MURRAY**FUTURES**

Lower Lakes & Coorong Recovery

Community Consultation Report - Stage 3

Securing the Future: A long-term plan for the Coorong, Lower Lakes and Murray Mouth (draft for public comment)

February 2010

Government of South Australia

WATER FOR GOOD

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EXECUTIVE SUMMARY

The South Australian Department for Environment and Heritage (DEH) is developing a Long Term Plan for the Coorong, Lower Lakes and Murray Mouth (CLLMM) region in partnership with the community, scientists and industry. This is part of the South Australian Government's $610 million Murray Futures program, funded by the Australian Government's Water for the Future program.

The purpose of the Long Term Plan is to support post-drought recovery and develop a sustainable future for the region within the context of increased climate variability. The Long Term Plan will encompass the environmental, social, cultural and economic values that are important to the region. It is being developed over three stages during 2009 and early 2010. The final plan will be completed by early 2010.

This *Community Consultation Report* provides an overview of the community consultation process undertaken as part of the third stage of developing the Long Term Plan. The third stage of consultation was undertaken in December 2009 and January 2010. During this stage, the community was invited to provide general comments on the draft Long Term Plan titled *Coorong, Lower Lakes and Murray Mouth: Securing the Future (December 2009)*. The Long Term Plan has been developed from community, science and industry input and outlines how the Coorong, Lower Lakes and Murray Mouth region will be managed in the future. It aims to secure a future for the region as a healthy, productive and resilient wetland system of international importance.

The third and final stage of consultation was conducted at the request of the Australian Government. The final stage gave the community the opportunity to provide comment on the draft Long Term Plan before it is completed and submitted to the Australian Government.

The *Community Engagement Strategy* developed by the CLLMM Community Liaison Team guided the consultation process throughout all consultation stages. The goal of this strategy is to effectively engage the community in the development and implementation of the Long Term Plan.

The objectives of this stage of consultation were:

- To seek public comment on the draft Long Term Plan for the Coorong, Lower Lakes and Murray Mouth region, being developed as part of the Murray Futures program.
- To maintain public support of the development of the Long Term Plan.

Throughout the consultation process, the community could download the *Securing the Future* document and other relevant factual information from the DEH and Murray Futures websites. The *Securing the Future* document was also available at a number of regional locations, and the public could request a hard copy of the document if web access was an issue. The community could provide written comment on any aspect of the draft Long Term Plan via the web, email or post. No public meetings were held, however the following key groups (consisting of community members) were briefed on the draft Long Term Plan and the consultation process:

- Ngarrindjeri Regional Authority
- Long Term Plan Reference Group
- Lower River Murray Drought Reference Group
- Ramsar Taskforce

Release of the *Securing the Future* document was advertised through an email community update to the CLLMM distribution list, newspaper advertisements in regional and metropolitan papers and website content. The release of the *Securing the Future* document was also discussed in the media.

All feedback was processed systematically. This process involved:

- acknowledging all submissions received
- reading all written comments closely
- producing a summary of each comment
- entering this summary into an Excel database
- analysing all comments to identify trends
- assessing each comment and amending the draft Long Term Plan where necessary.

Objectives of this report

- Meet funding agreement requirements with the Australian Department of the Environment, Water, Heritage and the Arts (DEWHA) for the *Feasibility Study for Long Term Management of the Coorong, Lower Lakes and Murray Mouth.*
- Provide evidence that a diligent, transparent and effective process of consultation and processing of comments has occurred.
- Describe how the methodology of the *Community Consultation and Communications Operational Plan for Stage 3* (17 November 2009) was implemented.
- Document and summarise written comments from submissions received during the period of public consultation on the draft *Securing the Future* document.
- Describe how comments received from the public relevant to the *Securing the Future* document were processed.
- Describe how community input on the *Securing the Future* document is being used in finalising the Long Term Plan.

Findings

Throughout the consultation period 60 submissions were received. Submissions could be submitted via email, online through the website or by post. Of the total received:

- 46 were received via email
- 6 were received via post
- 8 were received via the online form on the website

From the 60 submissions received there were some aspects of the plan which had high levels of support or opposition. These key findings include:

- almost equal support for freshwater or seawater as a management option
- general support for a whole of system approach to management
- overwhelming support for South East flows to drain into the Coorong
- impacts of low water levels on industries
- opposition to the temporary regulators
- general support for a Weir below Lock 1
- no support for dredging of the sills at Parnka Point.

Details regarding these results are presented in section 5. Of the submissions received, half of them commented on freshwater or seawater as a management option, with almost equal support for each. Twelve supported freshwater only, fourteen supported seawater.

Almost a quarter of submissions commented on the need for a national or whole of system approach to managing the Murray Darling Basin. There is a general consensus that the CLLMM is part of a basin wide problem and needs a basin wide solution.

A quarter of the total submissions received supported the diverting of freshwater from the South East to the Coorong. Not one submission opposed this action.

Of the 8 submissions that commented on the temporary regulators, 75% were unsupportive of these structures. Negative impacts on water flows and ecosystem connectivity were the main issues why the regulators weren't supported.

13 references were made to a Weir, either near Wellington or suggested nearby locations. The majority of these (11) supported the construction of a weir.

Only 6 submissions commented on the management action to dredge the sills at Parnka Point, however, all of these were not supportive of this action.

9 of the submissions made reference to water allocations. There was general recognition that over-allocation is a major issue in the basin and that this needs to be addressed for management of the area.

Almost a third of submissions commented on the Lower Lakes and the water levels, with most concerned about low water levels and the impact on environment and industry.

GLOSSARY

CLLMM	Coorong, Lower Lakes and Murray Mouth
DEH	Department for Environment and Heritage (South Australian Government)
DEWHA	Australian Government Department for Water Heritage and the Arts
KNYA	Kungun Ngarrindjeri Yunnan (Listening to Ngarrindjeri People Talking) Agreement
Long Term Plan (LTP)	The plan being developed as part of the *Feasibility Study for Long Term Management of the Coorong, Lower Lakes and Murray Mouth*.
MDB	Murray Darling Basin
Murray Futures	The Murray Futures program is funded by the Australian Government's $12.9 billion Water for the Future program to secure future water supplies, renew irrigation industries and support nearby communities.
PDF	Portable Document Format
Ramsar	Refers to the Convention or the intergovernmental treaty on wetlands of international importance
Securing the Future document	*Murray Futures, Lower Lakes and Coorong Recovery. The Coorong, Lower Lakes and Murray Mouth: Securing the Future* (December 2009). The draft Long Term Plan released for a third period of public consultation, and to which this report relates.
SE	South East of South Australia

1. INTRODUCTION

The Murray-Darling Basin is experiencing the worst drought since records began in 1891. Record low inflows to the River Murray through drought and over-allocation are having a significant social, cultural, economic and environmental impact on the Lower Lakes and Coorong region.

Current predictions indicate that South Australia's climate will be more variable and we must plan for a future of reduced water availability as well as reducing our reliance on the River Murray.

The South Australian Government is working with local communities and scientists, technical experts and engineers to address immediate drought response issues; plan for worst-case scenarios; and develop long-term sustainable solutions.

The Australian Government will provide up to $200 million to South Australia to address the environmental problems facing the Lower Lakes and Coorong. This is part of the South Australian Government's Murray Futures program, funded by the Australian Government's Water for the Future program.

The South Australian Government is close to finalising a Long Term Plan for the Coorong, Lower Lakes and Murray Mouth (CLLMM) region. The plan has been developed with input from the community, scientists and industry. The plan will outline how the CLLMM region will be managed in the future. It aims to secure a future for the region as a healthy, productive and resilient wetland system of international importance. Achieving this will directly support the local economy and communities that rely on a healthy environment to prosper.

This Community Consultation Report describes the processes used to gather public comment on the draft Long Term Plan document entitled *The Coorong, Lower Lakes and Murray Mouth: Securing the Future,* released for public comment in December 2009. The *Securing the Future* document, or draft Long Term Plan (as it is generally referred to in this report) was produced by the CLLMM Project Team in the South Australian Department for Environment and Heritage (DEH).

Comments received during this stage of public consultation will be considered in finalising the Long Term Plan. The final plan will be completed in early 2010 and submitted to the Australian Government to approve the release of funding of up to $200 million.

2. BACKGROUND TO THE COMMUNITY CONSULTATION

Three stages of community consultation have been undertaken to seek community input into the development of the Long Term Plan for the CLLMM region.

The first stage took place between May and June 2009. The second took place between August and September 2009. The third and final stage (to which this report relates) took place during December 2009 and January 2010.

Stage 1

The first stage sought public input in response to the release of a document titled *The Coorong, Lower Lakes and Murray Mouth: Directions for a Healthy Future.* This was released in May 2009 as a basis for discussion on development of the Long Term Plan. The public was invited to comment on any area of importance to them. The community had the opportunity to be involved in a number of consultation activities including targeted meetings, community information sessions (public meetings), public information displays and focus groups. Written feedback was also invited.

The CLLMM Community Liaison Team within the Department for Environment and Heritage (DEH) released a report on the results of this community consultation process in June 2009[1].

Stage 2

The second stage sought community feedback on the document titled *The Coorong, Lower Lakes and Murray Mouth*: *Managing for a Healthy Future.* This document was released in August 2009 and built on the framework outlined in the *Directions for a Healthy Future* document. It incorporated public feedback provided in stage one together with further science, research and modelling. The document presented a range of options for how the CLLMM region will best be managed in the future, with 38 proposed management actions. The management actions were designed to respond to four possible future climatic scenarios – wet, median, dry and extreme dry.

The second stage of community consultation was conducted by the CLLMM Community Liaison Team during August and September 2009. During this time, the community and organisations had a variety of opportunities to respond directly to the *Managing for a Healthy Future* document. During this stage of consultation, community members were encouraged to focus their comments on the proposed management actions. A report on the second stage of community consultation was completed in October 2009. A *Socio-Economic Impact Assessment Study* of the CLLMM region also formed a part of the second stage of consultation.

The processes used during the second stage, and an overview of data gathered, are detailed in *Community Consultation (stage 2) Report: The Coorong, Lower Lakes and Murray Mouth: Managing for a Healthy Future* (*October 2009).*

[1] Links to all previous consultation reports are available in section 7 of this report

Stage 3

The third stage sought community feedback on the draft Long Term Plan titled *The Coorong, Lower Lakes and Murray Mouth: Securing the Future.* This document was released in December 2009. The draft plan builds on community input received from stages one and two of public consultation, together with further science, research and modelling.

This Community Consultation Report describes the consultation process for stage three and how the resulting data were managed. This information was processed in a way which allowed it to be considered by the CLLMM Projects Team, which is responsible for developing and refining the Long Term Plan. More specifically, the CLLMM Projects Team read and extracted key ideas from the processed data, assessing their feasibility for amendment of the Long Term Plan. All submissions received (including those submitted using the online feedback form) were acknowledged in writing.

3. CONSULTATION METHODOLOGY

3.1 FOCUS

The third stage of consultation focused on the draft Long Term Plan titled *The Coorong Lower Lakes and Murray Mouth: Securing the Future,* released for public comment in December 2009. Comments were invited from any interested persons and organisations.

3.2 OVERALL PROCESS

A Community Engagement Strategy for the development of the Long Term Plan for the Coorong, Lower Lakes and Murray Mouth (June 2009) has been developed. The goal of the strategy is to effectively engage the community in the development and implementation of the Long Term Plan. This strategy has guided the consultation and engagement process for the development of the Long Term Plan. It also aims to ensure that affected communities and individuals have a good understanding of relevant science and management options.

The Community Engagement Strategy recognises that local communities have unique knowledge and expertise that could assist with the development of a viable Long Term Plan for the CLLMM. Therefore, it was decided to engage with the community early in the plan's development, to ensure that local knowledge was recognised and understood by DEH staff and considered in the development of the Long Term Plan.

Extensive consultation activities have been undertaken by the CLLMM team during the development of the Long Term Plan, including public meetings, public information displays and focus groups. However a finding from the stage 2 consultation was that communities are feeling 'consultation fatigue'. The Community Engagement Strategy identifies that consultation methods should be adapted as required to best serve the community, so the third stage of consultation was undertaken primarily as a low key 'draft for comment' activity. An overview of the consultation process is illustrated in figure 1. Details of the methods used are described in sections 3.3 and 3.4.

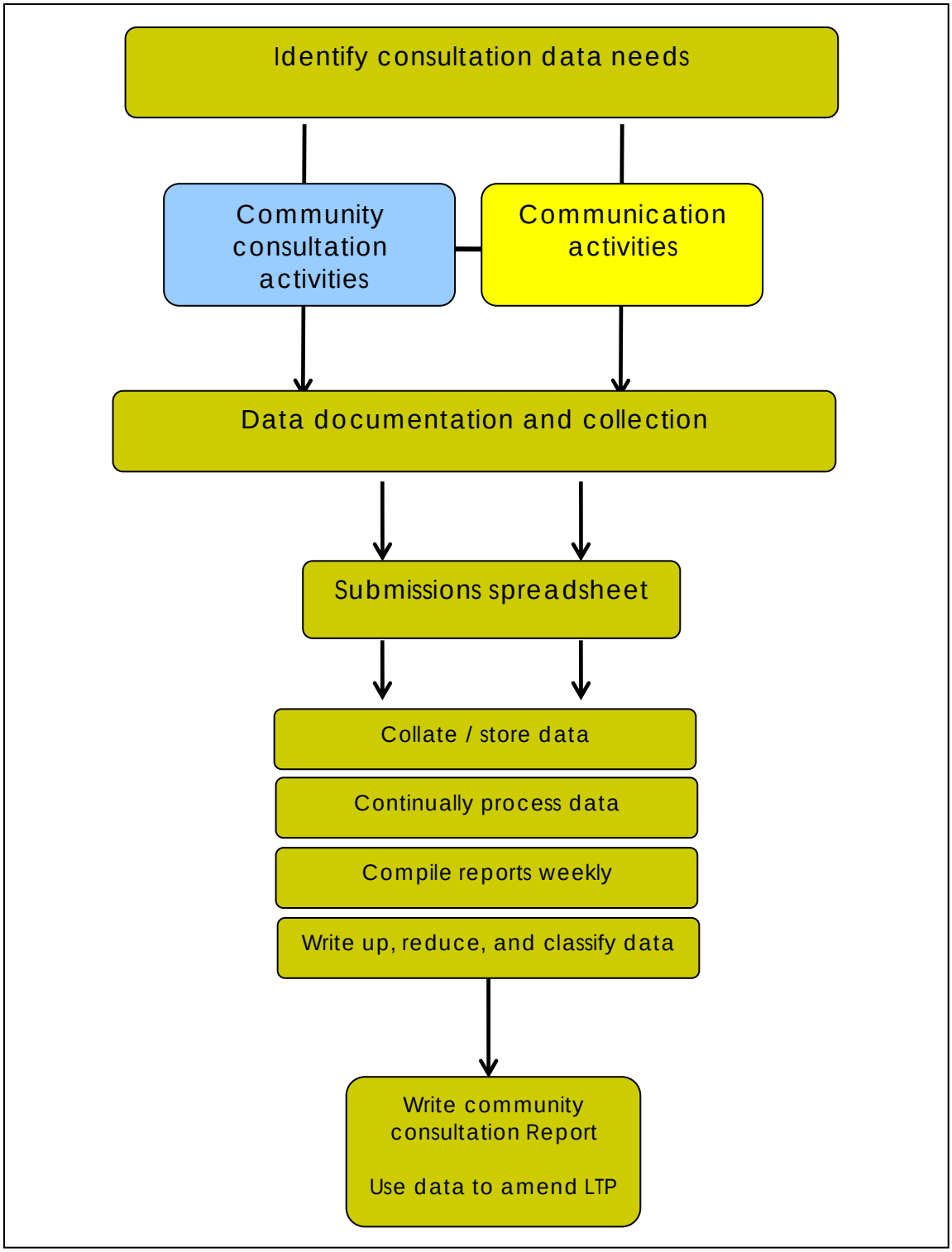

Figure 1 Overall process for stage 3 public consultation

3.3 COMMUNITY CONSULTATION ACTIVITIES

The third stage sought written community feedback on the draft Long Term Plan titled *The Coorong, Lower Lakes and Murray Mouth: Securing the Future.* This document was released in December 2009. The suite of consultation activities are illustrated in figure 2. Further details of these activities are described below.

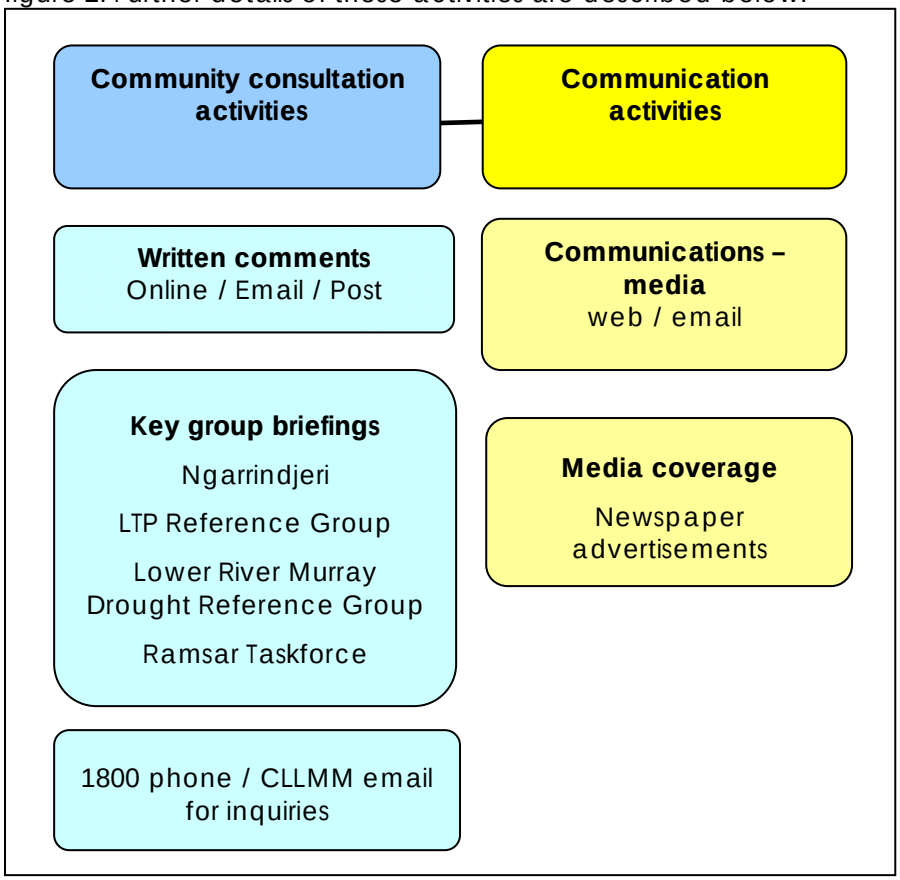

Figure 2 Activities used in stage 3 public consultation

3.3.1 WRITTEN COMMENTS

The *Securing the Future* document was released for public comment on Tuesday 15 December 2009. The public were invited to provide written comments in response to the document until Friday 15 January 2010. Community feedback was invited via:

- the regular Murray Futures Community Update emailed to the CLLMM stakeholder distribution list
- advertisements in five regional newspapers and the Adelaide Advertiser
- the Murray Futures website www.murrayfutures.sa.gov.au
- the DEH website www.environment.sa.gov.au/cllmm.

The Securing the Future document was available to download from the DEH and Murray Futures websites. Printed copies of the document were also available for the public to view or borrow at five locations[2]. Members of the public could also request

[2] A list of where the printed document was publicly available is included as Appendix 1: *Securing the Future* document distribution points.

a printed copy be posted to them by contacting the CLLMM team through the project email address or 1800 phone number.

A feedback form was provided to assist the community to structure their feedback in response to the draft plan in relation to chapters and sections. The feedback form was available in the following formats:

- Hard copies of the feedback form and reply paid envelopes were available at the locations where the printed draft plan was available to view or borrow.
- A Microsoft Word version of the feedback form was attached to the community update email for community members to email or post back to the CLLMM team
- A writable PDF version of the form was available on the Murray Futures and DEH websites for community members to fill in electronically and email back to the CLLMM team
- An online version of the feedback form (using Opinio) was available on the Murray Futures and DEH websites for providing comments via the web.

The feedback form was a suggested template only; community members could also provide their feedback via their own attachments in a format that suited them. The hard copy and online feedback forms are included in Appendix 2: Hard copy feedback form and Appendix 3: Online feedback form template.

When written comment was received, the contact details supplied were recorded, and an acknowledgement letter or email was sent to the individual author or the organisation. A copy of the acknowledgement letter is included as Appendix 4: Submission acknowledgement letter. Each submission was provided with a unique identifier, saved electronically and printed and stored in a folder ready for reading.

Comments were processed as a priority once received by the CLLMM team. Processing included:

- reading all written comments closely
- producing a summary of each comment (in order to reduce the volume of text to a more manageable size)
- entering this summary into an Excel database.

As part of this process, similar comments were clustered together to identify trends. The CLLMM Projects Team responded to the key points in each submission, and amended the draft Long Term Plan where necessary.

A total of 60 written comment responses were received. Of these, 38 were from individual community members and 22 were from organisations or groups. A list of individuals and organisations that submitted written comments is included in Appendix 5: Name/ organisation listing of comments received.

A summary of written comments received is in Section 5. Of the 60 submissions received, 23 used the feedback template and the remainder (37) provided their submission in their own format. All general comments received are included in Appendix 6: Summary of comments received. Specific comments that related to editing the document are not included in Appendix 6 but where relevant were still considered in refining the Long Term Plan.

3.3.2 KEY GROUP BRIEFINGS

The following groups were advised of the public consultation process. The purpose of these meetings was to inform the groups about the consultation process being undertaken, not to seek their feedback on the draft Long Term Plan. The groups were encouraged to comment on the draft Long Term Plan in writing, either as an individual or as a group. An example of the information provided to these groups is included as Appendix 7: Key group briefing.

Ngarrindjeri Regional Authority
KNYA meeting number 10
Thursday 3 December 2009
Pomberuk Cultural Centre
Wharf Street Murray Bridge
9:30am – 12:30pm

KNYA meeting number 11
Wednesday 16 December 2009
Level 9 Conference Room
Chesser House
91 Grenfell St Adelaide
1:00pm – 3:30pm

Long Term Plan Reference Group
Meeting Number 13
Wednesday 25 November 2009
The Monastery, 15 Cross Rd, Glen Osmond
10:00am – 1:00pm

Lower River Murray Drought Reference Group
Thursday 17 December 2009
Local Government Centre, 2 Seventh St, Murray Bridge
2:00pm – 5:00pm

Ramsar Taskforce
Meeting Number 37
Thursday 10 December 2009
DEH Office, Wyndgate, Hindmarsh Island
10:00am – 1:00pm

3.3.3 1800 NUMBER/ EMAIL

Community members and organisations could contact the CLLMM Project team via a 1800 phone number and a project email address: cllmm@deh.sa.gov.au.

These contact points could be used to request a copy of the *Securing the Future* document, or to send written feedback via email. A staff member was assigned to each contact method, and a set process was followed in response to inquiries and processing public comments received. Twenty two inquiries were received during the consultation period requesting a printed copy of the draft plan. A summary of the total number of emails and phone calls received during the consultation period is listed in Appendix 8: Number of inquiries and submissions received (1800 number, emails) and web statistics.

3.4 COMMUNICATION ACTIVITIES

The following communication activities were undertaken as part of the public consultation process. As figure 2 (p. 9) illustrates communications activities for stage three included email updates, newspaper advertisements and website content.

3.4.1 COMMUNITY UPDATES

A Murray Futures Community Update was sent via email or post to over 2000 contacts on the CLLMM stakeholder distribution list on Tuesday 15 December 2009. This update was distributed at the beginning of the consultation period and invited the community to comment on the draft Long Term Plan. The update included information on how the community could access the draft plan and provide comment, as well as regular project related information.

Another community update was sent to the stakeholder list on 11 January 2010 to remind stakeholders to provide their feedback in response to the draft Long Term Plan by Friday 15 January 2010. A third community update was sent in the week commencing 25 January 2010 that provided a brief overview of submissions received and the next steps in finalising the Long Term Plan.

The content of the community updates are included in Appendix 9: Promotion - printed material and web copy.

3.4.2 ADVERTISEMENTS

Advertisements were placed in the following regional and metropolitan newspapers to invite public comment on the *Securing the Future* document:

- Times Victor Harbor
- Lakelander
- Murray Valley Standard
- Southern Argus
- Mount Barker Courier
- Adelaide Advertiser

The dates and publications for each advertisement are listed in Appendix 10: Promotion - media coverage. A copy of the advertisement is included in Appendix 9: Promotion - printed material and web copy.

3.4.3 WEBSITE CONTENT

Both the DEH Website www.environment.sa.gov.au/cllmm/murray-futures.html and Murray Futures websites www.murrayfutures.sa.gov.au were updated on 15 December 2009 with the following information:

- the *Securing the Future* document
- online and printable feedback forms
- the latest community update
- fact sheets
- contact details
- reports on the previous public consultation periods
- a range of other relevant documents.

Copies of the website content are included in Appendix 9: Promotion - printed material and web copy.

3.4.4 OTHER MEDIA

Numerous media (including print and radio) commented on the release of the *Securing the Future* document and other CLLMM related stories. Media monitoring of all radio, television and print media related to the CLLMM region was undertaken. All media relating to the public consultation on the draft Long Term Plan is listed in Appendix 10: Promotion - media coverage.

3.5 DATA PROCESSING

The flowchart in figure 3 illustrates how each submission was processed. The CLLMM email inbox and regular mail were checked daily. The Opinio online form was also checked daily and all submissions were processed as a priority when received.

All feedback was processed systematically. This process involved:

- acknowledging all comments received by return letter or email
- reading all written comments closely
- producing a summary of each comment
- entering this summary into an Excel database
- analysing all comments to identify trends
- assessing each comment received and amending the draft Long Term Plan where necessary.

Information was clustered together under specific headings to identify trends, relevant issues and levels of support or opposition to the draft Long Term Plan and its proposed actions. There were a number of popular topics that were grouped under the following headings:

- freshwater
- seawater
- whole of system approach
- South East drainage
- regulators
- Lake Albert
- industry
- weir below Lock 1
- specific plan feedback

Other less common topics were grouped where possible. A list of all the topics raised by the community, as well as a full analysis of the data is included in Section 5 of this report.

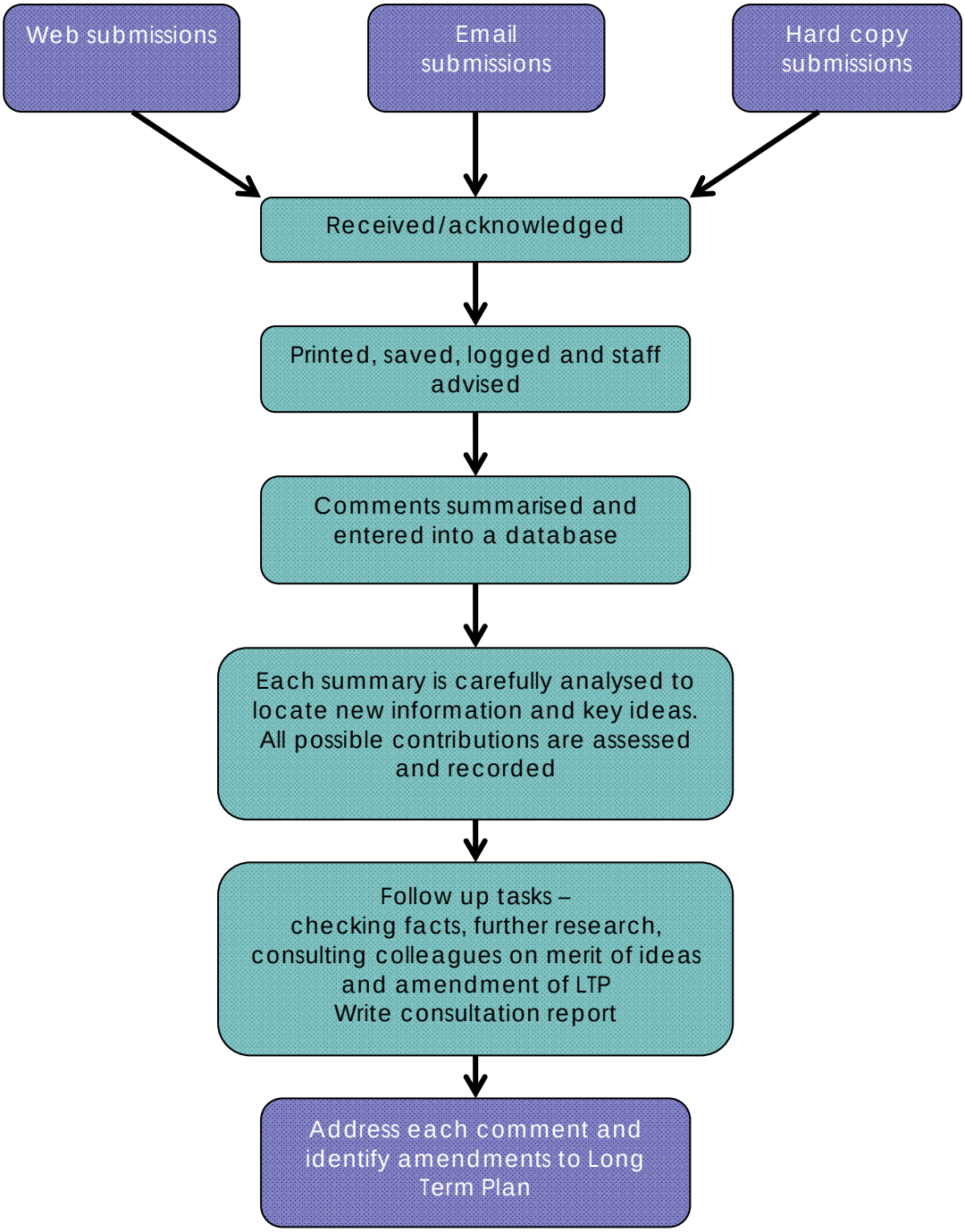

Figure 3 Written Feedback Data Processing Flowchart

4. PARTICIPATION OF THE NGARRINDJERI PEOPLE

The *Kungun Ngarrindjeri Yunnan Agreement* (Listening to Ngarrindjeri People Talking Agreement) between the Ngarrindjeri People and four South Australian Government Ministers (The Minister for Environment and Conservation, the Minister for Aboriginal Affairs and Reconciliation, the Minister for the River Murray and the Minister for Agriculture, Food and Fisheries) was executed on 6 June 2009. This agreement was negotiated during the first stage of community consultation on the Long Term Plan.

