



ACT
Government

Environment and Planning

2015-16 Basin Salinity Management 2030 annual status report

1. Overview of outcomes and key achievements in implementing BSM2030

Commencing in 2016, state governments and the MDBA are required to prepare a BSM2030 status update for Basin Official Committee and Ministerial Council. The ACT was involved in the drafting of the Strategy but is not involved in implementing works or actions under the BSM2030 which a majority of the reporting template addresses. The ACT continues to report on the amount of salt entering, generated within and leaving the ACT as in previous MDBA salinity audits.

2. A summary of the outcomes from any review progressed by the ACT Government in 2015-16 (as required under the Review Plan).

a. An explanation of any changes to the Review Plan as put forward by the Government and agreed by the Authority.

No reviews were undertaken by the ACT in 2015-16 especially as the BSMS 2030 has only just commenced.

3. Information about progress on any proposed or new Accountable Action.

Under the strategy, neither the ACT nor Queensland have undertaken any actions that are considered to be accountable.

4. The results (summary statistics) of flow and salinity monitoring at each end of valley target site.

Based on Canberra Airport (70351) readings, the ACT experienced a slightly lower than average rainfall for the period 2015-16 (603.6 mm) and close to the highest temperature maximum and minimum temperatures, at least in the first part of 2016. However, rainfall readings at other stations were higher, such as Ainslie (070000) which is only about 3 Kilometres from the Airport station with a recorded amount of 678.6 mm. Rainfall for the second half of 2016 on a calendar year basis is expected to be average to above average due to increased rainfall generated from a negative Indian Ocean Dipole.

On 17 December 2010, the Ministerial Council approved the ACT End-of-Valley target. The approved ACT baseline targets including the End-of-Valley target measured at Halls Crossing are outline in Table 1.

2000 Baseline Reference						
Site	Salinity EC (uS/cm)		Salt Load			Discharge
	Median (50%ile)	Peak (80%ile)	Annual Total (t/yr)	Median (50%ile) (t/month)	Peak (80%ile) (t/month)	Average Daily (ML/Day)
Halls Crossing	224	283	43,529	2,711	4,505	929
Lobbs Hole	112	120	4,575	368	522	326
Oaks Estate	171	260	4,595	233	413	117
QSTP	745	790	1,653	125	142	10
LMWQCC	660	674	12,753	1,051	1,116	88
Total ACT Impacts			32,706	1,891	3,608	528

Table 1: Baseline reference

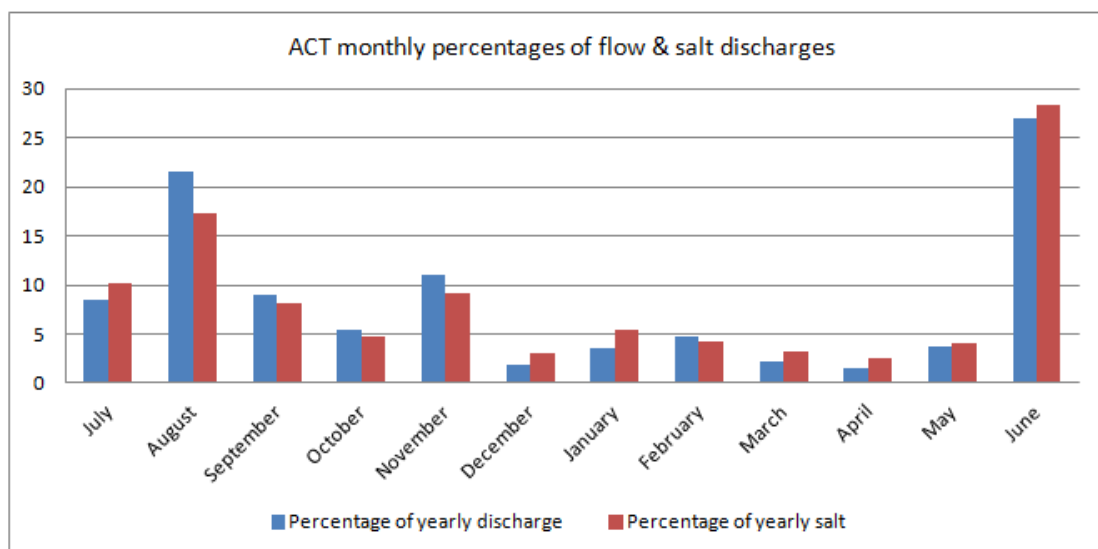
The calculation for the total annual ACT impacts of salt load can be demonstrated using figures from Table 1, that is, by subtracting the amounts coming into the ACT from Lobbs Hole (aka Angle Crossing) (4,575), Oaks Estate (4,595) and the Queanbeyan Sewerage Treatment Plant (1,653) from the amount leaving the ACT at Halls Crossing resulting in an annual baseline salt load for the ACT of 32,706 t/year. The first two columns in Table 1 present the agreed baseline for median and peak salinity for the five sites.

