
Understanding of Indigenous Culture	92	68.1	14	10.4
Cultural Interaction in the Community	77	57.0	15	11.1
Opportunity for Indigenous Participation in Local Business	75	55.6	14	10.4
Understanding what Local Activities do to Downstream Communities and the Environment	132	97.8	1	0.7
Consistency of Rules Along the River	125	92.6	8	5.9
Cooperation Between Communities Along the River	133	98.5	2	1.5
Close Relationships Between Agencies and Communities	128	94.8	7	5.2

Respondents were required to explain why they thought potential benefits were disadvantages. In most cases these explanations can be best summarized by displaying the top two or three contributions. Tables 25 to 23 indicate the reasons offered and their frequencies.

**Table 25 – Reasons for Considering Potential Benefits as Disadvantages-  
Environmental Improvements Domain**

<b>Benefit</b>	<b>Why is this a disadvantage</b>	<b>N</b>
Good water quality in the lake	Water quality is good enough now	2
A scenic lake	Tall trees reduce scenery of the lake	2
Sustainable native species in the lake	Cant see species in the lake	1
	Fish ladder doesn't work	1
Sustainable native species around the lake	Red gums cause safety issues	3
Stable lake banks	Banks are fine as they are	2

**Table 26 - Reasons for Considering Potential Benefits as Disadvantages –  
Increased Tourism Industry Domain**

<b>Benefit</b>	<b>Why is this a disadvantage</b>	<b>N</b>
Good choice of local town services	Population is big enough	2
	Enough facilities and services already	2
Financial investment in the town	Do not like the idea of high rise developments particularly on the foreshore	2
A range of social opportunities	There are enough facilities and services already	2
	More growth and people will spoil the country and quality of town life	2
Attracting a new resident population	Growth will result in a reduction of country lifestyle	9
	Population is big enough	9
Expanded industry base	Expanded industry may cause pollution to river/lake	5
	Industry and population growth will put pressure on town infrastructure	3

**Table 27 - Reasons for Considering Potential Benefits as Disadvantages –  
Foreshore Management and Development Domain**

<b>Benefit</b>	<b>Why is this a disadvantage</b>	<b>N</b>
Sufficient facilities for public boating	Lack of resources available to control or monitor camping/picnic/boating facilities	2
	More facilities will lead to more people which will result in more abuse and over-crowding of camping facilities	5
Good picnic facilities	Picnic facilities are already adequate	3
Waterfront dining opportunities	Sufficient dining opportunities now	7
	Detrimental to the environment	4
	Foreshore access would be limited if waterfront dining was allowed	6
Good camping facilities	Detrimental to the environment	6

**Table 28 - Reasons for Considering Potential Benefits as Disadvantages –  
More Enjoyable Recreation Domain**

<b>Benefit</b>	<b>Why is this a disadvantage</b>	<b>N</b>
Public access to land along the foreshore	Public access could lead to environmental degradation	11
	Public access would result in loss of privacy	9
	Already enough access	5
Opportunity to appreciate nature around the lake	Already enough access	2
	Public access could lead to environmental degradation	2
	Ripping out willows reduces the scenic nature of the lake	2
Harmony on the lake because of good boat management	Regulations do not/will not create harmony on the lake	3
	Lake harmony is ok as it is	2
A relaxed lifestyle	Leads to increase in population which is bad	2

**Table 29 - Reasons for Considering Potential Benefits as Disadvantages – Promotion of Indigenous Culture Domain**

<b>Benefit</b>	<b>Why is this a disadvantage</b>	<b>N</b>
Protection of Indigenous heritage	Not relevant/not applicable	22
	Land claims are potentially restrictive	5
	Don't support indigenous issues/people	4
Understanding of Indigenous culture	Not relevant/not applicable	22
	Don't support indigenous issues/people	4
Cultural interaction in the community	Not relevant/not applicable	38
	Don't support indigenous issues/people	3
Opportunity for Indigenous participation in local business	Not relevant/not applicable	26
	No evidence that there were ever indigenous in the area	4

**Table 30 - Reasons for Considering Potential Benefits as Disadvantages – Greater Understanding of the River Murray System Domain**