The *Kungun Ngarrindjeri Yunnan Agreement* establishes the means whereby the Ngarrindjeri People, through the Ngarrindjeri Regional Authority are able to coordinate "activities and resources of the Ngarrindjeri community and high level interactions with the State Government of South Australia". The agreement indicates the Ministers' desire for a new relationship "based upon mutual respect and trust acknowledging that Ngarrindjeri consider protection and maintenance of culture and cultural sites upon its land and waters central in every respect to Ngarrindjeri community well being and existence".

The Ministers wish to provide support and resources and enter into negotiations and consultations. The Ngarrindjeri people and the Ministers seek to negotiate and consult to make Ngarrindjeri cultural values integral to planning and future management of the Land, including the Lands of the Coorong, Lower Lakes and Murray Mouth.

The *Kungun Ngarrindjeri Yunnan Agreement* provides relationships and participation opportunities with a range of agencies and projects. The activities of the CLLMM Project Team and the development of the Long Term Plan are cited as one such avenue of relationship and participation.

Discussions between the parties began in July 2009. These discussions have focussed on developing protocols for ongoing discussions, the background to the development of *Securing the Future* and the possibilities for participation in developing the Long Term Plan and bioremediation activities. Ngarrindjeri representatives have worked with the CLLMM Project Team to ensure their values and aspirations are incorporated in the Long Term Plan and associated projects.

The CLLMM Project Team is committed to being a part of "the new relationship" and recognises the critical importance of engaging Ngarrindjeri as partners in the development and implementation of the Long Term Plan.

5. CONSULTATION FINDINGS

In total, 60 written comments were received during the public consultation period. Of the total received:

- 46 were received via email
- 6 were received via post
- 8 were received via the online form on the website.

Of these, 38 were from individual community members and 22 were from organisations or groups. A list of the individuals and organisations that submitted written comments is included in Appendix 5: Name/ organisation listing of comments received.

Twenty three submissions used the feedback template and the remainder (37) provided their submission in their own format. All general comments received are included in Appendix 6: Summary of comments received.

The findings presented below have been extracted from each submission based on an analysis of the key themes presented in each submission. It should be noted that some submissions were very similar and others indicated clear support for submissions provided by other groups. To ensure a fair and transparent process, each submission has been included in the analysis but for some topics (e.g. seawater support) the results should be viewed with caution as they reflect total numbers, not unique comments.

5.1 KEY THEMES AND FINDINGS

From the 60 submissions received there were some aspects of the plan which had high levels of support or opposition. These findings include:

- almost equal support for freshwater and seawater as a management option
- general support for a whole of system approach to management
- overwhelming support for South East flows to drain into the Coorong
- impacts of low water levels on industries
- opposition to the temporary regulators
- general support for a Weir below Lock 1
- no support for dredging of the sills at Parnka Point

These key findings are discussed in more detail below. Other topics not mentioned as often or with mixed results are presented in section 5.2. Feedback specific to the draft plan and the proposed goal and actions are summarised in section 5.3.

Freshwater versus seawater

Half of the submissions commented on freshwater or seawater as a management option. Of these:

- 12 are supportive of freshwater solution
- 14 are supportive of a seawater solution
- 4 weren't opposed to seawater but would like more research to be undertaken before this option was employed.

Of those that supported seawater:

- 4 supported seawater because they believe there is not enough freshwater to be an option
- 3 supported seawater only as an option in preference to drying down of the lakes
- 2 suggested the area used to be an estuarine environment and it should be returned to an estuary.

Whole of System Approach

Almost a quarter of submissions commented on the need for a national or whole of system approach to managing the Murray Darling Basin.

- 4 mentioned the need for a national authority, and 3 specifically mentioned that the Australian Government should take over.
- 3 would prefer that the States work together in cooperation
- There is a general consensus that the CLLMM is part of a basin wide problem and needs a basin wide solution.

Freshwater diversion from South East to the Coorong

A quarter of the total submissions received supported the diverting of freshwater from the South East to the Coorong. Not one submission opposed this action.

Industry

A quarter of all submissions provided comment on aspects of the draft Long Term Plan relating to industry. All of these comments were related to the concern of water levels on various industries in the region and the lack of recognition of the economic value of these industries to South Australia. Of these submissions:

- 9 were specific to irrigation and included concerns about viability of the irrigation industry and infrastructure and more consideration for irrigators needs
- 5 were concerned with the impacts of low water levels on agriculture/dairy industries
- 3 suggested the plan needs to include more consideration of the impacts to industries.

Regulators

Of the submissions, there were 8 references to the temporary regulators:

- 6 were unsupportive of the regulators
- 2 were supportive but one on the condition that fishways be included.

Negative impacts on water flows and ecosystem connectivity were the main issues why the regulators weren't supported.

Weir

13 references were made to a weir, either near Wellington or suggested nearby locations below Lock 1. The majority of these (11) supported the construction of a weir for the purposes of:

- maintaining water levels for environmental purposes
- protecting drinking supplies
- sustaining industry.

There were a couple of references for the need to include a fishway if a weir was constructed.

Dredging of sills at Parnka Point

Only 6 submissions commented on the management action to dredge the sills at Parnka Point, however, all of these were not supportive of this action. Concerns included:

- impacts of this action on salinity and the environment
- not understanding enough on the dynamics of the SE flows into the Coorong.

5.2 OTHER FINDINGS

Other suggestions were received on numerous topics such as managing the Lower Lakes and Coorong, concerns of low water levels and flows and environmental impacts. The results have been presented below in the same order as the sections in the draft Long Term Plan.

Water Allocation

Of the submissions, 9 made reference to water allocations. There was general recognition that over-allocation is a major issue in the basin and that this needs to be addressed for management of the area. There were recommendations for a major inquiry into basin water use and support for purchase of water allocations for environmental flow needs.

Climate Change

3 of the submissions made reference to climate change, with concerns regarding:

- the impact of sea level rise on the region
- the plan's preparedness to manage different scenarios
- the real impact of climate change on the current situation (suggesting human causes should take more responsibility).

Water Availability and End of System Flows

A quarter of submissions commented on water availability and flows, with common concerns including:

- lack of water availability preventing successful management of the region,
- current consumptive water use (e.g. piping into other regions, Mt Lofty Ranges use) should be reviewed to ensure water is available for the CLLMM
- the Long Term Plan has not clearly identified, and should provide more detail on the minimum amount of flow required, and then build the Long Term Plan around this figure
- the Long Term Plan needs to inform the MDB Plan of our specific long term water flow needs, and not the other way around
- support for increased water flows as a national priority.

Lower Lakes

Almost a third of submissions commented on the Lower Lakes and the water levels, with most concerned about low water levels and the impact on environment and industry.

- 4 submissions support the need to reduce evaporation rates in the lakes
- 3 suggest alternative targets for managing lake water levels
- 1 was opposed to the drying down of the Lakes.

Comments specific to each lake are detailed below.

Lake Alexandrina

Where Lake Alexandrina was mentioned specifically, it was for the following reasons:

- the need for adequate regular flows to reduce salinity
- concerns with the water level management
- concerns that the proposed management actions for Lake Alexandrina are under emphasised and these need to be a priority in the plan
- to disagree with the pumping of water from Lake Alexandrina to Lake Albert.

Lake Albert

Managing Lake Albert was also regularly commented on, with 10 submissions providing a number of suggestions on how best to manage this lake.

- 2 suggested the removal of Lake Albert from the system
- 7 suggested connecting Lake Albert to the Coorong North Lagoon for increased water flow and flushing of the lake
- 1 was concerned about the effects of aquifer discharge on the lake.

Acid Sulfate Soils

4 submissions commented on acid sulfate soils.

- 1 proposed an alternative option for acid remediation
- 1 raised concern about the increase in mosquito borne diseases from acid sulfate soils reducing mosquito predators
- 1 raised concern about the movement of acid sulfate soils onto structures and human habitation
- 1 was supportive of continued monitoring of bioremediation activities.

Ecosystem Degradation

A few submissions commented on environmental degradation, along the lines of:

- support for reducing environmental degradation
- 1 raised concern that the impact of a fish kill needs to be clearly stated
- 1 raised concern about the ecological implications of shallow sandy beaches resulting from wind driven erosion.

Murray Mouth

7 submissions mentioned the Murray Mouth, with both support for and opposition to the dredging program.

- 3 supported ongoing dredging to keep the Murray Mouth open
- 1 suggested that current dredging methods should be changed to a more cost effective and permanent method
- 1 was unsupportive of the dredging and suggests Goolwa Barrage should be opened to flush the Murray Mouth.

Barrages

The barrages were also commented on, with most supporting their use but suggesting their operation be improved. 1 submission was not supportive of the barrages and suggested they should be removed.

Goolwa Channel

A couple of submissions mentioned the Goolwa Channel, with concerns on water quality and management:

- 1 was concerned about the effect of salinity on local species
- 1 suggests a management action plan be developed ready for implementation should water quality deterioration occur.

Narrung Narrows

8 submissions mentioned the Narrung Narrows. Of these:

- 5 supported the construction of a regulator or extension of the causeway to allow flushing and to better manage varying lake levels
- 2 were unsupportive of the causeway and bund and suggest removal
- 1 supported dredging of the Narrows.

Coorong Management

11 submissions provided comment on some aspect of the Coorong and its management. Of these:

- 4 support pumping of the hyper-saline water out of the South Coorong Lagoon
- 1 disagreed with the volume to be pumped and suggests it should be higher
- 1 was opposed to pumping the hyper-saline water out to sea because of the environmental impacts
- 2 support pumping of seawater *into* the South Coorong Lagoon
- 1 raised concern about the current unacceptable hyper-saline water levels whilst another was accepting of salinity levels but within an acceptable tolerance range
- 1 was opposed to the translocation of *Ruppia* species.

Meningie Wetland

4 submissions mentioned the proposed Meningie wetland, with three of these questioning the lack of detail, and source of funding and water. Support was not high for this option as it isn't clear enough why this option was being proposed in Meningie.

5.3 FEEDBACK SPECIFIC TO THE PLAN AND MANAGEMENT ACTIONS

About half of the submissions provided specific changes and edits to the text of the draft Long Term Plan, many of which were included in the refinement of the plan to ensure readability and clarity. Specific editing changes have not been included in the comment summary in Appendix 6 but where relevant were still incorporated into finalising the Long Term Plan.

5 submissions clearly articulated that they support the draft Long Term Pan. 12 submissions also provided comment on their support for, or opposition to the goals and management actions.

Long Term Plan Goals

Of the submissions:

- 3 raised concern about the lack of specific detail of which 1 also stated concern that the goals don't encompass the fishing industry
- 1 commented that the goals are commendable but unachievable.

Long Term Plan Management Actions

6 submissions commented specifically on the Long Term Plan Management Actions. Of these:

- 2 supported the management actions, although one of these believes they are unachievable
- 4 are concerned with the management actions and believe they are not detailed enough, will be hard to implement and are not long term focused.

6. CONCLUSIONS

60 submissions were received from the public indicating considerable public interest in the draft Long Term Plan, even after extensive consultation in 2009. This third round of consultation has revealed that certain topics identified in previous stages of consultation are still important to the community. These topics include the general desire to see the basin managed as one system and the ongoing debate of seawater versus freshwater as a management option. Support for a weir below Lock 1 was strong but the temporary regulators were generally opposed. Strong findings include the opposition to the dredging of the sills at Parnka Point and the support for the diversion of freshwater from the South East to the Coorong.

This Community Consultation Report of the third stage of public consultation has been primarily descriptive. It has covered the approach, consultation methods undertaken, and an analysis and presentation of the comments received. Further detail on the methods and submissions received are presented in the accompanying Community Consultation Report (Stage 3) Appendices document.

7. CONSULTATION RESOURCES

The following links provide access to the consultation documents and reports referred to within this document.

The Coorong, Lower Lakes and Murray Mouth – Directions for a Healthy Future (May 2009).
http://www.murrayfutures.sa.gov.au/images/file_groups/96/directions_for_a_healthy_future.pdf

Community Consultation Report: The Coorong, Lower Lakes and Murray Mouth: Directions for a Healthy Future (*June 2009).*
http://www.environment.sa.gov.au/cllmm/pdfs/community-consultation-report.pdf

http://www.environment.sa.gov.au/cllmm/pdfs/community-consultation-report-appendices.pdf

The Coorong, Lower Lakes and Murray Mouth: Managing for a Healthy Future (*August 2009*
http://www.environment.sa.gov.au/cllmm/pdfs/mhf-document.pdf

Community Consultation (stage 2) Report: The Coorong, Lower Lakes and Murray Mouth: Managing for a Healthy Future (October 2009).

http://www.murrayfutures.sa.gov.au/images/file_groups/204/community_consultation_report_managing_for_a_healthy_future.pdf

http://www.murrayfutures.sa.gov.au/images/file_groups/205/community_consultation_report_appendices_managing_for_a_healthy_future.pdf

Socio-economic Report and scenario planning for the CLLMM project
http://www.murrayfutures.sa.gov.au/images/file_groups/206/091015_socioeconomic_report.pdf

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Appendices

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APPENDICES

Appendix 1	*Securing the Future* document distribution points
Appendix 2	Hard copy feedback form
Appendix 3	Online feedback form template
Appendix 4	Submission acknowledgement letter
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Appendix 6	Key group briefing
Appendix 7	Number of inquiries and submissions received (1800 number, emails) and web statistics
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Appendix 9	Promotion - media coverage

ABBREVIATIONS

AHD	Australian Height Datum
CLLMM	Coorong, Lower Lakes and Murray Mouth
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEH	Department for Environment and Heritage (SA)
DWLBC	Department of Water Land and Biodiversity Conservation (SA)
EC	Electrical Conductivity
EPA	Environment Protection Authority
GL	Gigalitres (1 billion litres)
LL	Lower Lakes
LTP	Long Term Plan, also referred to as *Securing the Future* document
MDB	Murray Darling Basin
MDBA	Murray Darling Basin Authority
MDBC	Murray Darling Basin Commission
ML	Megalitres (1,000,000 litres)
PIRSA	Department of Primary Industries and Resources South Australia
SA	South Australia
SARDI	South Australian Research and Development Institute
SE	South East (of South Australia)

Appendix 1

Securing the Future document distribution points

Hard copies of the draft *Securing the Future: A Long-Term Plan for the Coorong, Lower Lakes and Murray Mouth* document were available for public viewing at the following locations during the consultation period.

Councils:
Coorong Council's Meningie office
49 Princes Highway, Meningie SA 5264

Alexandrina Council's Goolwa office
11 Cadell Street, Goolwa SA 5214

Rural City of Murray Bridge
2 Seventh Street, Murray Bridge SA 5253

Libraries:
State Library Adelaide
North Terrace, Adelaide SA 5000

Resource Centres:
Lakes Community Hub
Shop 2, 10 Daranda Tce Milang SA 5256

Hard copies of document were also distributed to the following organisations and/or individuals.

DEH Regional Offices:
Department for Environment and Heritage (Meningie Office)
Department for Environment and Heritage (Victor Harbor Office)

SA Ministers:
Hon Mike Rann MP, Premier, Minister for Economic Development, Minister for Sustainability and Climate Change
Hon Jay Weatherill MP, Minister for Environment and Conservation
Hon Karlene Maywald MP, Minister for the River Murray, Minister for Water Security

Australian Government Ministers:
Senator the Hon Penny Wong, Minister for Climate Change and Water
The Hon Peter Garrett AM MP, Minister for the Environment, Heritage and the Arts

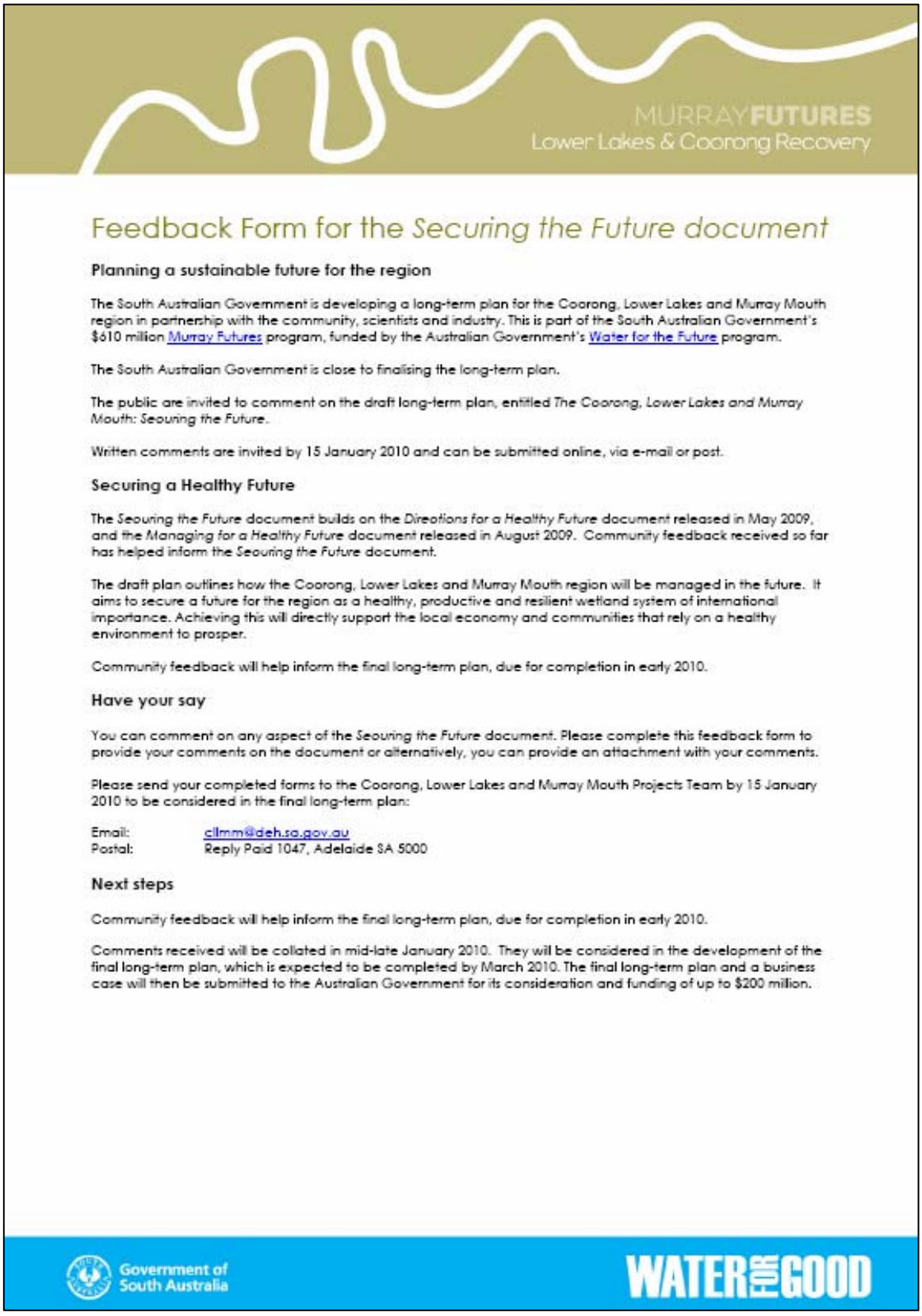
Government:
Allan Holmes, Chief Executive, Department for Environment and Heritage (SA)
Scott Ashby, Chief Executive, Department for Water, Land and Biodiversity (SA)
Deb Callister, Department for Water, Heritage and the Arts
Judy Goode, SA Murray Darling Basin Natural Resource Management Board

Non–Government Organisations:
Rob Freeman, Chief Executive, Murray Darling Basin Authority

Other:
Camp Coorong
Ramsar taskforce
Long Term Plan Reference Group
Lower River Murray Drought Reference Group

Appendix 2

Hard copy feedback form



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Feedback Form for the *Securing the Future* document

Planning a sustainable future for the region

The South Australian Government is developing a long-term plan for the Coorong, Lower Lakes and Murray Mouth region in partnership with the community, scientists and industry. This is part of the South Australian Government's $610 million Murray Futures program, funded by the Australian Government's Water for the Future program.

The South Australian Government is close to finalising the long-term plan.

The public are invited to comment on the draft long-term plan, entitled *The Coorong, Lower Lakes and Murray Mouth: Securing the Future*.

Written comments are invited by 15 January 2010 and can be submitted online, via e-mail or post.

Securing a Healthy Future

The *Securing the Future* document builds on the *Directions for a Healthy Future* document released in May 2009, and the *Managing for a Healthy Future* document released in August 2009. Community feedback received so far has helped inform the *Securing the Future* document.

The draft plan outlines how the Coorong, Lower Lakes and Murray Mouth region will be managed in the future. It aims to secure a future for the region as a healthy, productive and resilient wetland system of international importance. Achieving this will directly support the local economy and communities that rely on a healthy environment to prosper.

Community feedback will help inform the final long-term plan, due for completion in early 2010.

Have your say

You can comment on any aspect of the *Securing the Future* document. Please complete this feedback form to provide your comments on the document or alternatively, you can provide an attachment with your comments.

Please send your completed forms to the Coorong, Lower Lakes and Murray Mouth Projects Team by 15 January 2010 to be considered in the final long-term plan:

Email: clmm@deh.sa.gov.au
Postal: Reply Paid 1047, Adelaide SA 5000

Next steps

Community feedback will help inform the final long-term plan, due for completion in early 2010.

Comments received will be collated in mid-late January 2010. They will be considered in the development of the final long-term plan, which is expected to be completed by March 2010. The final long-term plan and a business case will then be submitted to the Australian Government for its consideration and funding of up to $200 million.

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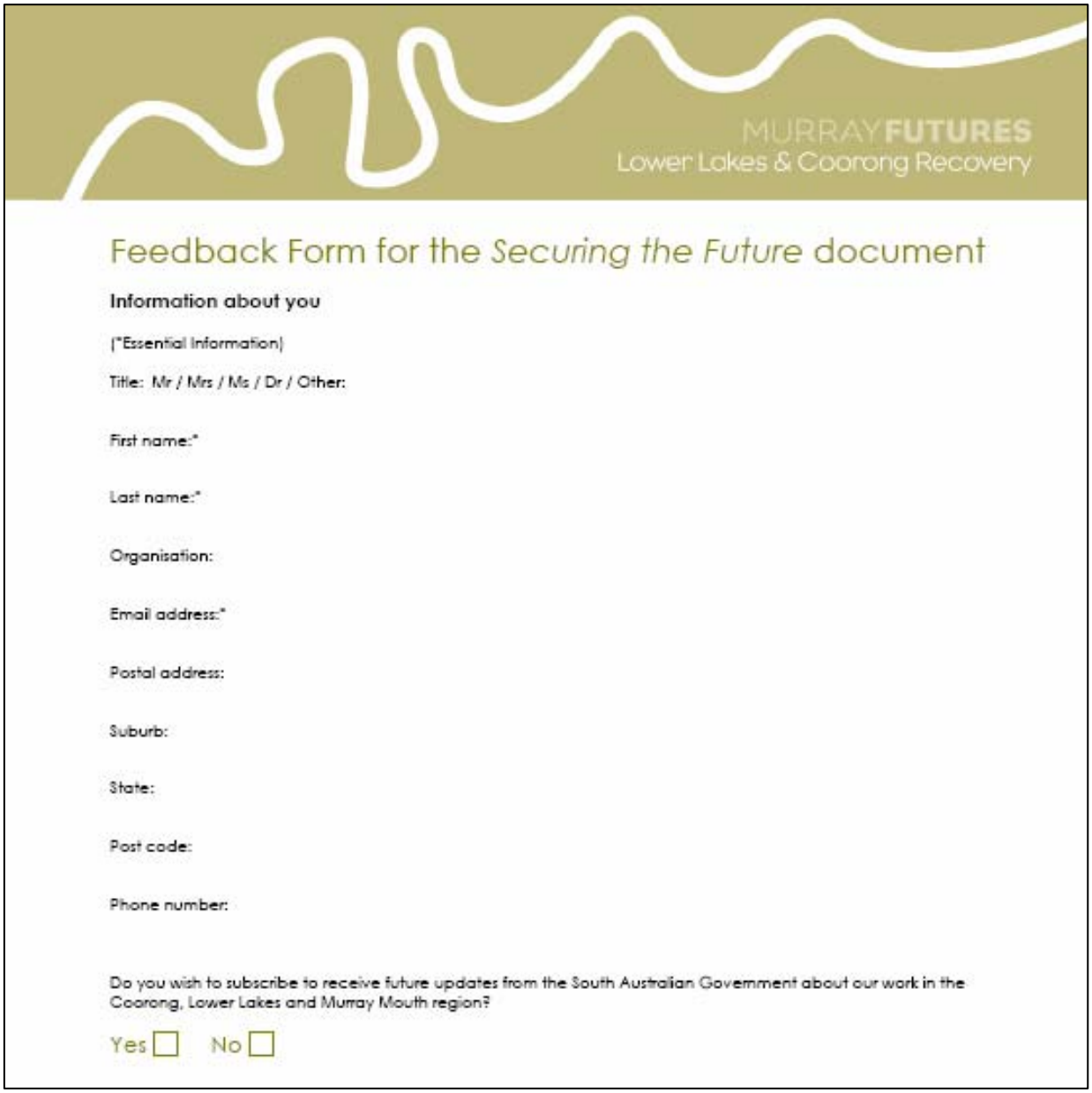

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Feedback Form for the *Securing the Future* document

Information about you

(*Essential Information)

Title: Mr / Mrs / Ms / Dr / Other:

First name:*

Last name:*

Organisation:

Email address:*

Postal address:

Suburb:

State:

Post code:

Phone number:

Do you wish to subscribe to receive future updates from the South Australian Government about our work in the Coorong, Lower Lakes and Murray Mouth region?

Yes ☐ No ☐

Feedback on the *Securing the Future* document

To help us process your feedback, please use this table to provide us with your comments. However, you can also provide your comments as an attachment if you prefer.

Chapter Number and Name	Section number and name	Page no	Other reference points e.g. paragraph no, subheading etc	Comment / issue / correction

Any other general comments

Please note: By submitting your feedback you are giving consent for your words and ideas to be included in Department for Environment and Heritage public documents. Your name and organisation may be listed to acknowledge you as a contributor, but you will not be identified with any specific comment or idea.

I agree ☐ I do not agree ☐

MURRAY FUTURES
Lower Lakes & Coorong Recovery

Thank you

Thank you for taking the time to provide feedback on the *Securing the Future* document.

Your feedback will help develop the best possible plan for a healthy, sustainable future for the Coorong, Lower Lakes and Murray Mouth region.