Conditions for 2015- 2016 Only						
Site	Salinity EC (uS/cm)		Salt Load			Discharge
	Median (50%ile)	Peak (80%ile)	Salt Load (t/yr)	Median (50%ile) (t/month)	Peak (80%ile) (t/month)	Average Daily (ML/Day)
Halls Crossing	224	321	81,625	3,765	8,577	2,101
Lobbs Hole	168	192	33,150	1,145	3,068	1,276
Oaks Estate	162	213	10,310	245	796	339
QSTP	448	558	993	76	93	9
LMWQCC	719	760	14,119	1,156	1,283	83
Total ACT Impacts			37,189	1,703	4,387	477

Table 2: Conditions for 2015-16

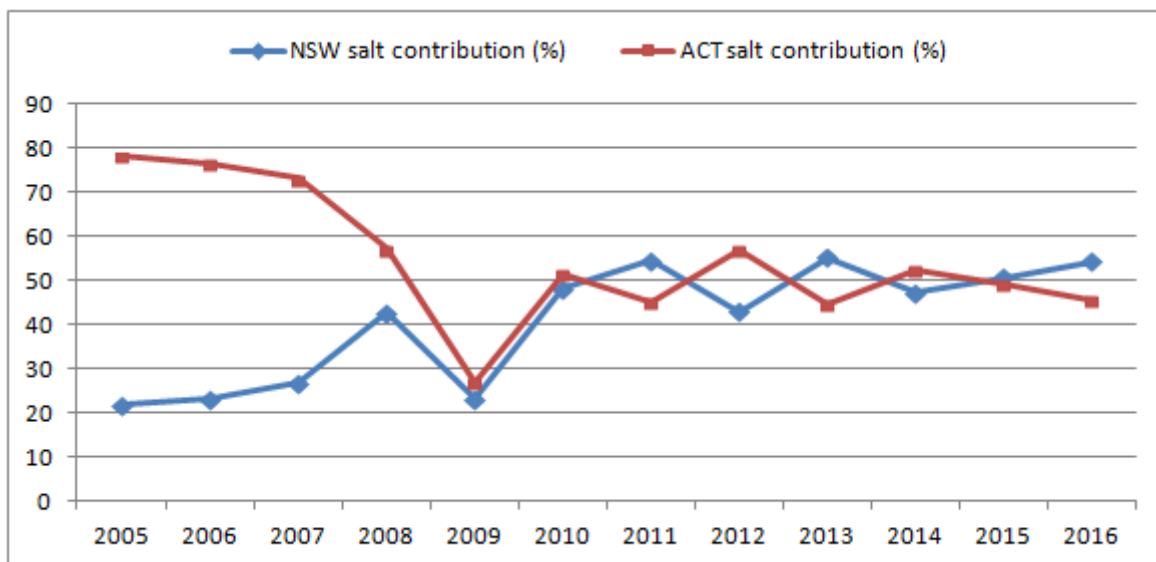
The 50th percentile median EC salinity level at Halls Crossing is within the agreed baseline (224), however, the 80th percentile peak is above the baseline (321). The total salt load recorded for the ACT is 37,189 t/year and is larger than the previous year and above the baseline conditions. The annual tonne per year is approximately 13 percent above the baseline.

The ACT's 2015-16 salt load has increased from the previous year, however, the median per month and daily flow from the ACT has reduced. The lower median monthly figure provides a more representative view of salt movement throughout the territory than the final salt load amount. The figure for the final salt amount increased significantly in June 2016 where the territory received 144.2 mm, against the long term average of 65.2 mm, after a warmer and drier autumn. These large rain events, in particular the one major rain event on 5-6th of June produced 96.3 mm, can erode and dislodge normally stable soils and salts. The month of June produced 28% of the annual salt load and 27% of the annual discharge alone.

