

Ecology and Management of Lake Alexandrina: A Statement by Concerned Environmental Scientists, 31 July 2009

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This is an edited version of a statement sent to Ministers Karlene Maywald and Jay Weatherill. The views here are our own, and are not necessarily shared by colleagues at The University of Adelaide.

We are environmental scientists concerned about the management of natural resources in the lower River Murray, Lakes and Coorong. This region is a designated *Wetland of International Importance* under the Ramsar Convention.

The region as a whole is in crisis, and is in need of substantial freshwater flows from the Murray. The present statement, however, concerns the short-term future for Lake Alexandrina, and particularly the weirs under construction near Clayton. We acknowledge that related, no-less important issues exist for Lake Albert, Pomanda Island, the Murray Mouth and Coorong.

In dealing with these issues in a fragmentary manner, the government has disregarded a central tenet of the science of ecology, which is that complex issues cannot be understood by breaking them into small parts. Local issues should be managed in a regional context.

The public has been assured that management is guided by “world’s best science” but, as scientists with many years of experience in research and monitoring in the region, we do not agree. Nor do we believe that “world’s best management” is in evidence.

A weir is being constructed across the Goolwa Channel from Clayton to Hindmarsh Island, and others are being built across the Finniss River and Currency Creek. The objectives are to prevent the exposure of acid sulfate soils and thereby prevent acidification of the Goolwa Channel, and to provide a refuge for freshwater flora and fauna.

- Although acid sulfate soils do occur locally, we consider that the implications for the Goolwa Channel have been over-stated. These soils are prevalent at some places along Currency Creek and the Finniss River, but there is scant evidence that the acid they produce would overwhelm the natural buffering capacity of water in the Goolwa Channel.
- We maintain that the effects of the acid sulfate soils could be mitigated by seeding and planting, liming, mulching, isolating ‘hot spots’ and avoiding disturbance. These methods are being implemented as part of the government’s response, and the results are promising.
- The government has chosen also to construct weirs. We think that this is unnecessary, as a means to control acid sulfate soils. We believe that these weirs will cause lasting damage to local environments, and that this will far outweigh their benefits.
- Isolating the Finniss River and Currency Creek behind weirs will not protect these streams as ecological refuges. Weirs do not allow for free passage by fish, turtles and other mobile animals. They encourage algal blooms, alien species like common carp and, in brackish areas, tubeworm. They also impose disconnections on an ecosystem whose health and resilience depend upon hydrological connections. It would be better to allow the streams to flow unimpeded to the lake, and to protect them from over-extraction.
- The weirs take no account of the effects on the main part of Lake Alexandrina, which will be cut off from the freshwater flows from the tributaries. The lake will recede and become

more saline and, in the absence of mitigation, marginal areas could be prone to acidification. Freshwater flora and fauna, including fish, yabbies and freshwater mussels, will die. The proposed weir at Pomanda Island would further isolate the lake.

- Weirs construction has proceeded without an Environmental Impact Statement (EIS). The weirs are said to be temporary, but the triggers, methods and timelines for removal have not been specified clearly. Further, there is little information about the monitoring needed to support management. These issues would have been addressed in an EIS.

We suggest that the government's advisors have greatly underestimated the capacity of the environment to restore and maintain itself. We contend that properly managed low-intervention options, but not weirs, would be a sufficient response to the threat of acidification.

Although construction is underway, we believe that there is still an opportunity to review management in light of the remediation works and good winter flows in the Finniss River and Currency Creek. We ask the government to stall construction, pending intensive monitoring in coming months. This would limit further damage to the environment and allow it a chance to recover, but retain an option to proceed later, if warranted.