The final long-term plan will be completed early in 2010 and submitted to the Australian Government to approve the release of funding of up to $200 million.

A summary of your submission will be included in a report that will be published on the Murray Futures website.

To submit your feedback

Email: clmm@deh.sa.gov.au
Post: Coorong, Lower Lakes and Murray Mouth Projects
Reply Paid 1047, ADELAIDE SA 5001

Feedback is due by 15 January 2010 to be considered in the final long-term plan.

Further information

Murray Futures
www.murrayfutures.sa.gov.au

Department for Environment and Heritage
Coorong, Lower Lakes and Murray Mouth Projects
www.environment.sa.gov.au/clmm

Email: clmm@deh.sa.gov.au
Phone: 1800 226 709 (free call during normal business hours)

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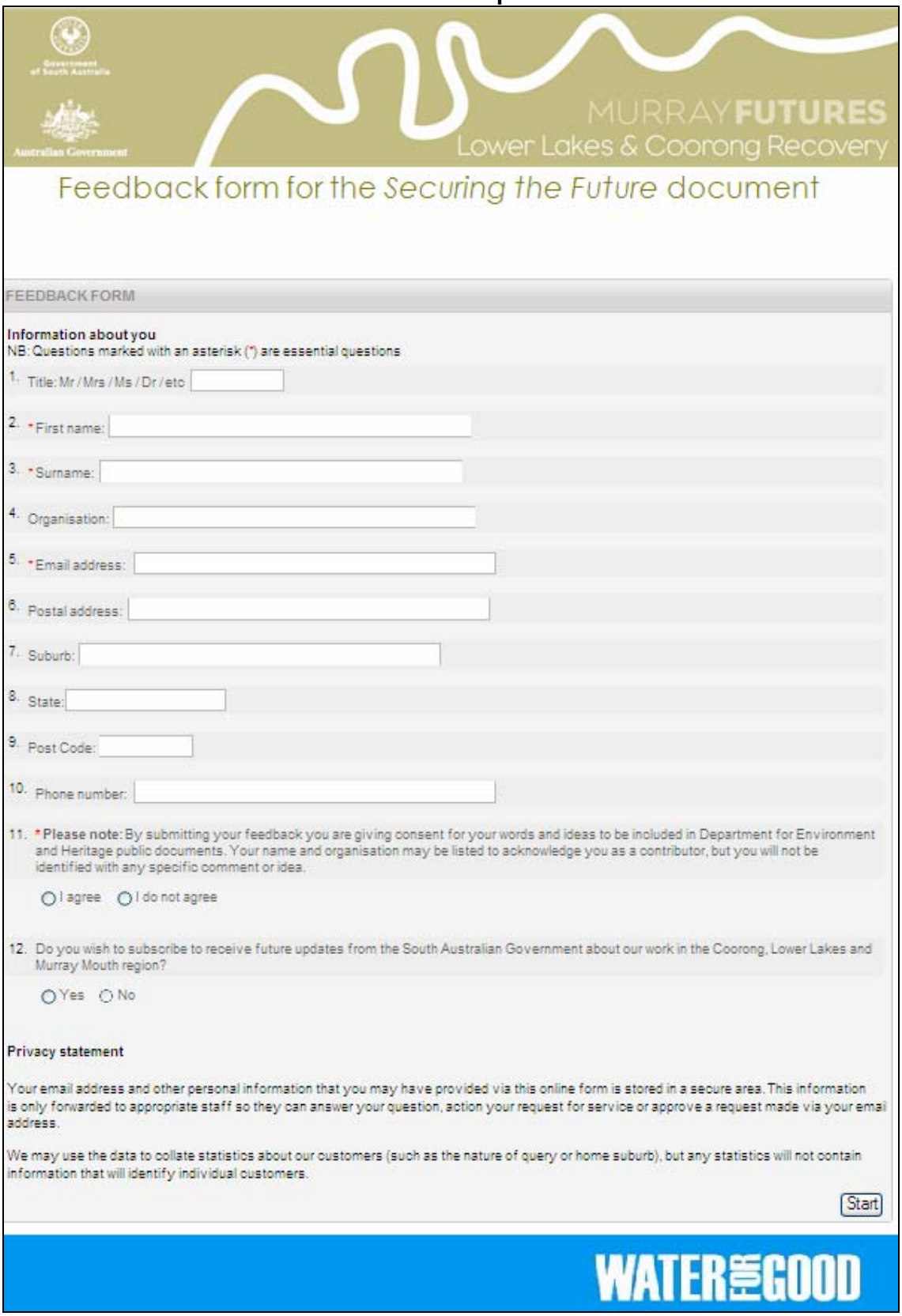
Appendix 3

Online feedback form template



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Australian Government

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Feedback form for the *Securing the Future* document

FEEDBACK FORM

Information about you
NB: Questions marked with an asterisk (*) are essential questions

1. Title: Mr / Mrs / Ms / Dr / etc
2. *First name:
3. *Surname:
4. Organisation:
5. *Email address:
6. Postal address:
7. Suburb:
8. State:
9. Post Code:
10. Phone number:
11. ***Please note:** By submitting your feedback you are giving consent for your words and ideas to be included in Department for Environment and Heritage public documents. Your name and organisation may be listed to acknowledge you as a contributor, but you will not be identified with any specific comment or idea.

    ○ I agree ○ I do not agree

12. Do you wish to subscribe to receive future updates from the South Australian Government about our work in the Coorong, Lower Lakes and Murray Mouth region?

    ○ Yes ○ No

Privacy statement

Your email address and other personal information that you may have provided via this online form is stored in a secure area. This information is only forwarded to appropriate staff so they can answer your question, action your request for service or approve a request made via your email address.

We may use the data to collate statistics about our customers (such as the nature of query or home suburb), but any statistics will not contain information that will identify individual customers.

Start

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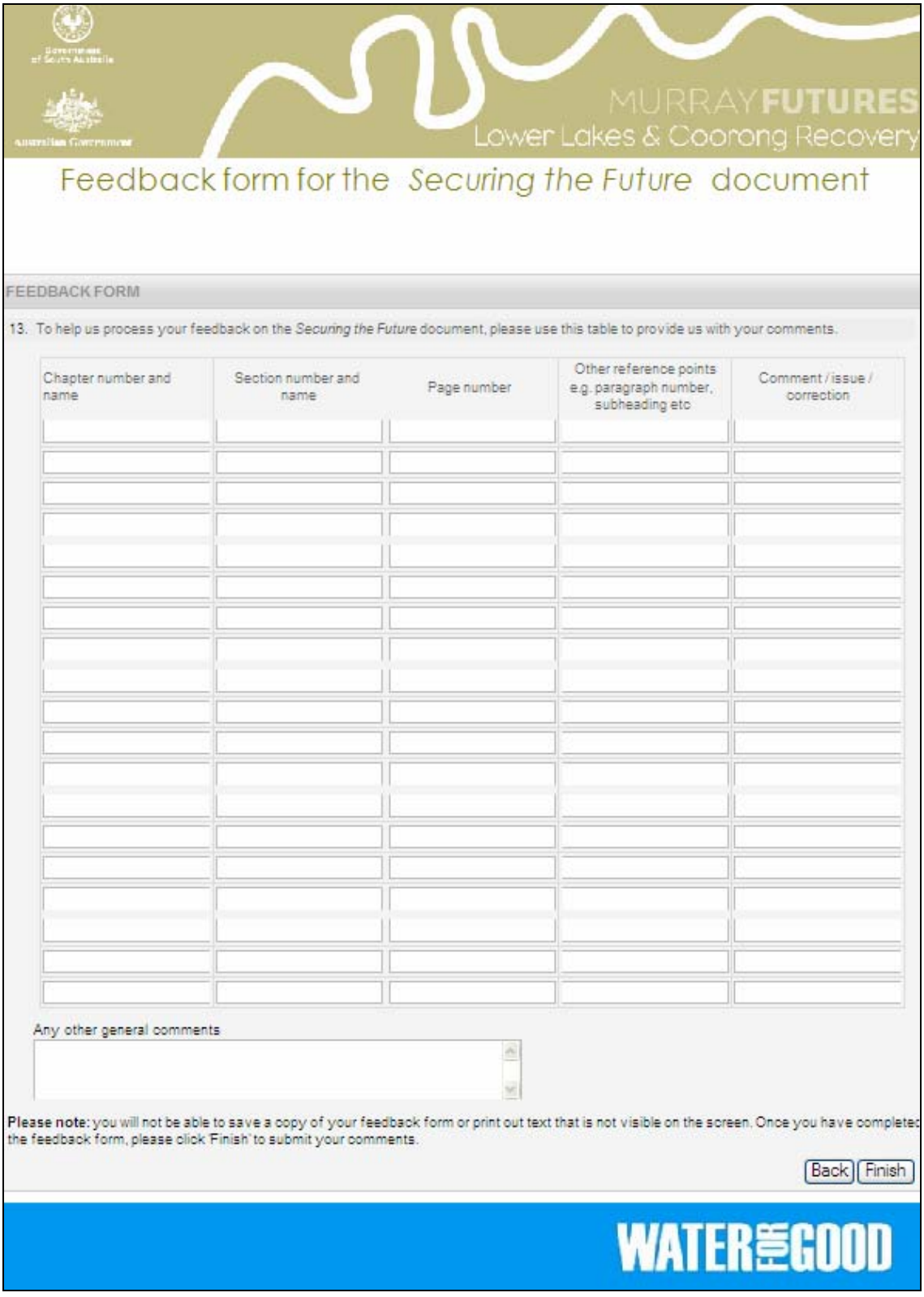

MURRAY FUTURES
Lower Lakes & Coorong Recovery

Feedback form for the *Securing the Future* document

FEEDBACK FORM

13. To help us process your feedback on the *Securing the Future* document, please use this table to provide us with your comments.

Chapter number and name	Section number and name	Page number	Other reference points e.g. paragraph number, subheading etc	Comment / issue / correction

Any other general comments

Please note: you will not be able to save a copy of your feedback form or print out text that is not visible on the screen. Once you have completed the feedback form, please click 'Finish' to submit your comments.

Back Finish

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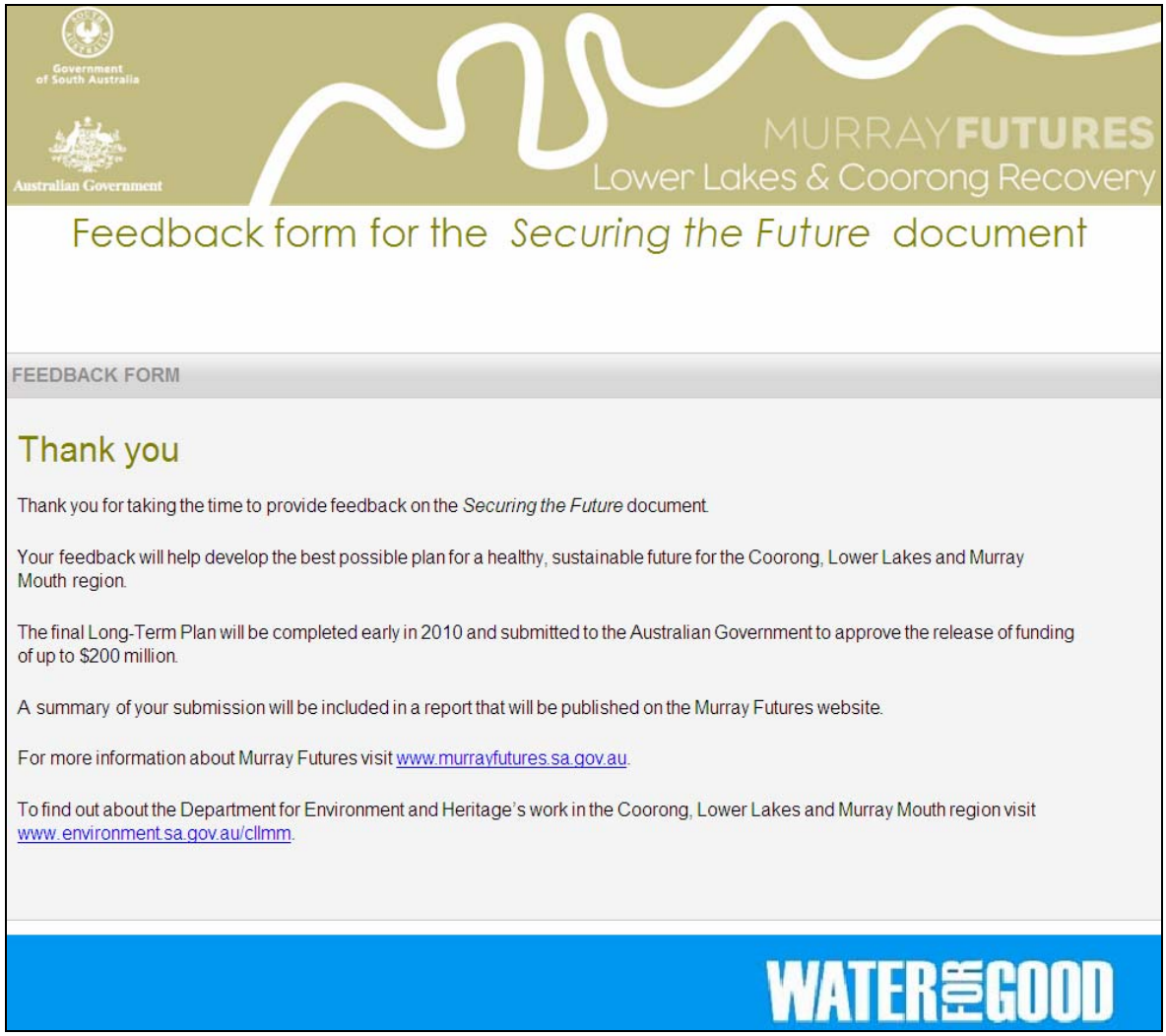
Government of South Australia
Australian Government
MURRAY FUTURES
Lower Lakes & Coorong Recovery
Feedback form for the Securing the Future document
FEEDBACK FORM
Thank you
Thank you for taking the time to provide feedback on the Securing the Future document.
Your feedback will help develop the best possible plan for a healthy, sustainable future for the Coorong, Lower Lakes and Murray Mouth region.
The final Long-Term Plan will be completed early in 2010 and submitted to the Australian Government to approve the release of funding of up to $200 million.
A summary of your submission will be included in a report that will be published on the Murray Futures website.
For more information about Murray Futures visit www.murrayfutures.sa.gov.au.
To find out about the Department for Environment and Heritage's work in the Coorong, Lower Lakes and Murray Mouth region visit www.environment.sa.gov.au/cllmm.
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Appendix 4

Submission acknowledgement letter

17 February 2010

Coorong, Lower Lakes & Murray Mouth Projects
Chesser HouseLevel 5
91-97 Grenfell Street
Adelaide SA 5000

GPO Box 1047
Adelaide SA 5001
Australia
DX138

Ph: 1800 226 709
Fax: +61 8 8204 1133

www.environment.sa.gov.au

Insert name
Address
Suburb
SA 5000

Reference: STF0001

Dear

Re: Submission received by email on 20th December

Thankyou for your feedback in response to the draft Long Term Plan, entitled *Securing the Future: A Long Term Plan for the Coorong, Lower Lakes and Murray Mouth*.

Community feedback received so far has significantly contributed to the *Securing the Future* document, and your feedback will be considered when finalising the Long Term Plan.

The final Long Term Plan will be completed early in 2010 and submitted to the Australian Government to approve the release of funding of up to $200 million to implement the plan.

A summary of your submission will be included in a report that will be published on the Murray Futures website. However, no information will be included that may identify the names or addresses of those who have provided feedback.

Once again, my sincere thanks for your feedback on the *Securing the Future* document. For further information or to subscribe to our email updates please visit the Murray Futures website at www.murrayfutures.sa.gov.au.

Yours sincerely

Brenton Grear
DIRECTOR, COORONG, LOWER LAKES and MURRAY MOUTH PROJECTS

Appendix 5

Summary of comments received

Please note: This table includes extracts from public submissions received in response to the Securing the Future document. Reference to any company, product or service should not be taken as a Departmental endorsement of the company, product or service. The views and opinions expressed are those of the authors and do not necessarily reflect those of the Government.

Identifier No	Comment
STF 0001	This author states that fresh water is not necessarily the only answer for the Lower Lakes. If the barrages are opened at the bottom of Lake Alexandrina, this will alleviate the need to continue dredging to keep the Murray Mouth open (saving $6 million p.a.). Tidal movements at the change of tides would be sufficient to keep the mouth open "naturally". The only precaution is to protect Adelaide's water supply at Mannum against the salt water intrusion. The author states that this can be achieved through the building of a permanent weir (with a lock) at Tailem Bend (where there is good bed rock). The other option is to ensure fresh water flows into Mannum are sufficient to hold back the upstream intrusion of any salt water.
STF 0002	This author states that there has been no consideration of the use of a tidal pump to clear hypersaline water out of the Coorong and sand out of the Murray Mouth. They propose an idea to use a tidal pump to clear the southern Coorong Lakes of hypersaline water and keep the Murray Mouth open. The author states that for many years now, we have been spending vast amounts of money dredging the Murray Mouth. As 'Securing the Future' says, the flow of water from the Murray will in all probability be decreasing and (more critically) is unlikely to have many of the big flood events which wash the mouth free of sand. Obtaining fresh water, either from the South East or from the Murray for environmental purposes (like flushing salt from the Coorong or sand from the Murray Mouth) is never going to be easy. With an increasing state population and dryer conditions, using fresh water for these functions in the long term is a pipe dream. The lower Coorong is now several times as salty as sea water and its ecosystem is essentially dead. However, the lower Coorong water has never been fresh and it can be substantially restored by replacement with sea water. The suburb of West Lakes used to be a hypersaline swamp – not unlike the Coorong today. But today, the 'lake' at West Lakes is completely maintained by a tidal pump. Without that pump, it would quickly return to a hypersaline swamp. A large pipe under the dunes at the southern end has a simple valve which allows sea water to flow into the lake at high tide. At low tide the valve closes and the lake water must flow out northwards through the Port River. A similar tidal pump placed under the Young Husband Peninsula into the southern Coorong lakes would supply a permanent stream of 'fresh' sea water flowing north along the Coorong and out of the mouth. The author states that flow would prevent the build up of salt in the lower Coorong and flush sand out of the Murray Mouth twice a day – at no cost to taxpayers! In all probability, the cost of installing a tidal pump – a permanent solution – would not be much more than the cost of pumping saline water out of the Coorong. The author also suspects that this fresh sea water would vastly improve fish habitat in all the Coorong with a strong probability that there would be a vast increase in fishing capacity in the region. The author states there is no consideration of the effects of sea level rise caused by global warming on the Coorong and Lower Lakes. Predictions of sea level rise are now at 0.3mm/year as the 'consensus' opinion – with figures 3-4 times this from those scientists who believe that climate change will hit more rapidly. There is also a consensus that the effects of sea level rise need to include peak tides and storm surges – meaning that the effects will be on areas within 4 x the actual rise. This document refers to 'long term' planning. If this means 50 years or more then the

Identifier No	Comment
	plan needs to allow for sea level rises of 60mm. This does not seem much, but the Coorong is a VERY flat place and direct effects of sea water inundation and indirect effects of sea level on flooding from water ways (including SE drains) need to be considered.
STF 0003	This author does not believe we will secure enough water to ever again maintain the lakes in a freshwater condition. It would appear inevitable that salt water inundation will be forced on us. This author questions whether there has been modelling done on maintaining an area in Lake Alexandrina of freshwater of a larger size than at present exists at Goolwa. The modelling of potential salt water inundation alleges rapid hyper saline conditions developing. This seems to assume almost no freshwater dilution flows from the River. Even at relatively low flows from the river the work done on the Coorong southern lagoon would seem to suggest that low flows from the River could sufficiently mitigate hyper salinity especially if Lake Alexandrina was engineered to achieve a salt water section as well as a freshwater section. The author states that Lake Albert should be removed from the system permanently and managed appropriately. It would appear there is no chance of there being sufficient flows in less than a 10 year cycle to maintain it as part of the system. The author's final point relates to the management of the whole River system efficiently so as to improve environmental flows. The author says the River should be managed by one authority ignoring parochial State issues. Then a management regime could include storing the maximum amount of the available water for diversion in first the Dartmouth and then the Hume dams. No water from the River should be stored in South Australian reservoirs, Lake Victoria or Menindee lakes. These are all high loss systems. Water for SA should be discharged directly from the low loss upstream storages. The weir pools in the River itself should be managed at lower levels to avoid inundating high loss lagoons etc. for longer periods than are needed for biodiversity regeneration.
STF 0004	This author says that the report describes a number of issues and provides band aid solutions, rather than doing what is necessary – articulating necessary strategic actions which will enable production of a sustainable management plan for the area. The report has clearly been written by scientists and bureaucrats in the interests of achieving environmental and cultural goals and is lacking the inputs of consumptive users, engineers and project managers. The author states that only by involving the wider interests and expertise in the community is a credible long term plan possible. Whatever the future brings, there are some scenarios which we must be able to manage: (1) 'Normal" conditions during which the environment and consumptive users share the available water with sufficient water going out through the Murray Mouth to keep it open (2) Periods of flood flows which must be able to be managed despite any constraints built in the area (3) Periods of drought with little or no flows getting to the Murray Mouth. We must plan to manage for ever changing conditions. This author states that there are a number of works which are necessary to enable the Coorong, Lower Lakes and Murray Mouth to be managed. They must be built now, for without them, effective water management of the area is not possible. The author states the works which are necessary components of a management plan include: (1) Diversion of flows from the South East Drainage Scheme into the southern basin of the Coorong – this will help to manage the salinity in the Coorong. (2) Remote control of the barrage gates – at present it is difficult and slow to operate the barrage gates. Active water management requires the ability to selectively operate gates to optimize results. (3) Connector between Lake Albert and the Coorong – under all but drought conditions, this provides for a flushing flow through Lake Albert and the ability to manage salinity in the northern Coorong (4) Keeping Murray Mouth open – this will require a varying combination of dredging and net flows out through the Murray Mouth

Identifier No	Comment
	(5) Reduction of evaporation of fresh water – Evaporation of fresh water varies between 800 and 1100 GL per year and is a luxury which cannot be afforded. There have been a number of proposals put forward to reduce evaporation by reducing the surface area of fresh water, each having different environmental impacts. The author states that with all of these works in place, the environmental water managers will have the tools available to manage. How they manage will depend on the climatic conditions and the contemporary management guidelines, each of which will vary continuously. Undertaking the above works is not and should not be considered as cutting off future options. Rather it should be regarded as necessary works to enable better management to be undertaken. We can no longer afford to await the outcomes of further studies. We must have the courage of our convictions and undertake these works – and others as necessary. The author states that the Long Term Plan should contain: (1) The big picture items discussed above (2) The more detailed issues which are covered well in the Draft for public comment (3) A description of how the plan is to be rolled out with a commitment to employing competent project managers.
STF 0005	This author states that existing and continuing drought conditions together with "over extraction" practises are having a wide-ranging, negative and most significant impact on lives and livelihoods across much of Australia. In South Australia, businesses of the leisure, tourism and recreational sectors and those that support them (and, generally all of them are small, rural family concerns) located on/close to River Murray waters, particularly those waters "below" Lock 1 at Blanchetown through to the Murray Mouth and Coorong at Goolwa are suffering enormously. The author states that socio-economic impacts of the drought and over-extraction are having enormous negative impacts on the following industries: (1) houseboat fleet is presently operating at around 50% of normal capacity. This delivers a negative impact to rural communities of around $15 million annually. (2) the economic loss, to rural communities, incorporating aspects of boat servicing/fuelling/ provisioning is estimated to be in the order of $5 million annually. (3) the economic loss delivered by the loss of revenues on moorings/berthing in rural communities is estimated to be in the order of $2 million annually. (4) "boating" and other "water based" day trippers and holiday makers numbers are down with a loss to the "rural economy" of at least $200Million annually. The author states little consideration has been given to those South Australians of over 70 communities (particularly to those 40 communities located below Lock 1 through to the "new regulator" at Clayton) who have vital commercial connections with recreational, leisure and tourism/holiday activities. Although outside the direct scope the paper, to protect the Lower Murray, from Blanchetown to Wellington, the earliest start must be made on the installation of a weir (hopefully to incorporate a lock structure) at Pomanda Island. The author supports the Clayton Regulator together with the pumping of water from the Goolwa Channel upstream of Clayton and believes it has provided a form of "life-line" to the economies of communities located in the environs of the "new" Goolwa Pool which stretches for about 13 Kms, (with a width of up to 3Kms) from the "new" Clayton regulator through to the Barrages. The tourism/leisure industry comment in the plan is supported and the author congratulates those who incorporated this. The author states freshwater solution only, and enough flows to maintain open Murray mouth. We must absolutely resist the adoption of "introduction of sea water to the Lakes" options. Replenishment of environmental water will result in tourism benefits.

Identifier No	Comment
	There is a need for a national approach to managing over extraction and allocation
STF 0006	This author states they are very comfortable with the goal as stated, but has difficulty putting the components together in a sensible manner. Agrees with the removal of all temporary regulators, but does not see how this can be achieved while you are possibly aiming at different water levels in the two lakes. An operating level of between .3m and .6m AHD for both lakes would in fact be "at a lower level than prior to 2006", but doubt if this would be low enough for a lot of re-vegetation. However this lower operating level would greatly reduce lake shore erosion and enable much regeneration of reed beds etc. and other vegetation on recently reformed lake edges where sand drift has changed the edge of the lake. The author congratulates the team in putting together the document in such a short time frame, but can see one area for improvement. Parts 1 and 2 are good introductions to how the lakes and Coorong are in their current condition; however it lacks any reference to the construction of a causeway at the Narrung Narrows in 1960. The presence of this causeway together with the very low flows has contributed greatly to Lake Albert and "The Narrows" being in their present state. If in fact it is found to be necessary to manage Lakes Albert and Alexandrina at different levels, it would be useful to replace the causeway and ferry with a trafficable levy complete with locks or gates that provided for the free flow of water between the two lakes when that was possible, i.e. at times of high flows, but also allowed for some regulation when it was necessary. The author states the present arrangement of a temporary bund where water flows (via pumps) only one way must lead to the certain destruction of Lake Albert. A free flowing water system must serve the whole ecology of the Lakes and Coorong much better. Submission included a photo of the Causeway across Narrung Narrows in 1966 to demonstrate the effect that this structure has on the flow of water between Lakes Albert and Alexandrina.
STF 0007	This author states that the Narrung Bund – needs a real consideration to extending the current road causeway all the way across the narrow, but with a series of culverts to allow water flow across the whole of the narrows. Also with the ability of including gates or water controllers as part of the culverts giving the ability of controlling water flow through the narrows in the future if a similar situation arises again as we currently have. There would also be a need to consider navigation issues as well. The author states there is no reference to exotic species of fish e.g. Redfin or Carp. As the salinity rises in the lakes, Carp will be affected. A greater emphasis on reducing the numbers is needed. Be willing to allow the levels in both lakes to fluctuate from 0.1 to 0.6. This will help the re-vegetation around the lakes edges with reeds, in effect reducing the overall lake bed size and creating a truer reflection of the wetland environment that it was before the barrages. Not only will reeds and other vegetation thrive but so will the birds as the majority are wader species.
STF 0008	This author states that we do not know better than nature and therefore should let the system go back to its original state which was tidal depending on season. The author's grandfather caught shark and flathead off the Mannum wharf, before the barrages were built. To maintain a fixed pool level a flow restriction barrage needs to be put in place to maintain the water level and keep the water fresh above Wellington. Let all the drainage from the South East flow into the Coorong South Lagoon as nature once did. The Agriculture Industry around the Lakes is dead and finished.
STF 0009	This author states that SA can no longer be reliant on the Murray River for its water supply because the Eastern States will never change their practices. It is therefore suggested that SA boycotts other states by not buying products made in the Eastern States – not travelling to the Eastern States – not support any Eastern State activity such as sport, football, the arts. Better labelling of fresh food origins would

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	be helpful.
STF 0010	This author states that the Executive summary seems largely devoted to discussion of the local environment and practical measures in the Lower Lakes and Coorong which the SA government could undertake. Whilst this is commendable and pragmatic, it fails to adequately comprehend a whole range of activities in other parts of the basin where change is clearly necessary and indeed essential to the basin-wide solution. The author states there is inadequate attention to activities upstream within SA and how they could be changed to produce a more acceptable scenario in the Lower Lakes and Coorong. Has further irrigation industry re-structuring upstream been investigated as a serious option? Even if SA Riverland irrigators are generally undertaking best practice, is their industry really sustainable at current ongoing levels? Not enough is currently being done to address piped Murray water to urban and rural areas outside the Murray Darling Basin. Practices such as the wine making industry in the Clare Valley and chicken producing factories which ultimately impact on the Lower Lakes & Coorong. The author states irrigation industry re-structuring upstream is required and should be considered as a serious option. The current approach of purchasing water rights on a water market appears to be the principal approach, yet it is already proving to be a costly failure, with ongoing over-allocation of water rights, and no water being released for downstream needs. It is not being proposed that SA should do basin-wide planning, but any plan for the Lower Lakes & Coorong clearly requires modification of many SA and interstate practices, and recommendations which could be made to upstream management to alleviate SA problems should at least be canvassed. The author believes the current plan could best be characterised as a plan in the face of an environmental catastrophe, making earnest attempts (that are at once full of pathos) to mitigate the most awful effects of that disaster, but adopting a self-limiting approach which fails to really address the upstream issues and human causes. Other comments by this author include: • The plan's list of "goals" is commendable, but fairly hollow and unachievable. • The three separate lists "priority mitigation actions for the next 5 years", "priority mitigation and adaptation actions"; and "priority adaptation actions", a total of some 12 listed items, are both confusing and obscure but commendable. Unfortunately they are desperate attempts to address an environmental catastrophe, with the partly human causes not being addressed. • The author believes the Last Resort Measures heading is misleading – the 12 or so priority actions previously discussed are *already* the last resort in terms of the goal of maintaining the Lower Lakes and Coorong as a "healthy, productive and resilient wetland system". The two measures identified here, a weir near Pomanda Island to protect urban water supplies and commencement of preparations (EIS) for flooding the Lower Lakes system with seawater, are definitely post-disaster actions which recognise the demise of the Lower Lakes system. • The discussion around purchase of water rights by the Commonwealth Environmental Water Holder and the SA government, and the fact that the Lower Lakes and Coorong is prioritised to receive water through the Living Murray Initiative simply illustrates how the water market has failed to prevent or address the crisis. Any self reflective government would surely be commissioning a major Inquiry into how existing policies could have failed so manifestly, and postulating alternative future solutions to address the situation!