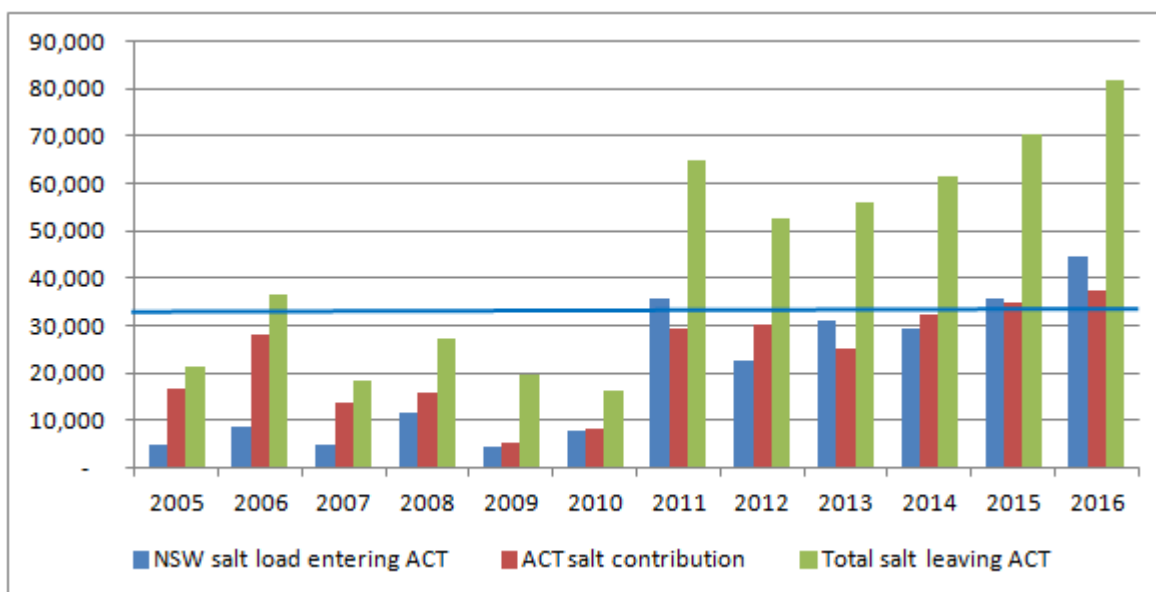


Graph 1

Even though the salt load was above the baseline from Lower Molonglo Water Quality Control Centre and from the territory in general, it must be noted that the ratios of these against the baseline were quite small compared to those entering the ACT via the Murrumbidgee River which was over seven times that of the baseline.



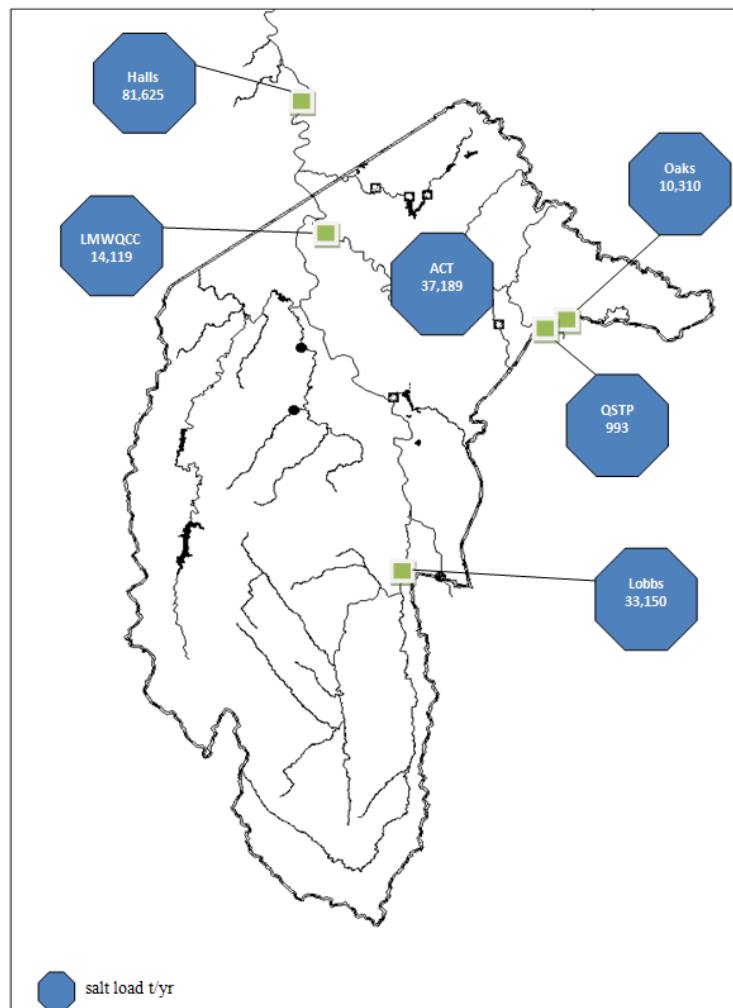
Graph 2:



Graph 3

The salt leaving the Lower Molonglo Water Quality Control Centre is 1,366 tonnes above the baseline. However, it must be noted that the salt measured at the Lower Molonglo Water Quality Control Centre is largely calcium bicarbonate and nitrate rather than sodium chloride. The high proportion of calcium reduces soil sodicity and it does reduce the sodium absorption ratio.

The ACT does not have responsibilities for salt management through environmental watering under the BSM2030 strategy, however, the ACT continues to implement the ACT environmental flow guidelines that provides a positive contribution to the dilution of salts in the upper reaches of the Murrumbidgee River. Conversely, any management actions in the ACT on the volumes of water and/or concentrations of salt are all captured and held by Lake Burrinjuck in NSW.



Map 1: ACT sites measuring salinity and salt load

5. *From 2018, list any changes to the sites included in the Basin-wide Core Salinity Monitoring Network.*

The ACT is not involved in the Basin-wide Core Salinity Monitoring Network.

If you have further questions on the BSM2030 reporting please contact Stewart Chapman on 6207 0290 or stewart.chapman@act.gov.au