

Feedback on the “Securing the Future” Long Term Plan of Dec 2009

Thank you for this opportunity to give feedback on the draft “Securing the Future Long Term Plan” dated December 2009.

One absolutely critical item that needs to be reviewed is the statement on page 82:

*“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** (39). “*

The reference for this statement is the report titled “Risk assessment of proposed management scenarios for Lake Alexandrina on the resident fish community” by C. Bice and Q. Ye. (Reference #39, pg 108)

Models are based on assumptions, and the assumptions that have been imposed on these authors are ludicrous. 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.

Page 57 of Bice/Ye reference report says that two options of “seawater delivery” were studied. One option, the authors quickly deemed “absurd”, is the option to have seawater spill “over the top” of the Goolwa Barrage. The second method of “seawater delivery” is to have seawater spill “over the top” of the Mundoo and/or Tauwichee barrages. The authors go on to say that it would be preferable to have barrage gates “open” or remove “whole” sections of barrage gates. But those were not the assumptions they were given, assumptions presumably given by the DEH. Why not?

On page 97, Bice and Ye have concluded that:

“The feasibility of using alternative options for saltwater delivery must be investigated. The current proposed mechanism is ecologically absurd and will likely produce no ecological benefit. Removing ‘whole’ barrage gates or utilizing automated radial gates at Tauwichee and Mundoo must be investigated as saltwater delivery via these pathways provides greater ecological connectivity.”

Another assumption, 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.

The following two items (pg 98) were targeted for further investigation:

“Maintaining the lake levels higher than -1.5 m AHD should also be investigated. Options for allowing the volitional passage of estuarine species in and out of Lake Alexandrina are far greater if lake levels are to be maintained at a greater height. However this may have a greater impact on the ability of the LL to recover from saltwater intrusion.”

“Investigate and consider changes to the method for saltwater delivery”

Returning to the original DEH statement in the Long Term Plan, on page 82:

“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”.

The person who wrote this section of the report has used the Bice/Ye report findings in such a way as to continue to misstate the hyper-salinity issue.

It also shows how 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. The modelling assumptions are:

1. That the seawater will be coming in ‘over the top’ of the barrages and not through gates.
2. There is no widening of the Murray Mouth or any additional channels to the sea to enhance tidal flow.
3. There will be less than 696 GL a year of fresh water coming across the SA border.
4. Only allow seawater to -1.5 AHD, and then **only every 2 months.**

What if a different set of assumptions were used? Let us assume:

1. That the barrages can be modified and automated gates fitted.
2. In the event that gates cannot be fitted, dismantle the barrages so that full tidal flow can enter the lakes, every day on regular tides.
3. Sand accretions at the Murray Mouth are removed, not only a channel cut through with an aging dredger.

4. There will be less than 696 GL a year of freshwater coming across the SA border.
5. Allow seawater in to full lake levels and not just to -1.5 AHD **every day on the tide.**

What then? Would these same scientists come to the same 'hyper-salinity' conclusion? I think not.

Conclusion

The scientists in the Bice/Ye report clearly recommend:

“Investigate and consider changes to the method for saltwater delivery”

And

“Maintaining the lake levels (with seawater) higher than -1.5 m AHD should also be investigated”.

DEH should review these findings in the Bice/Ye report again, this time with an open mind and by an impartial reviewer. In light of the recent findings, that seawater and tidal inundation have been successfully used on acid sulphate soils at Trinity Bay Queensland, this is especially important. The DEH should be impartial to the outcome of the research instead of limiting assumptions which guarantee 'hyper-salinity' happens.

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 Appendix of some other report.

Thank you for this opportunity to comment on this report.