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	• It is suggested that the participation in the Ramsar Convention by the Commonwealth under its foreign affairs power, and listing of the Lower Lakes and Coorong under that convention, gives the Commonwealth the power to not only intervene in wise use of the region, but also activities upstream which affect the listed wetlands. Accordingly the Ramsar listing could be deemed as giving the Commonwealth power to significantly direct management in the whole Murray Darling catchment to ensure the listed wetlands have their ecological character maintained. The SA government could seek its own advice from a leading international lawyer on ways in which this argument and change of management could be advanced. • The author states that this is a plan which accepts the existing environmental catastrophe, and tries to make the best of it without the other States or Commonwealth taking real responsibility other than through provision of funds. The SA Government should refuse to participate in such a travesty and reject what are really paltry funds to deal with such an immense problem. It should seek immediate and radical intervention by the Commonwealth government, with declaration of a National Environmental Catastrophe or State of Emergency, establishment of a Task Force to take immediate national measures, and a National Commission of Inquiry headed by ecological experts to fast-track the Murray Darling Basin planning process on an ecologically sustainable basis. The SA government also needs to have a radical re-think of its own unsustainable approach to water use, and look at introduction of a Sustainable Water Use Act to guide a new approach. Alternatively a major Inquiry could be instigated.
STF 0011	This author states that water for agriculture needs to be used more efficiently in the Eastern states (no open channels, effective water restrictions). In order to achieve this, the states must work more closely together.
STF 0012	This author is fully supportive of this plan in aiming for a fresh water future for the MDB. They say that "It has always been clear that if a sustainable use of river water was not achieved the whole thing would eventually die, taking industries and communities with it. Congratulations on a clear-sighted and well-argued plan."
STF 0013	This author states that climatic conditions and Murray water flows must be a precursor in future management of freshwater in the Lower Lakes, coupled with up to date maintenance of barrage(s) and containment of fresh water from the Murray Darling Basin catchment areas to the Lower Lakes & Coorong. Water for areas in SA rely on the Mannum pipeline and its many branch lines for supply that is increasing each year owing to population increase for domestic use therefore a weir and lock facility at Wellington is an important adjunct for State water management. The proposed weir would be a management tool to monitor and regulate pool levels above and below Wellington. It would further prevent entry of poor quality water and pollutants from the Lower Lakes into the river system. I believe that this water management system will help alleviate any contaminated water, pumped from above Wellington, Jervois & Mannum throughout various regional and rural areas in South Australia. The author believes that to manage and control the fresh water lakes at optional and regulated AHD levels requires building a weir / lock at the Narrung Narrows that will enhance best practice water management for Lake Albert and overall water management of Lower Lakes. The author states that it's imperative that Lower Lakes & Coorong are managed as a separate entity away from the River Murray above the proposed weir / lock at Wellington. Water management can be assessed with more precision over a period of time when Murray river flows return, as in previous years prior to drought and over allocation of water resources in the Murray Darling Basin. There has always been an issue of seawater entering the Lower Lakes after the

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	building of barrages owing to weather conditions and sea tides. This situation has been ongoing since the building of barrages and accounts for a percentage of salts that accumulate in the Lower Lakes other than what flows down the River Murray. It highlights the need for updating the barrage system to eliminate seawater incursion irrespective of perceived higher sea levels in the future, or abnormal weather conditions. All barrages must be restructured, fully automated with special emphasis directed to the Goolwa barrage is paramount, if the Lower Lakes are to be kept as a fresh water system and managed as best practice for all communities.
STF 0014	This author states that the Long Term Plan should address the present massive evaporation rates in the Lower Lakes and how it may be reduced. The river bed should be dredged from Wellington to the Coorong to carry a much deeper body of water (less evaporation) with branches to relevant towns. The Lake beds, separated from the main river channel by dykes, could be drained and used for pasture, forestry or wetlands. Water would be saved and would greatly benefit the surrounding communities and a commitment to better use of this scarce resource.
STF 0015	This author states consideration should be given to the permanent isolation of Lake Albert from the system and connecting it to the Coorong to mitigate acidification threats and provide for ongoing recreational use and reduce surface area (evaporation) of fresh river water. The author asks that further to the thesis about reducing surface area, why not build islands in the Lakes? Granted that an island would need to be safe against wave action, might need to be connected by a causeway with culverts and would cause a variety of environmental impacts; does the idea have any merit? It is understood that the lakes are only 3 metres deep at the deepest. Material could be dredged into piles maybe even improving the boating experience near the shores. Other comments by this author include: • Marinas only add area and therefore evaporation. The author states that all marinas should be required to purchase an allocation to cover evaporation loss. • There is no apparent discussion about lowering of pools starting at Lock 1. Diversions upstream are not much affected by water level and even the removal of one level of stop log would release water for refilling the lower pool.
STF 0016	This author states that the Plan describes the current Basin inflows as “atypically low” and “highly abnormal”. Yet a study of Fig.5 of the report of historical total basin inflows for this and previous drought periods shows: 1998-2008 5700 GL/y over an 11 year period, 2002-2008 3800 GL/y over 7 years, 1938-1946 6200 GL/y over 9 years, 1896-1903 5600 GL/y over 8 years, 1896-1915 7100 GL/y over 20 years. These figures show that there have been, in the past, long drought periods of flows of similar magnitude to those of today and that the required flow of 3500 GL/d for a freshwater solution is a large proportion of total basin inflows during these periods even without the future impact of climate change. There are also other environmental, human consumption and irrigation requirements to be considered. Is not the emphasis on a freshwater solution therefore yet another example of “hope over experience” and would it not be more prudent to develop low flow plans more fully in the final report rather than trying to maintain an artificial freshwater environment? This report and others admit that in the longer term rising sea levels will change the Lower Lakes to an estuarine environment so why not start planning for that eventuality now?

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STF0017	This author states that the following should be inserted after the reference to the SE drains. *"In 1912/13, Stop Banks were erected by the Government to prevent the Water from the Bakers Range Water course, and all catchments East of that feature from getting to the Coorong, further depleting the inflows from the SE."* The author states that even with these structures in place, as established by the 1925 Royal Commission on South East Drainage in Board Minute 401, "the winter of 1910 was very wet, with the Blackford Creek running at 3,400 Mega Litres per day and the Wimpinmerrit Gap running at 5,600 Ml/day, giving a combined discharge of 9,000Ml/day to the Tilley Swamp" which only has a 45,000Ml storage capacity prior to discharges starting into the Coorong via Salt Creek. "SEDB Minute 474 states that on the 10th of February 1911 the 'Bakers Range Watercourse was still in' flood, and running 2,200 ML/day to the Coorong." If flows to the Coorong ran from October until mid February at an average rate of 5000Ml/day i.e.134 days @ 5,000Ml/day generates 670,000 Ml. Given the winter capacity of the South Lagoon is in the order of 120,000 ML, flows of this magnitude and duration would have certainly freshened both the North and South Lagoons to drinking quality as did the 1956 flows, to Stoney Point in the South Lagoon, as evidenced and recorded by fisherman Fred Gardiner. The author states predictions "May" happen, or "May Not" happen, so the words "Will" need changing to "May" to remove the alarmist influence of these words. History shows us that if the Murray Darling Basin Inflows are studied in the ten years periods of 1896 – 1906, 1938 – 1948, or 1957 – 1967, then similar low inflows appear, and similar climatic events occurred on at least three occasions historically, and certainly don't need explanation by "reference to climate change.", so lets not be too precious on this occasion, and certainly treat the climate change forecasts/predictions as just that – forecasts and predictions –not fact. The author disagrees that the south lagoon was a healthy system despite the salinity increases and was maintained largely by barrage flows. A dramatically changed ecosystem existed with minimum salinities of 10 times that of historical levels, and maximums 4 times higher, and fish species had changed and were depleted, as were the bird numbers and their breeding levels (50,000 breeding pairs of swans in 1957 – the last southern inflow year). Dr David Paton was claiming that the Coorong was a reverse estuary, and had always been hypersaline for the last 1800 to2000 years, and he strongly fought any attempts to re- introduce fresh water flushing flows from the SE. As the Scientific Expert on the Coorong, his opinions held sway in Government circles. While the author is pleased that the plight of the Coorong has finally been recognised, the ecological consequences for the Coorong have been slowly deteriorating for many years, and the crash of the lower Lakes has only just brought the decline of the whole system into sharp focus. The author disagrees with such a high salinity level as a goal for the Coorong when historically, with water inflows from the SE, salinity levels were typically 8,300 – 58, 333 EC (i.e. less than seawater), and with re-introduction of inflows from the south this is again achievable. The author agrees with re-establishing water flows from the South East, but disagrees with pumping Brine into what will be a receiving habitat that is (1) a major recruiting ground for the Southern Rock Lobster and other fish species (2) a high energy coast with little littoral drift to disperse the Brine plume (3) Has never been subject to such a discharge, and shouldn't be now, no matter how many opinions are garnered to support such an action (4) When the Upper South East Project was being stopped from proposing to put freshwater into the Coorong which may have diluted the "hyper-saline nature of this iconic wetland", we had to investigate the effects of establishing two new sea outlets opposite Henry Creek and Salt Creek. The modelling showed the Fresh Water Plume from such an action was going to have most severe effects on the marine ecosystem and wasn't proceeded with on those grounds. It is totally hypocritical to finally recognise how wrong the scientific position has been for all these years, and then to contemplate such vandalistic and ill-considered actions to effect an expensive

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	short term fix – both in dollars and biological environmental cost. The author states pumping hypersaline water out of the Coorong- NO! Inflows from the SE, coupled with fresh river flows over the barrages are the only permanent solution. The author believes the dredging of sills at Parnka Point, won't be needed with the scour effect once quantities of water are re-introduced from the SE. The Cores on the Coorong showed that prior to the regulation of the Murray, and silting of the mouth, river water seldom (if ever) made its way into the South Lagoon of the Coorong. There is no need to further bastardise a system which has nearly died through all the years it has been crying out for help, only to have it ripped to pieces by ill-considered actions to now try to affect some hair-brained quick fix to placate the consciences of those who have maligned the Coorong for so long. Further investigations aren't required, as LIDAR (Light Detection and Ranging) technology has given us the levels, and they are feasible and work, and the water is available. Transmission losses along the Southern Ephemeral Lagoons of the Coorong are less than the consultants suggest, because the lagoons along the transmission path stayed substantially full until November this year, just with the local rainfall. If this system had been built for this year, 30,000Ml of water from the Blackford Drain, and another 120,000Ml of water from Drain "K" could have flowed to the Coorong during this past winter and spring, having a huge freshening effect on the Lagoons, and providing flood relief drainage for many hectares of farm land along the route. This system can be established for little more than the estimated cost of the pumping alternative considered in this paper, and once established, would provide inflows every wet year hence forth – as it used to historically. As it is, the Coorong has been denied any benefits that this water could have delivered, and the water run to the sea at Kingston and Robe. The author proposes there be a third action – which will be in the ground by March 2010– is the diversion of the water from the Fairview Drain via the newly constructed Bald Hill drain. This will mean that virtually all the water harvested by the 640km of drains of the new Upper SE Project will be available for diversion to the Coorong via Salt Creek.
STF0018	This author states that the heading Long term Plan for the Coorong, Lower Lakes and Murray Mouth is misleading for a number of reasons: (1) It is agreed that the environment of the Coorong, lakes, Murray Mouth and river are all interdependent on each other. One cannot exist without the other (2) This is a whole of river problem (3) To talk of the Lower Lakes as a single entity is incorrect (4) In years to come as people look back on history and look at their atlas's they will not be able to find the Lower Lakes marked as such even today that cannot be done. It is explained in this paper that the Lower Lakes are identified as Lake Alexandrina and Lake Albert, but it is not understood that the two lakes have entirely different issues (5) In fact if Lake Alexandrina be allowed to die (as is happening right now), with the regulator at Clayton forming a lake on the Goolwa side, people in the future may think that the Lower Lakes are indeed Lake Alexandrina and the Goolwa Lake (6) There is no such identity as the lower lakes or upper lakes. The author states that priority adaptation actions that should be identified into the future must include the removal of the causeway across the Narrung Narrows. At no stage in this long term plan has there been any mention of the Causeway that was built between Lake Albert and Lake Alexandrina that in effect cut the flows between the two lakes by half. This causeway was built half way across the mouth of the Narrung Narrows between Lake Alexandrina and Lake Albert back in the 1960's. The building of the causeway has caused undeniable damage by restricting flow between the two lakes and has caused the increased silting through the Narrows themselves and into Lake Albert. The resultant silting on the lea side of the causeway has seen the growth of freshwater reeds choking the Narrung Narrows and changing the natural flow of water between the two lakes. In fact the causeway has changed the flow of water, instead of flowing through the Narrung Narrows channel, the water has, since the construction of the causeway, caused the water to flow into the back waters creating a change of

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	water flow and habitat. The choking affect that has occurred in the Narrung Narrows has created the problem of exacerbating siltation of the lake bed of Lake Albert because the lake has not been able to flush the silts out of the lake naturally. The importance of the effects of the wind seiching between the two lakes has been underestimated and misunderstood. The author states that the erection of the bund between Lake Alexandrina and Lake Albert if not removed in its entirety will exacerbate the siltation in Lake Albert to the point where there will be no recovery. This sedimentation has occurred due to completely stopping the natural or any flow of water between Lake Alexandrina and Lake Albert. When the Meningie / Lake Albert community were involved with the so called community discussions, we were given 10 days notice that a wall/bund/regulator (the name kept changing) was to be built between Lake Alexandrina and Lake Albert at Narrung, virtually severing the natural connection between the two lakes. Where was our Environment Impact Study option? I support the removal of the Bund and Causeway. Will there be a date for this? No reference has been made to the World Recognition of the sustainability of our fishing industry in the lakes and Coorong. This recognition world wide surely is of great significance. As part of the Introduction to the site, reference is made to the completion of the barrages which are situated between the Lower Lakes and Coorong. This is incorrect as Lake Albert is not connected to the Barrages. As the river itself is not connected directly to the Barrages. The author believes that there is a total lack of understanding of the significance of ground water discharge to the lake proper. The underground aquifer that exists on the Narrung Peninsular rises up and down with the tides of the Southern Ocean and the Coorong. This in turn connects through to Lake Albert. Evidence of this is seen today; as Lake Albert recedes the ground water is seen seeping back into the lake bed. As the underground water drops it is evident by the natural revegetation occurring in the salt pans adjacent the lake shoreline. With the underground aquifer there is a layer of fresh water sitting on top of the salt water. As the underground salt water seeps back into the lake, so too does the fresh water on top, resulting in the natural revegetation that we see occurring adjacent the lake shoreline. Filling the lakes with sea water is discounted under the decision framework (p 50) and described on p 37 as counter productive in dealing with acid sulphide soils. Sea water is then discussed on p 70 as a possible option for remediation of exposed soils?? If sea water is not the preferred option or any option at all, remove the suggestion in its entirety. Has there been any consideration of the impact or various strategies on the aquifer or groundwater? The author states that it is now nearly two years since we were told of the decision and the implementation of the Narrung bund and still no effort has been made to dredge the Narrows to aid flow for when we do have recovery. To ensure the future environment and future flows of fresh water back into Lake Albert it should be of the utmost importance to ensure that the channel in the Narrung Narrows is opened with the assistance of dredging immediately. At the same time there should be a study done as to what can be done with the accumulated silt and its viability to be value added, possibly for use as clay spreading on sandy dunes or soils. The author states that there has been a complete lack of understanding of the importance of local knowledge, even when the knowledge is given, it seems to be dismissed. No one understands their own surroundings better than those who live within their own surrounds.

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STF0019	This author simply infers a complete decimation of irrigation plantings by 2015-2020 The author states that it is totally unrealistic to think that in a dry scenario, a complete Lower Lakes fresh water solution is possible It is vital that the Coorong is connected to Lake Albert. If greater tidal flux through the Murray Mouth is achieved and hence better mixing of the freshwater in the Northern lagoon this could be provided to Lake Albert. This was suggested in a previous submission on the previous '*Managing for a Healthy Future* document'. The author states that the view to accept the final 2 paragraphs on page 41 is totally irresponsible and flawed. The Lakes consume a total of 3.500 ML/day (plus) in summer just in evaporation losses (refer to MDBC River reports 2000-2007). Any suggestions that the system will probably only deliver 50% of its historical flow can support a base flow of 3.500 GL per year at the Murray Mouth infers that most permanent irrigation demands will need to be forfeited just to maintain run of river and dilution flows.
STF0020	This author states that the Southern Coorong can be saved by: (1) eradicating rabbits from the Young Husband Peninsula (causing sandhill erosion) (2) excavating a channel where necessary in the north south flow path (3) getting rid of the hyper saline water in the southern lagoon by an exit channel from it to the sea (4) or manipulation of water levels to drive the hypersaline water north to the Murray Mouth through the newly excavated channel when summer water levels are lower at the Murray Mouth. This would require a new barrage to be built across the Coorong south of Tauwitchere barrage. This would have the additional benefit of permitting *Ruppia* and *Chara* tubers to mature because the present lack of floods causes water levels to fall earlier than was traditionally the case. The author believes that if the above actions were taken, the water now expected to flow in from the SE through the new salinity control drain entering at Salt Creek would rejuvenate the Coorong in conjunction with fresh and salt water flowing in from the north. However the South East water alone will not reduce the salinity unless the hypersaline water is first removed. This is because the southern basin has an evaporation rate which exceeds precipitation by about half a metre per year. The maximum productivity for birdlife and fish in the southern Coorong probably occurs when the salinity is about one and a half times that of seawater so that fresh water is not necessarily needed for a productive wetland. Nevertheless a range of salinities is most desirable.
STF0021	This author states that in regard to the statement "Modelling indicates that if seawater were to enter Lake Alexandrina in sufficient volume, then in the absence of adequate freshwater flows, the great majority of the Lake will be hypersaline within two years" I was under the impression that models are based on assumptions, and the assumptions that have been imposed on these authors (reference 39) are ludicrous. The author states that the hyper-salinity statement in the DEH report is misleading in its current context and hyper-salinity is the primary reason why the DEH does not recommend the seawater option as feasible. It is a critical recommendation to get right. Only letting in enough seawater to cover the acidic soils (or the -1.5 mark), limits the full benefit of seawater as an ecosystem for fish and dooms using seawater as a method for acidic soil remediation. DEH (and/or the work group advisors) have directed the scientists to assume an extremely limiting set of assumptions that guarantee the failure of a seawater option. Maintaining the lake levels (with seawater) higher than -1.5 m AHD should also be investigated along with methods to which seawater will be delivered (open barrages rather than a spill way over the top!) The author states that by insisting on the 'freshwater future' only option, conclusions are being skewed and important opportunities for solving the crisis in the Lower Lakes are being overlooked. Overstating and misrepresenting the hyper-salinity fear is a manipulation of the data. The statement "... the Lake will be hypersaline within two years" is misleading unless the severely limiting assumptions in the modelling are also included along with this statement and not buried in the

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	Appendix of some other report.
STF0022	This author states that in addition to the proposed extraction and diversion rules between the states, governments should assist farmers (or require them) to modernize irrigation infrastructure. I.e. doing away with the hundreds of kilometres of open drains in favour of latest in-ground pipe irrigation which would save up to 90% of current water extracted from the system. Keeping the Mouth open is important for flushing the system. Lake Alexandrina is below AHD now and sea levels are predicted to rise with global warming. Population growth is being discussed with consequent further demands on food production in the Murray Darling Basin. Greater water extraction for irrigation is therefore likely. Keeping the mouth open under these circumstances looks increasingly unlikely. The author states that a major rethink of the design and function of Lake Alexandrina and Lake Albert is needed as follows: (1) Enhance the natural contours of the lake bed with earthworks (2) Divert the entry waters of the Murray at Wellington into several channels to control direction and volume of flow through a wetland system (3) Create a series of precincts in the lakes: (a) a large, integrated wetland system characterised by its wildlife habitats and breeding sites and its filtering and purification functions as distinct from a 'swamp' (b) bays at Milang, Meningie and other settled areas (similar to Clayton Bay) for local and tourist recreation: swimming, small craft, canoes, kayaks, windsurfing (c) a large aquaculture industry - fresh water species in Alexandrina and/or Albert (d) large scale tree, understorey and grass plantings to reduce wind-driven evaporation across the lakes and vastly improve the return of water to the region through the generation of rain (evapo-transpiration) and the natural action of the daily water cycle (dew) (e) in time, the installation of productive areas including dairies, citrus orchards (with built-in biodiversity), olive groves, vineyards and various other crops in a complex of sustainably irrigated plantings. The author states that one of the main outcomes of the restructuring of the Lakes into several precincts would be to reduce the surface area and hence reduce evaporation from the lakes. Furthermore, the same volume of water in a 'smaller container' would increase the depth of the lakes with the potential to raise them above sea level. This would enable flushing of accumulated salts and leached chemical nutrients to the sea, thus reducing the potential for toxic algal blooms in the Murray Darling system. The increased water levels in Lake Albert could also make possible the construction of a flushing channel from Lake Albert to the North Lagoon of the Coorong to freshen the Coorong. The author supports the vegetation planting program and encourages the widespread use of natural biological inputs to enhance the bio-remediation program. Applications of compost teas and worm leachate, possible delivered by aerial spraying, would enhance the microbial vitality of the soil and boost plant growth, especially in saline environments.
STF0023	This author states that the aim should be clear, that there is adequate water to pass out through the Murray Mouth on a regular yearly basis, of an amount that replicates the historic discharges in the past. A further benchmark could be established with governing the salinity level of Lake Alexandrina, as pointed out in the plan, to a target of 1000EC. This target clearly indicates an adequate flow downstream to the lakes to achieve that figure The suggested operating levels for the lakes are too low to achieve the continuing sustainable health of the wetlands and the infrastructure such as levy banks and the like in the system through to Blanchetown. The lower level of the target would mean the operation of the Goolwa lock for boating use would be severely restricted unless alternative pumping arrangements were permanently in place. The author states that the whole operation of the lakes and Coorong is dependant on the free flow of water through the Murray Mouth and our concern would be that unless guaranteed historically acceptable water flows are given, then the installation of break waters and sand pumping equipment at the Murray

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	Mouth is the only viable long term solution to keeping the Mouth open at all times. The continuing dredging program is at the best, Australia's largest recycling program with the sand pumped out on to the beach and then returning to be pumped out yet again. The author states the costs that have been spent so far in the dredging exercise would for all intents and purposes have paid for the break waters and a sand pumping system which would have been a permanent solution. This and several other matters need to be considered on the basis of the first expense should be the last expense and a permanent fixture to the problem should be provided, band-aid measures are no longer acceptable. The author states the hyper saline water of the southern lagoon should be immediately pumped to the sea. This would significantly improve the environment of the southern lagoon. The reinstatement of water from the south east, which has been re-directed via the man made channels to the sea, should be directed to the wetlands adjacent to the south Coorong basin so they could filter the water into the southern lagoon over an extended period of time and replicate the position that nature established prior to the intervention of the south east drainage schemes. The author states that with the health of Lake Albert being in considerable doubt the means of adequately flushing the lake is imperative to its long term survival. A channel should be cut between Lake Albert and the north Coorong basin, with a regulator in place that would enable the Lake to be flushed out by water coming in through a regulator at The Narrows and exiting for much of the time through into the north Coorong basin. An open type regulator replacing the causeway to the ferry with an open structure, a lock and a fishway should be constructed at The Narrows. This would enhance the flow of water through that area, particularly at the times of strong nor / westerly to westerly winds, giving the maximum chance for flow of fresh water out of Lake Alexandrina into Lake Albert. The author states that a permanent weir or barrage should be constructed at Pomanda Point or upstream in order to control the water level between the lake and Blanchetown and stop the possible migration of saline water upstream to the pumping stations. The permanent structure should have a lock and fishway. The concern of building a temporary structure at Pomanda Point is that the cost has now grown to such a significant extent that a permanent structure, if not built at that site, further upstream on a more suitable base would be money better spent. The author states that the report as it is prepared by the Environment Department has a bias towards the environment but it should be balanced by a report considering the economic implications of the current and projected River Murray flows and levels. This report at best answers half the questions that need to be answered for a long term sustainable solution to the Murray Lower Lakes and Coorong area.
STF0024	This author asks is the plan's title appropriate considering it has a 5 yr horizon? Adaptive approach to management is not "adaptive management" as the term is usually used (and defined in Glossary). Rather laissez faire and cope with the consequences. Coorong historic gradients are vague, there has been great variation. No mention of Fishing industry The author says do not dredge/connect North South Lagoons without considering water levels; the South lagoon level will fall rapidly in spring affecting *Ruppia* life cycle. If water level and salinity issues are addressed there may be no need to translocate *Ruppia*, as this aquatic plant will follow/disperse to suitable environments. Overall, the plan does not provide targets for end of system flow which is essential to the system. The author states that all of the actions are very short term and piecemeal. The future seems to rely on the New Basin Plan from the MDBA. This document should inform that plan with goals and targets for the CLLMM region. Unfortunately it does little in this regard. Other comments by this author include:

Identifier No	Comment
	• Figure 2 shows a large estuarine area to Point Sturt. There have also been incursions into L. Alex. Therefore the Channels and lakes have a significant estuarine history that is underplayed in the text. • We need a statement of how much water might have been extracted in the 1890s. Considering the equipment and infrastructure available it could not have been 1000s of GL • The lampreys should be listed as threatened species in section 3. Two species of ancient jawless fish the short-headed lamprey and the pouched lamprey have been collected near fishways at the barrages. These lampreys migrate into the Murray Mouth and up the River Murray to spawn in freshwater then die. Juvenile lampreys spend 3-4 yrs in freshwater before migrating back to sea. Continued migration of lampreys should be a priority. • The author states that seawater as an option should consider managed introductions of seawater; not the straw man of barrage removal!!!! • The author states end of system flow information is misleading. The 2,400 GL/yr from 1995 to 2005 was almost all delivered between 1995 and 2000. Almost none since. Therefore the crisis in the Coorong relates to the 2000 to 2009 drought. An average of 2,400Gl/yr delivered in a different manner would have very different outcomes. And flows from the USE need to be considered along with Barrage flows. End of system flow of 3,500 GL would entirely flush L Alex. The resultant salinity would depend on EC on incoming water. • The driver for all the goals for the site is flow to the CLLMM; it largely determines salinity and water level. The author asks what flow is required to achieve all this? End of System Flow is the key issue and has not been addressed in this LTP. • The mitigation list is very short term and piecemeal. Management by adaptation. What is meant by this "adaptation". Sounds like coping with whatever water is made available to CLLMM. • The author says do not dredge sills at Parnka Point. They help maintain water level in South Lagoon into the late spring when *R.tuberosa* are growing and flowering. Instead review pumping would continue over late summer/autumn months. • There needs to be better coordination between the Reflows project of the USE scheme and whatever other drain water reclamation projects there may be. • Seawater option should consider management with "transparent" barrages. L Albert Channel. Consider one way outlet from L Albert to Coorong for flushing.
STF0025	This author says the Long Term Plan states that 3,500Gl/yr is more like the required figure to flush salts. Any idea of a 'temporary weir' is therefore optimistic to the extreme. The author states a weir at Wellington needs to be permanent and well constructed to carry a lock and a fishway. It is quite possible to incorporate a carp trapping mechanism to trap this noxious species that are trapped in the lake, as they attempt to re-enter the river during times of low flow. The weir should be placed at Wellington, just downstream of the ferry where the structure needs to span less than 300 m of river width. The reality of a weir with a lock is that the volume of freshwater needed to support freshwater in the lower lakes, to provide additional through-mouth flows and at the same time, maintain a healthy river wetlands system including billabongs and 3 backwaters is not available and cannot in practice become available without severely compromising storage mechanisms throughout the MDB system. Other comments by this author include: • With an estuarine lakes system, future lakeside development can accommodate any sea-level rises as a result of climate change progressively, instead of being faced with the sea being held back until