<b>Benefit</b>	<b>Why is this a disadvantage</b>	<b>N</b>
Understanding of what local activities do to downstream communities and the environment	Things are OK as they are	1
	Downstream are blamed for problems	1
	Need small sections of the river to be looked after separately	1
Consistency of rules along river	Different areas require different rules/consistency is not always appropriate	7
	Don't know/not relevant	2
	Things are OK as they are	1
Cooperation between communities along the river	Things are OK as they are	1
	Cooperation between communities will never happen	1
Close relationships between communities and agencies	Lake is better managed without government control	3

## Additional comments about benefits/disadvantages

Respondents were given the opportunity during the survey to make additional comments about the benefits/disadvantages for each domain. The major responses are shown in Table 31 below.

**Table 31 – Additional comments about benefits/disadvantages**

Major Comments	Frequency	Percent
<b>Environmental Improvement (n= 166)</b>		
Willow removal is problematic for stable banks.	25	15.1
Benefits are all interrelated.	19	11.4
Water quality issues extend beyond Yarrawonga.	17	10.2
<b>Increased Tourism Industry (n=146)</b>		
Plan will not impact upon the tourism industry benefits.	17	11.6
Town already growing and in tourism boom.	16	11.0
Benefits are interrelated.	14	9.6
<b>Foreshore Management and Development (n=124)</b>		
Camping facilities need to be controlled.		
Increasing facilities is not mentioned in the plan.	16	12.9
Camping facilities can't be too regulated.	11	8.9
Benefits are interrelated.	7	5.9
	5	4.0
<b>More Enjoyable Recreation (n=119)</b>		
Public access needs to be properly managed.	11	9.2
Public access could lead to environmental damage.	10	8.4
Benefits are interrelated.	8	6.7
<b>Promotion of Indigenous Culture (n = 145)</b>		
Not relevant here/no indigenous in this area.	44	30.3
Protection within reason/a balanced approach.	12	8.3
Issues with land claims in the region.	8	5.5
Benefits are interrelated.	3	2.1
<b>Greater Understanding of the River Murray System (n= 108)</b>		
Benefits are interrelated.	10	9.3
Water authority domination/community overlooked.	10	9.3
No trust in improved govt/community relations	8	7.4

## **APPENDIX 5**

### **Weighted Importance of Benefits and Percentages Achieved now and with Planned Actions**

**Table 32 - The Importance of Benefits compared with Percentage Achievement Now and with Planned Actions (in order of benefit importance)**

<b>Benefit</b>	<b>Weighted Importance</b>	<b>Percentage Achieved Now</b>	<b>Percentage Achieved with Planned Actions</b>
Sufficient facilities for public boating	6.02	57.87	76.07
Good water quality in the lake	6.00	57.80	70.88
Knowledge of what local activities do to downstream communities and the environment	5.82	47.75	71.97
Good picnic facilities	5.22	55.59	74.59
Good camping facilities	5.10	48.03	70.89
Sustainable native species in the lake	4.91	60.82	72.31
Close relationships between agencies and communities	4.90	42.44	65.93
Cooperation between communities along the river	4.80	48.64	68.25
Consistency of rules along the river	4.75	44.21	68.14
Stable lake banks	4.42	56.64	69.09
Harmony on the lake because of good boat management	4.34	55.21	76.27
Public access to public land along the foreshore	4.26	54.86	75.51
A relaxed lifestyle	4.21	75.19	77.46
Sustainable native species around the lake	4.18	58.17	72.59
Good choice of local town services	3.70	64.84	77.76
Expanded industry base	3.54	45.54	62.18
Opportunity to appreciate nature around the lake	3.47	58.52	77.69
Waterfront dining opportunities	3.39	32.71	56.67
Financial investment in the town	3.20	66.95	78.31
A range of social opportunities	2.91	60.33	76.20
A scenic lake	2.52	66.51	72.32
Attracting a new resident population	2.19	76.33	81.04
Understanding of indigenous culture	1.76	36.23	58.48
Protection of indigenous heritage	1.32	41.05	63.21
Cultural interaction in the community	1.32	31.20	55.32
Opportunity for indigenous participation in local businesses	1.16	33.04	51.56

