

TWO MILLION TONNES OF SALT – A RIVER MYTH

In the MDBA “Plan” and many associated reports it is often stated that, in order to keep the Lower Lakes “fresh”, 2 million tonnes of salt per year must be flushed out through the Mouth. No justification for this value has ever been given and even the MDBA’s own modelling shows this value is an over exaggeration. Yet it is still included as a fact and often used as a catchcry for those incapable or unwilling to do their own calculations including governments.

Since 2010 more data have become available and it is now possible to compare more accurately the relationship between Lake salinities and estimated Barrage outflows. The main points are summarised below and in the accompanying graphs and table:

- During the Millennium Drought salinities in Lake Alexandrina rose to 6000 EC.
- The flood of 2010/11 where daily flows reached 70+ GL quickly reduced those Lake salinities to 500 EC within about 6 months.
- During the 11/12 and 12/13 water years flows were still moderately high at an average of 7,000 GL/y and the salinity remained at about 500 EC with an estimated average annual salt export of 1.8 tonnes.
- During the 13/14 to 15/16 water years flows were very low (1,800 to 700 GL/y) and estimated average annual salt export was only 0.5 million tonnes. Lake salinity gradually rose to 900 EC over this 3 year period but was still below the 1000 EC MDBA Plan threshold.
- In 16/17 flows once again increased and salinities quickly fell again to less than 500 EC.
- And over the 7 years from 11/12 to 17/18 annual salt export has only averaged 1.05 million tonnes.

The conclusion must therefore be that the 2 million tonnes of salt export catchcry is a myth (although included as Law in The Plan) and that even with low flows and a salt export only about 0.5 million tonnes/y, salinities will remain within acceptable limits for many years. The greater the flow then the lower Lake salinity will be.

This means that, in order to keep Lake salinities below 1000 EC, the required flow is much less than those modelled in “The Plan” (median 3000 and average 5000 GL/y). These lower flows will require the Mouth to be kept open by dredging as we have been doing for the majority of the time since 2002 but by adopting this strategy much fresh water can be saved for more productive purposes rather than used for scouring the Mouth and being lost out to sea.

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Dpt of Environment, Water and Natural Resources

HYPLOT V133 Output 25/03/2018

Period 16 Year 01/01/2003 to 01/01/2019

2003-18

A4260524

L Alex/Milang

821.00 1 Month Max & Min

EC corrected (uS/cm) Continuous

AT



Water Year	Barrage Flow GLx1000 (est)	EC Av at Milang	Annual Salt export Million tonnes	
10-11	12.7	1395	5.1	MDBA
11-12	8.8	434	2.2	MDBA
12-13	5.3	460	1.4	MDBA
13-14	1.78	676	0.7	MDBA
14-15	1.2	722	0.5	MDBA
15-16	0.66	800	0.29	MDBA
16-17	7.0	490	1.84	MDBA
17-18	1.05 max	700 app	0.44	Est

Dpt of Environment, Water and Natural Resources

HYPLOT V133 Output 25/03/2018

Period 5 Year 01/01/2014 to 01/01/2019

2014-18

A4260524

L Alex/Milang

821.00 1 Day Mean

EC corrected (uS/cm) Continuous

AT