Identifier No	Comment
	catastrophic failure through further weakening of the aging lower lakes barrage system. This possibility must be acknowledged as the barrage engineering is in poor repair. In consideration of tidal mixing in the lakes, if the lakes were an average 3m depth and there were a rise and fall of 30cm with each tidal change, that's 10% of the water body exchanged for each tidal period. This is significant exchange and far exceeds the exchange that would be required to prevent increasing salinity! Regardless, the loss of precious freshwater into the lower Murray lakes can only be stopped by adding one further barrier to the end of the river so that we can manage the very last drop of our fresh water. Only together, with an estuarine lakes system in place to gradually blend with the Coorong; to return that to a pre-barrage era when the region was recognised as a successful alternating estuarine system, will we see a return to a healthy lower river and lakes system. • The second step diagram page 50 indicates the process of a reject bin at each step with no mechanism for retrieval as either conditions change or better science/information/knowledge is sourced. It is incomprehensible that there is no re-appraisal mechanism. • The author states that dismissing the marine lakes option clearly indicates that the concept of using tidal flow to scour silt from the mouth and channels leading to the barrages, has not been understood. Quoted modelling deals with the introduction of seawater through the barrages to increase lake depth and volume, but only as a single event and even though it considers tidal exchange, it appears to ignore wind seiche. Wind speed and direction resulting from changes in the weather in this region impact on water movement throughout both widely exposed lakes and influences flow between the lakes as well as providing cyclic changes to tidal flows. It is crucial to understand tidal wave pressures and flows that occur in several directions throughout both lakes and using this wind driven sea water flow daily as a major component towards clearing the system and sustaining an estuarine feature. • The assumption that seawater in the lakes would not produce a healthy estuary is an end answer when the effect of tidal flow has not been considered in modelling. The entire document therefore deals only with a freshwater solution in mind. The inadequacy of this approach is deafening! • If the lakes were to become tidal as a management option now, sea level rises would be a gradual process which would be dealt with progressively with development, and not make the area more vulnerable as is suggested at the bottom of page 82 of the Murray Futures 'Securing the Future' document. • Pages 50 and 51 of the document indicate that any course of action has to fall within a $200 million dollar budget bracket. The author states that amount would fail abysmally and would only gain, on today's water rights figures, about 84 GL which would mostly be lost to evaporation anyway, notwithstanding it would not entirely reach the lakes. Trying to maintain a freshwater solution for the lakes etc when costs are more than ten times over the prescribed budget, and that's just for buying the water rights, without allowing for any other costs for 'interdependent and complementary items as part of the package, with an emphasis on the total site,' is ridiculous. • The author states that in conclusion, real water can only come from a plan of action which uses fresh water in the river and exhausts the river periodically into a tidal managed Lake System. • There are suggestions on pages 39 and 40 of the need for a flow rate of 3,500 GL per annum flow. To suggest that we can achieve that target and maintain it is optimistic in the extreme when today we cannot find 10% of

Identifier No	Comment
	that volume.
STF0026	This author states that until this hope becomes a reality, most desirably before 2014, the only response to the impending environmental and ecological disaster at the end of the Murray Darling System is to sustain the CLLMM in the best condition possible using the limited fresh water available. The author states that there is a serious underestimation of the amount of fresh water from the South East that historically flowed down the Coorong from Salt Creek and the ephemeral swamps south of Salt Creek. If Goyder was correct in his statement (ref. section 4.2) half 7,600 square miles = 984,200 ha. If the average depth of the "flood" water was 2ft. = 0.6m, there would be 590 GL of water "run off". This would be a significant boost to the Coorong's environmental health and a considerable, particularly in the current circumstances, improvement to the flows out of the Murray mouth. Historical, anecdotal and scientific evidence suggests that this is not an unreasonable flow scenario. The author states the Murray Darling Basin Authority must set 'Sustainable Diversion Limits for each regulated river system within the basin. The SDL's must allow an end of river flow. This will give an end of system flow which will be seasonably variable, but sustainable. Those areas of South East South Australia and the Eastern Mount Lofty Ranges and Western Victoria that drain into the Murray Darling System, which includes the Coorong, must come under MDBA control.
STF0027	The author states that the only sustainable solution to the problems of the Lower Lakes and Coorong is to return the Lower Lakes to an estuary. This can be accomplished by the following: (1) Allow seawater to flush out damaging acidity and prevent further deterioration. Tidal inundation has been proven to remediate acid sulphate soils in Queensland. (2) Modify the barrage gates to be operated remotely and quickly to take advantage of tidal cycles and wind induced heads of water. (3) Remove accumulated sediments inside the Murray Mouth. (4) Build a weir or lock between the Lakes and the River. Other comments by this author include: • In its recent "Securing the Future" document, the Government has mentioned the possibility of 'drying down the Lakes' if the seawater option is not practical. The author states that this would be a disaster of immense proportions, and the possibility of recovery to any type of wetland, freshwater or marine, would be put off for hundreds of years. • Trials by the government have been only partly successful, and these presently cover a small proportion of the exposed sediments (about one quarter, not including what will be exposed this summer). Seeding and other bioremediation efforts have been concentrated around population centres where voters live or have large vineyards (e.g. Tolderol). There remain very large areas of exposed lake shores which are already highly acidic, and for which no immediate bioremediation can occur. These have low population densities, but will still contribute to the acidification of the lakes. • The Coorong is in decline with hypersalinity in the southern lagoon causing drastic decreases in aquatic plants, fish and bird life. In this case, the main cause is the south east drainage scheme, which has sent fresh water out to sea rather than northwards to the Coorong. • Returning the lakes to an estuary has been met with much opposition about its supposed deleterious effects, and continues to be called 'last resort' or a 'temporary measure', despite the fact that tidal inundation has been successful in remediation of acid sulphate soils in other Australian states. The author states that there has been no evidence published in the public realm to support claims made by government consultants and public servants as to why this proposal could not work. The main objections could be overcome with engineering solutions. They are as follows: (1) Use of the tides. (2) Modify barrage gates. (3) Seawater does not make sulfidic soils worse! (4) Estuaries are natural.

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	• Although the possibility of seawater entering the Lower Lakes has been mooted by the State Government, we have yet to see any detailed plans of how this would occur. Valuable time for system development has been lost over the last two years with the unrealistic insistence on a fresh water solution. The author asks how is it that we could have allowed such a crisis to happen in our supposedly enlightened country? Lack of political will, too much attention to vested interest groups, and lack of balanced scientific input are all to blame.
STF0028	This author states that local people have also been highly concerned for a long time too about the crisis developed around the CLLMM, but get no mention in the Foreword. Certainly these issues have been raised for the past 15 – 20 years at least driven by the catastrophic decline in bird numbers etc. Local communities need to be acknowledged. To our understanding the Ngarrindjeri do not use words like "leaders". Other comments by this author include: • 'Coorong historic gradients... 'appears vague after all there has been much variation. There is no mention of a prosperous fishing industry supporting local communities • Regarding translocation of *Ruppia* spp, water levels need to be considered. To our understanding the South Lagoon water level falls rapidly in Spring which will affect *Ruppia* life cycle. If water level and salinity issues are addressed there may be no need to translocate *Ruppia*, as this aquatic plant will follow/disperse to suitable environments • When the site was declared a Ramsar site in 1985 it was already in serious decline, and this process of degradation has continued unabated. In a speech at the Australasian Shorebird Conference in September 2009, Ken Gosbell, Chairman of the Australasian Wader Studies Group said that waders in the Coorong, first monitored in 1981, have declined by 85%. Much of the page iv statement/paragraphs seem obvious, although perhaps not at Federal level. • The author states that the goals are huge expectations if one considers how little progress has been made in the past decade with e.g. buying water back. "The continuation of productive and profitable agricultural industries"... This implies or appears to be about continuing or returning to the past because what the State and District is experiencing now is really temporary, a drought. Does this need to be about changing our attitude and behaviours towards the way all individuals view and use natural resources e.g. water, and therefore the nature of crops grown? Can the environment and people afford to grow luxury crops even if they are profitable? • The goals may in the long run reduce the rate of degradation but the plan implies that there is an expectation that degradation will continue nonetheless. • Since the site was declared a Ramsar site over 25 years ago, a continuing degradation has been witnessed. A nurturing of this site back to health appears difficult to believe, although much needed. At what level will this commitment truly come from when essentially the CLLMM represents a basin-wide problem. • The first of many references cited are in DRAFT or prep, and not available for review. The author states there is concern that many references cited have been used are DEH business and used to inform the Plan. Suggest widening more referencing that can be reviewed. In addition several key reports for example Geddes *et al.* and Dittmann *et al.* have been published on the Coorong, commissioned by DWLBC & DEH, and would be useful to this Plan. • The management history section is interesting and appropriate however a statement of how much water might have been extracted in the 1890s

Identifier No	Comment
	would be useful, considering the equipment and infrastructure available at that time; could it have been 1000s of GL? Clarity advised. • The historical over allocation of water resource is a valuable point for State government to acknowledge as a key cause of the problem not just in the CLLMM but across the basin. • Water allocation history section needs rewording. A freeze on further irrigation entitlements was imposed but the Dean Brown Liberal Government still opened access to Lake Alexandrina's water for the irrigation of vines in Langhorne Creek, Currency Creek etc. • Balancing the environmental and socio-economics of the basin are indeed complex, and often lead to conflicting decisions. The health of the river however is dependent on all this factors, and therefore is paramount. • Two species of ancient jawless fish the short-headed lamprey and the pouched lamprey have been collected near fishways at the barrages. These lampreys migrate into the Murray Mouth and up the River Murray to spawn in freshwater then die. Juvenile lampreys spend 3-4 yrs in freshwater before migrating back to sea. Continued migration of lampreys should be a priority. • More thought and consideration should be given to water from the USE and SE drainage. • The author asks what were the ecological factors given consideration in barrage management? Releases through the barrages since the mouth closed in 1981 have been to maintain levels in the Lakes and below Lock 1 to maintain water supply for Adelaide etc. and to clear the mouth of sand build-up. Until October 2002 there had been no dredging. Prior to the installation of the fish passages, what is the evidence that barrage management was provided specifically for fish passage. This was always only a by-product of other actions being taken. ". . . . and the ecosystem of the Lower Lakes has been compromised as a consequence." Well said, but the Murray Mouth estuary and the Coorong have also been compromised. Consider giving attention to the impacts at the Murray Mouth and in the Coorong. • More focus on revegetation would be advantageous. Broad-scale reinstatement of habitat is essential for "resilience" to be re-created, that is far beyond the main river channels and adjacent wetlands. • Even when there was much more water in the Lakes Orange-bellied Parrots have hardly ever been found. Almost all sightings in recent years have been in the Coorong or on the Young Husband Peninsula or Sir Richard Peninsula. The key point is that the Parrots favour sapphire habitats, which are dependent, in part, on sporadic water inundation. With water levels receding inundation is less frequent, unless of course areas respond to receding waters by shifting and 'keeping pace'. • The author states statistically information appears sparse in the social impacts section. Over what period did the school numbers fall at Meningie for example? Withdrawn and distracted students could be the result of a number of internal and external factors outside the degrading environment and consequently reduction in socio-economics of communities. How has this information been proven to be directly linked to the environment? • It is worth clarifying the 'area' in which 4000 Ngarrindjeri live in. From where is this information sourced? Local census? Ngarrindjeri Elders? • To our understanding, the 2400 GL/yr from 1995 to 2005 was almost all delivered between 1995 and 2000, and almost none there after. This statement appears misleading. The crisis in the CLLMM relates to drought conditions i.e. 2000-to date, an average of 2400 GL/yr delivered in a different manner would have resulted in very different outcomes. Flows

Identifier No	Comment
	from the USE need to be considered with Barrage flow. • The author states that for creditability, a reference is recommended for 'current modelling indicates' on pg 40. Would an end of system flow of 3500 GL flush L. Alexandrina entirely, and the resultant salinity might depend on EC of incoming flows? • The mitigation list appears short-term. Management by 'adaptation' appears elusive i.e. that the CLLMM region will need to adapt management options largely dependent on what inflow may or may not occur rather than planning for a freshwater future. • Perhaps sill build up at Parnka Pt may play a role in maintaining water level in the South Lagoon into late Spring, when *Ruppia* are actively growing and flowering? • Coordination of re-flows projects is needed. A cost-benefit analysis would also be useful against these actions. • The depth of work that has obviously been put into this document is acknowledged and commended. The author states that overall, the Plan does little to provide targets for end of system flows, which is now critical to the entire system. Securing the future will need to rely on securing end of systems flows, which is the key issue. There are concerns whether this Plan addresses that adequately. • The actions proposed are innovative but offer short-term and piecemeal solutions. 'Securing the Future' appears to be reliant on the New Basin Plan from the MDBA. This Plan MUST inform that Plan with specific long-term goals and targets for the CLLMM region. • The Taskforce strongly believes in a freshwater future, and not in support of a temporary weir near Pomanda Island or minimal introduction of seawater to the Lakes. • In other but related issues regarding 'securing the future' is South Australia's expanding population. While it is acknowledge that South Australia has the slowest population growth on the Australian mainland and faces declining birth rates and a rapidly ageing population (Hugo 2002) a population policy for South Australia is underway, and the SA Government has made substantial investment to attract international migrants. The current situation i.e. lack of water quantity and quality that Regions and Districts are experiencing demonstrates that natural resources such as water are under enormous pressure to met human consumption and environmental flows – how will securing the future be achieved for natural resources such as water, if population increases as planned? Perhaps there needs to be collaboration between government agencies e.g. DEH and Department of Immigration & Citizenship when developing plans as being developed here.
STF0029	The authors state that a project is underway to determine the environmental water requirements for the Coorong, Lower Lakes and Murray Mouth. Some preliminary information from this project has been provided to officers in the organisation making this submission as input into the Basin Plan. A peer reviewed report from this work will be available in early 2010. The organisation making this submission would be keen to see the outcomes from the South Australian project incorporated into the final version of the Long-Term Plan. The authors state the current wording of section 10.1 doesn't reflect the legislative requirements of the Basin Plan under the Water Act 2007. The Water Act doesn't explicitly state the need "to ensure environmental flows for the Lower Lakes, Coorong and Murray Mouth". We suggest the paragraph is reworked to reflect that the following comment more accurately reflects the intent of the Water Act. Other comments by this author include: • While it has been agreed that the CLLMM Icon Site is a high priority for environmental watering through The Living Murray Annual Watering Plan 2009/10, at this stage, the prioritisation of water across all Living Murray

Identifier No	Comment
	Icon Sites has not been finalised. • The current wording of section 10.1 states that there is currently 485GL available for allocation and that restrictions limit water availability. The author suggests that this paragraph is re-worded to reflect the following comment which more accurately reflects the TLM water recovery target and availability of water: "*The target volume through The Living Murray first step water recovery process was a 500GL (Long Term Cap Equivalent), with the current suite of projects it is expected that we will recover 485GL of water (hence 97% of the target volume). As of November 2009 there was 411.8GL of water listed on the Environmental Water Register. The actual volume of water available against these entitlements is dependent on annual allocations".* • Section 10.1 refers to the MDBA's Environmental Watering Group (EWG). The EWG also includes ACT and Commonwealth Governments representatives. This sentence should be re-worked to incorporate the following comment: "*Use of TLM water is determined by the NSW, Victorian, South Australian, ACT and Commonwealth governments who are parties to the Living Murray Intergovernmental Agreement".* • The author states that section 10.1 states that "the South Australian Government will work with the Australian Government and MDBA to develop an agreed strategy for the provision of an annual environmental water allocation to CLLMM". As there is currently no process in place, and this may be confused with the Basin Plan, the author suggests this paragraph is removed. • Water sharing arrangements would need to be explored with other Basin jurisdictions through water sharing agreements under the Murray Darling Basin Agreement
STF0030	This author fully support the position put forward by the "Lakes Need Water Now" group.
STF0031	This author states that there is no mention in recent water allocation history of the overuse of water in the Eastern Mt Lofty Ranges and the effect that has on the system. There has been no system of control of water users in that area and that has meant a significant reduction into the Lakes from the Finniss, Bremer, Angas, Currency Creek, Tookayerta and so on. If the Eastern Mt Lofty Ranges is managed properly that there will also be increased inflows from these rivers and creeks. As well as over allocation the plan needs to address overuse of water where there has been no allocation system in place e.g. the Eastern Mt Lofty Ranges. The author states that the management of the Eastern Mt Lofty ranges catchments for good end of river flows is possible as it isn't caught up with fighting with other states and the federal government. The use of water from the Eastern Mt Lofty Ranges and planning for using its flows to compensate for lack of flow down the Murray should be included in section 10.1. The author asks how will the weirs be removed and what are the triggers for this? And in particular the Clayton weir which prevents the most valuable flows from the Finniss getting into the lakes.
STF0032	This author states that the plan lays out a clear and well researched assessment of the value of the environment of the Lakes and Coorong. They state that restoration of the environment supports economic activity but is often forgotten. This author supports a freshwater future and states that it is the only viable long term option for returning the lakes and river to health. Furthermore, the author is pleased that over-allocation is high on the list of problems to be addressed. The author also stresses that the issues the region is facing is a national problem and they highlight the importance of all government's working together: "Recent discussions concerning the floods in NSW have shown that there is at least a modicum of understanding that the River Murray is a national resource and a national problem and that all governments need to work together."

Identifier No	Comment
	The author is not supportive of opening the barrages or suggestions to "dig channels" in response to the problems the region is facing. They suggest that the arguments against such schemes (which are presented in the plan) need to be communicated more broadly. The author points to Appendix 3 of the document regarding the water levels for Lake Alexandrina and Lake Albert where acidification is predicted to occur (i.e. -0.5m AHD for Lake Albert and -1.5m AHD for Lake Alexandrina). The author states that these levels were the result of modelling done about 2 years ago and suggests that there is no proof that acidification would occur at these levels. The author believes that the statements should be removed from the plan. The author suggests maintaining the lake level at –1m AHD and states that more research into the large scale acidification of the lake is needed, particularly regarding the possible use of sea water to maintain a level in Lake Alexandrina. The author states that continued public involvement in soil monitoring, re-generation of plants and other on-ground works is building trust and communication between the departments and people with valuable local knowledge, stating that "we can and must all work together in this."
STF0033	This author agrees with the statements made in the document's Executive Summary that securing adequate flows down the River Murray is the only long-term viable way to manage the Lower Lakes, Coorong and Murray Mouth for the future health of this internationally vital wetland. They state that "Rivers die from the bottom up. A dying estuary, as we have in our current situation in the Lower Lakes, is the sign of a stressed and dying river. Rivers are not purely conduits to deliver "just in time" water. They are complex living systems and need adequate flows, on top of the amount being extracted, to maintain healthy water quality." Other comments include: • Unless the River Murray receives adequate flows (3500 Gl/yr is suggested) to allow its salt accumulations to be flushed through the Lakes and out to sea via an open Murray Mouth, then it will die. • If we are serious about saving this precious river system, then actual real high security water (as opposed to "paper water") must be purchased and returned to river flow as quickly as possible. A dead river is of no use to either the environment or the economy. • The historic and scientific detail and conclusions in the document are excellent. • There needs to be more emphasis on how hamstrung we are in South Australia to be able to manage anything with the piecemeal arrangements that are in place now. • Everybody is frantically trying to preserve "business as usual" in their own patch. By luck of geography those upstream get a better go, by simply having access to the water first. The Federal Government must take a strong lead in viewing the Murray Darling Basin as a whole system, whose problems, wherever they occur, are treated as problems of the whole basin, not confined to local segments. • It was gratifying to read in Appendix 4, that many of the wilder suggestions for the management of the Lower Lakes, Coorong and Murray Mouth are not being pursued, in particular letting seawater into the Lower Lakes.

Identifier No	Comment
STF0034	This author questioned whether the Goolwa barrage locks would be operable if the water level in Lake Alexandrina is to be operated at between 0.3 and 0.6m AHD. They point to Appendix 3 of the document which states that barrage opening is not possible below a level of 0.5m AHD, and suggest that if this is the case it is important that works be urgently undertaken to ensure that locks can operate at projected water levels. The author also states that the ongoing water quality in the Goolwa Channel is a significant concern. They state that constant monitoring of water quality in this area is essential and action plans should be ready in case water quality deteriorates in this water body. Other comments include: • It is acknowledged that public consultation has been sought on previous drafts of this plan and that timing of the plans adoption is also important, however the timing of this draft's consultation (over the Christmas / New Year break) coincided with school holidays, annual leave season, and the busiest tourist period of the year. It would have been very difficult for many stakeholders to find time to read and respond to this plan and provide you with meaningful valuable feedback.
STF0035	This author states that the current version of the document is much improved on the previous version. However they state that it is still deficient in a number of areas and lacks a balance between environmental, economic and social aspects – commenting that there is still too much emphasis on environmental matters at the expense of the others. The author suggests that Commonwealth control of the river system is needed to resolve the problems. They note that the Basin Plan is still some years away from being completed and suggests that a national referendum on the issue is required leading to Australian Constitutional reform. *"The solution to the Murray Darling problem relates to the need to totally re-allocate water use in the system. There needs to be agreed allocation for the environment, for critical human needs and for irrigation – in that order. The fundamental problem is that there is still no agreement on what constitutes a minimum flow to ensure the health of the total Murray-Darling system from top to bottom."* Other comments include: • Dredging to maintain an open Murray Mouth: the author argues that the current dredging regime is not a cost-effective long-term solution. The author asks for a detailed explanation regarding why previous suggestions to install breakwaters and associated sand pumping at the Murray Mouth may not be feasible. They suggest that the capital cost of this work would offset the recurrent expenditure on dredging and they urge the government to take a more serous look at the proposal. • Hyper-saline water of the Coorong South Lagoon should be pumped to the sea. • The re-instatement of water from the South East should be directed to the wetlands adjacent the Coorong South Lagoon so these wetlands can filter the water into the South Lagoon over an extended period, effectively restoring this system to what it once was. • Serious consideration should be given to cutting a channel between Lake Albert and the Coorong North Lagoon. They suggest that this would require a regulator to be installed at the Narrows that would enable the lake to be flushed out. • Support for the construction of a permanent (not temporary) Weir below Wellington, which includes a fishway to allow water levels between Blanchetown and the Lower Lakes to be regulated and stop salty water moving upstream. This author states that there is also a major economic imperative to maintain the Goolwa Barrage Lock as operational even when there may be periods of reverse head requiring pumped lockages. The author strongly suggests that the

Identifier No	Comment
	government and the MDBA install permanent submersible electric pumps in the locking chamber.
STF0036	The author proposes that the government implement the *Lakes Need Water* proposal immediately. They propose the urgent implementation of the Lakes Need Water attachment, which they state is the only common sense fix to a disaster which has been going on for too long. They say that this has been going on for years and is turning into a talk fest while the lakes and lower Murray are dying a slow death. They add that too many government departments are doing nothing but shuffle paper work, stating that "we need action now".
STF0037	This author states that it is essential that high priority be given to re-allocation of the entire system and buy-back of water rights. They state that "while 'remediation' and 'revegetation' may hold at bay the likelihood of acidification, we are not fooling anyone when we continually vegetate areas which really were former wetlands and swamps e.g. Pyewalla Swamp, between Murray Bridge and Mannum – just like its mirror image Sunnyside Swamp - needs water, not vegetation. A swamp by definition requires water not trees! The author is not supportive of the Goolwa Channel project. The author suggests the following for consideration: • Installation of a proper, dedicated, permanent weir below Wellington – complete with gates at the bottom to enable salt flushing and proper fish-ways to enable movement of fish up and downstream. • Move the barrages from the coast at Goolwa back to a point on the Goolwa side of the Currency Creek/Finniss River outlets to enable them to continue to flow into the Lakes. This would have allowed the ocean to flush the Goolwa Channel and keep it clean. • Salt water could have been introduced gradually into the Goolwa Channel, allowing tortoises, bird life and estuarine animals to migrate upstream – then the barrage could have been moved to a point south of both river mouths - Currency and Finniss – permitting them to deliver water as usual to the Lakes system.
STF0038	This author states that community organisations must continue to be part of the plan once it is finalised, stating that it is envisaged that this contribution will be reflected through community organisations being involved and part of the solution in the implementation of this plan. The author states that it would have been ideal for the technical papers currently underway to inform an Environmental Impact Statement to have been completed prior to this submission. If the technical papers had been completed, the author would have been in a position to be able to comment on the scientific best practice results – particularly with regard to the debate on allowing seawater into the Lower Lakes to avert soil acidification. The author states that definition of a short-term response needs to be clearly defined before seawater is allowed in to the Lower Lakes.
STF0039	This author states that the general approach of the document is strongly supported, especially the Priority Management Actions (2010-2014) as set out in Chapter 10. The author states that the document has failed to understand or examine the broader consequences of managing Lake Alexandrina levels down to 0.3 metres AHD on a regular basis. They state that because the lake level determines the River Murray water height up to Lock 1 at Blanchetown, this would become River water level as well. They suggest that at 0.3 metres AHD many of the dairy farmers on the swamps, especially upstream of Murray Bridge will be unable to effectively irrigate their swamps through the new installed siphons. This is because the height difference between the river and the swamps will be too small for the siphons to deliver water effectively. They state that this inability to irrigate was experienced

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	by dairy farmers in the summer-autumn of 2007 when the water level dropped below about 0.4 metres AHD. Further, the author states that management actions should have been assessed on a triple bottom-line basis, rather than on a single bottom-line of environmental impact. They state that whilst the impacts and consequences of reduced freshwater inflows referred briefly to the Social Impacts (pages 33 and 34) and the Economic Impacts (page 35), this was not done when selecting management actions. The author suggests that there are large communities along the River Murray from Wellington to Lock 1 that have not been considered in assessing management actions, even though these communities are impacted by factors such as River water height. Other comments include: • It is recommended that an electric pump be installed on the Goolwa Lock chamber to enable the Lock to continue operations when lower Lake Alexandrina levels are experienced. • The document appears to assume there will be no future irrigation from the Lakes, even though no sociological or economic impact assessment or community consultation has been made to come to that assumption. The existing irrigation entitlements should not be arbitrarily removed, and to do so would cause sociological and economic impacts and continuing hardships. • The most important management proposal in the document is that the base environmental flow should be increased to ensure sufficient water to maintain the health of the Lower Lakes, Coorong and Murray Mouth. That recommendation is endorsed fully. However, even with the Commonwealth Environmental Water Holder (CEWH) and The Living Murray initiative, it is a valuable tool to model the 2006-2007, 2007-2008, and 2008-2009 droughts where the annual inflows into the southern Murray-Darling system were only 8 percent, 20 percent and 20 percent of the long term average, into the proposed new management actions. • The proposed management actions do not actually reduce water losses, so the scenario for Lake Alexandrina would be similar to what has been experienced for the last three years, with significant environmental and economic losses. Therefore, an additional management action needs to be adopted that can immediately reduce the impact of the very low flows on Lake Alexandrina. Constructing a regulator at the Narrows between Lake Alexandrina and Lake Albert would enable Lake Albert to be isolated immediately and managed at a much lower level in such a dry year. That would immediately save about 170GL per year for the first two years, with Lake Albert being managed in a similar manner as it is currently. The regulator should be a structure that enables even greater natural flow between the two Lakes under normal conditions. The existing causeway would be removed and replaced with culverts which could be sealed when necessary. • It is recommended that the water level in Lake Alexandrina be managed in a range from 0.5 metres to 0.7 metres AHD for the majority of the time, rather than the lower level (specified on page 43 of the document). • It is recommended that all management actions be reviewed to include economic and sociological impact assessments. • It is recommended that irrigation from Lakes Alexandrina and Albert be permitted when the present emergency measures no longer apply.
STF0040	This author states that the Plan is comprehensive and shows commitment by all of DEH and stakeholders/partners who are to be commended. The author says that the actions offered are innovative and short-term that will assist the challenges the region faces but suggests that securing the future for the region will still require targets and actions for end of system flows. The author states that the Department needs to ensure that this Plan informs the

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	new Basin Plan, stating that the requirement for a basin wide solution is an excellent, clear and concise statement, and this statement must be centre to the solutions. Other comments include: • Under Appendix 1 the Plan might consider the Coorong National Park Management Plan and Management Plan for the South Australian Lakes and Coorong Fishery 2005 as relevant to state strategies and plans and agreements in placing this Plan into greater context. • Concern about the CLLMM area has also been expressed for decades by local people and suggests that local communities need acknowledging in the Foreword. • The goals may in the long run reduce the rate of degradation but section 10.1 implies that there is an expectation that degradation will continue nonetheless. • The level of commitment from the Australian Government needs clarity – it requires basin-wide support and collaboration from local to Federal level. • The risk of sea level rise on coastal habitats and wildlife is significant; it should not be assumed that all coastal systems such as mudflats or samphire however will be lost due to 'coastal squeeze'. Some areas may respond to sea level rise by shifting and 'keep pace' with sea level rise and therefore migrate onshore provided of course coastal protection constructions or natural barriers are not hindering this response to sea level rise. 'New' islands may be created as sea level rises, and become suitable for nesting birds. • "....and the ecosystem of the Lower Lakes has been compromised as a consequence'. Good statement but the Murray Mouth estuary and the Coorong have also been compromised. These areas also need to be mentioned. • The social impacts section would be strengthened with additional and more current references or personal communications. • What 'area' does this Plan refer to in which 4000 Ngarrindjeri live in? • There needs to be more acknowledgement of where statistics are sourced from in section 5.7 Economic Impacts. The SA Dairy Association and Dairy Australia represent only one industry discussed. Citing where this information and statistics have been sourced from is advisable to give this section credibility. • "The health of CLLMM is dependent on what is happening across the entire Murray Darling Basin" – this point needs greater emphasises.
STF0041	This author suggests that the authors of the draft Long-Term Plan have selectively quoted from scientific papers or reports to support their stance or from publications which are themselves biased towards the fresh water solution. The author suggests that the plan should investigate the option of tidal exchange where the levels in the Lower lakes would be allowed to reach close to sea level thus providing refreshment of the water in the Lakes preventing hyper-salinity from developing. Engineering modifications to the barrage gate structure and clearing of sand accretions which impede the tidal signal from reaching the barrages could manipulate the flow of water to coincide with large spring tides and heads of water built up in the Lower Lakes with wind induced seiching. The author also suggests that there should be provision of seawater and consideration of an estuarine option for the Lower Lakes instead of no water at all allowing the continued drying out of the Lower Lakes and build up of acid reserves within the soil. They state that drying out of the Lower Lakes will expose acidic soils which are then followed by a bioremediation program which will have questionable success. The author also highlights the obligations under the Ramsar agreement to ensure

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	the presence and longevity of wetlands in this listed area.
STF0042	This author recommends a number of changes to the document for consideration, as follows: • In the executive summary clarify that the majority of the liming was in the Finniss and Currency Creek tributaries and their mouths not the Goolwa Channel. • If the construction of the artificial wetland at Meningie is for aesthetics alone, should perhaps the council be funding this development? And where will the freshwater come from? • Do not dredge/connect North South Lagoons without considering water levels; the South lagoon level will fall rapidly in spring affecting *Ruppia* life cycle. • There is no need to translocate *Ruppia* - it will follow/disperse to appropriate environment. • More consideration should be given to water from the Upper SE and the SE drainage in diversion of water from the South-East of South Australia to the South Lagoon of the Coorong. • Lampreys should also be listed in Chapter 3. • Sea level rise predictions are estimates at best. Possible future sea-level rise should not be an excuse to take pre-emptive action now i.e. seawater incursion. • Other contributing factors to the Lake Albert fish kill include blue green algae, low dissolved oxygen levels, and poor water quality. • Salinity was moderated in the Goolwa Pool, but is still at high levels & will continue to rise through evaporation and seepage from the Goolwa Barrages. So salinity is still a concern for species in the Goolwa Pool. • The Clayton regulator is now called a levee, these structures were named regulators and the terminology should be kept as such. Consistency of naming of structures should be maintained. • A suitable fishway connection in the Currency Creek regulator would be a priority before winter 2010. • In section 6.2 Consequences of introducing seawater there is no mention of the impact on freshwater biota, short term response. • End of system flows on page 39 are misleading. The 2,400 GL/yr from 1995 to 2005 was almost all delivered between 95 and 2000. Almost none since. Therefore the crisis in the Coorong relates to the 2000 to 2009 drought. An average of 2,400Gl/yr delivered in a different manner would have very different outcomes. • Pg 46 where it states "Regulators at Clayton Bay and Currency Creek to retain freshwater" is incorrect. The comment 'to retain freshwater", should be removed as the salinity was merely reduced in the Goolwa Channel to approx 10'000 EC so it is a brackish pool, and freshwater was not retained. • The rescue, treatment and care of tortoises has largely been funded by volunteers and donations from the public. Funding needs to be made available to assist with the ongoing costs of the turtle rehabilitation. • As conditions may not return to the historical state that supported the site the plan needs to clarify what historical state, e.g. pre European, pre-barrages, increased diversions, as at Ramsar listing. • With current regulators in place there is no need for large scale vegetation in Currency Creek, Finniss & the Goolwa Channel, but shoreline re-vegetation would beneficial for managing the site in future with variable water levels. • Do not dredge sills at Parka Point. They help maintain water level in South Lagoon into the late spring when *R.tuberosa* are growing and flowering.

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	• If temporary regulators are to be in place for longer than 2 years then fishways must be included in these structures also. • The Living Murray Initiative program's first step was to recover 500 GL of water by 30 June 2009. This amount of water was not recovered.
STF0043	This author states that the reference to the change in the number of dairy cows on the Lower Murray lakes and swamps is incorrect. They suggest that these figures do not come from SA Dairy Association as reported but would have come from the Dairy Authority of South Australia (DASA). This author states that there is a mistake with the figures and the figure of 37,000 is the number of cows on both the lakes and the swamps but the 11,000 is the cow number just on the lakes. In reality the number of cows on the lakes and swamps in 2002 was 37,000 and that has reduced to the current number of around 20,000 head today. Some dairy farmers were waiting to retire from the industry until they could trade their water so some of the reduction in cow numbers is unrelated to the current low water levels and water allocations. The author states that just at the moment most swamps and lake dairy farmers are uncertain about their future and the decision to go or stay will be made in the next year or so. The author also comments about the reference to the expectation that Lake Alexandrina will operate with lake levels varying between 0.3 and 0.6 meters AHD. The author states that at 0.3 meters it is our experience that our swamp river dairies above Murray Bridge do not have the pumps to access water. These swamps will continue to dry out and place the irrigation infrastructure (levy and bays) at risk of "failing". The author states that it is now accepted that for the integrity of the Swamps infrastructure sufficient environmental moisture is required to ensure they are maintained. Where the swamps have been left to dry out, the bays and some of the levies will need to be "rehabilitated". The cost of rehabilitation may well be far more than the cost that would have been incurred in keeping the bays moist. The author suggests that when considering the options of how the swamps dairy enterprises may be able to operate profitably into the future, consideration will need to be given to the following issues: • Has any government or agency, such as the MDB Authority, with a stakeholder interest in protecting the swamp levy banks given the potential loss of millions of dollars worth of water? • If there is an interested party then how can they play a role as a co-investor in any changes to the operation of the swamp infrastructure? The author states that if the rehabilitation of the swamp irrigation infrastructure is deemed to be solely an investment issue for the individual farmers the farmers would at least know where they stood. But the coming elections (federal and state) appear to be making it difficult for governments and opposition parties to commit to policies and thus create clarity for sound investment. The author states that one issue that has concerned the dairy industry on the lower MDB below Lock one is that the SA government did provide some protection for the "permanent plantings" yet has to date not protected river swamps infrastructure. They suggest that at the very time protection was most needed the Environmental Land Management Allocations for the river swamps were cut. Further, one industry was given some protection for the future and another (dairy) was not. The author stresses that they would like this issue to be revisited as we go forward with the plan of Securing the Future.
STF0044	This author states that the 'hypersalinity' objection to use sea water to maintain water levels assumes an absence of adequate flows from the river to flush accumulated salt. They suggest that while there are feasible strategies to generate circulation and mixing within the lakes utilising a tidal prism which will increase as scouring of the channels brings them back nearer to pre-barrage dimensions, there is no doubt that 'adequate' freshwater flows are desirable to maintain the health of the river whatever management regime is implemented.

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	They refer to page viii of the draft Long-Term Plan which states, *"There is no desirable future for the Lower Lakes if water levels continue to be below sea level for an extended period of time."* This author suggests that to use a lack of 'adequate' flows as an argument against the use of sea water in the lakes is clearly a nonsense. This author states that without adequate flows, the choice is between 'drying down' with 'no desirable future' or a cleverly managed estuarine system which retains the economic, social and environmental benefits of a viable wetland ecosystem. The author refers to the CSIRO report (reference 5) which predicts that even in an 'extreme dry' future climate scenario the Murray/Darling catchment would supply sufficient water for end of river flows all but a very small percentage of the time, which underpins the government's 'freshwater only' position. However the author states that it is a fact that the two years immediately following the completion of the 'Sustainable Yields' study were very much drier than the modelling predicted. They state that when there is dissonance between a model's predictions and subsequent reality the scientific approach is to adjust the model to take account of the new data and thus improve its efficacy but to do so here would have brought in to question the extent to which the Murray-Darling Basin could be relied upon to provide freshwater to the Lower Lakes – a fundamental issue for long term planning. This author states that DEH has chosen to label these past two years of extreme drought as 'unusual' and 'atypical' and discount them as irrelevant to the long term planning process; the very climatic conditions which have created the current crisis! The author states that with the Murray-Darling, an arid river system that displays huge variation over the 118 years of inflow records, to choose to apply an 'atypical' label is a blatant contradiction to the claim that this draft plan has a sound scientific basis. In this draft plan, mitigation and management actions are based on the ongoing availability of freshwater from the Murray. It is assumed that the current drought is 'atypical' and that mitigation strategies will be sufficient and temporary. Other comments made by this author include: • It is a fact that traces of estuarine diatom fossils were found, by Fluin and her co-researcher Professor Peter Gell (then Director of the University of Adelaide diatom research unit), in sediments at Pomanda Point at the very entrance of the Murray to the lakes. Exactly what might be expected if during periods of drought and low river flows the lakes had an estuarine mix of salinities ranging from seawater nearer the ocean mouth to brackish further upstream. It is a fact that Professor Gell and Dr Fluin differ in their interpretation of the diatom record of core sediments as it relates to the freshwater history of the lakes, with Professor Gell subsequently stating, *"--- studies from Lake Alexandrina attest to a past tidal condition that decreases from the main opening to the ocean to the point where the River channel joins the lake. Past tidal conditions disappeared once barrages were* --- (in place)." And he describes *"---lakes that have had, at least in part, a tidal history."* Thus the diatom record is hardly the "strong evidence" claimed by this DEH draft plan. • That reference 7 should be included in the reference list is itself a strong indication of a lack of objectivity by the DEH in developing this long term planning document. It is a fact that this 'amateur' document selects historical data which supports its clearly predetermined conclusions that the lakes have displayed estuarine characteristics only since settlement and that prior to that they were essentially fresh. Data is used out of context to mislead, and other equally relevant and valid data which refutes the document's 'freshwater only' conclusions is blatantly ignored. For example, the Sim/Muller document uses over 200 dated extracts from a range of historical sources to make its case. A clear example of bias appears early in only the fourth of these extracts on page 9 with Captain Charles Sturt's observation in 1838, "During my late visit I never observed the sea running in, but a strong current always setting out of the channel."

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	Apparently strong evidence, but what Mr Sim omits is the context of this statement – in fact made when contrasting the mouth in 1838 with the extremely low flows experienced by Sturt on his epic journey just eight years earlier in 1830. What Sturt was in fact describing was the extreme variability of the system well before the impact of white settlement. Other very relevant data examined by Mr Sim but which he chose not to include was Sturt's diary account of his experience in 1830 at Pomanda Point as he was entering the lakes from the river, viz "The transition from fresh to saltwater was almost immediate –", evidence which directly refutes the Sim/Muller conclusions. Mr Sim justifies his failure to include this fact on the basis that the water Sturt described as "salt" would not have been seawater but only "brackish" - in fact exactly what would be expected in an estuarine system where the river flow enters the lakes and consistent with the diatom record referred to above. What this example shows is the mindset of the author(s) of Reference 7 and begs the question of what other valid evidence has been dismissed and/or manipulated to support a biased conclusion – as supporting evidence for the DEH 'freshwater only' planning policy Reference 7 it is of no value. To be cited as a supporting source by DEH calls into question the objectivity of DEH and its planning processes. • Reference 8 relates to conditions within the Coorong on the ocean side of the barrages and so is not as relevant to this submission. However, it appears to conflict in the conclusions drawn from it with the more recently published research by Professor Gell from which he concludes that the Coorong has developed essentially as a separate marine system to the lakes with very little evidence of freshwater incursions from the Murray into the North Lagoon. One would hope that the DEH planners have not themselves been unduly selective of research which supports their preferred options to the exclusion of other very relevant evidence. To do so would confound the claim that the 'Securing the Future' document was founded on the best available science. • Thus, far from supporting the DEH position that the lakes have always been a freshwater system and so must remain so, the evidence used by DEH is at the very least ambiguous and in some cases clearly false. To eliminate without careful consideration and analysis, the use of readily available sea water to create an estuarine wetland environment as an alternative to "allowing the lakes to dry down" – with mitigation and remediation action which can at best deal with only a small proportion of the vast areas affected on the basis of such flimsy evidence is not scientifically or intellectually valid. • To be lumped in with such clearly impractical and ill informed suggestions as 'piping water from the north' and 'cloud seeding" does no justice to the range of well considered, detailed and fact based arguments which have been submitted by a number of competent and well informed people at each stage of the planning/consultation process. To be dismissed on the basis of such statements as, "There is no doubt that there were occasional incursions of seawater well into the Lower lakes and the lower reaches of the River Murray prior to the development of the Murray-Darling Basin. (???), is an insult. Allowing for the fact that this is probably an error and should refer to the barrages (?), the statement is at odds with other claims within the document and the error is indicative of the apparent DEH dismissive attitude towards this option. • Re the ecological character of the Lower Lakes there are two observations to make. (1) the lakes have been artificially maintained behind the barrages for the past 70 or so years and the capacity for species to colonise into changed ecological environments is a feature particularly evident in arid ecosystems – what is there now does not necessarily reflect the 'natural' range and diversity of freshwater species pre-settlement, and (2) the shores of the lakes which have been subject

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	to intermittent inundation over thousands of years show ample evidence of characteristic salinity resistant vegetation such as Samphire but none of the freshwater River Red Gum vegetation so evident in freshwater wetlands up stream. • Of most concern is the claim that scientific modelling shows the lakes would become hyper-saline within two years and use of Reference 39 to support this contention. Bice and Ye – SARDI (2009) had the brief of examining risk factors for the resident fish community under various management scenarios for the Lower Lakes and it is in that context that the use of sea water through the barrages to raise lake levels above those otherwise resulting from diminishing freshwater flows. It would seem that the major issue for these researchers, with varying water levels, concerned connectivity between components of the system – affecting the capacity for recruitment and re-colonisation of species as well as the need for some estuarine species to move between varying salinities for spawning etc. The option considered for allowing sea water into the lakes involved a 'one shot' movement of water over the barrage gates – a mechanism described as "ecologically absurd" by the researchers – and takes no account of the more sophisticated strategies suggested by other submissions in past consultation stages and for which there is world wide expertise and numerous 'best practice' examples to be called upon for analysis and guidance. Further, the credibility of the Bice/Ye research itself might be questioned when in July 2009, while acknowledging salinity levels may go higher (!), it assumes for the purposes of the research a salinity level of 1500 EC units in the Goolwa Channel refuge. This is at a time when salinity levels at Goolwa and Clayton and in Lake Alexandrina were so far in excess of that 'freshwater' figure as to make such an assumption ludicrous. To use this research as a basis for dismissing an estuarine solution in times of severe drought is itself ludicrous. • The case for use of sea water to maintain levels in the Lower lakes at or near sea level requires a genuine and much more detailed analysis than DEH has been willing to apply – the alternatives are horrendous; socially, economically and for the environment. It would be most unfortunate if political motivation in the contest for water share prevented optimum outcomes from this planning process. Economic considerations re the need for a barrier near Wellington need to be considered against the costs of the alternatives – an objective and careful consideration of the options is essential. • The impact of wind driven erosion of exposed lake beds goes much further than potential nuisance and health problems from dust and the loss of visual amenity. Thousands of tonnes of sand have been redistributed along shoreline creating sandy shallow beaches where there were previously deeper stony bottoms – the ecological implications of these physical changes to the shore line and effects on both plant and animal biota do not appear have been considered to any significant degree by DEH ecologists and yet the changes are already profound and further/continued exposure of increasing areas of lakebed in this very windy region will exacerbate this problem. • Of equal concern is the movement of acidic soils from the lakebed onto structures and human habitation. The acid corrosion of zinc coated corrugated iron and structural steel on a new lakeside home early in 2009 is a fact – and but for raised water levels in the Goolwa Channel this home would have continued to be under severe threat (and as water levels fall faster than predicted may yet again be threatened this summer).The EPA have examined this corrosion, the CSIRO have tested a sample confirming the involvement of acid soils, the matter has been brought to the attention of DEH both in submissions and independently – and yet the issue continues to be ignored. Zinc coated corrugated iron and steel structural components on buildings within the vicinity of the

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	shores of Lake Alexandrina and Lake Albert continue to be at risk until water levels can be raised to cover acid sulphate soils. • The real limitations of low water mitigation strategies need to be examined and acknowledged, and they relate to the scale of the problem in relation to the capacity available to address it. The Lakes have an area of over 80,000 hectares (800 square kilometres) at the desired pool level above 0.5 AHD. At sea level this reduces to about 75,000 hectares leaving approximately 50 square kilometres of exposed lakebed – an area which might possibly be managed with the mitigation strategies of this draft plan – (vegetation and treatment with lime as needed) – with a huge effort and at great cost. But when the water levels fall to the vicinity of one meter below sea level, the total exposed area of lakebed is over 200 square kilometres and that is what exists now – beyond the scope of anything more than dabbling around the edges – as well intentioned as such projects might be. At -1.5 AHD levels we are approaching 400 square kilometres of exposed windblown lake bed – way beyond the resources available to mitigate in any meaningful way and yet that is the level at which DEH has conceded that sea water might be used, and then only to mitigate exposed acids. The stated plan to wait until the end of summer and then aerial sow grasses in time for the autumn rains is so clearly not a solution to the windblown erosion of summer that it hardly warrants consideration. • There appears to be no obvious reason why the decision making framework shown by flow chart on page 50 of the draft report should have excluded sea water options from genuine and detailed technical feasibility assessment • Activist protest groups and their political followers have given great prominence to the RAMSAR status of the Coorong and Lower Lakes. On behalf of the environment and the migratory birds upon which RAMSAR accreditation was based: Would a seawater based estuarine mix of salinities within the Lower Lakes at or near sea level with tidal movement have the potential to meet RAMSAR requirements? The answer is clearly 'yes'. Alternatively, would a 'dried down' lake system with water levels a metre or more below sea level but to some extent vegetated with grasses and shrubs be a viable habitat for wading birds and meet RAMSAR requirements. The answer is clearly 'no'.
STF0045	This author states that in general, the Plan is vastly improved from early drafts and excellent except for the parts commented below. The author states that the deterioration in river flows, particularly in the last 20 years, has been overwhelmingly due to water used for agriculture. Furthermore, this rate of extraction continues to increase every year, and there appears to be no realistic expectation that this ongoing degradation of Murray Darling Basin river flows will be brought under control. The author adds that statistical information to support this view is hard to come by, making it difficult to mount a conclusive case. But anecdotal evidence of widespread abuse abounds, e.g. continuing proliferation of levee-banks in southern QLD and in NSW; relocation of disused bores in saline areas into active bore-sites adjacent to rivers; construction of the pipeline between Goulburn and Melbourne; etc. The author states that although the document makes reference to "over allocation", there is no real acknowledgement of the full extent of the continuing abuse of water rights and the ongoing acquiescence on the part of relevant state authorities. Extensive reference is made in the document to climatic factors. However, this author states that the focus should have been on the human contribution to this crisis. The author adds that cessation of "end-of-system flows" at Goolwa two years ago and the recent construction of the Clayton "regulator" have now set in train a scenario where Lake Alexandrina will become hypersaline. In the absence of increased river flows, how such a scenario could be avoided is not explained, nor

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	is the impact of this for Adelaide's water supply adequately discussed. The author goes onto say that the river system can only be purged of its salinity and toxins if a minimum amount of water is allowed to flow into the Coorong, or out the Murray Mouth and into the ocean. This should have been the core objective of "Securing the Future". The author recommends that a Federal Government mandated water audit needs to be implemented to monitor total water availability in the entire Murray Darling Basin. This would be ongoing and calibrate all surface and underground water storages/utilisation greater than a minimum threshold (1ML??). They suggest allocating the available water each year between environmental and non-environmental use, suggesting that a permanent 50:50 split is reasonable, because not only is it simple and equitable, but it is reflective of the proportions regarded as normal 20+ years ago (i.e. annual allocations of approx. 12,000GL out of total river flows of approx. 24,000GL). The author states that this would change the focus of Lower Lakes management from State to Federal and if the importance of maintaining end-of-system flows is accepted, it would also facilitate access to the required water (500-800 GL pa ?) to enable purging of salinity and pollutants out to sea. The author also states that allocation of non-environmental water is to be determined primarily by market forces. Obviously, this is a hugely difficult and political challenge, but to argue for a continuation of the existing highly-arbitrary, fixed allocations (where predominantly those who pay most use the least, and those who use the most pay the least) is unfair and would perpetuate the existing dramatic sub economic utilisation of this scarce resource. The question of what should happen to existing entitlements is a challenging issue, but given that availability of water has more than halved in recent years, then scaling back allocations by at least 50% might be a good start. Similar concepts to this have been endorsed by Federal Governments in the past (e.g. CHOGM 1994, John Howard's 2007 Australia Day "Water Initiative"). Despite seeming credible at the time all these proposals some how disappear into the political sands of time and the MDB continues to deteriorate. The author suggest that to allow the status-quo to continue will result in a rapid build-up of salinity in Lake Alexandrina to unacceptable levels (within 1-2 years??), which will require the construction of a protective weir, presumably at Wellington. The environmental implications of this for Lake Alexandrina (and potentially much further upstream) would be a catastrophic cocktail of salinity and acidity which has to be avoided.
STF0046	This author states the following: • In the Executive Summary, the reference to the bunds manage water levels is correct, but the cost to dynamism and thus natural resilience of the region should not be ignored • On page 3 add relative flow numbers and ranges and an extra bullet that states: Seasonal and compensatory flow patterns e.g. if Murray flow is diminished, flows from reliable rainfall districts of Mt Lofty sourced tributaries and from SE of the State continue to flow into system (the SE flows via the southern Coorong, particularly when there were multi-year wetland reservoirs at its southern end) and that this was all protected from ocean intrusion by the natural siltation of the Mouth when Murray flow was reduced. • Re wind seiching it is essential to add a description of the role of wind seiching in flood irrigating many square kilometres of foreshore to generate reliable late summer biomass which can then form the reserve of this "wetland of last resort" used by natural flora and fauna and which has under European settlement been the staple of the grazing industry around the lower lakes (without which current economics of dry land farming are moot). • Better resolution is needed in the map on page 5 with respect to the

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	character of the lower Tributaries. The Finniss did and still does flow SE past Clayton to Holmes/Mundoo Creeks. Whilst the Goolwa oxbow is estuarine, the lower course of the Finniss is much less so and plays a major role in retaining the many diverse wetlands of eastern Hindmarsh Island which are the most important nursery reserves of the region for the repopulation of the tributaries, the lakes and the Coorong. Diatom analysis is required in this area urgently to finesse management, but to lump this vital linkage into a general "estuarine area" is to misunderstand the way the region functions and leads to major errors in both mitigation and adaptive strategies. • Ease of clearing and plentiful late summer grazing due to wind seiche flood irrigation were key drivers of pastoral settlement and still are! • Lower Lakes economic values should also be presented in terms of asset value to capture the greater diversity of source of wealth and land use (e.g. 2nd home, tourism, recreational interests, etc) that occurs in this area of upstream regions where asset value can be more directly proxied by revenue. • Section 4.2 south east drainage, it is important to add the role that used to be played by the very extensive SE wetlands that stored huge volumes of water for several years, cleaning it then allowing it to slowly flow into the south of the Coorong. This was critical to the whole lakes region in times of low Murray River flow as it was likely to sustain the region (from a different, reliable climatic region and protected by a reduced Mouth) for some years until the major river flow resumed. • Pre barrage shoreline levels of +0.35m should probably be mentioned in section 4.6 - levels above this tend to erode the lake edges and reduce late summer flooded biomass reserves. This must be reconciled with the stated preference for +0.6m lowest point here – and the +0.5m lowest point elsewhere in the plan. • Note in section 4.6 the role of the Narrung ferry embankment in reducing wind seiche flows through the Narrows channels to Lake Albert and starting the demise of this second lake; these wind flows are absolutely critical to the maintenance of all Lower Lake hydrologies and ecologies (and also to the fertilisation and flood irrigation of major wetland nurseries west of Pomanda, East Hindmarsh Island and in the Narrows). • Water supply pipes as mentioned as a management approach on page 24, if the only water source, are too expensive for dry land farming under current Australian pricing regimes – so they are not a socio-economic answer! • Acid sulphate soils also have a critical effect of reducing mosquito predators, thus increasing Ross River, encephalitis, gastro, etc • Ecosystem degradation should include impacts of restriction of wind seiching and division of system by dams with the effect of reducing alkalinity buffer capacity of lakes as a whole. • Care should be taken not to over-emphasise selected species at the expense of the more general supporting ecological matrix lest the ecology be simplified and subverted to a range of species adapted to a different salinity range. It is critical to extend this moderating influence to the full course of the Finniss through the eastern wetlands of Hindmarsh Island to preserve connectivity to both the Lakes and the Coorong for recovery. • Economic impacts section 5.7- error in fact: the value of dry land grazing is greatly impacted by the absence of wind seiche flood irrigation on the best soils and most productive foreshore lands. This is exacerbated by division of the lakes by recent dams and by the fencing off of foreshores. The rear sand dune country is not capable of supporting economic dry land grazing on its own, particularly on the sizes of holdings that now

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	characterise the region. The price of piped water is also prohibitive for this land use if this is the only water available. • This plan is weakest in its portrayal of natural system processes, so the indicator species will be weak until the earlier deficiency is made good. This must be improved as processes are critical to this region. • If 3,500Gl flow is marginal, the four CSIRO scenarios adopted have a bias to too low a flow regime to do enough good. These scenarios must be reset at higher flow levels. • The targets in section 6.4 are too low! Selected scenarios force a bias toward the lowering of traditional (or even last ten year) flows to the Lakes. Only one scenario, 117% is higher than mean. Too much hangs on the one data source of the CSIRO report which, when read in detail, is far from certain of the future impacts. This must be rectified by the introduction of a higher flow spread; if necessary, give these low targets for the first five years and a higher range for the remaining life of the plan. Also, the implications boxes for each scenario should indicate ranges for both salinity and for the (e.g.) 50% of the time that the specified range would not apply. This is critical enterprise planning information and any uncertainty left here will downgrade the economic value of the plan to all in the region. • Section 6.5 is defeatist and the wrong starting point – see previous comment. It is perfectly possible to return to the already degraded level of 12,230 albeit not perhaps in the first five years. • 0.3-0.6m regime is not what the scenarios state will apply for very large amounts of time! What are the ranges for salinity? • Many references to keeping alive the salt water option are past their use-by date. It is time for the politicians to move on from their earlier stance and discard this ill-informed position which has been proven silly by subsequent scientific examination. • The extreme dry assumption biases priorities. This may be the case now, but should not be driving all of the first five years of the plan or much tax will be overspent and drastic options forced that did not need to be invoked if worst cast does not apply after one or two years. • Maintaining an open mouth needs to be based on better understanding of SE flows into the southern Coorong and the role of partial closure of the mouth in protecting the system from ocean salt ingress when there is less head pressure from the main river. • Vegetation is a rate of change issue – nature will do this, but man's 60 years of static water levels have killed the traditional present lower level rootstocks, then dropped the water level so quickly the +0.6m vegetation can't get there in two seasons- we have to help nature catch up. All actions should be planned in this light. • In section 10.3.2, Goolwa is an equally important portal to the Coorong National Park, perhaps more so – so the entry sequence there should be considered too. Proposals should be expanded to embrace future recreational activities and self-guided tourism. • Wetlands of eastern Hindmarsh Island must be added to the critical environmental assets list and plan for their retention/restoration. • In the light of a more sophisticated understanding of the dynamics of the SE flows into the south of the Coorong, the dredging of the sills at Parnka point is a dangerous idea and should be dropped. • 32Gl far too low a target for freshwater diversion from the South East. Reinstatement of substantial storage wetlands should be included too. • Governance arrangements should ensure that appropriate research and management objectives are set, planned and implemented, and ensure that lobby groups for specialist interests do not derail or politicise the

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	process and /or objectives. Note that Figure 12 does not appear to match the text's description of governance bodies and in Appendix 9, the various boards have not been linked by common members. • The dynamism and interactive support of the region's natural systems is not shown as understood, leading to priorities. • Lake Alexandrina is under emphasised in most of the proposed actions, often being mined for the benefit of other sub-regions. This lake must be treated with more regard or all will collapse. • The lower reaches of the tributaries is incorrectly characterised as estuarine and too coarsely treated. This denigrates the vital role of the eastern Hindmarsh Island wetlands and must be finessed. • The plan's adoption of the CSIRO scenarios has biased the entire work toward lower long term water volumes. Whilst this may be appropriate for the next two or so years, it should not form the back bone of a report targeting twenty years – particularly when the CSIRO were so uncertain of the impacts on flows in their own report! • In general, the Plan is vastly improved from early drafts and excellent except where commented on here.
STF0047	This author suggests a range of ideas on how to fix the Lakes: • Barrage / Lock in the Swanport Area • Tauwitchere Barrage pump sea water (wind powered) into Lake Alexandrina with the aim to achieve a fairly stable water level around 500 mm above sea level in the Lower Lakes. At least 3,500GL to 8,000GL per year. • Lake Albert a transit lake and an alternative outflow through the North Coorong. • Alternative outgoing tides Goolwa barrage weir gates (Yarawonga style wind powered) opened to help flush the Murray Mouth. • South East Drainage System to be changed by canals to the Southern Coorong (pumps to be wind powered where required). • Tailem Bend and Jervois pump stations to be shifted above the new Barrage/ Lock (Murray Bridge) as Mount Bold will not be required to top up Happy Valley anymore, new desalination plant at Port Stanvac. • Myponga to supply all potable water in the downstream side of the new barrage and Mount Lofty Ranges • If the river flows do return and the Murray Darling Basin Storage has a minimum of 8000 GL after the Snow Season and SA does get its RAMSAR guaranteed 1850 GL (currently 727.7 GL deficit Jan to December 2009) the above is easily reversible. • If sea levels rise in the future due to Global Warming and affect the Lower Lakes, items 1 to 4 are already in place.
STF0048	This author states that they agree with the goals in the document but states that they should also include maintaining the existing connections between Lake Alexandrina, Lake Albert, Coorong and River to ensure optimal wetland functioning and provision of ecosystem services – i.e. no bunds, weirs, regulators or other obstructions to the movement of water. The author stated that they were pleased to see that freshwater is the key for a future for CLLMM however disappointed that there are no targets for end of system flows on which the health of the CLLMM relies. The long term plan should have specific goals and targets which inform the MDB plan not the other way round. Any long term planning seems to rely on what the basin plan comes up with instead of being informed by the CLLMM plan. Other comments by this author include: • First citing of 10 references for reports which are still in preparation. How

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	can wider community make comment about the long term plan if key information is not available? • How much freshwater is required is the key question for long term management of the site and there is not sufficient information here. Who is undertaking the project to determine how much water is required to secure a future for the CLLMM Ramsar Site. It seems that no long term planning can be undertaken until this key piece of information is determined. • Why in the median model is the maximum period between flood events that flush the Murray Mouth 1 in 8 years whereas the dry scenario has an increase in average period between flood events that flush the Murray Mouth to 1 in 3 years. Surely under reduced flows the flush would be less frequent not more frequent. • The extreme dry scenario should not be considered as the outcomes are totally unacceptable. I hope that we are learning from the current situation and that the long term plan will put in place management strategies that will mean we never reach this sorry situation again. • The goals for the site on page 43 are a series of motherhood statements which do not have enough detail about how the goals will be achieved. • Section 10.2.5 should have more clarity on the implications for Lake Alexandrina of pumping another 35GL of water into Lake Albert • What is the rationale for the artificial wetland at Meningie? If this is as stated in the four dot points, i.e. prevent exposure of acid sulphate soils, rehabilitate exposed areas, create habitat and resilience and increase knowledge and understanding in the community regarding wetlands, then why is it not also being undertaken at other Lakes and Channel townships such as Milang and Clayton Bay which are also reliant on tourism?
STF0049	This author states that the document does not stress enough what helped exacerbate the low level of the weir pool from Lock and thinks these points should be mentioned because the cancellation of these points would help the CLLMM. In particular this author states the following: • Pumping from the pool all last summer to fill the Adelaide Reservoirs, in the case of Mt Bold almost to overflowing so that the Water Minister allowed a higher % of water to be used on gardens to save face. • Pumping into Lake Albert for far too long; this could have been stopped after the first rains we had in April. • Pumping into the Goolwa Pool to the level of 0.70M AHD when 0.30M AHD will do for the environment. To allow for evaporation is no excuse. • Two new irrigation pipelines into Langhorne Creek in time of drought! Again taking from the weir pool. • The pumping of the Angus River into the underground system by the Langhorne Creek irrigators again taking from the pool. • Damming the inflows of the Finniss and Currency Creek Rivers from the LL system. Other comments by this author include: • The map Fig 1. is out of date as it does not show the dam wall at Clayton Bay and therefore no tributaries flow into Lake Alexandrina • Until the Federal Government gets a strong leadership and focuses on the over allocation and bad irrigation practises, the CLLMM management is going to be very hard to put into practise. • If South Australia has barely received enough critical human water needs (p9) why allow 2 new irrigation pipelines into Langhorne Creek? Ever tried to kill a grapevine when it is planted in its right environment? • "Irrigators have a legal entitlement to water" (p9). OK What about the

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	Lower Lakes irrigators who actually live on the Lakes. What about their rights? It was very hard to watch our water rights being pumped to everybody else. • Do not jump the gun and fill the Lower Lakes with sea water as this will not work for the future good of the Lower Lakes, especially as this draft hopes the water will come back. • Why have you not said that the Clayton Bay dam is bad management of the Lower Lakes. Indeed the whole River system? • The figures on page 35 need review. The decline in cow numbers is not only due to low water levels, but also to dairy buy outs. The decline since 2007 is mostly due to drought. • Will dredging of the sills at Parnka Point make the North Lagoon higher in salinity than it is normally? Thus making another man made disaster. • The Lower Lakes would be much better off with a level of 0.60M AHD. To help the uncertain conditions over allocation must be addressed.
STF0050	This author proposes the use of one of the by-products from the Soda Ash works located in Osborne, South Australia for the acid sulphate neutralisation portion of the Lower Lakes remediation program. They state that the technology employed at the manufacturing site is the well proven Solvay technology. They explain that salt and limestone are the principal raw materials used in the process which also uses steam, ammonia and utilities. Salt delivered as concentrated brine is first ammoniated, and then carbonated to manufacture a crude sodium bicarbonate. This is thermally decomposed to form light soda ash and undergoes further processing to form dense soda ash, the company's main product. A portion of the soda ash is also dissolved and used to manufacture refined sodium bicarbonate. The key ammonia recovery and recycle part of the process utilises slaked lime and steam in a distillation process. The Solvay process involves the production of a solid by-product referred to in Penrice as Calsilt. Calsilt is principally sourced through a reaction between excess calcium hydroxide in the distiller effluent stream with various elements in the sea water stream into which it is discharged, resulting in a fine precipitate of calcium and magnesium compounds. Calsilt has excellent acid neutralisation characteristics due to its: • Elevated pH (in the range of 10 to 10.5) • Small particle size which provides high specific surface area for reaction as a pre-wetted product it is free of air borne dust concerns. Re-suspension characteristics enables rapid slurrying and delivery to targeted areas. Proven revegetation of salt tolerant native plants in environmental mounds that have been made of Calsilt.
STF0051	This author comments on water markets and licences, failure of government to manage the issues, and the need for a public Commission inquiry. Comprehensive references are provided however, much of it is beyond the scope of the plan, thus it has not been summarised here. The author states that it is of considerable concern that submissions made by the public are planned not to be published by the Murray Futures project and only a summary of submissions will be published. They add that considerable public money is being spent on this project and all submissions should be published to fully inform the media, public and promote debate. They explain that not to do so only adds to the public and community scepticism that surrounds this project. The author recommends that all submissions, unless otherwise requested by the author, be published in the public interest and to respect the effort on the part of the individual. Other comments by this author include: • The statement "no one should be surprised" in the foreword should be quantified as to whom the authors of the report are referring. The LTP also needs to identify its authors and exactly who, including third parties have

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	contributed to this plan. • The plan does not detail the full range of actions that need to be taken by Government to address what should have been a declared State of Emergency of the Murray as soon as flows across the border into South Australia were reduced below the minimum entitlement in response to the drought. This plan reads like a story to justify actions either already taken or planned to be taken to disconnect the Murray from the Lower Lakes and Coorong. These actions in the main are short-term corrections designed to address the immediate consequences ("current circumstances") of the reduction in the minimum entitlement of flows across the South Australian border and in particular below Lock 1. Proper long-term corrective action can only result from a full and open public inquiry into the MDB to determine the root causes requiring long-term corrective action. The Plan provides no traceability to the findings of a Public Inquiry that has been conducted with the powers of a Royal Commission that would give the community confidence that the LTP is intended to address the correct set of actions. The plan as a consequence is not fully informed as to the systemic causes that have created the "current circumstances" and as such this represents a major failing of the LTP. • This Plan fails to discuss the threat of water privatisation that has allowed water licenses to be traded to the highest bidder irrespective of the needs of the environment, residents and irrigators of South Australia. The Plan makes no reference to the National Water Commissions National Water Market Reports that were released in December of 2008 and 2009. These reports demonstrate that water was available; its prioritisation was left to those who had the most money instead of the needs of South Australians and the environment entrusted to them. • The Executive Summary incorrectly uses the word "adaptive", the correct word to use is "reactive" or simply "fire-fighting". "Climatic uncertainty" is a fact of life of normal Australian climatic variation. If this is meant to refer to the CSIRO Sustainability Yields Project climatic models it needs to be borne in mind that no likelihood of occurrence was assigned to these models, they were ranked in terms of effect not uncertainty. A suggested proper approach to adaptive management would entail the development of different management strategies for each of the risk scenarios of the MDB. • Flood – All weirs and barrages in South Australia would be open and the Blocking Dams constructed in the Lower Lakes emergency would be immediately removed. Principles of Priority of Water Use are not applicable. • - Normal – Priority of Water Use principles apply however all license holders will receive between 60% and 100% of their entitlement depending upon normal variability. Permanent and Temporary Water Trading allowed within irrigation districts. - Low Flows – Priority of Water Use principles apply however all license holders will typically receive between 30 and 60% of their entitlement. Temporary Water Trading allowed within irrigation districts. • - Drought – Priority of Water Use principles apply and there is no threat to ecology; Suspension of Water Allocation Plans and Water Trading suspended, all upstream catchments required to provide assistance unless they are in drought or under an emergency. Government control. Compensation to all irrigators whose water allocation is directed for critical domestic needs however viable permanent plantings used for export are able to be kept alive. • - Emergency – State of Emergency Declared as Water Allocations are less than 30%, ecology of the Murray is threatened by the continuing consequences of a drought and urban water supply requires restrictions.

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	Drought provisions apply and MDBA has the authority to direct water from any part of the MDB to address the Emergency. • The majority of goals in the plan relate to corrective or remedial actions and not long term corrective action designed to return the Lower Lakes, Coorong and Murray Mouth. Lack of properly defined corrective actions traced to systemic or root causes are a major failing of this plan. This is a result of an inadequate public inquiry, with the powers of a Royal Commission, to determine the systemic causes of the over-allocation, management problems of the MDB for the plan and decisions that have created the emergency. • The plan fails to disclose the privatisation of the pipeline project referred to in the plan (p. vi) at considerable expense to the public which contributed the majority of the funds to the project. Privatisation means that this is not a remedial action but a long-term corrective action that is based on the assumption of the continuance of low levels in the Lower Lakes that are too salty for growing vines. • The EIS for seawater is an outrageous action when other high level actions such as a State of Emergency have been ignored by Governments and by this plan. • This plan fails to acknowledge mismanagement and the introduction of a national water market that has put self interest and free market principles as the real priority of Governments of the MDB. It also fails to identify the real systemic causes. The plan does not disclose that it has been an objective of the MDBC since 2001 to reduce the size of the Lower Lakes • The LTP needs to disclose on a scale the trends the level of salts and pollutants which in themselves should include trigger points that provides for immediate and mandatory emergency releases of water from upstream states. • This is NOT a long-term plan. The long-term plan is to continue fire-fighting actions for the next 20 years to address the current man-made "current circumstances". This is unacceptable. • This plan fails to acknowledge the Australian Constitution and specifically section 100 [21] and common law principles that is applicable to Australia and relevant to the management of water and the environment in the public interest. • The plan needs to be specific about what legislation it implements and under whose authority it is approved. The substance and actions of this plan need to be subject to Parliamentary processes to ensure public accountability. Plans to allow sea water into the Lower Lakes and to allow the long-term actions covered by the plan to continue need to be sanctioned by a referendum that is held following a Public Inquiry with the powers of a Royal Commission. • The Plan needs to disclose the impact on areas under irrigation as a consequence of water reform. The Government has allowed the expansion of vineyards during a long and protracted drought. • Irrigators do not have a legal entitlement to water. They can expect reasonable use under section 100 of the Constitution but so can residents of the State. • The distribution in figures 5 and 6 is not normal and it is clear that the statistical average of inflows is a biased statistic. The LTP needs to clarify the type of distribution and includes all statistics that are required to allow a full understanding of the nature of variation. In addition if the median is less than the average, the median statistic should be used as use of the average statistic will contribute to greater level of extractions than is the norm. Recommend a statistician be used to review the correct use of statistics and conclusions drawn from the statistics used by the LTP. The median statistic needs to be used together with the average statistic.

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	• In section 4.4 the LTP does not detail the assumptions the climate models are based on i.e. the models used are based on continuance of Water Sharing Plans which are biased against the environment particularly when river flows are below normal. • It is beyond belief that this plan and the Government continue to pursue a seawater solution instead of adequate freshwater flows down the River Murray?
STF0052	This author states that given that the Coorong is a saline environment, and is connected to the sea, surely we can find a practical way to inject sea water into the Coorong at the times when the more traditional sources of inflow diminish. They suggest in an appropriate position in the Lower Coorong, lay a large diameter pipe (perhaps 2 meter diameter or more) below sea from approx 100 meters off shore, through the sand dunes to a point in the Coorong. At that point bring the pipe at right angles to the surface, ending at a level that would be approximately equal to or just above the low tide level of the open sea. The sea end of the pipe should be supported above the sea bed such that it does not interfere with sand drift or get clogged with sand. The Coorong end of the pipe – which is now horizontal, should be at level such that at high tide, sea water will find its level by flowing through the pipe and spilling over the lip of the pipe into the Coorong, whilst at low tide water in the Coorong cannot flow back. Such a system – if practical – would inject new water into the Coorong at every high tide, with a salinity level of only a fraction of the level that currently exists in the Lower Coorong, and would enable an ongoing flushing of the Coorong to the Murray Mouth. At those times when sea water is not required, the Coorong outlet could simply be capped. The author questions would such a pipe (after allowing for friction loss etc) allow a meaningful flow...and would sea water mitigate the environmental damage currently being inflicted on the lower Coorong?
STF0053	The author states that surely a limited amount of fresh water can be found so that seawater will not be necessary. This author agrees with the Lakes Operating and Water Release Strategy, but thinks it should include Ramsar site objectives as well as ecological. The author is pleased there is a fresh water solution and believes the plan has come a long way since it started.
STF0054	This author states the following: • In the point on page v 'Murray Mouth generally kept open...' 'generally' should be removed as this adds ambiguity and compromises the intention of the goal. It is also important to include an ecological objective in the goals, such as protecting the biological and ecological features that give these wetlands their international significance • The two threatened flora species named in section 3.1 are not considered to be wetland dependent. And *Senecio georgianus* is listed as extinct: http://www.environment.gov.au/cgibin/sprat/public/publicspecies.pl?taxon_id=12873 • The commercial cockle industry operates on the coast/sea side of the Coorong, and therefore is it appropriate to include it in the table on page 13. • Excellent to see the healthy and functioning environment acknowledged as the driver for regional economies and social systems. • 'Complimentary' actions listed on page 48 which reduce SA's reliance on water from the River Murray for domestic purposes may have the perverse effect of weakening public support for Lower Lakes and Coorong recovery. This should be discussed in the plan, and strategies should be identified to address it. • Using a fixed budget as the second 'filter' in the decision tree on page 59 is too restrictive. Using this system means that a predetermined budget is the most significant limiting factor in the decision making process. The

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	ecological costs and benefits of each option should be evaluated in the first instance. • It should be clear that the solutions proposed in the Coorong Salinity Reduction Program have a high environmental and financial cost and should only be considered as temporary measures.
STF0055	This author states that with the small amount of water available it can't be expected that there will be any coverage of the Lower Lakes due to high evaporation. The author therefore believes the Coorong needs to be filled with seawater to be of any use even though it won't suit some species.
STF0056	This author gives general support for the Long Term Plan and hopes that the management actions will be achieved. They state that the draft has been well put together. They add that more studies and statements need to be done on the evaporation rates of the Coorong and Lower Lakes.
STF0057	This author states that the document is comprehensive and commendable that addresses a very serious ecological problem in SA. They state that water flows should be the Nations number 1 priority and addressed no later than March 2010.
STF0058	This author states that the content and conclusions are seriously flawed in section 1.2 of the document. They suggest that there are many accounts of sea creatures venturing to Mannum and further inland in the Lower Murray including garfish, mullet and salmon as well as recorded sightings of dolphins and seals. The inference that ground water discharges may have caused the salinity in the Lower Murray is ridiculous. Other comments by this author include: • The diatom research analysed two sediment core samples taken from Lake Alexandrina, one near the southern edge just north of Point Sturt where significant numbers of estuarine diatom fossils were found. Samples taken from the northern end of the Lake, furthest from the sea where the river enters, showed traces of estuarine diatom fossils. This is precisely what would be expected if the Lake had significant periods of estuarine history! There is distinct bias in the way the writers have interpreted the diatom research. • There is strong evidence suggesting the Lower Lakes were a natural estuary – there are no gum trees lining the banks all the way up to Wellington and no evidence that there ever was. The whole river system however is lined with gum trees (River Red Gums). • The recent low water levels exposed the original riverbanks. There can be no doubt that for several months most years the River fell to levels too low to prevent seawater entering the Lakes. • A weir should be designed to allow unrestricted flow from the river to the lakes but to prevent lake water entering the river would need to be built near Wellington. The benefits of this strategy would be many and include: (1) A significant reduction of freshwater lost to evaporation. (2) Eliminating the risk of acid sulphate soils in the lake (would prevent exposure of the Lake bed subject to acidification) (3) Reducing the risk of riverbank slumping (4) Providing permanent water for the Ramsar Wetlands (these wetlands will be returned to their natural ecosystem) (5) Reducing salinity in the lower reaches of the River near the Lakes (6) Reducing the need to impose restrictions on irrigators and people dependant on the river for water

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	(7) Avoiding the cost of bioremediation measures (8) Possible establishment of red gum forests in now dried up lagoons (9) More water for the Coorong and Murray Mouth • This plan does not guarantee the following: (1) Lakes will always be fresh, (2) Lakes will not fall below sea level, (3) That the current situation will only occur 1% of the time or in the worst case scenario 4% of the time (predicting climate patterns is notoriously unreliable). There is no point in pursuing the freshwater option if the above issues cannot be eliminated. Allowing seawater to re-enter would solve these problems.
STF0059	This author states that an emphasis on socio-economic impacts on the fishing industry in the lower lakes was made clear. 82 fishers are employed on a full time basis, a total of $30m being the economic impact of the Lakes and Coorong fishing industry in South Australia 2008/09. Up to 1200 tonnes/year of carp and bony bream are harvested from the lakes each year as bait for the Rock Lobster industry, around 40% of the finfish value for the whole fishery or $3.2m came from the lakes 2008/09 and the ability for fishers to shift effort to species that are abundant and better value underpins the industry's profitability and ability to support regional businesses. While these figures may be small in the overall scheme of South Australia's economic figures they are significant for Lakes communities. Other comments by this author include: • As soon as sufficient flows have returned, the Lake Albert Bund must be removed. A priority must be given to removing the silt that has been pumped over the bund into the Narrows area. Dredging of the narrows will improve water flow between the lakes. Deterioration has occurred over the past decades caused when the causeway was reconfigured to accommodate the Narrung Ferry. A build up of sand and silt has changed the hydrology of the Lake. • There is no mention of the impact of a major fish kill in the document. However regardless of whether the water quality is compromised by salinity, acidity or a fish kill, recovery will be faster if dilution is achieved by allowing better exchange of water through the narrows. • In view of the floodwaters coming down from NSW – A priority should be given to Lake Albert for further pumping. • The Clayton regulators must also be removed as soon as practical. This is essential for a return to a natural system. The closure of these waterways is starving the fish in the remaining body of Lake Alexandrina. Reports are that fish being caught are much thinner and less healthy. This is reflected in the prices being obtained. • If Tauwitcherie barrage gates are opened to fill Lake Alexandrina with salt water (under a worst case scenario) it will likely drain the North Lagoon due to the hydrology of the area. The mouth is too narrow to let in large quantities of water at one time. • A weir should not be built but if in the future some type of structure is required i.e. sea level rise, the following should be considered mandatory; o Fish passage – to maintain source to sea fish migration strategy o Lock for boat navigation – for fishing industry, recreation and rescue craft o Gates to manage flows through a weir – not just water flowing over • The suggested strategy for dredging the sills at Parnka is inadequate. The restrictive sills in the northern and southern lagoons go from the" Needles" to 2 kms south of Hack Point. The diatom study indicates that the Southern lagoon was an estuarine to marine environment and the salt range does not reflect that. The area has been deteriorating over the past 30 years so any recent studies of the area that suggest maintaining a hypersaline regime is misleading and mistaken.

Identifier No	Comment
	• The Fishing Industry does not agree with the upper limit of 100GL or minimum of 60 GL for the South Lagoon pumping. Pumping of the hypersaline water from the Southern Lagoon should be from the salt Creek Basin, between Trevorrow's Point and Salt Creek. The proposed volume of pumping is only 50 GL but needs to be more in the vicinity of 90 GL (equivalent to the volume of the lagoon) to have any major impact. Alternatively 50GL/ year would be sufficient to exchange the water and bring the lagoon back to its former health. The evaporation is 85,000 Ml/ year or 85 GL. 250 ML /day output is not enough and the high energy coastline could easily handle a much higher rate of pumping. • The fishing industry is one of the major industries in the Lakes region. In prior documents the fishing industry has only had a minimal reference made to it. This needs to improve as we make a major contribution to the region and have extensive knowledge of the ecosystem in which we work.
STF0060	This author states that between 2002 and 2007, the number of dairy cows reliant on the Lower Murray lakes and swamps declined from 37,360 to 24,481 with the value of production dropping from $73 million to $51 million.[1] Over 2007 – 2009, the number of cows in Lower Murray lakes and swamps declined from 24,481 to 19,884 and the value of production grew by 10% to around $56 million (milk prices grew from $0.33 per litre to $0.45 per litre[2]). Over the same period the number of cows in Meningie Lakes declined from 10,933 to 9,746 and in the Lower Murray Swamps area from 13,548 to 10,138. [1]. Dairy Authority of South Australia Annual Reports and online Statistics [2]. Dairy Australia, Australia Dairy Industry in Focus 2009 The author adds that their organisation's understanding is that prior to the drought the lakes would operate at a level of around +0.5 to +0.75 AHD. The Goal proposed in the strategy suggests that in the future the lakes will be managed at a level of +0.3 to +0.6 AHD, subject to a range of conditions. Some of the infrastructure used for irrigated agriculture may have been designed to operate at the pre drought levels. Under the new regime this infrastructure may be left stranded or require upgrading. Consequently, the strategy should identify that there may be long term financial and adjustment implications for primary production in the region. Other comments by this author include: • Reference is made on page 16 to the South Australian Governments drought contingency planning. Not sure what this might be, it is certainly not something that the author's organisation is involved in developing. The author's organisation is, however, developing an Irrigated Agriculture Strategy for the River corridor and this includes consideration of the future of irrigated agriculture in the Lower Lakes region. • There is mention of the impacts on the fishing industry but very little consideration of the actual impact and any consequences. • The development of management actions is commended but these are focussed on specific environmental actions and cannot be achieved without consideration of the broader social and economic impacts and implications. Complementary actions are required. • With little detail in the plan relating to irrigation access into the future, there is possibly an assumption that there will be no direct pumping from the Lakes and that the pipelines have provided an alternative. This is an incorrect assumption as not all the pipelines are for irrigation and irrigators will seek to continue to access their right to pump from the Lakes opportunistically when water levels are suitable. • Although there is reference to the primary industries relevant to the Coorong and Lower Lakes, there is little detail and consideration of their position and future rights relating to continued access and use of the region and their connection to the social, community and broader

Identifier No	Comment
	economic values. The environment cannot be considered in isolation.

Appendix 6

Key group briefing

Update for the Lower River Murray Drought Reference Group, 17 December 2009 meeting on the release of the CLLMM draft Long Term Plan

- The draft Long Term Plan entitled *The Coorong, Lower Lakes and Murray Mouth Projects: Securing the Future* was released for public comment on the 15th December 2009
- Due to extensive consultation already undertaken throughout the region, this round of consultation is a 'draft for comment' activity.
- Release of the plan will be advertised in regional papers, the Advertiser and through email Community Updates.
- The document is available to download from the DEH and Murray Futures websites, and a few hard copies will also be available at the following locations:
    - Lakes Hub at Milang
    - Coorong Council (Meningie office)
    - Alexandrina Council (Goolwa office)
    - Murray Bridge Council
    - State Library of SA
- People can also call the CLLMM phone number (1800 226 709) or email cllmm@deh.sa.gov.au and request a hard copy be posted to them. The reference group has been provided 30 copies of the plan and a hard copy feedback form.
- The document will be publicly available for comment from 15 December 2009 until Friday 15 January 2010.
- People can comment on any aspect of the plan.
- A feedback form has been provided on the website, and downloadable as a pdf but people can submit comments in their own format if they prefer.
- Comments can be submitted by an individual or by a group. They can be submitted online (via the feedback form on the web), via e-mail or reply paid post. See the hard copy feedback form for postal details.
- No public meetings or information sessions will be conducted; however targeted involvement will be ongoing with the Long Term Plan Reference Group and the Ngarrindjeri.
- A consultation report will be written and available on the Murray Futures website outlining the consultation process and community feedback received. The report should be available in February 2010.
- Comments received will be collated in mid to late January 2010. They will be considered and incorporated in the development of the final long-term plan, which is expected to be completed by March 2010. The final long-term plan and a business case will then be submitted to the Australian Government to approve the release of funding of up to $200 million.

Appendix 7

Number of inquiries and submissions received (1800 number, emails) and website statistics

For the period 15 December 2009 until 15 January 2010	
REQUESTS FOR HARD COPY OF THE DOCUMENT	
Number of LTP requests to the CLLMM 1800 hotline	17
Number of LTP requests via email to cllmm@deh.sa.gov.au	4
Number of LTP requests in person to the CLLMM Adelaide Office	1
Total number of requests for the LTP	**22**
SUBMISSIONS	
Number of submissions received by email	45
Number of submissions received by post	6
Number of submissions received through the website (via online feedback form)	8
Total number of submissions received	**59**
WEB STATISTICS	
Number of unique visitors to the CLLMM website	608
Number of visits to the CLLMM website	951
Number of page views on the CLLMM website	3,274
Number of unique visitors to the Murray Futures website	364
Number of visits to the Murray Futures website	525
Number of page views on the Murray Futures website	2,115

Appendix 8

Promotion – Printed material and web copy

Community Updates

Three community email updates were distributed by the Department for Environment and Heritage about the consultation on the *Securing the Future* document. These were released on Tuesday 15 December 2009, Monday 11 January 2010 and Friday 29 January 2010.

Tuesday 15 December 2009 content overview:

- Draft Long Term Plan released for public comment
- Managing Lake Albert
- Goolwa Channel water level management project update
- Lower Lakes Bioremediation and revegetation project
- Lakes Hub official opening
- Community nurseries launch

Monday 11 January 2010 content overview:

- Still time to comment
- How to get involved

Friday 29 January 2010 content overview:

- Community feedback on draft long-term plan
- Lake Albert update
- Revegetation trial at Meningie
- Last chance for Lower Lakes fencing grants
- EPA staff at the Lake Hub
- Goolwa Channel Water Level Management project update
- Extra water for the Lower Lakes announced
- Watering project to protect Lower Lakes fish population
- Be alert for signs of river bank collapse
- Tortoises on the move
- World Wetlands Day

Community Update 15 December 2009

Government of South Australia

Australian Government

MURRAY FUTURES
Lower Lakes & Coorong Recovery

Community update

15 December 2009

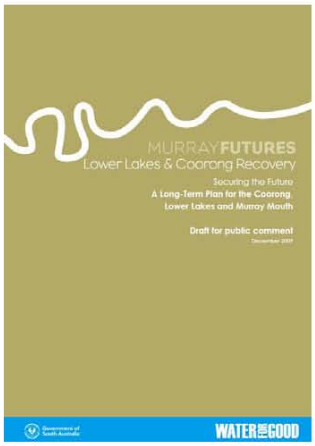
The South Australian Government is close to finalising a long-term plan for the Coorong, Lower Lakes and Murray Mouth region. This is part of the South Australian Government's $610 million Murray Futures program, funded by the Australian Government's Water for the Future program. The long-term plan has been developed over the course of the year with input from community, scientists and industry.

The South Australian Government is also working to address immediate drought response issues and to plan for worst-case scenarios. These are projects that are dealing with urgent issues such as low water levels, reduced flows, increasing salinity and acidification of exposed soils.

In this edition

- Draft long-term plan released for public comment
- Lake Albert
- Latest water quality results for Lower Lakes
- Goolwa Channel Water Level Management project update
- Lower Lakes Bioremediation and Revegetation project update
- Lakes Hub official opening
- Important information for local livestock farmers
- Successful tortoise release
- Latest news from Water for Good

Draft long-term plan released for public comment



The draft long-term plan for the Coorong, Lower Lakes and Murray Mouth has been released for public comment.

The draft plan, entitled *The Coorong, Lower Lakes and Murray Mouth: Securing the Future (PDF 2MB)* has been developed over the course of the year with input from community, scientists and industry.

It includes an implementation plan for managing the issues facing the region and incorporates the latest scientific research, industry information and community knowledge.

Written comments are invited on the *Securing the Future* document by Friday 15 January 2010.

Complete the attached feedback form to submit your comments or visit the Murray Futures website for details.

The final plan will be completed early in 2010 and submitted to the Australian Government to approve the release of funding of up to $200 million.

WATER FOR GOOD

Community Update 11 January 2010

Community update

11 January 2010

The South Australian Government is close to finalising a long-term plan for the Coorong, Lower Lakes and Murray Mouth region. This is part of the South Australian Government's $610 million Murray Futures program, funded by the Australian Government's Water for the Future program. The long-term plan has been developed over the course of the year with input from community, scientists and industry.

The South Australian Government is also working to address immediate drought response issues and to plan for worst-case scenarios. These are projects that are dealing with urgent issues such as low water levels, reduced flows, increasing salinity and acidification of exposed soils.

In this edition

- Still time to comment on draft long-term plan
- How to get involved

Still time to comment on draft long-term plan

Don't miss your chance to give feedback on the draft long-term plan for the Coorong, Lower Lakes and Murray Mouth region.

The closing date for receiving written comments on *The Coorong, Lower Lakes and Murray Mouth: Securing the Future* document is Friday 15 January 2010.

The *Securing the Future* document includes an implementation plan for managing the issues facing the region and incorporates the latest scientific research, industry information and community knowledge.

It builds on the framework outlined in the *Directions for a Healthy Future* document and the management options presented in the *Managing for a Healthy Future* document.

Community feedback received so far has significantly contributed to the draft long-term plan.

The final plan will be completed early this year and submitted to the Australian Government to approve the release of funding of up to $200 million.

How to get involved

Community feedback will help us develop the best possible plan for the region.

To have your say:

- complete the attached Word version of the feedback form and submit it via email or post by Friday 15 January 2010
- complete the online feedback form
- download the feedback form (PDF 300KB) to complete and submit via email or post
- Contact us to receive a copy in the post.

More information on how to get involved in developing the long-term plan is available on the Murray Futures website.

WATER FOR GOOD

Community Update 29 January 2010

Government of South Australia
Australian Government
MURRAY FUTURES
Lower Lakes & Coorong Recovery

Community update

29 January 2009

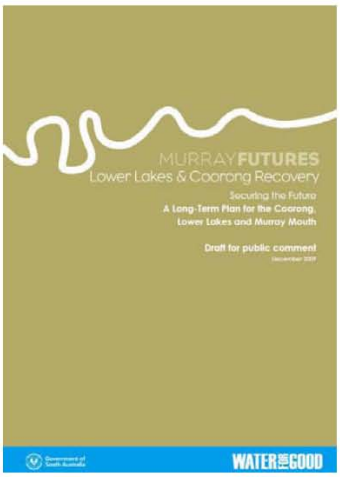
The South Australian Government is close to finalising a long-term plan for the Coorong, Lower Lakes and Murray Mouth region. This is part of the South Australian Government's $610 million Murray Futures program, funded by the Australian Government's Water for the Future program. The long-term plan has been developed in three stages with input from community, scientists and industry.

The South Australian Government is also working to address immediate drought response issues and to plan for worst-case scenarios. These are projects that are dealing with urgent issues such as low water levels, reduced flows, increasing salinity and acidification of exposed soils.

In this edition

- Community feedback on draft long-term plan
- Lake Albert update
- Revegetation trial at Meningie
- Last chance for Lower Lakes fencing grants
- EPA staff at the Lake Hub
- Goolwa Channel Water Level Management project update
- Extra water for the Lower Lakes announced
- Watering project to protect Lower Lakes fish population
- Be alert for signs of river bank collapse
- Tortoises on the move
- World Wetlands Day

Community feedback on draft long-term plan



The draft long-term plan, entitled *The Coorong, Lower Lakes and Murray Mouth Projects: Securing the Future* was released for public comment between 15 December 2009 and 15 January 2010 and people were invited to give their feedback.

Thank you to everyone who sent in their written comments on the draft long-term plan. A total of 60 responses were received.

Feedback was provided on a range of topics, including:

- fresh water versus sea water as a management option
- a whole-of-system approach to manage water flows and allocations across the Murray-Darling Basin through a national body
- water management using weirs/locks, dredging and improved water allocation
- managing Lake Alexandrina and Lake Albert, with an emphasis on Narrung Narrows

WATER FOR GOOD

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(p2cont.)

- pumping hypersaline water out of the Coorong's South Lagoon and redirecting fresh water flows from the South East drainage system
- socio-economic impacts relating to tourism, irrigation and fishing industries
- the temporary regulators in the Goolwa Channel
- improving barrage infrastructure
- dredging the sills at Pamka Point.

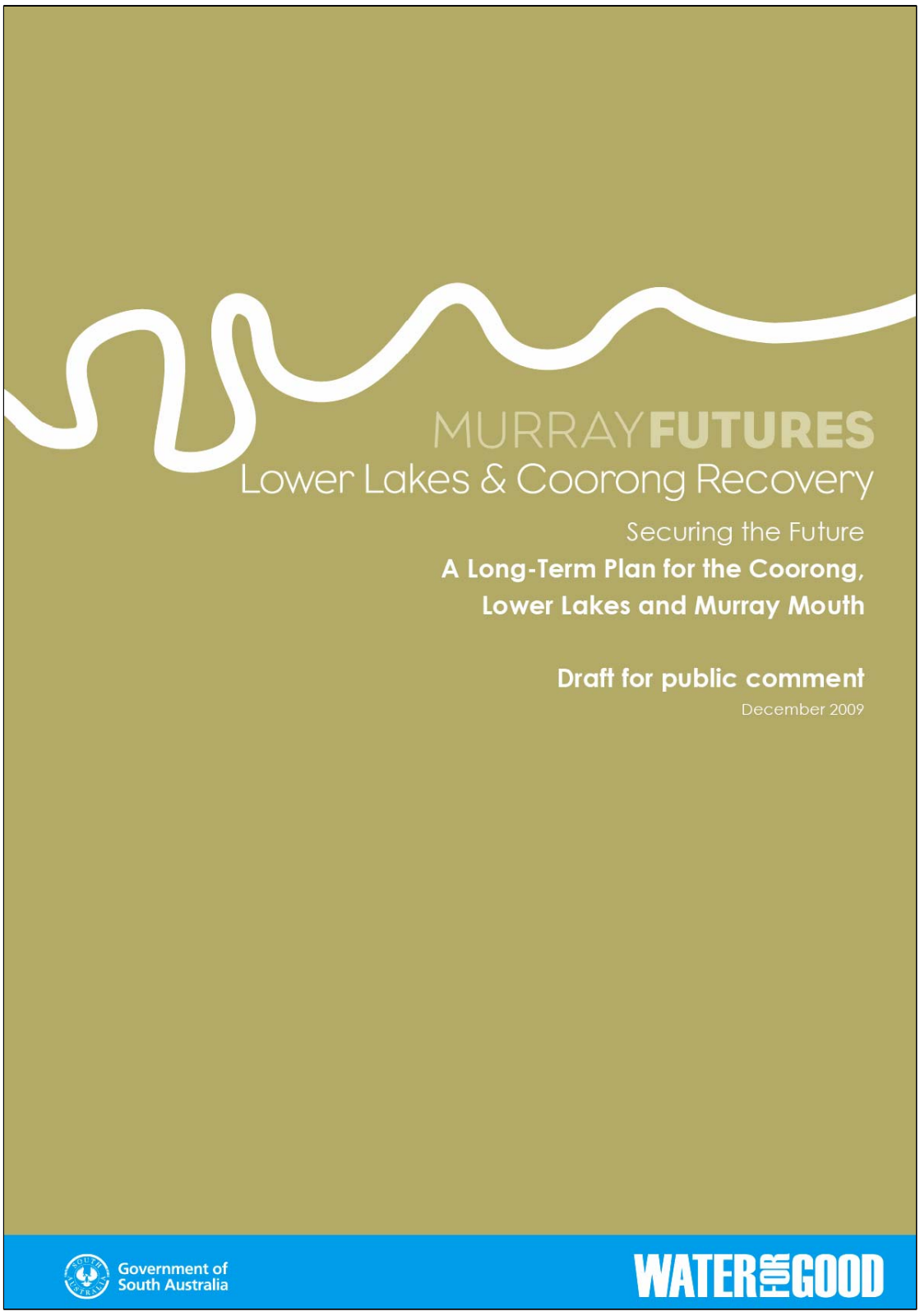
Specific feedback on the plan's content and wording was also received and is being incorporated into the final long-term plan where relevant.

A community consultation report is now being finalised and will be available soon. This report will include a summary of the public comments received as part of the consultation. Community feedback will help us develop the best possible plan for the region.

The final long-term plan will be completed early this year and submitted to the Australian Government to approve the release of funding of up to $200 million.

The Coorong, Lower Lakes and Murray Mouth: *Securing the Future* document (cover)

Released Tuesday 15 December 2009



Newspaper advertisement

Published in the following print publications:

- Advertiser – 19, 22 December 2009, 7 January 2010
- Mt Barker Courier – 16, 23 December 2009
- Murray Valley Standard – 17, 22 December 2009, 7 January 2010
- Victor Harbor Times – 17, 24 December 2009, 7 January 2010
- Southern Argus – 17 December 2009
- Lakelander (Meningie) – 18 December 2009

MURRAYFUTURES
Lower Lakes & Coorong Recovery

Shaping the future of the Coorong and Lower Lakes

The Murray-Darling Basin is experiencing the worst drought since records began in 1891. Record low inflows to the River Murray through drought and over-allocation are having a significant social, cultural, economic and environmental impact on the Lower Lakes and Coorong region.

Current predictions indicate that South Australia's climate will be more variable and we must plan for a future of reduced water availability as well as reducing our reliance on the River Murray.

The South Australian Government is working with local communities and scientists, technical experts and engineers to address immediate drought response issues; plan for worst-case scenarios; and develop long-term sustainable solutions.

Long-term sustainable solutions

The Australian Government will provide up to $200 million to South Australia to address the environmental problems facing the Lower Lakes and Coorong.

This is part of the South Australian Government's Murray Futures program, funded by the Australian Government's Water for the Future program.

The South Australian Government is close to finalising a Long-Term Plan for the Coorong, Lower Lakes and Murray Mouth region.

The plan has been developed over the course of the year with input from the community, scientists and industry.

The plan will outline how the Coorong, Lower Lakes and Murray Mouth region will be managed in the future. It aims to secure a future for the region as a healthy, productive and resilient wetland system of international importance. Achieving this will directly support the local economy and communities that rely on a healthy environment to prosper.

Public comment invited on draft Long-Term Plan

The public are invited to comment on the draft Long-Term Plan, entitled The *Coorong, Lower Lakes and Murray Mouth: Securing the Future*.

Written comments are invited by 15 January 2010 and can be submitted online, via e-mail or post:

Online: www.murrayfutures.sa.gov.au/lower.php
E-mail: cllmm@deh.sa.gov.au
Post: Coorong, Lower Lakes
and Murray Mouth Projects
Department for Environment and Heritage
Reply Paid 1047, Adelaide 5001

Community feedback received so far has significantly contributed to the *Securing the Future* document.

Next steps

The final Long-Term Plan will be completed early in 2010 and submitted to the Australian Government to approve the release of funding of up to $200 million.

To download the draft plan visit www.murrayfutures.sa.gov.au

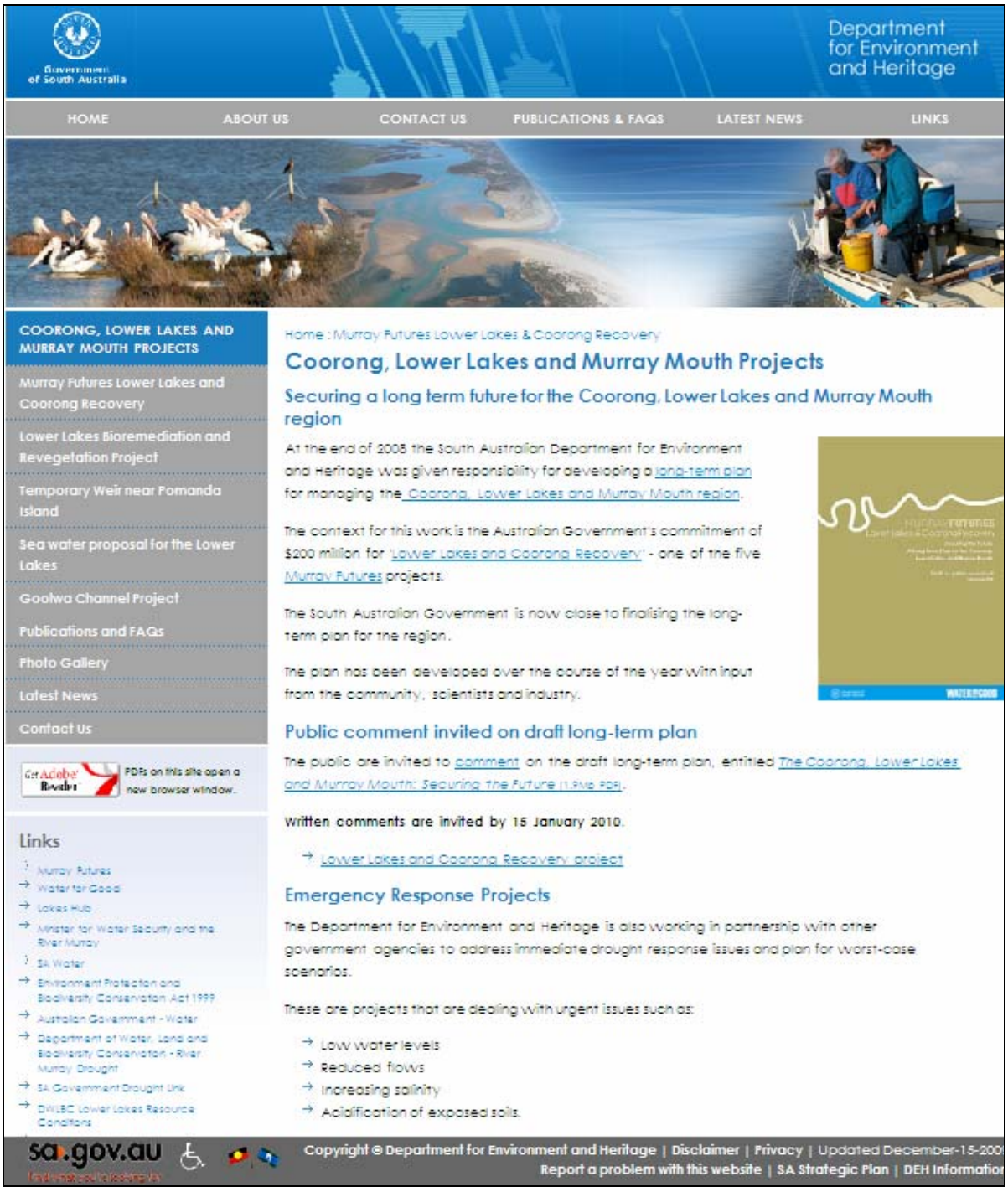
Or call 1800 226 709 (free call during business hours) or e-mail cllmm@deh.sa.gov.au.

Government of South Australia

WATER FOR GOOD

DEH - Coorong, Lower Lakes and Murray Mouth Projects website

(http://www.environment.sa.gov.au/cllmm/murray-futures.html)
Launched 15 December 2009



Murray Futures Lower Lakes and Coorong Recovery is a section within the CLLMM Projects website that focuses on the long-term plan. It includes:

- information on the region - geographical, its Ramsar listing and the community
- details on the environmental issues facing the region and the socio-economic issues facing local communities
- details of the *Securing the Future* document and how they link with the *Directions for a Healthy Future* and *Managing for a Healthy Future* documents
- How the community can find out more and give their feedback on the document to feed in to the final plan

- Results of community feedback from consultation during stage 1 and 2
- What actions the community, State Government and Australian Government have already taken to address the issues
- The Long-Term Plan Reference Group and governance arrangements for the project
- Links to scientific publications used to develop the long-term plan, educational resources, maps and links to related websites
- Fact sheets and FAQs on technical issues relating to developing the plan including acid sulfate soils, the effect of sea level rise, bioremediation works, etc
- A photo gallery with images of the region and work underway to address environmental issues.
- The website also includes information on the temporary weir near Pomanda Island, the sea water proposal and the Goolwa Channel Project.

This website was updated on Tuesday 15 December 2009 with the release of the *Securing the Future* document for public consultation and is constantly being updated as new information becomes available.

Fact sheets
Available from the DEH - Coorong, Lower Lakes and Murray Mouth Projects website:
http://www.environment.sa.gov.au/cllmm/fact-sheets.html

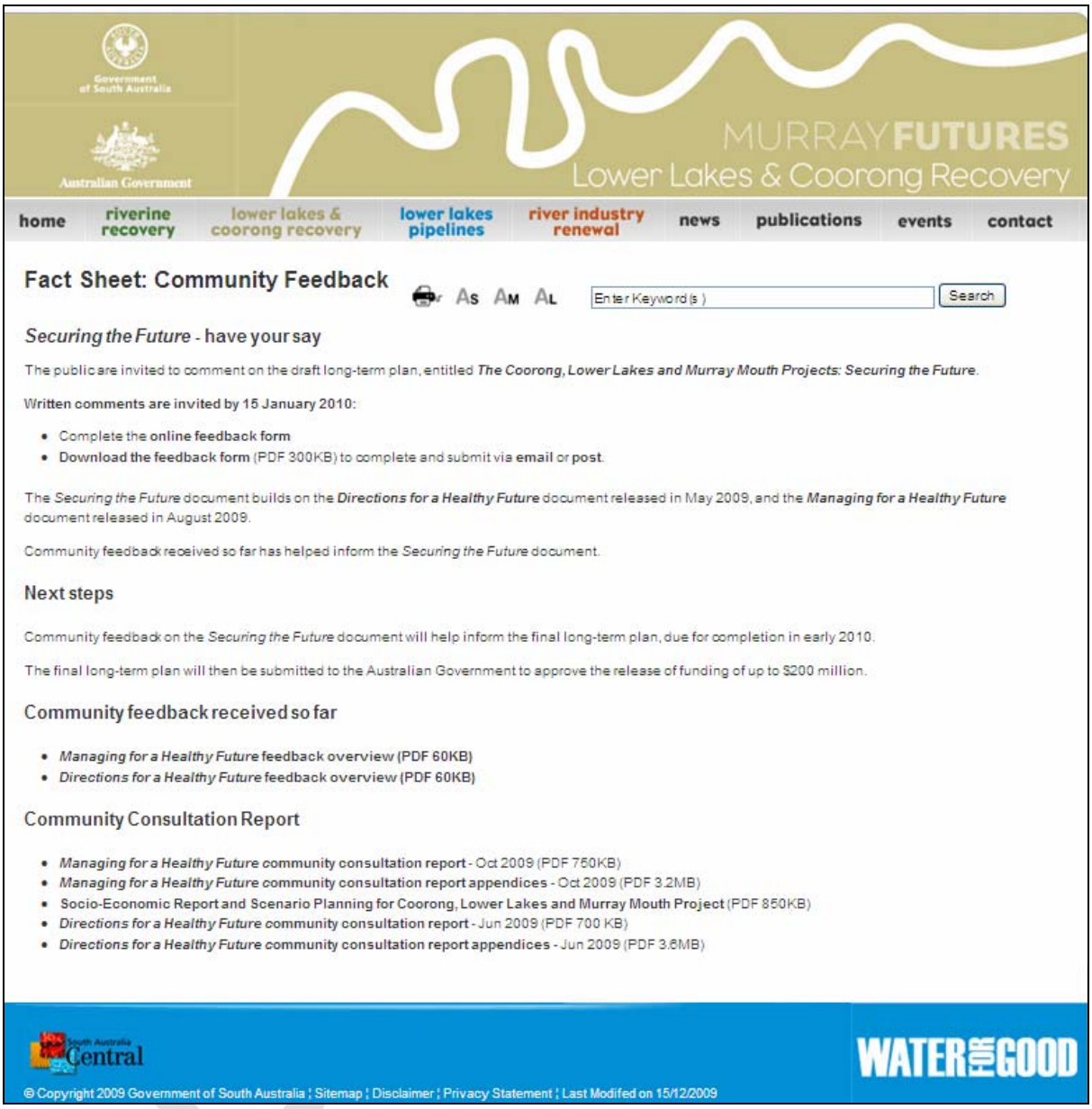
- Bioremediation and community involvement
- Community Eco-Action Project
- The future for Lake Albert - An adaptive management plan
- Goolwa Channel Water Level Management Project
- Growing a Healthy Future for the Lower Lakes
- Limestone trials in Currency Creek and Finniss River
- Revegetation works in the Lower Lakes - autumn 2009
- Sea water proposal for the Lower Lakes
- Acid sulfate soils
- Biodiversity loss
- Blue green algae
- Salinity in the Coorong and Lower Lakes
- Sea level rise
- Tubeworms in the Lower Lakes and Goolwa Channel
- Wind erosion
- Wind seiching
- Fresh water future
- Water for the Future - Coorong and Lakes Alexandrina and Albert Ramsar Wetland
- Acid Sulfate Soil Scientific Research Committee
- Diatoms: Researching the source of water in the Coorong and Lower Lakes region over 7,000 years
- Finding the best way to manage acid sulfate soils in the Lower Lakes

Frequently Asked Questions (FAQs)
Available from the DEH - Coorong, Lower Lakes and Murray Mouth Projects website:
http://www.environment.sa.gov.au/cllmm/fact-sheets.html

- Environment Protection and Biodiversity Conservation Act and Environmental Impact Statements (EIS)
- Limestone trials in Currency Creek and Finniss River
- Management options already considered
- *Managing for a Healthy Future*
- Revegetation works in the Lower Lakes - Autumn 2009
- Sea water proposal
- Temporary weir
- Environmental impacts of the temporary weir
- The future for Lake Albert
- Fresh water levels in the Lower Lakes

Murray Futures - Lower Lakes and Coorong Recovery website

(http://www.murrayfutures.sa.gov.au/lower.php)
Launched Tuesday 15 December 2009



This website consists of an overview of how the Long Term Plan is being developed and highlights the Australian Government has set aside $200 million of funding for the plan and how community input is vial to ensure the best possible plan is developed.

This information was updated on Tuesday 15 December 2009 with the release of the *Securing the Future* document for public consultation.

Appendix 9

Promotion - Media coverage

Newspaper articles:

Water Plan Federal Funding Stalls
Adelaide Advertiser, 16/12/2009, General News, Page 11

Long Term Plan for the Lower Lakes released
Times Victor Harbor, 17/12/2009, General News, Page 11

Feds link $24m Lakes funding to 'feedback'
Stock Journal, 17/12/2009, General News, Page 9

Lakes Recovery Plan Progressing
Murray Valley Standard, 22/12/2009, General News, Page 6

Libs shoot from the lip again on Lower Lakes
Southern Argus, 24/12/2009, General News, Page 12

Newspaper Advertisements:

Mt Barker Courier
- Wednesday 16 December 2009
- Wednesday 23 December 2009

Murray Valley Standard
- Thursday 17 December 2009
- Tuesday 22 December 2009
- Thursday 7 January 2010

Southern Argus
- Thursday 17 December 2009

The Lakelander
- Friday 18 December 2009

The Advertiser
- Saturday 19 December 2009
- Tuesday 22 December 2009
- Thursday 7 January 2010

Victor Harbor Times
- Thursday 17 December 2009
- Thursday 24 December 2009
- Thursday 7 January 2010

News Releases:

Tuesday 15 December 2009
Libs shoot from the lip again on Lower Lakes
Hon Karlene Maywald
Minister for the River Murray, Minister for Water Security

Radio:
ABC 891 Adelaide
14/12/2009 7:08 PM
Interviewees: Allan Holmes

ABC 891 Adelaide
14/12/2009 10:01 PM
Interviewees: Allan Holmes

ABC 891 Adelaide
15/12/2009 7:03 AM
Interviewees: Mark Parnell, MP Greens

ABC Riverland SA
15/12/2009 7:30 AM
Interviewees: Mark Parnell, MP Greens

ABC 891 Adelaide
15/12/2009 7:47 AM
Interviewees: Karlene Maywald, Senator Sarah Hanson Young

ABC North and West SA
15/12/2009 8:48 AM

ABC 891 Adelaide
15/12/2009 10:01 AM
Interviewees: Senator Sarah Hanson Young

ABC North and West SA
15/12/2009 4:26 PM
Interviewees: Karlene Maywald, Mark Parnell, MP Greens

ABC1 (Adelaide)
15/12/09 7:07 PM
Interviewees: Karlene Maywald, Professor David Paton

ABC 891Adelaide
17/12/2009 5:15 PM
Interviewees: Karlene Maywald

Television:
ABC News- 15/12/2009 7:07 PM
Interviewees: Karlene Maywald, Minister for the River Murray, Minister for Water Security

www.murrayfutures.sa.gov.au

Email: cllmm@deh.sa.gov.au

Phone: 1800 226 709
(free call during normal business hours)

Post: Coorong, Lower Lakes and Murray Mouth Projects
Department for Environment and Heritage
Reply Paid 1047
ADELAIDE SA 5001

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Government of South Australia